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SOFIA BRATU



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VALUES ECONOMICS, THEOLOGY AND LEGITIMACY: CATHOLIC SOCIAL THOUGHT AND ITS IMPLICATIONS FOR LEGAL REGULATORY SYSTEMS

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ABSTRACT. The dominant system of global private economic ordering, grounded in classical liberal economic theory and based on robust private markets and a limited state regulatory role, has come under attack. That attack has been sharpened over the last several decades as the development of many poor states has failed to accelerate and as a consequence of the economic crisis of developed states that began to be felt in earnest in 2008. Like legal systems, economic systems grounded solely on rational activity without a foundation in normative value systems, are either incomplete or subject to perversion. This paper focuses on the values of substantive economics developed recently through application of Catholic theology. It focuses on the Catholic critique of consumerism, its understanding of a necessary labor policy and its sense of just global economics. It will suggest a number of places where socio-economics and theology share common ground, and even something of a common framework of analysis, and that consequentially, there may be some force to arguments that some values may be trans-religious, as well as trans-cultural. The paper starts with a short consideration of the approach of economics in its modern globalized context, and the contribution of socio-economics to that approach. It then briefly suggests the contours of an economic critique of that modern approach, using as a foil for that purpose Fidel Castro's attacks on economic globalization and arguments in favor of Marxist alternative global economic models. It then considers Catholic social thought as an alternative to both. For that purpose the paper focuses on Catholic social thought as it touches on the issues raised by global economic activity in three respects: materialism, labor rights and globalization. It ends with a consideration of an

important criticism of conventional economics in Catholic social thought: that the dominant system is likely to fail because it lacks a legitimate ethical framework. For that purpose, the paper considers a recent revival of an article written by Benedict XVI in the 1980s when, as Cardinal Ratzinger, he suggested that the current dominant system would collapse for lack of a legitimate moral base, a base that could only be provided by Religion.

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1. Introduction

At its core, classical economics, whether in its free market or Marxist forms, focuses on issues of scarcity and ownership. Wealth maximization is the foundation around which most systems of economics are built. Each posits economic actors who act rationally to maximize wealth, and tends to ignore the possibility of foundationally different characteristics of people as holders of capital or people as contributors of labor. Systems built on this normative preoccupation with tangible and intangible objects and their exploitation (that is in materialist systems) focus on the attainment of the foundational object (material maximization). They tend to be indifferent to the means to those ends, except to the extent that the means are more or less efficient in the attainment of that objective. Like the great 19th century systems of constitutional law, these systems privilege process and not the normative values that underlie them. They look to Rechtsstaat and not Sozialstaat constructions of value, efficiency, and the right.

These lacunae suggest that economic systems founded solely on rational activity without a grounding in normative systems of values, like process based legal systems, are either incomplete or subject to perversion. Just as in constitutional law, value systems provide the critical element in constructing legal systems, so in the law of economics, normative systems are vital for the construction of those values that necessarily infuse rationality. Economics itself, in the West, has sought to engage in these notions. Among the more vibrant of the responses, at least within the contemporary legal academic community, are notions of socio-economics, and particularly the binary economics of Louis Kelso. These seek to find a values

hierarchy within economics, in general, and to re-examine the place of labor within the labor capital matrix, in particular.

But the search for a normative structure within which to frame economics has not been limited to those who carefully guard the field boundaries of that social science within the academy. Theology, too, has much to contribute in those areas of economics left open by economic theory. This article focuses on the development of substantive values in economics within Catholic social thought. It focuses on the Catholic critique of consumerism, its understanding of a necessary labor policy and its sense of just global economics. The article suggests a number of places where socio-economics and theology share common ground, and even something of a common framework of analysis. That connection adds weight to the notion that some values may be trans-religious, as well as trans-cultural.

The article starts with a short consideration of the approach of economics in its modern globalized context, and the contribution of socio-economics to that approach. It then briefly considers the contours of an economic critique of that modern approach, using as a foil for that purpose Fidel Castro's attacks on economic globalization in favor of Marxist alternative global economic models. The section that follows turns to the development of Catholic social thought as it touches on the issues raised by global economic activity in three respects: materialism, labor rights and globalization. For that purpose it will examine carefully at two encyclicals separated by almost 15 years. The first is Benedict XVI's encyclical, *Deus Caritas Est* given December 25, 2005.¹ And the second is John Paul II's encyclical, *Laborem exercens*, given September 14, 1981,² with a glance at two others.³

The article ends with a consideration of one of the important criticisms of conventional and Marxist economics developed within the values based economics of Catholic social thought – that the dominant system is likely to fail because it lacks a legitimate ethical framework. For that purpose, the paper considers a recent revival of an article written by Benedict XVI in the 1980s when, as Cardinal Ratzinger, he suggested that the current dominant system would collapse for lack of a legitimate moral base, a base that could only be provided by religion. Socio-economics has taught that values matter, even in economics. Religion reminds us that values and economics also matter in religion. All share in the search for values, and the

application of those value systems to the relationship between people, things, the production and distribution of wealth.

2. Traditional Economic Foundations of Economic Regulation and Its Critique

Classical economics focuses on wealth or welfare maximization. Maximization of either sort must occur both at the level of the individual (and the firm), and in the aggregate, at the level of the community (and ultimately the globe). Like any system focused on production, its students tend to privilege efficiency as the value par excellence of any system of wealth maximization at both individual and aggregate level. But privileging efficiency suggests less concern with the means instituted to attain wealth maximization. Despite this indifference, there is a sense that systems of open, transparent and flexible markets, where the aggregate actions of individuals and organizations, all equally situated, together tend to produce the greatest production of wealth for the greatest number of people for the longest period of time. This idea is based on the great postulates of the system: that people act rationally in a world of perfect information, that income distribution will reflect marginal productivity under conditions of perfect competition, and that personal preference is exogenous to the appropriate functioning of a system focused on the production of wealth (that is, to each her own). Economics, thus, is a function of objects and process. In the long run all individual profit, but that profit (material things) rather than the human being, serves as the center of system focus.

These ideas have significant regulatory consequences. They suggest that governments seeking to maximize wealth for the greatest number of its inhabitants should regulate only in a manner that facilitates the efficiency required for long-term wealth production of the greatest sort. Disclosure, maintaining the integrity of markets, facilitating economic transactions across borders, and reducing the transaction costs of economic activity would suggest themselves as the highest forms of state political regulatory activity. The care and augmentation of capital becomes the greatest good of state policy. Success is measured in the ability of the state to reduce allocation of resources to ameliorate the effects of short-term market dislocations or failures at the personal or institutional level. In a perfect world all would have more than enough to meet their needs.

Socio-economics seeks to privilege the human element. Along with classical economics, it accepts materialism as the founding principle of human activity. But it rejects the possibility of attainable conditions of perfect competition, perfect markets and rational behavior. As such, the system of economics must, of necessity, have built into it the unfairness of structurally permanent market failures and faulty income distribution. As a consequence, there can be no hope of optimally allocating resources or maintaining perfectly functioning markets. These failures, a product of human imperfection, are borne, of necessity, by people, and might be augmented by a stubborn insistence on privileging capital over labor. In this imperfect system, human preferences are endogenous, and the state is necessary to provide a necessary correction or at least amelioration to the failures that are an inevitable part of any human based system of interaction. For an economics that privileges individuals, values must matter. But, like classical economics, it is substantially indifferent among value systems. It recognizes the importance of values in charting (ir)rational behavior but refrains from imposing its own set as an aspirational basis for human behavior.⁴ These ideas, too, have significant regulatory consequences. They suggest that governments seeking an appropriate role in the amelioration of the dysfunction of economic wealth maximization and allocation systems must regulate in a way that levels the privilege of capital and labor in ways that are consistent with aggregate value systems of the people for whose benefit regulation is maintained.

One famous elaboration of these ideas can be found in Louis Kelso's binary economics.⁵ The binary in Kelso's theory referred to the human and non-human elements into which all factors of production can be grouped. "The central tenet of binary economics is that, through the property (or ownership) principle, these two 'independent variables' can link marketable outputs from the labor-capital mix directly to incomes distributed according to market quantified values of all 'labor' and all capital' inputs."⁶ Under principles of binary economics, economic justice is privileged as a form in which wealth optimization must occur (that is one in which human values are endogenous) and regulation along lines meant to achieve such economic justice (as wealth maximization) must be based on a more aggressive and pointed system of positive political regulation. According to some, that regulation must be based on four key principles: (1) the democratization of capital and universal access to capital, (2)

universal access to and protection of rights to property for exploitation and wealth production, (3) positive regulation to achieve the aims of individual and institutional social justice based wealth maximization, and (4) the promotion of the free and open markets which serve as the start (but are actually the goal) of classical economic theory.⁷ Lastly, economic justice is conceived as participatory, distributive, and harmony inducing.⁸

Marxism's dialectical materialism also speaks to social justice and also focuses on the individual – that is the labor component of the production of wealth. But Marxist theory relies on collectivization rather than a regulatory environment for the perfection of individual activity, to achieve its vision of a social justice based system of optimal wealth maximization and allocation. For Marxist economics, individual perfectibility is rejected in favor of the perfectibility of the collective, to which the individual must defer, and to the values of which the individual must assimilate. But like classical economics, Marxist economics also focuses on wealth maximization and the optimal allocation of resources. Capital retains its privileged position within theory. But the individual, and individual power to direct capital, is substantially curtailed in favor of the collective. Marxism is values based to some extent. Collective values are endogenous. Economic justice is a critical component of Marxist economics. And in its post-Soviet phases, this includes anti subordination and pluralist value notions. But values do not include substantive notions of individual rights. These rights, like the power to direct, are bound up in the collective and its more perfect wisdom.⁹ And of course, democratic centralism, and the privileging of the collective in its relationship with capital has had significant regulatory effects. Socialism, totalitarianism, and other forms of collective ownership by the instrumentalities (the apparatus) of state organization, under the guidance of the Communist Party (or its equivalent), of the means of production (capital) merges the economic with the political. And all of this is the service of wealth maximization and optimal resource allocation for the benefit of the collective.

Still, Marxist values based economic analysis also has some significant consequences for the parameters of regulation in the global economy. Some of the most influential work has been in the area of global public finance. Castro effectively makes the case that loans profiting the lender but not the borrower (in a public-debt context)

must by nature constitute a class of debt that is odious, as that notion is classically understood.¹⁰ Four principal characteristics of this systemic hypercycle produce an unavoidable need for developing states to borrow, and their perpetual inability to repay those loans outlined by Castro was described in earlier studies.¹¹ Labor specialization, overproduction, capital migration, and consumerism produce a global system that compels poor states to borrow for the benefit of developed states.¹²

The modern system of private orderings, of global capital in the service of undefined global markets, it is argued, serves to benefit creditor states to the ruin of borrower states.¹³ “In effect, developing states acquire as a debt obligation a portion of the wealth that represents the required subsidy of global production at the heart of the neo-liberal system. Thus the spiral deepens.”¹⁴ In this way, the system of sovereign lending manages to reinforce the old international-law system that sought to legitimize colonialism and the unequal treatment of states without invoking the old imperialist norm system directly. Fidel Castro nicely distilled this insight in the 1980s: “we have analyzed all of the variations suggested to resolve the problem of state debt ... the result of all of these analyses is that sovereign debt, like an enormous and monstrous cancer, ... tends to reproduce itself and grow without limit.”¹⁵ Unable to tax sufficiently to repay prior loans, “States must borrow additional sums of money to pay the portion of prior loans which are unpaid while meeting continuing need, or sell their wealth (in the form of natural resources or other wealth) in an effort to pay their loans.”¹⁶

3. Catholic Social Thought as an Alternative Framework of Economic Regulation

Castro’s vision finds an equally important echo in the Catholic social thought of the late 20th century.¹⁷ Since its rejection of so-called liberation theology in the 1980s,¹⁸ Catholic social thought has stressed many of the objectives identified by Castro, and has criticized aspects of market based globalization, and the resulting system of unsustainable state debt, attacked by Castro. At the same time it embraced the form of the critique, the Roman Catholic Church has been careful to reject what it calls the secularism inherent in any form of Marxist-Leninist program of opposition to market globalization.¹⁹ The Roman Catholic Church has thus developed, under

the leadership of John Paul II, an extensive catalogue of criticism of the modern global market system that stressed development and charity, within a Catholic context, that paralleled Castro's opposition to neo-liberal globalization, within a Marxist-Leninist context.²⁰ Both understand sovereign debt as a piece of the larger problem of the nature of the organization, and the character of the normative structure, of the emerging global governance system. If for no other reason, Castro's vision of global governance and sovereign debt is worth extracting and considering.

But the Church's approach is based on an application of a now almost century old development of Catholic theology and expressed through an increasingly sophisticated system of Catholic social thought. It is thus grounded on a very different basis than Marxist systems, or the free market systems Marxists criticize. Indeed, Catholic theologians and others have engaged deeply, on a theoretical basis, not only the basis of Marxist theory but that of free market globalization as well. The foundational difference can be seen in the differences between these systems in their understanding and privileging of capital and labor, and in their understanding of the nature of labor and its social place within legal orders.

An important source of Catholic social thought, and its relationship to economic theory, can be found in the encyclical, *Deus Caritas Est*.²¹ The encyclical presents a complex, sophisticated and subtle analysis that requires a bit of exposition. The basic premise is the centrality of love, the core of traditional Jewish faith.²² The commandment of love, in essence a dual whole made up of love for God and for one's neighbor) is now also a response to the gift of love through the incarnation of the divine.²³ It is in the interplay of a series of dualisms that one can construct a theology of both charity and economic substantive norms. These dualisms have as their core the love of God for humanity, and the love of individuals for their neighbors. From the love of God for humanity will be derived "the ecclesial exercise of the commandment of love of neighbour."²⁴

Benedict starts with a long and complex development of the speculative duality of love. That development first sketches the distinctiveness of divine love in both God and humanity (agape) and an appropriate physical love (eros).²⁵ Both, together, are constructed as necessary connecting the physical with the spiritual and humanity with God.²⁶ "We have thus come to an initial, albeit still somewhat generic response to the two questions raised earlier. Fundamentally,

“love” is a single reality, but with different dimensions; at different times, one or another dimension may emerge more clearly. Yet when the two dimensions are totally cut off from one another, the result is a caricature, or at least an impoverished form of love.”²⁷ That, Benedict suggests, is the great Biblical innovation that distinguishes it from its predecessor systems of understanding and faith, built on the unity of the dual systems of human and divine.²⁸ This harmonization of the duality of love can be seen in the nature of the love of God for man,²⁹ and of the nature of the physical love of humanity through marriage,³⁰ and is, for Benedict, bound up in the incarnation of God, giving physical reality to the combination of divine and human love – love for God and for one’s neighbor – through the physical presence of God on earth.³¹

The stage is now set for the connection between this more or less esoteric discussion of love and its theology and charity. Benedict starts by drawing a parallel between love of God for humanity and the love between individuals through the symbolism of Communion.³² But Communion is not limited to a love of fellow Christians. “The concept of ‘neighbor’ is now universalized, yet it remains concrete. Despite being extended to all mankind, it is not reduced to a generic, abstract and undemanding expression of love, but calls for its own practical commitment here and now.”³³ Love of neighbor, as a physical manifestation of the love of God, and a necessary part of the whole, can be manifested as charity – the practice of love.³⁴

“Love of neighbour, grounded in the love of God, is first and foremost a responsibility for each individual member of the faithful, but it is also a responsibility for the entire ecclesial community at every level: from the local community to the particular Church and to the Church universal in its entirety.”³⁵ The individual and institutional nature of charity (as love of neighbor) adds another aspect to the layers of duality which serves as the foundation of Catholic theology as a sort of values economics. That institutionalization has significant regulatory aspects – evidenced by legal regulation of Church charity from the 4th century.³⁶ Benedict, at last, draws what he calls two essential facts from the discussion, critical to the development of a theological set of values economics. The first that charity is “not a kind of welfare activity which could equally well be left to others, but is a part of her nature, an indispensable expression of her very being.”³⁷ The second is that within the family of God on

earth *caritas agape* extends beyond the frontiers of the Church, within which “no one ought to go without the necessities of life.”³⁸

This charity has a strong social justice dimension. Responding to a Marxist critique of the Church’s charitable activities, Benedict asserts that *caritas*, as developed since the 19th century has a strong social justice component,³⁹ which since the maturity of the Industrial Revolution, has been bound up with the relationship between capital and labor.⁴⁰ The Church’s response, Benedict relates, was slow at first, and then decisive.⁴¹

The social justice values derived from the Church’s notions of love of neighbor and its obligation to charity, Benedict offers, can serve as the foundation of a universal set of values for constructing a just society.⁴² That foundation, like the development of a theology of social values in economic theory, arises from the unity of a set of dualities. Benedict posits that the basis of Church notions of social justice as universal arises from an understanding that the just ordering of society is primarily the responsibility of politics.⁴³ But politics must have as its objective the achievement of justice, that is through the implementation of a social ordering based on ethics.⁴⁴ The connection comes in the form of faith – for faith, according to Benedict, is the key to justice.⁴⁵ The ethics inherent in faith leads to the possibility of universalizing values beyond a particular faith system.⁴⁶ Faith can thus serve as a proper basis for constructing a just social order among many faiths.⁴⁷ This is a journey from faith to universal morals and ethics.⁴⁸ That ethics is based on the notions of love, and of the charity (now social justice) obligations that flow from that love.

Thus Benedict constructs a theology of social justice values on a foundation of resolved binaries: Religion-politics, love of God-love of humanity, faith-reason, spiritual-concrete, theology-economic values. And it also suggests an important caveat that separates Church theology from classical or Marxist economic values theory – the Church does not posit the possibility of constructing systems that produce (eventually) a perfection that makes values regulation irrelevant. Instead, Benedict posits that the striving for a just society on the basis of Church values will not lead to human social perfection.⁴⁹ Instead, Benedict asserts, the obligation to charity – now social justice – reflects an eternal obligation to express the love of God for humanity, and of individuals for their neighbors.⁵⁰

The social justice concerns that form an integral part of the social project of the Church, and a necessary project mandated by Church theology, still remains somewhat esoteric. But the Church has been able to translate this theology of social justice into more concrete terms in three specific areas of economic regulation: consumerism (materialism), labor rights, and globalization.

A. Consumerism: The phenomenon of consumerism is characterized as the expression of a godless materialism that demeans humanity and leads it away from an ethical life. John Paul II fleshed out these values in his encyclical *Centesimus annus* 1991:

A given culture reveals its overall understanding of life through the choices it makes in production and consumption. It is here that the phenomenon of consumerism arises. In singling out new needs and new means to meet them, one must be guided by a comprehensive picture of man which respects all the dimensions of his being and which subordinates his material and instinctive dimensions to his interior and spiritual ones. If, on the contrary, a direct appeal is made to his instincts – while ignoring in various ways the reality of the person as intelligent and free – then consumer attitudes and lifestyles can be created which are objectively improper and often damaging to his physical and spiritual health. Of itself, an economic system does not possess criteria for correctly distinguishing new and higher forms of satisfying human needs from artificial new needs which hinder the formation of a mature personality. Thus a great deal of educational and cultural work is urgently needed, including the education of consumers in the responsible use of their power of choice, the formation of a strong sense of responsibility among producers and among people in the mass media in particular, as well as the necessary intervention by public authorities.⁵¹

Among the consumption patterns that are permitted through the materialism of a consumer culture are cultures of drug use.⁵² “It is not wrong to want to live better; what is wrong is a style of life which is presumed to be better when it is directed towards ‘having’ rather than ‘being,’ and which wants to have more, not in order to be more but in order to spend life in enjoyment as an end in itself.”⁵³ The sense is that the promotion of consumption for consumption’s

sake bespeaks a hedonism that privileges the physical over the spiritual, and thus reduces the wealth maximization – and value – of production, for the individuals. This is evidenced by a sense of alienation.⁵⁴

B. Labor: The development of the Church’s labor values is perhaps its most specific elaboration of its understanding of social justice as a component of its mission to *caritas*, the lynchpin of which is the relationship between labor and capital.⁵⁵ The great elaboration of these policies within the context of Church social justice norms was in John Paul II’s encyclical, *Laborem exercens*. The basis of a theology of labor, like that of the function of economic activity, was based on the relationship between God and humanity.⁵⁶

John Paul II starts by placing work in the context of faith and reason.⁵⁷ “The Church is convinced that work is a fundamental dimension of man’s existence on earth.”⁵⁸ Humanity is the subject of work both because of the Biblical commandment to assert dominion over the earth and because persons were created in the image of God, an image incarnated in the form of the divine presence on earth for a short time.⁵⁹ Dominion conditions the nature of work, and gives rise to its ethical dimension⁶⁰ – the work of humanity must reflect the work of God, the dualistic parallelism that marked the ethics of charity and social justice in *Deus Caritas est* is at the foundation of the ethics of work in *Laborem Exercens*. That ethics is grounded in the attainment of human dignity through work,⁶¹ and in the way in which work must be the basis for the strengthening of the family and the nation.⁶² “In fact, the family is simultaneously a community made possible by work and the first school of work, within the home, for every person.”⁶³

The centrality of “the human” in the context of work is decisive for the elaboration of an ethics of work in the context of the conflict between labor and capital.⁶⁴ It is in this sphere that the Church took some pains to suggest both the similarities of its applied theology to modern notions of classical and Marxist economics and, more importantly, the differences between the three approaches to understanding the foundations of economic analysis (and thus the foundations for political regulation). The conflict between labor and capital had its modern origins, for the Church, in the shift from self employment to employment of one person by another, which without an ethical dimension, gives rise to exploitation and the loss of human

dignity.⁶⁵ Thus, the critical issue is not the nature of work, but the nature and purpose of ownership. Applying its theology of work, *Laborem exercens* derives a principal of the priority of labor over capital,⁶⁶ elaborates a connection between labor and capital on the basis of this principal of labor priority,⁶⁷ suggests a critique of both classical and Marxist economics,⁶⁸ and provides an ethical grounding for the use and exploitation of property (capital) in the context of the primacy of work.⁶⁹ From this ethics of labor, *Laborem exercens* develops a system of workers rights situated within the context of human rights and grounded in notions of human dignity,⁷⁰ the obligations of employers and the state,⁷¹ the right to work and subsistence (elaborated more completely in *Deus Caritas Est*),⁷² an ethics of just wages,⁷³ the rights of women in the workplace,⁷⁴ rights to unionization,⁷⁵ the importance of agricultural work and work by the disabled,⁷⁶ and the ethics of global economic migration.⁷⁷

The principle of the priority of labor inverts the classical relationship between labor and capital. This is derived from the theology of human dominion over the earth. The things of the earth “*can serve man only through work*” and work links resources (these things of the earth) to ownership; things are taken over “by making them his workbench. He takes them over through work and for work.”⁷⁸ Capital, in effect, in “every phase of the development of his work man comes up against the leading role of the gift made by ‘nature,’ that is to say, in the final analysis, by the Creator. At the beginning of man’s work is the mystery of creation.”⁷⁹ As a consequence, capital is something gifted to persons by God for their use, and must necessarily be treated as an instrument of work rather than as its object.⁸⁰ “All that we can say of everything in the production process which constitutes a whole collection of ‘things,’ the instruments, the capital, is that it conditions man’s work; we cannot assert that it constitutes as it were an impersonal ‘subject’ putting man and man’s work into a position of dependence.”⁸¹

More importantly it suggests two things. First, labor priority suggests that the character of property ownership is ethically charged and values laden.⁸² Second, the relationship between labor and capital is not one of conflict but of hierarchy.⁸³ Christian morals and ethics posits that property ownership is morally charged. As a gift from God, its possession is not absolute and unlimited. Instead, there are a number of ethical parameters limiting the rights of private exploitation of property.⁸⁴ These obligations are not solved by

changing the owner of the property (collective rather than private ownership), but are inherent in the nature of ownership itself.⁸⁵ Essentially, the ethics of ownership suggests that every worker ought to feel herself a part owner of the gift of property made by God to all of his human creatures.⁸⁶ Thus, the problem of ownership is not the right to own or exploit, but the nature or character of that ownership.

From this, *Laborem exercens* derives a critique of classical and Marxist economics. That critique suggests that the tendency of both systems to posit an irreconcilable antimony between labor and capital invert the relationship between labor and capital and leads inevitably to amoral systems of economic regulation in which human dignity and economic justice might not be attained. The focus of the critique is that both classical and Marxist economics wrongly focus on the means of production – the possibilities of the production of material wealth – and ignore the ends of production – the human being and her material and spiritual fulfillment.⁸⁷ In the absence of appropriate values, economics leads to perversion of sorts by elevating the thing over the person. And that elevation of the material over the personal provides the core of the Catholic critique of a non-values based economics. Classical economic theory is critiqued for its materialism – its frenetic search for more and greater things as the beginning and end of “the good.” In this context, the human is reduced to a subordinate position and spiritual well-being is marginalized. Human dignity is threatened.⁸⁸ That dehumanization is expressed in its notions of property ownership.⁸⁹ The right to personal exploitation without ethical limit serves to invert the social order, putting things over people in an unacceptable way, ethically speaking.⁹⁰

Dialectical materialism, though more sympathetic from an ethical perspective, also fails to avoid the materialist trap.⁹¹ And in the case of Marxist economics there is a further trap – the ease with which the collective spirit can suppress individual human dignity. The bureaucratic centralism of collective organization in the absence of ethical limitations, serves merely as an efficient vehicle for the dehumanization of the social order.⁹² Collective ownership, then, like unlimited personal ownership, dehumanizes. Stripping the individual of the right to own and exploit the means of production puts people in a position of denying others the gift of resources that God freely gave all people and thus reduces their individual dignity.⁹³

C. Globalization and Development: The Church's moral economic stance has been most visible recently in its interactions with globalization and global finance. Here there is a similarity in objectives between Catholic social thought and traditional Marxist frameworks. But the foundations of those objectives are quite different. John Paul II suggested that "Christians will have to raise their voice on behalf of all the poor of the world, proposing the Jubilee as an appropriate time to give thought, among other things, to reducing substantially, if not canceling outright, the international debt which seriously threatens the future of many nations."⁹⁴ John Paul II, like Castro, suggests a "critical analysis of the world economic order, in its positive and negative aspects, so as to correct the present order, and that they would propose a system and mechanisms capable of ensuring an integral and concerted development of individuals and peoples."⁹⁵ Like Castro, John Paul II would have sought a recasting of the current global economic system away from markets and toward development and "social justice."⁹⁶ These views are echoed by American prelates as well.⁹⁷ Like Castro, John Paul II was no friend of the consumerism that formed an integral part of the global economic system contributing, in some measure, to the need to borrow by states least able to afford the debt.⁹⁸ In *Laborem exercens*, John Paul II suggested that globalization provided a venue for the indirect exploitation of labor through the elaboration of a transnational classical or Marxist (collective) system of economic exploitation of the individual through the exploitation of capital.⁹⁹

The attainment of the worker's rights cannot however be doomed to be merely a result of economic systems which on a larger or smaller scale are guided chiefly by the criterion of maximum profit. On the contrary, it is respect for the objective rights of the worker – every kind of worker: manual or intellectual, industrial or agricultural, etc. – that must constitute the adequate and fundamental criterion for shaping the whole economy, both on the level of the individual society and State and within the whole of the world economic policy and of the systems of international relationships that derive from it.¹⁰⁰

But within Catholic thought, filtered through these encyclicals, the Church can be understood to view the adoption of this vision as an aspect of conversion to Christian, that is, Catholic, universalism.¹⁰¹

Substantive values, then, are necessarily bent to the ultimate purpose of religious values—the community of the faithful. And so, like Castro, within his system, the Roman Catholic Church must continue to witness its faith in its economic and social justice manifestations. “In the next two years, we plan to do a lot of work on the debt issue. We will continue to press the World Bank, IMF, and US government for more substantial relief for the countries that qualify under the new initiative. We will work with CRS’ partners in Africa and Latin America who want to do their own work on debt. We will also support more exchanges of bishops and clergy from countries that are deeply indebted.”¹⁰²

Like Castro, elements of the Catholic hierarchy have suggested a greater lender responsibility for sovereign debt, especially to less developed states in which the ruling institutions might not be totally free of corruption or entirely legitimate.¹⁰³ The Catholic Church has indicated a willingness to embrace a form of Castro’s subsidy argument about neo liberal global trade and its effects on developing states as borrowers.¹⁰⁴ A Roman Catholic Church official has stated, for example, that “Another reason we care is that the most vulnerable people in society were not responsible for contracting the debt, yet they pay the price for it. Some countries used borrowed funds to finance their militaries or projects benefiting the elites rather than for projects that would have benefited the poor. Poor people suffer the most by the diversion of scarce resources to debt repayments from human development.”¹⁰⁵

At the same time, the Catholic hierarchy has been very careful to curb political expression of its moral stances. The Catholic Church firmly restrained the “liberation theology” popular with Latin American religious during the 1970s and 1980s.¹⁰⁶ The current Pontiff, Benedict XVI, as Cardinal Ratzinger, was crucial in that effort. He made a distinction between Marxist elements of liberation theology – which he considered an error within the traditions of the Roman Catholic faith, though an alluring one¹⁰⁷ – and the traditional, and doctrinally appropriate concern for the poor.¹⁰⁸ And here, perhaps, can be found the best answer to the question posed: at least within Roman Catholic institutional doctrinal thought Castro’s vision in opposition to neo-liberalism exist outside of Castro’s personal Marxist-Leninist ideological framework. Benedict XVI has suggested for years that it can.¹⁰⁹ “An analysis of the phenomenon of liberation theology reveals that it constitutes a fundamental threat to the faith

of the Church. ... [I]n denouncing error and pointing to dangers in liberation theology, we must always be ready to ask what truth is latent in the error and how it can be given its rightful place, how it can be released from error's monopoly."¹¹⁰

4. Religious Economic Frameworks and Legitimacy

In the mid-1980s, the global system of totalitarian Soviet style economic and political organization in Europe was on the verge of collapse, and private economic globalization grounded in principles of classical economics was on the point of emerging triumphant as the dominant system of economic organization. It is ironic, then, that just at that moment, two great alternatives to the rising model became crystallized. One was grounded in religion. The other was grounded on a morally based communal rationalist universalism. Both criticized the soon to be dominant theoretical framework for its "emptiness." Both suggested that the emerging global economic order offered a framework – and process – but no substance, and no ethical or moral grounding. Without that grounding, they suggested, the long-term viability of the framework itself could be threatened. Thus, both suggested that this focus on process and the values consequentialism inherent in that focus, the substantive vacuum, were at the heart of the ultimate failure of that system; a failure evident even at the moment before its global triumph in the following decades.

Today, one of the great proponents of these alternatives lies confined within a hospital complex somewhere in Cuba. The other is being hailed as a great prophet by certain of his adherents in the West. A recent newspaper article thus proclaimed:

Pope Benedict XVI was the first to predict the crisis in the global financial system, a 'prophesy' dating to a paper he wrote when he was a cardinal, Italian Finance Minister Giulio Tremonti said.

'The prediction that an undisciplined economy would collapse by its own rules' can be found in an article written by Cardinal Joseph Ratzinger, who became pope in April 2005, Tremonti said yesterday at Milan's Cattolica University.

German-born Ratzinger in 1985 presented a paper entitled 'Market Economy and Ethics' at a Rome event dedicated to the Church and the economy. The future

pope said a decline in ethics ‘can actually cause the laws of the market to collapse.’¹¹¹

The paper, subsequently published in 1986 and long slumbering, has been unearthed. And others followed the story for a time during the initial stages of the economic collapse of late 2008, with little on the context in which this prediction was first suggested.

Yet at the time he made this “prophesy,” then Cardinal Ratzinger was as much concerned about the rise of liberation theology as a threat to the Church and its role in Latin America, as he was about alternatives to market theory.¹¹² Between the Church and its flock in the Americas stood economic theory, just as between the Church and its flock in Eastern Europe stood that great old enemy – Marxist economic theory. And indeed, as he spoke, and wrote, Benedict might well have had in mind the similar prophesies of Fidel Castro, also delivered in a series of addresses to a wide audience in the mid 1980s, and also suggesting the inevitable collapse of the rising global economic framework for its immoral values.¹¹³

The purpose today is not to argue the relative merits of each position, or even to opine as to the prophetic nature and missions of either man. Instead, the object is to explore the way these issues serve to ground arguments about the legitimacy of the approach to economic regulation sourced within the Church. The greater object is to consider the power and place – the epistemology – of values within economic theory in general as conceived in these prophesies, and the construction, role and power of values-generating and values-guarding institutions (or frameworks) in particular.

Prophesy, it seems, requires a backwards view looking forward. And so Cardinal Ratzinger (now Pope Benedict XVI– the name I will now use here) starts at the end in order to see forward – for economics and for the role of the Church in that enterprise. And that end? He suggests that while the world focuses on the great political and ideological conflict between East and West, the economic tensions between North and South threaten to tear apart the cohesion of the human family”¹¹⁴ as effectively as the military weapons of the United States and the Soviet Bloc. At the core of the great North-South struggles is the failure of economic systems – but principally the private market oriented system of the West – to “guarantee progress and even distributive justice.”¹¹⁵ It is this failure that Benedict addresses – both as to its consequences for economic order and with a mind to its solution in a “new economic idea”¹¹⁶ necessarily

grounded in “new moral impulses. Only at this point is dialogue between Church and economy both possible and necessary.”¹¹⁷

For this purpose, Benedict sets three economic systems in his sights, as well as a rebuttal to the existence of a possible fourth. The three principal economic systems include those grounded in classical economics, those positing a morally driven centralized economy grounded in post-colonial or liberation theory, and Marxist economic systems. Each he judges a failure, and for similar reasons. All three, he suggests, are siblings in the foundations of their failures, and each, in its own way, exacerbates the dysfunction of valueless economics in their power to provide the greatest good for the human family.

There is, for Benedict, a certain power in the fourth – religion – “as a socio-political and hence as an economic-political factor.”¹¹⁸ But even this is rejected, and bent, if somewhat ambiguously, to the service of greater goals. Benedict thus tells his audience that the “Church should not enter into dialogue here as a mere component in the economy, but rather in its own right as Church.”¹¹⁹ He casts aside as a misreading, the objection, said to have arisen from out of the Second Vatican Council that the autonomy of the economic realm is to be respected “above all.”¹²⁰

For Benedict, all three economic models share two fundamental failures in their philosophical foundations. The first is their shared determinism. The second is their “renunciation of ethics as an independent entity relevant to the economy.” The nature of the failure is evidenced by the distance between promise and delivery under any of these systems. “In fact, the misery in the world has increased in shocking measure during the last thirty years.”¹²¹

The determinism of classical economics is an irony. Benedict describes the classical system as one grounded in the ultimate goodness of free process and the impediment of ethics in the attainment of the good.

Following the tradition inaugurated by Adam Smith, this position holds that the market is incompatible with ethics because voluntary ‘moral’ actions contradict market rules and drive the moralizing entrepreneur out of the game. For a long time, then, business ethics rang like hollow metal because the economy was held to work on efficiency and not on morality. The market’s inner logic should free us precisely from the necessity of having to depend on the morality of its participants. The true play

of market laws best guarantees progress and even distributive justice.¹²²

That freedom from ethics hides a determinism that serves as a fatal limit to the success of this theory. The limitations are of two kinds. The first is a false freedom: “in which man is completely controlled by the binding laws of the market while believing he acts in freedom from them.”¹²³ The second is a false belief that process necessarily includes only the attainment of good, or that the workings of process systems like classical economics can only produce the good. “It presupposes that the free play of market forces can operate in one direction only, given the constitution of man and the world, namely, toward the self-regulation of supply and demand, and toward economic efficiency and progress.”¹²⁴

Conceding that the “two presumptions are not entirely wrong,”¹²⁵ individual free choice and welfare maximization, standing alone, cannot be “universally applicable and correct, as is evident by the problems of today’s world economy.”¹²⁶ But the problem is more fundamental than that. Benedict suggests, in a slyly deconstructive manner, that the real problem is that choice is never free of the context in which it is made, personal, national, and the like, and that such contextualism necessarily distorts the freedom of choice and the vectors for the “good” of a process system.

It is becoming ever so clear that the development of the world economy has also to do with the development of the world community and with the universal family of man, and that the development of the spiritual powers of mankind is essential in the development of the world community. These spiritual powers are themselves a factor in the economy: the market rules function only when a moral consensus exists and sustains them.¹²⁷

Yet, for all that, as mere process it produces but is hardly in a position to inevitably produce that which is good. It can as easily be directed toward other goals. That, of course, is the point Castro and the non-aligned movement made at the same time.¹²⁸

And it is to this suggestion that Benedict next turns. Benedict sees something valuable in the liberation theology and related models and their reaction to the values of classical economics. He is drawn to the equivalence in such systems between sin and injustice,

an equivalence made implicitly by Castro and explicitly by the followers of liberation theology.¹²⁹

The result is that broad sectors of the Third World, which at first looked forward to development aid with great hopes, now identify the ground of their misery in the market economy, which they see as a system of exploitations, as institutionalised sin and injustice. For them, the centralized economy appears to be the moral alternative, toward which one turns with a directly religious fervor, and which virtually becomes the content of religion.¹³⁰

Here there appears to be a place for morals within economic systems. The centralized economy would substitute just control and distributive justice for the individual desires of disaggregated economic actors. This is a moral project. Yet, Benedict asserts something more:

the examples adduced thus far are certainly not encouraging, but the hope that one could, nonetheless, bring this moral project to fruition is also not thereby refuted. It seems that if the whole were to be attempted on a stronger moral foundation, it should be possible to reconcile morality and efficiency in a society not oriented toward maximum profit, but rather to self-restraint and common service. Thus in this area, the argument between economics and ethics is becoming ever more an attack on the market economy and its spiritual foundations, in favor of a centrally controlled economy, which is believed now to receive its moral grounding.¹³¹

Benedict, then, characterizes this as religious fervor also inevitably turned to failure. He reasons that under these systems, the individual is subsumed by the community. As a consequence, the egoism of the state serves as a substitute for the aggregate egoisms of individuals. But egoism itself remains central to the system. Yet in a global order in which aggregate human welfare maximization is the goal, even a world of hundreds of economic actors – as centrally planned as they like – even these national aggregations impede the search for a universal framework of the good. It is true that the context in which the good is now considered is broader – but not yet broad enough. “An economic policy that is ordered not only to the good of the group – indeed, not only to the common good of a determinate state –

but to the common good of the family of man demands a maximum of ethical discipline and thus a maximum of religious strength.”¹³²

And thus the problem of determinism from an opposite extreme, a suggestion made clearer as Benedict considers what he views as the more extreme version of the liberation theology, post-colonialist, centralized economic model – that of the traditional Soviet style Marxist states, the “radical antithesis of the market economy.”¹³³ Here the problem of determinism is the inverse of that under classical economics – the individual ceases to exist. “Marxism, too, is deterministic in nature and that it too promises a perfect liberation as the fruit of this determinism. For this reason, it is a fundamental error to suppose that a centralized economic system is a moral system in contrast to the mechanistic system of the market economy.”¹³⁴ This is, for Benedict, a more dangerous and extreme form of determinism than are systems based on notions of classical economics:

for at least the latter recognizes the realm of the subjective and considers it as the place of the ethical. The former, on the other hand, totally reduces becoming and history to economy, and the delimitation of one’s own subjective realm appears as resistance to the laws of history, which alone are valid, and as a reaction against progress, which cannot be tolerated. Ethics is reduced to the philosophy of history, and the philosophy of history degenerates into party strategy.¹³⁵

Determinism, then, is flawed precisely because it reduces human freedom in the service of freedom. In the one case, its focus on individual freedom occults both limits imposed by rules under which such freedom is exercised, and, tied to the individual, it also reduces to insignificance the power of the system to seek to maximize communal and global welfare as distinct from the aggregated choices of individuals. Marxist and centrally planned economies suffer the opposite problem – the elimination of ethics in the service of the state. This is an aggregation that obliterates both the individual and the global community in favor of an aggregate of states that are neither the most basic nor the broadest component of humanity.

What is missing in both is an ethics, now more clearly understood as a meta-framework through which the good can be attained at any given level of choice. And thus the second, and for Benedict the more important failing of all three systems – “the fact that deter-

minism includes the renunciation of ethics as an independent entity relevant to the economy.”¹³⁶ And it is a failing not merely systematically, but also for the way in which it reduces religion, and with it the Church, to a passive and reflective element of something greater. “Religion is traced back to economics as the reflection of a particular economic system and thus, at the same time, as an obstacle to correct knowledge, to correct action – as an obstacle to progress, at which the natural laws of history aim.”¹³⁷ Religion, indeed, is reduced to a reflection of a passing reality that must be overcome.

For the rest, the entire system lives in fact from the apotheosis of the central administration in which the world spirit itself would have to be at work, if this thesis were correct. That this is a myth in the worst sense of the word is simply an empirical statement that is being continually verified. And thus precisely the radical renunciation of a concrete dialogue between Church and economy which is presupposed by this thought becomes a confirmation of its necessity.¹³⁸

All three systems, then, avoid or reject any framework of ethics existing above the process or other framework rules within which they are constituted. And it is this inversion that both reduce religion to irrelevance and its assertion of a role in framing a meta system of morals to guide in the attainment of the “good” to valuelessness. In effect, morality is reduced to a role as the after-the-fact set of justifications for the systems it is meant to serve.

And the consequence for the Church, and religion, as Benedict suggested, is to be reduced to yet another player in the game of dominance of economic systems. Benedict notes the way both classical economics and Marxism are adroitly reduced the universalist aims of Religion to mere competitor or appendage. And he notes the power of the argument that religion tends to serve the dominant economic master – Calvinism and classical economics for example. He also notes the power of the charge that Catholicism, in particular, “includes no corresponding education to freedom and to the self-discipline necessary to it, favoring authoritarian systems instead – is doubtless even today still very widespread, and much in recent history seems to speak for it.”¹³⁹ Yet, the answer does not reside in classical economics, which “we can no longer regard so naively ... as the salvation of the world.” Rather, the difficulties posited by

economic criticism suggest a greater clarity in the role of the Church, rather than in the abandonment of its mission.

And thus Benedict comes to his prophesy: Religion without an embrace of the economic sphere, the sphere of social justice, is as incomplete, and flawed, as economics without the universalist moral framework that can only be provided by Religion. "It is becoming an increasingly obvious fact of economic history that the development of economic systems which concentrate on the common good depends on a determinate ethical system, which in turn can be born and sustained only by strong religious convictions. *Conversely, it has also become obvious that the decline of such discipline can actually cause the laws of the market to collapse.*"¹⁴⁰ Religion provides the only framework through which the right goals, at the right levels of generality, can be framed under any system of economic organization. "Today we need a maximum of specialized economic understanding, but also a maximum of ethos so that specialized economic understanding may enter the service of the right goals. Only in this way will its knowledge be both politically practicable and socially tolerable."¹⁴¹

And so Benedict has traveled from the separation of economics and religion to the necessity of religious oversight of the framework through which economics can be correctly understood and deployed. The search for the good is paramount: and religion serves as the only true superior source of the values and morals through which the good can be known. The execution of that good, of course, can be left to the technically proficient, as can the development of those process rules and alternatives. That is of less concern to the Church.

But values must frame all, and the Church must frame values. Benedict starts from an observation of the world – that there is more misery now than there had been in the past. He posits the cause as the systems deliberately imposed on individuals, states and the globe each suggesting that they provide the key to the alleviation of misery, distributive justice and maximum welfare for individuals and the state. He then suggests the causes of that failure: first the determinism inherent in all economic theory not subordinated to universal systems of values, and second the consequence of that determinism as the renunciation of the independence of ethics or its relevance to economic problems. He argues that when religion, and the universal ethical moral principles it serves is reduced to a consequence of the economic systems under which it operates, ethics itself becomes

deterministic. Yet the very failure of any of the three systems considered to alleviate the misery of the many serves to prove the flaws in this inversion. And the continued failure to recognize the fundamental governing importance of religion, and through religion ethics, to serve as a structuring element of economics, will inevitably cause the a-moral laws of the markets to collapse.

Globalization as a globalized economic system, then, requires a global framework. That framework is essential if one is to avoid the distortions of the sources of parochial frameworks. Benedict surveys the current crop of economic frameworks and finds little but distortion. Each of the systems is tied to the local from which it means to generalize its experiences and insights into universals; none of them truly proceeds from the global down. Where liberation theology and Castro would posit the supremacy of the state as representative of the people, and seek to derive moral frameworks from the attainment of the good of those people, Benedict posits the supremacy of morals (and religion as the only true guardian of such morals) as representative of humanity beyond the individual and the state. Classical economics protects the individual; liberation theology and Soviet Marxism the state. But moral values safeguard the global community. Thus, morals and the moral framework suggest both content (what is the good), the frame of reference (with respect to which actors is the good to be considered), and the organization (who is to safeguard the understanding of the good so conceived) of the human communities which both religion and economic system are meant to serve.

Still, there is a small fly in the ointment. Benedict's own solution rests on a great presumption – the presumption of faith in the divine supremacy of the moral system over which he serves in a guardian capacity. It is to the battle among the keepers of universalisms – religious communities, rationalist communities and others – that the values basis of economics, whether classical, liberation theological or Marxist will be contested. Even liberation theology continues to resist utter elimination in Latin America.¹⁴² But that is a fight for another day. “The consequence for the traditional state system appears to be the same, whatever the form of globalization embraced, from the most benign to the most aggressive, and whatever the character of opposition to globalization endorsed. The attachment to a particular nation-state bounded by a finite territory no longer appears to be the critical factor in the debate about globalization.”¹⁴³

5. Conclusion

John Paul II perhaps described the theological intervention in economics best when he noted:

The Church's social doctrine is not a 'third way' between liberal capitalism and Marxist collectivism, nor even a possible alternative to other solutions less radically opposed to one another: rather, it constitutes a category of its own. Nor is it an ideology, but rather the accurate formulation of the results of a careful reflection on the complex realities of human existence, in society and in the international order, in the light of faith and of the Church's tradition. Its main aim is to interpret these realities, determining their conformity with or divergence from the lines of the Gospel teaching on man and his vocation, a vocation which is at once earthly and transcendent; its aim is thus to guide Christian behavior. It therefore belongs to the field, not of ideology, but of theology and particularly of moral theology.¹⁴⁴

In the end, all of these systems seek the good. All of them are based, in large measure on faith. But the faith of each of these systems – those premises from which the vast and complex structures of each of these rational systems of knowledge and order are constructed, are vastly different. Yet all share the same foundational understanding that the rational can only be perfected as a function of something else – of something outside of the systems that are created on their basis. It is from that faith, from those premises, that all else – from law to economics, to culture, to the structure of human organization, arises and is supported. The contest for the soul of a community, then, as the pontiffs so rightly suggest, strike at the core of the ordering of human organization for the coming century. Which faith will triumph, of course, is another matter.

NOTES AND REFERENCES

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2. John Paul II (1981), “Laborem exercens,” http://www.vatican.va/holy_father/john_paul_ii/encyclicals/documents/hf_jp-ii_enc_14091981_laborem-exercens_en.html (hereafter *Laborem exercens*).
3. John Paul II (1987), “Sollicitudo rei socialis,” http://www.vatican.va/holy_father/john_paul_ii/encyclicals/documents/hf_jp-ii_enc_30121987_sollicitudo-rei-socialis_en.html; John Paul II (1991) (*Sollicitudo rei socialis*), “Centesimus annis,” http://www.vatican.va/holy_father/john_paul_ii/encyclicals/documents/hf_jp-ii_enc_01051991_centesimus-annus_en.html (hereafter *Centesimus annis*).
4. “However, socio-economics does more than suspend these assumptions [of classical economic theory]. Rather, based on principles of natural and moral philosophy relied on by Adam Smith, and drawing upon all relevant disciplines, socio-economics is a positive and normative approach that aspires to present a factually rigorous, holistic understanding of economic behavior that is both paradigm-conscious and value-conscious, yet at the same time, largely, though not entirely, paradigm- and value-neutral.” Ashford, R. “Socio-Economics – An Overview,” electronic version available at <http://www.ssrn.com/abstract-882751>. Contrast G. Franke, (1975) Conflict and Compatibility of Wealth and Welfare Maximization,” *Mathematical Methods of Operations Research* 19(1): 1–13.
5. Kelso, L.O. and Adler, M.J. (1958), *The Capitalist Manifesto*. New York: Random House. *The New Capitalists: A Proposal to Free Economic Growth from the Slavery of Savings*. San Francisco: The Kelso Institute, 2000.
6. Norman G. Kurland, *Binary Economics in a Nutshell* (2005) at 1 available at <http://www.cej.org/binaryeconomics/be-inanutshell.html>
7. See Ashford, R. and Shakespeare, R (1999), *Binary Economics: The New Paradigm*. Lanham, MD: University Press of America.
8. Id.
9. Marxists have theorized this notion in the political as well as the economic sphere as democratic centralism. For its origins in the construction of Leninist party organization, see Lenin, V.I. (1902), “What Is to be Done,” in Lenin, V.I. (1961), *Collected Works*. Moscow: Foreign Languages Publishing House, Volume 5, 347–530 available at <http://marxists.org/archive/lenin/works/1901/witbd/index.htm>
10. See Backer, L.C. (2006), “Ideologies of Globalization and Sovereign Debt: Cuba and the IMF,” *Pennsylvania State International Law Review* 24: 497 and text accompanying notes 23–52.
11. Backer, *supra* note 10, at 531.

12. Id. Overproduction misallocates resources for the benefit of consumers in the wealthiest states by depressing the price of these goods, making them more affordable in the developed world but beyond the reach of people elsewhere. Free movement of capital makes it harder for developing states to tax consumption or income of the entities producing goods for the global market. Consumerism as an ideology keeps the wheels of overproduction going and fuels a constant if false aspirational hope among those in developing states. Id.

13. “States, without wealth to tax and with critical needs to meet, must borrow. Developing states borrow directly, in the debt markets, and indirectly, through the IMF, from developing states.” Id.

14. Id.

15. Fidel Castro Ruz, Commander in Chief, First Secretary of the Central Committee of the Cuban Communist Party, President of the Council of State and Ministers, Discourse Delivered at the Eighth Summit Conference of Non-Aligned States (Sept. 2, 1986), <http://www.cuba.cu/gobierno/discursos/1986/esp/f020986e> (last visited Sept. 9, 2007) (author’s translation).

16. Backer, *supra* note 10, at 532.

17. For American academic application of the principles of Catholic social thought, see, e.g., Quigley, W.P. (2004), “Prison Work, Wages, and Catholic Social Thought: Justice Demands Decent Work for Decent Wages, Even for Prisoners,” *Santa Clara Law Review* 44: 1159–1174.

18. See Joseph Cardinal Ratzinger, Sacred Congregation for the Doctrine of the Faith. *Instruction on Christian Freedom and Liberation* (1986).

19. See id.

20. See discussion, *infra* at Part III.

21. *Deus Caritas Est*, *supra* note 1.

22. “In acknowledging the centrality of love, Christian faith has retained the core of Israel’s faith, while at the same time giving it new depth and breadth.” *Deus Caritas Est* at ¶ 1.

23. “Jesus united into a single precept this commandment of love for God and the commandment of love for neighbour found in the Book of Leviticus: “You shall love your neighbour as yourself” (19:18; cf. Mk 12:29-31). Since God has first loved us (cf. 1 Jn 4:10), love is now no longer a mere “command”; it is the response to the gift of love with which God draws near to us.” *Deus Caritas Est* at ¶ 1.

24. *Deus Caritas Est* at ¶ 1.

25. *Deus Caritas Est* at ¶ 2-7. “This is due first and foremost to the fact that man is a being made up of body and soul. Man is truly himself when his body and soul are intimately united; the challenge of eros can be said to be truly overcome when this unification is achieved.” Id., at ¶ 5.

26. “Yet eros and agape – ascending love and descending love – can never be completely separated. The more the two, in their different aspects,

find a proper unity in the one reality of love, the more the true nature of love in general is realized.” Id., at ¶ 7.

27. Id., at ¶ 8.

28. “This newness of biblical faith is shown chiefly in two elements which deserve to be highlighted: the image of God and the image of man.” Id., at ¶ 8.

29. “We have seen that God’s eros for man is also totally agape. This is not only because it is bestowed in a completely gratuitous manner, without any previous merit, but also because it is love which forgives.” Id., at ¶ 10.

30. “First, eros is somehow rooted in man’s very nature; Adam is a seeker, who “abandons his mother and father” in order to find woman; only together do the two represent complete humanity and become “one flesh”. The second aspect is equally important. From the standpoint of creation, eros directs man towards marriage, to a bond which is unique and definitive; thus, and only thus, does it fulfill its deepest purpose. Corresponding to the image of a monotheistic God is monogamous marriage.” Id., at 11.

31. “The real novelty of the New Testament lies not so much in new ideas as in the figure of Christ himself, who gives flesh and blood to those concepts – an unprecedented realism.” Id., at ¶ 12.

32. “Communion draws me out of myself towards him, and thus also towards unity with all Christians. We become ‘one body,’ completely joined in a single existence. Love of God and love of neighbour are now truly united: God incarnate draws us all to himself.” Id., at ¶ 14.

33. Id., at ¶ 15.

34. “As a community, the Church must practise love. Love thus needs to be organized if it is to be an ordered service to the community.” Id., at ¶ 20.

35. Id., at ¶ 20.

36. Id., at ¶ 23 (the example of Egypt).

37. Id., at ¶ 25.

38. Id.

39. “Historically, the issue of the just ordering of the collectivity had taken a new dimension with the industrialization of society in the nineteenth century. The rise of modern industry caused the old social structures to collapse, while the growth of a class of salaried workers provoked radical changes in the fabric of society.” Id., at ¶ 26.

40. “The relationship between capital and labour now became the decisive issue – an issue which in that form was previously unknown. Capital and the means of production were now the new source of power which, concentrated in the hands of a few, led to the suppression of the rights of the working classes, against which they had to rebel.” Id., at ¶ 26.

41. Id., at ¶ 27. “Faced with new situations and issues, Catholic social teaching thus gradually developed, and has now found a comprehensive presentation in the Compendium of the Social Doctrine of the Church published in 2004 by the Pontifical Council *Iustitia et Pax*.” Id.

42. “In today’s complex situation, not least because of the growth of a globalized economy, the Church’s social doctrine has become a set of fundamental guidelines offering approaches that are valid even beyond the confines of the Church: in the face of ongoing development these guidelines need to be addressed in the context of dialogue with all those seriously concerned for humanity and for the world in which we live.” *Id.*, at ¶ 27.

43. “The just ordering of society and the State is a central responsibility of politics. As Augustine once said, a State which is not governed according to justice would be just a bunch of thieves: ‘*Remota itaque iustitia quid sunt regna nisi magna latrocinia?*’.[18] Fundamental to Christianity is the distinction between what belongs to Caesar and what belongs to God (cf. Mt 22:21), in other words, the distinction between Church and State, or, as the Second Vatican Council puts it, the autonomy of the temporal sphere.” *Id.*, at ¶ 28(a).

44. “Justice is both the aim and the intrinsic criterion of all politics. Politics is more than a mere mechanism for defining the rules of public life: its origin and its goal are found in justice, which by its very nature has to do with ethics.” *Id.*, at ¶ 28(a).

45. “Here politics and faith meet. Faith by its specific nature is an encounter with the living God – an encounter opening up new horizons extending beyond the sphere of reason. But it is also a purifying force for reason itself.” *Id.* Faith acts as the agape to politics’ Eros.

46. “Faith enables reason to do its work more effectively and to see its proper object more clearly. This is where Catholic social doctrine has its place: it has no intention of giving the Church power over the State. Even less is it an attempt to impose on those who do not share the faith ways of thinking and modes of conduct proper to faith. Its aim is simply to help purify reason and to contribute, here and now, to the acknowledgment and attainment of what is just.” *Id.*, at ¶ 28(a).

47. “It recognizes that it is not the Church’s responsibility to make this teaching prevail in political life. Rather, the Church wishes to help form consciences in political life and to stimulate greater insight into the authentic requirements of justice as well as greater readiness to act accordingly, even when this might involve conflict with situations of personal interest.” *Id.*

48. “As a political task, this cannot be the Church’s immediate responsibility. Yet, since it is also a most important human responsibility, the Church is duty-bound to offer, through the purification of reason and through ethical formation, her own specific contribution towards understanding the requirements of justice and achieving them politically.” *Id.*

49. *Id.*, at ¶ 28(b).

50. “In the end, the claim that just social structures would make works of charity superfluous masks a materialist conception of man: the mistaken notion that man can live “by bread alone” (Mt 4:4; . . .) – a conviction that demeans man and ultimately disregards all that is specifically human.” *Id.*

51. *Id.*, at ¶ 36.

52. Id.

53. Id.

54. "This happens in consumerism, when people are ensnared in a web of false and superficial gratifications rather than being helped to experience their personhood in an authentic and concrete way." Id., at ¶ 41.

55. *Deus Caritas est*, supra note 1 at ¶ 26.

56. The encyclical explains that "man "is the primary and fundamental way for the Church," precisely because of the inscrutable mystery of Redemption in Christ; and so it is necessary to return constantly to this way and to follow it ever anew in the various aspects in which it shows us all the wealth and at the same time all the toil of human existence on earth." *Laborem exercens*, supra note 2, at ¶ 1.

57. "She is confirmed in this conviction by considering the whole heritage of the many sciences devoted to man: anthropology, palaeontology, history, sociology, psychology and so on; they all seem to bear witness to this reality in an irrefutable way. But the source of the Church's conviction is above all the revealed word of God, and therefore what is a conviction of the intellect is also a conviction of faith." Id., at ¶ 4.

58. Id., at ¶ 4.

59. "Man has to subdue the earth and dominate it, because as the 'image of God' he is a person, that is to say, a subjective being capable of acting in a planned and rational way, capable of deciding about himself, and with a tendency to self-realization. As a person, man is therefore the subject of work." Id., ¶ 6.

60. "This dominion, in a certain sense, refers to the subjective dimension even more than to the objective one: this dimension conditions the very ethical nature of work. In fact there is no doubt that human work has an ethical value of its own, which clearly and directly remain linked to the fact that the one who carries it out is a person, a conscious and free subject, that is to say a subject that decides about himself." Id., at ¶ 6.

61. "Work is a good thing for man-a good thing for his humanity-because through work man not only transforms nature, adapting it to his own needs, but he also achieves fulfillment as a human being and indeed, in a sense, becomes "more a human being"." Id., at ¶ 9.

62. "Work constitutes a foundation for the formation of family life, which is a natural right and something that man is called to. These two spheres of values-one linked to work and the other consequent on the family nature of human life-must be properly united and must properly permeate each other." Id., at 10.

63. Id.

64. *Laborem exercens*, supra note 2, at ¶¶ 11-15.

65. "The conflict originated in the fact that the workers put their powers at the disposal of the entrepreneurs, and these, following the principle of maximum profit, tried to establish the lowest possible wages for the work done by the employees. In addition there were other elements of exploi-

tation, connected with the lack of safety at work and of safeguards regarding the health and living conditions of the workers and their families.” Id., at ¶ 11.

66. Id., at ¶ 12.

67. Id., at ¶ 12.

68. Id., at ¶ 13.

69. Id., at ¶ 14.

70. Id., at ¶ 16.

71. Id., at ¶ 17.

72. Id., at ¶ 18. “The obligation to provide unemployment benefits, that is to say, the duty to make suitable grants indispensable for the subsistence of unemployed workers and their families, is a duty springing from the fundamental principle of the moral order in this sphere, namely the principle of the common use of goods or, to put it in another and still simpler way, the right to life and subsistence.” Id.

73. Id., at ¶ 19. “The key problem of social ethics in this case is that of just remuneration for work done. ... Hence, in every case, a just wage is the concrete means of verifying the justice of the whole socioeconomic system and, in any case, of checking that it is functioning justly. It is not the only means of checking, but it is a particularly important one and, in a sense, the key means.” Id.

74. Id., at ¶ 19. “The true advancement of women requires that labour should be structured in such a way that women do not have to pay for their advancement by abandoning what is specific to them and at the expense of the family, in which women as mothers have an irreplaceable role.” Id.

75. Id., at ¶ 20. “They are indeed a mouthpiece for the struggle for social justice, for the just rights of working people in accordance with their individual professions. However, this struggle should be seen as a normal endeavour ‘for’ the just good: in the present case, for the good which corresponds to the needs and merits of working people associated by profession; but it is not a struggle ‘against’ others.” Id.

76. Id., at ¶ 21–22.

77. Id., at ¶ 23. “The most important thing is that the person working away from his native land, whether as a permanent emigrant or as a seasonal worker, should not be placed at a disadvantage in comparison with the other workers in that society in the matter of working rights. Emigration in search of work must in no way become an opportunity for financial or social exploitation. As regards the work relationship, the same criteria should be applied to immigrant workers as to all other workers in the society concerned.” Id.

78. Id., at ¶ 12.

79. Id.

80. “Obviously, it remains clear that every human being sharing in the production process, even if he or she is only doing the kind of work for which no special training or qualifications are required, is the real efficient

subject in this production process, while the whole collection of instruments, no matter how perfect they may be in themselves, are only a mere instrument subordinate to human labour.” Id., at ¶ 12.

81. Id., at ¶ 13.

82. “From the beginning there is also linked with work the question of ownership, for the only means that man has for causing the resources hidden in nature to serve himself and others is his work. And to be able through his work to make these resources bear fruit, man takes over ownership of small parts of the various riches of nature: those beneath the ground, those in the sea, on land, or in space. He takes all these things over by making them his workbench. He takes them over through work and for work.” Id., at ¶ 12.

83. Id.

84. “Christian tradition has never upheld this right as absolute and un-touchable. On the contrary, it has always understood this right within the broader context of the right common to all to use the goods of the whole of creation: the right to private property is subordinated to the right to common use, to the fact that goods are meant for everyone.” Id., at ¶ 14.

85. Id. (ownership ethics “diverges radically from the programme of collectivism as proclaimed by Marxism and put into practice in various countries in the decades following the time of Leo XIII’s Encyclical. At the same time it differs from the programme of capitalism practised by liberalism and by the political systems inspired by it.” Id.).

86. “We can speak of socializing only when the subject character of society is ensured, that is to say, when on the basis of his work each person is fully entitled to consider himself a part-owner of the great workbench at which he is working with every one else. A way towards that goal could be found by associating labour with the ownership of capital, as far as possible, and by producing a wide range of intermediate bodies with economic, social and cultural purposes; they would be bodies enjoying real autonomy with regard to the public powers, pursuing their specific aims in honest collaboration with each other and in subordination to the demands of the common good, and they would be living communities both in form and in substance, in the sense that the members of each body would be looked upon and treated as persons and encouraged to take an active part in the life of the body.” Id., at ¶ 14.

87. The error “originated in the whole of the economic and social practice of that time, the time of the birth and rapid development of industrialization, in which what was mainly seen was the possibility of vastly increasing material wealth, means, while the end, that is to say, man, who should be served by the means, was ignored. It was this practical error that struck a blow first and foremost against human labour, against the working man, and caused the ethically just social reaction already spoken of above.” Id., at ¶ 13.

88. “This fundamental error of thought can and must be called an error of materialism, in that economism directly or indirectly includes a con-

viction of the primacy and superiority of the material, and directly or indirectly places the spiritual and the personal (man's activity, moral values and such matters) in a position of subordination to material reality. This is still not theoretical materialism in the full sense of the term, but it is certainly practical materialism, a materialism judged capable of satisfying man's needs, not so much on the grounds of premises derived from materialist theory, as on the grounds of a particular way of evaluating things, and so on the grounds of a certain hierarchy of goods based on the greater immediate attractiveness of what is material." Id., at ¶ 13.

89. Id., at ¶ 14.

90. "From this point of view the position of 'rigid' capitalism continues to remain unacceptable, namely the position that defends the exclusive right to private ownership of the means of production as an untouchable 'dogma' of economic life. The principle of respect for work demands that this right should undergo a constructive revision, both in theory and in practice. If it is true that capital, as the whole of the means of production, is at the same time the product of the work of generations, it is equally true that capital is being unceasingly created through the work done with the help of all these means of production, and these means can be seen as a great workbench at which the present generation of workers is working day after day. Obviously we are dealing here with different kinds of work, not only so-called manual labour but also the many forms of intellectual work, including white-collar work and management." Id., at ¶ 14.

91. "In dialectical materialism too man is not first and foremost the subject of work and the efficient cause of the production process, but continues to be understood and treated, in dependence on what is material, as a kind of 'resultant' of the economic or production relations prevailing at a given period." Id., at ¶ 13.

92. "While we accept that for certain well founded reasons exceptions can be made to the principle of private ownership-in our own time we even see that the system of 'socialized ownership' has been introduced-nevertheless the personalist argument still holds good both on the level of principles and on the practical level. If it is to be rational and fruitful, any socialization of the means of production must take this argument into consideration. Every effort must be made to ensure that in this kind of system also the human person can preserve his awareness of working 'for himself.' If this is not done, incalculable damage is inevitably done throughout the economic process, not only economic damage but first and foremost damage to man." Id., at ¶ 15.

93. "For it must be noted that merely taking these means of production (capital) out of the hands of their private owners is not enough to ensure their satisfactory socialization. They cease to be the property of a certain social group, namely the private owners, and become the property of organized society, coming under the administration and direct control of another group of people, namely those who, though not owning them, from the fact

of exercising power in society manage them on the level of the whole national or the local economy.” Id., at ¶ 14.

94. John Paul II, *Ecclesia In America*, (Apostolic Exhortation: To the Bishops, Deacons, and Priests) (available at <http://www.vatican.va/index.htm>) (“Once more I express the hope, ... that ... ‘through study and dialogue with representatives of the First World and with the leaders of the World Bank and the International Monetary Fund, will seek ways of resolving the problem of the foreign debt and produce guidelines that would prevent similar situations from recurring on the occasion of future loans.’ (218)” Id.).

95. Id.

96. “The cry of millions upon millions of poor and marginalized people in our Latin American and Caribbean societies due to this unjust economic system with its ‘face of suffering’ (S.D. 179), must be heard by the Church in the Americas, and must be faced with evangelical courage, and a desire to promote, for everyone’s benefit, this ‘new international socio-economic order’ based on solidarity and justice.” *Synodus Episcoporum Bulletin* of the Commission for information of the Special Assembly for America of the Synod of Bishops 16 November–12 December 1997.

97. “Another reason we care is that the most vulnerable people in society were not responsible for contracting the debt, yet they pay the price for it. Some countries used borrowed funds to finance their militaries or projects benefiting the elites rather than for projects that would have benefited the poor. Poor people suffer the most by the diversion of scarce resources to debt repayments from human development.” United States Bishops, Jubilee, *That’s Why We Care about International Debt*, (June 2000) (available at http://www.vatican.va/phome_en.htm). Cf., Synod of Bishops, Special Assembly for America, *Instrumentum Laboris, Encounter with the Living Jesus Christ: The Way to Conversion, Communion and Solidarity in America* (1997) available at http://www.vatican.va/roman_curia/synod/documents/rc_synod_doc_01091997_usa-instrlabor_en.html;

98. “In the entire American continent, there are indications of the difference mentioned by Pope John Paul II in his Encyclical Letter *Redemptoris missio*: ‘the North has constructed (a development model) which is now spreading to the South, where a sense of religion as well as human values are in danger of being overwhelmed by a wave of consumerism.’ Various answers point to the urgent need to find a solution to the problem of the foreign debt in the context of the celebration of the Great Jubilee of the Year 2000, as proposed by the Holy Father in his Apostolic Letter *Tertio millennio adveniente*.” Synod of Bishops, Special Assembly for America, *Instrumentum Laboris, Encounter with the Living Jesus Christ: The Way to Conversion, Communion and Solidarity in America* (1997) available at http://www.vatican.va/roman_curia/synod/documents/rc_synod_doc_01091997_usa-instrlabor_en.html.

99. “The concept of indirect employer is applicable to every society, and in the first place to the State. For it is the State that must conduct a just labour policy. However, it is common knowledge that in the present system of economic relations in the world there are numerous links between individual States, links that find expression, for instance, in the import and export process, that is to say, in the mutual exchange of economic goods, whether raw materials, semimanufactured goods, or finished industrial products. These links also create mutual dependence, and as a result it would be difficult to speak, in the case of any State, even the economically most powerful, of complete self-sufficiency or autarky.” *Laborem exercens, supra* note 2, at ¶ 17.

100. *Id.*

101. Thus, the issue of sovereign debt has been conceived as forming a part of a total conversion.

Certain economic systems and policies exist which control the commercial market and affect the financial matter of loans and interests, generating in some cases an enormous debt for nations and impeding the development of peoples. There are also certain types of economic aid dependent on the ideologies of small political groups, various people in power and nations which are not always governed by the criteria of equity and solidarity, but rather by selfish interests. Such conditions call for conversion, especially as they relate to the economic inequality between the northern and southern areas of the continent. The situation calls out to faith and to conscience – both human and Christian – for a response.

Synod of Bishops, Special Assembly for America, *Encounter With the Living Jesus Christ: The Way to Conversion, Community and Solidarity in America: Lineamenta*, available at http://www.vatican.va/roman_curia/synod/documents/rc_synod_doc_01081996_usa-lineam_en.html at ¶ 25 (emphasis in original).

102. United States Bishops, Jubilee, *That's Why We Care About International Debt*, (June 2000) (available at http://www.vatican.va/phome_en.htm).

103. Thus for example, the Pontifical Council for Justice and Peace Trade, Development and the Fight Against Poverty suggested that:

Among the causes which have helped to create massive external debt are not only high interest rates, caused by speculative financial policies, but also the irresponsibility of people in government who, in incurring debt,

have given too little thought to the real possibility of repaying it. This has been aggravated by the fact that huge sums obtained through international loans sometimes go to enrich individuals instead of being used to pay for the changes needed for the country's development. At the same time, it would be unjust to impose the burden resulting from these irresponsible decisions upon those who did not make them.

Bishop Diarmud Martin, Pontifical Council for Justice and Peace Trade, Development and the Fight against Poverty, Report (18 November 1999) (available at http://www.vatican.va/phome_en.htm).

104. See *id.*, (But, unfortunately, “the international trade system today frequently discriminates against the products of the young industries of the developing countries and discourages the producers of raw materials,” as noted by Pope John Paul II in the 1980s [*Sollicitudo rei socialis*]... “The trends in primary commodity trade, access to world markets and diversification of production have a decisive impact on developing countries, affecting the balance of payments, foreign debt, domestic budget and the success of savings and investment policies.”).

105. Cardinal Etchegaray, Speech: *Pontifical Council for Justice and Peace*, (June 9-10 2000) (Speech available at http://www.vatican.va/phome_en.htm) (this speech was given during the Pontifical Council for Justice and Peace, with the support of the Adenauer Foundation, organized a seminar, in Rome on June 9 and 10, which gathered the leaders of international financial institutions (World Bank, International Monetary Fund, Inter-American Bank for Development), the presidency of the Latin American Bishops' Conference and representatives of the US and German Bishops' Conferences.

106. See Gustavo Gutierrez (rev. ed. 1988) *A Theology of Liberation: History, Politics and Salvation*. Maryknoll, New York: Orbis Books..

107. Joseph Cardinal Ratzinger, *Liberation Theology*, Preliminary Notes, (1984) available at <http://www.christendom-awake.org/pages/ratzinger/liberationtheol.htm> (reproduced from *The Ratzinger Report* – an interview with Cardinal Ratzinger and Vittorio Messori (Ignatius Press 1984)). Specifically, as Cardinal Ratzinger, Pope Boniface explained:

In trying to arrive at an overall evaluation it must be said that, if one accepts the fundamental assumptions which underlie liberation theology, it cannot be denied that the whole edifice has an almost irresistible logic. By adopting the position of biblical criticism and of a hermeneutics that grows through experience, on the one hand, and of the marxist analysis of history, on the other, liberation theologians have succeeded in creating a total

picture of the Christian reality, and this total view seems to respond fully both to the claims of science and to the moral challenges of our time, urging people to make Christianity an instrument of concrete world transformation; it seems to have united Christianity, in this way, with all the 'progressive forces' of our era. Id.

Pope Benedict's most formal refutation of liberation theology was published at Joseph Cardinal Ratzinger, Sacred Congregation for the Doctrine of the Faith, *Instruction on Christian Freedom and Liberation* (1986).

108. See Edward A. Lynch, "The Retreat of Liberation Theology," *Homiletic and Pastoral Review* (Feb. 1994): 12–21 available at http://www.catholicculture.org/docs/doc_view.cfm?recnum=643. Professor Lynch notes that "Opponents of liberation theology have incorporated their struggle against this particular philosophy into a more general attack on secularism, societal disunity and a culture confined to addressing economic conflict. The approach has been quite successful." Id.

109. For the official pronouncement see Congregation for the Doctrine of the Faith, *Instruction on Certain Aspects of the "Theology of Liberation,"* (1984) available at http://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19840806_theology-liberation_en.html. Part VII offers a critique of Christian Marxism. In particular, there was a concern for the inevitable link between Marxist ideology and totalitarianism. See Id., at VII.7.

110. Joseph Cardinal Ratzinger, *Liberation Theology, Preliminary Notes* (1984) available at <http://www.christendom-awake.org/pages/ratzinger/liberationtheol.htm> (reproduced from *The Ratzinger Report* – an interview with Cardinal Ratzinger and Vittorio Messori (Ignatius Press 1984).

111. Flavia Krause-Jackson and Lorenzo Totaro, *Pope 'Prophesized' Market Collapse*, Financial Post Mobile, Nov. 20, 2008.

112. Joseph Cardinal Ratzinger, "Church and Economy: Responsibility for the Future of the World Economy," *Communio* 13 (Fall 1986): 199–204, available as "Market Economy and Ethics" http://www.acton.org/publications/occasionalpapers/publicat_occasionalpapers_ratzinger.php (I use the translation of the initial paper by Stephen Wentworth Arndt, provided courtesy of Dr. Johannes Stemmler, secretary emeritus of the BKU (Federation of Catholic Entrepreneurs) and secretary of Ordo socialis in Köln, Germany to the Action Institute (U.S.)); Joseph Cardinal Ratzinger, Sacred Congregation for the Doctrine of the Faith, *Instruction on Christian Freedom and Liberation* (1986).

113. See, Fidel Castro Ruz, *Clausura del dialogo juvenil y estudiantil de america latina y el caribe sobre la deuda externa, celebrado en el palacio de las convenciones, el 14 de Septiembre De 1985, "Año Del Tercer Congreso,"* delivered Sept. 14, 1985, La Habana, Cuba, available at <http://www.cuba.cu/gobierno/discursos/1985/esp/f140985e.html>, and translated as "Cas-

tro 15 Sep. Comments on Latin American Debt” at <http://www1.lanic.utexas.edu/la/cb/cuba/castro/1985/19850915> (University of Texas “Castro Speech Database”); Fidel Castro Ruz, Speech by President Fidel Castro at the Continental Dialogue on the Foreign Debt held at Havana’s Palace of Conventions Aug. 4, 1985, available at <http://www1.lanic.utexas.edu/la/cb/cuba/castro/1985/19850804>; Fidel Castro Ruz, Discurso pronunciado a Delegados a la Conferencia Sindical de Los Trabajadores de América Latina y el Caribe sobre la Deuda Externa, durante la Sesión de Clausura del Evento, el día 18 de Julio de 1985, available at <http://www.cuba.cu/gobierno/discursos/1985/esp/f180785e.html>).

114 Ratzinger, “Church and Economy,” *supra* note 112.

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. Fidel Castro Ruz, Continental Dialogue on the Foreign Debt, *supra* note 113.

129. Fidel Castro Ruz, Conferencia Sindical de Los Trabajadores, *supra* note 113.

130. Ratzinger, “Church and Economy,” *supra* note 112.

131. Ratzinger, *supra*.

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.*; emphasis supplied.

141. *Id.*

142. See, e.g., Larry Catá Backer, “Economic Globalization Ascendant: Four Perspectives on the Emerging Ideology of the State in the New Global Order,” *Berkeley La Raza Law Journal* 17(1): 141-168 (2006). Available at SSRN: <http://ssrn.com/abstract=917417>.

143. See Larry Catá Backer, Paraguay's New President and Ex-Bishop: Reform, Religion, and Constitution, Law at the End of the Day, July 30, 2008, available <http://lcbackerblog.blogspot.com/2008/07/httpwwwbloggercomimggllinkgifreolving.html>.

144. *Sollicitudo rei socialis*, *supra*, note 3, at ¶ 41.

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A CRITIQUE OF YUNUS AND HIS MICRO-FINANCE

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ABSTRACT. Micro-finance is a left wing attack on the free enterprise system; as such, it ought to be opposed by all freedom lovers, at least in its present format. Other baggage weighing it down is, if not absolute fraud, then, what might well be considered at least serious chicanery. A further criticism is the cult-like behavior now surrounding it. The present paper offers a critique of it, and thus constitutes a defense of private markets. This claim is a matter of prudential judgment, not praxeology. Micro-finance constitutes an unwarranted attack on the free enterprise system; it relies on a philosophy of positive rights. There are other better ways to “cure poverty” than this misbegotten scheme. This initiative, paradoxically, exacerbates impoverishment by placing investment resources in hands less capable of making it grow than would otherwise be the case.

JEL: D14, G2, R51

Keywords: Yunus, micro-finance, market, enterprise, positive, right

1. Introduction

Suppose there were a scholar named Jones who won the Nobel Peace Prize for cockamamie but voluntary non statist schemes to end poverty; he is lionized and financed by the usual socialist suspects such as George Soros (Open Society, 2006), and many left wing U.S. charitable organizations including the Ford and the Bill and Melinda Gates Foundations. As well, Professor Jones is persona very much grata on the part of numerous international institutions justly known for their denigration of free enterprise, such as the United Nations, the IMF and the World Bank.

Further assume that Jones's scheme was seen by him and virtually all others as an explicit attack on the market for not providing these new and creative opportunities for the impoverished. Stipulate that the purveyor of these products was unwilling to make publicly available the records of his "successes" even though he had been pursuing these policies for several decades. Posit that Jones saw over-population and marriage as the enemies of economic development; that he engaged in cult like activities with his "clients." Suppose, moreover, that Jones supports socialism, feminism, and other philosophies that have long denigrated capitalism, and claims they are an integral part of his program of reducing poverty.

How should, defenders of the free enterprise system, react to such a phenomenon? Certainly not by piling onto this particular bandwagon; for to do so would support socialism.¹

But, also, they would not react by attacking the schemes as rights violation either. These, too, are legitimate parts of the market, no matter what their origins, given that they do not impose on anyone against his will. We would content ourselves to make the point that the failure of the market to previously supply such goods, and thereby cure poverty, does not constitute a market failure. We might even cast aspersions on the success of these "market" offerings. This is precisely the spirit with which we comment on micro-finance. There is nothing intrinsically wrong with it, from a legal point of view; however, emanating from Dr. Jones as it does, it comes replete with all sorts of excess and very objectionable baggage. And even without these drawbacks, the idea is so problematic from a prudential judgment point of view, that it would be unwise to support it.

As it happens, Professor Jones does indeed have a real world counterpart. He is Professor Muhammad Yunus, head of the Grameen Bank of Bangladesh. In section II we discuss this man's career, and "contribution" to the eradication of poverty. Section 3 is devoted to a critique of the sort of "micro-finance" offered by this worthy. The purpose of section 4 is to offer some theoretical considerations. In section 5 we examine and reject an objection to our thesis. We conclude in section 6.

2. Professor Muhammad Yunus

Muhammad Yunus was born in 1940 in Bangladesh. He was awarded the Nobel Peace Prize in 2006 (http://nobelprize.org/nobel_

prizes/lists/all/) for his efforts in supposedly curing poverty, through micro-finance. But this is just the tip of the iceberg; his initiative has percolated over the entire planet. According to the Nobel Prize committee (http://nobelprize.org/nobel_prizes/peace/laureates/2006/press.html): “Grameen Bank has been a source of ideas and models for the many institutions in the field of micro-credit that have sprung up around the world.”²

But beneath this widespread acclaim, the enterprise is more than just a little bit of clay in its feet. According to J. Tucker (2006), Grameen(s)

- is government subsidized
- exaggerates its repayment rate
- reportage of its balance sheet hides problem loans,
- is not subject to outside monitoring, unlike all other banks
- is owned by government to the extent of 6% of its assets,
- is owned 94% by borrowers who cannot sell or trade their stock.
- charges rates of interest that would be illegal for pawnshops and pay day check discounters (see below on this)
- highly publicized success stories are few and far between
- has facilitated large numbers of politically connected NGOs that have been able to cash in
- has been giving loans for thirty years; in true leftish fashion, these have been virtually limited to poor women.
- has been subsidized by the United Nations, the Bangladesh government, US foundations.
- has discovered a new “market” niche: borrowing money from *governments* at low interest rates, and lending out these funds to its clients at significantly higher rates
- the Bill and Melinda Gates Foundation, and the notorious socialist George Soros are heavy financial supporters of micro-finance.³

J. Tucker (2006) also mentions Yunus’s “Sixteen Decisions”⁴ that must be adopted by all borrowers, and read in part like a party platform for collectivist regimentation.

- “We shall take part in all social activities collectively.”
- “We shall grow vegetables all the year round. We shall eat plenty of them and sell the surplus.”
- “We shall build and use pit-latrines.”

- “If we come to know of any breach of discipline in any centre, we shall all go there and help restore discipline.”

3. Critique of Yunus-style Micro-finance

A. Women

This new “progressive” initiative is solidly based on the premise that men are the enemy of all that is good and true, and women in sharp contrast are the last best hope for wrestling poverty to the ground. It is no accident that Yunus’ loans are virtually all made to women; men are spurned. And this strategy is by no means confined to Bangladesh. According to the *New York Times* (1996):

Chicago’s Englewood neighborhood (is) where the Full Circle Fund, a scheme based on the Grameen concept, operates. The borrowers are *all women*, all working against great odds to become economically independent. Their stories are dramatic and powerful: The women in Bangladesh battle against the monsoon, disease, and the prejudices of their menfolk, while in Englewood, the crime and decay of the inner city ensure that each day is a struggle to survive and to make ends meet (material in brackets, and emphasis, all added by present author).

We have heard all of this before. It was part and parcel of the domestic initiative to “get men out of the house” so skillfully skewered by Murray (1984) in terms of failed welfare policies in the U.S. and Jacobs (), in terms of the failures of public housing. This attack on the family was also part and parcel of Stalin’s programs to eradicate social institutions opposed to his version of totalitarianism (mainly religion and the family). Let us say this loudly and clearly so that there can be no mistake about it: *men, too, are part of the family*. Denigrating them, ignoring them, making poor women independent of their husbands, is no way to cure poverty. Impoverished females are much better off marrying the fathers of their children, not the state, or Yunus, or Grameen bank. One of the most important explanatory variables for poverty is family break up. Slavery, horrific as it was, was unable to break up the black family; but the welfare system, far more insidious, did indeed have this effect (W. Tucker, 1984). Is this a matter of praxeology? No. But there is more than

sufficient empirical evidence attesting to the importance of an intact family in addressing problems of homelessness, juvenile delinquency, abuse, poverty. Yes, it is a staple of radical left feminism that women are exploited and degraded, and that, therefore, the best way to rescue them is to loosen or sever the ties between them and their men. Yunus and Grameen have certainly bought into this mischievous notion. But that does not in the least excuse supporters of micro-finance who clearly see this as an error, but only in other contexts.

It is no accident, then, that Yunus is highly popular with feminist statisticians. According to J. Tucker (1995) "The micro-credit movement got a big boost at the summer 1995 UN world conference on women. The person who received the largest round of applause was not Hillary Clinton or Bella Abzug. It was a banker, and a *man* no less: Bangladesh economist Muhammad Yunus." Well deserved.

Further, if Grameen had been lending for three decades to its overwhelmingly female clientele on a successful basis, surely this would have been a long enough time period for other members of this industry to find about this "success," and enter this field. That they have not done so tends to call into question Grameen's supposed accomplishments.

B. State Support

Grameen Bank does not pay any corporate tax, which is substantial, pegged at the rate of about 20% (J. Tucker, 1995). Other firms, thus, have to make up this shortfall in government coffers. Now, of course, the concept of tax expenditures is highly problematic. The state subsidizes us to the extent it fails to tax us only on the ridiculous assumption that this organization is really the proper owner of *all* our income, and, what they in their generosity do not call upon us to give them they are in effect donating to us. This is nonsense, on stilts. On the other hand, it cannot be denied that by taxing all other banks (corporations), the government does indeed give Grameen an unfair advantage vis-à-vis its competitors? Where is the case for in effect funneling resources in this particular direction?

There is an argument that can be made on libertarian grounds for supporting micro-finance even if the government financially supports it (Block, 2002, 2004, 2006, 2007, Forthcoming A, Forthcoming B). But this only applies to innocent people (e.g., libertarians)

seizing, or directing, state funds improperly mulcted from the long suffering taxpayer, toward the promotion of liberty and freedom. Ragnar Danneskjold (Rand, 1957) and Ron Paul (Block, 2007) certainly qualify. But Yunus, Grameen, Soros, et. al do not come within a million miles of opposing the ruling class (Domhoff, 1967, 1971, 1998; Hoppe, 1990; Hughes, 1977; Kolko, 1963; Mises, 1978; Oppenheimer, 1975; Raico, 1977; Rockwell, 2001) that oppresses us. Rather, they are members in good standing of this category.

Consider NPR in this regard. According to Duffy (2008), only about 2% of National Public Radio's budget is at present met by government sources. If we ignore this small amount of state funding, does this mean we have to *like* NPR? Support it? Regard it as an enemy of the ruling class and therefore on the side of liberty? Not a bit of it. Even though NPR is fully private (arguendo), we can still reject it as a biased source of leftist propaganda. We most certainly cannot justify government subsidies for this organization, at least not on libertarian grounds.

State subsidy for *any* enterprise, *ceteris paribus*, comes at the expense of other things that could be done with this money. If the government were to cease and desist this nefarious activity, other, better, things could be done with these funds.

C. Positive Rights

Yunus is an advocate of positive rights. In his view (*New York Times* Books, 1996) "Access to credit should be a human right irrespective of economic situation." But this is highly problematic (Block, 1986; Gordon, 2004; Katz, undated; Long, 1993; Mercer, 2001). For, if A has a right, B has an obligation to recognize it, and not act incompatibly with it. For example, if A has a right to go unmolested, then B has an obligation not to murder, rape, steal from, A. So far, totally reasonable. But this is a negative right, the right not to be aggressed against. In sharp contrast, Yunus is advocating a so-called positive right. How does this work? Again, if A has a right, B has an obligation to recognize it, and not act incompatibly with it. But this time, in the view of Yunus and other such commentators, there is a positive right, the right to capital, in this case. Here, if A has a right to capital, then B has an obligation to give A capital. But from whence springs this right? In the case of negative liberty, it is easy to answer this question: the right not to be exploited stems from the

libertarian non aggression axiom. To violate negative liberties is to act incompatibly with this axiomatic right. But this does not at all follow when we are considering “positive” rights. Here, the obligation to give the recipient capital (or, more typically, food, clothing and shelter, meaningful life experiences, whatever) actually amounts to a justification of theft. For, assuming that A and B are at arm’s length from one another (neither has previously violated the negative rights of the other), there is simply no justification for forcing B to give anything to A. If this is nevertheless coerced, it amounts to a theft. Presumably, the “justification” for this compulsion is that B is richer than A. But why should mere riches, presumably earned in an honest way,⁵ give anyone poorer a blank check on other people’s property. Yunus vouchsafes us to answer to this important question.

D. Tucker

J. Tucker (1995) is particularly scathing in his assessment of micro-finance, Yunus-style:

If Grameen can give loans to poor women without assets, why can’t Citicorp? Why are Western bankers keeping money from the poor? It must be greed, cultural barriers, bad training, or racism. Lack of collateral is but an excuse for hatred of the poor.

But if Grameen were really profitable, Western bankers wouldn’t need to be cajoled and harangued into copying it. They would rush to try his gold-spinning machine. Bankers would love to discover that the poor are 98% credit worthy. They would long ago have tossed out cumbersome formalities like credit ratings and collateral. It turns out, however, there’s more to Yunus’s banking scheme than meets the eye. Grameen is not a bank at all. Deposits from individuals and firms account for a mere 3% of its assets. The bank actually functions as a conduit for huge grants from governments and international agencies. That aid is then used as the basis of a credit pyramiding scheme that not only provides micro-loans but also funds a creepy form of feminist social engineering that wars against children and marriage.

Contrary to legend, Yunus wasn’t an independent entrepreneur when he started his bank. He used his personal wealth and high-level connections to arrange special privileges and millions in subsidies. Before the Grameen

Bank lent one Taka, he had government backing for fully 60% of its operations.

The UN International Fund for Agricultural Development provided Grameen with its first major loan of \$3.4 million. That Fund has consistently pumped money in ever since. In addition, Grameen receives grants and subsidized loans from the governments of Norway, Sweden, Canada, Germany, and even the Ford Foundation in the United States, not to mention the IMF and World Bank.

If the funds aren't given as gifts to Grameen, they are lent at below-market rates, usually 2%. Grameen Bank then deposits that money in fixed-term and short-term accounts in commercial banks that pay higher rates. Grameen makes a killing by pocketing the difference.

The bank says this is merely arbitrage, but if private citizens did this with government funds, it would be called graft. These ill-gotten profits are then used to pay 12,000 staffers and subsidize the loan operations that everyone claims work so well.

4. Theoretical Considerations

Micro-finance, as we have seen, is highly problematic because of the negative baggage it carries, mainly its association with Yunus, the UN, Soros, feminism, etc. Let us now, however, introduce some theoretical considerations, so that we may deal with a microfinance, untainted by any of these associations with that particular person. Would even such an initiative be free of objections? It would not. That is, micro-finance is per se problematic, and not just because of the present negative Yunus baggage it brings in its train.

Suppose Bill Gates wants to prove that the minimum wage law actually raises wages for the poor, or, indeed, for anyone else. Whenever the legally mandated wage level rises in any locality, Gates purposefully hires more unskilled workers there, in order to obviate the unemployment results that would otherwise occur.⁶ How should we react to this? How would the rational economist analyze this? Would we have to jettison our traditional analysis of this law: Of course not. Should such a practice be illegal under libertarian jurisprudence? No. Can we deny that this is a licit part of the market? No. After all, we stipulate that Gates earned his money honestly. Can we deny that, at least in some sense (Rothbard, 1997), Gates' policy is

mutually beneficial in the ex ante sense? Again, no. The low productive workers obviously benefit from the jobs Gates offers them, otherwise they would have scarcely accepted them. Gates, too, benefits, in the ex ante sense (heck, I'll throw in ex post for both employer and employee). Gates' welfare has increased. He persists in this behavior.

But, is this *all* that can be said about this curious economic episode? Yes, answer the free market supporters of microfinance. I demur. I think there is more, far more, that can be said about it. To wit, there are now not one but *two* senses of profits. Initially, the economic *axiom* about minimum wages reads as follows: as long as there is profit maximizing, or profit seeking behavior, a min wage above the productivity level of the workers will unemploy them. However, thanks to our imaginary Bill Gates, this no longer holds. Now, we have to distinguish *two* types of profit maximizing behavior. First, there is the ordinary pre Gates type of profit seeking. Here, our minimum wage axiom holds true. But second, there is the Gates type of "profit seeking." In this context, we are forced to amend our axiom: it no longer holds in this sort of scenario. But more: what are we as economists, as free market supporters, to think about Gates? How are we to assess this practice of his? Are we to support it? No, a thousand times no. it is up to us to expose it for the fraud (not legal fraud; remember, his actions are entirely legal) it is. If it is not a legal fraud, and thus criminal behavior, then precisely what kind of fraud is it? It is an attempt to mischaracterize reality; to fool us into thinking that the minimum wage law actually has no unemployment effects. A similar analysis applies to micro-finance. It, too, is an attempt to mischaracterize economic reality: the economic reality which claims that demanding collateral, looking at financial history of would-be borrowers, is a better way of allocating scarce investment resources so as to maximize wealth than are cockamamie schemes to short circuit usual financial practice.

Let me try again, with another example.

At my school, some of the free enterprise students hoist up a red sign that says "enjoy Capitalism," in the font used by Coca Cola. Some of these kids sell t-shirts with that logo. Now, consider a bunch of kids selling t-shirts that say "enjoy Socialism," or "enjoy Fascism."

Regarding the t-shirt sales of "enjoy Socialism," or "enjoy Fascism," here are some questions, and my answers to them.

1. Would this be legal in the free society? Yes
2. Is this act compatible with libertarianism? Yes
3. Could this be a venture of Students in Free Enterprise⁷? At least theoretically, yes
4. Would this teach business practices to students? Yes
5. Would this promote economic welfare in the sense that all voluntary acts promote welfare? Yes, necessarily so
6. Would this promote economic welfare in the sense of GDP? Well, yes, at least in the short run; however, if these sales convinced most people to become socialists or fascists, then no
7. Is this act compatible, not with libertarianism, but with *promoting* libertarianism, something very different (despite the inability of some to see this distinction)? No, of course not.

Now, let's ask and answer the same questions with regard to micro finance

1. Would this be legal in the free society? Yes
2. Is this act compatible with libertarianism? Yes
3. Could this be a venture of SIFE? Yes
4. Would this teach business practices to students? Yes
5. Would this promote economic welfare in the sense that all voluntary acts promote welfare? Yes, necessarily so
6. Would this promote economic welfare in the sense of GDP? No. Those who get the loans under micro finance have less credit worthiness than those who would otherwise obtained these loans⁸
7. Is this act compatible, not with libertarianism, but with *promoting* libertarianism, something very different (despite the inability of some to see this distinction)? No

Unlike free market environmentalism, which is clearly distinguished from the left wing Gaia environmentalism, micro finance is indistinguishable from the Yunus variety.

Free market environmentalism would not be acceptable to any self respecting socialist; micro finance certainly would be.

What would be the free market equivalent of supporting micro finance? It would be an attempt to repeal the legislation that set up the Federal Reserve System (Fed). Students who support micro finance are not trying to end government regulations that reduce the ability of banks to lend to the poor. Rather, they are trying to set up

firms to lend to the poor. If libertarian students followed that path, instead of trying to end the fed, they would be setting up firms to give money to people hurt by the Fed.

5. Objections

Objection 1. Efficient markets hypothesis

To take the position of the present paper would be to say that when investment banks were first developed they constituted an attack on the free-market system because had it been profitable to engage in the activities they undertook, commercial banks would already have done so. This is incorrect. Of course, this argument applies to any new endeavor ever undertaken; such endeavors must be de facto attacks on the free-market system because, obviously, if they were profitable the free market would have already undertaken them. Since when did you become a believer in and advocate of the efficient markets hypothesis? Although it may well not be profitable for commercial banks to undertake micro-finance because their overhead is too high, it is possible that micro-finance would be profitable for them and the reason they have passed up such a profitable opportunity is because they didn't realize it would be profitable. Certainly Steve Jobs passed up an opportunity thereby creating a lacuna in the market which Bill Gates filled. Your argument means that Bill Gates is an example of market failure. In other words, the existence of micro-finance banks in no way constitutes an attack on the free market, save in the fevered minds of statist who view any unsolved problem in the entire world as proof of market failure.

Response 1

We must distinguish between two types of micro-finance. One, the Yunus variety, which comes replete with all sorts of socialist, trendy, cultish feminist accompaniments. Two, the pure or Platonic kind of micro-finance, the one unencumbered by this baggage. The thesis of this paper is that *only* the former variety constitutes an "attack" on the market. The latter form is indeed part and parcel of the marketplace. It is as compatible with it, I contend, as were the Packard automobile company, Pan American Airlines, United Shoe machin-

ery company, and other firms that could not withstand the competitive process. There is one difference however. Micro-finance, and none of these others, has been greeted with an outpouring of financial charitable support from thousands of left leaning political types who like nothing more than to embarrass the market in this way. Those bankrupt business firms, too, could have been kept alive if, for some reason, there were similar voluntary support from numerous socialists.

Objection 2. Collateral

Austro-libertarians, such as the author of the present paper, are, presumably, impressed with entrepreneurial breakthroughs, since they appreciate entrepreneurship in general, and, in particular, when new institutions are introduced. It is thus more than passing curious that the present author does not welcome at least one initiative of micro-finance: that it breaks new ground in terms of demanding either miniscule collateral for loans, and, in many cases, none at all.

Response 2

If this really were an entrepreneurial breakthrough, one that was profitable, it would indeed deserve approbation, on that ground alone. But this is hardly the case. For the government has beaten the forces of micro finance to the punch: it has for decades given subsidized loans to farmers with little or no collateral considerations. Then, too, there was the venerable Chrysler bailout of 1979 which consisted of loan guarantees⁹ which were not forthcoming from the (relatively) private banking industry, with its concern for financial viability based on, among other things, collateral. The more recent sub prime loan debacle is yet another case in point. Here, based on the findings of “racism” on the part of local lenders, the Boston Fed (Federal Reserve Bank of Boston, 1992, Block, Snow and Stringham, 2008; Liebowitz, 2008; Liebowitz and Day, 1998) was instrumental in promoting “ninjaa”¹⁰ loans.

Objection 3. Voluntariness

It comes with particular ill grace for a libertarian to object to micro finance, given that this institution is an entirely voluntary one, and

that mutual agreement in commercial matters is a basic axiom of this entire political philosophy.

Response 3

It is by no means clear that microfinance, at least Yunus style, is entirely voluntary. His Grameen bank, after all, accepts government money, and indeed, is partially owned by the state (J. Tucker, 1989, 1995), with Yunus's acquiescence.¹¹ Were this contrary to fact claim true, then microfinance would of course be congruent with the libertarian twin axioms of non aggression and private property rights based on homesteading.¹² However, it would not necessarily be compatible *promoting* libertarianism, an entirely different matter. The Jonestown poison cool-aid mass suicide¹³ was also entirely voluntary at least for the adults who took part in this depraved episode of human history. But mass deaths hardly encourage free enterprise, or, indeed, much of anything else.¹⁴

Suppose workers go pro union even though it hurts them, economically. They become inculcated with the "don't ever cross a picket line"¹⁵ mentality; they lose out since they have to accept jobs with lesser remuneration than would otherwise be the case. Can this be voluntary? Yes. Does this promote economic freedom? Well, this practice is certainly compatible with the free enterprise system. Will it promote GDP in the sense of producing more goods and services than would otherwise be available. To ask this is to answer it: of course not. Ditto with micro finance.

6. Conclusion

Muhammad Yunus has now achieved world wide notoriety. When he speaks, people listen. This applies to the very rich and powerful. It is too bad that he is not a devotee of Smith (1776). If he were, he would be using the megaphone he has been given to promote free enterprise and private property rights for poor countries such as Bangladesh.¹⁶

States J. Tucker (1995): "Agree or disagree with Grameen's femino-socio-financial engineering, there's no economic miracle worth copying in the Grameen model. At best, its operations are wasteful and Ponzi-like; at worst, they are parasitical, usurious, and communistic. This bank would not be viable apart from the govern-

ment subsidies and financial trickery, facts which prove that its grandiose claims are false. The Grameen Bank's fame is a consequence of its far-leftist social agenda, not its economic successes."

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NOTES

1. But did not the left take the lead in opposing the imperialistic war of the U.S. against Viet Nam? It did. Does this mean that libertarians should not have favored an end to this aggressive incursion? Not at all. Only, that those who consistently favor freedom should have *distinguished* their opposition to this undeclared war from those who linked it with criticism of capitalism, free trade, private property rights, etc. In any case, there is a disanalogy here. U.S. departure from Viet Nam was an unmitigated good. The same cannot at all be said for micro-finance, even apart from its leftist baggage.

2. For more hagiography on micro-finance, see Armendariz and Morduch, 2007; Bornstein, 2005; Ledgerwood, 2001; Prahalad, 2006; Yunus, 2003. For an unwarranted critique of micro-finance (yes, there can be such a thing) on the ground that it charges high interest rates and is therefore usurious and should be prohibited on *both* grounds, see Jan, no date. See also Ledgerwood, 2001, Morduch, 1999, Tripathi, 2006. For a critique of micro finance, see Block, unpublished.

3. For more on the close connection between Muhammad Yunus on the one hand, and the likes of George Soros, Ted Turner, the Clintons and other leftists, see Clemons, 2008; Alam, 2006; Open Society Institute, 2006; *The Daily Star*, 2006.

4. <http://www.grameen.com/bank/the16.html>. Another principle is "We shall not take any dowry at our sons' weddings, neither shall we give any dowry at our daughters wedding. We shall keep our centre free from the curse of dowry." But is not the dowry system a voluntary one? (It is of course not illicit to offer voluntary contract X on condition that voluntary behavior Y will be eschewed.) How would we in the west feel if engagement rings were prohibited as a means of obtaining a loan? To be sure, this would be voluntary, and thus compatible with libertarian law, but, still, it has a cultish feel to it. When it is realized that without a dowry, marriage is made more difficult in many underdeveloped countries, we see the cult for what it

is: an attack on marriage and the family. Many religious people ought to be at least discomforted by such an initiative.

5. The “legitimate title transfer” of Nozick, 1974.

6. For the argument that minimum wage laws raise unemployment levels for unskilled workers higher than they otherwise would be, see Becker, 1995; Block, 2000, 2001; Block and Barnett, 2002; Burkhauser, Couch, Wittenburg, 1996; Deere, Murphy and Welch, 1995; Gallaway and Adie, 1995; Landsburg, 2004; McCormick and Block, 2000; Neumark and Wascher, 1992; Rothbard, 1988; Sohr and Block, 1997; Sowell, 1995; Williams, 1982.

7. <http://www.sife.org/Pages/default.aspx>

8. Says Hazlitt (1979) in this regard: “The farm or tractor that is lent to A cannot be lent to B. The real question is, therefore, whether A or B shall get the farm. This brings us to the respective merits of A and B, and what each contributes, or is capable of contributing, to production. A, let us say, is the man who would get the farm if the government did not intervene. The local banker or his neighbors know him and know his record. They want to find employment for their funds. They know that he is a good farmer and an honest man who keeps his word. They consider him a good risk. He has already, perhaps, through industry, frugality and foresight, accumulated enough cash to pay a fourth of the price of the farm. They lend him the other three-fourths; and he gets the farm. There is a strange idea abroad, held by all monetary cranks, that credit is something a banker gives to a man. Credit on the contrary, is something a man already has. He has it, perhaps, because he already has marketable assets of a greater cash value than the loan for which he is asking. Or he has it because his character and past record have earned it. He brings it into the bank with him. That is why the banker makes him the loan. The banker is not giving something for nothing. He feels assured of repayment. He is merely exchanging a more liquid form of asset or credit for a less liquid form. Sometimes he makes a mistake, and then it is not only the banker who suffers, but the whole community; for values which were supposed to be produced by the lender are not produced and resources are wasted.”

9. <http://www.google.ca/search?hl=en&q=Chrysler+bailout+&btnG=Google+Search&meta=>

10. No income, no job, no assets, no address.

11. For an assessment of whether, and under what conditions, it is compatible with libertarianism to accept governmental aid, see Block, 2002, 2004, 2006, 2007, forthcoming B, unpublished A

12. Bergland, 1986; Hoppe, 1993; Rothbard, 1973, 1982.

13. <http://www.google.ca/search?hl=en&q=Jonestown+poison+cool-aid+mass+suicide+&btnG=Google+Search&meta=>

14. Perhaps the deaths at Masada (<http://www.jewishvirtuallibrary.org/jsourc/Judaism/masada.html>) are a counter example; if so, they are one that proves the rule.

15. Rothbard, 2004; pp. 625–627.

16. According to Gwartney and Lawson (2006, 54), the 2004 Bangladeshi economy was in such dire straits, and thus its people suffering from impoverishment, because of too much “government enterprise and investment” (it scored only a 4 out of a possible 10), poor “legal structure and security of property rights” (2.7), lack of “freedom to exchange with foreigners” (5.4), excessive “regulation of credit, labor and business” (5.4). Nowhere is there any mention of insufficient micro-finance.

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TRADE POLICY AS A PRESSURE TOOL: THE CASE OF US-BOLIVIAN DRUG POLICY

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ABSTRACT. When Evo Morales, former coca grower and leader of the coca-growers' union, was elected president of Bolivia in 2005, many observers of Bolivian politics anticipated that Bolivia would rapidly cease cooperation with the United States in the “War on Drugs.” Such a change, however, has not been apparent. What explains Bolivia’s continued cooperation? I argue here that US-Bolivian trade policy, which enables the US to use trade preferences as a carrot to promote Bolivian drug policy, may best explain this apparently anomalous behavior, suggesting that trade may be an effective tool in promoting non-economic foreign policy goals.

JEL: F13, J51, N72, N76

Keywords: trade, drug, policy, US, Bolivia, tool

1. Introduction

The leaf of the coca plant, when chewed along with an alkaline catalyst (usually the burnt ash of the Quinoa plant) produces a mild narcotic effect in the user, including a mild tingling sensation in the mouth, a sense of calm and detachment, the suppression of hunger, and the dilation of the capillaries (similar to caffeine or aspirin). For these reasons, coca has been venerated by the people of the Andes since before the Spanish conquest. Coca remains a useful and important product in the Andes – among other things, it is helpful in treating the symptoms of altitude sickness, and it plays an important

role in Andean indigenous culture. It is also important for another reason – it is the most important raw material in the production of cocaine (Starn, Degregori and Kirk, 1995: 385).

While United States foreign anti-drug policy is, at best, a niche issue in the US, the “War on Drugs” is one of the central domestic and foreign policy issues in the nation of Bolivia. US drug policy and issues surrounding the War on Drugs are so powerful in Bolivia that they led to the political rise of Evo Morales, who entered the political sphere as the head of the coca-growers’ (*cocaleros*’) union, and was elected president in 2005 (Lerager, 2006: 141).

At the time of the election, observers in the United States government were concerned about the effects of a Morales presidency on US-Bolivian relations, and particularly on US anti-drug policy in the Andean region (Ribando and Veillette, 2006: 1). In 2005, it seemed reasonable to assume that Morales, who remains the head of the *cocaleros*’ union, would rapidly bring Bolivian cooperation in the drug war to a halt. Some feared that Bolivia would become a haven for cocaine production and narco-trafficking. Indeed, Morales himself pledged to end coca eradication in Bolivia and remove US drug enforcement agents from the country (Chande, 2002: 1573)

Despite Morales’ background and interest group constituency, however, Bolivian anti-drug policy has changed relatively little since Morales assumed the presidency. While strong rhetoric regarding US “imperialism” in Bolivia is now a fixture of Bolivian presidential politics, the Morales administration has pursued a relatively moderate path with regard to the war on drugs.

This leaves us with something of a puzzle. Interest group theories of foreign policy would suggest that Morales, with his *cocalero* constituency, would radically alter Bolivian anti-drug policy, terminating any cooperation with the United States. However, this change hasn’t taken place, and Bolivia remains surprisingly cooperative in the drug war.

One theoretical approach, which may provide us with a solution to this empirical problem is David Baldwin’s theory of “economic statecraft.” In *Economic Statecraft* (1985), Baldwin presents the idea that economic tools can be used to change the behavior of foreign actors such as states. Baldwin presents a useful framework for the analysis of the use of economic tools in foreign policy. While he is primarily interested in economic sanctions, he also suggests that

trade policy can be used as a pressure tool which states can use to press their own goals on others.

Perhaps trade policy may be useful for political purposes, not just economic ones. Trade policy may be a carrot (as opposed to the stick of economic sanctions), which the United States can use to pressure foreign actors in the pursuit of our national interest abroad. Here, I argue that, in accord with Baldwin's theory regarding the use of economic tools to achieve foreign policy goals – the idea that economic policy can be used as a substitute for military policy in the pursuit of foreign policy objectives – trade agreements and aid can be used as a carrot to comply with policies with which they would otherwise not comply. For example, trade agreements might be used to create an incentive to get potentially non-cooperative states to work with, rather than against, United States anti-drug policy in the Andean region.

In the case of Bolivia, I argue that incentives created by preferential trade under the Andean Trade Preference and Drug Eradication Act (ATP-DEA) has encouraged Bolivian government cooperation in US drug policy goals, contrary to what would otherwise be expected under the Morales administration. Although preferential trade to Bolivia was discontinued in the fall of 2008, the presence of preferential trade, and the potential for renewal of the preferential trade agreement, has been sufficient to promote a surprising expenditure of resources in anti-drug eradication and interdiction since 2005.

Here, I argue that the use of trade policy may be used as a foreign policy tool – a tool which may influence the behavior of other international actors in much the same way as military force and economic sanctions. Trade policy may enjoy certain advantages over these other options – although there are costs associated with changes in trade policy, the use of trade policy is probably less harmful to foreign actors than either the use of military force or economic sanctions. In addition, the use of trade policy as a tool to influence others' behavior may be possible in situations where the use of economic sanctions or military force simply is not possible, for pragmatic or political reasons – for example, when the cost of other tools is too high, such as pursuing policy change in an ally or a neutral party. While no single-case analysis can be conclusive, the evidence presented here strongly suggests that trade policy can be effectively used as a foreign policy pressure tool.

2. Economic Statecraft in the Literature

Although the notion of economic statecraft is an old one, no consensus has emerged as to whether economic tools can effectively be used to pursue foreign policy goals. Perhaps this is because most recent work on “economic statecraft” has focused on the effectiveness of economic sanctions, following in the footsteps of David Baldwin and others who have seen sanctions as a potentially less-harmful alternative to military force. Sanctions may be a particularly difficult case for demonstrating the utility of economic statecraft because of the strategic interaction that seems to take place between sanctioning states and their targets. The notion of trade as economic statecraft, however, has a long pedigree which goes back at least as far as the 1940s. And although, of course, strategic interaction takes place between trading states, it is possible that such interaction presents less of a problem in the case of trade policy, since trade policy negotiations are typically more visible than private threats of sanctions.

Perhaps the seminal work in this vein is Albert O. Hirschman’s *National Power and the Structure of Foreign Trade* (1945). Hirschman argues that states may sometimes use asymmetrical relationships in international relations for political and military advantage, sometimes sacrificing economic optimality in the process. According to Hirschman, Nazi Germany pursued such policies in the 1930s with respect to the Balkan states (highly successfully) and the Latin American states (less successfully).

Hirschman’s theory hinges on the asymmetry of trade between some states – a theme that was later developed more fully by a large number of dependency scholars. Broadly, *dependencistas* such as Cardoso and Faletto (1979) argue that the structure of trade and other economic relations between relatively wealthy and relatively poor countries provides political and economic advantages to the rich countries which tend to hold the developing states in a position of extended backwardness.

Much early work on economic statecraft, however, tended to downplay the potential for the use of economic tools to further foreign policy. Most work focused on sanctions, but the general consensus was that economic statecraft did not have a bright future. Instead, policy makers should rely on other types of tools, such as military force and traditional diplomacy. Literature espousing this

viewpoint includes Bienen and Gilpin (1980), Wallensteen (1968), Kindleberger (1970), Knorr (1975), Strack (1978), Adler-Karlsson (1968), Wilkinson (1969), and Losman (1979). Bienen and Gilpin, for example, suggest that nations should not rely on unilateral sanctions, and even multilateral sanctions are generally ineffective. Instead, states should rely on diplomacy.

However, there were other early works that implied or explicitly stated that economic tools could be effective in foreign policy-making. Several such works dealt specifically with the issue of free trade. Wiles (1968), Gallagher and Robinson (1953), Bernard Semmell (1970), and Pinder (1976) argued that free trade might be a tool effectively used to pursue foreign policy goals.

Later works tended to focus on economic sanctions. Some of these analyses were optimistic, suggesting that sanctions may be successful under certain conditions. Hufbauer, Schott and Elliott (1985), Baldwin (1985), several contributing authors in Haass (1998), Rogers (1996), Baldwin (1999/2000; 2000), Hart (2000), Jing and Kaempfer (2003), and Kaempfer, Lowenberg, and Mertens (2004), all thought sanctions an effective approach to altering undesirable behavior in foreign states.

Many, however, continued to argue that economic sanctions are ineffective. Examples are Preeg (1999), Kunz (1997), Border and Bowen (2007), and Robert A. Pape (1997; 1998), who argues that the optimistic analysis by Hufbauer, Schott and Elliott was inaccurate, in his unambiguously titled articles, "Why Economic Sanctions Do Not Work," and "Why Economic Sanctions Still Do Not Work."

Finally, a few scholars have begun to examine the problem of strategic interaction in economic sanctions. Broadly, there are reasons to believe that economic sanctions may be more successful than we perceive because many times, states may respond to private threats by other states before sanctions are implemented. This means that the cases against which our hypotheses about sanctions are tested are the hardest possible cases. Drezner (2003) identifies this problem, and Blake and Klemm (2006) find evidence that strategic interaction is, in fact, taking place in economic sanctions.

Although the literature on economic statecraft is well developed, little ink has been spent on the idea that trade policy can function, like sanctions, as a coercive tool which states can use to pressure other actors to change their behavior (or, in the case of Bolivia, not to change it). Though less spectacular, trade policy may be a more

important foreign policy tool than economic sanctions, as nations take part in trading relationships more frequently than they play a role as sanctioning or sanctioned states. And as more of a carrot than a stick, trade policy may, in fact, be a useful foreign policy tool for political purposes without inflicting some of the unpleasant side effects of economic sanctions, and at times when economic sanctions are not feasible for political or practical reasons.

3. Theory

Although much of the work on economic sanctions has examined the economic costs and benefits of sanctions in great detail, few proponents of economic sanctions have clearly enunciated a theory which mechanisms through which sanctions should influence policy. Instead, I rely on a variation of the theory developed by scholars of the democratic peace who suggest that trade reduces conflict between states, including Bueno de Mesquita, Siverson, and Woller (1992), Bueno de Mesquita and Lalman (1994), Bueno de Mesquita and Siverson (1995), and Russett and Oneal (2001), among others, using their ideas to elaborate upon the theory put forth by Hirschman (1945).

Hirschman suggests, in essence, that states may accept a sub-optimal position in the terms of trade with other states in order to gain political concessions. Under certain circumstances, a state may be willing to agree to a relatively disadvantageous trade position in order to secure political concessions, in essence, trading economic benefits for political advantages. Specifically, Hirschman argued that Nazi Germany encouraged trade with the Balkan states and Latin America at less-than-optimal terms (for Germany) in order to ensure the viability of the German war machine. Such a scenario is more likely among certain pairs because of the differing importance of intra-dyadic trade to each state in the dyad. For example, trades with the Balkan states was relatively unimportant to Germany compared to the importance of the same trade to the Balkans, with which the same trade was very important.

Liberal scholars suggest that trade between states creates benefits for individuals and firms inside of each country. Because these individuals and firms realize that conflict would reduce or eliminate their ability to trade with one another, and because the reduction or elimination of that trade would cost them the benefits they expe-

rience from trade, they will use political tools, including voting and lobbying, to pressure the political elites within their own state to avoid conflict which could eliminate those benefits.

The notion that trade policy can be used as economic statecraft sits upon a similar foundation. Trade policy creates benefits to individuals and firms inside of states, and these individuals have an incentive to pressure their governments (perhaps through voting, campaigning and campaign contributions, lobbying, or political pressure tactics like street protests, strikes, or – in Bolivia – road blockades) to continue these benefits by maintaining trade benefits.

In the case of Bolivia, the preferential trade policy Bolivian firms enjoyed under the ATP-DEA may have been especially effective at producing internal pressure for the continuation of anti-drug policies. This is because the ATP-DEA created benefits for Bolivian producers by providing them with duty-free access to the United States market, while harming no existing Bolivian producers, as the Bolivian government is allowed to continue their existing import tariffs on US products, thus protecting Bolivian manufacturers who primarily supply goods to a domestic Bolivian market.

More straightforward free trade agreements (such as the bilateral trade deal the United States has recently ratified with Peru, or the pending free trade agreement with Colombia) may be less effective at producing pressures for pro-drug policies. First, these trade agreements are not conditional on cooperation in the drug war (as is the ATP-DEA). Second, these trade agreements have distributional effects which help some producers and harm others. Thus, even were these agreements conditional on anti-drug cooperation, the Colombian and Peruvian trade agreements would probably have an ambiguous effect on encouraging support for anti-drug policies, as some domestic producers would lobby for a continuation of the agreements, and others would prefer to see them end, because of competition from US imports.

Based on these ideas – that one state may successfully seek political concessions from another state by offering trade arrangement that is economically sub-optimal (for the first state), but provides economic benefits to the second that outweigh the cost of concessions (to the second state), I make the following argument here:

First, the ATP-DEA provided the Bolivian government with substantial economic benefits which were perceived (by the Bolivian

administration) to outweigh the costs of Bolivian cooperation in the U.S. “War on Drugs.”

Second, the Morales administration in Bolivia is unique in terms of characteristics that make it otherwise unlikely to cooperate in the drug war. These characteristics help to demonstrate that prominent alternative theoretical constructions such as realist balance-of-power theory and interest group theories of domestic politics fail to explain the apparently anomalous persistence of Bolivian cooperation in the drug war.

Third, rhetoric immediately following Evo Morales’ election to the Bolivian presidency predicted a rapid and marked shift from a highly cooperative to an essentially non-cooperative, if not openly belligerent Bolivian domestic drug policy. However, despite such predictions, Bolivian cooperation continues, largely unchanged.

Fourth, the limited (and largely rhetorical) change in Morales’ drug policy is consistent with a desire to placate an internal constituency with pro-coca cultivation preferences, while avoiding as much as possible any behavior which might endanger preferential trade with the United States. Even in the wake of the suspension of US preferential trade with Bolivia in the fall of 2008, the potential benefits of renewal of the ATP-DEA have moderated Bolivian policy to the extent that Bolivian drug policy outcomes appear to be no more pro-drug than ostensibly strong anti-drug ally Colombia.

Finally, although I present a counterfactual prediction of the direction of Bolivian coca policy in the absence of the ATP-DEA, it is unnecessary to rely on imagined counterfactuals. Instead, the alternative outcome – an Andean state ceasing drug-eradication and interdiction efforts because of the relative weakness of incentives for cooperation – is clearly visible in the case of Venezuela.

4. Methodology and Case Selection

I intend this work a plausibility probe – an analysis of a single case designed to probe the plausibility of a theory of trade policy as economic statecraft. I will explore a single potential case of economic statecraft, in which the United States may have succeeded in bringing about a change in another state’s behavior through the use of economic rewards. I will examine the relationship between Bolivian policy towards coca and United States foreign policy – especially foreign aid associated with coca eradication and drug interdiction

and the Andean Trade Promotion and Drug Eradication Act (ATP-DEA) – in an attempt to describe the ways US economic policy may have influenced the internal policies of the Bolivian government towards coca and cocaine.

Because the analysis I conduct here is based on the analysis of a single policy across several observations located at different points in time, it takes the form of an interrupted time series quasi-experimental design (Shadish, Cook, and Campbell 2002) in which I attempt to prove the null hypothesis – that domestic political factors (the election of Evo Morales) and other theoretical models do not explain current Bolivian coca policy. The analysis is largely qualitative, though strongly supported by some striking descriptive statistics. Shadish, Cook and Campbell, however, suggest that interrupted time series designs are stronger if they are evaluated alongside non-interrupted control cases (182–184). While I present descriptive statistics from Peru and Colombia as control cases, there are manifest differences between the three cases which make Colombia and Peru imperfect controls for a Bolivian treatment case.

Several scholars suggest that, in the absence of a clear control case, counterfactual analysis may be used to create an alternative scenario which describes clearly and transparently what outcomes we would expect under competing theoretical models of a given phenomenon (Fearon 1991; George and Bennett 2004, 167–169; Tetlock and Belkin 1996; Van Evera 1997: 25; McKeown 2004: 141). Therefore, to identify reasonable expectations under the alternative theories I use here, I formulate two counterfactual scenarios which represent the policy outcomes we would expect under (first) a theory of Bolivian coca policy based on domestic policy constraints, and (second) a theory based on economic statecraft, closely following the rules for counterfactual analysis suggested by Tetlock and Belkin (1996) and George and Bennett (2004).

Although a number of scholars, including most notably King, Keohane, and Verba (1994) claim that an evaluation of a single case with a single observation is unlikely to produce useful findings, multiplying within-case observations by making several observations across time can greatly improve our ability to draw useful conclusions from a single case. Here, I attempt to follow King, Keohane and Verba's advice by evaluating the effects of two independent variables, the Morales presidency and the ATP-DEA, on several dependent variables, including an overall assessment of Bolivian

cooperation in the drug war, cocaine and coca seizures, arrests and detentions, and other outcomes, at several points over time.

Other scholars (George and Bennett, 2004: 83; McKeown, 2004: 159; Van Evera, 1997: 31) suggest that studies based on single cases can be conclusive, or at least highly suggestive, based on a form of Bayesian logic. Based on prior expectations, we can determine whether a case is a likely or unlikely case in which a particular theory may give us explanatory leverage. That is, we can determine if a particular case is a hard case or an easy case for a given theory. If our prior expectations lead us to believe that a given theory should be less likely to explain outcomes in a particular case, but in the analysis, the theory appears to explain the case effectively, that analysis will provide relatively strong evidence for a given theory.

Conceptualized methodologically in any of these ways, the Bolivian case provides strong evidence for a theory of trade policy as economic statecraft. First, when viewed as an interrupted time series analysis, the case suggests that the ATP-DEA, rather than domestic factors, best explain Bolivian cooperation with the US in drug policy, because outcomes such as cocaine and coca seizures do not appear to be affected by the “treatment,” the Morales presidency. Second, when evaluated using a counterfactual methodology, the Bolivian case suggests strongly that the ATP-DEA may be functioning effectively as economic statecraft, as a counterfactual structured around a theory of economic statecraft explains current outcomes much more effectively than an alternative structured around domestic politics. Finally, based on prior expectations derived in part from the prior behavior of the Chavez regime in Venezuela, the Bolivian case should be a “hard case” for a theory of trade policy as economic statecraft. When a theory of economic statecraft appears to effectively explain outcomes in the Bolivian case, we can have a fair degree of confidence in that theory, especially when applied to cases where desired behavior should be easier to bring about.

5. The Bolivian Case

Coca has been considered important, as a medicinal plant of great spiritual significance, since pre-Colombian times. Coca cultivation and the chewing of coca was closely controlled by the Incan dynasties, and only the Incan aristocratic classes were permitted to chew coca until the arrival of the Spanish in 1532. Under the Spanish, coca

was initially suppressed (as the Catholic church considered coca chewing a heathen tradition with evil origins). However, when the Spanish found they could use coca to induce indigenous workers to labor for long periods under extreme conditions with little food or drink, the suppression of coca chewing was discontinued (Starn, Degregori, and Kirk, 1995: 385).

In more recent times, Bolivian coca policy has centered around the regulation and eradication of coca for the production of cocaine, mostly as a result of US pressure. While coca eradication itself is of doubtful benefit to citizens and voters in Bolivia, it has been one way in which Bolivia could buy the aid (meant both literally and figuratively) of the United States and the international community (Rouse and Arce, 2006: 545). Since the first presidential term of Gonzalo Sanchez de Losada (1993–1997), the Bolivian state has placed coca eradication operations high on its list of priorities. Sanchez de Losada, in his “dignity plan,” attempted to control the cultivation of coca by subsidizing alternative crops in coca growing regions such as the Yungas (North of La Paz), and the Chapare (in the Eastern Lowlands) (Chande, 2002: 1573). This program was unsuccessful however, because of Bolivia’s poor infrastructure (perishable crops often could not be brought to market before they spoiled) and because farmers would accept subsidies for alternative crops after uprooting and transplanting coca bushes, continuing the cultivation of coca in other areas (Ribando, 2006: 11).

Coca control was most successful under the Banzer administration (1997–2002), due to an aggressive coca eradication effort, aided by the United States. However, due to a number of economic factors, including hyperinflation, a decline in the price of tin, which had driven many tin miners to coca production, and because of the growing political power of the *sindicato de cocateros*, or coca growers’ union, this policy proved to be unsustainable (Rochlin, 2007: 1327). Since 2002, coca production and acreage used for coca cultivation has increased, rapidly at first, and more gradually in recent years (Ribando and Veillette, 2006: 12).

Since the election of Evo Morales in 2005, the US-Bolivian relationship has been troubled, as a result of ideological incompatibility between the Morales and Bush administrations, and the relationship has thus far failed to recover under the Obama presidency. The bilateral relationship reached a low point in September of 2008 when US ambassador Philip Goldberg was expelled from the

country in retaliation for his apparent show of support for rightist, opposition regional governors in the wake of the extra-judicial killing of some 30 Morales supporters on September 11, 2008. During the six month period around the September 11th incident, most US government workers, including USAID, Peace Corps, and DEA officials, were expelled from Bolivia or left voluntarily because of tensions between the two governments. In addition, in the wake of the expulsion of Ambassador Goldberg, US preferential treatment of imported Bolivian goods was suspended (BINLEA, 2010).

Despite the rocky relationship between the two governments and the suspension of the ATP-DEA, however, the potential for the renewal of the agreement seems salient, given statements on the part of the Obama administration that suggest that continued dialogue and cooperation may lead to the renewal of the agreement, and Evo Morales' continued expression of interest in the renewal of the agreement (*La Razón* 2010). Further, the Bolivian government's desire for the renewal of the agreement seems obvious, because of Bolivian government threats to sue for re-instatement of the agreement under World Trade Organization arbitration procedures (International Centre for Trade and Sustainable Development 2009).

5.1 What do we see in Bolivia?

Save for US economic involvement, we would expect to see a drastic change in Bolivia's behavior vis-à-vis the "War on Drugs." Instead, the indicators we have of Bolivia's cooperation in the drug war suggests nothing of the kind. At worst, indicators of Bolivia's commitment to drug interdiction and eradication are ambiguous, and at best, they display a surprising willingness to seek out and destroy coca intended for cocaine production, cocaine production facilities, and to disrupt the drug production chain. While rhetoric from the Morales administration seems rebellious and belligerent at times, the degree of cooperation with US anti-drug policy seems to have increased, not decreased.

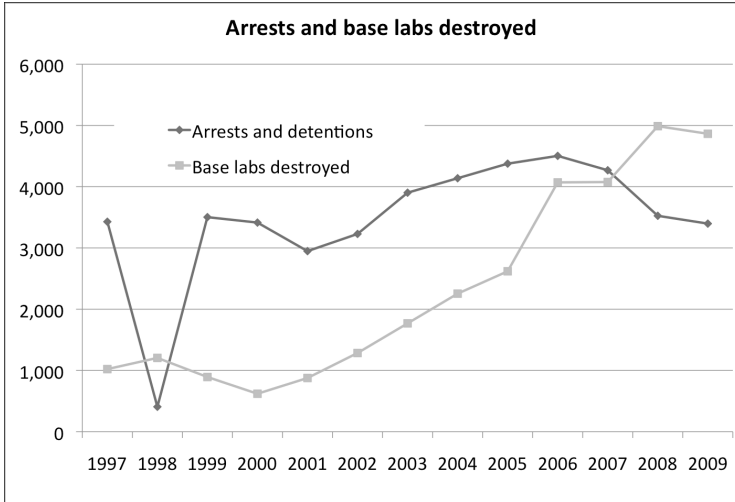


Figure 2. While the number of drug-related arrests has declined under the Morales administration, substantially more base labs were destroyed under Morales than any prior presidential administration since 1997, continuing a prior trend (BINLEA 2008, 2010).

Of course, anti-American rhetoric continues in Bolivia. It would be naive to expect otherwise. MAS and Morales administration rhetoric, however, has often taken a surreal turn which is indicative of efforts to at once appear to be resisting US pressures while, in fact, doing nothing of the kind. In October of 2007, for example, Morales announced that the United States military would no longer be allowed to participate in anti-drug operations (Associated Press, 2007). The announcement was bizarre, however, since only US Drug Enforcement Administration personnel, not US military personnel, are involved in anti-drug operations in Bolivia.

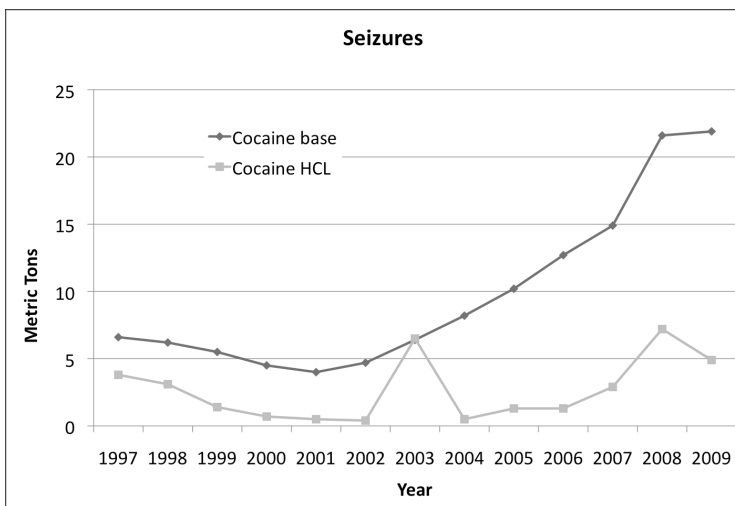


Figure 3. Both cocaine HCL (the finished product) and cocaine base seizures have increased substantially since 2005 (BINLEA 2008, 2010).

A number of the indicators presented by the US Department of State Bureau for International Narcotics and Law Enforcement Affairs present an ambiguous image, though not a strongly negative image, of Bolivian-US cooperation. Drug-related arrests, for example, have been fewer in number since 2005, but they were still higher than several of the previous years. Land under cultivation for coca is also ambiguous, though the US government is concerned about current Bolivian policy which allows each family to cultivate up to 1600 square meters of coca. Although cultivation in 2009 was higher than it was several years ago, growth in cultivation has been slower than growth in Peru during the same period, and despite substantial decreases in Colombian land under cultivation for coca, Bolivia's coca production is still only a fraction of Colombia's (BINLEA 2008, 2010).

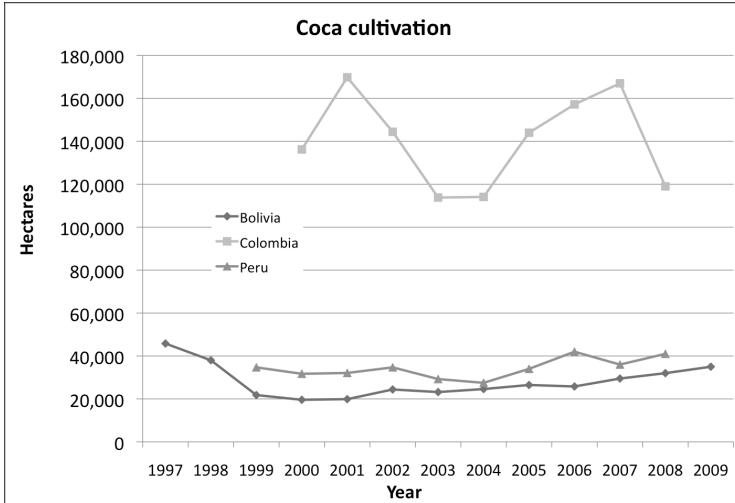


Figure 4. When compared to Peruvian and (especially) Colombian coca cultivation, Bolivia’s pattern of cultivation appears quite stable, and does not appear to hold up to the assertion that Bolivia has “demonstrably failed” to cooperate in US drug policy goals (BINLEA 2008, 2010).

A number of the quantitative indicators of Bolivian anti-drug operations appear to show an unambiguous improvement in drug enforcement, compared to the several prior presidential administrations. Surprisingly, coca leaf seizures have been dramatically higher since 2005, and in the last several years for which there is data, they do not differ substantially from erstwhile strong drug war ally Peru. The number of cocaine base labs destroyed by Bolivian law enforcement is also higher under Morales than any prior period, and seizures of Cocaine base and Cocaine have also increased (BINLEA, 2008, 2010).

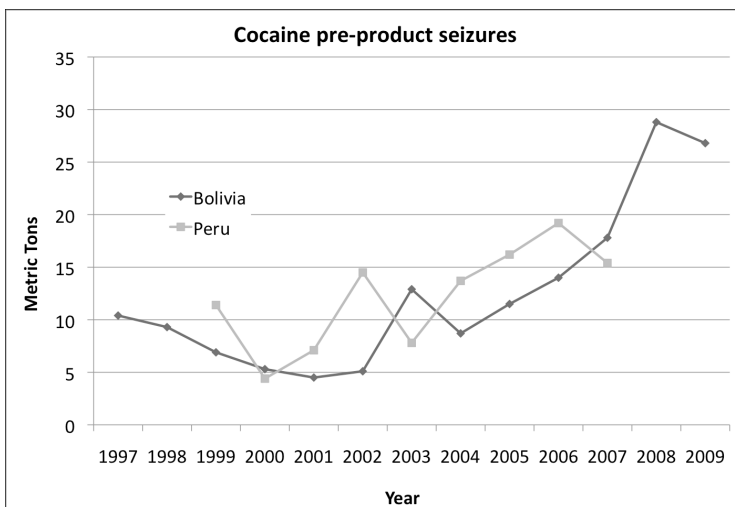


Figure 5. An increase in cocaine HCL and cocaine base seizures began in the early 2000s and has continued through the Morales administration (BINLEA 2008).

The absence of any strong indications that Bolivian cooperation is on the decline (aside from alarmist US Government rhetoric) is striking in the presence of a coca-grower president, elected by a coca-grower constituency (among other groups). The contrast is great, when Bolivia is compared with Venezuela, which has effectively ceased cooperation in US anti-drug efforts in recent years (BINLEA, 2008, 2010). Though it is possible that unidentified factors have caused the surprising continuation of Bolivian anti-drug cooperation, alternative explanations fail to explain this apparent anomaly. Therefore, these figures are strongly suggestive of the political power of trade policy as a pressure tool – a tool of economic statecraft.

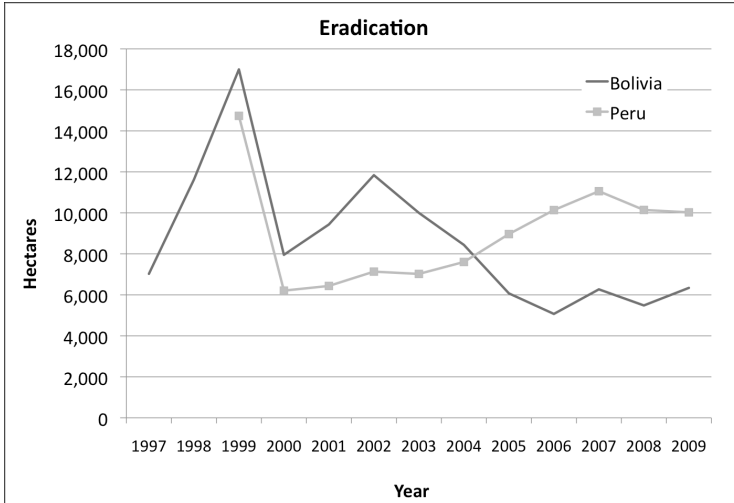


Figure 6. Although eradication was in decline before 2005, it has stabilized since 2005, under the Morales administration (BINLEA 2008, 2010).

5.2 Benefits of the ATP-DEA

In order for a theory of economic statecraft to explain the anomalous behavior of president Evo Morales, the benefits of trade with the United States must be felt in a tangible way by important actors in Bolivian politics. Although the exact benefits of the ATP-DEA are difficult to determine, there is significant evidence that, in fact, trade preferences are seen as highly beneficial by Bolivians.

Although the ATP-DEA is a mundane and unimportant trade act in the United States, the reality is not so simple in Bolivia. As with many political issues, the ATP-DEA is imbued with symbolic importance relating to Bolivia's troubled relationship with the United States and other powers in the region, the cultural importance of the coca industry, and class and ethnic politics. As a result, the ATP-DEA has become a symbol of existing political conflict between, for example, indigenous and "white" Bolivians, and between the rich and the poor. Because of the surprisingly polemical rhetoric surrounding the (rather mundane) agreement, it is very difficult to obtain reliable and consistent estimates regarding the economic impact of the ATP-DEA. However, it is clear that the certain groups derive

significant benefits from the agreement, and that some individuals in Bolivian society, particularly industrial exporters, *believe* that the ATP-DEA is important to Bolivian industry.

While estimates regarding the benefits of the ATP-DEA vary widely, most observers agree that the act brings significant benefits to Bolivians. First, U.S. actors favorable to preferential trade with the US have posited significant benefits for Bolivians. The U.S. Commercial service, a branch of the Department of Commerce, suggests that trade preferences under the ATP-DEA have been very important for the maintenance of a Bolivian textile industry which would otherwise have been devastated by a growing trade in used garments and competition from Asia (Crenweige, 2006). Elsewhere, the same organization suggests that uncertainty regarding future continuity of the ATP-DEA has stunted the growth of Bolivian export-oriented industries, but that these benefits have aided the Bolivian textile industry by decreasing the prices of exported Bolivian textiles from 17 to 20 percent in the United States (U.S. Commercial Service, 2007). Similarly, in testimony before congress, the Deputy U.S. Trade Representative suggested, in 2001, that Andean trade preferences had increased imports to the U.S. from the Andean region by 124 percent, and noted that about 60% of the exports from the Andean countries are advantaged by these trade preferences (Allgeier, 2001).

Business groups and elites in Bolivia also strongly support the continuation of Andean trade preferences. Prefects (governors) of the Bolivian provinces, linked to business interests, have pressed for delegations to pressure the U.S. Congress to renew the act (*La Razón*, 2008a), and manufacturers' groups, including the Bolivian Institute of Foreign Commerce and the National Chamber of Bolivian Exporters have suggested that Bolivian exports to the United States have fallen recently, as a result of uncertainty regarding the renewal of trade preferences (*La Razón*, 2007). In a February, 2008 open letter to the president of Bolivia, a group of exporters claimed that approximately 70,000 families in the greater La Paz area are dependent on the ATP-DEA, and exhorted Morales to press for its renewal (*La Razón*, 2008b), and the Santa Cruz chamber of commerce recently suggested that the failure to renew the ATP-DEA will lead to a Bolivian recession (*La Razón*, 2008c).

Less interested analyses also suggest that the trade preferences are beneficial, though the details are unclear, and estimates vary

wildly. The Morales administration, for example, has claimed that only 5,000 jobs are dependent on the ATP-DEA (*La Razon*, 2008d), and other estimates vary from about 50,000 jobs (Morales, 2007) to 100,000 (*La Razón*, 2008e). The Associated Press suggests a 450% increase in imports from the Andes between 1991 and 2007, and claims that 2 million jobs in the Andean region may be dependent on trade preferences with the United States (Abrams, 2008). The Bolivian National Institute of Statistics also suggests that the benefits are significant, providing figures that place the benefits of trade preferences as 429.8 million dollars (US) in 2007, representing nine percent of Bolivian total exports.

Impacts on some important export sectors have been substantial. Interviews with forestry officials in the Eastern lowlands of Bolivia, for example, suggest that prices for many traditional forestry exports – including high value species which bring substantial income to rural Bolivians – may have fallen by as much as two-thirds in the wake of the removal of trade preferences under the ATP-DEA.

Regardless, in an economy as small as Bolivia's, even the smallest of these estimates suggest that the agreement is of substantial economic importance. Though many of these figures are, doubtless, distorted for political and rhetorical purposes, they strongly suggest that the ATP-DEA is of sufficient benefit to place pressure on the Morales administration to continue those benefits. Indeed, several recent diplomatic missions, sent by the Morales administration, have encouraged the U.S. Congress to renew the Andean trade preferences, including a visit by the Bolivian Minister of Production and Small Business (Morales, 2007) and the Vice President (Valdez, 2006), and Morales himself has argued for renewal (*La Razón* 2010). It would be strange to assert that these efforts did not result from the economic benefits of the ATP-DEA, given the Morales' strong domestic and ideological reasons for opposing the U.S. presence in Bolivia.

5.3 What Do We Expect from Morales – Why do Alternatives Explanations Fail?

With the election of Evo Morales to the presidency in 2005, many observers expected that the very supportive role the Bolivian government played in the war on drugs would come to an end. Instead, Bolivian anti-drug policies have changed only incrementally. The

reasons for this apparent policy inertia are unclear, but one tantalizing potential explanation is the Andean Trade Promotion and Drug Eradication Act (ATP-DEA). Intended as compensation for the economic costs of coca eradication, the ATP-DEA provides Bolivia with duty-free access to US markets, while allowing Bolivia to place tariffs on products imported from the United States.

Cultivation of the coca leaf, either for the production of cocaine, or for traditional uses, is a very important part of the Bolivian economy (Barr, 2005: 70). Some observers have estimated, for example, that the underground economy in coca and cocaine may comprise as much as 50% of the Bolivian Gross domestic product (Salman, 2007: 117). Because coca is grown in the countryside, however, it is most important to the Bolivian rural poor, who are overwhelmingly indigenous in ethnicity, and have, until recently, had little voice in the political process (Chande, 2002: 1573). Suppressed until recently, indigenous and peasant groups, as well as the *cocaleros* union, have grown in political power in recent years. During the 1990s and before, however, it was possible for Bolivian political elites to ignore the interests of the rural peasantry by cultivating a strong relationship with the United States, which resulted in economic benefits (including military and development aid), potentially obviating the need for internal support from the rural poor constituency. One of the most important ways in which Bolivian presidents could ensure US support was by supporting US-sponsored coca eradication and interdiction efforts in Bolivia.

These tendencies – to ignore the interests of poor coca growers – were exacerbated during the 1980s and 1990s by Bolivia’s “pacted democracy,” in which major political parties, who were rarely able to win a majority of votes required to gain the presidency, earned the executive office through a process of coalition building, in which potential presidents were supported or opposed based on his promises of cabinet posts and other government positions for potential coalition partners (Salman, 2007: 119). Because the president was almost always someone who failed to gain a majority of the popular votes, but was able to garner support in congress by back-room dealing with other party leaders (most recent presidents have been elected with around 30% of the vote), presidents in Bolivia probably have fewer incentives to carry through policies which will gain (or sustain) support among the rural poor (Salman, 2007: 113).

Some have argued, in fact, that this tendency to ignore Bolivian voters after election campaigns had ended was the primary cause of Bolivians' increasing disenchantment with democracy, traditional parties, and the several presidents who preceded Morales, and the ultimate cause of the departure of presidents Sanchez de Losada and Mesa (Rochlin, 2007: 1329; Assies, 2004).

When Evo Morales was elected in 2005, observers of Bolivian politics expressed concern regarding Morales' commitment to the "War on Drugs." Indeed, Morales' policies continue to arouse concern – for example, despite US government statistics that suggest a greater degree of success and cooperation in drug eradication and interdiction, the United States government continues to call Bolivian antidrug cooperation uneven, and the US State Department continues to express "concern" over Morales' supposed pro-drug tendencies (BINLEA, 2008). Such concerns may, in fact, be justified, based on Evo Morales' personal background, his political constituency, and the manner in which he was elected. Indeed, based on a host of domestic and international factors, it would be reasonable to expect that Morales would cease cooperation in the drug war altogether, as Venezuela has done since the rise of Hugo Chavez.

Evo Morales' personal background, family history, and apparent ideological leanings would indicate a strong opposition to US anti-drug operations. These factors would lead us to believe that Morales would be uncooperative with coca eradication and cocaine interdiction. The son of a family of indigenous tin miners whose first language is Aymara (the first of Bolivia's indigenous languages), Morales' family left the Altiplano after a global crash in the price of tin left Bolivian miners struggling to survive. Like many poor miners, Morales' family migrated to the Chapare, a lowland region in Eastern Bolivia, and turned to Coca farming to make ends meet. While the Chapare is well suited to the cultivation of Coca, Coca cultivation, until 2005, was only legal in the Yungas, a region of Bolivia closer to the highlands, and was illegal in the Chapare. As such, Chapare coca farmers have suffered from government and US-sponsored coca eradication programs which left them subject to an important but illegal and marginalized trade (Ribando, 2006).

As a result of the importance of the Coca trade in Bolivia, and because of the struggles of poor, mostly indigenous Coca farmers, the *Sindicato de Cocaleros*, or Coca-growers' union grew in prominence through the 1990s. It was as a leader of the Cocaleros' union

that Evo Morales first entered politics, advocating for an end to the US War on drugs, and a cessation of operations, like coca eradication, which harmed coca growers in the Chapare and elsewhere. Morales' position as the head of the Cocaleros' union placed him in a prominent national position, and his strong advocacy for the rights of coca growers led him to a near-victory in the presidential election of 2002, and expulsion from the Bolivian congress in the same year. Morales played a role as a political outsider who, unlike the politicians from traditional parties who had served as presidents since 1982, was suspicious of the neo-liberal consensus that characterized existing Bolivian political elites. By extension, Morales was suspicious of the United States, and his rhetoric often sounded similar to that of Hugo Chavez and Fidel Castro, for whom "United States" and "imperialism" are almost synonymous. Ideologically, Morales showed no affinity either for free trade or for the United States (Rochlin, 2007). Among other inflammatory positions, Morales has advocated an end to coca eradication in Bolivia, and the expulsion of US military and Drug Enforcement Administration (DEA) personnel from Bolivia in his roles as congressional representative and union leader (Romero, 2007; Ribando, 2006).

Domestic political factors also would lead us to anticipate a reduction in cooperation in anti-drug operations by the Morales administration. The political party which Morales helped create – the party under which he was elected president – is the *Movamiento a Socialismo*, or Movement to Socialism (MAS). Unlike traditional Bolivian political parties, MAS draws its support from the rural poor, who tend to be people of indigenous descent, usually speaking non-European indigenous languages like Aymara or Quecha. The rural poor, not coincidentally, is the group which disproportionately is helped by the financial benefits of coca farming, and they are the group which is disproportionately harmed by US anti-drug policies like coca eradication and other anti-drug operations. Consequently, voters who consider themselves MAS supporters also tend to oppose US anti-drug policies, and have tended to support Morales for his strong rhetorical opposition to the war on drugs (Singer, 2007).

Normally, the official platforms and the voting constituencies of presidential candidates have been relatively unimportant in presidential elections (Singer, 2007). The process by which Bolivian presidents have traditionally been selected forces them to promise and pursue policies which will be acceptable, first and foremost, to a

congressional political elite. Voters have ultimately been less able to influence policies through presidential elections than have congress-people. Ultimately, the Bolivian electoral system has led Bolivian presidents to view themselves as only weakly accountable to voters, and much more responsible to the political class. Bolivia uses a split first past the post/proportional representation rule for the election of its congressional representatives. The result is that there are a multitude of parties in the Bolivian system, which tends to dilute the vote for candidates of any particular ideological stripe in presidential elections, making it difficult for even a popular, moderate candidate to gain a majority of the vote in presidential elections. In cases where no candidate earns a majority, however, the top two vote-getters' names are sent to congress, where the president is selected from among them (Singer, 2007). The result is that the actual process of presidential election is due as much to a process of congressional coalition-building by presidential candidates as to popular selection by voters. One result of this system is that presidents have traditionally been less constrained by public opinion on the drug war, and in particular, less constrained by the political positions of their partisan constituency. Instead, presidents' positions in office have tended to more closely resemble the preferences of their congressional supporters (Mainwaring, 2006; Salman, 2007).

If Evo Morales was also elected president through this process of coalition-building, it would be much harder to separate the influence of congressional elites (who are much less strongly opposed to US Andean drug policy for ideological and electoral reasons) from the influence of US economic incentives such as the ATP-DEA. However, Morales was the first Bolivian president elected by a popular majority, and therefore, he is much less constrained by elite pressures than his predecessors. In addition, Morales' party controls a majority of the lower house of the Bolivian congress, and a plurality in the upper house. Finally, Morales' ability to rely on negotiation with traditional political elites is questionable – he was excluded from the presidency in 2002 because of an inability (or unwillingness) to negotiate with other party leaders, has been ejected from congress by leaders of the traditional Bolivian parties (Lerager, 2006), and continues to see himself as the victim of ethnic discrimination by Bolivia's ethnic elites (Romero, 2007). The result is that Morales should be much more accountable to voters, especially the rural poor who elected him, and much less accountable to po-

litical competitors in congress. Ultimately, these facts lend support to the belief that, other things being equal, Evo Morales should be much less supportive of the war on drugs.

Finally, international political factors should also make this a hard case for a theory of economic statecraft. Although the broader international community and the United States have placed pressure on Bolivia to continue to support US-sponsored anti-drug policies, Morales has an ally in President Hugo Chavez of Venezuela who, has a poor record of cooperating with the United States in drug enforcement activities, and is willing to provide significant economic resources to the Bolivian government in return for their friendship and cooperation. Chavez himself has no compunction regarding non-cooperation with the United States and, other things being equal, would presumably prefer a smaller US presence in the Andean region, be it for the purpose of drug eradication or other goals (Rochlin, 2007: 1336–7).

Therefore, it would not be unreasonable to predict that Bolivia would have followed a path similar to that of Venezuela in the wake of Morales' 2005 election. According to the US Government, Venezuela has essentially ceased cooperation with US anti-drug policy, and Venezuela is now viewed as a haven for cultivation and transshipment of illicit narcotics. Although there are obvious differences between Venezuela and Bolivia, and between Hugo Chavez and Evo Morales, the dramatic change in Venezuelan drug policy (or lack thereof) demonstrates the possibility that nations can, given a different set of incentives, effectively resist diplomatic pressure to eradicate, interdict, and destroy cocaine and cocaine-related activities (BINLEA, 2008). It is therefore striking that the Bolivian government, which is ideologically similar to that of Venezuela, and which may have stronger reasons to resist US pressures (including the greater economic importance of coca in Bolivia, the electoral constituency of Evo Morales, and the greater levels of popular accountability faced by Evo Morales and his party) should behave in a more moderate way vis a vis US foreign drug policies.

6. Conclusions

While it is always difficult to draw strong conclusions from a single case, the Bolivian government's behavior under President Evo Morales provides strong evidence that trade policy – especially prefer-

ential trading agreements – and other economic tools, might be used as to promote cooperative behavior in other governments that might not otherwise behave cooperatively. Because of the nature of the Bolivian domestic politics, because of Morales' personal background, and the ideology and constituency of his political party, as well as regional political pressures, Bolivia should be a "hard case" for a theory of trade policy as economic statecraft. Because of the absence of clear changes in the Bolivian government's policy towards cocaine, there are strong reasons to suspect that economic tools have had an impact on Morales' policies – that US trade policy has encouraged Bolivia to be more cooperative than it otherwise would have been.

Therefore, these observations strongly suggest that a theory of trade policy as economic statecraft is plausible, and they lend credence more broadly to the notion that economic tools (including aid and sanctions) can be used by one state against another to encourage the second state to comply with the first state's desires. Though further study is needed, including statistical analysis, to demonstrate conclusively that trade policy can be used effectively in this way – and though additional questions remain regarding when such policies will be effective and when they will not, this work is strongly suggestive of the utility of this approach.

The Bolivian case also carries interesting policy implications, regarding US drug policy in the Andean region, and also regarding foreign policy more broadly. The United States has begun to replace the ATP-DEA with reciprocal free trade agreements, first renegotiating with Peru (with which we ratified a free trade agreement in late 2007), and then Colombia (with which a free trade agreement may be forthcoming, though currently being held up in US Congress due to concerns about the Uribe administration in Colombia). This study suggests that these free trade agreements, which provide fewer benefits to Colombian and Peruvian domestic manufacturers, may be counterproductive in a political sense. Although they will be beneficial for US firms (especially agricultural firms) these agreements may have painful distributive consequences for Peruvian and Colombian firms, and may fail to produce the kinds of domestic pressure that seem to have produced Bolivian compliance with US drug policies. Perhaps, rather than pursuing reciprocal free trade agreements with the remaining two nations in the ATP-DEA (Ecuador and Bolivia), the US should renew the agreement indefinitely. This re-

search also seems to imply that trade policy could be used to pursue foreign policy goals, even with nations with apparently adversarial relationships with the United States.

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THE POLITICAL ECONOMIES OF ECONOMIC LIBERALIZATION: THE ROLE OF DIFFUSION, CRISIS, AND PARTIES IN THE SHIFT TO FREE MARKET ECONOMIES

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ABSTRACT. What factors drove the global shift towards more market-oriented economic policies over the past three decades? The extant literature posits three main factors impacted policy-making in both the developed and the developing world: policy diffusion, economic constraints, and domestic political actors. Our paper utilizes factor analysis to construct a unidimensional measure of economic liberalization. We then examine whether learning through policy diffusion, economic crisis, and party preferences and fractionalization affect economic liberalization in both the developed and the developing world. In general, we find that policy diffusion had by far the greatest impact on economic policy-making. Economic crises can also help spur reform, but we find little evidence that political parties have systematic effects on economic liberalization.

JEL: A10, B59, G01

Keywords: political, economic, liberalization, diffusion, crisis, market

1. Introduction

What factors drive economic policy-making in democratic regimes? The literature regarding the adoption of market-oriented economic

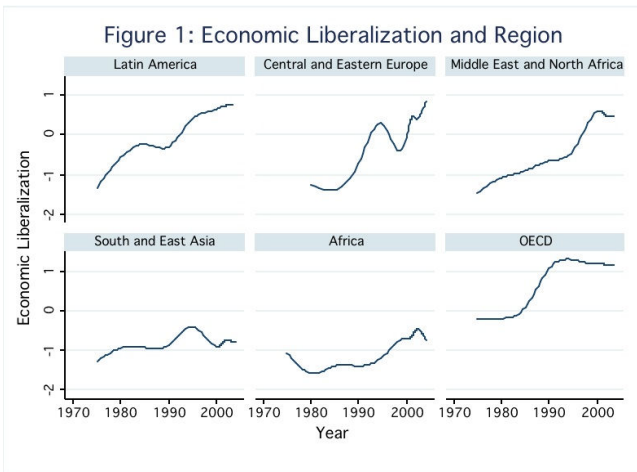
policies is rife with potential causal processes. Much of the early literature posited that economic crises facilitated the move toward markets (Conaghan 1996; Edwards 1995; O'Donnell 1994). Closely linked with this literature was the argument that international pressure to adopt more open economic policies led to massive policy shifts. Governments were severely constrained in the age of the "Washington Consensus", especially after the collapse of the Soviet Union. Furthermore, the economic successes of open economies like Singapore, Hong Kong, Switzerland, and the United States, combined with the apparent achievements of aggressive reformers like Great Britain, Chile, Argentina, and Poland created momentum for the global shift toward more open economic policies. Yet another possibility is that politics affects policy change. The policy preferences of the governing party or parties and the concentration or separation of power should guide the direction and scope of policy change (Brooks and Kurtz 2008; Tsebelis 1995, 1999; Cox and McCubbins 2001; Johnson and Crisp 2003). Finally, it could be that some combination of these factors determines economic policy-making.

In order to test these competing theories regarding the move towards more market-friendly economic policies we examine all democracies for which there is complete and comparable data available. Drawing upon the Fraiser Institute's *Economic Freedom in the World (EFW)* we use factor analysis to construct a new measure of economic liberalization. We then analyze the economic and political determinants of policy change examining five-year intervals between 1975 and 2000, as well as one-year intervals from 2000-2004. While we find some support for all three of these contending theories, international factors played the strongest role. Diffusion, in particular, appears to have had a large effect, as countries tended to follow the policy prescriptions implemented by their neighbors, though a country's level of development and its size also played an important (and consistent) part in the move towards markets. Economic crisis had only a modest impact on reform, with inflation spurring the adoption of market-oriented economic policies. Finally, we find minimal evidence that the ideological preferences of the government or its degree of fractionalization affected policy change.

2. Explaining the Adoption of Market-Oriented Policies

The study of the adoption of market-oriented economic policies is important for a number of reasons. First, economic openness and integration increased markedly over the past 30 plus years. From advanced, industrial democracies like Great Britain and the United States to the states of Central and Eastern Europe to developing nations in Latin America, Africa, and Asia there has been a global trend towards greater economic liberalization. Second, the scope and in some cases even the direction of these shifts has varied widely across time. While countries like Chile and Estonia moved substantially toward more market-oriented policies, nearly every country experienced at least one episode of a move away from markets. About one-fourth of the countries in the *Economic Freedom in the World* listings move away from market-oriented economic policies toward greater state intervention in the economy during any given time period. A handful of states, like Venezuela, actually exit the sample time frame with greater state intervention in the economy than they started with in 1975.¹

Third and finally, the timing and extent of the move toward more market-oriented economic policies varied considerably across space. The Thatcher-Reagan push for more market-oriented economic policies in Great Britain and the United States was not confined to only these two members of the OECD (see Figure 1). Most countries moved substantially to the right in terms of economic policy throughout the 1980s. A similar shift took place in a number of developing regions including: Latin America, Central and Eastern Europe, and to some extent the Middle East and North Africa. It is important to note these policy changes lagged behind the OECD, with many reforms proceeding in the 1990s. Finally, we see that while Asia and sub-Sahara Africa engaged in some reforms, these have been quite mild compared to the other regions, with Asia experiencing significant retrenchment in the wake of the Asian financial meltdown of 1997-1998. So, while market-orientation increased substantially over the entire period under study, dramatic changes tended to be concentrated in some regions and not others.



Given that a number of countries adopted aggressive market-oriented policies while others adopted more moderate policy changes, and still others moved away from markets, what factors account for these differences? Are they primarily the result of long-term economic malaise or short-term economic crisis? Or instead maybe policy diffusion is at work here, where countries learn best practices from their neighbors, or from global economic powerhouses like the United States or Germany? Alternatively, perhaps domestic politics affects the direction and scope of policy change considering that the public can hold elected officials accountable for the policies they pursue while in office and more or less fractionalized governments may impact the state's ability to change? In an attempt to provide a complete explanation for economic policy-making in democratic regimes, the discussion that follows focuses on three main theories regarding the adoption of market-oriented economic policies.

3. Barriers to Policy Change

What inhibits the adoption of radical market-oriented economic policies? Policymakers prefer policies that produce concentrated, early-order benefits with diffuse, late-order costs and eschew policies that yield diffuse, late-order benefits with concentrated, early-order costs (Arnold 1990). However, market-oriented economic policies spe-

cifically entail the imposition of diffuse, early-order costs such as reduced government social spending, increased unemployment, increased consumption taxes, and devalued currencies. Yet these policies only promise largely mid- to long-term benefits of more efficient governments and economic stability, so elected leaders should be relatively loath to pursue market-oriented economic policies. Brooks (2004) refers to these as transitional costs, defined as the aggregate losses in the private and public sectors including increased unemployment and decreased real wages and consumer purchasing power. These transitional costs included: fiscal austerity which limited government patronage; trade liberalization which threatened domestic producers; financial market opening which threatened domestic financial institutions and left the country vulnerable to international financial shocks like the Asian Financial Crisis; tax liberalization which shifted the tax burden from income to consumption and threatened distributional goals; privatization jeopardized jobs; and labor reforms which increased job instability and threatened pension benefits. Collectively these economic dislocations made the shift from state-oriented economic development to a market-based approach an extremely risky endeavor for any politician.

Due to the short-term economic dislocations associated with market-oriented economic policies many economists posit that economic crises lead to the adoption of market-oriented policies (Drazen and Grilli 1993; Edwards 1995; Lora and Olivera 2004; Rodrik 1994). Pitlik and Wirth (2003) summarize the logic as consisting of two main factors. First, severe economic crises shorten political actors' time horizons sufficiently enough to create a sense of urgency. Second, crises weaken the power of reform opponents. For example, economic crises in Argentina and Mexico significantly muted labor opposition to trade, financial, and tax liberalization (Madrid 2003). In short, economic crises simply overwhelmed domestic opposition, leading both politicians and citizens to gamble on market-oriented economic policies (Biglaiser and DeRouen 2004; Weyland 1996).

While economic crisis plays a prominent role in the extant literature, considerable emphasis is also placed on the role of international pressure to adopt market-oriented economic reforms. Given the uncertainty associated with wholesale policy shifts, government economic policy was biased in favor of the status quo, at least until uncertainty about the efficacy of reforms was reduced (Fernandez

and Rodrik 1991; Lora and Olivera 2004). As international pressure to enact market-oriented reforms mounted during the 1980's and 90's and countries that adopted neoliberal policies enjoyed a modicum of success, uncertainty was reduced and these policies became more attractive (Tommasi and Velasco 1995). Kopstein and Reilly (2000) demonstrate that post-communist countries bordering the European Union (EU) enjoyed substantial advantages after the collapse of the Eastern bloc and most quickly adopted policies designed to facilitate ascension into the EU. Proximity to successful, open economies provided both governments and citizens with substantial informational advantages over post-communist countries further to the east.² Consequently, policy contagion led governments to adopt market-oriented policies when there were ample examples of these policies.

In her innovative work on policy diffusion, Brooks (2007) examines pension reforms in both developed and developing states. She finds that policy diffusion is particularly important in the adoption of costly privatized, funded defined-contribution pension systems in middle-income countries, but not in high-income states. Before governments in developing states are willing to adopt costly economic policy changes they prefer the informational advantages associated with policy diffusion. Brooks also finds that diffusion is an especially good predictor of pension reform privatization, at least outside the OECD. Witnessing the successes associated with reforms proves to be a powerful motivator for new adopters.

This conclusion, drawn from observing the instigating factors of a specific economic policy, provides additional support for earlier research looking at more general liberalization indicators. Simmons and Elkins (2004) find empirical support for two forms of policy diffusion: new information and altered payoffs. Like Brooks (2007), Simmons and Elkins convincingly link the success of neighbors to the adoption of like-minded economic policies.³ Altered payoffs, due to the liberalization of a state's trade and capital competitors, is shown to be the strongest explanation of liberal policy transitions and corresponds nicely with the "costs of closure" argument offered by Garrett (2000).

While the extant literature on economic liberalization focuses a great deal of attention on the role of crises and diffusion in the process of policy change, a substantial literature also focuses on the role of domestic politics in the policy-making process. How do

domestic political factors affect the adoption of market-oriented economic policies? The literature on reform largely examines two key factors: the government's policy preferences and fragmentation found in the party system or government (Biglaiser and Brown 2005; Nielson 2003; Shugart and Haggard 2001; Tsebelis 1995, 1999).

A key component of democratic theory is that elected officials act as citizens' agents (Dahl 1971). Parties campaign on a set of policies, often policies with which they are strongly associated, citizens select the policies that most closely approximate their own policy preferences, and elected leaders then pursue these policies once in office. While there are reasons to question the efficacy of this principal-agent relationship, the literature documenting it is vast. Dougan and Munger (1989) find ideology enhances credibility and reputation and shirking is less common than expected. Ideology leads center-left governments to favor economic policies that reduce unemployment at the expense of inflation, while center-right governments favor policies that produce just the opposite results (Alesina and Rosenthal 1995). Similarly, government spending priorities closely match their campaign promises (Hofferbert and Budge 1992; Klingemann, Hofferbert, and Budge, 1994). In sum, ideologically-based preferences are inextricably linked with government policies, both in democratic theory and in democratic practice.

This relationship is somewhat less clear when it comes to the adoption of market-oriented economic policies. A number of authors find that candidates that campaigned in favor of market-oriented economic policies tended to pursue these policies once in office (Stokes 2001) or that right-of-center governments led reform efforts in both developed and developing states (Biglaiser and Brown 2005; Brooks and Kurtz 2007, 2008; Kopstein and Reilly 2000; Stokes 2001). For example, Margaret Thatcher and Ronald Reagan ushered in an era of privatization and deregulation in the United Kingdom and the United States. Similarly, Hungary's center-right governing coalition pursued aggressive market reforms after the collapse of communism in the early 1990s. Nielson (2003) finds that the presence of neoliberals in the government increases the extent of trade liberalization, while Bates (2007) finds that socialist regimes in Africa significantly resisted market-oriented policies.

In sharp contrast, a number of authors find no relationship between government ideology and the adoption of market-oriented policies. Anti-market candidates pursued many of the most aggres-

sive reform programs in Latin America and Eastern Europe upon taking office (Conaghan 1996; O'Donnell 1994; Weyland 1996, 1999). Johnson and Crisp (2003) find that executive ideology has no bearing on the adoption of market reforms, while Biglaiser and Brown's (2003) examination of privatization finds no evidence of a link between ideology and policy outputs. Finally, a large body of literature regarding market-oriented policies completely ignores ideology as a potential cause of policy-making.

In addition to the controversy regarding the efficacy of policy-maker's preferences, there is also a considerable literature regarding the role of political parties in the move towards market-oriented economic policies. Starting with the innovative works by Tsebelis (1995, 1999, 2002) researchers studying reform have focused increased attention on the role of government fractionalization or fragmentation on policy outputs. Governments composed of ideologically heterogeneous coalitions generally find it more difficult to pursue policy changes that are acceptable to all coalition partners, muting policy change. Similarly, as legislatures become more fragmented and power more diffuse it becomes increasingly difficult to enact wide-ranging economic policy changes (Haggard and McCubbins 2001; Johnson and Crisp 2003; Mainwaring and Shugart 1997; Nielson 2003; Morgenstern and Nacif 2001). There are simply too many policy-makers with an incentive to stop radical change.⁴

Conversely, some authors argue that because market-oriented economic policies are so controversial the diffusion of power actually facilitates the adoption of aggressive reforms (Kopstein and Reilly 2000). Democratic regimes, despite their inherent checks and balances, actually engage in significantly more reform than their authoritarian counterparts (Pitlik and Wirth 2003). Similarly, in policy areas where there is little consensus, such as capital account liberalization, increased fragmentation can actually decrease resistance to reform because resistance is unorganized and diffuse (Brooks and Kurtz 2007). Finally, fragmentation may not only affect reform advocates, but also reform opponents. Given these mixed results we are agnostic as to whether the diffusion of power will increase or decrease the extent of adoption of market-oriented economic policies.

4. Research Design

In order to test these competing claims we analyze a sample of all democratic regimes for which there was complete and comparable data for the period 1975-2004.⁵ There were 71 countries that fit this definition (see Appendix Table 1 for a list of countries included). Because a number of states failed to meet accepted democratic norms and practices during certain time periods we utilize an unbalanced design. This sample includes countries on six continents; countries facing severe economic crises and those experiencing phenomenal growth; regions that saw market-oriented policies greatly expand and states that curtailed market-oriented policies; countries with both left-wing and right-wing governments; and substantial variation in legislative fragmentation. In sum, they offer a broad range of cross-national and time-serial variation.

Dependent Variables

In order to aggregate economic policies across numerous policy areas we start with the *EFW* database. The *EFW* database scored each economies level of market-orientation across a variety of economic policies (see Table 1) at five-year intervals from 1975 until 2000. Starting in 2000 these scores were reported on an annual basis. To combine these multiple measures of economic policy we draw upon principle-component analysis. This simple statistical technique, which utilizes correlations of paired variables to reveal interrelationships between sets of variables called factors, has not to our knowledge been employed before to combine multiple measures of market-oriented economic policy. If these measures all load onto a single factor, then the literature's emphasis on different areas of reform is unnecessary, and its emphasis on different types of reforms is misplaced. Consequently, factor analysis allows us to determine if a single process known as market-oriented reform even exists.

Principle-component analysis indicates that economic policy-making loads onto three underlying factors (see Table 1), but Horn's Parallel Analysis demonstrates that only one of the factors should be retained (see Table 2). While traditional principle-component analysis retains all factors with eigenvalues greater

than 1.0 or performs a Scree test, Horn (1965) determined that multicollinearity due to even minor sampling errors will often generate eigenvalues greater than 1.0. He recommends comparing eigenvalues greater than 1.0 with eigenvalues produced through principle-component analysis on a random dataset with the same number of variables and observations to determine whether any of the original eigenvalues greater than 1.0 are the result of sampling error and least-squares bias. Horn's modification of principle-component analysis produces one factor, composed of the following 11 variables: general government consumption spending as a percentage of total consumption; money growth; inflation; freedom to own foreign currency bank accounts; revenue from taxes on international trade as a percentage of exports and imports; international capital market controls; capital controls; credit market regulations; ownership of banks; private sector credit; and interest rate controls.

Table 1: Factor Analysis of Market Oriented Economic Policies

Variable	Factor 1
General government consumption spending	0.4083
Money growth	-0.1508
Inflation	-0.1762
Freedom to own foreign currency bank accounts	0.6543
Revenue from taxes on international trade	-0.5342
International capital market controls	0.8497
Capital controls	0.8081
Credit market regulations	0.8581
Ownership of banks	0.7692
Private sector credit	0.4581
Interest rate controls	0.6528

Table 2: Horn's Parallel Analysis for Principal Components
(330 iterations)

Factor	Adjusted Eigenvalue	Unadjusted Eigenvalue
1	3.4454488	4.5172439
2	0.42088708	1.4735957
3	0.09231669	1.1303049

Independent Variables

In order to capture the effects of policy diffusion we calculated the average level of economic freedom based on each region's average factor score. Regions with high factor scores like the OECD (Figure 1) and Latin America should induce countries in the region to engage in additional reforms as the information costs associated with these policies changes decrease. Conversely, regions with relatively closed economies such as Africa and Asia should do little to reduce uncertainty regarding the efficacy of these policies changes. Consequently, our measure of diffusion is simply each of the six region's average factor score.

Economic crisis is measured using data on two variables: growth and inflation. *Growth* is simply a country's percentage change in annual GDP, while *Inflation* is the annual percentage change in consumer prices. Inflation is logged due to the presence of extreme values in the data. For the model examining one-year changes in economic freedom, growth and inflation were both lagged one year. For models examining changes in economic liberalization over five years the average rate of growth and inflation were used. Alternative specifications using the number of years of recession and or years of hyperinflation produced substantively similar results.

Political variables used in the analysis are taken from the *2004 Database of Political Institutions* originating with Beck et al. (2001). *Government Ideology* is a three point measure of leftist, centrist, and rightist orientation coded respectively as -1, 0, and +1. The probability that two representatives from within the government picked at random are from different parties constitutes *Government Fractionalization*. Both Government Ideology and Government Fractionalization are lagged one year in Model 1, but are lagged using five-year rolling averages in Models 2 and 3 because of the nature of the sample.

Control Variables

Following the advice of Beck and Katz (1995), we include a lagged version of the dependent variable to control for past economic policies. We also include control variables for a country's government system and the age of the party in government. The former accounts for the fact that parliamentary systems tend to pass a higher per-

centage of the government’s agenda than presidential systems (Przeworski, Cheibub, and Saiegh 2004), while older political parties are associated with fealty to policy promises and adherence to the status quo (Stokes 2001). A country’s *System* of government equals 2 if parliamentary, 1 if semi-presidential (i.e. assembly elected executive), and 0 if presidential. *Party Age* indicates the average of the ages of the two largest governing parties and the primary opposition party measured in years and taking the natural log to mitigate the impact of extreme values. In addition, two variables are utilized to account for differences in economic development and production asymmetries. *GDP per capita* is measured in purchasing power parity based on 2000 international dollars. Lastly, *Land Area*, measured in square kilometers, is included to control for asymmetries in the scope of countries’ input and output production (i.e. varying degrees of specialization, terms of trade, etc.) that may affect their degree of economic openness (Eichengreen and Leblang, 2006). The natural logs of GDP per capita and Land Area are used. All of these variables, with the exception of the lagged dependent variable, come from the World Bank’s *World Development Indicators 2007*.

5. Findings

In an era of market-oriented economics what factors explain the move towards markets? Table 3 presents models designed to test the competing explanations outlined in the literature. The first model examines annual changes in economic liberalization, while the second and third models examine liberalization over five-year periods (see Table 3).⁶

Table 3: Crisis, Diffusion, and Politics

	Model 1 2000-2004 (Annual)	Model 2 1980-2000 (5 year)	Model 3 1980-2000 (5 Year)
Lagged DV	0.89*** (0.04)	0.62*** (0.13)	0.59*** (0.14)
Growth	0.00 (0.00)	-0.02 (0.02)	-0.01 (0.02)

Inflation _(logged/lagged)	0.02† (0.02)	0.09** (0.05)	-0.04 (0.06)
Diffusion	0.05† (0.03)	0.39*** (0.14)	0.25** (0.12)
Development _(logged)	0.05** (0.02)	0.09 (0.09)	0.11** (0.06)
Land Area _(logged)	-0.01* (0.01)	-0.01 (0.03)	-0.01 (0.02)
Government Ideology	-0.01 (0.02)	0.08† (0.06)	0.05 (0.06)
Government Fractionalization	0.04† (0.03)	-0.19 (0.15)	-
System	-0.01 (0.01)	0.03 (0.09)	-0.05 (0.07)
Party Age _(logged)	-0.03** (0.01)	0.04 (0.05)	0.05 (0.05)
Constant	-0.15 (0.15)	-0.77 (1.20)	-0.69 (0.81)
<i>N</i> -Size	245	114	173
<i>R</i> ²	0.9333	0.7396	0.6751
<i>rho</i>	0.0957989	0.201598	0.2011119

Note: Prais-Winsten regression with panel corrected standard errors in parentheses.

All tests of significance are two-tailed. †<0.20 *<0.10 **<0.05 ***<0.01

Across all three models we see moderate support for the theory that economic crisis serves as the catalyst for economic liberalization. While growth is never significant, high rates of inflation are positively and significantly related to the adoption of market-oriented policies in two of the three models. That inflation, and not growth, is

related to policy change is not terribly surprising. Most citizens probably have little idea what their country's rate of growth is, yet high inflation serves as a daily reminder of a country's economic troubles. When the costs of daily foodstuffs, shelter, and transportation skyrocket they feel these effects with every purchase. However, this result is somewhat volatile, depending upon the political variables that are included.

Unlike economic crises, all three models produce evidence in support of diffusion as a strong predictor of economic policy-making. Mirroring the movements found in Figure 1, we see that as neighbors open their economies to market forces a government is much more likely to follow similar policy prescriptions. For example, President Cardoso led a center-left party to power in Brazil and then pursued substantial market-opening during his time in office. He succeeded where other Brazilian reformers had failed, perhaps in part to the apparent successful liberalization programs adopted by neighbors such as Argentina, Bolivia, and Peru. Furthermore, we see the effect of diffusion is stronger in our models covering five-year periods rather than one-year periods. This supports the contention that learning is taking place and that early adopters reduce information costs. The process, however, is not unidirectional. As seen in Figure 1, the Asian financial crisis of 1997-8 led to a substantial retrenchment in the scope of market-oriented policies. Government intervention in these economies grew, with a ripple effect spreading across the region. So, not only is diffusion a strong predictor of liberalization, regional retrenchment also helps explain policy-making.

Unlike diffusion, there is relatively little evidence that policy makers' preferences or government fragmentation had systematic effects on economic liberalization. The ideology of the government is positive and (weakly) significant only in Model 2, meaning right-of-center governments were more likely to pursue market-oriented policies, while left-of-center government resisted these policy changes. However, the coefficient is insignificant in Models 1 and 3, and even improperly signed in Model 1. Interestingly, we see that government fractionalization actually increased the move towards markets during the 2000-2004 period. This supports the findings of Pitlik and Wirth (2003) and Brooks and Kurtz (2007) that the decentralization of power can actually facilitate these policy changes.

The control variables perform largely as expected. The lagged dependent variable is positive and strongly significant across all three models. Despite a substantial debate regarding the efficacy of presidentialism (see Mainwaring and Shugart 1997) and parliamentarism (see Linz and Valenzuela 1994) the models find no evidence that these government systems had any effect on policy-making. Similarly, Model 1 shows that states with older party systems tended to resist market-oriented policies. This does support the expectation that older parties tend to favor the status quo, though this finding holds only for Model 1. Even after controlling for the lagged dependent variable and diffusion, there is evidence also that wealthier countries tend to have more open economies. For example, the three most open economies in Africa in 2000 were Botswana, Mauritius, and South Africa (in that order), while the three wealthiest states (in PPP) were Mauritius, South Africa, and Botswana (in that order). Being relatively wealthy facilitates economic openness. Lastly, asymmetries in production due to the size of the state has (at most) a modest impact on liberalization (see Model 1). As expected, larger states were slightly more closed to competition in the new millennium.

6. Conclusion

While the world's economies are substantially more open than they were 30 years ago, there is substantial variation in the scope of this change across both countries and regions. Some regions, like the OECD and Latin America, adopted extensive neoliberal programs designed to open economies to market forces. Other regions, like Asia and Africa, remained substantially more prone to state intervention in the economy. Similarly, in the wake of the collapse of communism aggressive neoliberal reforms were pursued in the Baltics and Poland, while Croatia and Romania remained much more closed. What drove these differences?

Our results suggest that policy diffusion had the greatest impact on policymakers. States were far more likely to adopt aggressive market-oriented economic policies if their neighbors followed a similar course of action, while states located in regions resistant to liberalization largely resisted market policies. The analyses provide much less support for competing theories asserting that economic

crisis or domestic political factors affected the adoption of these policies. Inflation does seem to spur economic liberalization, but growth, government ideology, and government fractionalization have relatively little effect on policy outcomes. That the ideologically-based preferences of government and party fractionalization have little systematic effect on policy outputs may cause concern for democratic theorists, though additional analysis is needed.

Lastly, the financial crisis that gripped the United States in the Fall of 2008, the subsequent global economic downturn, and the financial crises affecting European states like Iceland, Greece, and Spain may portend a rethinking of market-oriented policies. Neoliberal economic policies so strongly backed by a generation of scholars and elected officials are under attack given the Bush administration's advocacy of a government-backed rescue of U.S.-based financial institutions and Alan Greenspan's admission that his economic philosophy was flawed. Moreover, the apparent success of less market-oriented policies pursued by states like China and Brazil may lead to a reevaluation of best practices. Our analysis suggests that any movements away from markets are likely to be clustered by region, though the absence of inflationary crises suggests policy changes may be somewhat muted. Unless these crises spawn a regional or international hegemonic departure from market-oriented economics, shifts away from these policies are likely to be idiosyncratic and limited.

NOTES

1. Moreover, the recent financial crisis of 2008 and subsequent global downturn have led some to wonder whether this tends toward more market-oriented policies is perhaps dead, and that state intervention and regulation in markets will again gain wider acceptance as an economic philosophy.

2. Other factors such as foreign direct investment and easy access to EU markets also had obvious, positive impacts on government policy decisions.

3. They also demonstrate, somewhat surprisingly, that religious similarity plays a substantial role in diffusion patterns, perhaps indicating that the significance of cultural identification has been underestimated.

4. Some authors find veto players have little or no effect on economic policy-making (Biglaiser and Brown 2005; Conaghan 1996; Frye 2002; O'Donnell 1994; Weyland 1999).

5. Polity IV score had to exceed 5 in order to be included in the sample.

6. The only difference between Models 2 and 3 is the exclusion of the government fractionalization variable. Due to missing data, it was left out of Model 3 in order to increase the number of observations available for analysis, and in doing so, increase confidence in the statistical results.

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Data Appendix

Table 1: Sample Countries

Model 1		Model 2	Model 3	
Albania	Madagascar	Bahamas	Argentina	Pakistan
Argentina	Malawi	Belgium	Australia	Philippines
Australia	Mexico	Bolivia	Austria	Poland
Austria	Namibia	Botswana	Bahamas	Portugal
Bahamas	Nepal	Brazil	Belgium	ROK
Bangladesh	Netherlands	Bulgaria	Belize	Romania
Belgium	New Zealand	Canada	Bolivia	S. Africa
Belize	Nicaragua	Colombia	Botswana	Senegal
Bolivia	Norway	Costa Rica	Brazil	Slovenia
Botswana	Panama	Czech Rep.	Bulgaria	Spain
Brazil	Paraguay	Denmark	Canada	Sweden
Bulgaria	Peru	Dom. Rep.	Colombia	Switzerland
Canada	Philippines	FRG/Germany	Costa Rica	Thailand
Chile	Poland	France	Croatia	Trinidad
Colombia	Portugal	Greece	Czech Rep.	Turkey
Costa Rica	ROK	Hungary	Denmark	UK
Croatia	Romania	Iceland	Dom. Rep.	USA
Czech Rep.	S. Africa	India	Ecuador	Uruguay
Denmark	Senegal	Ireland	Estonia	Venezuela
Dom. Rep.	Slovenia	Italy	FRG/Germany	Zambia
Ecuador	Spain	Jamaica	Fiji	

El Salvador	Sri Lanka	Japan	Finland
Estonia	Sweden	Luxembourg	France
FRG/ Germany	Switzerland	Malawi	Greece
Finland	Thailand	Mexico	Hungary
France	Trinidad-Tobago	Nepal	Iceland
Georgia	Turkey	Netherlands	India
Ghana	UK	New Zealand	Ireland
Greece	USA	Norway	Israel
Guatemala	Ukraine	Poland	Italy
Honduras	Uruguay	Portugal	Jamaica
Hungary		ROK	Japan
Iceland		S. Africa	Lithuania
India		Spain	Luxembourg
Ireland		Sweden	Malawi
Israel		Switzerland	Mauritius
Italy		Thailand	Mexico
Jamaica		Trinidad-Tobago	Nepal
Latvia		Turkey	Netherlands
Lithuania		UK	New Zealand
Luxem- bourg		Venezuela	Norway

WHAT IS THE INTERNET OF THINGS? AN ECONOMIC PERSPECTIVE

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ABSTRACT. In this paper, I tried to answer the question “What is the Internet of Things?” I did so by digesting a careful study of hundreds of applications that automatically or semi-automatically integrate real-world objects and places with the Internet. In the first step, I looked at the differences between Internet applications and applications that probably belong in the category of the IOT, mainly to sharpen my own understanding of what the unique features of an IOT would be and where IOT-specific challenges could be found. I identified six characteristics that suggest that integrating the real world with the Internet requires a new set of infrastructure building blocks. In the next part, I tried to group the IOT-applications to derive some common design-schemes. After several unsuccessful attempts, I started to look at the value drivers of each application, i.e., for each application I searched for the IOT-related root-cause of a benefit for businesses and users. I identified seven value drivers. Each investigated application used one or more of these value drivers. All value drivers were related to the reduction of the real world-virtual world transaction costs. Taking that as a starting point, I looked for the main economic energy of the IOT. The result of this endeavor suggests that the IOT will eventually provide management systems with low-cost, high-resolution data about the real world. The IOT therefore has the potential to become an MRI-technology for businesses and society, with all its attached advantages and drawbacks: it might become a tool that advances the entire discipline of how to manage organizations and complex systems. In the last section, I looked at some patterns in how companies make use of the IOT and found some intriguing observations that will hopefully help readers to shorten the learning curve of their organization.

JEL: A12, B30, D24

Keywords: IOT, economic, management, system, business, society

1. Introduction

I was always skeptical about the buzzword *Web 2.0* – at least, it seemed like nothing more than a buzzword to me, until I read the paper from O’Reilly titled *What is Web 2.0?* (O’Reilly, 2005). Until then, I thought of Web 2.0 as a collection of a few fuzzy concepts some people gave a new name, just to plant a new tree in an already crowded Internet garden in order to attract unjustified attention. However, after reading the paper and understanding the concepts of user participation and service orientation more deeply, I became a convert. To me, the term Web 2.0 now provides a natural and important bracket around the design patterns and business models of the next level in Internet technology and usage.

Many people may share the same feelings I once had for Web 2.0 for the term *Internet of Things (IOT)*. Is it just another skin around well-known concepts such as ubiquitous computing, pervasive computing, cyber physical systems, ambient intelligence, or technologies such as sensor networks and RFID? If not, what value does it add? And frankly, what is it really? What are its main building blocks?

In recent years, the usage of the IOT-idiom has grown considerably. It has become a leading theme in conferences, books, academic and professional journals, university courses, research summer schools, research programs of companies, universities, applied research organizations and government-funded research programs, as well as reports on global future developments and industry analysis. However, the relevance of the term IOT is still not comparable to, for instance, Web 2.0 when measured in usage (e.g., in Google searches and hits) or in global spread, which is still somewhat European centered.

With this paper, I first and foremost want to render an account of what I think the IOT is, what its constituting concepts are and which main impacts on society and economy we can see today and expect in the near future. Doing so, I want to provide my research team, students and, perhaps colleagues in academia and industry with a baseline and some directions for ongoing and future research and development endeavors. Thus, this paper is targeted towards students, practitioners and researchers who are interested in understanding and contributing to the ongoing merge of the physical world of things and the Internet.

The conclusions of this work are based on information compiled from three sources: on vast numbers of academic and industrial publications, on numerous interviews and talks with colleagues, and on the personal experience I was lucky enough to gain within the last eight years.

The paper is structured as follows: The first section identifies the differences between Internet applications and applications that would probably belong to a cloudy IOT. It is written to sharpen the understanding of what the unique characteristics of an IOT would be. The next section searches for patterns in the investigated IOT-applications. It does so by identifying the root causes that drive the value of IOT-applications to users and companies. The resulting common theme, the reduction of the real world-virtual world transaction costs, provides the base line for the overall economic energy of the IOT, which is discussed in the subsequent section. The paper closes with a description of some less obvious and therefore juicy patterns of how companies approach the IOT, followed by a brief summary and outlook.

2. What Is the IOT and How Does It Differ from the Internet?

The basic idea of the IOT is that virtually every physical thing in this world can also become a computer that is connected to the Internet (ITU, 2005). To be more accurate, things do not turn into computers, but they can feature tiny computers. When they do so, they are often called smart things, because they can act smarter than things that have not been tagged.

Of course, one could question whether things would really have to feature computers to become smart. For instance, a consumer good could be considered to be already smart, when tagged with a visual code such as a bar code or equipped with a time-temperature-indicator that, say, a mobile phone can use to derive and communicate the product's state of quality, dynamic carbon footprint, effect on diabetics, or origin. Certainly the boundary between smart things, which autonomously can derive and transform to different states and communicate these states seamlessly with their surroundings, and not so smart things, which only have a single status and are not very active in communicating it, is blurring (Meyer et al., 2009). For pragmatic reasons, however, I will focus in this paper on smart things that are smart because they feature tiny low-end computers.

The IOT-idea is not new.¹ However, it only recently became relevant to the practical world, mainly because of the progress made in hardware development in the last decade. The decline of size, cost and energy consumption, hardware dimensions that are closely linked to each other, now allows the manufacturing of extremely small and inexpensive low-end computers (Payne, MacDonald, 2004).

As mass adoption of these tiny networked computers becomes a real option, new questions surface. What, if anything, would discern the IOT from existing computing realities, in particular the Internet? What new values and risks would it generate? And what new infrastructure would it have to rely on? The following paragraphs describe the most important differences between the Internet and the IOT:

1. Invisible versus flashy hardware. First of all, the hardware in the IOT looks considerably different and serves a different purpose. Whereas the nerve ends of the Internet are full-blown computers, from high capacity work stations to mobile phones, that require regular access to the power grid, the nerve ends in the IOT are very small, in many cases even invisible, low-end and low energy consumption computers. They typically feature only a small fraction of the functions of their bigger Internet-siblings, often including sensing, storing and communicating a limited amount of information. In most cases, they cannot interact directly with human beings.

2. Trillions versus billions of network nodes. Today, about five billion devices such as mobile phones (3.3 billion), personal computers (1.2 billion), MP3 players (220k), digital cameras (120k), web cams (100k), PDAs (85k), and data servers (27k)² serve a population of about 6.7 billion people, of whom only 1.5 billion are currently using the Internet.³ These numbers seem huge, but in comparison to the number of things we constantly create on this earth, they are not. One can grasp an idea of the order of magnitude by estimating the number of consumer products that are produced every year. To do so, I divided the revenue of a leading consumer goods company by the estimated average product price, expanded the reported market share to 100%, and multiplied that result by the estimated lifespan. The resulting number (84 billion) only begins to hint at dimensions, as many of these products might never be equipped with minicomputers, and as consumer products only account for a fraction of the things

we create each year. Sanjay Sarma even estimates 555 billion units in an Auto-ID Center-specific selection of supply chains (Sarma, 2001). However these figures may exactly look like, these estimates already suggest that there will be so many computer-enabled things around us that, firstly, people will not be willing and able to directly communicate with them, and secondly, a new network infrastructure, the IOT, might be required.

3. *Last mile bottleneck versus highway.* The last mile in a communications infrastructure refers to the communication link between the nerve endings, or the leaves in a local tree, and its next tier or layer. Driven by user demands, e.g., streaming videos, and technology progress, the speed of the last mile in the Internet has been increasing tremendously over recent years. Today, an average household in many countries can expect to have cable-based Internet access with a bandwidth of at least 1 MBit/s. With the implementation of emerging technologies such as fiber optics to the home, the bandwidth will soon become as high as 50–100 MBit/s. By contrast, the speed of the last mile towards an average low energy consuming radio frequency identification tag is only about 100 kBit/s.

4. *Babylon versus global identification and addressing.* The low end hardware of the IOT is responsible for another difference: the identification and addressing of the nerve endings. In most cases, the Internet-based identification and addressing schemes require too much capacity to become part of low-end smart things. Therefore, academic and industrial communities are searching for alternative technologies and standards (e.g. EPC, ucode, IPv6, 6LoWPAN, Handle System, or Internet0) to number and address the smartening physical world. So far, most identifiers for smart things and technologies bridge the last mile based on local, technology vendor-specific closed-loop schemes. However, if the IOT would like to follow the successful path of the classical Internet, its architecture would have to make sure that any tagged object could in principal be accessed by any computer. For that, a global standard protocol, identification and addressing scheme for bridging the last mile from the Internet to the smart things would be required.

5. *Machine-centric versus user-centric.* The characteristics of the Internet and the IOT define the range of services they support. The vast majority of Internet-based services are targeted towards human beings as users, e.g., the World Wide Web (WWW), email, file

sharing, video, online chat, file transfer, telephony, shopping, or rating. The attributes of the IOT almost completely exclude humans from direct intervention. That is why Marc Weiser called for a paradigm shift towards human-out-of-the-loop-computing when he introduced the vision of ubiquitous computing. In most IOT-applications, the smart things communicate amongst each other and with computers in the Internet in a machine-to-machine way (Mattern, 2004). When users need to be involved, e.g., for decision making, they currently contribute via personal computers and mobile phones.

6. Focus on sensing versus on communication. The economic success story of the Internet started with the WWW, which allowed companies and individuals virtually for the first time to reach out to a global customer base at ridiculously low cost. Looking closely at the WWW's communication abilities (distribution and presentation of content), it seems no big surprise that the first economic success stories were made in the areas of advertising (Google) and shopping (e.g., eBay or Amazon). However, looking backwards has always been far simpler than forecasting.

The second boost of the Internet was largely driven by adding the ability to deal with user-generated content, i.e., data that is not only consumed by users but also provided by users. The success stories of these Web 2.0-based services include Facebook, YouTube, Twitter, and Wikipedia.

The IOT adds another data dimension. It allows the physical world, things and places, to generate data automatically. In fact, in my view, the IOT is all about sensing the physical world. It provides the infrastructure that for the first time enables us to measure the world, just as Gauss did around 200 years ago, but far more powerful. It is a cost-efficient means of growing a very finely granulated nerve system with trillions of new nerve endings. Linked together, they can provide humans with a measurement tool that opens the door to many new findings, applications, benefits, and risks.

Internet of Things, or Web of Things?

After reading through the differences, one can argue that the IOT is not on the same level as the Internet, that it is in fact “only” an application of the Internet, in very much the same way as many

existing Internet-enabled services. Following that path, the term IOT would be an exaggeration, and should be renamed something like Web of Things.

On the other hand, one can easily argue that a Web of Things would require low level building blocks, e.g., for addressing the smart things, bridging the last mile and linking it with the Internet, that are peers with some Internet building blocks. As a consequence, the IOT may rightly be conceptualized as an extension of the Internet to reach out to the physical world of things and places that only can feature low-end computers (Gershenfeld et al., 2004).

In fact, often enough when we use the term IOT, we do not differentiate between the infrastructure and application levels. We use IOT as a bracket-term to refer to one or both at the same time.

On the *infrastructure level*, the IOT can be viewed as an extension to the Internet as we know it today. The IOT expands the technical Internet building blocks such as DNS, TCP, and IP with identification and addressing schemes, last mile communication technology, and an Internet gateway that matches the IOT requirements, foremost among them low energy consumption, low cost, and mobility (Sarma, 2004).

Identification and addressing scheme. In many applications, the identification and addressing of an IOT-leaf via IP numbers or MAC identifiers requires too much computing power to be handled by a minicomputer that can operate autonomously on a sustainable basis. Current developments in the areas of 6LoWPAN (IPv6 over Low Power Wireless Area Networks) (Hui, Culler, 2008), mini IPv6 standard stacks for sensor networks, energy-harvesting, energy-storage, and energy-consumption are likely to change this equation, but for the time being almost all up-and-running IOT-solutions use alternative ways to identify and address their sensors.

Last mile communication technology. Furthermore, the communication technology that bridges the air from a sensor to a regular node in the Internet has to bear up to the typical restrictions of a last mile in the IOT. It has to be wireless, robust, and, most of all, energy efficient. In some cases, the communication protocol must also enable security features, transport energy to run the sensor, or allow measurement of the distance (ranging) and localization. The proposed methods and standards for corresponding communication protocols are as manifold as the IOT application areas.

Gateway to Internet. And last but not least, once the identifier of a tag, along with other sensor information, has been successfully communicated to a node in the Internet – a node that can operate based on Internet technology because, amongst other considerations, it regularly has access to the power grid – it frequently has to be resolved against other resources in the Internet. For instance, in a very simple application, the gateway only has to find the digital proxy of a tagged thing. For this task, the identifier of the tag needs to look for a corresponding IP address, sometimes referred to as the “homepage” of the tagged thing, in much the same way as the Domain Name System (DNS) resolves a domain name into a corresponding IP address. A gateway based on the DNS, called the Object Name System (ONS), was proposed by the Auto-ID Labs.

In more complex and also more realistic scenarios, there will be more than a single “homepage” attached to a thing or place, and they will not really be homepages but web services. In an ideal open IOT-architecture, not only can every sensor be reached by every authorized computer or person, but in addition, every person and organization can set up their own services, link them with identifiers, and offer them to the public. For instance, a tag on a consumer good would not just provide a link to the product homepage provided by the producer (in the world of EPCglobal, which would be a pure ONS-based service). Rather, if brought close enough to an RFID reader, it would generate an additional list of alternative services provided by independent firms or not-for-profit organizations from which the user or the user’s computer system can choose. This list could include services such as product rating, fair trade check, counterfeit check, proof-of-origin, replenishment alert, political shopping (do I, by buying the product, support labor in a foreign country or in my beloved home country?), or self check-out. The alternative services do not necessarily have to be in alignment with the interests of the consumer goods company. In the world of EPCglobal, the Discovery Service would generate the list of services that are available given an EPC.

On the *application level*, it can be observed that IOT-applications never work stand-alone, but always also use Internet-based services. So IOT-applications might simply be regarded as a special set of Internet applications that also leverage the IOT-infrastructure. They recently have been subsumed under the term “Web of Things,” in retail environments “Web of Goods,” or in closed-loop scenarios

even “Intranet of Goods.” In the “Web of Things,” tagged items or spaces serve as additional triggers and actuators to re-invent classical web applications such as product rating, or to enable new services such as pet-tracking. As on the infrastructure layer, they extend classical Internet applications to the real world.

IOT-standards: One Global One-size-fits-all?

Unlike in the Internet, there is currently no single global set of standards for the IOT, and in all likelihood, there never will be. The most important reason is that the IOT leaves the clean, closed, logically consistent and self-sufficient digital world. IOT projects suddenly have to deal with physical properties such as distance (should a tag ideally be readable within a few hundred meters, a few meters, or a few millimeters?) and characteristics of neighborhoods (e.g., materials that absorb or reflect radio waves).⁴ These properties depend on concrete applications, and these applications are almost as manifold as the physical world itself, resulting in a rich variety of technological forms of appearances.

In some industries, however, de facto standards emerge. For instance, mainly due to the mandates of Walmart, Metro, and other large retailers, the EPCglobal standard stack is the de facto standard in the retail and consumer goods industries (Thiesse et al., 2009). And since retailers do not only sell consumer goods, the EPC standard likely expands to other related industries, such as the textile or the pharmaceutical industry. Once a standard drives large quantities, and the EPCglobal standard stack certainly does that, the cost of standard-compliant technology declines dramatically (after all, size matters) and is likely to draw additional industries to join in, which will be further propelled by the availability of open source implementations of the EPC stack (Flörkemeier et al., 2007).

3. When Things Add Value - IOT Value Drivers

Another approach to isolating the essence of the IOT is to look at the value that its applications add for both businesses and consumers.⁵ I learned quickly that trying to structure IOT applications is as impossible as modeling the entire world, because essentially every business process in essentially every industry on this globe is embedded in the physical world. Thus, the IOT is potentially relevant

for every step in every value chain. So I switched to searching for the origins of the value an IOT application would provide to its milieu. To do so, I took a list of about a hundred existing and emerging applications that leverage the IOT concept. It turned out that every investigated application sports one or more of the seven main value drivers identified below. The first four drivers are dedicated to root causes based on machine-to-machine communication, while the latter three show root causes based on the integration of users.

1. Simplified manual proximity trigger. The first driver in the proposed value driver stack is very basic and is part of numerous applications such as self check-out and stock-taking in libraries, access control in buildings and sporting facilities, basic payment procedures, even pet tagging. Its business value stems from the fact that some smart things can communicate their name, i.e., their unique identification number, in a very robust, fast and convenient way when they are manually (and usually consciously) moved into the roaming space of a proximity sensor such as an antenna or a camera that sits and waits for something to pass by. As soon as the smart thing is close enough to the hot spot, a transaction, e.g., a payment procedure, a validity check or the creation of an entry record, is automatically triggered.

Businesses include this value driver in their applications because it makes the life of their employees more convenient (e.g., moving an RFID-loaded access card across a hot spot is far more convenient than entering a six digit personal security number), enables customer self service (i.e., outsourcing of costly tasks such as check out to customers) and as a consequence reduces labor costs. Consumers value this driver for some of the same reasons. It helps them to save time, to gain independence via self-serving, and finally to increase their perceived convenience.

2. Automatic proximity trigger. This value driver adds a single but important feature to the previous one: it triggers a transaction *automatically* when the physical distance of two things, let us say a pair of Levi's jeans and a gate in a department store, drops below a threshold, e.g., when a consumer steps out of a store with a purchase he forgot to pay for. Many business applications in production and the supply chain management sport this value driver, from asset management to inventory management. Whenever a smart thing such as a tagged truck, forklift, pallet, carton, work-in-progress bin, or

consumer product does not remain at a distance from some other smart thing or place that can sense it, a transaction such as an update of a bookkeeping record, the initiation of a replenishment task, or the ring of an alarm bell is triggered. In other words, IOT applications using this value driver leverage the powerful qualities of physical neighborhoods to build new and better business processes. In the pure digital world of classical supply chain management systems, production planning systems, or enterprise resource planning systems, this was, of course, simply impossible (Bullinger, Ten Hompel, 2008), (Vitzthum, Konsynski, 2008).

The implementation of this value driver leads to an increase in speed, accuracy, and convenience that allows companies to reduce their labor costs, process failure costs and costs of fraud.⁶ In addition, it delivers massive new data that can be used to improve processes constantly over the time. Consumers may directly profit from physical self triggers via an additional level of convenience, for instance, when a new BMW car opens its doors on its own as the bearer of the car key approaches. Further, several manufacturers in the automotive, aircraft and computer assembly sector are developing systems to link the informatory with the physical world on the shop floor by means of augmented reality applications (Ong et al., 2008), (Regenbrecht et al., 2005). Proximity triggers are applied to support workers with work instructions, assembly plans and other information they just require to fulfill their current task. Assembly steps can even be documented automatically, which may eliminate almost any manual information processing on the shop floor.

3. Automatic sensor triggering. Value drivers one and two create benefits by manually and automatically sensing and communicating the name of a thing. Value driver three expands the ID by any data a smart thing could collect via any sensor. Examples for sensor data include temperature, acceleration, localization, orientation, vibration, brightness, humidity, noise, smell, vision, chemical composition, and life signals. This driver allows a smart thing to constantly sense its condition and environment for relevant movements and initiate actions based on preprogrammed rules. For instance, it would allow a smart olive tree to constantly check temperature, brightness, and humidity (of soil and air) to adjust the optimal water feed. Automatic sensors enable local (therefore individual) and prompt (therefore event-based) decision making. They rapidly increase the quality of processes, which results in more efficient (better input/output rela-

tion) and more effective (better output) ways of doing things. In the case of the olive farm, so-called Precision Agriculture would translate into better, or at least bigger, olives since the watering over time would be closer to a theoretical optimum (Wark et al., 2007). It would probably also lead to a more environmentally friendly usage of water, since the tight process control would eliminate unnecessary irrigation.

The fields of application are manifold. They reach from condition monitoring throughout the entire supply chain to networked smoke detectors in private homes, from the management of perishable goods to the production of sweet wine, from the monitoring of manmade construction to early-warning systems for forest fires or earthquakes, from smart meters to increase the efficiency of the electric grid to the monitoring of life signals of patients in hospitals and at home. This value driver represents the options that develop when computers, the IOT, can measure the world in detail at reasonable cost. Then, the IOT serves as a network of sensors for far more senses than those of human beings. And it can do so continually, at a ridiculously high resolution, and across the globe.

4. Automatic product security. Another value driver that is part of many applications such as proof-of-origin, anti-counterfeiting, product pedigree, and access control is product-related security. The thing to be secured can bear a minicomputer that is equipped with some security technology such as cryptography. The space or user confronted with such a smart thing can check the validity of it by walking through the implemented method, for example, a challenge-response operation. These methods are well established and well understood. For instance, they are building blocks of every ATM card or car key. However, they require expensive and power-intensive computing resources. In addition, they often demand costly handling of digital keys. That is why this method is limited to applications where high values and risks are at stake.

For inexpensive mass-produced products, another method surfaces: smart things can provide some level of derived security based on the interplay between a smart thing and its digital proxy. Imagine that every smart thing has its own homepage (the digital proxy) that is constantly updated whenever a physical artifact has triggered some action as described above. This homepage, which looks very much like a curriculum vitae or a pedigree, can be used to derive with some level of confidence whether the thing under investigation is the

rightful owner of the homepage or not. For instance, if two products point to the same homepage, one must be a fake (Staaque et al., 2008). In both cases, computers can check the validity of a product automatically, without human intervention. Whereas the first method works with costly high-end security features built into the hardware of the nerve endings of the IOT, the second method approaches the security problem by leveraging the network, i.e., it constantly collects and updates data from the IOT and then, upon request, uses software to calculate the likelihood of a product being counterfeit. The network-based method is fuzzier than the hardware-based one, but it is so inexpensive that it can be applied to every good, and that checks can be carried out on a constant basis. This, in the end, leads to a new level of security. If every truck, shelf, sales rep, and consumer checks every drug (because it is simple), the business of counterfeit producers breaks. With enough eyeballs, all fakes are shallow.⁷

5. Simple and direct user feedback: Although the IOT nerve endings are usually very small, usually even invisible, sometimes smart things feature simple (which translates in this context to small and energy-efficient) mechanisms to give feedback to the humans who interact with them at the point and time of action. Often they give feedback to reassure, for instance, an employee that the manual or automatic proximity trigger actually worked. They do so by producing an audio signal such as a beep (e.g., when a pallet was properly identified by a gate), or a visual signal such as a flashing LED (e.g., when a virtual Kanban-card was sent and received wirelessly). In more entertaining consumer-oriented applications, the feedback may even produce funny sounds (look for Friedemann Mattern's Knight's castle in (Lampe, Hinske, 2007)), haptic effects such as those we know from playing Wii, or even smell. In applications that deal with perishable goods, a simple automatic sensor trigger can show its finding on tiny traffic signal-like displays that tell a consumer whether the product is still worth its not so dynamic price. Advanced car keys can sense *where* their car is and indicate the direction to the driver. In production environments, for instance at the production facilities of Infineon and ST Microelectronics, smart assets even feature a low-energy-consumption display that tells the operator, amongst other useful information, the next destination, a machine tool or a shelf, they are to be brought to. This feature, in combination with identification, localization, and connection to the

production execution system, allows a new level of nearly error-free production of logic chips that is also flexible and cost efficient.

6. *Extensive user feedback*: This value driver extends the output from simple user feedback to rich services. To cope with the limitations of the last mile of the IOT, a user friendly computer, most often a mobile phone, has to serve as a gateway that links the smart thing with its homepage or any other resource in the Internet that is relevant to the user and the thing in context. Applications that leverage this value driver are manifold. One could easily imagine a service that augments product information on physical products, such as a bottle of wine, with additional information, for instance, from the producer, the dealer, the Wine Spectator, the Johnson wine guide, or consumer forums (van der Heijden, 2006), (Keegan et al., 2008). Other consumer product-related service ideas, some already implemented, include on-the-spot price comparisons (should I buy the product here in this retail store, when I can get it for a two-dollar discount three blocks down the road or a four-dollar discount at Amazon?), political shopping advice (which country's labor produced this product?), allergy and health warnings (will this product harm me if I have, say, an hazelnut allergy, or if I suffer from a particular type of diabetes?), or product rating (How did my friends like this wine? Would they be happy to drink it this evening?) (von Reischach et al., 2009).

The augmentation application is also being used to create new tourist services in cities and museums, where artwork and points of interest are tagged to link mobile phones that pass by with audio and video streams that explain the foreign world in the language and at the individual level of detail and expertise selected by the interested connoisseur. It also is helpful for rejoining products such as coffee machines and machine tools that are already in operation with their operation and repair manuals or individual maintenance records.

In all applications, the mobile phone is the primary means for providing the window to thing-specific content and services that run on the web. For this and other reasons (simplicity, mobility, computing power, sensor richness, security level, network infrastructure, adoption rate, etc.), many, including myself, believe that the mobile phone is bound to be the mass computer of the future. The recent investments of high tech companies that had historically been focusing on the personal computer market, e.g., Apple, Google, and

Microsoft, in the mobile phones market may provide additional evidence for this trend.

Businesses profit from this value driver by establishing a new channel to maintain contact with consumers, offer new services, and gain consumer attention (Allmendinger, Lombreglia, 2005). Services such as product rating and price comparison are nothing but packaged advertisement. This explains why Google has to be bold regarding Android, its mobile phone computing platform. Consumers profit from the fact that they can access personalized (the mobile phone likely knows who they are) services in a very simple and fast way (no need to start up the computer, the browser, search for a producer's homepage, drill down to the information they are looking for) right at the place (on the spot, e.g., in a CVS store) and time (now!) they need to act.

7. *Mind-changing feedback.* This value driver is at odds with the drivers explained above and is not based on new technical features of the IOT. Its motivation stems from the concern that the combination of real world and virtual world computing might generate a new level of manipulating people. Most humans still spend most of their lives in a physical world. In light of the how many people spend their leisure time in front of TV sets, gaming consoles, or the Internet trying to kill a monster or find a second life, one could doubt that. However, I believe that the physical world is still by far the greatest location for joie de vivre. Physical experiences such as touching well-designed objects (and humans) or staying in bleak buildings does something to us emotionally. Now, as computing becomes physical, e.g., when computers and the Internet grow a physical nerve endings, some of that power is accessible in IOT applications and will hopefully be used for good.

Examples of such applications include a toothbrush that interacts with a comic figure on the bathroom mirror to motivate children and grownups to seriously take care of their teeth, or smart meter-based applications that show a consumer how much electric power and water he is consuming, how much peers consume, and what he could do about his resource consumption not only to increase the cash in his wallet, but also to satisfy his ecological conscience. Companies, from the utility and insurance industries can use this driver to design new products and services that align their business goals with consumers who want to improve their lives and act more responsibly.

In another insurance application, a consumer gets a discount on his car insurance when he equips his car with a crash recorder that acts like a flight recorder in an airplane. In case of an accident, the crash recorder can help the insurance company reconstruct the exact course of events. This fact generates two benefits on the insurance company's side: First, it helps insurance companies to attract risk-averse customers, who usually generate above-average margins. So far in their self-perception unjustifiably unrecognized race drivers certainly would not sign a contract like that. Secondly, it would help to maintain the risk-averse driving style because incorruptible, honest crash recorder data would not be able to spin their content in either direction.⁸

All these applications leverage effects that are currently being studied by a discipline called behavioral economics, which operates on the premise that humans act in every way but rationally. However, as Dan Ariely shows, they act predictably irrationally (Ariely, 2008).

Table 1: Summary of IOT value drivers

Value driver	Value root	Business value	Consumer value	Example applications
1. Simplified manual proximity trigger	Self-talking ID eases the triggering of a transaction and leads to increase in transaction speed, accuracy & convenience	Increased job satisfaction, enables consumer self-service & reduces labor costs; increases data accuracy	Increase in self-service, speed, and convenience	Self check out in libraries, stock-taking in libraries, Access control in buildings, sporting facilities and such, Pet tagging
2. Automatic proximity trigger	Self-talking ID automatically triggers a transaction when in a roaming area; Leads to additional speed, accuracy & convenience	Reduced fraud-related costs, process failure costs, and labor costs; New high-granularity data for process improvement	Increase in convenience	Asset tracking; Robot stock-taking in libraries Theft prevention in stock-taking; Car keys
3. Automatic sensors	Smart thing monitors its local	Individual and prompt process	Leap in quality of products and	Olive oil production, condition

trigger	surroundings, applies sensor data to process rules and self-triggers actions if required; Enables event-based actions based on local data; increases process quality	control increases process efficiency and effectiveness; Additional level of data granularity for further process improvement	services	monitoring, networked smoke detectors, management of perishable goods, compliance monitoring, smart meters
4. Automatic product security	Built-in cryptography and interplay between physical things and their digital representations enables new level of security of things	Reduction of cost of process failure due to fraud; reduction of process security cost Increase in consumer trust	New trust-related services	Anti-counterfeiting, proof of origin, pedigree, access control
5. Simple direct user feedback	Smart things provide direct feedback to users to increase confidence and local process control	Processes become more accurate, more flexible, and faster	Increase in convenience and entertainment value	Production lot that shows next job, perishable good that tells its quality status, feedback gate, digital enhanced games, direction indicating car keys
6. Extensive user feedback	Real-world object serves as a link to a broad range of services relevant to user and object; User handles services, typically via mobile phone	New customer contact, new advertisement opportunity, additional service revenues	Increases convenience because individualized information is at hand exactly at the point of decision	Deep product information, price comparison, political shopping, allergy test, product rating, audio tagging, city and museum guide, mobile operation and repair manual,

				maintenance record
7. Mind changing feedback	Technology that is targeted to influence the behavior of users, hopefully for the good	Enables new emotional product features and new services; enables active selection of attractive customer segments; helps to align business goals with green goals	Helps to improve life and act responsible in many different ways	Improve health, e.g., via smart toothbrush, avoid risks, e.g., via crash recorders or pay-as-you-drive models, save energy via smart meter apps, save water via water metering

4. The economic energy of the IOT

The value drivers are a result of a fundamental economical principle of the IOT: The IOT, with its technologies to automate the bridging of the last mile between the Internet and the physical world, dissolves the transaction costs that are caused by real world-virtual world media breaks. A real world-virtual world media break occurs when a piece of information is transferred from one carrier medium, e.g., a bar code, to another, e.g., a database that serves a warehouse management system. When things become computers, these media breaks, along with their attached costs, fade away (Figure 1).

Dissolving Real World-virtual World Transaction Costs – The Power of Avoiding Media Breaks

Making media breaks disappear might seem to be a small thing, but it is not. In fact, one could characterize the entire computerization of business and society that has happened in the last 60+ years as a consequence of the ongoing avoidance of media breaks. With every new generation of information systems, a set of media breaks vanished. For example, with the introduction of department-wide information systems, e.g., in accounting, all accounting-relevant data only needed to be entered into an accounting system once, resulting in one media break per digitalization. After that, the accounting system could use the data as often as required without another media break.

Before the introduction of accounting systems, every calculation resulted in several media breaks because an accounting clerk had to transfer information from a piece of paper into his electronic calculator and then the outcome back to another, usually paper-based, medium.

With the introduction of company-wide enterprise resource planning systems (enabled, among other things, by the Ethernet), again millions of company-internal media breaks vanished. With cross-company information systems (enabled by the Internet) such as supply chain management systems, another large set of media breaks faded away. The same held true when content management systems enabled the integration of weakly structured information such as text, presentations, and videos, or when Internet-enabled information systems started to integrate not only business partners but also consumers.

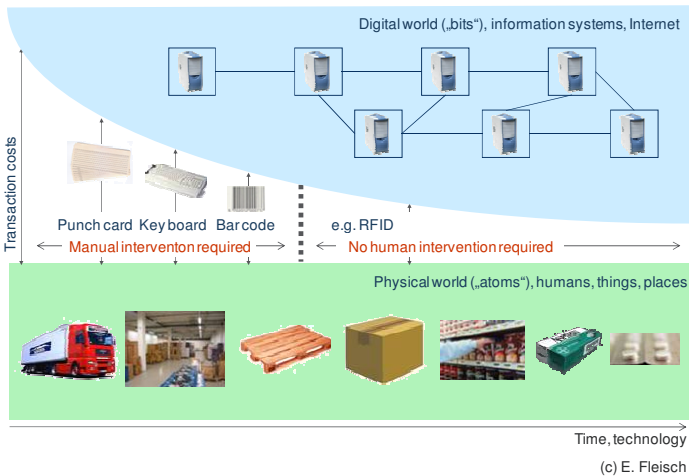


Figure 1: Merging Worlds

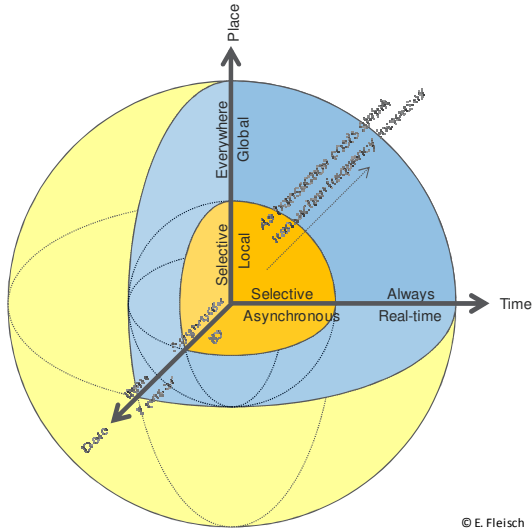
Of course, there is a reason that dissolving media breaks are a constant in the history of business computing: media breaks usually require humans to be resolved. While humans are the reason for living in general, they are not very good at dealing with media breaks, which results in error-prone, slow and costly procedures. Error-prone, because men are not built for replicating simple, boring and tiring tasks, such as keying in data, thousand times a day. So

they are bound to make errors, which may sum up to an average master data accuracy of about 70% (!) (DeHoratius, Raman, 2008). Slow, because our abilities to do parallel processing are very limited. And costly, either because labor is in many countries for some reason taxed more than capital, or because we are biologically overqualified for replicating tasks simple machines could do for us.

Adding the Rebound Effect: High-resolution Data Becomes Economical

The IOT technologies are not the first attempt to reduce the cost of the last mile. In fact, every data entry method, from punch card to keyboard to barcode, has pursued the goal of reducing real world-virtual world transaction costs. However, when things and places also sport minicomputers, the variable transaction costs⁹ converge toward zero. And that produces a rebound effect¹⁰: as the price of a sensing event declines, it becomes more attractive to sense more often (Figure 2).

In different applications, one can study the movement from low-resolution sensing to high-resolution sensing along three axes. First of all, when the transaction costs of real world sensing are high, companies tend to sense only when it is inevitable to do so. For instance, they check their inventory only once a year or when something unusual with high financial consequences happens. However, when sensing is free, they might want to sense all the time. Why? Because it allows processes to react in real-time, and that is often a precondition to achieving optimal process efficiency. Second, with low sensing costs, it becomes economical to check real world status not only within the business's own four walls at a few gates (e.g., asset tracking in a closed-loop bar code-based application), but throughout the entire supply chain via an infrastructure that works everywhere (e.g., asset tracking by leveraging GPS/GSM-technology). And finally, with sensing costs fading, companies start to increase the richness of the data they sense, from simple automatic reading of identification numbers of large things such as containers to any status of a single item or its surroundings that new sensing technology can measure.



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Figure 2: Towards real world high resolution data

“Trusted” Data

Machine sensing not only leads to a new level of data resolution, it also produces “trusted,” or as Pentland calls it in a slightly different context, “honest” data. Trusted data is data that is difficult to influence because it is quietly and continuously collected by machines all the time; employees and users cannot deliberately choose the time and place of sensing events, as these happen silently as business processes are executed, e.g., when a work-in-progress asset on a shop floor is moved to the next machine tool, or when an express mail package is delivered. The price of this silent monitoring is, of course, loss of privacy.¹¹ However, this loss of informational self-determination (which is another definition of privacy) also has a somewhat positive aspect: it generates data that is more trustworthy. For instance, a retailer might trust sensor-collected delivery data of its logistic partner far more than questionnaire-based data that only collects statements from truck drivers whether they have been on time or not. In fact, the power of trusted data may even modify the business relationship between the retailer and its logistic partner

towards sensor data-based quality control, and in consequence, remuneration.

The Magic of Measure and Manage – Generating the MRI for Business Administration?

You can manage only what you can measure. This statement is credited to Peter Drucker, one of the most influential management thinkers to date. It states the fact that measuring the effects of a system is a condition of being able to understand and improve it. It serves as a basic principle in the management of any type of man-made organization. For instance, it is impossible to effectively guide a legion of firemen to fight a forest fire without knowing where the teams and the fire sources are, or to steer an army of sales representatives without methods to measure their achievements.

The truth of Drucker's statement is not limited to the management domain. It also holds true for disciplines such as physics and medicine, and it explains why many Nobel prizes have been awarded to people who invented new breakthrough measuring instruments: with new means of measurement, e.g., the X-ray apparatus of Wilhelm Conrad Röntgen, the magnetic resonance imaging (MRI)-technology of Paul Lauterbur and Peter Mansfield, and the scanning tunneling microscope of Heinrich Rohrer and Gerd Binnig, phenomena could be seen that were invisible before, new connections could be made, new diagnoses derived, new therapies tried out, etc.

These new measuring technologies had one thing in common: they advanced their disciplines. Now the question is whether the IOT, this giant global network of sensors, plays in the same league, whether it truly has the power to advance business administration, economy, especially the behavioral part of it, or any other disciplines that are linked to the management of man-made organizations.

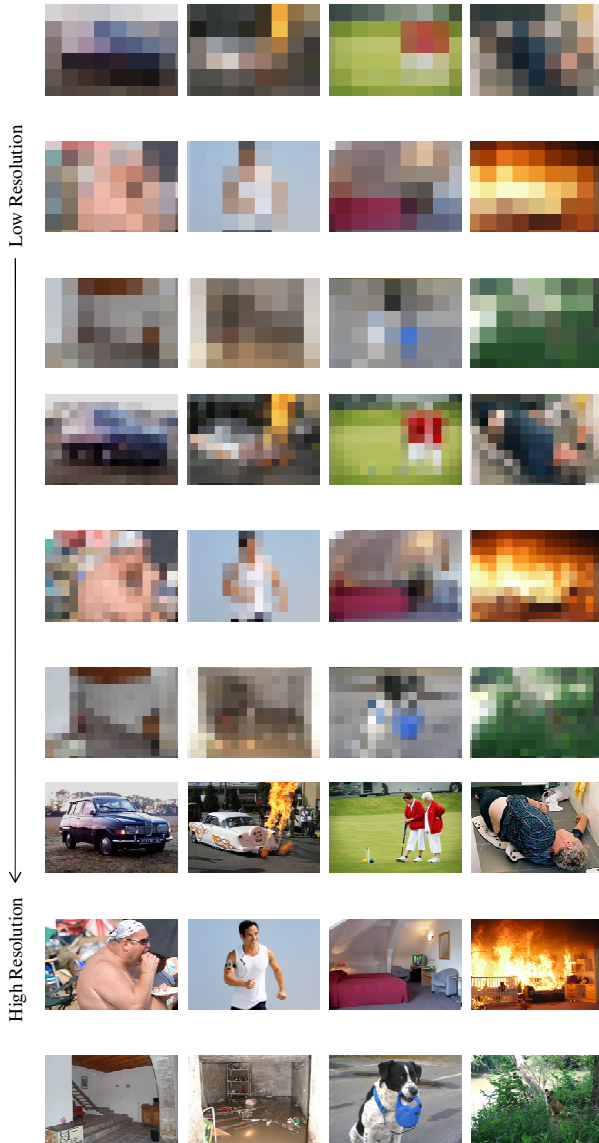


Figure 3: Low resolution versus high resolution management

Things Cannot Not Communicate – Leveraging the Power of the Physical World

Paul Watzlawick once famously stated that humans cannot not communicate. They communicate constantly on a functional (e.g., talking) and/or emotional (e.g., blank glance or knowing smile) level. Now, let us assume that goods also cannot not communicate. On the functional level, the bottle of water on my desk, for instance, communicates via its label its name, origin, exact ingredients, capacity, expiration date, EAN-code, etc. The design of the bottle, including the label, carries emotional values such as “I am from the mountains,” “I am healthy, fresh, and I taste great,” “Touch me, buy me, open me, drink me.” That is what product designers are paid for.

IOT-technology can increase both the functional and the emotional communication capabilities of things and places. For instance, on the functional level, it can generate new information on product quality (was the cool chain broken?), authenticity (is it a fake?), rating (do my friends like it?), and price (is it cheaper next door?). On the design level, a smart bottle could, for instance, show its newest commercial, or change its color with its temperature, when it is opened, or when it is touched. And most importantly, it could do so in a relatively unobtrusive way: the bottle still could sport a lean design because most of the additional functionality is only brought to life at the will of a user, man or machine, via a wand such as a mobile phone.

Smart things enable rich but hidden functionality that can be built to serve all parties in their value chain, including producer, consumer, transportation, customs, repair centers, and financial service providers. As things become smart, they turn into physical anchors for various services. At the same time, they maintain or even increase the emotional attractiveness only physical things can offer.

5. How Companies Make Use of the IOT

This section summarizes some intriguing observations my colleagues and I made when shadowing companies as they started to introduce IOT-technologies. We subsume the findings under the term High Resolution Management (HRM), which stands for a management that consequently leverages the power of sensor data to increase visibility and exploit it for business excellence.¹²

Go for Complex Problems – Nuts Do Not Require a Sledgehammer

The first question every organization that is aware of a new tool has to ask itself is: where would it make sense, if at all, to utilize the power of the tool?¹³ Which criteria must a problem satisfy to be eased by the new tool? In the case of HRM, the answer is: do not go for simple challenges, go for complex ones. You do not use MRI to diagnose a scratch.

A problem is simple when, thinking in terms of a socio-technical system, it only involves a few nodes with a few states, which behave deterministically. An example would be a mass-production facility that runs only a few stable machine tools, linked by a fully automated conveyor belt. In this case, simple rules and management tools are the most cost-efficient means to control the problem.

However, if the number of nodes (and thus edges) in a problem is high, and the nodes behave non-deterministically, the complexity of the entire system explodes.¹⁴ It is easy to find complex problems in every industry. One example is the management of a textile retail chain where every day in every store, a dozen or so sales assistants serve hundreds of customers and move around thousands of articles of clothing. Without a strong organizing power, a retail chain would end in chaos within a few days, simply because it is bound to the same forces of entropy that seem to turn your children's rooms into a mess without anybody even entering them.

The first thing companies try to do is to avoid complexity, e.g., by reducing the number of product variants.¹⁵ Whenever that is not possible, e.g., for competitive reasons when a company wants to offer a rich set of individualized products, services, or experiences, the managing organization has to increase its management capability until the power of the solution matches the power of the problem. One way to increase the management capability is to leverage sensor-based data, because they increase the number of potential states in the management system dramatically. Thus, they help the management system to absorb the complexity of the managed system¹⁶ and, as a consequence, lead to more efficient and effective results.

This explains why the most discussed applications of the IOT deal with complex problems, e.g., the management of large numbers of assets in a supply chain, and are hard to implement. It also explains why it seems not to be wise to use IOT-technologies to solve

simple problems that have already been worked out with simpler means.

Search for Blind Spots

Companies using IOT-technologies often experience an effect that physicians might have learned when they used MRI for the first time: they identify problems they were not looking for but that just became visible because of the newly available high-resolution data. For instance, when a car manufacturer tagged his work-in-progress automobiles to better control the just-in-time deliveries during the assembly process, he was extremely surprised to see that problem-cars, cars that generated more challenges than usual during assembly, were regularly put on a holding track. The assembly teams did so to push off the problem-car to the next shift so they could manage their performance metrics, e.g., how many cars they assemble in a shift. This approach was not only unfair to the subsequent assembly teams, who, by the way, did the same. It also generated a costly and ever-growing mismatch between the order of the highly individual cars on the assembly line and the order of the just-in-time delivered parts such as doors or windows to be mounted. A logistics company was flabbergasted when they learned the trusted numbers and reasons for their far higher than expected rate of delayed deliveries: one of their truck drivers did not like to drive west into the sunset, so he regularly took a lengthy and costly detour north and only turned west (and back south) when it was dark. A consumer goods company was surprised to learn that only 20% of the promotion displays they shipped to one of their retailer's stores were treated as negotiated and planned.

Diagnose and Improve

This blind spot phenomenon is also responsible for some of the difficulties when compiling a business case: it is simply impossible to calculate the return of an investment when the problems that are to be solved are partly unknown. That is why some companies utilize IOT-technology in a first step simply as a diagnostic tool, i.e., to generate a trusted picture of the reality of their practiced routines. They then use the resulting extensive sets of sensor data to improve their processes. For instance, one retail company measured the im-

pact of different types of merchandise presentation on sales and, for example, found out that some trousers sold better when they were presented hanging on racks than when they were lying on shelves (Thiesse et al., 2009). After learning a lesson like that, the retailer only needs to change his routine. He does not need to keep the IOT-system running to gain the benefit.

Automate Low Level Management

In many cases, companies use IOT-technology as a tool for the next step in industrialization: they automate simple manual tasks such as signing in cargo, updating stock keeping records, initiating replenishment processes, detecting failures, and sending notifications. Thus they eliminate very low-level coordination work that was previously executed by humans.

At the core of the matter, IOT-technology drastically reduces the cycle time of an operational management cycle with the three steps “do” (perform a task), “check” (compare the results of the task with the expected values) and “act” (introduce a correction if needed) by automating the “check”-step (e.g., measuring a tire pressure) and often also the “act”-step (e.g., sending a notification). This allows a continuous comparison of actual with expected values and enables, as a consequence, the early detection of deviations, which is key in keeping the impact of an error as small as possible (as the impact of an error often grows exponentially over the time it remains undetected).

Constant sensor-based checks eventually enable information systems to automatically detect relevant real-world events and build the basis for an operational management by exception, in which the installed information systems and routines deal on their own in all foreseen situations. They only call human managers for help when they detect an unknown state of affairs.

Measure, Manage, and Innovate

Of course, companies use IOT-technology for more than just diagnosis and low-level automation. When we define using IOT-technology as a diagnostic tool as business innovation level 0, then purely automating but not changing business processes would be level 1.

The next level, level 2, includes the IOT-enabled modification of business routines, e.g., changing from a clerk-operated check-out process to an RFID-enabled self-check-out in a library. In level 3 business innovations, companies integrate IOT value drivers into their product or service offerings. For instance, a toothbrush company turns some of its products into smart products by equipping the shafts and brushes of its electric produces with tiny computers. These computers align the shaft's movements with the shape of the brush, to measure how often and how persistently each family member (each of whom is using the same expensive shaft but his own plug-in brush) cleans his teeth, to encourage both children and grownups to keep on brushing by interacting with a brushing Mickey Mouse in the smart bathroom mirror, and to prevent customers from using cheaper brushes.

On level 5, in terms of change, the highest level of business innovation, companies use IOT to transform their business model. Once a company has absolute visibility (think of it as a real-time video stream, in contrast to weekly black and white photos) of its most important objects, such as beer kegs in the case of a logistics provider for breweries, cars in case of an insurance company, or drilling machines in case of a machine tool company, it can, for instance, switch from selling its products to renting them to its customers on a pay-per-use basis with a huge impact for both vendor, and customer.

Limitations

Although I studied many IOT-applications, I almost certainly left out entire sets of applications and technologies that could potentially influence the derived results, i.e., the value drivers and the building blocks. Future work with access to additional scenarios will test the robustness of the proposed frameworks.

In this paper, I focused very heavily on the questions of how and where the IOT could add value to users and organizations. I deliberately did not analyze where the real-world MRI would add risks, although the potential negative aspects are obvious. Since Pandora opened the box, we all know that every technology hat two sides. Given the proposed momentousness of the IOT, an in-depth investigation of the consequences that must end in concrete applicable concepts¹⁷ seems to be inevitable.

Outlook

If the comparison with MRI holds true, the IOT will feed legions of academic and industrial researchers and developers with challenging and fascinating questions for many years. Example questions across all layers include: How can organizations efficiently derive insights from massive sensor data to improve their offerings and operations (the key phrase here is “real-world mining”)? How can I protect myself from being scanned all day long? How can society leverage the power of this new insight to change the world for good, e.g., by developing mind-changing applications to help consumers to use scarce resources such as water and electrical power in a responsible way? What if robots join the IOT and things not only become massive sensors but also actuators? How can we build even more energy-efficient and autonomous minicomputers? The race is certainly on.

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NOTES

1. For early mentors of the IOT and similar concepts see (Gershenfeld, 1999), (Ferguson, 2002), (Kindberg et al., 2002), (Schoenberger, Upbin, 2002), (Wright, Steventon, 2004). For an overview of the history of the IOT see (Mattern, Flörkemeier, 2009)

2. Data Source: Wired 7/2008

3. Data Source: <http://www.internetworldstats.com/stats.htm>

4. In classical IT projects “only” two general types of skills have to cooperate to create a working solution: the people who understand the business or user side of an application, and the IT guys. In an IOT-project, at least for the time being, an additional party who can deal with the physical challenges, typically electrical engineering technicians, is needed (Henzinger, Sifakis, 2007).

5. In the European Union it recently became common to replace the term “consumer” with “citizen”, possibly to stress the fact that the concept of man is richer than that of consumer, and that new technology development should address human beings as a whole. In this paper, I deliberately use all such

terms synonymously to convey that I never saw humans as pure shopping mammals.

6. See (Lee, Oezer, 2007) and (Sellitto et al., 2007) for a review of RFID-related value drivers

7. Eric Raymond once said, on the quality of open source software, that “with enough eyeballs, all bugs are shallow.” His statement is often cited when the quality of user-generated content, e.g., in Wikipedia, is discussed.

8. For further information on usage-based insurance models see (Filipova, Welzel, 2005), (Coroama, 2006)

9. Variable transaction costs as opposed to fixed transaction costs refer to the marginal cost of one reading event, not including the one-time cost of hardware, software and such.

10. We probably all know the rebound effect shrinking telephone charges cause: as it becomes cheaper for us to place a call, or surf on the Internet, we check our mail and make long distance calls more often. As a consequence, the monthly phone bill is likely to increase instead of decrease.

11. See (Langheinrich et al., 2005), (Thiesse, 2007) for privacy issues in the context of the IOT

12. See (Fleisch, Müller-Stewens, 2009) for an introduction to High Resolution Management

13. Yes, it is true: in many cases the problem not only triggers the search for a solution, but also the availability of the potential cure.

14. The number of potential system states is a measurement for the complexity of a system in systems theory.

15. Check the number of product variants Toyota and, say, Daimler or BMW offer. And then compare the profitability of both companies.

16. The thinking of this paragraph is based on Ashby’s law that states that “only variety can absorb variety”.

17. Pentland, for instance, suggests in his “new deal on data” to treat data like money (Pentland, 2009).

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MAKING TRANSNATIONAL NETWORKS MORE ACCOUNTABLE

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ABSTRACT. Because transnational networks of financial officials are likely to continue to play a central role in overseeing the coordination of financial regulation internationally, it is important to devote more attention to their accountability. We identify three distinct accountability problems associated with these networks: uneven representation of countries; their overly technocratic character; and the risk of capture by the financial industry. In the process of international financial reform that has been underway since the outbreak of the current global financial crisis, the first problem has been partially addressed, although more could be done. The second and third problems have so far been more neglected on the international reform agenda and we advance some recommendations to address them.

JEL: G34, L14, O16

Keywords: transnational, network, financial, regulation, accountability, crisis

1. Introduction

There is widespread agreement that the current global financial crisis has highlighted a number of problems of accountability. Much attention has been focused on the accountability of various private actors, ranging from mortgage lenders and investment bankers to credit rating agencies and chief executive officers. In our view, more

attention needs to be paid to that of the transnational networks of financial officials which oversee the coordination of financial regulation at the international level. The crisis, after all, was generated not just by market actors but also by a failure of international regulation which was developed in these networks. Moreover, these same networks are now taking the lead role in international initiatives to reform financial regulation.

After briefly describing the importance of networked governance in international financial regulatory politics, we identify three distinct accountability problems associated with these networks: those relating to the uneven representation of countries, those relating to their overly technocratic character, and those relating to the risk of capture by the financial industry. The first section highlights a number of official initiatives that have been launched since the start of the crisis to address the first problem. Although considerable progress has been made in this area, more needs to be done and we advance some specific proposals for reform. The second section notes that policymakers have devoted much less attention to the second and third problems to date. In our view, this is unfortunate and we suggest a number of ways in which this relative neglect could be corrected.

2. Networked International Financial Governance

When policymakers discuss accountability problems relating to international financial institutions, they usually focus on the Washington-based Bretton Woods Institutions. In the regulatory realm, however, the more significant institutions have been less well known, like the Basel Committee on Banking Supervision (BCBS), the International Organization of Securities Commissions (IOSCO), the International Association of Insurance Supervisors (IAIS), the International Accounting Standards Board (IASB), and the Financial Stability Forum (FSF). These institutions are relatively powerless in a formal sense; their official role is simply to facilitate networks of informal cooperation and information-sharing. And yet, financial officials working through these network-based institutions have constructed increasingly elaborate international common standards for national regulators to follow.

The standards established by these various bodies are usually simply “best practice” guidelines, “memoranda of understanding”,

general “frameworks” and “principles” which are not legally binding between regulators, do not require ratification by legislatures, and allow significant flexibility of implementation at the national level. To a number of critics, the crisis has highlighted the weaknesses of this loose “soft-law” approach to international regulatory cooperation. What is needed now, they argue, is more precise and binding international commitments backed up by some kind of a new supranational authority, more along the lines of trade regime.

We believe, however, that the existing network-based, soft-law form of governance is likely to persist in the international financial regulatory realm. The forces of inertia and path dependency are one reason: regulatory cooperation along these lines has evolved since the mid-1970s and has generated an increasingly dense institutional environment. This approach has also been consistently chosen for the functional reason that financial officials see it as more flexible and cost effective, and because it bears some similarity to administrative and regulatory agencies domestically.

Even more important, the strategic place of finance in domestic political economies means that the delegation of financial regulation to supranational authorities is politically sensitive. In this context, the resort to networks is understandable. It provides a way of reconciling the enduring commitment to national sovereignty in the regulatory arena with the need for some kind of international cooperation and accountability. While the enforcement and implementation of financial regulation continues to be done at the national level, transnational networks help to foster cooperation in the development of rules through persuasion, sharing of information and best practices, as well as deeper socialization processes that cultivate trust, mutual accountability, relationships and reputational concerns vis-à-vis norms of the network.¹

If networked governance is here to stay, it is time for reformers to take it more seriously. In particular, the crisis has highlighted the need to explore new ways of making this form of governance more accountable for the quality of international financial regulation that is developed under its auspices. In our view, the current crisis has revealed and/or reinforced three distinct accountability problems: one involving relations between public authorities from different countries and intergovernmental organizations, and the other two involving the relationship between public authorities on the one hand, and business, and citizens on the other. While the first has

attracted considerable attention already, the second and third have so far been more neglected on the international reform agenda.

3. Transnational Networks and State Representation

Let us begin with the issue that has attracted considerable attention already: the uneven representation of countries within the networks themselves. Many policymakers from developing countries have long resented the fact that the membership of many of the standard-setting bodies has been restricted to select groups of industrialized countries. Over the past decade, developing countries were increasingly pressured by markets and the Bretton Woods institutions to adopt financial standards and codes whose content they played little or no role in developing. Not surprisingly, the content of those standards and codes was often deemed inappropriate for local conditions and also designed to favour industrialized country interests.

The resentment of developing countries at being excluded from the decision-making processes only grew with the onset of the current crisis. It was not just that the crisis was triggering the development of an entirely new set of standards which they would be asked to adopt. Equally important was the fact that the global nature of the crisis highlighted the vulnerability of everyone to the poor regulatory practices of industrialized countries at the core of the world economy. Developing countries, it was plain to see, were affected by international standards even when they did not adopt them.

In the current crisis, the frustration of developing countries with these accountability problems has generated some significant new changes. The G-20 leaders' summit in November 2008 urged that by 31 March 2009 the FSF must expand to a broader membership of emerging economies, and that other major standard setting bodies should promptly review their membership. In the subsequent months, there were a number of important reforms. In January 2009, the IASB expanded its members from 14 to 16 and guaranteed geographical diversity on its Board for the first time: four members from Asia/Oceania, four from Europe, four from North America, one from Africa, one from South America, and two others. The next month, the key body reviewing and initiating regulatory initiatives within IOSCO – its Technical Committee – invited securities regulatory authorities from Brazil, India and China to join a body that pre-

vously included only G-7 countries, Australia, Hong Kong, Mexico, the Netherlands, Spain, and Switzerland. In a two step process in March and June, the BCBS also expanded its membership to include all G20 countries, Hong Kong SAR and Singapore (the previous members had all been from developed countries: the G-7 plus Benelux, Spain, Sweden, and Switzerland).

Most dramatic of all was the announcement in April 2009 to replace the FSF with the Financial Stability Board (FSB), to include all G-20 countries (Spain and the European Commission were also included). Previously the FSF country membership had been restricted to the G-7 plus Australia, Hong Kong, Netherlands, Singapore and Switzerland (the body also includes international financial institutions, international regulatory and supervisory groupings, committees of central bank experts, and the European Central Bank). This reform was particularly important because the FSF had played a lead role in coordinating the international regulatory response to the crisis up to that point in time. The decision to include all G-20 countries reinforced a pattern established by the G-20 leaders after the November 2008 summit when they set up four working groups, each chaired by one developed country representative and one developing country representative, to guide their initiatives (two of these groups dealt directly with regulatory issues).

The reforms to expand the membership of these key bodies are important, but they do not fully address the representation problems. The uneven geographical expansion across the different standard setters is striking. So too is the fact that membership has generally been expanded to include only the largest or most systematically significant countries. Because of these patterns of expansion, there are still a large number of countries which are affected by the decisions of these bodies, but which remain outside of their membership. More voice within the networks needs to be given to them to ensure that there is no longer such a stark division between insiders and outsiders, between rule-makers and ruler-takers.

In general, there are two types of solutions to this problem. While both can be pursued simultaneously, we find the second to be the most promising in the short and medium term. The first solution is to expand the membership of each body to be much closer to a universal model. The IAIS, for example, represents regulators and supervisors from over 140 countries. To handle the practical problem involved in decision-making with such a large group, it has estab-

lished an Executive Committee with representatives from different regions (which has included developing country representatives). Similarly, IOSCO's Technical Committee reports to the full membership of the organization which includes representatives from over 100 countries. Like the IAIS, IOSCO has an Executive Committee which draws heavily on a principle of regional representation. These institutions provide possible models for how the BCBS or FSB could operate if they moved to a more inclusive and universal membership model. They could also draw on the example of the constituency system of the IMF Executive Board.

A second alternative is to make these bodies more accountable to other institutions that individually or collectively are more universally representative. This could be a single intergovernmental body such as a reformed IMF or a new Global Economic Coordinating Council of the United Nations that the "Stiglitz Commission" and German Chancellor Angela Merkel have proposed. The Larosière report on financial supervision in the European Union recommended the former, suggesting that the FSF report to the IMF's International Monetary and Financial Committee (particularly if that committee were transformed into a formal decision-making Council at the ministerial/governor level allowed for under the Articles of Agreement). At their London summit, the G-20 leaders moved in this direction, recommending that the FSB report to both the IMFC and G-20 on issues relating to "build up of macroeconomic and financial risks and actions needed to address them".

It is also worth considering the creation of lines of accountability to other bodies representing different constituencies, whether these are organized regionally, by level of development, or by policy preference. These constituencies could be informal parts of the network itself or more formal organizations. For instance, the BCBS has well-established relationships with regional groupings of bank regulators around the world and has also involved groups of non-members in specific projects. So far many of these relationships have been vehicles for incorporating emerging market regulators into initiatives controlled by the Basel Committee with its exclusive membership, but they could be converted into relationships that make the Basel Committee more accountable to non-members.

The character of the accountability relationship could vary from a simple obligation to solicit comments and provide responses to them, to a requirement to obtain approval. The same could be true of the

new FSB (which has already committed to “step up its regional outreach activities to broaden the circle of countries engaged in work to promote international financial stability”). Since the growing significance of developing country officials in global financial markets stems not just from the size of home markets but also from the role of their governments as major investors, perhaps the new International Working Group of Sovereign Wealth Funds could also be involved in consultations in some way. These proposals carry the well-recognized risk associated with multiple lines of accountability, namely the ability of transnational regulators to exploit the lack of unity among constituencies to enhance their autonomy. In our view, however, this drawback is outweighed by the greater advantages of the checks and balances that this introduces, and by the way that it can foster more autonomous capacity among the constituencies.

Even if the transnational networks are made more accountable to developing countries in these various ways, their capacity to influence the debates may still be constrained by the informal nature of networked forms of governance. In some ways, this informal quality is part of the appeal of a body such as the FSB to developing countries vis-à-vis the more formal and rigid decision-making structure of the IMF that has cemented the dominance of current great powers. Indeed, the flexibility of the FSB to become more inclusive of emerging powers simply by expanding its membership stands in contrast to the interminable debates about chairs and shares that have afflicted the IMF. However, powerful states can also manipulate informal settings where there are no clear rules or procedures to protect the weak. Without the same technical capacity, developing country representatives may lose out in an informal setting where expertise can become a form of influence.

These risks could be partially reduced by creating stronger secretariats of existing bodies, particularly that of the FSB whose existing staff is very small given the roles it is now increasingly being assigned. Even more helpful would be to boost support staffs of multiple bodies that are more exclusively controlled by developing countries, such as the G-24, in order to ensure that those countries can develop autonomous and effective voices in the bodies in which they participate. Some developing countries already have sufficient resources that by pooling their efforts they can significantly strengthen their influence. It should also be in the interests of wealthier countries to support the technical capacity of developing

countries in order to make negotiations over technical matters more efficient. Competition among centers of standards development dominated by wealthier countries may also provide incentives for those countries to solicit support from groups of developing countries, since the standards with the widest support are likely to win out.

The benefit of pursuing the various reforms discussed in this section is not just that the transnational networks would become more widely accountable to all the world's states rather than a wealthy few. Equally important, this outcome would help to make all the world's states more accountable to global standards, since the standards would have been formulated with broader representation. To be sure, many have questioned whether networked arrangements can be as effective in ensuring the accountability of states to global standards as more formal centralized organizations. But there are many cases of powerful states abandoning the latter and, moreover, this kind of accountability is reinforced not by the capacity of the organization itself but rather by the degree to which the organization can count on the support of other members to sanction defectors. In our view, this is just as likely to be forthcoming in networked arrangements. Indeed, if the governance of transnational networks can be reformed more easily and more quickly in response to changing distribution of power in the world, it may prove more effective in generating this kind of support.

4. Transnational Networks and Society

Accountability problems highlighted by the crisis include the relationships not just among public authorities from different countries but also between officials in transnational networks and their constituencies outside the official sector. There are two interrelated aspects of this. The first is the concern that the networks increasingly resemble a kind of transnational technocracy that is non-transparent and unresponsive to the broader public interest. The second is that transnational networks of officials are especially susceptible to "capture" by the financial firms they are supposed to be regulating.

Many transnational officials have valued the insulation that allows them to devise optimal technical solutions free from the ill-informed compromises and opportunism that they see as associated with politics. The crisis, however, has starkly revealed deficiencies in technical solutions, such as the procyclicality of Basel II or mark-

to-market accounting. The opacity of the highly technical public and private risk management systems that were developed has now become an issue. So has the narrowness of the experts' focus (for instance a massively complicated agreement for regulating banking combined with massive neglect of the shadow banking system) and an over-reliance on mathematical modelling as opposed to more institutional mechanisms for identifying or mitigating risk (such as audits or discussions between regulators and risk managers in firms). The transnational networks also focused too heavily on risks specific to the financial industry and not enough on the connection of these to broader economic and social risks such as a decline in house prices. These are all problems to which the inadequate accountability and excessively technocratic character of transnational networks of experts can be linked.

These problems of technocracy have been greatly exacerbated by their association with the second problem: capture of the regulatory process by the industry it is supposed to regulate. The loose, elite, and highly technical character of regulatory networks provide privileged access points for business. For instance, the Institute of International Finance, the leading global association of financial firms, worked very closely with the Basel Committee on Banking Supervision, successfully suggesting and promoting the use of the internal risk models that have proven to be inadequate in the current crisis, as well as consulting closely on other aspects of Basel II. Nongovernmental interlocutors other than representatives of the financial industry were almost entirely absent from the consultative process. Those involved may claim that this privileged access brings into the regulatory process the firms with the technical and practical knowledge that is needed to anticipate problems. But it is hard to see how this privileged access did not contribute to rules that failed to rein in the profitable but reckless behaviour of the industry.

This problem of capture at the transnational level is amplified by the propensity for a similar problem between regulators and the industry at the domestic level. While this problem has been the subject of considerable study in developing countries, the current crisis has triggered widespread criticism of the same issue on Wall Street itself. There are many who perceive that the circular door between Goldman Sachs and other leading firms and government has led to ineffective regulation and privileged treatment for financial firms. As Simon Johnson, former chief economist at the IMF, put it:

“the finance industry has effectively captured our government – a state of affairs that more typically describes emerging markets, and is at the center of many emerging market crises”.²

In official responses to the current crisis, the problems of technocracy and capture at the transnational level have not received as much attention as the accountability questions addressed in the previous section. One place where they have been clearly identified, however, has been in connection with accounting. With some prompting from the G-20's November 2008 summit, the private IASB agreed to establish a new transnational public-sector monitoring board that will appoint the trustees who oversee its operations. At the subsequent London summit, the G-20 also called for prudential regulators to be more involved in its activities.

As for the official regulatory networks, multilateral political oversight of the technocrats has been strengthened and broadened beginning in the 1990s with the more aggressive involvement of the G-7 (for instance through ongoing monitoring and guidance by leaders at the summits and direct involvement of finance ministers in the FSF), and then with an escalating role for the G-20, at the financial and central bank level from 1999 and at the leader's level from 2008. The failures of the transnational regulatory networks in the current crisis, however, indicate the inadequacy of this type of oversight alone to address the problems of technocracy and capture. To be sure, the crisis has drastically intensified democratic scrutiny of the regulators' work – witness the degree of legislative and media scrutiny of international regulatory initiatives at the moment. But this is unlikely to work by itself as an ongoing mechanism of accountability once the crisis wanes. Similarly, some of the G-20 initiatives – such as extending regulation to all systemically significant parts of the industry or restricting the use of offshore centers to escape regulation – will reduce the ability of the industry to pressure regulators by engaging in regulatory arbitrage. But greater reform of the regulatory process is needed to ensure that these new rules are implemented and updated effectively as time goes on.

How then can the design of the system be altered so that the twin problems of technocracy and capture can be managed in a more sustainable way? Four overlapping sets of initiatives would help. First, countervailing public sector arrangements could be constructed. One such arrangement might involve a peer review process of the operations of the network along the lines of the DAC Network

on Development Evaluation, which initiated peer review of international organizations such as UNDP and UNICEF. In the case of the financial regulatory networks, we are encouraged that the G-20 at the London summit noted that all members of the new FSB have agreed to periodic peer review. In our view, it would be useful if the peers could include not just participants in the networks but also at least one reviewer from outside the financial policy area. The OECD, which invented transnational peer review, could provide advice, working together with an organization with more developing country representation.

Another countervailing public sector arrangement could be to encourage networks of legislators to collaborate more closely in monitoring the work of the regulatory networks, as the Parliamentary Network on the World Bank is attempting to do with regard to development. Similarly, linkages between the non-financial ministries of the G-20 should be established, as has occurred within the G-7 and these ministries should be consulted on the broader implications of financial regulatory initiatives. It might also be useful to create a small multilateral body with the sole responsibility of identifying problems in transnational regulatory networks, similar to the role of an auditor-general in national politics, or the Independent Evaluation Office that was established to make the IMF more accountable. Finally, responsibility for particular projects could also be explicitly allocated to competing public organizations. For instance, in many cases, there are overlapping capacities between the regulatory networks, the BIS, the IMF, and collaborative networks established by the OECD and the World Bank. At present, they ostensibly are only committed to cooperate with one another, but in practice they can tacitly compete for mandates, and this could be explicitly encouraged.

A second set of initiatives would pay careful attention to the way that markets can be designed to mitigate the problems of technocracy and capture. One option is to foster market actors that have a strong material interest in systemic stability and stronger regulation. These actors would then lobby against financial actors that profit from excessive risk taking or regulatory arbitrage and lax regulators that assist them. The insurance industry plays this countervailing role relative to the auto industry in vehicle safety regulation. If rules can be established to alter incentives in the insurance industry to convert its role from the disastrous one epitomized by AIG to the type of role

it plays in vehicle safety, then it could be an effective countervailing force in finance as well.

The networks could also be subjected to a private-sector audit that certifies compliance with a set of process standards, perhaps managed by the International Organization for Standardization (ISO). Institutionalizing rewards for whistle-blowing, or what Braithwaite labelled regulatory “bounty-hunting” are also worth considering.³ So too are proposals to create a class of banks that are strictly precluded from risky or lightly regulated activities and that will therefore have an incentive to lobby against attempts of competitors to engage in regulatory arbitrage. In addition, the size of banks could be restricted to mitigate the risk of capture. More generally, when designing market rules, authorities should consider not just the effect on stability in the market itself, but the ways this can mitigate problems of technocracy and capture in the regulatory system. For instance, the clearing arrangements that the G-20 is requiring for credit default swaps should be set up so that the bodies running them have an incentive not just to manage their own transactions prudently, but to identify and protest against regulatory initiatives that would create opportunities to undermine or bypass clearing arrangements. For this to be successful, some separation must be maintained between the ownership of the clearing arrangement and the firms that have an incentive to bypass or undermine it.

A third set of initiatives involves the imposition of restrictions on the types of rules that can be developed or endorsed by the transnational regulatory networks, or that govern their own activity. This can include deliberately keeping the system simple and only allowing activities that can be regulated in ways that can be understood by actors other than the financial firms that engage in the activities. The importance of such rules is recognized by the G-20’s call for risk-based capital requirements to be supplemented with “a simple, transparent, non-risk based measure which is internationally comparable” as well as by those calling for credit derivatives to be traded on exchanges. Since there are strong indications that efforts will be made to revive structured finance and securitized markets,⁴ the issue of simple transparent rules will need to continue to be developed and promoted.

Another example of the use of rules has arisen in the procyclicality debates where many people have argued that countercyclical bank regulation (e.g. dynamic provisioning, or varying capi-

tal charges) should not be left to the discretion of national regulators because they will inevitably be subject to private lobbying pressure in boom times not to tighten. Clear, simple, non-discretionary and transparent rules (e.g. GDP-linked, or linked to asset price growth) are offered as a solution. Internationally agreed conflict of interest rules for regulators could also be established, such as mandatory public disclosure on the websites of regulatory bodies of all past and present industry ties of individuals on those bodies, and rules specifying a minimum number of years before regulators can shift to private-sector lobbying and vice versa.

The fourth and final set of initiatives involves mechanisms to enhance the development of a “global public interest” and a “global public sphere.” A problem with networks of regulators has been their failure to take the implications of their work for non-financial actors and interests sufficiently into account. Accountability to their home governments does not solve this problem because they tend to report back to parts of the government with responsibility for finance, and national mechanisms for reconciling these financial interests with broader public interest may be weak. A number of the standard-setting organizations have adopted notice-and-comment procedures in recent years, which has helped to provide new “access points” for citizens to provide direct input into their activities.⁵ We are also encouraged by the FSF’s April 2009 statement that the new FSB will “engage in stronger public relations outreach to raise the visibility of its work and role in the international financial system.” But to offset the risk of capture by private sector groups of the transnational networks, more needs to be done to provide what Walter Mattli and Ngaire Woods call “participatory mechanisms that are fair, transparent, accessible and open”. As they have effectively argued, regulatory institutions that provide these mechanisms “are more likely to produce common interest regulation.”⁶

Specific initiatives to address this problem could include the construction of a wider set of global public policy networks with NGO involvement and UN leadership, such as those advocated by Kofi Annan. The OECD and the World Bank – the two intergovernmental organizations that most explicitly have a mandate that integrates economic and social policy – could also be mandated to work with NGOs to consider on an ongoing basis the broader social implications of the level of risk permitted by transnational financial regulatory standards. Along the same lines, competing nongovern-

mental shadow regulatory committees could be encouraged and publicly financed. With public financing should come a requirement for diverse perspectives on such committees. Some of the other initiatives discussed above, such as audits of regulatory bodies, could involve experts from the NGO sector and provide NGOs incentives to upgrade their technical capacity in financial regulation.

5. Prospects for Change

Because transnational networks are likely to continue to play a central role in international financial regulation, it is important to devote more attention to their accountability. As Anne-Marie Slaughter (now director of policy planning at the US State Department) put it more generally, “government networks are a key part of world order in the twenty-first century. But they are under-appreciated, under-supported, and under-used to address the central problems of global governance”.⁷ One aspect of their accountability has to do with the lack of adequate representation of many states, particularly developing countries, in the transnational regulatory networks. Some significant progress has been made in this area since the start of the crisis, but much more could be done. In the short-to-medium term, we have suggested the most promising reforms are likely to be those that make the transnational regulatory networks more accountable to a variety of other formal or informal bodies which individually or collectively would be more representative. We have also recommended a strengthening of the autonomous technical capacity of developing countries to put forward their interests and participate within this “checks and balances” system.

Two other overlapping accountability problems have received less attention in the international reform initiatives to date: the problem of exclusivity vis-à-vis societal actors created by heavily technical character of the networks, and the problem of capture when the regulators are excessively influenced by the industry they are supposed to be regulating. We have proposed four sets of initiatives that could help address these problems: the construction of countervailing public sector arrangements; the design of markets to mitigate the problems; restrictions on the types of rules that can be developed or endorsed by the transnational regulatory networks, or that govern their own activity; and enhancements of the development of a “global public interest” and a “global public sphere,” for instance through

greater involvement of NGOs and non-financial officials. These four sets of initiatives are complementary with one another as well as with the mechanisms we identify to improve representation and accountability among public authorities.

What are the prospects for the implementation of the proposals for greater accountability that we have discussed? Certainly the severity of the crisis means the range of policy and regulatory options that are being seriously considered is far wider than would have been thought possible a short while ago. It is also certain that this policy window will begin closing once the crisis ebbs. In our view, greater accountability is not simply one of many goals to be hitched to the financial reform wagon. On the contrary, accountability problems were at the heart of the crisis and addressing them is crucial for ending the crisis and repairing global finance. In a great many areas of the economy and the political system, the types of accountability that we have advocated for transnational regulatory networks would be unremarkable. At the retail level, for instance, most banks would not question the need for strict conflict of interest policies. It is a measure of how very unaccountable global financial governance had become that measures such as these have only begun to make their way onto the reform agenda. If trust in the global financial system is to be restored, the transnational regulatory networks need to be able to raise standards of accountability in markets, but they too must be seen to be accountable.

The proposals that we have discussed pick up on mechanisms that are already present to varying degrees in global governance. They work with and not against the grain of the practices and rules that have been devised in this and other transnational issue areas to address extraordinarily complex, rapidly changing, and varied sets of global problems. They seek to make better use of existing institutions, markets, and relationships while proposing incremental changes that taken together will bring about very significant improvements in the regulatory arrangements. While these proposals' feasibility is important, working with the existing networked properties of global governance is not simply a second best alternative that less powerful states and citizens must reluctantly accept because of their lack of influence. It is instead the best way right now to work towards a system in which relatively small numbers of unaccountable elites will never again be able to bring down the world economy.

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COULD BEHAVIORAL ECONOMICS HELP IMPROVE DIET QUALITY FOR NUTRITION ASSISTANCE PROGRAM PARTICIPANTS?

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ABSTRACT. Findings from behavioral and psychological studies indicate that people regularly and predictably behave in ways that contradict some standard assumptions of economic analysis. Recognizing that consumption choices are determined by factors other than prices, income, and information illuminates a broad array of strategies to influence consumers' food choices. These strategies expand the list of possible ideas for improving the diet the diet quality and health of participants in the Food Stamp Program, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and the National School Lunch and School Breakfast Programs to examine ways to improve the diet quality and health outcomes of their participants.

JEL: D03, L15, I11

Keywords: behavioral, economics, quality, nutrition, diet, health

Summary

As obesity has come to the forefront of public health concerns, there is growing interest in finding ways to guide consumers' food choices

to be more beneficial for their long-term health. About one in five Americans participates in at least one nutrition assistance program sponsored by the U.S. Department of Agriculture. This study uses behavioral economics, food marketing, and psychology to identify possible options for improving the diets and health of participants in the Food Stamp Program, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), and the National School Lunch and School Breakfast Programs.

What Is the Issue?

USDA and other public-health agencies historically have provided recommendations on how to make food choices that promote health and prevent disease. Food manufacturers and marketers, on the other hand, have discovered that certain psychological cues, such as packaging and presentation, are efficient ways to increase consumption of their products. Could similar marketing approaches be used in public-health efforts to improve diet quality and reduce body weight among U.S. food assistance program participants? Insights from behavioral economics shed light on several factors which could help economists and policymakers better understand food choices. In 2005, over half of all nutrition assistance program participants were children. Many notions about what is good or acceptable to eat are determined in childhood. Finding ways to improve diet quality among nutrition assistance program participants is particularly important because the programs have the potential to guide food choices at a critical time, when a child's dietary preferences are being defined.

What Did the Study Find?

This study incorporates findings from behavioral economics, food marketing, and psychology to propose new methods of improving individuals' diets and health. Recognizing that consumption choices are determined by factors other than prices, income, and information broadens the array of strategies to that could influence consumer's food choices. This exploration of new ideas, however, is by no means a recommendation or endorsement of any of them. A thorough analysis of costs, benefits, and potential impacts would be needed before any strategy could be considered as a policy option.

People have problems of self-control when choosing food. either because they prefer immediate gratification or because they are under the influence of a visceral factor, such as hunger. Allowing them to preselect more healthful choices may be effective. For example, letting students preselect menu options in the National School Lunch or School Breakfast Programs, or giving food stamp participants the option to preorder groceries by telephone or online, may improve the healthfulness of their food choices.

People place more weight on “default options.” Another idiosyncrasy of consumer choice frequently observed in experimental studies is that individuals exhibit an asymmetry in how they value gains relative to losses. This asymmetry gives rise to anomalous behavior, where individuals are willing to pay much less to acquire an item than they are willing to accept to part with it. It also makes them much more likely to choose the default options, even when the costs of switching to an alternative are low or even zero. Making the default menu option of school meals more healthful, such as a fruit salad instead of French fries, or presenting students with a smaller array of unhealthful foods, may increase the likelihood that they will choose more healthful foods.

People categorize income into mental accounts. “Mental accounting” helps explain why coupons that can be used only for food purchases have been shown to be more effective at raising food spending among food stamp participants than an equal benefit amount of cash. If funds are earmarked for a specific purpose, recipients spend within a certain category until funds are entirely depleted. Specifying amounts of food stamp allotments that go toward the purchase of healthful foods, such as fruits, dark green vegetables, and whole grains, may be another option for improving diet quality of program participants.

People undervalue fixed costs relative to variable costs. When only certain items can be selected using prepayment (fixed costs), those items will be chosen more often than those that can be purchased only with cash (variable costs). In the school meals programs, for instance, students, in conjunction with parents or guardians, could specify that only more healthful items be purchased with prepaid cards. Or they could specify what portion of the total school lunch

bill should be spent on fruits, vegetables, desserts, and carbonated beverages.

Food decisions are often based more on emotion than rational thought. Impulsive behavior, such as choosing unhealthy foods over healthier foods, may result from how the food is presented, the presence of stress, or other demands on an individual's "processing" ability. When processing resources are low, it is more likely that an individual will make consumption choices based solely on immediate considerations. Drawing attention to more healthful foods – by making them more accessible or displaying them more prominently in school cafeterias – might mitigate the effects of a distracting environment and increase the likelihood that students choose more healthful menu options.

External cues can have a major effect on the food selected, the amount consumed, and the eater's perception of how much was consumed. Noise levels, lighting, and distractions, as well as the size and shape of foods and food containers affect how much people eat. Adjusting these factors can have a major impact on how much is eaten for a meal or snack. Reducing the number of students seated at each table or making school cafeterias more brightly lit are possible options that might help students better monitor their actual consumption.

How Was the Study Conducted?

This study incorporates findings from behavioral economics, food marketing and psychology to evaluate various methods of improving individuals' diets and health. Within the context of nutrition assistance programs, such as food stamps, WIC, and the USDA school meals programs, these findings broaden the array of policy options than can be used to improve the diet quality of program participants.

1. Introduction

USDA and other public health agencies have a long history of disseminating information about why and how to make food choices that promote health and prevent disease. Since 1980, recommendations on attaining adequate nutrition also include information about

the benefits of maintaining a healthy body weight and limiting consumption of nutrients linked to chronic diseases. On the other side of the table, food manufacturers and marketers have discovered that certain psychological cues, such as packaging and presentation, are efficient ways to increase consumption of their products. These approaches have not been widely used in public health efforts aimed at improving diet quality and reducing body weight.

There are several behavioral and cognitive biases affecting food consumption decisions. The food psychology literature has found that external cues can drastically alter not only consumption volume, but also individual perceptions of how much they should and actually do eat. Wansink (1996) finds that larger packages lead to greater consumption and Diliberti et al. (2004) find that by increasing restaurant portion sizes from 248 grams to 377 grams of pasta, individuals increase caloric intake by an average of 43 percent. Also, more standard elements that are thought to be the main drivers of food choices, such as price, will sometimes prove to have little influence over consumption volume. For example, individuals appear to consume much larger quantities of food when it is stockpiled regardless of the initial cost (Wansink and Deshpande, 1994).

As obesity has come to the forefront of public-health concerns, there is great interest in finding ways to guide consumers' food choices to be more beneficial for their long-term health. However, taxes on food would disproportionately burden low income individuals who spend a greater share of their income on food than wealthier consumers. Also, such measures would impose an additional cost for everyone, not just consumers who need incentives to better balance long-term preferences with current food choices. Thus, a major challenge is to find incentives that can improve the food choices among individuals who behave contrary to their own long-term health without limiting the choices of individuals who make optimal choices.

A benefit of incorporating findings from food psychology and behavioral economics into this discussion is that it broadens the policy options. Food psychology research shows that subtle incentives, such as product placement, package size, and fixed-cost pricing (e.g., "all you can eat" buffets) used to increase consumption should be just as effective at reducing consumption. Moreover, review of the literature suggests that these tools may be at least as powerful as the more traditional economics tools used to guide

consumer's decisions, such as taxes and credits. And, unlike taxes or credits, behavioral cues can provide benefits to society without imposing a cost to those who currently behave optimally for their own long-term benefit. Nor will they necessarily impose additional costs to those who are food insecure or living at the margins. However, a thorough analysis of costs, benefits, and potential impacts – a task outside the scope of this discussion – would be needed before any strategy proposed in this report could be considered as a policy option.

Standard economic analysis relies primarily on large-scale survey data. By contrast, the field of behavioral economics typically tests hypotheses through the use of experiments that isolate behaviors – for example, the effect of larger portion sizes on a person's food consumption. Typically the behavior of a group receiving the treatment of interest is compared with the behavior of a control group not receiving the treatment. In this case, consumption volume would be compared between those who were given the larger portions and those who were not. By randomly assigning individuals to either control or treatment groups, researchers can account for many confounding factors, such as selection biases. In this example, a selection bias may arise if hungry individuals choose both to give themselves larger portions and eat more as well. Without randomly assigning portion sizes, researchers would overestimate the effect of portion size on consumption. These methods can reveal more nuanced information than standard techniques while also reducing the potential for confounding effects to mislead researchers.

This study's objective is to incorporate the findings from behavioral economics, food marketing, and psychology into a framework that can be used to propose new methods of improving individuals' diets and health. Beyond nutrition guidance and food labeling, few policies influence the food choices of the general population. However, there are mechanisms that directly influence the diets of those Americans who receive nutrition assistance. USDA's domestic nutrition assistance programs affect the daily lives of millions of people. About one in five Americans participates in at least one nutrition assistance program at some point during the year. Many of these programs include nutrition education components and are designed to support healthy food choices. However, these individuals are more at risk than others from changes in the economy or other social conditions, including increased risk of diet-related illness (Fox and

Cole, 2004). Finding additional ways to improve the healthfulness of food choices among this population without imposing additional costs or restricting their right to choose the foods they like as part of their food-assistance program participation could have broad societal benefits.

In 2005, more than half of the people who participated in either the Food Stamp Program or the Special Supplemental Nutrition Program for Women, Infants, and Children were children (Barrett, 2006; Oliveira, 2006). On average, over 29 million children participated in the National School Lunch Program each day (Oliveira, 2006). Many of the notions about what is good or acceptable to eat are determined in the first few years of life (Smith, 2004), and people form their diets based on what foods are more familiar (Smith, 2004; Smith and Tasnadi, forthcoming). Thus, finding ways to improve diet quality among those participating in nutrition assistance programs is also important because these programs have the potential to guide food choices at a critical time – when a child’s dietary preferences are being defined.

This study focuses on four of the largest nutrition assistance programs: the Food Stamp Program, the Special Supplemental Nutrition Program for Women, Infants, and Children, and the National School Lunch and Breakfast Programs, referred to collectively as USDA school meals programs (see the ERS *Food Assistance Landscape* series for details of each program; the most recent *Landscape* is available at <http://www.ers.usda.gov/publications/eib6-4>). The potential for impact on food choices within the food stamp, WIC, and USDA school meals programs differs significantly depending on the nutrition assistance delivery mechanism. WIC and the FSP provide assistance for individuals to purchase food to be prepared and eaten within the home. The school meals programs offer prepared meals to be eaten within a school-controlled cafeteria. WIC provides for a very narrow set of products, while the FSP performs much like a direct money transfer, barring only nonfood items and prepared foods that are not intended for home consumption.

While the potential to exploit certain idiosyncratic behaviors to encourage healthier diets exists in all of these programs, the potential instruments differ substantially. Which interventions are viable will depend largely on whether a program distributes benefits by providing purchasing power or preparing meals. Bestowing benefits through prepared meals offers a great degree of control over both

how the food is presented and the environment where the food is chosen. Manipulation of food to be prepared and eaten at home may be much more invasive or costly and may therefore require exploiting a very different set of behaviors.

2. Prices, Income, and Information Are Standard Policy Levers That Influence Food Choice

The standard economic framework for evaluating consumer behavior treats food as a good that provides both short- and long-term benefits. While some aspects of food, such as flavor, texture, and relief from hunger provide immediate gratification, the effect of other aspects, such as nutrient content, calories and the presence of certain bacteria, are not usually realized until some point in the future. In line with the saying, “a moment on the lips, a lifetime on the hips,” economic analysis of food choices typically assumes that individuals must make tradeoffs between enjoyment of today’s choices and the consequences of those choices at some point in the future. How well individuals are able to translate food choices into future health outcomes is related to how much they know about diet, health, and nutrition.

Typically, this framework is then used to evaluate if and how much food choices will vary with three primary economic variables: income, prices, and information about diet and health. Historically, providing information about diet and health has been the most widely used tool to help consumers make more healthful food choices. For over 100 years, USDA has provided advice on how and why to eat a healthful diet (Welsh, Davis, and Shaw, 1993). Since 1980, USDA and the U.S. Department of Health and Human Services have jointly issued the *Dietary Guidelines for Americans* every 5 years. Although there have been variations over time, the primary focus has been on educating consumers in ways to achieve proper nutrition while consuming reasonable proportions of the various food groups in moderation.

In 1990, Congress passed the Nutrition Labeling and Education Act (NLEA), which requires that all packaged foods have nutrition labeling and use standardized definitions for terms such as serving size, “low fat,” and “light.” Many of the government-funded food and nutrition programs, such as food stamps, WIC, and the school meals programs, also earmark funds for nutrition education. The evi-

dence is mixed on whether information and labels actually improve the healthfulness of food choices. Several studies have found a positive correlation between nutrition knowledge and diet quality, such as lower fat intake (Gould and Lin, 1994), the probability of being obese (Nayga, 2000b; Variyam and Cawley, 2006), and food label use (Nayga, 2000a). Others, however, have found no significant correlation or one that may be very short-lived (e.g., Chang and Just, forthcoming).

Rising obesity rates have led some health researchers to advocate raising the price of less healthful foods, such as salty snack chips, soft drinks, and ice cream, relative to more healthful foods, such as fruits, vegetables, and whole grains. Logistical problems aside, economic analysis of consumer's sensitivity to prices shows such a measure would have limited efficacy because peoples' diets are not very responsive to prices. Using 1999 scanner data on food purchases, Kuchler, Tegene, and Harris (2005) estimate that taxing potato chips by 20 percent would bring about only a quarter-pound loss in body weight per year per potato-chip eater. Changing prices could also have some unintended consequences due to the interdependent nature of food choices. Kinsey and Bowland (1999) found that modest decreases in the price of fruits, meats, and dairy products would lead to small improvements in individuals' diet quality and that the price of fat would have to rise by as much as 15 percent to bring about a 1-percent reduction in fat consumption. Huang (1999) estimated that changing prices would also lead to some peculiar substitutions – decreasing the price of fruits or vegetables would increase consumption of fat, decreasing the price of vegetables would decrease consumption of vitamin A, and increasing the price of fat would reduce consumption of protein, calcium, iron, and folate. Such research shows that simply manipulating food prices is not likely to induce significant improvements in American consumers' diets.

The full “price” of food also includes the value of time spent acquiring, preparing, cooking, and cleaning up after meals. Many of the market-driven changes to the current U.S. food distribution system have reduced the time required to procure and prepare food by providing convenient, ready-to-eat snack foods, microwavable meals, vending machines at workplaces and schools, and drive-through windows at fast-food restaurants. These changes may have inadvertently made the environment more fat-friendly for consumers.

It is extremely easy to access large quantities of food and expend hardly any time or energy doing so.

There is evidence that an increased availability of convenient foods is one underlying cause of increased consumption. This explanation conforms with standard economic theory, which predicts that people will consume more of an item whose total cost (combination of time and money) of production has declined (Cutler, Glaeser and Shapiro, 2003; Variyam, 2005). Cutler, Glaeser, and Shapiro (2003) found that prices, income, calorie expenditures (exercise), and caloric intake at meals all remained relatively stable during the period that obesity rates began increasing. The amount of time spent preparing food dropped by about 50 percent, thus the time cost of a snack declined sharply. Chou, Grossman, and Saffer (2004) also examine the effects of monetary prices and convenience (via an increased availability of fast food and other food sources) on obesity levels. While the relationship between food prices and obesity is statistically significant, it is small in magnitude. Availability of fast food, on the other hand, appears to play a much larger role in obesity. This indicates that while Americans may not be so responsive to monetary costs of food, they may be more sensitive to time costs.

This brief overview illuminates how a fairly standard economic framework can help explain some of the reasons behind food choices, but that the impact of standard economic levers – and the policy options associated with them – are limited. The next sections show that adding more realism into economic models by incorporating the psychological and behavioral aspects of food consumption reveals a broader range of policy options to increase the likelihood that individuals make more healthful food choices.

3. How Cognitive Glitches and Psychological Biases Influence What People Eat

Through carefully controlled experiments, psychologists and behavioral researchers have documented widespread observance of behaviors and problem-solving techniques that do not conform with standard assumptions of standard economic theory. For example, experiments where subjects are asked to perform fairly simple reasoning tasks, such as calculating the probability that event A will occur given event B, show that the vast majority of respondents make systematic errors. Psychologists infer that these errors are the

result of individuals using simple decision rules, or heuristics, which lead to seemingly illogical choices, or biases (Conlisk, 1996; Kahneman, Slovic, and Tversky, 1982). These errors become more prevalent when decisions are made when there is some element of chance or uncertainty about the results of a choice or when some rewards from a decision are realized after a significant passage of time, rather than immediately. While using simple heuristics may lead to biases, doing so may still be a more efficient approach to problem solving if it provides an adequate solution without the greater time and mental costs of a more deliberative approach. Experimental research findings suggest that the heuristics people use to simplify decision-making can predictably affect which foods they eat, how much, and their willingness to consume that food again. Experimental and theoretical research also describes how problems of self-control may arise when the benefits from a decision are separated from the costs by a time lag.

4. Making Changes, by Default

One idiosyncrasy of consumer choice frequently observed in experimental studies is that individuals exhibit an asymmetry in how they value gains relative to losses. Known as loss aversion (Kahneman and Tversky, 1984), this asymmetry gives rise to anomalous behavior, known either as an endowment effect (Thaler, 1980) or a status quo bias (Samuelson and Zeckhauser, 1988). Both anomalies refer to aversions that cause individuals to willingly pay much less to acquire an item than they would accept to part with it (Samuelson and Zeckhauser, 1988; Kahneman, Knetsch, and Thaler, 1990). This aversion also makes individuals much more likely to choose the default options, even when the costs of switching to a different option are low (or even negative). For example, Choi et al. (2003) found that only 26 percent to 69 percent of employees opted to participate in a 401(k) program when they were not automatically enrolled compared with participation rates of 85 percent among employees for whom the default option was to enroll. Similarly, Thaler and Benartzi (2004) found that saving rates increased dramatically when employees were offered a plan where a specified fraction of their future pay increases were automatically diverted into a savings account.

Such findings from behavioral experiments suggest that individuals will be apt to make decisions that are more harmonious with their long term objectives when those decisions are presented as the default options. Relating this to USDA's nutrition assistance programs, one way to increase the likelihood that program participants make healthier food choices would be to make such choices the default. Within the school cafeteria framework, a healthy meal could be automatically preordered for students each day. Students who wanted a different, less healthful food choice (such as a la carte offerings) would then have to change their order and pay the cost difference, if any. Among Food Stamp Program participants, the default option could be a more restrictive food stamp package that fulfilled certain nutrition guidelines, such as a minimum percentage of the benefit amount to be allocated to purchase of whole-grain foods, dark green vegetables, or fruits. To opt out of this package, participants would need to specify that they would prefer an alternative, less healthful but less restrictive benefit program.

The characteristics of the goods or services in question as utilitarian or hedonic have been found to play a role in how likely individuals are to exhibit status quo biases. Hedonic characteristics are associated with a sensory experience and immediate gratification. Utilitarian attributes, on the other hand, are more functional and typically associated with a longer term goal, such as good health (Hirshman and Holbrook, 1982; Strahilevitz and Myers, 1998). Individuals tend to view goods in terms of moral structure – classifying them as “wants” or “shoulds” (Bazerman, Tenbrunsel, and Wade-Benzoni, 1998). The notion that some goods are virtuous or necessary while others are sinful or extravagant leads to very different choice behavior. Dhar and Wertenbroch (2000) show that utilitarian characteristics are more important when deciding which goods to acquire and hedonic characteristics are more important in determining which to give up. Thus, while individuals appear to be deliberative in determining which products to select, they seem to be more reactionary when choosing which items to forego.

In the context of food, this suggests that individuals are more likely to add utilitarian foods (which are likely to be healthier) to their diet than they are to eliminate a hedonic (and typically less healthful) food. This odd twist on the status quo bias works against efforts to reduce consumption of foods that are viewed as extravagant, making it much more difficult to reduce caloric intake. These

findings also support the concept of considering the healthfulness of default menu items and food packages within the nutrition assistance programs.

5. Distractions, Cognition, and Eating

Certain situations also affect the likelihood that individuals' decisions will be based more on emotional than on rational factors. Epstein (1993) proposes the Cognitive-Experiential Self Theory (CEST) to describe this conflict. This model supposes that there are two processes used to evaluate every stimulus:

1. An experiential system to make rapid evaluations based on emotions.
2. A cognitive process to make more deliberative evaluations based on rational thinking.

The primary determinant of which process takes over is the availability of processing resources (time, necessity to deal with other decisions, etc.). Impulsive behavior, such as choosing less healthy foods over healthy foods, may result from the presentation of food choices, the presence of stress, or other demands on processing ability. Shiv and Fedorikhin (1999) find that individuals who were given some cognitive task to perform while choosing between cake or fruit salad were much more likely to choose the cake than those given only the food-choice task. This result held true even if the price of the cake was raised considerably higher than the price of the fruit salad.

The standard economic framework can be adjusted to incorporate the possibility that individuals toggle between using a cognitive process to make decisions and an experiential system to make decisions based primarily on emotions. If it is true that emotions take precedence over reason as processing resources decrease, then another way to improve the healthfulness of individuals' food choices is to manage their processing resources. When processing resources are low, it is more likely that an individual will make consumption choices based solely on immediate considerations. When these resources are higher, the same individual will be more likely to consider the tradeoffs between current consumption and future well-being.

Within the school meals programs, processing resources could be affected by distractions or time constraints that occur while making meal selections or choosing when to stop eating. Consequently, students may be more likely to make healthful menu selections, or more reasonable quantity decisions if afforded more time in which to do so. Alternatively, the nutritional value of foods chosen might improve if individuals were given the opportunity to make selections in a calmer environment – possibly in class, before heading to the cafeteria. Another way to mitigate the effect of a distracting environment would be to draw attention to the more healthful foods, by making them more accessible or displaying them more prominently. Within the FSP or WIC, processing resources might again correspond to similar distractions or time constraints. A possible way to mitigate these factors would be giving participants the option of preselection or preordering their grocery items (whether program-provided or not) at times when fewer distractions might be present.

6. Mental Accounting

Lowering the price of one good, say food, will have both an income and a substitution effect, according to standard economic predictions. With the income effect, individuals increase food purchases in response to more room in their budget. This change in price may also have a substitution effect, where people change how they allocate expenditures among broad categories. In this case, lowering food prices may lead only to a slight increase in total food purchases while generating a much greater increase in expenditures on other items.

By contrast, mental accounting (Thaler, 1980; Shefrin and Thaler, 2004) supposes that individuals categorize their income into mental accounts, earmarking it for specific purposes or specifying that it be used within a certain time frame. The idea that money is not fungible but is set aside for a specific purpose is engrained in consumers' vocabularies early on with terms such as "lunch money," "rainy day funds," and "mad money." Income sources seen as one-time events are viewed as more frivolous (such as tax refunds) and are subsequently earmarked for more frivolous consumption (like plasma televisions). Individuals may also categorize a certain amount of income for food consumption based on factors such as the source of income (employment, welfare, food stamps, gifts).

In contrast to the more standard framework, mental accounting predicts that once money is earmarked for a purpose, one will spend within a certain category until funds are entirely depleted. Thus, if allocating a portion of income to current food spending, and food prices decline, one may overlook the opportunity to shift the surplus “food money” to another purpose. Instead, one will buy more food. In this case, finding a low price on an item may lead to over-consumption rather than substitution.

Another consequence of mental accounting is that individuals tend to exhibit a “flat-rate bias,” where they undervalue fixed costs, relative to variable costs (Thaler, 2004). Health-club members typically choose to pay for their gym membership on a monthly or annual basis, even when a per-use fee would have lower total costs (DellaVigna and Malmendier, 2002).¹ One implication of a flat-rate bias is that, when only certain items can be selected using prepayment, those items will be chosen with greater frequency compared with those that can only be purchased with cash.

The idea of earmarking funds and mental accounts may partially explain why several studies have found that food stamp coupons that can only be used for food purchases are more effective at raising food expenditures than an equal benefit amount given as cash even when both coupons and cash are used on food (Fox, Hamilton, and Lin, 2004). This is contrary to rational economic theory, which predicts that cash and coupons would have the same effect. This concept also lends support to the idea that providing further guidelines on the proportion of food stamp allotments that should go toward the purchase of healthful foods, such as fruits, dark green vegetables, and whole grains, could increase the purchase of more healthful items among program participants.

Foods that are part of the official USDA school meals must meet dietary standards. But similar standards could also be placed on a la carte foods and foods sold separately from USDA school meals. Through prepaid cards, or point-of-sale (POS) technology, students, possibly in conjunction with parents, could specify what portion of their total bill should be spent on fruits, vegetables, desserts, or high-calorie beverages. Such options have already been tried in several school districts. The finding that individuals undervalue fixed costs relative to variable costs has possible implications for the school meals programs as well. To take advantage of this flat-rate bias, parents or students could prepay for specific, more healthful items.

Other, less healthful items, such as soft drinks or high-fat desserts, could be purchased, but only with cash.²

7. Problems of Self-Control and Visceral Influences

Economic models typically assume individuals discount future utility exponentially, meaning that the value people place on future well-being is less than the value of today's well-being and the value of each subsequent time period decreases at a constant rate. However, experimental and empirical studies provide examples showing that actual consumer behavior cannot be reconciled with the assumption of exponential discounting. One frequently observed anomaly is that individuals often change how they rank a less preferable, yet more immediate reward relative to a preferable but delayed reward when the time delay between receiving either reward is changed equally (discussed by Laibson, 2004). A common example cited in the literature on experimental economics describes an individual who prefers one apple right now to two apples 24 hours from now, yet also prefers two apples in 51 days to one apple in 50 days (Thaler, 1981). Such time-inconsistent preferences find expression as a self-control problem, where one places extra value on more immediate rewards within the near term. This behavior has been linked to consistent shortfalls in retirement savings, and the need for penalties on early withdrawals of those savings (Laibson et al., 1998; Angeletos et al., 2001). In the case of food consumption, the would-be dieter may continually commit to cutting back on high calorie foods after one more doughnut.

Repeated observation of time-inconsistent preferences has led some researchers to change this assumption by using a framework where decisionmakers lack self-control and choose alternatives that are usually less desirable or valuable over some timeframe simply because they are available sooner (see Gul and Pesendorfer, 2004, for a review). This adjustment to the more standard economic framework has been used to show that individuals can improve their long-run well-being through some sort of commitment mechanism that will enforce time consistency and set limits on current consumption levels (e.g., a 401(k) plan). Such curbs on one's ability to choose could never be a valuable tool if individuals had an ability to choose the best option after the fact.

Kivetz and Simonson (2002) found that individuals tended to choose luxury items as program rewards rather than the cash equivalent (or greater) because they feared lack of self-control would cause them to use the money for everyday expenses, and therefore, preclude their ability to afford the luxury item. This framework has also been used to explain a number of seemingly inconsistent preferences including: why individuals choose relatively more expensive annual gym memberships over pay as you go options, even though the latter would be less expensive for most users (DellaVigna and Malmendier, 2002); why problems of self-control coupled with decreasing time and monetary costs of food attainment may explain an increasing rise in obesity rates (Culter, Glaeser, and Shapiro, 2003); and why food stamp recipients reduce caloric intake as the days after food stamp receipt increase (Shapiro, 2005).

A limitation of such models, however, is that time-inconsistent behavior is attributed entirely to how soon a choice is available relative to its alternatives (Frederick, Loewenstein, and O'Donoghue, 2004; Loewenstein, 2004). In terms of food consumption, this means an individual will always be expected to choose the more immediately available food, regardless of his or her level of hunger. In reviewing the literature on weight loss, Herman and Polivy (2003) show that simply making some foods immediately available is not sufficient to induce binge eating.

To account for this, researchers have developed an alternate framework that allows a broader range of situations to trigger present biased behaviors (such as a self-control problem) by adding the assumption that certain visceral influences, such as feeling hunger, thirst, or pain, can add to or detract from how much enjoyment an individual gets from current consumption (Loewenstein, 2004). For example, a plate of nachos is not terribly enjoyable after a full meal. But these same nachos may seem extremely palatable to a hungry person. Also, a hungry person is likely to make shortsighted trade-offs between immediate and delayed food, even if they will be feeling just as hungry tomorrow.

This framework differs from Cognitive-Experiential Self Theory described earlier in that the latter assumes the availability of processing resources – related to factors such as the amount of time afforded to make a decision, level of stress, or presence of other distraction – dictates whether an individual takes a rational approach to decisionmaking or makes evaluations based on emotions. In com-

parison, the visceral factors framework assumes that, while an individual uses rational thinking to evaluate decisions, the amount of utility derived from consuming a specific amount of some good, say food, will change depending on the intensity of relevant visceral influences, such as feeling hungry, nervous, or nauseous.

For explaining food choices, this framework can illuminate how and why certain situations give rise to time-inconsistent choices. In a more neutral state, an individual may choose to consume the types and quantities of foods that are consistent with his or her long-term health objectives. As visceral factors intensify, however, the perceived value of one's current well-being increases relative to the value of one's future well-being. Thus, consumption of goods that provide immediate gratification will be consumed in greater amounts compared with situations when visceral factors are less intense.

Using this framework, Mancino (2003) and Mancino and Kinsey (2004) show that hunger can lead to unhealthy choices, especially when combined with time constraints. As individuals become busier (and time constraints begin to tighten) more-convenient food becomes a substitute for leisure time. Also, as individuals become busier, they may eat less often, allowing their feeling of hunger to get out of control, leading to overconsumption. This research suggests that busier lifestyles may have created an atmosphere where increasing the interval between meals leads individuals to periodically ignore health information, causing an increase in obesity.

The empirical evidence that individuals tend to lack self-control, either because they simply prefer immediate gratification or because they are under the influence of a visceral factor, suggests that allowing them to preselect or commit to more healthful choices would be an effective means to counteract their tendency to make shortsighted, less healthful choices. Within the school meals programs, students will be more likely to choose foods that promote better health over those that simply provide immediate gratification if they choose their foods well before meal time. Alternatively, parents or children could devise a commitment mechanism, such as making certain foods off-limits. Through point-of-sale technologies, such mechanisms are currently increasing in popularity. Some schools employ POS systems through which parents can track what menu items their children purchase at school and even specify that their POS card preclude the purchase of specific items, such as soft drinks or high-fat desserts.

Similarly, within the FSP, participants may be more likely to choose foods that are in sync with their long-term health objectives if they make their purchasing decisions before going to the store and finding themselves tempted with less healthful food options, such as salty snack chips, high-fat dessert products and soft drinks. One way to do this would be through preordering. Another option would be to allow FSP participants to specify that certain less healthful foods be ineligible for purchase with their own electronic benefit transfer (EBT) cards. A simpler, less costly alternative currently used by some States as part of their Food Stamp and Nutrition Education programs would be to design curriculum that highlights the importance of planning meals, preparing shopping lists, and not shopping for groceries on an empty stomach or accompanied by children (Philips et al., 2000).

The monthly schedule for distributing food stamps has been cited as a potential cause of weight gain among participants. Because benefits are distributed only once a month, there is evidence of a period of overconsumption shortly after benefits are distributed, followed by a period of rationing, or under-consumption later in the cycle (Ver Ploeg et al., forthcoming). This cycle may be even more pronounced among individuals with self-control problems – they will likely spend too much for current consumption at the expense of future consumption. Increasing the frequency of benefit disbursements could also function as another commitment mechanism. Thus, decreasing the amount available for current consumption at each decision period, while leaving total payment amount unchanged, should also boost one’s ability to make time-consistent decisions.

8. Avoiding Temptation

A fundamental tenet of rational behavior is the axiom of the independence of irrelevant alternatives. The axiom asserts that, if a person prefers option A to option B, then he or she will continue to prefer A to B even if a third, irrelevant option C is available. Frequent observation of behavior that violates this principle suggests that modeling choices under an assumption of complete rationality will be too restrictive and result in erroneous predictions about behavior. Instead, individuals seem to exhibit a “context effect” where the rankings of alternatives depend on other options offered in a choice set, even when those options are never chosen (Camerer and

Loewenstein, 2004). Gul and Pesendorfer (2001) propose that individuals have preferences over the presence of temptations: The value of choosing a salad rather than a hamburger will be lower when tempting items like chocolate cake also appear on the menu, even if the cake is not chosen. Because cognitively better choices may lose their appeal when more hedonic choices are presented, Gul and Pesendorfer argue that removing tempting options that are typically considered less desirable will unambiguously improve individual well-being.

Presenting individuals with tempting alternatives may also be problematic if their willpower (ability to self-regulate) is a depletable resource (Ozdenoren, Salant, and Silverman, 2006). Experiments show that an individual's ability to exercise willpower is lower if he or she has recently engaged in prior acts of self-restraint (Baumeister and Vohs, 2003). While individuals who have honed their skills at self-regulation may find effective ways to stick with their long-term objectives (Fishbach and Shah, 2006), less effective regulators will be better able to avert temptation by imposing additional costs (or benefits) on giving in to temptation (Fishbach and Trope, 2005).

Within the school meals setting, these findings suggest that simply presenting students with a broader array of unhealthful but flavorful foods can decrease the enjoyment they get from choosing more healthful foods. The findings also suggest that the likelihood of choosing healthful menu options decreases as the number of tempting, less healthful options increases. Another finding from this research is that giving individuals the option of precommitting to the more healthful option may improve well-being. As such, offering students the option to preselect healthful menu options could be another way to improve their food choices. Through preordering their groceries, either by phone or possibly online, FSP participants could also be given the option to preselect their foods directly through FSP.

9. How Cognitive Glitches and Psychological Biases Influence How Much People Eat

In addition to choosing the wrong mix of foods, the majority of Americans simply eat too much food as well. According to ERS data on food consumption, the average daily calories available in the U.S. food supply increased by more than 500 calories per person between

1970 and 2004. Surprisingly, experimental studies find that choosing what to eat and choosing how much to eat may be controlled by separate psychological mechanisms. Environmental factors seem to have a stronger effect on the amount people eat than tastes and preferences (Wansink and Kim, 2004). In particular, the eating environment (atmosphere, effort, social facilitation, and distractions) and the food environment (salience, structure, size, stockpiling, and shape) affect consumption volume by setting consumption norms (an indication of how much people should consume) and inhibiting monitoring accuracy. These subtle cues can have large impacts on consumption volume, often without the individual being aware of their effect (see Wansink, 2004, for definitions of terms and complete review of the consumption volume literature).

10. Where We Eat and With Whom

The eating environment is defined as all factors external to the presentation of the food itself. Social situations may encourage individuals to eat more than they would normally. When eating in groups or social situations, individuals tend to eat quantities that are similar to others (Birch and Fisher, 2000; de Castro, 1994). Individuals may alter what they eat due to the distraction of conversation and increase consumption volume as the size of the gathering increases (de Castro and Brewer, 1992) or as the length of meal is extended (Bell and Pliner, 2003). When wanting to impress others at the table, as in a job interview, individuals will often eat less (Chaiken and Pliner, 1990; Mori, Chaiken, and Pliner, 1987, Stroebele and de Castro, 2004). Social gatherings also tend to decrease the variance of consumption; those who normally eat large amounts eat less, while those who normally eat little will eat more (Clendennen, Herman, and Polivy, 1994; Pliner et al., 2003).

Other aspects of the eating environment, such as lighting, odor, and temperature can influence consumption volume (Wansink, 2006; Wansink, 2004). People tend to shorten the duration of meals in brightly lit environments compared with places that are more dimly lit. People also tend to be less self-conscious when the lighting is low, thus increasing the likelihood of eating more than they would normally.

Beyond mentioning their impact as part of nutrition education, it is difficult to imagine how controlling where people eat, with whom,

or the atmosphere within a dining area could be feasible within either FSP or WIC. However, these findings do have implications within the school meals programs. It may be that simply decreasing the number of students seated at each table could have a significant impact on the amount of food consumed at school meals. Making school cafeterias more brightly lit could be another way help students better monitor their actual consumption volume.

11. How Food Is Presented – Salience and Stockpiling

The primary factor in managing consumption volume is the accuracy with which individuals gauge how much they eat (Arkes, 1991; Polivy et al., 1986). Rules of thumb, such as eating one package, one bowlful, or choosing products that are lower in fat calories, are often used to monitor consumption volume. Such rules of thumb can have unintended effects on dieters. For example, Wansink and Linder (2003) found that, while diners correctly believed that dipping bread in olive oil would increase the fat content relative to spreading butter on the bread, their total consumption volume may have negated this difference. These same diners tended to eat 23 percent more bread during the course of the meal when choosing butter over olive oil (Wansink and Linder, 2003).

Increasing the salience of food may increase consumption volume because it serves as a reminder of a pleasurable experience. Simply seeing a food can also lead to unplanned consumption (Boon et al., 1998; Cornell, Rodin, and Weingarten, 1989). Salience may be generated internally, leading to greater consumption volume than externally generated salience. Scientists were able to manipulate the salience of soup by simply asking individuals to write a description of the last time they ate soup. Those asked to describe their experience consumed more than twice as much soup in the next 2 weeks than did a control group that was not asked (Wansink and Deshpande, 1994).

Similarly, individuals who happen by a cookie dish, and impulsively decide to eat, ate fewer cookies than those who deliberately sought out the cookies (Wansink, 1994). Conversely, placing candies just 3 feet away from one's desk, as opposed to directly on one's desk, can significantly reduce the volume of consumption (by five to six chocolates a day, see Painter, Wansink and Heiggelke, 2002).

Stockpiling food can also increase consumption (Chandon and Wansink, 2002). In an experiment where homes were stocked with large quantities of ready-to-eat food, the foods were consumed at greater than twice the rate of consumption than in homes given more normal amounts of the food within the first week (Chandon and Wansink, 2002). After the first week, consumption rates were similar between the two treatments. Some have speculated that stockpiled foods may increase visibility and salience of the food. However, experiments attempting to isolate this phenomenon have been inconclusive (Terry and Beck, 1985; Wansink and Deshpande, 1994).

Devising ways to directly manipulate the salience of foods within the WIC or food stamp program is difficult to imagine. However, nutrition education within these programs could highlight ways to increase the salience of certain foods, such as fruits and vegetables, relative to other less healthful foods by changing where they are stored within the home. The school meals programs, on the other hand, have the ability to work with cafeterias and lunchrooms to change the placement of specific food items to adjust their relative prominence. Salads, fruit and vegetable servings, or other more healthful foods could be displayed more prominently, such as at the beginning of the cafeteria lines or on a level that is easily accessible. By contrast, desserts, soft drinks, or other less nutrient-dense foods could be offered so they are harder to reach and harder to see.

The finding that stockpiled foods are consumed in greater quantity may have implications for how benefits are distributed within the Food Stamp Program. There is speculation that the monthly food stamp benefit disbursement contributes to sporadic consumption of food. Shortly after benefits are issued, food expenditures spike and thus foods are more plentiful within the home compared with the end of the month.³ If recently stockpiled foods are consumed in greater quantity, this would increase the likelihood that program participants binge-eat at the beginning of the food stamp cycle, especially among those who have problems of self-control. As such, allowing FSP participants to choose to have benefits distributed more frequently could reduce the variation in the quantity (and possibly quality) of food intake throughout the month.

12. How Food Is Presented – Variety, Shape of Container, and Packaging

The structure or variety of food can also lead to increased consumption volume. In particular, offering a greater variety of foods increases the consumption volume of that food (Miller et al., 2000; Rolls, 1986; Rolls et al., 1981). Recent work has found that even increasing aspects of variety not associated with taste or nutrition significantly increases consumption volume. For example, subjects presented with 10 versus 7 colors of M&M candies consumed 43 percent more candy (Kahn and Wansink, 2004). Another experiment presented one set of subjects with identical numbers and variety of colors of jelly beans. However, while one treatment group received the jelly beans sorted by color, the other received the assortment mixed. Those who received the mixed assortment ate 69 percent more on average (Kahn and Wansink, 2004).

Larger portion sizes are frequently cited as contributors to increased obesity rates in the United States (Rolls, 2003; Young and Nestle, 2002). Experimental research does show that people eat more when presented with larger packages or portions of food (Diliberti et al., 2004; Rolls et al., 2004; Wansink, 1996; Nisbett, 1968; Rolls, Morris, and Roe, 2002; Edelman et al., 1986). Doubling the portion size increases consumption anywhere from 18 percent to 25 percent for meal-related foods and by up to 45 percent for snack foods (Wansink, 1996). Surprisingly, this result is robust to any number of different treatments. Larger portions lead to greater consumption even if the food is reported to be repulsive by the subjects (Wansink and Kim, 2004). Moreover, eating from larger packages causes less accuracy in monitoring consumption volume; when eating from larger packages, people underestimate their own consumption to a larger extent compared with when they eat from smaller packages (Wansink, 1996). Alternatively, increasing the calorie density appears to have little effect on consumption volume (Rolls, Bell, and Waugh, 2000; Rolls et al., 1998; Rolls, Morris, and Roe, 2002).

The shape of serving containers, such as bowls, plates and glasses, can significantly affect the volume of consumption. Individuals tend to focus on the height of a glass rather than its width (Krider, Raghubir, and Krishna, 2001; Piaget, 1969; Raghubir and Krishna, 1999). Teenagers were found to pour 88 percent more juice into short, wide glasses than into tall, thin glasses, when both types

of glasses held the same volume. Similarly, bartenders asked to pour 1.5 ounces of gin pour 26 percent more into tumbler-style glasses than into tall, thin glasses (Wansink and van Ittersum, 2003).

Lastly, there is evidence that other alterations in food packaging or presentation may make it easier to assess consumption volume. Introducing more intermediate packaging in containers of chips or other items bought in large quantities appears to draw attention to consumption volume and make it easier for individuals to determine an appropriate stopping point (Wansink, 2004).

Compared with the FSP or WIC, it is more straightforward to apply implications from these findings to the school meals programs. Increasing the number of different vegetables or fruits offered within a single salad may lead students to consume a greater amount. Changing the shape of containers that are used could also promote consumption of certain foods and beverages relative to less healthful foods. Tall, thin glasses could be used for less healthful beverages while shorter, wider glasses could be used for beverages such as low-fat milk, water, and fruit juices. Similarly, larger bowls could be used for servings of fruits and vegetables, while small plates and dishes could be used for desserts or other less nutritious foods. Finally, placing packaging restrictions, such as 100-calorie packs, in vending machines and prepackaged foods a la carte is another way to help monitor consumption volume within the schools.

In addition to highlighting the effects of variety, container shape and product packaging on consumption volume in nutrition education for food stamp and WIC participants, there may be opportunities to apply some of the findings more directly. Interested program participants could be given a set of glasses, dishes, and/or bowls that contain some sort of visual graphic to indicate appropriate portion sizes. Promoting single-serving packaging for whole-grain cereals or low-fat cheese slices may also be feasible within the WIC package.

13. Psychological Biases Can Also Make People More Receptive to New Information

For some, improving diet quality may require eating different foods or changing methods of preparation. Experimental research finds that specific cues can significantly influence individuals' expectations of how a new product will taste and thus, how likely individuals are to try new foods and recipes. These cues may include appearance, name,

price, brand), or information and descriptions given by others (Tuorila et al., 1998; Cardello and Sawyer, 1992). Subsequently, expectations can bias an individual's actual postconsumption opinion of taste and overall experience. Experiments show that individuals who think an item will taste good give higher post-trial evaluations compared with those who expected the same item to taste bad (Tuorilla et al., 1998; Cardello and Sawyer, 1992).

Cardello and Sawyer (1992) told groups of subjects that they would be sampling a brand of juice from a new tropical fruit. Each group except one was told that the juice had been taste-tested previously and subjects had either "liked it very much," "disliked it very much," or "neither liked nor disliked it," depending on treatment group. Subjects' expectations about the juice correlated very closely with the information provided by the researchers. Groups whose members had expected a bad experience reported a lower level of acceptance than groups whose members had expected a good experience. This is a phenomenon called "confirmation." In fact, subjects' expectations about the overall experience tended to bias their post-trial analysis of taste sensations (like sweetness) that had not been mentioned in the pre-taste information. Despite biasing evaluations, it appears that discovering that food is not what was described reduces one's willingness to try the food again (Tuorila et al., 1998).

Individuals have been found to be significantly influenced by who gave them information about a product. Manufacturers and retailers have long known the power of word-of-mouth advertising. Smith (2004) also argues that many notions as to what is good or acceptable are determined in the first few years of life. This leads marketers of foods to frequently show images of young children who are happy presumably because they have consumed the marketers' food product.

People seek social validation by trying to fit in and are more likely to be persuaded by people they consider to be likeable (Cialdini, 2001). Not surprisingly, that is why people who are considered popular and trustworthy figures are often used to tout the virtues of a product, rather than more infamous people. Promoters have now taken this one step further. It is now becoming increasingly popular among product promoters to actually seek out young adults or teenagers to act as "trend setters" who will be able to spread the word about a product among their peers (Walker, 2004).

In terms of providing nutrition education with school meals programs, FSP, and WIC, this suggests that who delivers the message and how satisfied these individuals appear while doing so may have more of an impact than simply providing information about how and why to make more healthful food choices.

14. Conclusions

The previous sections summarized how the use of simple rules of thumb and heuristics may influence what individuals choose to eat, how much they eat, and how they evaluate these decisions after the fact. Incorporating these findings into a framework of food behavior expands the array of options available for effective food policy, nutrition education, and social marketing.

With small adjustments, standard economic frameworks can incorporate more realism by recognizing that individuals often use simple heuristics, such as placing more weight on default options or using package size to determine quantity, when making food choices. The practical implications of this would be that altering elements of the product, such as package size and shape, the amount of variety, the number of calories, or the default options on a menu, can significantly affect diet quality and consumption volume.

Altering the food environment by increasing the convenience of healthful foods relative to less healthful foods, reducing distractions, or altering the lighting may also make it easier to make choices that are more harmonious with an individual's long-term health objectives.

Recognizing that situational cues, like hunger, stress, or distractions, can increase tendencies to focus on current well-being also expands possible policy and education techniques. Commitment devices, such as allowing individuals to preselect more healthful foods, may be another effective way to help individuals make food choices that align with their future health goals.

Similarly, explicitly modeling how mental accounting affects individuals' sensitivity to price differences reveals subtle techniques that might be able to significantly improve the quality of food choices. Knowing that people undervalue fixed costs relative to variable costs suggests that allowing people to prepay for healthful items may be another way to strengthen the link between intended and actual behavior.

Willingness to try new foods and a propensity to like them are strongly influenced by the actions of those around us. In terms of nutrition education and marketing, this suggests that who delivers the message and how satisfied they appear may have more of an impact than simple information about the virtues of healthful foods.

These findings expand the list of ideas for improving the diet quality among participants of specific food and nutrition programs, such as food stamps, WIC, and the school meals programs, without limiting freedom of choice. Incorporating these findings into the existing programs would typically require only slight augmentations. And unlike more traditional interventions, such as changing prices or banning specific food items, many of the proposed changes could be targeted to only those participants who wanted to make choices that are more harmonious with their own (or their parents') long-term health objectives.

Some of these techniques, such as increasing the frequency of benefit distributions, into existing programs may require only slight modifications. Other options, like delivering preordered food packages to FSP households may be more costly or complicated. Some of these alterations may also influence where households shop, how they manage limited resources, and the total package of what they purchase. Practical and legal issues may also pose hurdles to implementing some of these strategies.

This exploration of new ideas, however, is by no means a recommendation or endorsement of any of the ideas put forth in this discussion. A thorough analysis of costs, benefits, and potential impacts would be needed before any strategy could be considered as a policy option. As such, an important area for research would be to design experiments and pilot programs to gauge the efficacy, cost, legality, and feasibility of these possibilities. Comparing results of these experiments against estimated costs and benefits of more traditional approaches to nutrition assistance would also clarify the merits of these ideas relative to other strategies.

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NOTES

1. There are competing explanations for this behavior, flat-rate biases being one of them. Others include the possibility that people underestimate the future utility received from a service and that individuals may choose to overpay upfront as a commitment mechanism to influence future behavior.

2. Though carbonated soft drinks are not a choice within the actual school-meal programs, they are available for purchase at some schools. Some cafeterias do offer other sugary beverages a la carte.

3. Evidence that stockpiling food leads to increased consumption in the short run may offer another explanation for the finding by Shapiro (2005) – that consumption patterns among food stamp recipients challenges the assumption of exponential discounting.

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MARKET INSTITUTIONS: AN EXPOSITORY ESSAY

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ABSTRACT. This essay provides an elementary, unified introduction to the models of market institutions that go beyond the competitive model of price-taking behavior on both sides of the market. Several models of market institutions that govern price determination are explored and compared, including contracting, posted prices, bilateral bargaining, middlemen, and auctions. While equilibrium models still do not capture the full possibilities for market behavior, modeling specific market institutions reduces the level of abstraction inherent in the standard competitive model.

JEL: D40, E02, L22, P48

Keywords: market, institution, price, equilibrium, behavior, model

1. Introduction

The standard competitive model makes two kinds of assumptions about competitive market institutions. First, price-taking behavior is literally that – both sides of the market assume that they can buy or sell what they wish at the prevailing market price. A market equilibrium is precisely a price (or prices in multiple markets) that ensures that aggregate plans of buyers and sellers are matched, so that each market participant can realize her plans. This assumption can be relaxed, to allow a richer set of contracts to be offered in the

market. This possibility is alluded to at the end of Singh (2010a), in the context of an insurance market with asymmetric information, and we develop that case here. Models of contracting, especially in the context of uncertainty or asymmetric information, constitute an extensive literature. The distinction in this essay is to consider them in the context of different market institutions for price determination. Typically, textbook treatments (e.g., Kreps, 1990; Mas-Colell et al., 1995; Varian, 1992) group analyses by methodologies, rather than the idea of explaining a diverse range of institutions – hence the distinction of this essay is in its grouping of topics.¹

A second, more significant assumption in the competitive model is that it abstracts entirely from the process of price determination. In a market with competitive buyers and sellers, everyone is a price-taker, and no one sets prices. Of course, it is well recognized that this is an abstraction – it just happens to be a very useful one for getting to the heart of the valuation and efficiency role of market-determined prices. At the same time, much thought has gone into building models in which there is a specific institutional mechanism for price determination. In some cases, the abstraction is pushed one level deeper, but is still there. In particular, equilibrium models still do not provide detailed analysis of behavior out of equilibrium and how exactly markets adjust to reach equilibrium. Nevertheless, the models provide insight into the details of market institutions, and how those details can matter for resource allocation and efficiency. Typically, these models are based on game theoretic approaches, but use assumptions that capture or approximate the impacts of competition (e.g., large numbers of market participants). Examples of market institutions include posted prices (prices set by sellers), bargaining or negotiation, middlemen and auctions.

2. Contracts

A market equilibrium with contracts will be illustrated in the context of a simple insurance market model (Rothschild and Stiglitz, 1976; Singh, 2010a). The key feature of that market is an asymmetry of information about the risk level of individuals. This asymmetry makes expanding the space of market possibilities to include contracts worth considering. In the absence of the information asymmetry, one would not need contracts more complicated than agreements to buy or sell at the going price. In fact, the overall uncertainty in the insurance market (whether an individual will have an accident or not) is not an essential feature. For example, the same contracting possibilities would arise if an employer was contracting with employees – with output certain given ability – but ability was not observed by the employer. Uncertainty could still play a role, however, in making it impossible to infer ability from output.

To review the assumptions from Singh (2010a), there are two kinds of individuals, differing only in their probabilities of suffering a loss. However, market opportunities are no longer described by the ability to purchase any number of units of insurance, I , at a given price P . Instead, an insurance opportunity is described by a contract that specifies the total premium, R , and the total payout, I . An individual can choose to purchase the contract or not. Insurance companies will offer contracts, and in a competitive equilibrium, make zero expected profits.

First consider the case of only one type of individual. She chooses the insurance contract if the following holds:

$$\pi^1 U(\omega^1 - R) + (1 - \pi^1) U(\omega^1 - d - R + I) \geq \pi^1 U(\omega^1) + (1 - \pi^1) U(\omega^1 - d) \quad (1)$$

The zero expected profit condition requires that $R - (1 - \pi^1)I = 0$. Note that the implied price of insurance in this case is $R / I = (1 - \pi^1)$, as was the case with competitive insurance in Singh (2010a). Hence the left hand side of (1) becomes

$$\begin{aligned}
& \pi^1 U(\omega^1 - (1 - \pi^1)I) + (1 - \pi^1)U(\omega^1 - d - (1 - \pi^1)I + I) \\
& = \pi^1 U(\omega^1 - I + \pi^1 I) + (1 - \pi^1)U(\omega^1 - d + \pi^1 I)
\end{aligned}$$

(2)

Differentiating the last expression with respect to I yields

$$\begin{aligned}
& -\pi^1(1 - \pi^1)U'(\omega^1 - I + \pi^1 I) + (1 - \pi^1)\pi^1 U'(\omega^1 - d + \pi^1 I) \\
& = -\pi^1(1 - \pi^1)[U'(\omega^1 - I + \pi^1 I) - U'(\omega^1 - d + \pi^1 I)]
\end{aligned}$$

(3)

By risk aversion, the marginal utility is decreasing in income and so the expression in square brackets is positive (negative) if $I > (<)d$. Hence $I = d$ maximizes the left hand side of (1), and this would be the natural contract equilibrium with competitive insurance firms, i.e., $(R^*, I^*) = ((1 - \pi^1)d, d)$. The individual obtains full insurance, not by choosing the amount of insurance at a market price per unit, but by choosing the insurance contract that prevails in the competitive market.

Next, we turn to the case where there are two risk levels, such that $\pi_H^1 < \pi_L^1$. If insurance companies observe risk types, then there can be a competitive equilibrium with two types of contracts, $(R_i^*, I_i^*) = ((1 - \pi_i^1)d, d)$. Each type is restricted to the contract that is tailored for that type, and everyone gets full insurance in equilibrium. The outcome is again the same as in Singh (2010a), with full information about individuals' risk levels.

In Singh (2010a), we discussed what would happen if individual risk levels were not observable by insurance companies, so that all individuals would have to be offered the same price of insurance. In that case, there could be two types of competitive equilibria: (i) both types of individuals purchase insurance, at a price that would average the probabilities of loss across the two risk levels; (ii) only high-risk individuals would purchase insurance, at a price reflecting only their own loss probabilities, with low-risk individuals choosing to purchase no insurance. The second equilibrium arises when the extra cost of

insuring high-risk individuals makes insurance too expensive for the low-risk types.

We now investigate when it is possible that there might be two types of contracts, such that the equilibrium is better in some sense than one or both of the above equilibria. The possibility of specifying the total amount of insurance purchased in a contract creates this new possibility. If only prices can be specified in the market, then any buyer of insurance would choose the lower price. However, if a lower price comes with less coverage, different buyers might have different rankings of contracts available in the marketplace.

Therefore, we are looking for two contracts, $(R_L, I_L), (R_H, I_H)$, such that low risk individuals would prefer the first contract, and high-risk individuals would prefer the second contract. This implies two inequalities must hold simultaneously:

$$\begin{aligned}
 \pi_L^1 U(\omega^1 - R_L) + (1 - \pi_L^1) U(\omega^1 - d - R_L + I_L) &\geq \\
 \pi_L^1 U(\omega^1 - R_H) + (1 - \pi_L^1) U(\omega^1 - d - R_H + I_H) &\quad (4) \\
 \pi_H^1 U(\omega^1 - R_H) + (1 - \pi_H^1) U(\omega^1 - d - R_H + I_H) &\geq \\
 \pi_H^1 U(\omega^1 - R_L) + (1 - \pi_H^1) U(\omega^1 - d - R_L + I_L) &
 \end{aligned}$$

These are called the *self-selection* or *incentive compatibility constraints*, in a contract equilibrium with asymmetric information. We must also note that choosing the contracts must be better for individuals of either type than not purchasing insurance at all. This requirement gives us the following two acceptance constraints, which are the analogues of (1) for the case of two risk levels.

$$\begin{aligned}
 \pi_L^1 U(\omega^1 - R_L) + (1 - \pi_L^1) U(\omega^1 - d - R_L + I_L) &\geq \pi_L^1 U(\omega^1) + (1 - \pi_L^1) U(\omega^1 - d) \\
 \pi_H^1 U(\omega^1 - R_H) + (1 - \pi_H^1) U(\omega^1 - d - R_H + I_H) &\geq \pi_H^1 U(\omega^1) + (1 - \pi_H^1) U(\omega^1 - d)
 \end{aligned}$$

(5)

Now we impose the condition that expected profits are zero for each type of contract. This is what we might expect with competition among insurance firms. Therefore, $R_i - (1 - \pi_i^1)I_i = 0$, $i = L, H$. This means

that the expected utility with an insurance purchase has the form $\pi_i^1 U(\omega^1 - I_i + \pi_i^1 I_i) + (1 - \pi_i^1) U(\omega^1 - d + \pi_i^1 I_i)$, $i = L, H$. It also implies that the acceptance constraints will not be binding, so we can focus on the self-selection constraints.

Intuitively, the restriction imposed by the self-selection constraints will work as follows. Suppose that the full-insurance contracts that would work with the risk levels being observable were known were offered. The low-risk individual would not be interested in $((1 - \pi_H^1)d, d)$, since it offers worse terms for the insurance. On the other hand, the high risk individual would always choose the contract $((1 - \pi_L^1)d, d)$ over the contract $((1 - \pi_H^1)d, d)$. Hence, intuitively, the first of the self-selection constraints will not be binding, and the only restriction we are left with is

$$\begin{aligned} & \pi_H^1 U(\omega^1 - (1 - \pi_H^1)d) + (1 - \pi_H^1) U(\omega^1 - (1 - \pi_H^1)d) \\ & = \pi_H^1 U(\omega^1 - (1 - \pi_L^1)I_L) + (1 - \pi_H^1) U(\omega^1 - d + \pi_L^1 I_L) \end{aligned} \quad (6)$$

This says that the high-risk type must be indifferent between the two market insurance contracts in the competitive equilibrium. The left hand side is the expected utility from the full insurance contract, and just reduces to $U(\omega^1 - (1 - \pi_H^1)d)$. The right hand side is what the high-risk type would get by choosing $((1 - \pi_L^1)I_L, I_L)$, the contract meant for the low-risk type. The latter still has fair odds, but the quantity will be restricted, so that $I_L < d$, i.e., the low-risk type ends up with less than full insurance. This is how the quantity restriction comes into play in the contract offerings, versus the usual competitive price-taking assumption that any amount can be bought and sold at the going market price.

The idea that there is an equilibrium set of contracts in a competitive market generalizes the usual notion of an equilibrium price or set of prices. It does not require that either side of the market sets prices, nor that there is any market power that results from price setting. In that

sense, the institutions of the market remain an abstraction. One could posit, in the above model, that insurance firms decide what contracts to offer. Formally, the equilibrium notion shifts from a price/contract equilibrium (is there a set of prices/contracts such that supply equals demand?) to a Nash equilibrium in firms' choices of prices/contracts. We turn next to price-setting equilibria.

3. Posted Prices

A posted price is a price set by a firm, at which it is willing to sell. This is by far the most common institution for retail markets. Goods are on shelves or in catalogues, with marked prices, and the seller implicitly agrees to sell whatever it has available at that price. Services are also typically made available with prices publicly announced or provided to a prospective buyer on enquiry.

As the Bertrand model shows, price setting of this form does not imply market power. In Bertrand competition, even if there are just two price-setting sellers of a homogeneous good, the outcome can be one where the good is priced at marginal cost, i.e., the competitive price. However, the equilibrium can be very sensitive to the exact nature of the posting, and when consumers learn the price. In the Bertrand model, buyers know all firms' prices, and can shift costlessly and instantly to a firm that offers a lower price. This is what makes undercutting profitable if a firm's price is above marginal cost, and what drives price to marginal cost in equilibrium.

Instead, suppose that prices are posted only in the sense that a potential buyer can observe the price when she visits or contacts the seller, the price is fixed, and it is accompanied by an offer to supply the buyer's demand at that price. Suppose also that the potential buyer incurs a cost if she does not buy after learning the offer. This may be a physical or monetary cost of visiting or contacting another seller, or a time cost of delay in purchasing. The buyer's search is sequential, but does not follow an optimal dynamic strategy, in the sense that the buyer does not estimate a distribution of prices and

update it based on observation. In this model, the equilibrium price turns out to be the monopoly price, no matter how small is the buyer's search cost. So making these changes in what buyers know and how they act without perfect knowledge pushes the equilibrium from one polar case (the competitive price) to the other (the monopoly price).²

The rough argument for the result is as follows.³ Suppose that there are n sellers, and $N(\bar{p})$ buyers in the market with reservation price less than or equal to \bar{p} . With identical sellers of a homogeneous good, in equilibrium the number of buyers for each seller will be $\frac{1}{n}N(\bar{p})$. The

demand function that each seller faces will be $\frac{1}{n}N(\bar{p})D(\bar{p})$, and its profit (assuming constant unit cost of c) will be $\frac{1}{n}N(\bar{p})D(\bar{p})(\bar{p}-c)$.

Now if potential buyers face a cost of going somewhere else, then there should be an $\varepsilon > 0$ such that buyers will still purchase from this seller rather than going somewhere else, so that $N(\bar{p}) = N(\bar{p} + \varepsilon)$. In that case, the seller needs only to maximize $D(\bar{p})(\bar{p}-c)$. But that means choosing the monopoly price, so the equilibrium price must be the monopoly price, $p^* = p^m$.

In fact, one can vary the assumptions so that neither the competitive price nor the monopoly price is the equilibrium price, in this posted price setting. There can be a single equilibrium price between the two polar cases, or even a distribution of prices, despite there being a homogeneous good. The nature of information, of how information is acquired, and how it is disseminated can all affect the predicted outcome. In a sense, the chief lesson of these models is that the nature of a posted price equilibrium is very sensitive to the detailed structure of market institutions.

One issue we have taken for granted in the above discussion is that there is no alternative to a posted price – only its level has been in question. However, one can also ask why a potential buyer, when

faced with a high price offer, cannot make a counter offer, or, more importantly, why a seller would not entertain any such counter offers. In the case of a large complex organization, the answer can be found in transaction costs relative to the price of a good. It may make sense for a car salesperson to bargain in such a manner, but not for a grocery store clerk. We treat bargaining more explicitly in the next section, but first introduce a model in which the decision to choose a posted price is endogenous – the seller optimally refuses to shade the price offer.

Consider a situation where a series of buyers enter the seller’s store until a sale is made: there is just a single unit to be sold.⁴ Buyers have no costs of waiting or negotiating, and they care only about the difference between their reservation value and the price they pay. The seller maximizes her expected profit. A key assumption is that the seller is able to commit to a strategy, and that each buyer knows this. Also, the seller does not know any given buyer’s reservation price, but knows the distribution of reservation prices over potential buyers. If the seller knew the buyer’s reservation price, she would just wait for the buyer with the highest reservation price, ask for that price and not budge.

We now sketch the argument for why the seller will choose fixed prices in this situation. Let S denote any contingent pricing strategy of the seller. For example, S might say that if she is turned down at a price of p_1 , she quotes a new price of p_2 with probability 0.5 and requests a new buyer with probability 0.5. A seller with reservation price v has some optimal response to this strategy, denoted by $b_S(v)$. The seller’s strategy and buyer’s response together determine an implied probability of sale and expected price, as follows:

$$\begin{aligned} H(v) &\equiv H_S(b_S(v)) \\ \bar{p}(v) &\equiv \bar{p}_S(b_S(v)) \end{aligned} \tag{6}$$

The seller uses the probability of sale function in calculating expected profit of a current customer versus a future potential buyer. The key step in the argument examines the difference between the

two gains, weighted by $H(v)$. Since this difference over possible intervals of v will be either positive or negative, it turns out that the seller's optimal strategy is given by

$$H^*(v) = \begin{cases} 0, & v < v^* \\ 1, & v \geq v^* \end{cases}$$

(7)

Mathematically, the seller solves a control problem which has a bang-bang solution. The intuition is that if there is a greater profit to be made by selling to a buyer with a particular valuation versus waiting, then it should be done for sure. Furthermore, there is a specific cutoff of valuations below which it is always better to wait. The cutoff value v^* is the take-it-or-leave-it fixed price.

4. Bargaining

The last model of the previous section allowed for bargaining, but in a somewhat abstract way. Furthermore, it turned out that bargaining was not an equilibrium, even when it was possible. The idea was to show that posted prices might emerge as an endogenous choice from a wider range of pricing options. In practice, bargaining does occur, and this section explores some ways of modeling the bargaining process.

The simplest bargaining model assumes perfect information, and an intuitive bargaining protocol: the players make alternating offers.⁵ One player starts with an offer. If the other accepts, the bargaining is over and the deal is concluded. If the second player rejects, he gets to make an offer, in which case player 1 can accept or reject, and so on. We also assume that there is just a single unit to be bought and sold. Suppose that the buyer's valuation is v , while the seller's is 0. A transaction price p therefore assigns surplus p to the seller and $v - p$ to the buyer. Essentially, therefore, bargaining over the transaction

price reduces to bargaining over splitting the fixed surplus v . Player 1 can be the seller or buyer in this case.

This bargaining model also assumes that there are some costs of bargaining, in the form of time discounting. Each offer takes up a period, and the payoffs in the next period are discounted by a factor $\delta \in (0,1)$, which is the same for both buyer and seller. The period can be as small a time interval as we like, and the discount factor can therefore be as close to one as we like.

First suppose that there is a finite amount of time available for bargaining, say T periods. Then the bargaining game can be solved by backward induction. If T is odd, then player 1 makes the last offer, assuming that no agreement has been reached previously. Since there is no advantage to rejecting an offer, player 2 should accept any offer, as low as $v_2 = 0$. Hence the payoffs are $(\delta^{T-1}v, 0)$.

In period $T - 1$, however, player 2 gets to make the offer. Player 1 should accept any offer that provides at least $\delta^{T-1}v$, since that is what she can get by rejecting and having the chance to make a final offer in period T . This is therefore what player 2 offers in period $T - 1$, and the payoffs are $(\delta^{T-1}v, \delta^{T-2}v - \delta^{T-1}v)$. Compared to the last period, player 2 has less bargaining power because player 1 now has the option of rejecting and getting to make a final take-it-or-leave-it offer. Still, player 2 has some bargaining power from being the one to make the offer.

Continuing with this backward induction, we can see that the unique Subgame Perfect Nash Equilibrium (SPNE) of this alternating offer bargaining game is where player 1 makes an offer in period 1, it is accepted, and the payoff to player 1 is:

$$\begin{aligned}
 v_1^*(T) &= v[1 - \delta + \delta^2 - \dots + \delta^{T-1}] \\
 &= v \left(\frac{1 + \delta^T}{1 + \delta} \right)
 \end{aligned}$$

(8)

Player 2's equilibrium payoff is therefore $v_2^*(T) = v - v_1^*(T)$. If player 1 is the seller, then the equilibrium sales price in this situation is $p^* = v_1^*(T)$. One can check that player 1 gets a greater share of the surplus in this equilibrium. This reflects two advantages: she gets to make the first offer, and she would get to make the last offer, if that situation arose.

If the number of time periods approaches infinity, then the bargaining equilibrium approaches

$$\left(\frac{v}{1+\delta}, \frac{\delta v}{1+\delta} \right) \quad (9)$$

In this case, the advantage of making a last offer goes away, since there is no last period, but there is still an advantage to making the first offer, and so player 1 still gets more than half of the surplus. Again, if player 1 is the seller, the equilibrium sales price is

$$p^* = \frac{v}{1+\delta}.$$

The case of T being even can be worked out using the analysis already performed. This is because after one period, with no agreement in period 1, the subgame is one of $T - 1$ periods, where $T - 1$ is odd, but player 2 is making the initial offer in this subgame. Hence, player 2 gets $\delta v_1^*(T - 1)$, leaving $v - \delta v_1^*(T - 1)$ for player 1. This amount is explicitly

$$\begin{aligned} & v - \delta v [1 - \delta + \delta^2 - \dots + \delta^{T-2}] \\ & = v [1 - \delta + \delta^2 - \dots - \delta^{T-1}] \\ & = v \left(\frac{1 - \delta^T}{1 + \delta} \right) \end{aligned}$$

(10)

Now player 1 gets somewhat less than in the case where she makes the last offer, since player 2 would be in a monopoly position at the last

bargaining stage, if that were to be reached. Even though the last period of bargaining is never reached in equilibrium, its anticipation filters through to the equilibrium through the backward induction process.

Note that, if the number of periods approaches infinity, the solution to the case with an even number of periods is identical to that with an odd number of periods. The last-period effect goes away, leaving only the impact of the advantage of making the first offer. It also turns out that the equilibrium split of the surplus in (10) is the unique equilibrium of a game where there is no last period. This does not automatically follow from taking the limit of the finite- T equilibrium, since that was derived using backward induction. However, an alternative argument based on the stationarity of the game (similar to what was used to go from the odd-period to even-period case) can be used to derive the result.

The striking feature of the alternate-offer bargaining model is that agreement is reached immediately, and there is no delay. Delay would imply inefficiency, since there is a time cost of waiting to complete the transaction. A key assumption in ensuring immediate agreement is that both parties know the valuations of the good – there is no asymmetry of information. As a result, the bargaining process in practice is trivial.

There are many ways of introducing incomplete information that leads to delays in agreement. A simple model is presented here, due to Fudenberg and Tirole (1983). It assumes that the seller does not know the buyer's positive valuation, which can be high (v_H) or low (v_L), but knows that each is equally likely. Assume again that the seller's valuation is zero, and this is known to the buyer. Also, the seller is the only one to make offers – the buyer cannot make counter-offers, only accept or reject the seller's offer. The model has only two periods. The seller therefore chooses offers to make in each period, p_1 and p_2 . The buyer may reject the first period offer, either because his valuation is low, or because he thinks he can get a lower offer in the second period. The seller, on the other hand, does not want to always price low initially to

ensure an immediate sale, because that may involve losing some potential surplus if the buyer has a high valuation. Thus, the model captures some essential features of bargaining.

For simplicity, we focus on the case where $v_L > v_H / 2$. In a one period case, the seller would therefore offer v_L , which is accepted with certainty. The alternative of offering v_H would be accepted only half the time, with an expected payoff of $v_H / 2$, which is lower by assumption. In the two-period case, if the second period has been reached, then the seller's posterior probability estimate that the buyer's valuation is v_L is at least half, so the second-period price offer must be $p_2^* = v_L$.

In the first period, the low value buyer will not pay more than v_L , but the high value buyer has a higher reservation price. However, this price is less than v_H , because he can get a lower price by waiting. At the same time, waiting has a cost, captured in the buyer's discount factor, δ_B . Hence the acceptance condition for a high value buyer is

$$v_H - p_1 \geq \delta_B (v_H - v_L) \quad (11)$$

This implies that the maximum first period price is

$$p_1 = \delta_B v_L + (1 - \delta_B) v_H \quad (12)$$

If the seller chooses this price in period 1, her expected profit is

$$\frac{1}{2} [\delta_B v_L + (1 - \delta_B) v_H] + \frac{1}{2} \delta_S v_L \quad (13)$$

On the other hand, the seller could just charge v_L and get that amount as a sure gain. The condition for the higher price being an equilibrium is therefore given by

$$\begin{aligned} \frac{1}{2}[\delta_B v_L + (1 - \delta_B)v_H] + \frac{1}{2}\delta_S v_L &\geq v_L, \quad \text{or} \\ (1 - \delta_B)v_H &\geq (2 - \delta_B - \delta_S)v_L \end{aligned} \quad (14)$$

Given the earlier requirement that $2v_L > v_H$, this cannot hold if the discount factors are equal for the buyer and seller, but is possible if the seller is sufficiently more patient than the buyer. The condition for that to hold is

$$\delta_S \geq [\delta_B(v_H - v_L) + 2v_L - v_H] / v_L \quad (15)$$

Since the seller's discount factor cannot exceed one, a further necessary condition is $1 \geq [\delta_B(v_H - v_L) + 2v_L - v_H] / v_L$, but this is automatically satisfied when the buyer's discount factor does not exceed one.

To summarize, if the seller is sufficiently more patient than the buyer, the equilibrium is

$$(p_1^*, p_2^*) = (\delta_B v_L + (1 - \delta_B)v_H, v_L) \quad (16)$$

In this equilibrium, a high value buyer will accept immediately, while a low value buyer will reject initially, and accept the second period offer.

In the case worked out here, the good is always sold. There is some inefficiency from the delay, as the low value buyer has to wait one period. There is also a distributional effect from the asymmetric information (a positive externality from the low value to the high value buyer), in the sense that the high value buyer

gets a lower price than would be possible in the absence of the low value buyer. Suppose instead that $2v_L \leq v_H$. Again, there can be delay. Furthermore, there is some chance that the transaction may not occur at all, which implies greater inefficiency. This case is more complicated, so we do not work it out here. The intuition, however, is that the greater relative value of the high value buyer makes the seller act tougher in her offers, which also leads to the possibility of no agreement.

5. Middlemen

Models of bargaining typically focus on the details of bargaining protocols, and how those affect equilibrium outcomes. Bargaining models can also be embedded in market contexts, where buyers and sellers search for each other and negotiate while conscious of the presence of other options that might be discovered. In this essay we are not focusing on these search technologies, though they also affect price formation. Instead, we are focusing on the institutions that govern the terms of the transaction. With this in mind, we turn next to looking at the role of middlemen or intermediaries. Middlemen economize on search for buyers and sellers, so their role is tied in to the existence of search alternatives. We begin with the simplest case, however, where buyers and sellers must come to a middleman, before discussing what happens when there is an alternative of searching for direct transactions.

We assume that there are many buyers and many sellers, as follows.⁶ There is a single indivisible good which is consumed in one unit quantities only. Buyers have reservation prices, v , which are distributed uniformly on $[0,1]$. Sellers have reservation values w , also uniformly distributed on the unit interval. A buyer's utility from paying a price p is $U_B(v) = v - p$. The traditional market demand function is $D(p) = 1 - p$, assuming $0 \leq p \leq 1$. A seller's net utility

from receiving price p is $U_s(w) = p - w$. The traditional market supply function is $S(p) = p$. Reservation values are private information, known only to each individual. A traditional market equilibrium would be one where supply equals demand, or $p^* = 1/2$. Recall that traditional theory provides no explanation of how this price is reached.

Suppose that traders can only go to a middleman who quotes fixed bid and ask prices, p_b and p_a . These prices are publicly observed by the whole market (posted prices). If the intermediary attracts q_B buyers and q_S sellers, then its profit is

$$\pi = \min\{q_B, q_S\}(p_a - p_b)$$

(17)

The expression captures the possibility that one side of the market may be rationed – some buyers or sellers will not be able to transact.

Intuitively, the middleman will set the bid and ask prices symmetrically around the competitive equilibrium. This can be proved formally, but we will assume this, so that the number of buyers and sellers is equal. Hence $q_B = q_S$ and $p_a = 1 - p_b$. The middleman's profit is therefore given by

$$\pi = p_b(1 - p_b - p_b) = p_b(1 - 2p_b)$$

(18)

By calculating the maximum of this function it is easy to see that $p_b^* = \frac{1}{4}$ and so $p_a^* = \frac{3}{4}$. Substituting into the demand or supply function, we see that the equilibrium quantity is $q^* = \frac{1}{4}$.

In this situation, the monopolist is a traditional monopolist with respect to buyers, but also acts as a monopsonist with respect to sellers. The middleman's profit comes solely from being the only channel for buyers and sellers to transact. In the above model, if there are two competing intermediaries, then the equilibrium essentially reduces to a Bertrand equilibrium, or $p^* = 1/2$. The logic of the argument is essentially the same as for the case of two price-setting sellers, except it now applies on both sides of the market.

Another possibility is that, even with one middleman, competition can come from buyers and sellers searching and finding each other. This possibility is now described, and its implications for the middleman's equilibrium worked out. Therefore, suppose that buyers and sellers are matched at random as they search. To keep matters very simple, assume that buyers and sellers always find each other (rather than buyers finding other buyers, or sellers other sellers). When a buyer and seller are matched, one of them at random gets to make a take-it-or-leave-it offer. Rejection results on no trade taking place.

Because there is the alternative of going to the middleman, the distributions of buyers and sellers who search may not be the entire distributions. Denote the distribution of searching buyers by $F_B(v)$ and of searching sellers by $F_S(w)$. Buyers and sellers also have bid or ask strategies, denoted by $b(v)$ and $a(w)$. We will assume that these strategies are strictly increasing functions of the reservation values. Hence, we have the following expected utility expressions for buyers and sellers, where the first term is the case where that person bids, and the other is where the counterparty bids.

$$\begin{aligned}
 U_B(v) &= \frac{1}{2} \int_0^{b(v)} [v - b(v)] dF_S(w) + \frac{1}{2} \int_0^{a^{-1}(v)} [v - a(w)] dF_S(w) \\
 U_S(w) &= \frac{1}{2} \int_{a(w)}^1 [a(w) - w] dF_B(v) + \frac{1}{2} \int_{b^{-1}(w)}^1 [b(v) - w] dF_B(v)
 \end{aligned}
 \tag{19}$$

For the buyer, the expectation is over types of sellers. If the buyer bids, the first part of the integrand is independent of the seller's valuation. If the seller asks, the asking price depends on the seller's valuation. The buyer's bid is accepted if the seller's valuation is below the bid, giving the seller nonnegative utility. The seller's ask is accepted if the buyer's valuation is above the asking price. The logic is similar for the components of the seller's expected utility.

We now argue that the distributions of buyers and sellers who search have a simple form. First, note that buyers who search face the risk of meeting a seller with a high valuation and not being able to complete the deal. On the other hand, buying from the intermediary avoids this risk, but at a cost of paying a possible premium to the middleman. Suppose a buyer with valuation v_0 prefers searching to going to the middleman. Then any buyer with a lower valuation could imitate the v_0 strategy and also do better with search. A detailed proof is involved, but the intuition is that imitating the higher valuation buyer gives some advantage with respect to price in the search market, but not in dealing with the intermediary, who charges the same price regardless. Hence, the set of buyers going to the intermediary will be those with valuations in an interval of the form $(\bar{v}, 1]$. Furthermore, buyers with low enough valuations will not even bother to search, since they would not even be served in a perfect competitive market. Hence the distribution of buyers who search is uniform on an interval of the form $[\underline{v}, \bar{v}]$. Similar arguments imply that the distribution of sellers who search is uniform on an interval of the form $[\underline{w}, \bar{w}]$, with those above this interval not searching, and those below choosing to go to the middleman. Roughly, the intermediary is the better option for those who have the most to gain from completing a transaction, because it avoids the possible failure that can occur in search.

Now we derive the buyer's and seller's bid and ask strategies. The part of the buyer's expected utility that she can control is given by

$$\int_0^{b(v)} [v - b(v)] dF_S(w) = \int_{\underline{w}}^{b(v)} \frac{1}{\bar{v} - \underline{w}} [v - b(v)] dw \quad (20)$$

The denominator in the integrand is the range of agents that are active in search. The integral is a simple quadratic function in b , and the maximum is given by

$$b^*(v) = (v + \underline{w}) / 2 \quad (21)$$

A similar chain of reasoning gives the seller's optimal ask function, which is

$$a^*(w) = (w + \bar{v}) / 2 \quad (22)$$

Using these bid and ask functions, we can write the buyer's expected utility as

$$U_B(v) = \frac{1}{2} \int_{\underline{w}}^{(v+\underline{w})/2} \frac{(v - \underline{w})}{2(\bar{v} - \underline{w})} dw + \frac{1}{2} \int_{\underline{w}}^{2v - \bar{v}} \frac{[v - (w + \bar{v}) / 2]}{(\bar{v} - \underline{w})} dw \quad (23)$$

At the cutoff level \bar{v} , this simplifies to $(\bar{v} - \underline{w}) / 4$. The borderline seller's utility is identical.

This utility value puts a limit on the price that the middleman can charge. The utility for this marginal buyer, indifferent between searching and going to the intermediary, is $(\bar{v} - p_a)$. Equating the two utility expressions, we have

$$p_a = \frac{3}{4}\bar{v} + \frac{1}{4}\underline{w} = \frac{3}{4}(1 - \underline{w}) + \frac{1}{4}\underline{w} = \frac{3}{4} - \frac{1}{2}\underline{w} \quad (24)$$

The second equality exploits the symmetry of the distributions of buyers and sellers. We will rewrite the expression as the cutoff seller valuation in terms of the ask price. Furthermore, we will use the symmetry of the ask and bid price around $\frac{1}{2}$, so that $p_a = 1 - p_b$. Hence we have the following expressions for profit:

$$\pi = \underline{w}(p_a - p_b) = \left(\frac{3}{2} - 2p_a\right)(2p_a - 1) \quad (25)$$

The maximum of this with respect to p_a is easily calculated to be $\frac{5}{8}$. Hence, the bid price p_b to buyers is $\frac{3}{8}$. The volume of transactions is still $\frac{1}{4}$, as in the monopoly case, but the presence of the alternative reduces the market power of the intermediary.

The above model is just one example of price-setting by active intermediaries. The key idea is that imperfect alternatives to using a monopoly middleman can limit the intermediary's market power. The result that with two middlemen market power goes away entirely is a special one however, and is sensitive to the specification of the matching and search process. In general, competition among intermediaries will reduce the bid-ask spread, but not eliminate it entirely.

6. Auctions

Auctions are another variation on institutions used to determine the terms of a transaction. We have examined various institutions for price determination, differentiated by the assumptions about the nature of competition and the information available to participants. The simplest example of an auction is when there is a single unit of a good, a single seller, and two potential buyers. For the auction institution to make sense, or be interesting, it should provide some advantage to the seller. This arises when the seller does not know buyer valuations. In that case, competition

between the potential buyers through bidding in the auction benefits the seller.

Even within this simple class of cases, there can be many variations in the details of institutional design, with respect to the rules of bidding, constraints on participation, and assumptions about the relationship of buyer valuations. We illustrate the simplest case again, where buyer valuations are independent (and hence uncorrelated), there is no entry condition or participation fee, and bids are made through a simultaneous sealed-bid method. This latter assumption contrasts with the more popular method of repeated open bidding, as featured in art auctions, or in its electronic form on eBay.

Suppose that buyer valuations, denoted by v_1 and v_2 , are drawn independently from the same distribution.⁷ To keep matters simple, let this distribution be uniform on $[0,1]$. Both buyers and the seller know this fact (and, more strongly, it is common knowledge), but only the buyer knows his own valuation. The seller's valuation is zero, so there are potential gains to completing the auction successfully.

Let b_i denote the bid made by buyer i . The first auction institution we consider is where the highest bidder wins, and pays that winning bid to complete the transaction. The winning bid is therefore the transaction price for the good being auctioned.

It is convenient to assume that buyers use strategies of the form

$$b_i = k_i v_i \quad \text{for } k_i \in [0,1]$$

(26)

This reduces the choice of strategies from the more complicated problem of picking a function of the valuation to picking the parameter k_i . Consider buyer 1's expected utility maximization problem, when buyer 2 chooses a strategy of the above form:

$$\text{Max}_{b_1 \geq 0} (v_1 - b_1) \text{Prob}(b_2(v_2) \leq b_1) \quad (27)$$

The first term is the gain in utility from winning the auction. The second term is the probability of winning, i.e., the probability of outbidding buyer 2. Since bids are submitted simultaneously, buyer 1 has to estimate what buyer 2's bid will be – he cannot observe the rival's bid. Using the strategy functional form in (27), the condition for winning is $v_2 \leq (b_1 / k_2)$. At the same time, buyer 1's bid should never exceed k_2 , since this is the maximum that buyer 2 will ever bid. Buyer 1's problem is therefore

$$\text{Max}_{k_2 \geq b_1 \geq 0} (v_1 - b_1)(b_1 / k_2) \quad (28)$$

The solution is

$$b_1(v_1) = \min\{\frac{1}{2}v_1, k_2\} \quad (29)$$

In other words, $k_1 = \frac{1}{2}$ as long as k_2 is not too small.

By similar reasoning, using the symmetry of the buyers,

$$b_2(v_2) = \min\{\frac{1}{2}v_2, k_1\} \quad (30)$$

It is easy to see now that $k_1 = k_2 = \frac{1}{2}$ yields a Bayesian Nash equilibrium of the bidding game between the two buyers. In other words, the equilibrium strategies are defined by

$$b_i(v_i) = \frac{1}{2}v_i \quad (31)$$

Each buyer only bids one-half of his valuation in this equilibrium. The intuition is as follows. Bidding one's valuation increases the chance of winning the auction, but reduces the surplus from acquiring the good. Hence it makes sense to shade one's bid. In the case of the uniform distribution of valuations, this shading is precisely half of the true valuation. The buyer with the higher valuation will always win the auction. The seller's revenue from this equilibrium is $\max\{\frac{1}{2}v_1, \frac{1}{2}v_2\}$. Expected revenue therefore is given by

$$E(R_T) = \int_0^1 \left[\int_{v_2}^1 \frac{1}{2}v_1 dv_1 + \int_0^{v_2} \frac{1}{2}v_2 dv_1 \right] dv_2 \quad (32)$$

The double integration takes account of the seller's uncertainty about both buyers' valuations. The independence of valuations is reflected in the independent distribution functions. The first interior integral captures possibilities where buyer 1 has the higher valuation and higher (winning) bid, the second where buyer 2 wins. This expression can be evaluated, and turns out to be 1/3. If the seller knew buyer valuations, she could extract the entire surplus from the winning bidder through competition, and the expected revenue would be 1/2 (the mean of the distribution of either valuation). Hence the seller's lack of perfect knowledge of buyer valuations limits her market power to some extent.

Now consider a variation of the above auction. Suppose it is still a sealed-bid auction, and the highest bid wins, but now the winning bidder only pays an amount equal to the second-highest bid. This kind of auction is called a *second-price auction* (the previous one being a *first-price auction*). This method of determining the transaction price does away with any incentive that buyers might have to shade their bids. Therefore, the equilibrium bidding strategies now have the form $b_i(v_i) = v_i$. This is the Bayesian Nash equilibrium of the bidding game between the buyers. In fact, the strategies in this case are weakly

dominant (stronger than a Bayesian Nash equilibrium). The buyer with the higher valuation always wins, and this probability is $\frac{1}{2}$, by symmetry.

The seller's expected revenue in this case is given by the expression:

$$E(R_{II}) = \int_0^1 \left[\int_{v_2}^1 v_2 dv_1 + \int_0^{v_2} v_1 dv_1 \right] dv_2$$

(33)

It is important to see that, in comparing this with previous revenue expression, the coefficients of $\frac{1}{2}$ have disappeared, but the valuations have also switched their places in the integrals. The bids are higher, but the seller gets lower payments since she gets only the second-highest bid. If we evaluate the integral, it turns out to be $\frac{1}{3}$ again. This is not a coincidence. The equality is a special case or illustration of the *revenue equivalence theorem*. The key assumptions of the theorem are risk neutral buyers with independent valuations drawn from the same distribution. Then if two auctions give the lowest valuation buyer the same expected utility, and probabilities of winning are the same for the same vector of realized valuations, then the seller's expected revenue must be equal across the auctions.

As noted earlier, there are many variations of basic auction institutions, and assumptions and outcomes can differ. The general lesson to take away is that auctions can use competition among potential buyers to extract more revenue from the eventual buyer than might be possible in a bilateral bargaining situation. It is also possible that sellers compete as well. Two potential sellers might simultaneously run auctions for two potential buyers. This would tend to increase the leverage of buyers. On the other hand, if the sellers' valuations are positive and unknown, the buyers might risk not getting the item at all – this could increase the market power of the sellers. In sum, many complications in market institutions can be envisaged, with the competitive model of price-taking behavior providing a benchmark for all of them.

NOTES

1. A seminal survey of models of market organization, albeit with a very different focus, was Rothschild (1973). Singh (2010b) has some overlap with the focus of Rothschild's survey.
2. This argument was first developed by Diamond (1971).
3. The analysis in the following discussion is based on Rothschild (1973).
4. The following model and analysis in this section are taken from Riley and Zeckhauser (1980).
5. This is the famous Rubinstein (1982) bargaining model, with the treatment here, as in textbooks, being influenced heavily by Shaked and Sutton (1984).
6. The model presented here is due to Gehrig (1993). Alternative models of intermediaries that yield different outcomes include Spulber (1996a, 1996b).
7. The following treatment of auctions is standard, and very similar to that presented in Mas-Colell et al. (1995).

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RUBRICS AS AN EVALUATION TOOL IN MACROECONOMICS

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ABSTRACT. Critical thinking and writing skills are necessary competencies for effective communication, problem resolution, and analysis in economics. Although there are several different approaches to evaluate critical thinking and writing skills, rubrics is an evaluation tool which provides more information than numerical grades because it establishes a set of criteria which both professors and students know and are able to evaluate jointly. Meanwhile, rubrics provide students more effective feedback about critical aspects of a given course such as the identification of problems, the quality of evidence furnished by the students, accuracy of conclusions, and objective reflection, among others.

JEL: A22, C52, I21

Keywords: rubrics, evaluation, tool, macroeconomics, thinking, skill

1. Introduction

Changes in evaluation approaches stem not only from discussions about students' learning styles and developments in learning theories, but also from the latest technology developments and institutional needs with regard to keeping record of and evaluating competencies within the frame of national or international accreditation processes.

Since the late 1990s economists have not only discussed the competencies expected from economists [Colander and Kramer (1987), Colander (2005 a,b)], but have also incorporated their teaching styles, evaluation methods, and strategies implemented for teaching economics in the classroom [Becker and Watts (1998, 2001) and Espinoza, Machicado, and Mackhlouf (2007)]. The way students are evaluated is undoubtedly one of the most complex challenges faced by economists. It is apparently simple to assign a grade and expect the resulting grade distribution to show the student's degree of progress. Nevertheless, what's the purpose of a grade if the associated feedback does not contribute a great deal to the mutual knowledge of professors and students at a given school?

This paper discusses the most relevant aspects associated with the creation of rubrics as an economic evaluation tool and reviews previous experiences with the creation of a rubric in a Macroeconomic Theory course. The first findings of the use of this rubric show interesting results related to critical thinking and written communication skills, which were both evaluated using this approach at Icesi University. It also provides an introduction to a discussion of ranges of skills based on an analysis of the distribution of skills and, lastly, incorporates a matching-type methodology using control groups for discussing the results of mean values obtained with the aforementioned rubric.

2. Teaching Economics

Although economists have long engaged in a debate about teaching economics which dates back to the second half of last century, as reported by the *American Economic Review*, the National Council on Economic Education, Grinnel College, Stanford University, the Federal Reserve Bank of Minneapolis, the Teaching Training Program, several seminars held at the American Economic Association, and multiple publications in specialized economic journals such as the *Journal of Economic Education* and *Education Economics*, among others, it seems that the use of a blackboard and chalk in teaching economics continues to prevail to a large extent. This holds true, for example, in the United States where 83% of classroom time is dedicated to giving lectures, writing notes, and drawing charts on a board [Becker and Watts (1998, 2001) and Lora and Ñopo (2009)].¹

Lora and Ñopo (2009) showed that Latin American economics students are highly dissatisfied with the teaching approaches used at

several universities in Argentina, Bolivia, Chile, and México. They reported that this dissatisfaction is not due to a lack of interest in this program, lack of acknowledgment of or good rapport with the teachers, but rather to a lack of innovation, an inability to get students actively involved in the classroom, and the absence of current relevant contents. In general, the approaches to teaching economics in Latin America are fairly consistent among different teachers and universities in different countries where there is a lack of innovation in teaching [Lora y Ñopo (2009)] and a need for a more active use of available resources such as information technologies, diverse evaluation approaches, games, and experiments, among others [Becker and Watts (2001)].

Muñeton and Valencia (2004) reported that 73.7% of classroom time at 3 different universities in Antioquia, Colombia, is dedicated to giving lectures, writing notes, and drawing charts on a board. They also reported that, except for statistics and econometrics courses, in average, computer rooms are hardly ever used – although the use of these rooms is not very extensive, i.e. only 22%. Games and simulations are occasionally used, and experiments in the classroom are never conducted. Although students from these universities believe that other resources, such as computer-assisted presentations, facilitate learning, these kinds of other sources are not customarily employed.

Meanwhile, it seems that teaching approaches are changing in Colombia as evidenced by the works on the use of information technology resources [Medina (2009)], cartoons [Villaveces (2009)], and experiments [Cardenas (2009)].²

It is worth noting that the use of resources is effective provided that students are involved in their learning process and, of course, if teaching approaches continue to be used where students are assumed to be recipients of knowledge transferred from teachers or books, the results are clearly not going to be optimal.

In this respect, contributions from several theories of learning such as constructivism provide other tools for teachers to rethink their activities in the sense that they should acknowledge the fact that “students bring their own ideas with them to the classroom,” and instead of passively adding the contents delivered by their teachers to their own ideas, students restructure this new information in order to link it with their own cognitive structures. Hence, students play a major role because they build their own knowledge and go beyond “copying” knowledge presented to them in lectures [Garfield (1995), Kennedy (1998)].

Consequently, students go to the university to “study and learn,” while teachers design and manage learning experiences (by encouraging, guiding, questioning, and evaluating) that maximize “the likelihood that students build their own knowledge” (Gonzales, 2009).

3. Rubrics

A rubric is an evaluation tool that is typically used in subjective assignments. In this way, a rubric is used to evaluate a student’s performance based on the sum of a full range of criteria rather than a single numerical score. Rubrics are useful for generating a high objectivity level and providing a clear description of the expectations of a given school or department with regard to the students’ learning performance. As a result, it clarifies expectations before allocating a grade and allows for feedback on the student’s weaknesses after grading the assignments. Rubrics also help teachers evaluate performance and communicate it to the students without the need to go into extensive comments about the assignment.

Rubrics tell students what is expected from them, the grading criteria to be considered or excluded, and the way their assignments are graded. It provides objectivity to subjective grades, facilitates grading, and help students understand how their performance was graded, their strengths, and weaknesses.

Rubrics also provide students with an understanding of how a given score was arrived at. Thus, rubrics evaluate student performance based on the sum of an overall range of criteria instead of just a numerical score.

In the case of written assignments, the components of a rubric include the following:

1. Title of the rubric: It is advisable to ensure clear communication with the students.
2. Scale: Possible scores in each grading scale.
3. Scope of evaluation: A set of skills to be evaluated.
4. Descriptors: Descriptors must be established for each performance level to make scores believable and unbiased.

There are several websites of Economics departments showing different applications of rubrics such as Hauge et al. (2009) from the Economics Department at Ripon College. There is also the website

of the Mihaylo College of Business and Economics at CSU-Fullerton, which shows a wide range of categories used by the University of Winona and various other universities worldwide.

4. Rubrics at Icesi

Since 2007 the School of Business Management and Economics at Icesi University began to make adjustments to conform to the requirements of an international accreditation process with The Association to Advance Collegiate Schools of Business (AACSB). In the frame of this process, the professors who taught the course “Macroeconomic Theory I” got together and made adjustments to make the course syllabus focus on the pursuit of two learning goals that must be reinforced, i.e. improving critical thinking and oral/written communication skills.

The starting point for establishing the measuring approach was previous reviews of the course, and the rubric methodology was selected as assessment tool to measure students’ work. With regard to the grading scales, the following four categories were agreed upon: no evidence, confusing, partial with minor inaccuracies, and totally using the numerical equivalent grades shown in Table 1 below.

With regard to skills, it was agreed that critical thinking skill include: analysis based on economic theory using models, charts, and algorithms, and arguments for value judgments of reading passages (own comments). The following was agreed with regard to written communication skills: rationale for writing, grammatical construction, and spelling. With regard to the presentation of documents, the following was agreed: identification of sections and titles, page numbering, quotes, references, bibliography, and the incorporation of charts, tables, and figures.

The students prepared a review about the report submitted by the Colombian Central Bank to the Colombian Congress. The deadline for submitting the review was 15 days. Specific information was gathered about two courses in the second semester of 2009. The students in these courses were provided with information about the rubric, including evaluation criteria, grading, and skills to be evaluated. The number of students in both courses was 50. In average, they earned a grade of 3.1 on a 0-to-5 scale as shown in the table below:

Table 1. Statistics of Variables

Variable	N	Mean	Std. Dev.	Minimum	Maximum
Final grade	50	3.15	0.96	0.00	5.00
Critical thinking skills grade	50	3.20	1.17	0.00	5.00
Written communication skills grade	50	2.84	1.22	0.00	5.00
Document presentation grade	50	3.28	0.97	0.00	5.00
Age	50	22.28	3.39	18.00	31.00
Cumulative average	50	3.85	0.24	3.49	4.47

Source: Author’s calculations

Out of the abilities evaluated, written communication was the skill in which the students earned the lowest average (2.84 vs 3.20). It was also the skill with the highest standard deviation. Other data about the students include the fact that almost 50% of the students graduated from the same school, they are mostly women (52%), and the percentage of students who attends either of the Economics programs available at the University is 30%.

One of the advantages of rubrics – what actually makes them important – is that they provide both professors and departments aggregate information about the development and evolution of competencies of a group of students. This allows for more comprehensive review and feedback about the programs. This is particularly shown in the following table.

Table 2. Criteria and results of using the rubric

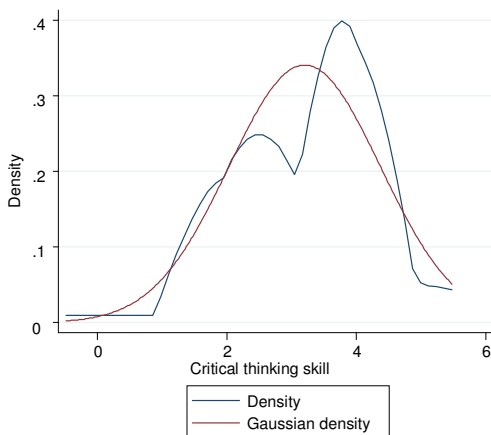
Aspect	Highest grade	Evaluation of results				Final grade
		Not evidenced	Confusing unclear	Partial with minor inaccuracies	Totally	
		Grade: (0-2)	Grade: (2.1-3)	Grade: (3.1-4)	Grade: (4.1-5)	
Critical thinking skill	2.50 [Med=3.20; Sd=1.17]	28%	18%	42%	12%	100%
Written communication skill	1.25 [Med=2.84; Sd=1.22]	32%	12%	50%	6%	100%
Document presentation	1.25 [Med=3.28; Sd=0.97]	24%	8%	64%	4%	100%

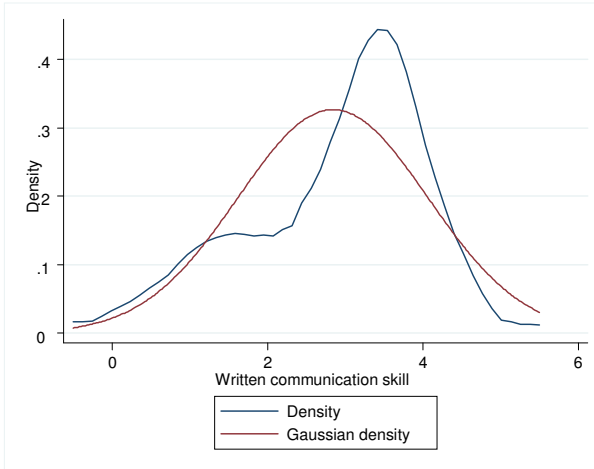
Source: Author’s calculations

The results in Table 2 above show that the aspect where positive results regarding the development of skills are most evident is critical thinking skills, i.e. 12% vs. 6% for written communication skills. However, these results also show that more progress is yet to be made in critical thinking and written skills.

An additional consideration that should be taken into account in reading and analyzing the results is the threshold for each of the categories. This is shown in the following Kernel figure illustrating the distribution of skills.

Figure 1. Distribution of skills





Source: Author’s calculations

Silverman’s (1981) technique was used for determining whether the data revealed the existence of one or more than one mode. Silverman’s (1981) test is based on “smoothing” the critical bandwidth. Let us now consider the problem of testing the null hypothesis that density f has k modes versus the alternative that f has more than k modes. Let \hat{h}_k be the critical bandwidth; i.e. the smallest value of h so that $\hat{f}(x;h)$ has k modes. A large value of \hat{h}_k compared to \hat{h}_{k+1} shows that strong smoothing is needed in order to create and estimate density having only k modes. Silverman’s procedure (1981) employs the bootstrap technique [Efron (1979)] to evaluate the significance of an observed value of \hat{h}_k . It is based on the Achieved Significance Level (ASL), and this property of monotonicity is unique when the core is Gaussian [Babaud J., A. Witkin, M. Baudin and R.O. Duda (1986) and Minnotte and Scott (1993)]. Hence, if we use a Gaussian core, 100 replicas, and an average of 30 histogram changes, and select the lowest h in Silverman’s test, the following was determined:³

Table 3. Number of modes

Critical thinking skills		Written communication skills	
Number of modes	P-value	Number of modes	P-value
1	0.06	1	0.16

Source: Author's calculations

According to Martínez-Ramírez, Mayorga-Saucedo, and Salgado-Ugarte (1998), if the p-value is greater than 0.1, then the hypothesis that holds that the distribution is unimodal is acceptable. Therefore, based on table 3 above, it can be concluded that the distribution of critical thinking skills is not unimodal and the distribution of written communication skills is unimodal.⁴ It will thus be necessary to review the thresholds in the future in order to improve identification of the results of a group.

Lastly, another analysis was performed in order to test how different the results of a review were vs. those from the immediately preceding semester. Because the rubric cannot be used with the students who have previously completed the Macroeconomic Theory I course, but it can be used with students who will take this course for the first time, two different groups of students are considered. A control group consisting of students who completed the Macroeconomic Theory I and the other will be the treated group comprised of students who will attend the same course. There were 50 students in the groups in which the rubric was used. As mentioned above, the students earned a mean grade of 3.15 on a 0-to-5 grading scale (zero being the lowest and five being the highest grade) with a standard deviation of 0.957. The number of students in the control groups was 40. Their mean grade was 3.73 on a 0 to 5 grading scale (1.68 being the lowest and 4.8 being the highest grade).⁵

Thus, a matching-type analysis was performed in order to determine the impact of a measurement on two different individuals. In particular, let z be a binary variable that indicates the application of a rubric or treatment in such a way that the students on which the rubric was used, z takes the value of one. Let y_1 be the grade earned by those students on which the rubric y was used, and let y_0 be the grade earned by those students on which the rubric was not used.

Then, let us define a random vector (y_0, y_1, x, z) for the population of interest, whereas x is a vector of explanatory variables in

such a manner that an individual i will have $(y_{0i}, y_{1i}, x_i, z_i)$. Based on the above it is possible to calculate the average treatment effect (ATE), the average treatment effect for those students who were graded using the rubric (ATT), and the average treatment effect for those students who were graded without using the rubric (ATC). The results were as follows:⁶

Table 3. Effect of treatment

	Value	p	Value♣	P
ATE	-0.58	0.004	-0.40	0.053
ATT	-0.48	0.019	-0.34	0.107
ATC	-0.71	0.001	-0.47	0.049

Source: Author's calculations

Note: The following variables were used as control variables: same school, age, cumulative, average, sex, ♣ includes Economics; N=90.

The results in Table 3 show that the average grade dropped by 58 tenths in the rubric-based system, and if we consider the effect of having Economics students in these courses, this reduction equals 40 tenths on the grade earned by the students when the rubric was used. Meanwhile, the effect of the rubric on the results of those students who participated in the use of the rubric is statistically significant and, as in the previous case, is also negative. The statistical differences between the courses that used the rubric and those who did not suggest that, when it comes to grading, teachers probably do not take into account all of the competency evaluation factors described in the rubric. Therefore, they implicitly allocate different weights to the factors that they identify, which could account for these differences.

5. Conclusions

Rubrics are useful for defining and specifying the expectations of a given school or department with regard to their students' learning performance. Rubrics also provide objectivity to subjective grades, facilitate grading, and enable students to have a better understanding of their strengths and weaknesses. It is essential that rubrics have a title, a grading scale, a scope of evaluation, and descriptors. In order to accomplish optimal results, it is advisable not to return grades to the students without providing them qualitative results and allowing

a certain period of time for them to react to these results. Rubrics supply information that can be used as feedback only about previous courses (about skills that should have been introduced and probably reinforced in previous courses), but also about students who are just beginning a course.

Rubrics were selected as an evaluation method at Icesi University because, first of all, it allows analyzing the general results of a group with regard to the skills that are going to be introduced, reinforced, and evaluated, and secondly, in the past, students were asked to write essays, but they were not provided with proper feedback.

The results on the Macroeconomic Theory I course demonstrate that the critical thinking skill is where there is the highest percentage of students in the “totally” category. The results also show that the skill that needs to be emphasized or stressed is written communication. An analysis of the distribution of skills reveals that the numerical evaluation of skills should be reviewed in the future in order to adjust these levels.

Lastly, rubrics enable all faculty members in a given discipline to reach a consensus about the weight of each evaluation factor with regard to the final grade, which should be aligned with the learning objectives of each course, and undergraduate economic programs.

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NOTES

1. 58% at the University of Murcia, Spain (Maria-Dolores 2009).
2. See Montenegro (2008) for a overview of the first Economics academic programs offered in Colombia.
3. We also calculated the critical bandwidth using Least Squares CV, Biased CV, Smoothed CV, Jones, Marron and Park CV, Park and Marron plug-in and Sheater and Jones plug-in. The results are available from the authors on request.

4. See Mora and Nuñez (2009) for the test of the unimodality in the distribution.
5. We used in a control group two different teachers from those included in the treatment group.
6. For further explanation, see Wooldridge (2002).

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THE MORAL ASPECT OF BUSINESS DECISIONS

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ABSTRACT. Baker contends that ethical rules in society change in time and are different in different cultures. McGee maintains that efficiency is a variant of utilitarian ethics. Doorn asserts that Rawls' method of wide reflective equilibrium explicates and defends his theory of justice. Burton and Goldsby argue that behavior that does not meet an identifiable and justifiable ethical standard must lead to relative harm to shareholders over the long term. Meinster explains how economic theory based on empiricist philosophical principles produces concepts that distort our experience of the economy. Werhane notices that what is often missing in organizational decision-making is a systemic as well as a morally imaginative approach.

JEL: A11, L17, Q01

Keywords: moral, business, decision, efficiency, behavior, organization

1. Introduction

Baker writes that an excessive competitive spirit tends to induce unethical business practices. The source of ethics is less important than discovering the right rules. McGee holds that insider trading is generally perceived as unethical, and uses two basic philosophical approaches to determine whether insider trading is ethical – the utilitarianism (an action is good if the result is the greatest good for the greatest number) and rights-based approaches. Doorn makes an inventory of recent applications of Rawlsian approaches in applied

ethics, discussing the theoretical concepts of WRE and overlapping consensus. Burton and Goldsby point out that long-run shareholder wealth enhancement can be pursued without worries about whether the actions taken are ethical (only ethical behavior guarantees long-term shareholder wealth enhancement). Meinster claims that the crisis in business ethics stems in part from the prevailing method of applying ethical theories to business issues. Werhane asserts that in today's expanding global economy, we need to revisit our mind sets about corporate governance and leadership, developing a values-based model for corporate governance that will be appropriate in a variety of challenging cultural and economic settings.

2. The Lack of Ethics in Business

Baker contends that ethical rules in society change in time and are different in different cultures. Ethics usually concerns relations of mutual concern in society between all individuals. Some individuals and businesses will be tempted to act unethically. The lack of ethics in business can help to undermine the free enterprise system. A certain homogenization or uniformization of basic ethical principles should reduce terrorism and violence. Most businesses are subject to enormous short-term pressure to meet their earnings targets. Baker puts it that almost no corporation is democratic but often has a chief executive with almost unlimited powers. Profit or greed often overpowers ethics. Unethical dealing adversely affects the business's reputation and can create large potential risks for the business. Our societies are insufficiently ethically developed (crime and unethical conduct reward the individual wrongdoer). Peer pressure by other companies induces companies to be more ethical. Baker maintains that sustainable human development rests on stable and successful interaction amongst three forces: *government, the economy and civil society*. Ethical expectations are now high for businessmen and their ethical obligations are not always clear. The primary duty of business remains to maximize profit for their shareholders. Baker claims that the public expects the private sector to fulfill its ethical and environmental obligations. Academic research can play a critical role in helping to evidence the evolution of business ethics.¹

McGee maintains that efficiency is a variant of utilitarian ethics. The actual number of shares traded by insiders may be irrelevant. Allowing individuals to trade on insider information gives them the

incentive to uncover information. According to the rights-based argument in favor of insider trading, property owners have the right to do whatever they want with their own property regardless of what others think. It is not possible or desirable to have a level playing field in the realm of economics (buying and selling is somehow unethical when the information is asymmetric). Forcing insiders to share their justly acquired property rights in information would be unfair to the people who own the information. McGee remarks that insiders nearly always have better information than outsiders. A transaction is fair if it is the result of voluntary exchange and unfair if the exchange is forced. Even if insider trading results in net benefits to society, there are instances where insider trading is unethical (e.g., in cases where someone trades on information they are not legally or morally entitled to trade on). Trading on inside information causes information to be released into the marketplace sooner. Preventing individuals from trading their property violates their property rights. McGee emphasizes that it is not always possible to know whether insider trading results in a positive-sum game. All capitalist acts between consenting adults should be legal and unregulated.²

3. Ethical Behavior and Reputational Capital

Doorn asserts that Rawls' method of wide reflective equilibrium explicates and defends his theory of justice. Rawls' idea of justice as fairness can be endorsed, in a plural society, by adherents of reasonable comprehensive doctrines as a *political* conception of justice. People with divergent comprehensive doctrines agree on "principles of fairness" related to the political realm. When all citizens recognize that they affirm the same public conception of political justice, reflective equilibrium is wide and general. The principles are part of an overlapping consensus. In a constructive way, Rawls' method is used as a framework for structuring discussion and debate. In the case of descriptive use, the explanatory power of the method is dependent on epistemic and cognitive considerations. Doorn says that Rawls develops a universal procedure for reaching moral agreement. Rawls' concept of procedural justice provides a *procedure* for deriving a fair or just outcome. Doorn claims that Rawls makes a distinction between three kinds of justification: political justification (a *pro tanto* justification of the political conception), full justification (it deals

explicitly with citizens within their own life and with their own comprehensive doctrine), and public justification (justification by political society). In case of *pro tanto* justification, the requirement of public reason guarantees the “impartiality” of the justification. In cases of public or political justification, justification is done by embedding it in the individual people’s comprehensive doctrines. The type of justification determines whether priority should be given to either the criterion of public reason/detachment or to that of inclusiveness. To justly derive principles of fairness, people are put behind a veil of ignorance.³

Burton and Goldsby argue that behavior that does not meet an identifiable and justifiable ethical standard must lead to relative harm to shareholders over the long term. When managers make decisions, the consequences are both economic and moral. “Good ethics” and “good business” both are externally, subjectively judged measures of business activity. Burton and Goldsby examine what level of morality is implied when a floor exists for corporate decisions and behavior. Individuals may mean different things when making determinations of what is “ethical.” If managers focus their thinking on increasing long-term profit, the result will be ethical decisions. The invisible hand of capitalism forces managers to make decisions that society sees as ethical. Ethical behavior is a necessary but not sufficient condition for absolute profitability. Burton and Goldsby contend that all things being equal, the firm whose managers behave ethically will be more profitable than the firm whose managers do not behave ethically. A tendency to engage in ethical behavior might satisfy actors overall in the economic marketplace. A tendency toward unethical behavior may be enough to steer consumers away from a firm. Burton and Goldsby maintain that if a firm’s managers have a tendency to behave ethically they can build reputational capital. Economic theory equates ethical behavior with what society wants. What some in society view as morally forbidden, others will view as morally neutral, or even morally obligatory.⁴

4. The Financial Benefits of Ethical Behavior

Meinster explains how economic theory based on empiricist philosophical principles produces concepts that distort our experience of the economy, showing that Schumpeter’s empiricist epistemology causes him to mistake his own theoretical constructions for the real

economy and its processes. Before we can apply ethics to issues in business, those issues must first appear *as* issues in need of ethical clarification. Schumpeter's empiricist model of science causes him to confuse his theoretical constructions for real economic processes. Meinster writes that Schumpeter invents a dynamic theory of economic development to address the real qualitative changes caused by capitalist expansion: to be considered an exact science, economics must employ rigorous scientific methods that have their basis in logical positivism. Economic science is based on the physical causal relation between a real economic process and an organic mind. Equilibrium theory represents the economy mathematically. On Meinster's reading, Schumpeter seeks an objective principle in *instrumentalism* (the success of a science is judged by its ability to make effective contributions to real economic problems). The defining characteristic of capitalist development is the phenomenon of entrepreneurial activity. Creative destruction expresses a process of qualitative change immanent to the economy. Schumpeter argues for a synthetic economic model to bridge the gap between static and dynamic theory. Meinster observes that Schumpeter treats economic data as if it is the cause *and* effect of economic life, mistakes conceptual relations in his synthetic theory for real relations in nature, and identifies the opposition between creative destruction and the tendency toward equilibrium as the engine for economic, intellectual *and* political development.⁶

Werhane notices that what is often missing in organizational decision-making is a systemic as well as a morally imaginative approach. Moral imagination operates on organizational and systemic levels as a facilitative mechanism that may encourage sounder moral thinking and moral judgment and new models. How any system is construed and how it operates affects and is affected by individuals in various complex and interrelated configurations. Werhane claims that a multiple perspectives approach is, in part, a multiple stakeholder approach. The use of moral imagination helps managers to question and revisit their traditional models for corporate governance and valuation. One should recognize the value of workers as people and their contributions and the positive market effects⁷ of paying workers⁸ living wages.⁹

5. Conclusions

Baker remarks that leaders can by their power enforce ethics and punish violations. The pressure of public opinion has resulted in direct and indirect pressure on businesses to conform to ethical values. McGee observes that most western legal systems are a mixture of utilitarianism and rights theory. Insider trading may be used to compensate executives when the company is doing poorly. Doorn notes that Rawls' idea of wide reflective equilibrium supposes that neither background theories, nor moral principles, or considered judgments have priority over one another. Burton and Goldsby reason that actors expect managers to reach a particular moral floor (actions by managers that fall below the moral floor probably would prompt actors to cease relations with the firm in question). Meinster holds that the crisis in business ethics is caused by economic theories that distort economic experience. Philosophy can explain the meta-physical, epistemological and methodological context for the theoretical tools business people use to make business decisions. Werhane holds that moral imagination entails the ability to get out of a particular mind set or mental trap.

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COMPETITION POLICY AMONG THE ENERGY UTILITIES AND THE EVOLUTION OF LIBERALIZED ELECTRICITY MARKETS

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ABSTRACT. Green explains that electricity trade across European borders was limited by the low levels of interconnection. Andersen points out that conceptual interest in carbon-energy taxation emerged across Europe in recognition of serious environmental challenges. Enevoldsen et al. argue that the effect of an energy tax is exactly the same as the equivalent increase in energy prices. Andersen and Speck stress that more substantial tax rates would be required to induce further energy savings.

JEL: A11, L17, L66

Keywords: competition, policy, energy, utility, tax, market

1. Introduction

Green outlines the reasons why it was (and is) hard to create competition in the energy utilities. Electricity and gas both depend upon networks, a natural monopoly (the industry's costs will be minimized if there is only one network operator within a given area). Speck and Jilkova claim that a number of increases in energy tax revenues will occur in the new EU member states as a consequence of the adoption of the Energy Taxation Directive. The new framework for the taxation of energy products extends the number of energy products. Enevoldsen et al. points out the extent to which energy taxes (via the

resulting increase in real energy prices, or in their own right) reduce or enhance industrial competitiveness, showing how changes in real energy taxes and real energy prices affect, (i) competitiveness measured in terms of unit energy costs and unit wage costs and (ii) economic performance expressed in terms of output. Andersen and Speck maintain that there are different arrangements for mitigation and compensation in place with respect to energy-intensive industries in Europe's ETR countries.

2. Electricity Trade across European Borders

Green explains that electricity trade across European borders was limited by the low levels of interconnection. In many EU countries, the gas and electricity sectors were dominated by a few large companies. The European Commission has used the power to police agreements between firms for their impact on competition to further liberalization in the energy utilities. In 2005, E.ON of Germany was cleared to acquire the gas trading and storage activities of MOL of Hungary, E.ON acquiring its import contracts, and owned distribution companies in Hungary, with a dominant position in storage and wholesaling raised competition concerns. Merging with Ruhrgas of Germany, E.ON acquired PowerGen of the United Kingdom in 2001. Both E.ON and Ruhrgas had two-thirds of their EU turnover in one Member State. Green emphasizes that many countries have effective competition for large business users of electricity. Significant amounts of political will would be required to break down vertical integration in the energy utilities. With more market participants, wholesale markets will become more transparent, and prices more acceptable to consumers. Some energy markets are becoming more liquid. If we want to create an energy sector without significant market power, the policies required are clear, by separating transmission from the rest of the industry and dealing with horizontal market power within a country. Cross-border shareholdings may reduce competitive pressure from companies in neighboring markets.¹

Reinaud points out that with the introduction of CO2 emission constraints on power generators in the EU, climate policy has notable effects on energy markets. EIIs are industries whose purchases of energy products and electricity exceed a certain threshold. Energy-intensive users' profitability varies strongly according to energy prices. Several energy users have found themselves paying more

since abandoning regulated tariffs for market prices. Energy-intensive users decide to generate their own electricity (i) when the fuel price is low; (ii) when the quality of the transmission or electricity is poor; and/or (iii) when the cost savings from grid transportation are high.² Honkatukia et al. illustrate the key elements in the Nordic electricity market and derive theoretical explanations for some observations made in the markets, describing common outcomes derived in models of imperfect competition considered plausible in modeling electricity markets. In liberalized energy markets the generators might be able to sustain prices above competitive levels. The price of electricity correlates strongly with the cost of fossil-fuel energy. Most of the consumed energy is produced using non-fossil-fuel power. The spot market energy prices correlate strongly with the price of ETS permits.³

3. The Development of Energy Taxation

Linares and Santos maintain that renewable energy (RE) promotion policies were devised as a way to reduce energy dependency. Two options are generally used: price systems (premiums) and quota systems (usually associated with tradable green certificates). Renewable promotion helps to reduce carbon emissions and energy dependency, contributing to the development of local industry. There may be substitution effects between energy sources when their relative prices are modified.⁴ Andersen points out that conceptual interest in carbon-energy taxation emerged across Europe in recognition of serious environmental challenges. Carbon-energy taxation was conceived primarily as a policy instrument to curb carbon emissions. Carbon-energy taxation applied in isolation faced opposition due to concerns about the potential negative economic impacts. Most ETRs have adopted cautious and incremental approaches to increasing carbon-energy taxes. Companies cannot be rational and optimal in their use of energy as an input factor. ETR induces differences in energy costs which normally are assumed away. Taxes on carbon and energy remain an important instrument to curb greenhouse gas emissions. Carbon-energy taxes can be applied both at the level of individual EU member states and collectively by the EU as a whole.⁵

According to Speck and Jilkova, the development of energy taxation in Slovenia displays some interesting features. The EU minimum excise rates established under the Energy Taxation Directive

apply in Slovenia. Slovenia was the first country in Eastern and Central Europe to introduce a CO₂ tax. Special tax provisions for business have been implemented in the Slovenian CO₂ tax regime. There is a long tradition of environmental taxes and charges in environmental policy in Central and Eastern European countries (CEECs). Speck and Jilkova state that the countries in the region have revised tax policies and implemented changes in the overall public finance systems. The environmental-tax-to-GDP ratio has been constant in the Czech Republic and Hungary during the period 1995–2005, whereas in the Baltic countries the ratio more than doubled during the same period. CEECs have a long tradition of earmarking revenues from environmental taxes and charges. The CEECs face a major backlog with regard to environmental infrastructure implementation: environmental funds play a role in co-financing the investments in environmental infrastructure necessitated under the terms of the *environmental acquis*.⁶

4. The Effect of an Energy Tax

Enevoldsen et al. argue that the effect of an energy tax is exactly the same as the equivalent increase in energy prices. Energy taxes have a strong environmental effect in the form of reduced energy consumption. Energy is some environmental problem and a major input factor into industrial production. Rising energy prices have an adverse impact on economic performance. Rising taxes and energy prices will induce firms to substitute towards other input factors. Rising energy prices and taxes may reduce output since lower energy consumption is not compensated for by other input factors. Enevoldsen et al. test whether Porter hypotheses of various degrees are supported by the evidence relating to energy taxes. Endogeneity problems apply to the set of variables that would be required to estimate both unit energy costs and economic output. The most relevant measure of price competitiveness is *unit energy costs* (total energy expenditure per unit of gross value added in market prices). Unit energy costs are a partial measure of the price competitiveness of an industry, and a measure of energy intensity. Unit energy and unit labor costs are determined first and foremost by the real price of energy and labor respectively. Rising energy prices over time leads to increasing unit energy costs. Unit energy costs and unit raw materials costs both have a positive influence on unit labor costs. Competi-

tiveness is reduced as a consequence of higher energy prices. Competitiveness and economic output is not affected very much by changes in energy taxes. Higher energy tax increases may have more drastic (exponential) effects. Energy taxes mainly work through the demand-related Porter effect on output. Energy taxes have a very significant direct impact on output. There is a Porter effect that mitigates the immediate negative impact of green energy taxes on economic performance. By means of econometric panel regression techniques, Enevoldsen et al. demonstrate the impact of market energy prices, energy taxes, labor and raw materials costs on price competitiveness and economic output, quantify the economic impact of energy taxes and show that higher energy taxes lead to a moderate increase in unit energy costs and a small increase in total unit input costs. The very moderate negative economic impact is the result of Porter effects. Energy taxes have different effects on competitiveness and output than market energy prices of a similar size.⁷

Andersen and Speck state that Sweden's 1989 environmental tax reform transformed the existing practice of energy taxation on industry to a combined energy and CO₂ tax base. Swedish cement was able to absorb the tax through a lowering of its energy costs by switching fuels. The burden of ETR falls mainly on the most energy-intensive sectors (e.g., glass, cement, and ferrous metals). A pioneering element of the early carbon-energy taxation scheme in Finland was the principle of fuel-input taxation for electricity production. The environmental effectiveness of the energy taxation scheme has, with regard to electricity, lost its original precision. No taxation of industrial energy consumption was in place in Denmark prior to the introduction of the CO₂ tax in 1992. A feature of the Danish mitigation approach has been the recycling of revenues for energy efficiency purposes. Andersen and Speck stress that more substantial tax rates would be required to induce further energy savings. For electricity, tax rates in the Netherlands are comparable to Danish rates for industry. Sweden, Finland, and The Netherlands have a threshold in their carbon-energy tax legislation. In Slovenia certain energy-intensive industries were allowed a basic deduction according to their baseline emissions. Energy-intensive industries have not received special mitigation treatment under Slovenia's CO₂ taxation scheme. Germany's Environmental Tax Reform extended an earlier system of taxation of liquid energy products for industry and transport. Germany leads with regard to energy savings in ferrous

and non-ferrous metals and meat. The reduction mechanisms for energy-intensive industries result in much lower effective tax rates for companies. The reduced rates for energy-intensive industries align with the minimum rates of the EU's Energy Taxation Directive. In the UK, the imbalance has been mitigated via special mechanisms for energy-intensive industries (such as agreements and reduced rates for heavy industries). Andersen and Speck contend that for most sectors ETR appears to represent a cost. The energy productivity improvements which can be related to the tax increases are relatively minor. ETR, even with the exemption mechanisms in place, induces a gain for energy-intensive industries only in exceptional cases. Andersen and Speck maintain that from the sectoral perspective, the burden on energy-intensive industries is negative. Company managers in energy-intensive industries may not have appreciated the tax-induced improvements in energy efficiency. The time span required for adaptation to increased energy taxation is approximately four years.⁸

5. Conclusions

Green holds that distribution companies can be quite small without incurring an excessive cost penalty. It is generally possible to have many companies following the orders of a system operator, without compromising the integrity of the system. Speck and Jilkova contend that the transitional periods granted to the new EU member states will reduce the initial revenue-generating effect of energy taxes. Enevoldsen et al. distinguish between competitiveness as an economic potential (e.g., in terms of low unit energy costs), and the effects of that potential, which could be higher economic output and exports. Andersen and Speck reason that for most energy-intensive sectors the tax-induced energy savings were not sufficient to offset the ETR burden. The general and specific energy tax rules combine to produce a complex mosaic of exemptions.

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MEDIA CONCENTRATION, DIGITAL COMMUNICATION NETWORKS, AND THE IMPACT OF NEW MEDIA ON THE NEWS ENVIRONMENT

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ABSTRACT. Cooper says that the dissemination of news and information to the vast majority of citizens will continue to come from the commercial mass media for the foreseeable future. Palmer claims that the *paradox of user control* is that of the illusion of choice within which the user is offered up for a form of soft domination. Brodsky claims that the nature of the news is changing. Freedman observes that the internet presents a genuine challenge to the business operations of traditional news organizations. Shirky holds that people are interested in bulk sources, in expert editorial judgment, and in serendipity.

JEL: D83, L82, R31

Keywords: media, concentration, digital, communication, network, news

1. Introduction

Cooper notes that the mass media are the primary means through which citizens gather news and information. The ownership and control of television programming, especially news dissemination, is concentrated. Concentration of media ownership reduces the diversity of local reporting. According to Freedman, advertisers are increasingly attracted by the possibilities of more accurately targeting audiences online. Shirky contends that people worry about attention

span and change the media they worry about. The Internet almost never moves us from a world of one effect to another effect (it almost always increases the range of all effects).

2. Combining Structural Analysis of Commercial Media Markets with Qualitative Analysis of Media Market Performance

Cooper says that the dissemination of news and information to the vast majority of citizens will continue to come from the commercial mass media for the foreseeable future. Structural policy must rest on a quantitative assessment of media markets and institutions. By routine antitrust standards virtually all of the national and local media product markets are concentrated. Cooper maintains that the goal of media policy should be to promote a vigorous forum for democratic discourse. Information is not just a commodity in which one source of information from one type of media can substitute for another. Cooper holds that dramatic increases in the ability to control and target messages and track media use could result in a greater ability to manipulate and mislead. The new technologies of commercial mass media are extremely capital intensive. Access to the means of communication is controlled by a small number of entities in each community. The Internet has not begun to dislodge the commercial mass media from their overwhelmingly dominant role. News and information provide the critical inputs for public decision making about key public policy issues. The broadcast networks equate all outlets, regardless of the disparity in the reach or audience.

Cooper contends that all media outlets are not equal in democratic discourse. The support for community-oriented activities with respect to television has transferred to the Internet. The structural tendencies of media markets make for "bad" economics. Contemporary mass media markets have moved quite far from the competitive form of organization. The technologies and cost structure of commercial mass media production in the 20th century are not conducive to vigorous, atomistic competition. Groups express strong preferences for specific types of programming or content. Advertising introduces a substantial disconnection between what consumers want and what the market produces. On Cooper's reading, the market produces what advertisers want as much as what consumers want. Advertising in particular, and the media in general, revolves around influencing people's choices. Institutions play a critical role

in mediating between individuals and the political process. Mass media influence the agenda of public policy issues and the public's perception of those issues. Strong differences in taste result in preference minorities who are under served and undervalued by the commercial mass media. The dominant commercial mass media firms are large enough to possess economies of scale. The goal of having an informed citizenry is inherently qualitative and complex. Institutional diversity involves different structures of media presentation. Cooper examines the powerful trends that affect the print media and their impact on democratic discourse and political processes. The operation of newspaper newsrooms produces many stories that become an input for TV news. On the demand side, newspapers and television are complements. The supply of news involves the production of a single product. The general impact of triggering a merger trend will have negative impacts on journalistic values. Mergers tend to starve the journalistic values of the enterprise of resources. The power of commercialism overwhelms the political function of the media. As Cooper puts it, *celebrity personalities* become the centerpiece because of the easy point of focus on highly visible individuals, *scandal* attracts audiences, the *horse race and hoopla* are an easy way to frame the news and to produce constant updating of who is ahead, and *verbal duels* find audiences more easily than reasoned, balanced debates.¹

3. Influencing Public Perceptions through the New Digital Information Age and the Tailoring of the Media Imaginary

Palmer claims that the *paradox of user control* is that of the illusion of choice within which the user is offered up for a form of soft domination. Marketers are continually inventing new ways of making consumption a more engaging experience. There is a blurring between the production and consumption of media. Media products transform themselves into media services. Digital media increases opportunities for marketers to map consumer preferences with greater accuracy. Interactive television consolidates a process of "mass" rather than individual customisation. Palmer contends that digital media technologies are pulling television in two opposing directions: towards *individuation*, and towards *globalization*. The illusion of user control corresponds to the idea of contemporary identity as a continual performative *task* of self-construction. The entire public

sphere is swamped by forms of “public intimacy.” Today’s new media aspires to represent only the individual user’s interests. The kind of world created by interactive or otherwise “participatory” media is an effect of the interface as much as any content.²

Brodsky claims that the nature of the news is changing. More news may lead to less as less space is designated for crucial background information. The media disseminates information about countries and connects them through information. The new media structure has assisted the process of globalization and has provided access to many new users. The media has a role in the public’s understanding of events. Pseudo-events and real events are packaged similarly in the mainstream press. Thinking about word choices will help consumers of news realize the influence of the press. Brodsky asserts that the news has the ability to shape institutional knowledge through inaccurate reporting, that the media has the ability to shape opinion based simply on the market structure, and that inaccuracies will exist because of the nature of the news market (the market runs the news machine). The structure of the news industry influences perceptions of the world outside our heads. The power of new information comes with the pitfalls of traditional media. Brodsky points out that consumers are not blind to the influential effects of framing in the media (framing creates a shortcut and makes events recognizable).³

4. Interrogating the Nature of News Journalism

Fenton is concerned to address news and current affairs journalism that purports to be for the public good and in the public interest. New media has offered a fresh means of anxiety. The internet brings new ways of collecting and reporting information into the newsrooms. Newsrooms have become increasingly decentralized and flexible. The space available gives rise to the potential for a plurality of news providers that threatens the monopoly of provision from major transnational corporations. In an online world multiplicity adds up to increased quantity. Fenton argues that in a digital age, the relations of power remain on the whole the same to the increasing advantage of global media conglomerates. Concentration of ownership is likely to filter ever outwards to the internet. The internet can be seen as contributing to the stifling of journalism for the public good and in the public interest.⁴ Freedman identifies the scale of the economic

problems faced by traditional news providers and discusses some of the strategies adopted by organizations to cope with an insecure environment. The internet's ability to connect advertisers directly to consumers raises the possibility that the historic link between advertising and editorial will be broken. The major problem affecting traditional news providers is the degeneration of the existing news business model that tied together news and advertising. The internet features as a significant factor in the "restructuring" that is occurring throughout the news industry. The internet's advantages are a problem for traditional news organizations. The decline in circulation often attributed to competition from the internet predates the digital age. Television remains a crucial medium for delivering mass audiences to advertisers (news consumption is less likely to be cannibalized by online news). Freedman observes that the internet presents a genuine challenge to the business operations of traditional news organizations. The internet has contributed to a possibility that the news of the future is going to be sustained by a declining number of specialist news organizations. The future of news depends on imagination, independence, and investment.⁵ Phillips considers the effect of the internet as a means of accessing information. The internet is a means of improving the collection of information and enhancing the quality of information gathering. The speeding up of news reporting and the need to be visible on the net is impacting on the quality of follow-up of routine news.⁶

5. The Transformational Power of the New Forms of Tech-enabled Social Interaction

Shirky holds that people are interested in bulk sources, in expert editorial judgment, and in serendipity. Overpaying, underserving, and the incoherence of the print bundle in a web of content will not be altered by reversing the revenue trend. The Internet makes all commercial models of journalism harder to sustain, and it makes public models easier to sustain. Shirky claims that newspapers are irreplaceable in their production of accountability journalism. People in the newsroom side often overestimate the degree to which people buy the newspapers for the news.⁷ Shirky puts it that the idea of literary reading as a sort of broad and normal activity was done in by television: when television came along, it became, to a degree unprecedented in the history of media, the dominant activity in life.

The Internet has not decimated literary reading but has brought back reading and writing as a normal activity for a huge group of people. When people are given media that is not interactive, they invent their own interactions around it. Someone who is interested in a certain kind of content can actually get much more access to it than possible. The actual effects of making more information available to more people have been enormously beneficial to society. Shirky thinks it would be difficult to show that the enormous increase in the speed and totality with which novel information is spread to the people who need it is bad for intellectual life. The news is not a very coherent category: we use the word “news” to describe more than one sort of rough set of things, and “gossip” to describe another rough set of things, but, in fact, they overlap. People will always be interested in information relevant to their current situation. The current newspapers, although they talk civic responsibility, do not seem to be turning themselves into nonprofit business models very quickly. Part of the disorientation now it is discovering that print journalism does not survive without a business model at all. The number of people who commit acts of journalism will rise enormously and the number of people who derive most of their income from acts of journalism is going to shrink.⁸

Shirky maintains that journalism is about more than dissemination of news: it is about the creation of shared awareness, and asks us to consider the difference between assembling a public for a newspaper, and for stories on that paper’s website: the publisher assembled the public for the paper, maintaining subscribers lists and distribution chains, and got to decide what front-page news was for those readers; on the website the stories are the same, but assembling various publics is different, and the home page does not serve the function the front page used to (online, it is the relevant networked publics who determine much of what gets read). The logic of the Internet is that the act of forming a public has become something the public is increasingly doing for itself. Three big shifts are: an increase in direct participation (various self-assembled publics can increasingly engage in acts of journalism on their own); an increase in the leverage of the professionals working alongside the amateurs (high leverage in having a small number of professionals vet, edit, and shape that raw material; decentralization will increasingly characterize successful new models of journalism); and a second great age of patronage (in an age where the cost of making things public

has fallen precipitously, patronage models look eminently reproducible). Shirky points out that journalism is seeping into the population at large, with the models of subsidy being altered to fit that shift. The journalistic models that will excel in the next few years will rely on new forms of creation.⁹

Shirky claims that the importance of the social graph as a shaper of anything that passes through society is going to become so present as to be invisible.¹⁰ On Shirky's reading, we're dealing with the ramification of having long-form writing not necessarily meaning physical objects, not necessarily meaning commissioning editors and publishers in the manner of making those physical objects, and not meaning any of the sales channels or the preexisting ways of producing cultural focus. The maw of production of the book world is opening up. More thoughtful long-form writing is happening outside of the traditional publishing industry. Whenever the production maw has opened more widely, the average quality falls as the denominator has exploded. The ability to engage in price competition with one another cuts both ways in a digital environment (the marginal cost of distribution is still zero). The digitizing of a book adds to searchability and to portability, as search is essentially the current model of information-finding. The cultural norms that we set now will determine the difference between how much of what we're doing online is essentially self-amusement versus stuff that throws off a lot of significant public and civic value.¹¹ Shirky asserts that when publishing ceases to be expensive, no one has to ask whether something is worth saying in public. The filters are applied after something is published, not before. We are in a world where most books are incomprehensible to most people but we do not notice that anymore. There is so much content that we have broken all the old filters. The over-publishing of content has been a normal problem since the invention of the printing press. Individual activity is going to show up where it is needed most and where it is most effective.¹²

According to Shirky, when organizations think about strategy, it is often in the context of their own objectives, but when the surrounding reality changes both strategy and goals need to adjust. The ability to coordinate group effort and to coordinate group access to the means of publishing are ubiquitous, global, and free.¹³ Shirky contends that online, small payments only work when the collector of those payments has end-to-end control of delivery: the core attribute of successful systems is the ability to prevent the users from

expressing their preference not to be nickel and dimed. Nickel and diming us raises the cost of a piece of content and sharply lowers the value as well (payment systems have to forbid such sharing in order to function). It is not possible to establish a monopoly on news.¹⁴

Shirky emphasizes the ways the Internet and mobile phones and applications built on top of them have changed the way groups of people come together, get things done, and take action. We are entering an ecosystem where news gets produced and distributed and consumed in ways that are different and in some cases dramatically different from what we are used to. The old model of the newspaper is going to break faster than the hyperlocal civic reporting can come in its place. Our free time and talents, when considered in aggregate, represent a resource that's much bigger and more valuable than when it's just each of us operating alone.¹⁵ Shirky asks us to imagine treating the free time of the world's educated citizenry as an aggregate, a kind of cognitive surplus.

How big would the surplus be? To figure it out, we need a unit of measurement, so let's start with Wikipedia. Suppose we consider the total amount of time people have spent on it as a kind of unit – every edit made to every article, and every argument about those edits, for every language that Wikipedia exists in. That would represent something like one hundred million hours of human thought. [...] One hundred million hours of cumulative thought is obviously a lot. How much is it, though compared to the amount of time we spend watching television? Americans watch roughly two hundred billion hours of TV every year. That represents about two thousand Wikipedias' projects' worth of free time annually. [...] One thing that makes the current age remarkable is that we can now treat free time as a general social asset that can be harnessed for large, communally created projects, rather than as a set of individual minutes to be whiled away one person at a time.¹⁶

6. Conclusions

Cooper demonstrates the misguided nature of the decision to essentially eliminate the limits on ownership: previous decisions to relax rules led directly to concentration, consolidation and conglomeration. Freedman claims that the news business will have to rethink

its approach if it is to remain relevant and prosperous in a digital future. Shirky holds that transparency is the new marketing. User-organized media is not an anomaly as these users have the new advantages of speed and the ability to speak with multiple voices.

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NUTRITIONAL SCIENCE AND FOOD POLITICS

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ABSTRACT. Chadwick contends that overall diet gets short shrift in contemporary food safety legislation. Bagchi et al. observe that obesity has rapidly grown into a global epidemic. Frewer and Fischer argue that consumer perceptions associated with the introduction of novel food technologies are characterised by a range of specific perceptions. Paarlberg states that the best way to judge the magnitude of the crisis is to measure actual hunger.

JEL: Q40, Q50, N70

Keywords: nutrition, science, food, technology, safety, legislation

1. Introduction

Frewer and Fischer observe that consumer choice is an important concept in food selection by consumers. Chaudhry and Groves emphasize that the new technologies have a great potential to address many of the food industry's current needs. Paarlberg remarks that the conduct of food politics remains persistently local: most food is consumed in the same country where it is produced. The politically

managed and nonglobalized quality of most food systems is visible in nutritional outcomes.

2. Nutritional Science and Personalized Nutrition

Lau et al. hold that nutritional genomics has emerged as a result of the genomic revolution, including nutrigenetics and nutrigenomics. Bioactive food components may disrupt cellular pathways through alteration of gene expression. A wide variety of bioactive food components can influence the expression of genes leading to altered biological processes. Lau et al. write that nutritional proteomics has the potential to rapidly generate new knowledge pertaining to the complex interplay of nutrition–protein regulation. Nutritional genomics aims to personalize diets based on individual needs for the maintenance of health and prevention of diseases.¹

Chadwick maintains that the majority of discussion about personalization has taken place in relation to pharmaceuticals. Medicine has always been personalized in the sense of the application of professional judgment to the individual case. Marketing foods in terms of their enhancing advantage may prove to be a beneficial marketing device. Strategies that attempt to change behavior are faced with particular difficulties in the case of food. Personalization can serve the ends of putting responsibility for health on the shoulders of individual consumers who decide what to buy and literally consume. Chadwick contends that overall diet gets short shrift in contemporary food safety legislation. Novel foods are examined for safety but not for efficacy. Advice will be ethical if the information is accurate and the advice giver has the authority appropriate to the context. Claims of responsibility for one's own health are challenged by claims of a genetic determinist sort.²

Bagchi et al. observe that obesity has rapidly grown into a global epidemic. Increased food consumption combined with lack of exercise seem to be the major factors contributing to the obesity epidemic. Bagchi et al. focus on the potential molecular mechanisms underlying the observed beneficial effects of the two supplements as elucidated by state-of-the-art nutrigenomic technologies. Bagchi et al. insist on the application of nutrigenomics to evaluating weight management supplements, discussing the effect of these supplements on gene-expression patterns using the high-throughput transcriptomics technology. Nutritional science has gradually shifted toward

personalized nutrition. Nutrigenomics utilizes the powerful technology to study the effect of nutrients or dietary components on the structure, integrity, and function of the genome. Bagchi et al. affirm that nutratherapeutics combined with a healthy lifestyle may be the most cost-effective and natural way to combat this crisis (it is possible to use the powerful tool of nutrigenomics to delineate the molecular basis for the observed beneficial effects of dietary supplements).³ Kohsuke and Hayamizu remark that the wealth of genomic information, genomics-based technologies, and model systems available are being used to study the molecular basis of the interaction of individual food constituents with both the genome and the metabolism of the human consumer. Protein interaction information is essential for systems-level understanding of cellular behavior.⁴

3. Food Irradiation and Consumer Attitudes towards Nanotechnology

Arvanitoyannis and Tsarouhas assert that irradiation of packaging materials generally leads to the formation of free radicals and ions. The use of irradiation has become a standard treatment to sterilize packages in aseptic processing of foods and pharmaceuticals.⁵ Arvanitoyannis remarks that irradiation is one of the successful techniques to preserve food with minimum change to the functional, nutritional, and sensory properties of food products. Food irradiation is the process of exposing food to a controlled source of ionizing radiation. Availability of detection methods for irradiated foods would improve standard regulatory procedures. Arvanitoyannis insists that the changes that occur in irradiated foodstuffs are generally similar to those produced by classic food treatment processes (heating and freezing) or natural spoilage (autoxidation).⁶

Arvanitoyannis and Dionisopoulou point out that estimation and control of microbiological hazards presented by foods are less beset by the problems of inaccuracy that exist in relation to adverse effects from chemical in foods. Irradiated food produced in accordance with established good manufacturing practice (GMP) is safe because the process of irradiation does not lead to changes in the composition of the food that would have an adverse effect on human health. Quantitative risk analysis is a stepwise analysis of hazards that may be associated with a particular type of food product. In Arvanitoyannis and Dionisopoulou's view, measurements of environmental radio-

activity and associated assessments are often based on the average bulk mass or surface concentration. Risk assessments should be based on the best available science. Risk analysis is a process of identifying the potential for possible harm to occur to a particular set of assets or processes and determining the impact. The social experience of risk includes the perception of actual damage.⁷

Frewer and Fischer suggest that factors that are not explicitly addressed as part of technical risk estimates may influence the perception of a given risk. The behaviour of consumers in relation to food safety issues can be properly understood if there is a systematic understanding of the way in which consumers perceive risks. For novel foods to be accepted, consumers must perceive that any potential benefits outweigh potential risks or negative effects. Frewer and Fischer argue that consumer perceptions associated with the introduction of novel food technologies are characterised by a range of specific perceptions. The agri-food sector may be potentially vulnerable to consumer concerns associated with the introduction of novel technologies. Consumers may subconsciously “reject” novel foods because they are not the products they normally purchase. Inducing specific emotions in the course of risk communication may facilitate successful processing of information. Individuals have increasing access to different sources of information about a potentially controversial topic. Frewer and Fischer stress that people hold a very weak attitude towards nanotechnology applied to food production. Consumer attitudes towards nanotechnology may be influenced by the way in which the technology is introduced into society, as well as the effectiveness of the associated communication strategies. The traditional emphasis on risk communication may be less relevant to consumer decision-making. Targeted information provision needs to be developed which meets the needs of different groups of consumers.⁸

Chaudhry and Groves hold that a naturally occurring or synthetic nanomaterial that is not bio-persistent is not likely to pose any different health risk than the conventional bulk equivalent. Many food substances exist naturally, or are metabolised in the body at a nanoscale. The processing of foods at the nanoscale would simply improve the speed or efficiency of their digestion, uptake, bioavailability and metabolism in the body. Chaudhry and Groves conclude that nanoscale processing of foods may alter how the food ingredients “behave” upon breakdown within the gut. Passage of par-

ticles through enterocytes takes place after foodstuffs have been digested into their constituents.⁹

4. Monopoly Power in the Food Manufacturing Industry

Paarlberg contends that food production in Africa today is far less than the known potential for the region. Africa is failing to keep up with population growth because too little has been invested in developing its potential. Food production fails to keep up because nobody invests to make farms more productive. Most governments around the world limit and manage their food imports for the purpose of stabilizing domestic prices. Paarlberg states that the best way to judge the magnitude of the crisis is to measure actual hunger (most of the world's genuinely hungry people do not get their food from the world market). A growing hunger count does not necessarily mean higher hunger prevalence. Many governments have tried to maintain systems to subsidize food purchase in urban areas. Increasing the productivity of farm labor typically requires the introduction of new technologies and government investment in basic rural public goods such as roads and electricity. Governments are sometimes tempted to seek a coercive advantage by manipulating the volume and timing of their food exports. Paarlberg explains that markets for food tend to provide little coercive leverage to big exporters. The greatest competition in international food markets is usually between exporters. Governments in poor developing countries provide much less subsidy support to agriculture (policies in poor countries tend to be urban biased). Farm subsidies are almost never targeted to small farmers or to those in greatest need.

Paarlberg reasons that compartmentalized and localized systems tend to be less able to afford state-of-the-art technical options for food supply protection. GMO foods and crops approved by regulators have so far presented no new scientifically documented risks. International governance in the area of food and farming remains weak because national governmental institutions play a dominating role in both rich and poor countries. Food and farming systems are built heavily around immobile assets, such as agricultural land and irrigation water, and tend to remain nonglobalized because of differing agroclimatic conditions across world regions.¹⁰

5. Conclusions

Frewer and Fischer notice that people tend to be more accepting of emerging technologies that are applied in the pharmacology and medical sectors than in the food sector. Chaudhry and Groves claim that nanotechnologies are promising to revolutionise the food sector. An increasing number of products and applications is likely to be available in the future to consumers worldwide. Nanofood products will be increasingly available on the markets worldwide in the coming years. Paarlberg points out that food systems and farming systems remain significantly separate and distinct. Most policy success or failure in the food and farming sectors takes place nationally or locally.

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THE ROLE OF FINANCIAL GLOBALIZATION IN THE CHANGING GOVERNANCE PRACTICES

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ABSTRACT. da Silveira and Dias Jr. maintain that the privatization model adopted in Brazil created large companies with shared control. Othman and Ameer assert that firms tend to disclose social and environmental issues in narrative (non-monetary) terms. Callaghan and Nehmer maintain that visible companies with higher intrinsic risk and lower GS are adopting XBRL early in a low-cost attempt to improve the perception of their corporate governance quality. Dong and Xue point out that imposing stricter governance rules than the current ones is likely feasible, provided that governance-related institutions are developed consistently in China.

JEL: F01, G34, M42

Keywords: financial, globalization, corporate, governance, practice, quality

1. Introduction

da Silveira and Dias Jr. contend that ownership structure is crucial for the determination of the relevant agency costs taking place in a given firm. The main governance problem among Brazilian companies occurs between controlling and minority shareholders. Othman and Ameer write that Corporate Environmental Reporting (CER) or disclosure refers to a corporation's release of environmental performance information to the general public, whereas Corporate Social Responsibility Reporting (CSRR) refers to the release of a corporation's societal performance to the general public. Only reported

numbers may not be enough to judge a firm's overall performance. Callaghan and Nehmer aim to determine whether voluntary XBRL-filing companies are distinguishable from similar, non-XBRL-filing companies, using four internal characteristics: liquidity, profitability, leverage and size, and three external factors: risk, cost of equity and governance score (GS). Dong and Xue reveal the difference in governance practice among Chinese companies engaged in domestic or overseas jurisdictions, identifying the role of financial globalization in the changing governance practices of Chinese companies.

2. Bad Governance Practices and Environmental Reporting

da Silveira and Dias Jr. maintain that the privatization model adopted in Brazil created large companies with shared control. Most of the conflicts publicly reported in Brazilian listed companies deal with decisions related to control transfers, going private processes and acquisition of other companies with significant equity stakes in the controlling shareholders. There is a substantial negative market reaction to announcements about clashes between controlling and minority shareholders. The market value drop is more related to corporate governance problems taking place than to operational issues within the sample companies. da Silveira and Dias Jr. try to measure the impact of the announcement of bad corporate governance news, and point out the relevance of the media in promoting better corporate governance practices. da Silveira and Dias Jr.'s research line generates practical results for the development of capital markets in emerging economies characterized by concentrated ownership structures, like Brazil. The economically significant results reinforce the importance of firms adopting good governance practices.¹

Othman and Ameer assert that firms tend to disclose social and environmental issues in narrative (non-monetary) terms. Sustainability reporting focuses mainly on the sustainability of people and the environment. Most large corporations in developing countries do not have mature policies on environmental responsibility. The idea of corporate responsibility reporting has been embraced by a relatively small number of corporations. In developed countries, company size has a significant influence on corporate social and environmental reporting. A country's culture influences type, level and depth of corporate social and environmental disclosure. Othman and Ameer point out that there is a significant influence of culture on total dis-

closure levels and social themes. Companies listed on a number of stock exchanges outside the domestic market face pressure from the “other” stakeholders. There are industry-specific factors (such as regulations) and firm-specific factors (such size, profit and other economic indicators) that influence the level of CSRR/CER disclosure. Othman and Ameer propose a reporting *format* consisting of three indispensable and irreplaceable parts of our environment – Earth, Water and Air, and a quarterly Corporate Accountability Result Card (CARC) as a *medium* of information to the stakeholders (national regulators on sustainability should manage the CARC, and national regulators should recommend the XBRL platform to firms for reporting purposes because of its salient novel features). Othman and Ameer claim that with frequent reporting on the three key resources, Earth, Water and Air, society’s expectations could be met with continuous assurances. A continuous dialogue between the supply chains across organizations is key to the achievement of resource sustainability. Corporations should provide statistics such as their water consumption rate and water recycling – in m³ (a corporation’s water usage should be monitored by water suppliers using water footprints). Corporations should report statistics on their hazardous emissions, and number and type of hazardous sites (the employees’ health and safety reporting format should be made more informative). Othman and Ameer propose a radical solution for the reporting of corporate donations. Companies should extend their philanthropy to isolated and disadvantaged people. An understanding of corporate responsibility disclosure allows diverse stakeholders to become more engaged in the issues affecting them. A national regulator could provide resources, expertise and infrastructure suitable to capture industry-wide accountability on EWA.²

3. The Benefits of XBRL Reporting

Callaghan and Nehmer explore three external and four internal financial characteristics of firms participating in the VFP matched with similar, non-participating firms. A firm’s profitability is often measured by its ROA – an indication of how well management is utilizing the company’s assets to generate income. Callaghan and Nehmer divide the book value of total debt by the market value of equity in order to determine financial leverage, and expect larger companies to be under more scrutiny by the public at large and regulators.

Larger firms are more likely to voluntarily adopt XBRL. A firm's systematic risk is often measured by its beta (the likelihood that the company's stock price will follow the overall market). XBRL adoption is negatively related to the GS measure (companies with lower governance ratings tend to adopt XBRL voluntarily). Early XBRL adopters tend to be larger firms, and to be less financially leveraged. Callaghan and Nehmer maintain that visible companies with higher intrinsic risk and lower GS are adopting XBRL early in a low-cost attempt to improve the perception of their corporate governance quality. The characteristics of early adopters do not provide evidence of the immediate benefits of XBRL adoption. The mandating of XBRL for financial reporting may provide an opportunity to examine over time the benefits of XBRL reporting. Early XBRL adopters are less financially leveraged, larger and have lower corporate governance ratings than pair-matched control companies. XBRL adopters are intrinsically riskier than the control group. The number of companies adopting XBRL increases and investors become more comfortable using it. XBRL will play a significant role in both internal and financial reporting (it will have a significant impact on corporations, investors, analysts, regulators and various other corporate stakeholders).³

4. The Nature of China's Corporate Governance Practice

Dong and Xue describe the gap between domestic and overseas governance environments and aim to reveal the nature of China's corporate governance practice from both the local and global perspective, focusing on the effect of globalization on two main governance dimensions: (1) internal governance mechanisms and (2) governance transparency. A sound internal governance environment is expected to result in better governance disclosure. Overseas companies generally disclose more information relating to governance practice than do the local companies. China's corporate governance has increasingly been assimilating the characteristics of the Anglo-Saxon model, intending to incorporate more of the advantages of common-law-based models. Dong and Xue select six governance variables to describe the internal governance environment: (1) number of special committees, (2) proportion of independent directors, (3) board size (4) separation of chairman versus CEO (5) salary ratio of board members and (6) local government influence. Chinese com-

panies vary in governance disclosure, depending on the type of information. Salary ratio and the development of a provincial governance environment are the key differences in internal governance between Chinese local and overseas companies. Chinese companies issuing shares in overseas capital markets (or incorporated under foreign jurisdictions) differ fundamentally from local companies in their disclosure behavior. Chinese domestic and overseas companies serve different investors' demands and are regulated under different legislation systems.

Dong and Xue contend that globalization is one of the key concerns of Chinese policymakers who aim to push ahead the revolution of corporate governance in China. China's governance rules are leading Chinese domestic companies to establish governance structure with the characteristics of the two-tier governance model. Chinese companies have succeeded in transforming the governance system from its previous social-economic-based form to a market-oriented-based one. Chinese companies are not resistant to the ongoing reform of corporate governance. Dong and Xue point out that imposing stricter governance rules than the current ones is likely feasible, provided that governance-related institutions are developed consistently in China. Imposing a common-law-based governance system can dramatically change Chinese firms' former code-law-based disclosure practices. Chinese companies design their governance practices according to the applicable legislation systems. The improved governance disclosure in overseas companies is likely to be driven by the legal bonding of the external environment (more globalized companies⁴ are opted-into stronger governance regimes).⁵

5. Conclusions

da Silveira and Dias Jr. assess the relevance attributed by investors to the announcement of disputes taking place between controllers and minority shareholders, and compute ARs relative to a matched control group of firms selected based on industry, market capitalization and operational profitability. Othman and Ameer identify the factors that have led to diversity and uniqueness in corporate disclosures. The notion of personal philanthropy has evolved into one of corporate responsibility for overall social betterment. Callaghan and Nehmer hold that a potential benefit of XBRL is the reduced operating costs attributed to increased speed of data processing and

reduced occurrences of data redundancy and re-entry. Neither the company reporting in XBRL nor the potential users of it may consider XBRL adoption to be a significant signal of any underlying characteristics. Dong and Xue observe that governance problems in China are closely related to Chinese special economic, legal and political contexts. The type of applicable governance regimes for Chinese companies depends on the jurisdiction of the country where they are listed and incorporated.

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EFFECTIVE CORPORATE GOVERNANCE AND FINANCIAL MARKET TRANSPARENCY

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ABSTRACT. Roohani et al. write that financial data are defined using authoritative XBRL FR taxonomies. Maharaj writes that it is important to understand how corporate ideology is transferred between and among both internal and external stakeholders. On Elbannan's reading, control weaknesses carry significant implications for assessing debt-financing costs by reducing the likelihood of receiving an investment-grade debt rating. Eccles et al. hold that XBRL is a technical supply chain standard for moving financial and business reporting information into an interactive intelligent information format.

JEL: F01, G34, M42

Keywords: effective, corporate, governance, financial, market, XBRL

1. Introduction

Roohani et al. discuss the reporting of information on corporate governance with XBRL in the context of transparency and monitoring. Corporate governance should be present at all levels of the hierarchy in the organization and in all divisions of responsibility. Piechocki et al. traverse the nature of standardization and place XBRL within the various standardization frameworks, and investigate the outcome of design and adoption alternative using a case study of reporting by European financial institutions to national central banks. Maharaj holds that the process of nominating board

members based on rules and regulations neglects the affective dynamics of board behaviour and board process. Elbannan examines the association between firm credit rating and quality of internal control over financial reporting. Credit rating agencies play a vital informational and valuation role in the capital market. Credit ratings are extensively used in financing and investment decision-making.

2. Transparency of Information and Adequate Monitoring of Information Disclosure to the Public

As Roohani et al. put it, corporate governance activities present around a business transaction include: (1) supervision of revenue recognition and use of a robust reporting standards; (2) proper recording and retention of business documents; (3) application of due care in reporting process; (4) timely summarization of business transactions and preparation of financial statements; (5) recognition and documentation of duties and responsibilities of directors, auditors and shareholders; and (6) recognition of the rights and obligations of investors and financial analysts participating in the capital markets. Effective corporate governance involves *transparency* of information and adequate *monitoring* of information disclosure to the public. Monitoring is enforced by regulators and various boards in the financial community, making sure that participants in the capital markets play fair and comply with regulations. Regulators employ tools and specific guidelines to promote corporate governance. Roohani et al. write that financial data are defined using authoritative XBRL FR taxonomies. Through standardization of business reporting, XBRL has the potential to give transparency to investors and creditors while facilitating the monitoring functions of regulators. XBRL facilitates the creation and documentation of the Management Report on Internal Controls. XBRL format information enhances timely analysis of filings, helping with their monitoring tasks. XBRL is particularly useful when there are disparate systems within the company and its trading partners, and reduces information asymmetry, enhancing the opportunity for transparency of corporate information moving across the organizational hierarchy. Utilizing XBRL to achieve integration of business functions promotes information symmetry that improves information availability across the organization. XBRL GL primarily focuses on internal reporting of a company's transaction processing, offering a seamless audit trail of

internal controls and documentation to support *transparency* and *monitoring*. Roohani et al. hold that traces of transactions and activities can be monitored or confirmed by multiple sources outside the company being audited. Corporate governance issues are impacted by the globalization of business reporting and applications of information technology in the corporate reporting supply chain. All reporting standards are designed to improve financial market transparency while guiding regulators in their monitoring functions. XBRL creates transparency and facilitates the task of monitoring by regulators.¹

3. Governance and Transparency

Piechocki et al. provide four use cases that describe the panoply of ways that XBRL can resolve problems of real-world information value chains, showing how taxonomies are set and how information flows from one party to another and to the ultimate consumer of the information. XBRL has become the pre-eminent standard for the exchange of business-oriented reporting data in electronic form. The relevant XML and XBRL specifications provide a framework for the construction of XBRL-enabled reporting solutions.²

Maharaj points out that the role of the BOD ultimately depends on how the role of business is viewed in society. BOD members bring innate personal attributes and experience to the board and have extensive social connections to draw upon, both of which may be beneficial to the corporation. The informal system may be key to understanding corporate governance and how the BOD fulfills its duties. The BOD must be informed of new regulations and technology, and communicate this through making informed decisions. Maharaj writes that it is important to understand how corporate ideology is transferred between and among both internal and external stakeholders. Skills matrices serve as an objective criterion for nominating new board members, the CEO and the board chair. A decision reflects a point in time whereas the decision-making process occurs over a period of time. At all times, decisions made by the board are made within the context of social interactions. The dynamics between the members of the board and the interconnections they make outside of the board are both paramount in the decision-making process. Maharaj contends that values and groupthink have a dominating effect on knowledge in predicting decision-making (values

and groupthink account for a significant amount of decision-making variability). Board members must have extensive networks from which they can draw advice. There must be a change in executives' values in order to ensure changes in behaviour.³

4. Internal Control Quality and Credit Ratings

Using logistic regression, Elbannan examines the association between internal control quality and firm credit rating, and the characteristics of firms receiving investment versus speculative rating grade: internal control quality decrease the likelihood of a firm receiving an investment-grade debt rating. Elbannan finds a significant association between governance strength and control quality and a significant positive association between governance and ratings, lending support to the argument that strong CG reduces the agency conflict. Rating agencies do not place governance on the top of firm evaluation criteria for non-ICW firms. Firms with higher quality controls enjoy a lower threshold for accepting investment projects. Regulatory agencies define requirements partially based on independent ratings. Both the stock and bond markets react in a manner that indicates bond ratings convey important information regarding firm value and debt repayment ability. Internal control quality, measured by the incidence on ICW, is negatively associated with firm credit rating. Elbannan uses firm ICW disclosures as a proxy for internal control quality. Credit ratings convey ordinal risk assessments and decline as a function of ICW incidence, whereas the intensity of the decline for a particular firm is associated with the magnitude and materiality of the ICW. ICW firms are more likely to also suffer from lower profitability and operating cash flows, less stable earnings and high leverage. ICW and all control variables are significant determinants of IGRADE, and in the expected directions. On Elbannan's reading, control weaknesses carry significant implications for assessing debt-financing costs by reducing the likelihood of receiving an investment-grade debt rating. Effective CG mechanisms are designed to ensure that stockholders interests are at the centre of management attention. Governance mechanisms tilted in favour of management can lower overall firm value. Internal control quality measures the proper implementation of policies. Although CG strength appears to have a significantly positive relation to credit ratings, internal control quality retains its significant relation to cred-

it ratings. Firm credit rating is a function of internal control quality, even after controlling for firm characteristics and for the potential confounding effect of CG.⁴

Eccles et al. hold that XBRL is a technical supply chain standard for moving financial and business reporting information into an interactive intelligent information format. The key to understanding the benefits of XBRL lies in the notion of taxonomies. Universally accepted taxonomies allow for a systematic way of naming and organizing financial and business information into groups that share similar characteristics. Eccles et al. write that an XBRL taxonomy provides an identifying tag for each individual item. XBRL allows for additional attributes to travel with a data item throughout its life cycle. The use of XBRL is primarily being driven by regulators and government agencies around the world (market adoption of XBRL is accelerating around the world). XBRL creates an information processing environment that has the following benefits: universal information reuse; interoperable business information concepts; universal and transparent analytical rules and formulas; centrally managed controls; explicit relationships; transparent validation and business rules; and “spreadsheet heaven.” XBRL has an important contribution to make to the acquisition and analysis of contextual information and the growing interest in nonfinancial information. Eccles et al. hold that all senior executives and board members have a fiduciary responsibility to learn about XBRL.⁵ Giacalone and Thompson direct their attention to the task of teaching ethics and social responsibility (demonstrating relevance, changing pedagogy and resources, and motivating learning are the focal points). Managers can afford to be ethical or socially responsible (profitability is *the* decision criterion). There is no problem in identifying and advancing the financial benefits of ethical behavior per se. Giacalone and Thompson put it that the successful leader first must actively and passionately advance the interests of people. Business has many models of the HWV actively engaged⁶ in the business world.⁷

5. Conclusions

Roohani et al. consider corporate governance from the perspective of the corporate reporting supply chain, and explain how the *transparency* and *monitoring* functions of corporate governance are enhanced by XBRL. Piechocki et al. provide alternative perspectives on stan-

standardization, and place particular emphasis on the development of standards in the information and communications technology (ICT) sector. XBRL adoption has largely been driven by the management and public interest needs of regulators. Maharaj claims that more rules and regulations have not helped in making boards diligent in their governance role. Elbannan provides empirical evidence on the association between internal control quality and credit ratings and whether corporate governance (CG) affects the relation.

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ASSESSING A QUALITY MANAGEMENT PROGRAM BY ENABLING THE COST-EFFECTIVE MEASUREMENT OF CRITICAL ORGANIZATIONAL PROCESSES

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ABSTRACT. Karsten and Pennink notice a tension between the teachings of total quality management (TQM) and actual management practices. Zhao and Bryar contend that the management of knowledge in businesses is an important and necessary factor for organisational survival. Dooley et al. observe that theories of neural networks can be incorporated into theories concerning individual cognition. On Tavana et al.'s reading, AHP assesses the consistency of the manager's pairwise comparisons. Vinni analyzes the suitability of TQM for public organizations and identifies the preconditions that have to be met in order to gain success in implementing TQM.

JEL: J53, L15, O32

Keywords: TQM, KM, management, effectiveness, organization, process

1. Introduction

Karsten and Pennink consider the internships as opportunities to strengthen knowledge development in Burkinabé economic organizations: they need knowledge development to achieve increased productivity, effectiveness and resource-utilization objectives. Zhao and

Bryar conceptually advance management research by exploring an integrated approach that incorporates knowledge management (KM) into the total quality management (TQM) process. Dooley et al. examine the theory and practice of TQM, and show that some aspects of TQM are based on a Newtonian paradigm, while others represent a complexity paradigm (TQM represents a necessary bridge between these two contrasting patterns of thought). Tavana et al. maintain that the utilization of information technology reduces the time and effort required to participate in the assessment process. Vinni points out that one has to understand organizational contingencies and environment affecting public organizations in implementing TQM.

2. The Effectiveness of Quality Management Process to Achieve Quality Improvement and Increased Productivity

Karsten and Pennink became interested in the *adoption* of management concepts in a particular African context and in how local management knowledge might transform specific organizational routines. Particular African cultural patterns are conducive in the African workplace and boardroom. African managers are *actors* who shape their views on management issues, translate management concepts, and convert them into applicable approaches. Karsten and Pennink notice a tension between the teachings of TQM and actual management practices. Burkinabé managers, while cooperating with expatriate managers and having had Western-style education, follow the examples of the West. Karsten and Pennink focus on the improvement of the cost structure of the production line and on the design of a new strategy for the liberalized market: their cost of sugar production still remains too high compared with the cost of sugar production in a similar firm in Ivory Coast. The conception of the role of the managers shifts from that of target-setters to social persons. Management becomes a social construction, which establishes agreement on the applicability of a particular management concept. The habitus of a manager can reflect a reactionary attitude as much as a progressive one. The Japanese concept of TQM shares features that are cherished in the African business context.¹

Zhao and Bryar say that the management of knowledge in businesses is an important and necessary factor for organisational survival. The effectiveness of quality management process to achieve quality improvement and increased productivity is enhanced if KM

concepts are effectively integrated into the process. Organizational excellence can be achieved through incorporating KM concepts into the TQM process whilst interacting with environmental changes. Management by facts counts on organisational capability of obtaining, processing, disseminating and use of data and information. TQM should address environmental changes and deal with them through improving knowledge management capacities and skills. Zhao and Bryar suggest that TQM and KM principles can be implemented synchronously (there is an inherent synergy about them). A knowledge based TQM approach should facilitate the introduction of KM principles gradually engaging and turning them into a complementary management process.²

3. Competition and Environmental Feedback

Li et al. review the TQM concept, identify the principles of TQM implementation, introduce Deming's management method, and apply the method to software development processes. Quality acknowledges a customer-driven economy, focusing on continuous process improvement to achieve high quality of product (or service). Any improvement that is made in the business will help to improve the "total quality" of the organization and the quality of the final product. Total quality depends on teamwork between the company and its suppliers. The RPM process uses high-level development tools to quickly produce an operational prototype for users to gain hands-on experience. TQM has helped many companies to improve quality of products and processes, and in turn, increase the productivity and the profitability. For an organization having large number of people, Li et al. recommend the use of modular approach to implementing TQM.³

Dooley et al. observe that theories of neural networks can be incorporated into theories concerning individual cognition. Competition and environmental feedback push the system to the edge of performance. The learning organization attempts to learn and create leverage from random events. Some of the organization's activities can be represented by chaotic dynamics. Organization-wide quality improvement has become a common practice among manufacturing, service, and public sector entities. Changes in the process routine constitute the majority of opportunity for process improvement. The organization needs to develop its internal human resources to their

full potential, and develop organizational structures that encourage development of organizational knowledge. Dooley et al. claim that the *crisis* brought organizations far-from-equilibrium, and *leadership* influenced the potential paths of the newly emergent orders. Tools of the Newtonian paradigm are effective for improving the quality of work-level processes. TQM theory and practice can benefit from further coupling with theory from the complexity paradigm. Organizations should be actively experimenting with different approaches, and learning and communicating.⁴

4. The Suitability of TQM for Public Organizations

On Taviana et al.'s reading, AHP assesses the consistency of the manager's pairwise comparisons. Taviana et al. investigate the usefulness of the TQI in different health care settings: the findings may be attributable to a normalization of the expectations of actual quality management that are then reflected in the weights assigned to ideal quality management. Clinical employees either fail to grasp the basic philosophy of quality management or they choose to neglect it for more traditional approaches. There may be a connection between perceptions and actual quality management (perceptions can be a powerful determining factor of reality). Quality programs can be structured in a way that overcomes the resistance to externally imposed TQM programs. A voluntary process built on assessment input from health care professionals can achieve the desired outcome of acceptance rejected in broad participation.⁵

Vinni analyzes the suitability of TQM for public organizations and identifies the preconditions that have to be met in order to gain success in implementing TQM: although the implementation of TQM in public sector is usually associated with the ideas of NPM, it shares several similar tenets with traditional public administration. The overall quality of management leads to better performance. Quality and TQM are not coherent and straightforward notions. There are substantial hardships associated with using TQM's ideology or implementing its practices in public organizations. The concept of publicness summarizes the barriers to classical TQM in public organizations. Organizations with a low degree of publicness lend themselves more readily to managerial ideas, including TQM. Vinni compares TQM with two paradigms of public administration in order to illuminate the mechanisms through which it would be

possible to understand TQM in public institutions. Vinni remarks that classical TQM emphasizes the performance of processes besides the improvement of outputs. NPM and TQM aim at continuously raising the standards, establishing targets and observing the progress via performance auditing and reporting on quality data. Planning and organization are typical to NPM and TQM (measuring performance presupposes target setting). TQM relies relatively more on processes, while NPM stresses outputs. Vinni puts it that top management leadership is not as crucial in NPM as it is in TQM. TQM as quality management deals mostly with manufacturing organizations, while TQM as systems management develops a comprehensive system of management. TQM as people management presupposes unconditional commitment to the values of organization. TQM needs a more comprehensive understanding: it is a multi-faceted concept that offers various ways for operationalization. There are some similarities between TQM as new management paradigm and assessments of governance.⁶

Ribièrè and Khorramshahgol identify commonalities between TQM and KM, and discuss how KM can benefit from highly mature and well established TQM practices. Organizations cannot achieve worldwide performance excellence focusing only on quality disciplines. KM is the keystone⁷ of the door to business excellence.⁸

5. Conclusion

Karsten and Pennink look at management knowledge as constructed by managers who are interested in its *meaning* and relevance to the improvement of existing organizational practices. Zhao and Bryar examine the similarities and differences between TQM concepts and KM theories, develop an inclusive approach to management by integrating KM into TQM, and explore how this approach might be implemented by organisations. Dooley et al. think that social systems are *much more complex* than physical systems (social systems are made up of a complex set of physical systems, and tempered by such notions as perception and free will). Tavana et al. develop and apply an IT-supported benchmarking model that helps managers assess a quality management program by enabling the cost-effective measurement of critical organizational processes. Vinni reasons that the adoption of TQM can be partial as long as decision-makers are able to posit their organizations against the other alternatives available.

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ECOLOGICAL ECONOMICS, SUSTAINABLE DEVELOPMENT, AND ENVIRONMENTAL JUSTICE

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ABSTRACT. Li and Cai claim that implementing green marketing is pivotal to the sustainable development of garment industry. Dahlgaard et al. say that TQM is a vision which the firm can only achieve through long-term planning. As Burkett puts it, Marxism sees mainstream “natural-capital” theory as an analytical reification of capitalism’s alienation and exploitation of labour and nature.

JEL: O40, Q50, N70

Keywords: Ecological economics, sustainable development, Marxism, green marketing, production

1. Introduction

Li and Cai show how green marketing influences the sustainable development of garment industry, analyzing the cost and profit to implement green marketing, both in a short term (the cost may increase) and in the long run (the income will outweigh the cost). Dahlgaard et al. holds that to realize the TQM vision, firms must first set up a system for the continuous measurement, collection and reporting of quality facts. Burkett contends that Marx’s analysis highlights the contradiction between capitalism’s reduction of value

to abstract labour time and nature's contribution to wealth production.

2. The Sustainable Development of Garment Industry and the Implementation of the TQM Process

Li and Cai claim that implementing green marketing is pivotal to the sustainable development of garment industry, and identify five reasons: reduced cost, expanding export by broking down green barriers, establishing the enterprise's green image, being more competitive and avoiding green tax. Green marketing includes product modification, changes to the production process, packaging changes, as well as modifying advertising. Sustainable development means satisfying the contemporary needs without sacrificing the future generations' benefit. The sustainable development of garment industry requires their enterprises to pay more attention to the long-time prosperity. Li and Cai argue that enterprises marketing goods with environmental characteristics will have a competitive advantage over enterprises marketing non-environmentally responsible alternatives. Green product is a dispensable part of green marketing, referring to product that does not contain harmful component itself (it also has no pollution to the environment during its production). Green marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants.¹

Dahlggaard et al. say that TQM is a vision which the firm can only achieve through long-term planning. More and more firms are coming to realize that TQM is necessary just to survive. The aim of the new concept of TQM is to ensure that history does not repeat itself. The annual quality audit is an essential part of the TQM vision. Management and employees must be aware of, and deal with, the many defects/problems in the internal processes and with their causes. European companies have a long way to go before the TQM vision becomes a reality. A basic point behind the creation of customer satisfaction is leadership (basic aspect of leadership is the ability to deal with the future). Leadership is a necessary condition for TQM. The aim of TQM leadership is to build the TQM pyramid. Clear leadership and vision are the most important critical success factors of TQM. Job rotation is a necessary condition for implementing TQM. The implementation of the TQM process is one of the most complex activities that a company can undertake (it requires

cultural change for everybody). Dahlggaard et al. insist that continuous improvements require leadership which is the foundation of TQM. The best way of overcoming the organizational quality problem is through the practice of TQM. The level of quality will be improved by investing in the so-called quality management costs.³

3. Marx's Ecological Criticisms of Capitalist Economy

Burkett undertake the first general assessment of ecological economics from a Marxist point of view, shows how Marxist political economy can make a substantial contribution to ecological economics, and develops the potential contribution of Marxism to ecological economics in terms of four fundamental issues: (i) the relations between nature and *economic value*; (ii) the treatment of *nature as capital*; (iii) the significance of the *entropy law* for economic systems; (iv) the concept of *sustainable development*. Ecological economics is *multidisciplinary*, has a strong commitment to *methodological pluralism*, and must be *historically open* in the sense of being receptive to new visions and possibilities in the realms of economic policy and institutional change. Burkett shows how Marxism reveals and helps resolve “important contradictions, analytical silences, and unanswered questions present in ecological economics.” the lack of effective communication between Marxists and ecological economists has both long-term historical and short-term conjunctural roots. Marx's analysis of labour-exploitation is developed in terms of the category surplus-value. *Real wealth or use-value* is anything that satisfies human needs, whereas *value* is the specific social representation of use-value under capitalism. Value relations, including the various tensions between use-value and exchange-value, should be analyzed in terms of capitalism's specific relations of production. As far as real wealth or use-value is concerned, nature and labour are of co-equal importance. Capitalism reduces economic value to a specific social substance: abstract labour time.

Burkett maintains that Marx does not deny the natural basis of either the surplus product or surplus-value. Marx refers to the natural conditions of production as “gifts” of nature. The free appropriation of nature's gifts is a key factor in capitalist development. Individual exchange-values can incorporate surplus profits from the appropriation of scarce natural conditions. Ecological economists do not

root the question of nature's value in capitalism's basic relations of production. Capitalism's social separation of workers and their communities from the land and other necessary conditions of production has something to do with ecological crisis. The market system does not take absolute scarcity into account. Marx criticises physiocracy's identification of value with nature's material use-value. The regulation of social production by the market is based on the separation of producers from necessary production conditions. The dominant position of commodity exchange and monetary valuation in resource allocation is an outgrowth of the dominant position of the wage-labour relation in the system of production. Burkett asserts that neoclassical theory treats all unpriced costs of market activity as special exceptions to the presumptive efficiency of the market system. All environmental stakeholders and their values should be given a fair hearing. The consensus behavioral standards must involve individual user rights and responsibilities vis-à-vis natural resources. The producers' alienation from natural conditions constantly evolves with its material-social basis (i.e. the capitalist development of industry). Marxism highlights the material basis of pro-ecological struggles in the structural contradiction between the conditions required and produced by capital accumulation, and the natural conditions required for a sustainable and healthy human development. The conditions required by human production and development are part of an overall process in which use-value is subsumed under, and becomes a means of, the class-exploitative and competitive process of value accumulation. The Marxist vision provides a practical contribution to the methodological pluralism and policy openness of ecological economics.

Burkett says that the strong sustainability approach does not relate the criticality of natural capital to the economy's relations of production. The strong sustainability theory has no social-relational conception of capital or of production. Burkett writes that ecological economists have done more than neoclassicals to develop the conceptual underpinnings of natural capital. The constant *total* natural capital rule is not sufficient to sustain production. The ecological/natural-capital hybrid is more neoclassical than ecological. Constant natural capital requires substitution of renewable for non-renewable natural capital. Investment as mere waiting is problematic for renewable natural capital. Multi-criteria evaluation provides a framework within which the different dimensions of nature's use-value can be

openly compared. The environment is subsumed under the market and treated as private property. As Burkett puts it, Marxism sees mainstream “natural-capital” theory as an analytical reification of capitalism’s alienation and exploitation of labour and nature. Capitalism does not convert all necessary conditions of production into commodities. Capitalism’s material requirements include exploitable labour-power and conditions under which its labour can be objectified in saleable use-values (commodities). The crisis in the natural conditions of human development threatens the reproduction of capitalism with communist revolution. The Marxist perspective endogenizes human frames of reference on nature and sustainable development with respect to economic dynamics and struggles. Workers often struggle in ways that do not fundamentally question wage-labour and the capitalisation of nature. Marxism has a close kinship with the anti-natural-capital position within ecological economics. Burkett writes that Marxism overcomes the material–social dualism represented by the natural capital debate within ecological economics. The economy’s production relations shape its relations of exchange and distribution. Capitalist production has an in-built tendency to overstretch its limited natural conditions. Competition presses individual firms to increase the productivity of their labour forces. Firms feel a competitive pressure to keep matter-energy throughput at or below the competitive norm. Individual firms may economise on particular resource-inputs as their prices rise. Ecological economists blame materialistic and consumerist values for the system’s production. Any market economy in which production is motivated by profit must rely on growth. Materials-supply disturbances do not pose a serious threat to the reproduction of the system.²

4. Consumers’ Purchase Behavior toward Green Products

Luck and Giyanti remark that society is increasingly sympathetic towards the environment, and aim to understand consumers’ purchase behavior toward green products. Luck and Giyanti clarify the important determinants of green purchase behavior and provide useful insights for marketing practitioners who market green products, where they can incorporate the identified factors into their marketing, promotion and communication activity. Marketers must recognize the impact of post-modernism on changing consumer green

preferences. Luck and Giyanti illustrate the use of automated content analysis software in the study of green blog sites.⁴

Zaman et al. identify the weakness of eco-label initiatives in the context of environmental justice and ecosystem support perspectives by comparing some selected eco and fair trade labels used in Sweden. Green marketing that has been previously focused on the ecological context has been shifted to more sustainability issues in the marketing efforts. Green marketing is now dealing with fair trade of socio-economical benefits as well as environmental responsibilities through the green business. Health and environmental concerns are major reasons why people become aware of eco-labeled products. compared to the fair trade products, the market exposure of eco-concerns has been greater and over a long time duration.⁵ Polonsky et al. evaluate the degree of the adoption of green marketing across the marketing mix activities of the top firms listed on the Australian Stock Exchange (ASX) based on a content analysis of each corporation's web site and annual report. Firms seek to minimize the environmental harm produces throughout the value chain. It is important to tell consumers and other stakeholders what is being done. Greening is still seen as a tactical tool rather than a strategic one (the largest Australian corporations may need to go much further in integrating sustainability⁶ across their entire marketing mix).⁷

5. Conclusions

Li and Cai observe that consumer's purchase tendency affects the development direction of the product directly. Dahlgaard et al. affirm that the level of quality will be improved by investing in the so-called quality management costs. Burkett points out that the reduction of the human environment to a substitutable resource is associated with the reduction of sustainable development to sustainable capital accumulation.

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THE EFFECT OF ORGANIZATIONAL CULTURE ON QUALITY MANAGEMENT PRACTICES

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ABSTRACT. According to Bloom and van Reenen, family ownership combined with professional management has a mildly positive association with good managerial practices. Wu et al. contend that legitimization makes employees believe that KM initiatives are useful in their work processes and task activities. Chen et al. discuss the concept of enterprise integration (EI), propose an integrated SCM model using EI as a foundation, develop an implementation (operational) strategy for ISCM, and focus on agent-based collaboration and information sharing. Conrad claims that government debt starts the whole bubble process by creating the money and liquidity that allows the private sector to spend and get into more debt.

JEL: D53, G32, N20

Keywords: organization, culture, quality, management, practice, employee

1. Introduction

Bloom and van Reenen use an innovative survey tool to collect *management practice* data from 732 medium-sized firms in the United States, France, Germany, and the United Kingdom, and find that better management practices are significantly associated with higher productivity, profitability, Tobin's Q , sales growth rates, and firm-

survival rates. Wu et al. note that knowledge management (KM) has been widely recognized as a main driver of competitive advantage, and identify factors important to the success of a KM strategy, discussing their roles in supporting and sustaining effective KM initiatives. KM strategies and initiatives are less likely to be successful without top management support, a culture of organizational learning, and effective measures of KM performance. Chen et al. say that supply chain management (SCM) helps organizations control material flow, information flow, and cash flow from suppliers, manufacturers, distributors, and retailers to customers. SCM is vital to an organization's existence. Conrad contends that the financial collapse we are now experiencing will become the largest financial crisis the United States has ever faced.

2. Management Practices and Product Market Competition

According to Bloom and van Reenen, family ownership combined with professional management has a mildly positive association with good managerial practices. Companies that select the CEO from all family members are no worse managed than other firms. The productivity-enhancing effects of competition work through improving average management practices. Management practices are part of the organizational structure and behavior of the firm. There are likely to be management practices that are, on average, "good" for firm productivity. Bloom and van Reenen focus on product market competition and family firms as reasons for the distribution of management practices across firms and countries, and expect a better average level of management practices in environments that are more competitive. The sensitivity of market share to marginal cost differences is greater under higher competition. Bloom and van Reenen construct a robust measure of management practices that overcomes three hurdles: scoring management practices, collecting accurate responses, and obtaining interviews with managers. Bloom and van Reenen focus on the manufacturing sector, where productivity is easier to measure than in the nonmanufacturing sector. The measures of management Bloom and van Reenen use are positively and significantly associated with better firm performance. Controlling for average wages has very little effect on the size of the management coefficient in the production functions. Managerial practices are deeply embedded in the organizational capital of the firm.¹

Wu et al. contend that legitimization makes employees believe that KM initiatives are useful in their work processes and task activities. KM is an essential ingredient for striving to achieve and maintain a competitive advantage. Reward and personnel evaluation programs give management a clear picture of employees' performance and motivate employees to perform in accordance with management's expectations. Reward and personnel evaluation structures are one of the most important determinants of desired KM behaviors (reward and personnel evaluation can play an important role in guiding KM behaviors of employees). Setting clear training goals helps managers evaluate a training program and motivates employees to participate in it. Measuring training effectiveness helps managers identify progress toward training goals. Wu et al. affirm that effective measures of KM performance are indispensable to encourage further organizational investment in knowledge management. Organizations must develop a clear strategy for making their KM initiatives a success. Wu et al. propose a framework that identifies three factors critical to the success of the strategy: top management support, a culture of organizational learning, and effective measures of KM performance.²

Reid maintains that organizations are dynamic entities that reside in an ever-changing environment, and present a structured framework for implementing the continuous improvement (CI) philosophy in improving the productivity and quality of work performing processes in organisations. Reid observes that CI in organisations is the essence of operations management: the improvement team must determine the organisation's current status through collecting and analyzing performance data; based on a variety of relevant comparisons, gaps between actual and targeted performance levels are identified; and attention is directed toward determining problems associated with poor performance.³

Chen et al. discuss the concept of enterprise integration (EI), propose an integrated SCM model using EI as a foundation, develop an implementation (operational) strategy for ISCM, and focus on agent-based collaboration and information sharing. The information technology (IT) perspective of a supply chain emphasizes efficient information flow. Chen et al. establish a cooperation mechanism for the supply chain so as to ensure close cooperation and give all supply chain members the opportunity to reach a win-win situation. Enterprise integration with a supply chain focus involves distributed orga-

nizations and systems, with different organizational cultures and employees. Integration with coordination can obtain positive benefits, while integration without coordination will incur risks. Non-linear integration can create positive synergy when cooperation and coordination are in place. Benefits of supply chain integration can be achieved through synchronisation. A synchronised supply chain guarantees accurate and real-time information sharing. Chen et al. develop a production planning and control system for ISCM: its core idea is a three-level coordination mechanism (decision coordination, information coordination, and operation coordination). The principal-agent based theory provides a useful approach for managing SC cooperation. Chen et al. observe that as the amount and complexity of communication increases, companies need to provide robust agent-based mechanisms to realise the potential of ISCM. Chen et al. design three information sharing modes for MPS based on the supply and demand uncertainty: supplier shares customer's information; customer shares supplier's information mode; and supplier and customer share each other's information.⁴

3. Food Safety and Quality Management

Paarlberg claims that farm subsidy policies can become costly both to taxpayers and food consumers. Consumer costs are larger in Europe and Japan (the income transfer to farmers is accomplished more through food import restrictions). Without import barriers, domestic farm support policies would be far more expensive for governments to operate. Paarlberg remark that farmers in poor countries often find themselves trapped into practices that damage their own farm resource base. Farmers in rich countries often use political power to push the environmental damage they do onto nonfarmers. In the agricultural systems of wealthy industrial societies environmental damage from farming usually results from too much input use rather than too little. Most subsidy policies work by giving farmers artificially high prices for their products. Paarlberg maintains that the technology has brought cost-reducing benefits to farmers that outweigh the disadvantage of greater corporate concentration. Monopoly power in the food manufacturing industry raises costs to consumers but not by a large percentage. With respect to supermarkets, the industry has become more concentrated and in cities with fewer competing stores, consumer food prices are higher. Supermarkets are

spreading rapidly into the developing world with uncertain consequences for local food producers. Paarlberg writes that supermarkets are now competing for customers by selling foods grown locally. America's food supply is far safer today than it was in the past. Food is vulnerable to contamination at nearly every stage in the production and delivery chain. Incentives for self-policing are weakened by the significant time lag between contaminated product consumption and the onset of illness.⁵

4. Managing the World's Economic Crisis

Conrad claims that government debt starts the whole bubble process by creating the money and liquidity that allows the private sector to spend and get into more debt. The trade deficit provides the dollars as a ready supply of funds for the United States to expand its borrowing. Foreigners are an important contributor to U.S. stocks by overlying the price of stocks. Conrad says that the Federal Reserve acts as a handmaiden for the banks and the policy tool for the federal government. For large amounts of money to be created, the banks have to be creating the money along with the Fed. Deficits that are monetized are more inflationary than Fed loans to banks that hoard the money. Conrad asserts that the deflationary pressures are ready to give way to inflationary pressure in 2010 and grow thereafter. The only value of dollars is from the combined opinion of all the users to agree on their value. Debt expansion and contraction of the kind we are now experiencing provides an explanation about how this particular crisis is different from the typical recession. Conrad combines the debt of households and businesses into a category of public debt and claims that its growth and contraction explain how deep the current crisis is. Debt is crucial to our overall economic system functioning. Long-term money growth shows a surprisingly close correlation with economic growth. The money will grow much faster than the economy in the decade ahead. Conrad puts it that the economic structure operates in a cyclic fashion (it is structured with feedback loops that can be mutually supportive). The focal point of the crisis is moving toward the dollar as a potential new epicenter for a major new systematic shock. An important driver of interest rates is the amount of inflation (the collapse in asset prices and the generally slow economies⁶ has meant that inflation has dropped dramatically during this crisis).⁷

5. Conclusions

Bloom and van Reenen state that higher levels of competition are strongly associated with better management practices. Family-owned firms in which the chief executive officer (CEO) is chosen by *primogeniture* tend to be very badly managed. Wu et al. assert that significant and visible top management support contributes to the legitimacy of KM initiatives. Top management support for KM initiatives will encourage employees' adoption of, and commitment to, the initiatives. Chen et al. put forth a practical method for improving an SCM's operational efficiency, applying system, coordination, and integration thinking to develop an integrated operational model and implementation tactics for integrated supply chain management (ISCM). Conrad holds that markets are normally continually moving through cycles just like a pendulum (the economic pendulum is normally swinging back and forth and is not static).

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ORGANIZATIONS AS A SOURCE OF OPERATIONAL RISK

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ABSTRACT. Dickstein and Flast affirm that designing and managing business processes is a critical factor to develop and implement successful operational risk management. Spencer Pickett explains that internal auditing is firmly rooted in the risk management, control, and governance agenda. Oakland and Tanner state that management should encourage people to be dissatisfied with the way things are currently done. Wankhade and Dabade hold that perceived quality as customers' response to quality is equally identified in quality management and marketing science.

JEL: G32, M41, M42

Keywords: risk, management, organization, operational, business, process

1. Introduction

Dickstein and Flast stress that anyone can experience the often catastrophic consequences of operational risk mismanagement. There are “no excuses” when it comes to managing operational risks and business processes. Spencer Pickett argues that the main feature of a successful enterprise is its ability to anticipate and deal with global risks. Oakland and Tanner aim to identify the critical factors reported by organisations in their quest to manage change successfully.

2. The Design and Implementation of the Operational Risk Management Process

Hess holds that growth should be a conscious decision made only after evaluating the risks of not growing versus the risks of growth. In many cases companies are likely to grow and die if they fail to manage their particular risks of growth. Growth risk management accepts the fact that growth is change. It takes a different mindset or mentality to think about growth risks and their management than to think about growth. Private companies face even more risks in undertaking growth because they often have more limited resources.¹

Dickstein and Flast affirm that designing and managing business processes is a critical factor to develop and implement successful operational risk management. The principles of effective business process management should be applied to the design and implementation of the operational risk management process. The management of operational risk is essential to the preservation of business. The use of *risk management information systems* (RMISs) is typical in insurance-related businesses. The basic notion of insuring against a risk is not uncommon in companies. In Dickstein and Flast's view, the key to managing operational risk successfully rests with the culture of an organization. An organization will manage risk only if the organization's management wants to manage risk. Today's corporate vision of operational risk should be to improve the performance of business. All companies are beginning to understand the usefulness of managing operational risk and its positive effect on the performance of the business enterprise. The risk environment is the foundation for other risk management activities. Dickstein and Flast note that managing operational risk should be a normal part of everyday management that encourages an open discussion of risks. The process of setting the risk environment is recurring. The operational risk and business process management life cycles are initiated and grounded by the organization's strategies, goals, and objectives. The study of accidents and safety is relevant to the subject of operational risk and business process management. It is important to identify and manage control deficiencies and operational risks as they occur.

Dickstein and Flast insist that information security risk exists in every business that uses technology. It is essential to identify and investigate all of the operational risks that could affect performance.

Standards provide an opportunity for the organization to approach monitoring in a risk-based manner. Performance and risk monitoring do not only or always require metrics and numeric data. Control deficiencies create different types of operational risk. The complementary nature of operational risk and business process management is a natural by-product of active management. Dickstein and Flast observe that setting the risk environment should be performed while setting business goals and designing business processes. The active management of an identified risk requires the analysis of the impact of such management on a business process. Organizations and the people who work in organizations can create operational risk. A risk management organization is necessary to identify, assess, and mitigate operational risk. Systems are among the tools that we employ to manage risk and business processes. Dickstein and Flast put it that the management of technology consists of processes that require risk management. The governance necessary to ensure proper management of operational risk will require a complete set of tools. The risks of outsourcing and offshoring include the risks of insourcing and unique risks. Organizations can be both a solution and a problem when it comes to operational risk management. Organizations can, in themselves, be a source of operational risk. Organizational and functional deadlock over the mitigation of operational risk is not good for business. Operational risk is a separate category of risk in a growing collection of categories, including strategic and reputational risk.²

3. The Risk Management Framework

Olsen describes the risks of doing business in the global marketplace and provides precautions that organizations can take to deter such activity. Olsen claims that auditors should utilize a risk-based approach when preparing their audit plans, and thinks that the benefits of an effective anti-corruption program are: a reduction in the risk of fraud; mitigation of fines and penalties; increased control over business risks; and peace of mind in an increasingly competitive global marketplace.³

Spencer Pickett explains that internal auditing is firmly rooted in the risk management, control, and governance agenda. Risk is inherent in the way global events shift in the economy. The risk management framework is driven by what the organization is trying to

achieve. Operational risk affects the day-to-day operational objectives. The concept of risk appetite holds a central role in all risk management frameworks. Spencer Pickett argues that the concept of risk appetite runs across many risk standards. Risk management should lead to an empowered workforce that is able to take charge of its priorities and decide what works best at the sharp end. The importance of corporate culture can have a wide-ranging effect on the way risk is perceived and dealt with. We can view risk as anything that affects our objectives. Having assessed our risks, we can then determine what steps to take to deal with anything that causes a concern.

Spencer Pickett asserts that a framework is needed to capture the essence of risk and risk management. Risk management is part of mainstream corporate life that touches all aspects of all types of organizations. Auditors have an historical association with risk-based activities. Auditing needs to evaluate and improve the risk management process. The audit role reflects the degree of risk maturity. The audit role changes in response to developing risk maturity. Spencer Pickett remarks that risk management becomes a basic concept that depends on setting the right structures and cultures in place. The audit review role is key to successful risk management. Sound internal control depends on good risk management. Audit will provide solid evidence to support any reviews of the risk management process. Spencer Pickett thinks that reasonableness sits firmly within the definition of risk management. Risk appetite should drive the risk management system. Most project management systems tend to have a risk assessment aspect built into the way they are set up and run. An overall risk appetite needs to be translated into risk tolerance for different parts of the business. Risk-based plans reinforce the concept that planning cannot be done in a vacuum.⁴

4. Quality Management and Marketing Science

Oakland and Tanner state that management should encourage people to be dissatisfied with the way things are currently done. Leaders identify and select priorities for change. Oakland and Tanner argue that process management sits at the heart of a successful change programme. Process thinking enables full participation in the change process and a way of establishing current and future performance levels. World-class organisations have implemented their version of

the framework and are achieving world-class performance and results.⁵

Wankhade and Dabade hold that perceived quality as customers' response to quality is equally identified in quality management and marketing science. The presence or absence of product information at the market place, as a basis for quality evaluation, is largely absent in quality management and marketing science. Quality perception as a dimension of quality management embeds strategies that can be used to improve business performance. Quality management has been assimilated into marketing science by using the connection of information economics.⁶ Saunders and Allen contend that the economy relies on financial institutions to act as specialists in risk measurement and risk management. When financial institutions fail to perform their risk management functions⁷, then financial markets and the real economy are adversely impacted.⁸

5. Conclusions

Dickstein and Flast emphasize that integrating business process management with operational risk management will increase an organization's chances of achieving optimal business performance. Spencer Pickett writes that the audit role will change when the workforce is fully conversant with an established risk process. Controls seek to mitigate risks to achieving objectives. Oakland and Tanner point out that leadership has a key role to play, both in setting direction, inspiring change throughout the organization and ensuring that change is implemented.

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OPTIMUM PRODUCTIVITY, PERFORMANCE, AND MILLING MACHINES

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ABSTRACT. Suh et al. claim that to maximize the productivity in machining molds and dies, machine tools should operate at high speeds. Moshat et al. study material removal rate (MRR) and surface roughness of the product prepared by CNC end milling operation experimentally. Corbett says that the principal areas for automatic supervision of the machine tool are the tooling, appropriate machine elements and the overall machine system. Budak presents a complete analytical model for the design of variable pitch angles for a given milling system. Arshad et al. develop a new cutting tools management system for milling process.

JEL: D24, D51, E23

Keywords: productivity, performance, milling, machine, system, process

1. Introduction

Selvaraj et al. write that aircraft components are produced using precision manufacturing processes like turning, milling, drilling, jig boring, grinding, polishing, etc. in multiple setups: increase in tolerance stackup, large in-process inventory, requirements of several jigs and fixtures and large cycle time are the problems encountered in the aircraft component manufacture. Terrier et al. note that ten years ago a new kind of machine tool was presented in Chicago, based on parallel kinematics architectures. The main interest of these parallel kinematics machines (PKMs) lies in their high dynamic characteristics, which could help in going faster in high-speed milling. Budak asserts that chatter vibrations develop due to dynamic interactions

between the cutting tool and workpiece, resulting in reduced productivity, increased cost and inconsistent product quality.

2. Maximizing the Productivity and Precision Manufacturing Processes

Suh et al. claim that to maximize the productivity in machining molds and dies, machine tools should operate at high speeds: the productivity of mold manufacturing has not increased significantly because CNC milling machines have massive slides, which do not allow rapid acceleration and deceleration during the frequent starts/stops encountered in machining molds and dies. Suh et al. present the use of composites for these slides to overcome this limitation. The vertical and horizontal slides of a large CNC machine were constructed by bonding high-modulus carbon-fiber epoxy composite sandwiches to welded steel structures using adhesives. Suh et al. remark that these composite structures reduced the weight of the vertical and horizontal slides by 34% and 26%, respectively, and increased damping by 1.5 to 5.7 times without sacrificing the stiffness.¹

Selvaraj et al. hold that multi-tasking machines offer a convenient solution for this problem by limiting all the operations to a single multitasking machine, and quantify techno-economic benefits of multi-tasking machines. Selvaraj et al. investigate some typical general system components like cover, housing, valves, etc., and propose alternate machining strategy using multi-tasking machines, comparing between the multi-machines and multi-tasking machines in terms of time, cost, number of setups involved, etc. for the manufacture of aircraft components.² Budak and Kops contend that large axial depth of cuts used in the flank milling of gas turbine impellers result in severe chatter vibrations and high cutting forces (variable pitch cutters can be used to suppress chatter in milling of these extremely flexible components), and present a novel design method for variable pitch cutters. Budak and Kops point out that cutting forces in 5-axis milling cycles continuously vary due to changes in tool orientation and depth of cut, and that adaptive force control or milling force models can be used to keep the forces at a constant level which reduces cycle times significantly.³

3. The High-speed Milling Production Process

Moshat et al. study material removal rate (MRR) and surface roughness of the product prepared by CNC end milling operation experimentally. Productivity can be interpreted in terms of material removal rate in the machining operation. End milling is able to produce complex geometric surfaces with reasonable accuracy and surface finish. In end milling, surface finish and material removal rate are two important aspects. Moshat et al. propose application of Principal Component Analysis (PCA) coupled with Taguchi method to solve such correlated multi-attribute optimization of CNC end milling operation. Moshat et al. explore a meaningful ideology on elimination of individual principal components having negligible accountability proportion.⁴ Terrier et al. argue that the high-speed milling production process is a complex task, in which a great number of parameters influence the final precision of the part and the productivity of the machine: the NC (numerical control) and computer-aided manufacturing (CAM) parameters (feed forward, milling strategies, etc.), the piece geometry, the machine structure, the tool, etc. have a direct consequence on the final part. A method has been developed in order to check the capability of the machine (either serial or parallel) in milling, which relies on two approaches. The first one is an experimental approach (either using a coordinate measuring machine or acquiring the output axis encoders), while the second one is a simulated approach.⁵

Cheng et al. present a new intelligent adaptive CNC system designed for a milling machine: the direct neural network controller can obtain a constant milling force under varying milling conditions and adjusts its weights on-line without a specific pretraining stage or plant modeling. For improving the system's intelligence level and its practicability, an expert controller is added so that the control system has a hierarchical structure (the system has better control characteristics and can raise machining efficiency and tool protection).⁶

4. Designing and Manufacturing Machine Tool Structures and Systems

Corbett says that the principal areas for automatic supervision of the machine tool are the tooling, appropriate machine elements and the overall machine system. Thermal effects are the largest source of

dimensional errors and apparent non-repeatability of machines (for the highest precision machines on-line temperature monitoring and control is of paramount importance). Corbett describes the application of automatic supervision techniques applied to the NION diamond turning and grinding machine, as well as an ultra precision five-axis grinding machine. Corbett discusses the benefits of on-line measuring techniques in obtaining new cost effective manufacturing methods for producing aero-engine turbine blades.⁷ Adetoro et al. propose an alternative approach to obtaining the transfer function through impact test by using finite element method (FEM) modal analysis to obtain the transfer function at specified cutter-workpiece contact zones (chatter undermines the efforts of the machinist by reducing surface quality, productivity and increasing cost in damage repair). Adetoro et al.'s approach can be used to solve different problems encountered through the use of impact test, including obtaining the frequency response function in directions that can prove difficult experimentally.⁸

Budak presents a complete analytical model for the design of variable pitch angles for a given milling system, summarizes the analytical stability model for equal pitch cutters, and then presents the extension of the model to variable pitch cutters. Budak maintains that optimization of pitch angles for a given milling system has more practical importance than the stability analysis of an arbitrary variable pitch cutter. There are usually more modes which can cause chatter especially for highly unstable milling systems. The optimal pitch variation is very sensitive to the chatter frequency which may vary.⁹ Mahto and Kumar aim to minimize the variation level within the specified target value and to obtain a better surface finish, for better product quality and productivity. Mahto and Kumar intend to demonstrate a systematic procedure for using Taguchi design methodology in process control of a milling machine, and the use of this methodology in identifying the values of controlling parameters namely speed, feed and depth of cut, to obtain the optimum surface roughness. The Taguchi method can aid in integrating cost and engineering functions through the concurrent engineering approach required to evaluate cost over the experimental design. Better optimization of cutting parameters is necessary in order to obtain a good finish.¹⁰

Okazaki et al. argue that downsizing of machine tools can improve space utilization factor, and reduce the price and energy con-

sumption including air conditioning and facility investment: the developed milling machine features high acceleration due to the reduced moving mass even using small actuators, and minimized power consumption.¹¹ Arshad et al. develop a new cutting tools management system for milling process. Problems arise when new cutting tools for milling process are introduced to the market. Arshad et al. introduce a virtual cutting tool management system, present the visualization of milling process and how the right cutter is fed into the milling machine for cutting purpose. Tooling is a major constraint that prevents manufacturing systems from realizing their full flexibility.¹² Duke and Brand point out that the most important development in machine tool technology has been the evolution of numerical control (numerical control has reshaped machine tool technology).¹³ Pasiecznik sees milling with chainsaws as an increasingly common method of producing timber. Chainsaw milled timber is making up a significant proportion of locally available timber in many tropical countries. Freehand milling and the use of home made frames and guides have been used since chainsaws have been available. The need for diversification and the indirect benefits of trees are increasingly encouraging tree production.¹⁴

5. Conclusions

Corbett points out that improved manufacturing methods have become crucial factors in retaining global competitiveness for a wide range of products, and states that new automatic supervision techniques for use in smart machine tools are necessary: it is not possible to design and manufacture machine tool structures and systems with work zone areas of sufficient accuracy and repeatability to meet the improved performance requirements demanded by many modern manufacturing companies. Adetoro et al. present a numerical approach to obtaining the structures transfer function, which is required in the stability model, aiming to eliminate the need for series of experimental impact testing at various points on a thin walled work-piece in order to obtain the transfer function. Mahto and Kumar note that surface texture greatly influences the functioning of the machined parts. Milling involves the generation of flat faces and slots. The economic selection of cutting conditions requires knowledge of technical aspects and cost aspects.

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MANAGEMENT OF THE STANDARDIZATION ACTIVITY BASED ON PROGRAMS

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ABSTRACT. According to Mirguet, the actual management of the standardization activity is scientifically performed based on standardization programs that reflect the capacity of the national standardization system of corresponding to the national economic and social system, on the one hand, and the compatibility of the national standardization system with the global system, on the other hand, taking first into account the economical activities, the cooperations, the exchanges of goods and the specific standardization activities. Murby writes that standardization is one of the factors of influence over universal culture and civilization, its knowledge and development contributing to the profitability of human activities and the achievement of a high living standard; it is an instrument of transparency and progress because it contributes both to the user information, helping it to choose the products whose functioning aptitudes are in conformity with what the respective user is in search of, and to the user protection, standardization ensuring the design and manufacture of safe products.

JEL: L15, M11, O32

Keywords: standardization, analysis, program, strategy,
perspective, technical-economical progress

1. Introduction

Murby writes that standardization is an effective instrument which aims at technological and economical development, constituting an

integral part of the principles and mechanisms that contribute to the market formation and to the optimization of trading companies activities, since it allows: production rationalization by controlling the technical characteristics of the products, customer satisfaction, validation of the production methods and achievement of productivity increases, guaranty as regards the security of operators and fitters; transfer of new technologies in fields of interest for companies or collectivities (new materials, information systems, supervision technologies, electronics etc.).

Nowadays standardization is considered a must and no one affords not using the standards. Although few businessmen gradually discovered its utility in time, today standardization represents one of the efficient means of saving up. This change is visible first at an international level, being imposed by the big multinational organizations and the market globalization that requires regulations and standards which may afford them the unification of the quality conditions related to the marketable products on various markets. The most conclusive proof of this fact is the concern of the developed countries to take over the initiative in the standards elaboration and implementation. Their attitude is motivated by the syntagm “who has got priority in standardization can conquer the market.”

We can neither ignore the fact that the consumers’ representative organizations impose by standards severe requirements related to the quality of the products presented on the market. For these organizations, standardization represents an absolutely necessary means of protecting the population and the environment. The effects of the standardization activity can be noticed in the harmonization of the producers’ efforts to satisfy the complex needs of individual consumers and collectivities by selecting those products that best correspond to the beneficiaries’ requirements. Standardization appears especially in choosing the most adequate solutions for the situations that interdepend, proposing the most favorable options for the user, aiming at the same time at ensuring a global economic efficiency. By explicit specification and definition of the goods’ characteristics, standardization participates, along with other decisive factors, to the increase of the beneficiaries’ faith in the activity of economic enterprises and trading companies, with benefic effects upon the normalization of relationships between business partners.

Standardization is an instrument of commercial exchanges allowing for: commercial markets development by harmonization of rules

and practices and reduction of technical restrictions and clarity of transactions by the support given with the requirements definition, by optimization of customer-provider relationships, by providing a technical system of reference for products and services. It includes specific aspects from various fields: legal, technical/technological, organizational, economic, social/sociological field. It cannot be considered an isolated activity, but, on the contrary, it may be appreciated and used together with other specific superior activities, trade, consumer protection, environmental protection, economy, engineering etc. (Atanase, A., Atanase, I., 2007). The notions defined or mentioned in the standards constitute the basis of all fundamental or specialty disciplines, thus ensuring a unique basis of scientific terminology, a general modality of approaching practical phenomena that should improve the collaboration between different branches of science. For these reasons, standardization may appear as a fundamental discipline for the entire scientific activity. This assertion can be sustained by the fact that science academies, research institutes, universities and other national or international scientific forums contribute directly to the standardization activity, as well as by the fact that in some countries the standardization activity is performed in standardization institutes run by scientific research councils.

2. The Management of Standardization Works

According to Murby, the management of standardization works is a professional managerial activity that implies: analysis of the standardization situation in all fields; establishment of the themes for normative documents elaboration, selection of themes depending on their importance and their ordering in terms of the urgency of standards provisions application; performing some feasibility studies in order to know the capacity of the organisms to execute the works they undertake; ensuring the necessary conditions for the normative documents elaboration, first the creative human labour force, capable of scientific research and works completion; finding the material means necessary for the elaboration of different themes, respectively some funds for documentation, research, test, implementation etc.; putting at the disposal of those who elaborate the reference documentation in the field of standardization (laws, ordinances, regulations, instructions, rules, procedures etc.); establishment of a meth-

odology for works elaboration, where circulation of documents is in different stages of elaboration, ensurance of strict specialty guidance, eventual convocation of specialists in the view of consultation, as well as of agreeing upon the works content should be all included; monitoring the standards elaboration and controlling the publishing, printing and release activities, adopting corrective measures for the work programs in case of need; scheduling the standards for presentation in view of approval; informing the interested factors concerning the fulfilment of adopted standardization programs; analyzing the way of understanding and applying (implementation) of standards in economy and establishing the measures of supporting the economic agents who encounter difficulties in this action; collecting the data necessary for correcting the standards content in the view of revision.

3. Analysis of the Situation of Standardization

Murby shows that the analysis of the situation of standardization is a research work, used regularly in the activity of standard elaboration works management, by which a field's degree of coverage with standards is settled and the need for some normative documents elaboration is underlain. This analysis points out all the actual and perspective themes that should be taken into consideration when composing the standards elaboration programs, having in mind the themes already elaborated. By the information it comprises, this analysis allows making a comparison between the interests of various national organisms in order to standardize some aspects of the field and establishing the degree of alignment to the international standards by enhancing the identity, the equivalence or the non-equivalence of a country's standards towards the international or European normative documents. This comparison may become a stimulus for the speed-up of the standardization activity in the view of achieving the standardization degree from the developed countries.

In the analysis process, the selection and ordering of the standards elaboration themes are performed, which will facilitate the process of composing the standardization programs. At the performance of the analysis, first an accomplishment of a profound documentation is needed, in order to know the field theoretically and practically. The actual performances of the field and the factors that influence its

development in the near future and in the offing shall be studied. The study should not be limited to the routine elements, but should be oriented towards the aspects unelucidated enough, whose solving would allow the field development. The documentation should include the study of the materials that compose the products in the respective field, the study of classical and unconventional technologies, as well as branch sciences of commodities. Forecast works, catalogues and domestic and foreign products prospects, inventions and innovations in the field or in the related fields should be also included in the documentation.

Documentation is completed by the economical and especially the marketing aspects, in order to mark out the stage from the life cycle of the products in the field. This documentation should reveal the multitude of themes that might become subjects for different standardization works. In order to facilitate the control of different themes, they must be ordered, classified according to criteria specific to the field or according to their character. It is recommended the ordering of the themes refer to products in the following groups: general themes, related to terminology, classifications, main parameters, general technique parameters, units of measure etc.; themes related to different groups of products; themes related to individual products, semifinished products, constituents, raw materials etc. (especially specifications and superior technical conditions); themes related to the methods of analysis and tests; rules of quality checking; sorting the products according to their quality; classifications and types of products; labelling, packing, storage, transport; and other themes.

The second stage of the documentation is performed by consulting the national and international standard catalogues and analyzing the existent normative documents collections, the projects that are being drawn up, the directives of the international standardization organisms. With the help of the information obtained in this documentation stage, the themes of the standardization works for the analyzed field shall be corrected and completed and those for which there are already standards in force shall be pointed out. The proper analysis work of the standardization situation shall be executed in a table where the themes shall be written in a column, and in front of each theme, in other columns, there shall be mentioned the coverage with normative documents, respectively indicating the national, international and European standards, the standards from other coun-

tries, experienced in the field, as well as other eventual normative documents. In the table, the standards shall be encribed by their indicative (standard logo and number) followed by the year of the last edition in force.

It may be easily noticed that, for certain themes, there are national/international/European standards, and for others there are no normative documents or those already existent are old, obsolete, or are neither identical, nor equivalent. These remarks shall be written down in front of each theme, in the column of remarks and propositions, accompanied by the solution foreseen for solving the non-equivalence, eventually for the urgency of solving (term of elaboration of a new standard, of revision, update, harmonization with international documents etc.). The analysis of the situation of standardization ends with short conclusions that are drawn from the work performed, where the degree of coverage determined for the standardization of the field in the respective country shall be compared internationally or at an European level, and for the comparison there may be determined, eventually, the degree of coverage with standards from the advanced countries.

There shall be estimated the advantages that can be obtained through a more complete coverage. The degree of coverage with standards of a specific field shall be determined by referring to the number of themes for which there are standards to the total number of standardization themes pointed out in the analysis and is expressed in a percentage. The conclusions may underline the emergencies, the cases of modernization, quality improvement, satisfaction of interested factors' requirements (producers, beneficiaries, consumers). If the case may be, the conclusions shall enhance the need for the elaboration of some normative documents that result from the engagements assumed by different countries towards international organisms.

4. The Programs of Standards Elaboration

The analysis of the standardization situation usually ends with the proposition of some programs of standards elaboration for the analyzed field. The standardization programs allow the orientation of elaboration efforts in a favorable direction for the national economy development. Mirguet asks that, by its programs, standardization should support production more and more, it should permanently

stimulate it, advancing the requirements, especially in the main branches of production, and ensure an entire concordance between the orientation of its themes and the general objectives of the society development. If appropriate, there shall be drawn up foreground programs for solving the complex standardization themes of utter importance which have a multidisciplinary character.

In its programs, standardization is not in charge only with the elaboration of new standards, but it also aims at revising the obsolete standards, and their conformity with the international normative documents. As a rough guide, the proportion of new elaborations is of 35-40%, and that of the revisions is of 60-65% of the annual executed standardization works (Atanase, 2009). The standardization programs are drawn up based on the scientific reasearch of technical and economic phenomena, based on the propositions of different interested factors and in a tight relationship with the international works in the field of standardization. Elaboration of a standardization program requires an activity of research, ordering and forecast regarding the problems of the economy in general or of a specific field. The program should reflect not only the situation at a certain point in time, but it should also be in accordance with the development perspective. In the aim of elaborating adequate programs, it is necessary that a systematization should be made, through a classification of the standardization themes based on the most corresponding criteria specific to the activity.

In classifications and in the product lists that are drawn up there must be also included the products that will be assimilated in the future and even those that are in the stage of scientific research. Generally, the programs must reflect a concern for the technical progress and for the perspective products and materials. In the documentation that is performed in the view of drawing up the standardization programs there must be included product assimilation plans, forecast works, retechnologization programs and programs of new technique introduction, the concerns of international and European standardization. The standardization programs have a dynamic character, and they can be modified, in reasoned cases, depending on the new technical conditions that appear. The modifications of the standardization programs should be taken as exceptions, for unpredictable situations, the programs maintaining their stability character and remaining a means of controlling the activity of the standardization organisms.

The standardization programs are drawn up at the level of different standardization organisms (technical committees, national, regional or international organisms) and reflect the specific of their concerns for the current year and in the offing. Normally a correlation of the programs is assured, on fields of activity at a national, regional and international level, in order to avoid parallelism and overlapping in the activity of standards elaboration, as well as for the synchronization of efforts and the unitary solving of related standards. In order to reflect the requirements of the interested factors, the programmes include the propositions for standardization themes for the elaboration of new standards or for the revision of the already existent standards, made by any natural or legal person or by the technical committees.

The propositions for the standards themes should include: the title, respectively the subject of the new standard proposed (or that of the standard proposed for revision), the field of application and its limits, as well as the proposition objectives and justification. In the proposition there shall be included, as much as possible, information regarding the purpose of the elaboration, the aspects that are to be standardized, the problems that can be solved for the national economy, the factors that benefit from or may be affected by the standard content (producers, consumers, administration, etc.). The feasibility, suitability and urgency of the elaboration shall be estimated.

The advantages of the standard application and the potential losses caused by its lacking shall be evaluated. If needed, the concerns for the standardization of the proposed theme or of other themes that must be harmonized at a national, European or international level shall be indicated. The author of the proposition shall also indicate the documentation he disposes of and eventually attach the project to the new standard or elaboration. If the theme proposed refers to the patented products, the mentioning of this fact is necessary, indicating the conditions established by the author of the patent. The propositions are approved by the technical committees for the themes that are part of their field of activity, they are accepted and distributed to committees by the national standardization organism. In case one standards theme goes for a field for which a technical committee was not constituted yet, the decision of setting up a specialty technical committee may be immediately taken or the collaboration among the specialists from the already existent technical committees may be

organized, specialists who take interest in the field of the respective theme.

The disapproval or rejection of a standardization theme proposition should be supported by strong reasons. The standards themes propositions, including own propositions, ordered according to subjects, aspects, together with the standardization themes make up the program of the standardization organism. After the approval of the respective organism plenum, the program becomes an instrument of standardization activity management, whose fulfilment is monitored by the responsible factors. At superior levels, the programs reflect the national, regional or international standardization policies, by which the entire activity is generally guided according to the society needs. The national standards that are not equivalent with the international or European ones may constitute “technical barriers” for the exchanges of goods. Without the harmonization of the normative documents a real improvement of the global trade and technology transfer cannot be performed.

After the adoption of the regulations regarding the liberalization of the goods circulation in Europe, by which the certification of the products and services quality is imposed, the significance of standardization grows bigger and bigger. In this situation, standardization is expected to create reference standards, comparison models, respectively the standards of the quality characteristics that should be observed by the products to be certified. At the same time, the standards specify the analysis and test methods, the conditions of quality maintenance during circulation, usage, up to the recovery, reuse or in-kind reintegration of the certified products. By this new concern, standardization together with certification contribute to the increase of the people’s and the environment’s life quality, both at European and global level.

5. Conclusion

The humankind need for standards is far from being satisfied. And yet, there are countries that do not have a national standardization organism, and in some developing countries the standardization activity is poorly developed. It is also acknowledged that none of the standardization fields have a degree of standards coverage of 100 %, and in other fields the number of elaborated standards is very small. In some countries, there have not been elaborated any standards for

other fields. In order to complete the entire portfolio of standards necessary, it is assumed that big material, financial efforts shall be made, along with professional labour force having superior qualification.

The organizational system, the principles, methodologies and actual strategies will not be satisfactory for the next activity. Overcoming the situation presented above and the standardization progress in the future cannot be realized only in an extensive way, which would mean additional expenses, but through a new approach to activity, with a preferential orientation towards the international standardization, based on some modern principles. The fulfilment of such a system of standardization is also imposed by the agreements and practical codes elaborated by the World Trade Organisation, according to which trade globalization implies standardization globalization. Adopting a global strategy in the field of standardization involves simultaneous and total intervention in the solving of all subjects and aspects that can be standardized.

This approach cannot be performed but with the help of a joint force of the countries within several international standardization organisms. The global strategy would impose an offensive action that might stimulate the elaboration of international and European standards, and consolidate the directives of the respective organisms. With this purpose in view, the drawing up procedure of the standardization programs, starting from a request at a community level, presented by a standardization organism, should be enlarged in order to include propositions and applications of other national organisms or committees or themes derived from the studies and analyses voluntarily performed.

In view of implementing a global strategy each profession should proceed to a general examination of different standardization opportunities, even though the priorities are already established. The debates must be also stimulated and directed so that within each standardization organism there should be agreed upon a general program. This task may be taken over by strategic thinking groups that might become strategic orientation committees. Strategic thinking should not represent a purpose in itself, but model-actions of elaboration and completion of standardization works should be at once performed.

Implementation of global strategy also implies an explanation and information effort at different levels (administration, producers,

distributors, consumers) for the knowledge and usage of the normative documents, which would increase the standards request. Normally, an activity with such a wide scope involves an improvement of the collaborations on an European and international level, in order to mobilize and focus the standards elaboration and implementation efforts, under best conditions.

Global strategy must be completed by modular or sectorial strategy, which allows a more profound and detailed knowledge of the standardization needs and a more accurate evaluation of the practical possibilities of works fulfilment. Global strategy must be supported by pragmatic strategy, based on the use of experience, on the condition that this may be sufficiently progressive and keep its flexibility necessary for not slowing down evolution. The practical application of the experience also means the use of some normative documents previously adopted, such as regulations, usage codes, codes of good practice, guides, directives, standards etc. These normative documents must be previously analyzed and revised at the proper time. In the short run, standardization appears as a complex activity, having branches in all fields, being present all over the world, not only as normative documents, but mostly as a way of existence that influences our life under all its aspects.

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THE PHENOMENON OF IMAGE MANIPULATION IN ADVERTISING

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ABSTRACT. As Huhmann puts it, a *rhetorical work* is any visual or verbal communication that applies rhetorical principles to enhance audience processing or persuasion. Amos et al. hold that repeated pairings of a brand and celebrity strengthen the associative link consumers establish between brand and celebrity. Bermeitinger et al. say that positive values indicate more consumption of the primed product than the nonprimed product. Arias-Bolzmann et al. focus on absurdity that arises from illogical relationships among pictorial elements in an advertisement, investigating one particular type of absurdity – surrealism.

JEL: D23, L82, M31

Keywords: phenomenon, image, manipulation, advertising,
rhetorical, persuasion

1. Introduction

Amos et al. document the relationships between use of a celebrity endorser and the resulting effectiveness of that endorsement. Karremans et al. observe that with his claim to have increased sales of Coca Cola and popcorn in a movie theatre through subliminal messages flashed on the screen, James Vicary raised the possibility of subliminal advertising. Bermeitinger et al. use the concept of “concentration”: tired persons need to put more effort into a task in an achievement situation than fit persons (tired persons should have the

motivation to enhance their concentration). Arias-Bolzmann et al. define absurd ads as incongruously juxtaposing pictorial images, words, and/or sounds that viewers perceive to be irrational, bizarre, illogical, and disordered.

2. The Direction and Strength of Resource Demand's Impact on Processing Outcomes

Stern contends that when persuasive appeals are covert and audiences are unwary, they can be manipulated or deceived by hidden consumption cues, and focuses on the hidden persuasions of product placements and depictions of unrealistic or harmful lifestyles. Subject-centered techniques include verbal monologues/dialogues and visual elements such as background action and hidden action aimed at establishing vividness and clarity. Nonverbal elements in the creation and production of dramas are important insofar as that genre alone is multimedial. Product and lifestyle displays in soaps are sustained by marketer-driven genre conventions. The availability of male providers is a major factor in the genre's designation as women's escapist fiction. Stern reasons that viewers may not perceive that the soap world does not represent social reality.¹

Larsen focuses on the kind of representational images that predominate in advertising. The distinction between images and words, icons and symbols, are causally related to the persuasiveness of a communication. Larsen notes that the scientific impulse is to resolve surface variation into combinations of values on well-defined meta-dimensions. Interpretation and response are constrained by features of the ad stimulus and of the human mind. A symbol may be viewed as a kind of externalized semantic concept.²

As Huhmann puts it, a *rhetorical work* is any visual or verbal communication that applies rhetorical principles to enhance audience processing or persuasion. *Nonfigurative works* express literal meanings in typical, expected patterns of elements. Within each rhetorical work, certain structural properties are perceived. Rhetorical works should typically be more complex than nonfigurative works. A scheme or nonfigurative work that does not appear complex or novel can still generate meaning openness. Huhmann points out that interpretation is the process of deciphering a rhetorical work's intended meaning. Advertisers typically lack a direct feedback loop to correct misinterpretations. Interpretations can be stored in long-term mem-

ory to use during ad processing or later evaluation of a brand. Available resources moderate the direction and strength of resource demand's impact on processing outcomes. When a rhetorical work's resource demand exceeds available resources, one will avoid processing brand information.³

3. The Associative Link Consumers Establish between Brand and Celebrity

Amos et al. hold that repeated pairings of a brand and celebrity strengthen the associative link consumers establish between brand and celebrity. Negative information about celebrity endorsers can put a firm's products and image at risk. Trustworthiness is an important predictor of celebrity endorsement effectiveness. The attractiveness construct is multi-dimensional in nature. Amos et al. point out that the revelation can dilute the equity of the product/brand associated with the celebrity when negative information about a celebrity endorser emerges. Positive celebrity information and image can also transfer to the product/brand. Trustworthiness and expertise have each traditionally been associated with source credibility. Highly publicised negative events/information associated with a celebrity will likely prove detrimental to advertising campaigns. Many non-US markets may exist where celebrity endorsement is likely to prove an effective advertising strategy.⁴

Yoo et al. assess the effects of animated banner ads over static ads within the framework of the hierarchy of effects. Animated banner ads may have better attention-getting potential than static ads, and can affect each stage of the hierarchy of effects model. Many advertisers try to attract consumers' attention and to persuade them through various advertising executions. Animated banner advertising has better attention-grabbing capabilities. Yoo et al. assume that the relationship between advertising effectiveness and animation (or motion) is subject to the phenomenon of the inverted U-shaped curve.⁵

Karremans et al. report two experiments, which assess whether subliminal priming of a brand name of a drink can affect people's choices for the primed brand, and whether this effect is moderated by individuals' feelings of thirst: subliminal priming of a brand name of drink (i.e., Lipton Ice) positively affected participants' choice for, and their intention to, drink the primed brand, but only for participants who were thirsty. Subliminally priming a brand name for a

drink can increase the likelihood that participants will choose that drink. On Karremans et al.'s reading, if effects of the Lipton Ice prime occur, they seem to operate outside of participants' conscious awareness. Subliminal priming of the brand may have temporarily increased feelings of familiarity regarding the primed brand.⁶

4. Explaining How Absurdity in Ads Influences Consumers

Bermeitinger et al. say that positive values indicate more consumption of the primed product than the nonprimed product. The motivation for concentration enhancement is higher when participants are tired. A subliminal stimulus does not need to have a certain a priori familiarity to be effective in an advertising context. Fairly complex stimuli can elicit subliminal manipulation of behavior. Subliminal stimuli can influence behavior even in conditions commonly considered to be suboptimal for the processing of subliminal stimuli. It is possible that tired participants are more influenceable by all kinds of subliminal stimuli. It was not dextrose consumption per se that was affected by the subliminal prime, but the consumption of the specific product. Bermeitinger et al. demonstrate the strong connection between tiredness and the motivation for concentration enhancement. Need-related stimuli are preferentially processed only by participants in the specific motivational state.⁷

Arias-Bolzmann et al. focus on absurdity that arises from illogical relationships among pictorial elements in an advertisement, investigating one particular type of absurdity – surrealism. Arias-Bolzmann et al. focus on understanding when the use of absurdity in advertising is effective rather than whether absurdity enhances ad effectiveness. Arias-Bolzmann et al. seek to develop a conceptual framework that explains how absurdity in ads influences consumers, and systematically examine the moderating role of variables such as audience characteristics to understand the conditions under which an absurd ad execution strategy may be appropriate. Arias-Bolzmann et al. believe that there are at least two reasons why absurd ads are likely to be processed more extensively than non-absurd ads: (i) the nature of absurd ads suggests they are more likely to be noticed than non-absurd ads (any phenomenon that increases the chance of noticing an ad will also increase the probability of its being processed by consumers), and (ii) highly novel, unexpected stimuli are thought to be processed more extensively (absurd ads should be processed

more extensively than non-absurd ads). Arias-Bolzmann et al. claim that to understand the effect of absurd versus non-absurd ads on consumers' responses, it is insufficient to know that absurd ads are processed more extensively. Absurd ads are ambiguous and open to more idiosyncratic interpretation than non-absurd ads. The more extensive processing of absurd ads leads to greater attitude change under conditions that bias the information processing in an evaluatively positive or negative direction. Consumers' product category attitude (PCA) is expected to moderate the effect of absurdity in ads on consumers' responses. The distraction mechanism is an alternative approach to explaining the impact of absurdity on attitude change if absurdity serves as a distraction agent.

Arias-Bolzmann et al. put it that as humor in an ad may distract subjects from processing the message, so too can absurdity distract subjects' processing of the message in an ad. When subjects are positively predisposed toward the product class, absurdity will reduce the number of support arguments resulting in a less positive attitude. Evaluative consistency principle and distraction predict an interaction between consumers' PCA and the presence or absence of an absurd ad on consumers' responses. Cognitive responses mediate the interaction effect of PCA and absurdity on consumers' attitudes to ad and brand. Marketers are often interested in brand name recall (learning) measures beyond attitudinal measures of persuasion. Arias-Bolzmann et al. state that introducing absurdity into print advertisements has a complex set of effects on consumers' cognitive responses, attitude to the ad and brand, and brand name recall. For subjects positively predisposed to the product class, the distraction effect is more transparent in the brand name recall data than in the persuasion measures data. It is necessary to adopt a theory-driven contingency view of the impact of advertising. Theory tests provide a basis for judging rather than for proving theories. The distraction mechanism provides a superior explanation of efficacy of absurdity than the principle of consistency of elaborations. Arias-Bolzmann et al. observe that absurdity in most instances has a positive influence on advertising effectiveness as measured by brand name recall, attitude to the ad and brand. Absurdity's impact on brand attitudes may be mediated by both brand-related cognitive responses and ad attitudes. Distraction theory may provide a better explanation of effect of absurdity than evaluative principle of cognitive elaborations.⁸

5. Conclusions

Amos et al. argue that celebrity performance refers to the level of achievement a celebrity attains at any given time in their chosen profession. Karremans et al. point out that a subliminal prime of a specific means to accomplish one's current goal will positively influence a person's actual choice for that particular means. Bermeitinger et al. explain that real consumption behavior is less influenced by strategical thinking than virtual choice behavior. Arias-Bolzmann et al. view absurdity to be a general term under which a variety of more specific literary descriptors fall. Absurdity is a complex construct that may result from different types of illogical relationships.

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