

## **Breaking the Mold: Thoughts on Punjab's Future Economic Development**

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This conference seeks to arrive at a consensus on policy measures for the revival and rejuvenation of Punjab economy. The various papers presented provide detailed analyses of specific sectors of the Punjab economy, institutional and societal factors, and particular policy issues. Here I will offer somewhat of an overview, an analysis of the dynamics of Punjab's economic development, as shaped by its political economy, its social dynamics and exogenous events since independence. I will argue that one can understand both Punjab's success in certain areas of agriculture and its subsequent relative decline in terms of the interaction of these factors. I will then use this historical analysis to provide an assessment of Punjab's future economic development, in terms of the structural changes that are needed, and how these can be encouraged or implemented by policy makers within the constraints of its current political-economic equilibrium.<sup>1</sup>

Before I begin this task, I want to acknowledge the wonderful work of Professor Lakhwinder Singh, founding director of the Centre for Development Economics and Innovation Studies at Punjabi University, for conceiving of this conference, for putting it together with such a wide range of important papers and knowledgeable speakers, and for inviting me to be a part of this effort. I would also like to acknowledge the support and warm hospitality of the University in making possible what I see as a critically important discussion of how to move Punjab's economy forward in ways that promote the welfare of the people of the state.

To understand the specific case of Punjab's economic development, it is useful to lay out some broader ideas about what drives development. One of the key debates has been that of State vs. Market, partially clarified by the demise of the Soviet model and the success of China's shift towards greater market orientation. There are still differing views, however, of the relative merits of 'governing the market' (e.g., Wade, 1990) to 'enabling the market.' More specifically, the

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<sup>1</sup> For this talk, I have drawn on and expanded some of the ideas first presented in N. Singh (2013a, b).

standard economic arguments for public intervention in certain areas have not changed. These areas can include basic health, nutrition and education, as well as the provision of law and order, property rights protection, and arm's length regulation of industries where market forces alone may not guarantee efficient competition. A less clear-cut boundary for the government's role lies in the realm of industrial policy, and recent attempts to make a case for industrial policy (e.g., Rodrik, 2006) have been quite cautious in their claims. To quote:

What I understand by "industrial policy" is not an effort by the government to select particular sectors and subsidize them through a range of instruments (directed credit, subsidies, tax incentives, and so on). The critics of industrial policy are correct when they argue that governments do not have adequate knowledge to pick "winners."  
...[I]ndustrial policy is more appropriately conceived as a *process* whereby the state and the private sector jointly arrive at diagnoses about the sources of blockage in new economic activities and propose solutions to them. Industrial policy requires the government to take an ex-ante stand neither on the activities to be promoted nor on the instruments to be deployed. It simply requires it to build the public-private institutional arrangements whereby information on profitable activities and useful instruments of intervention can be elicited.

Aside from the State-vs.-Market debate, another strand of economic analysis has sought to understand the development process in terms of the interplay of interests and institutions (e.g., Acemoglu, Johnson and Robinson, 2005; Rajan and Zingales, 2006). For example, the quality of both market and governance institutions shapes the possibilities of economic development, while institutions may themselves be circumscribed by the power of different interest groups. The design and working of industrial policy, for example, may depend on the precise nature of the interests and institutions within and around which such a policy will operate. Another, less precise driver of outcomes is a third 'I', namely ideas.<sup>2</sup> Changing ideas may be the first step in improving the quality of institutions, or overcoming a sub-optimal interest-group equilibrium. This triad of ideas-interests-institutions will be particularly helpful, I think, in trying to describe a feasible positive path for the future of Punjab's economy.

Turning to Punjab, then, I'd like to start by noting some very basic characteristics of the state. The facts of its geography – simultaneously a fertile agricultural plain and a frontier region –

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<sup>2</sup> In a work specifically examining the Green Revolution in Punjab, my co-author and I introduced a different set of three 'I's': infrastructure, information and incentives (Singh and Kohli, 2005).

have continued to shape its politics and economics for centuries. This geography helped to create a particular kind of society, simultaneously heterogeneous and egalitarian, prone to innovation as well as conflict. I do not want to suggest any kind of simple determinism here, merely to note some things that I think make Punjab unique. More specifically, I also want to note historical events such as the British investment in the canal colonies, which represented an early example of public action to boost the local economy for national gain, and the rise of the Arya Samaj in Punjab in the late nineteenth century, including its explicit attack on Sikhism, the region's distinctive religion. These and other events of the colonial – and to a lesser extent, Mughal – period continued to have an impact on the trajectory of Punjab's politics and economics, but I will focus on post-independence happenings.

The post-independence story is at once complex and understandable. To summarize the Punjab experience after independence, what the state possessed in relative abundance was human capital. Many Sikhs, in particular, moved from areas such as the canal colonies to eastern Punjab, bringing their farming experience with them. Non-farmers such as traders and other entrepreneurs also brought their skills and social networks. Political and administrative institutions were less developed, since they had to be redesigned and reconstructed for an independent country, but by the mid-1950s, public investment was taking place in dams, canals, electric power, rural roads and market towns. This laid the foundation for the Green Revolution of the 1960s, fueled by technological innovation. In addition to the previous public investments, agricultural extension as a public good or service played a role as well. Public procurement reduced the market risks faced by farmers. Developments in agriculture had implications for ancillary light manufacturing and services, which also developed. Other light manufacturing such as woolen textiles and bicycles grew as well, spurred by rising purchasing power, though there was not any significant technological innovation in these products, and manufacturing equipment typically came from elsewhere.

Private enterprise and initiative, both on and off the farm, played a role in Punjab's post-independence economic progress. But the underlying drivers of change were technological and political, and this can be seen in the precise pattern of development. In agriculture, Partition had provided somewhat of a clean slate in terms of the influence of vested interests versus ordinary individuals. Most critically, the green revolution in Punjab was of great importance to the

national government, seeking to avoid the political embarrassment of emergency food imports. The agriculture sector saw an alignment of interests at different levels of the polity. Furthermore, it created new business opportunities, in the provision of inputs for farmers, as green revolution farming required more sophisticated production methods. On the other hand, in industry, the national government's control of location and investment decisions, and the strategic fears associated with Punjab's frontier position (as well as its Sikh population), limited total investment. A government-dominated banking system also had implications for the way in which agriculture and industry developed. Punjab did see the rise of some new industrial families, but not to the extent of becoming a significant driving force of the state economy.

The Green Revolution, combined with the lack of broader industrial development, created a potentially unstable situation. Inequality rose, partly as a natural consequence of growth, but partly as a result of unequal access to inputs such as credit. The power of middlemen who provide credit, access to inputs, and a channel for quick sale of produce, also increased in this period – though moneylenders had always been a powerful group, even in the pre-independence canal colonies. Even though the local economy was not absorbing enough labor from agriculture, armed services recruitment provided a safety valve, as it had done for decades, and emigration to the West became an additional avenue for surplus rural labor. If circumstances had been different, this might have been a reasonably long-lasting steady state, but many factors intervened.

The 1966 division of Punjab into Punjab and Haryana, while increasing the autonomy of the Sikhs as a small religious and language minority within India, actually weakened their position in the larger national political game. Haryana became an explicit bellwether for political competition throughout the Hindi-speaking belt of Northern India, rather than a sub-region of Punjab, competing for resources and control within the larger state. At the same time, inter-caste and rural-urban political competition within the new smaller state of Punjab remained fierce, with the ruling Congress party not willing to cede control to a regional party.

The 1970s brought further difficulties. The Green Revolution did not bring any further innovation to Punjab, so that the gains began to be second order in magnitude, subject to sharply diminishing returns. Energy prices rose, and access to water and electric power became increasingly critical for successful farming. Both the domestic and international political and

economic environment became less favorable. There was a negative reaction to the social change that economic growth and the project of national integration (stressing Hindi or English in the language dimension, and “secularism” or Hinduism in the religious sphere) were wreaking in Punjab. The 1970s also saw two oil shocks, the Emergency, and the Soviet invasion of Afghanistan. Drugs and guns began to flood that part of the South Asian region. The two safety valves for excess labor – emigration and military service – began to be choked off, for completely different reasons, but at about the same time.

In this scenario, political competition in Punjab was myopic at best and malevolent at worst. A focus on extending the fruits of the green revolution by trying to preserve access to adequate water contributed to political conflict, but this was overshadowed by other forces. In particular, bundling a specific issue of inter-state water-sharing with larger issues of federalism only fed the increasing paranoia of the national leadership of the time. Worse still, economic change in Punjab, because of its distorted patterns, but also because of the nature of modernization that accompanies such change, was producing a religious backlash, harking back to the period of Arya Samaj and Singh Sabha conflict, but in a more violent form. This cultural and religious instability unfortunately became a tool of political competition as well.

Meanwhile, subsidies for water, electric power and fertilizer created huge distortions in input use and cropping decisions. Water intensive crops such as rice and sugar cane expanded in acreage, and created new lock-in effects for farmers to go with those for wheat under the public distribution system (PDS). Sugar mill owners, providers of inputs on credit, and middlemen in the *mandis* all gained in power and influence. Groundwater began to be pumped at alarming and unsustainable rates, as surface irrigation became less and less adequate. In the 1980s, Punjab descended into political and social chaos, with militant violence, brutal repression, and a complete suspension of normal politics.

When the Indian government began to liberalize the economy in 1991, Punjab was among the worst placed of the richer states to benefit from this change. The removal of controls on industrial licensing did not create positive incentives to invest in the state. Agriculture, which might have benefited from decontrol, remained heavily regulated, and dominated by the production of grains for the PDS. State politics did not stabilize (or perhaps normalize is a better

word) until the middle of the 1990s, and over a decade without state-level elected government had created a situation where corruption and rent-seeking were prevalent throughout the layers of government. Top-level corruption is pervasive in India,<sup>3</sup> and in many other successful economies, but the most severe problems arise when there is a free-for-all in the sphere of such activities, as opposed to monopolization of corruption at the top (Shleifer and Vishny, 1993). In my experience, this corruption free-for-all was a major factor in the failure of efforts to create a software industry in Mohali, just before the turn of the millennium, precisely when several areas of southern India were seizing that opportunity.

The attempt to create a software industry in Punjab was also somewhat limited. It did not represent a fundamental rethinking of the pattern or future trajectory of the state's economic development. More effort was still focused on issues of agriculture. Certainly, since the 1980s, there had been considerable attention paid to diversification in agriculture (Johl, 1985). There had also been concerns raised about environmental degradation (G. Singh, 1991) associated with the Green Revolution technologies and, more importantly, the nature of their application in the specific context of Punjab (e.g., the manner in which fertilizer and water were being used, and the choice of crops). Attempts to create a food processing industry were also ongoing. Yet none of these concerns or attempts made a significant dent in the overall pattern of economic activity in Punjab. Institutions, interests and ideas were all trapped in the status quo situation.

The metaphor I have used in my title is that of a mold: whatever is poured in that mold takes on its shape. If that is the case, making something new requires breaking the mold. If that is the case, then focusing on reviving or transforming agriculture will not be the solution to the problem of Punjab's economy. That is not to say that agriculture should be neglected. Indeed, the current patterns of production will lead to disaster in as little as a decade. In October 2013, Rahul Gandhi gave a political speech in Punjab, in which he was quoted as saying, "Punjab gives food to India...the country cannot stand without it." He related Punjab's role in feeding the PDS to the feasibility of the Right to Food effort of the ruling coalition. This rhetoric only hardens the mold that is trapping Punjab's economy, and the policies that underlie it will only accelerate looming disaster. So it is certainly the case that Punjab's agriculture needs to be reoriented away from a

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<sup>3</sup> This statement is based on anecdotal evidence and journalistic reports, since it is difficult to document such activities.

doomed role as India's breadbasket: this will involve attention to issues such as credit markets, agricultural extension, supply chain infrastructure, water-saving technologies and much more.<sup>4</sup>

But these are defensive measures that will be too small and too slow to halt environmental disaster and its attendant possibility of social disruption. Nor will they provide the transformation that Punjab's economy needs to continue growing and absorbing labor.

What is to be done? Given Punjab's social and economic structures, its size and geographic position, it is not a great candidate for large scale labor intensive manufacturing. Hence, a China-style transition is not feasible, even less than in the rest of India. Instead, Punjab has some chance of succeeding as a place for flexible mass-customized production. An analogy might be to northern Italy, which thrived in this role for decades, though it is now suffering from lack of cost competitiveness, especially for goods such as consumer appliances. But Italy is already a relatively rich country, and its comparative advantage has shifted even more to high-end design. Another possibility might be Germany's *mittelstand* of family-run engineering firms. This model raises issues of whether Punjab's people have the right skills, and I will return to that issue. A third example is the Swiss niche in watch making, which has survived over the years by adapting to technological change that made watches a commodity – the Swiss moved upscale, and emphasized design and status, avoiding to some extent the problem now faced in Italy. The Swiss comparison is also interesting from the perspective of geography, society, and Switzerland's ability to straddle a range of sectors, including finance and high-value-added agricultural products as well as certain manufactures. My suggestion, therefore, is that Punjab needs to develop a strategic vision of what manufacturing and service niches the state can realistically fill in the global and national economic systems. Japan, South Korea, Taiwan and China have all had strategic visions to some degree, though implementations have varied greatly by time, place and circumstances.

What should shape a strategic vision? The famous example of Japan's strategic intent from 1950 onward of building a world class automobile industry is useful to recall: the idea was to develop expertise in a production process that maximized knowledge spillovers and a product for which demand would grow over time. In a different, more recent context, China's latest five-year plan

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<sup>4</sup> For recent analyses of problems and solutions for Punjab's agricultural economy, see L. Singh (2013) and Munjal Institute for Global Manufacturing (2013a,b).

emphasizes the support of seven “Strategic Emerging Industries,” including biotechnology, new materials, and energy conservation and environmental protection. The Japanese example, as noted earlier, is one which requires large scale, and an additional barrier is that the scope for becoming a global manufacturer is more limited now (Rodrik, 2008) than it was 50 years ago. China, as well, is developing its strategic vision at a national scale, and from a more advanced base than Punjab, so it is not an ideal role model. Nevertheless, there is a general lesson in these examples, that a strategic vision is important – it has to be tailored to the circumstances, but not limited by them.

Let me give an example of a possible vision for Punjab. A sector where global as well as national demand will only increase is health care. This sector covers a wide range of products and services, for example, electronic medical devices for monitoring and testing, prosthetics, generic pharmaceuticals, certain classes of surgical procedures, and even ayurvedic health and beauty products.<sup>5</sup> This is not a complete, or even necessarily the right list, but the choice of health care is suggested by the increasing world demand for health products and services, in an analogy to the Japanese vision of 1950. My particular list is not too ambitious, and does not involve substantial leapfrogging, but it could be extended to include more complex products and services, including those which involve biotechnology. But there are also possible links to Punjab’s existing agricultural economy, in the case of ayurvedic health and beauty products, or possible connections to existing expertise in light manufacturing in the case of prosthetics or simple medical devices. There are also differences from the Japanese case, in that I am using an entire sector, with a wide range of products and services, as a possible focus for growth, rather than an individual product, the automobile. Of course, automobile production was conceived of as a gateway to a set of skills for a wide range of engineering-intensive products. Medical devices might be an analogue, in that they cover a range of complexity, though again the category represents a broader set of uses than automobiles for personal transportation.

In any case, my purpose is not to chart a specific direction for the Punjab economy, but to suggest a framework for thinking about how to break the current mold that traps both thought

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<sup>5</sup> Of course Kerala has established itself as an international provider of ayurvedic health services, combined with tourism. However, the global market is sufficiently large, and Punjab is sufficiently different in what it can offer in this sphere.



and action. It is important to note that there are two possible paths for the government. One is to pick sectors – possibly very broadly defined – for potential support, as in the example I have just given of the health sector. The second is to work broadly to improve the business investment climate. As quoted earlier, Rodrik (2006) backs away from the targeting approach to industrial policy, arguing that the government cannot pick winners, but merely create mechanisms for public-private interactions on what activities might be profitable and worth encouraging through policy action. In an earlier analysis of South Korea and Taiwan (Rodrik, 1995), he argues that they were able to pick winners by following the previous trajectory of Japan, but at the same time he emphasizes that the success of these two economies was based on government overcoming coordination failures that resulted from externalities in investment. Specifically, “while the rate of return to coordinated investments was extremely high, the rate of return to individual investments remained low” (Rodrik, 1995, p. 78). This illustrates how the second, broader approach to industrial policy can be conceptualized. However, to my mind, the East Asian case, illustrates the value of both approaches. Governments took measures that subsidized and coordinated private investment, but in doing so, to the extent that they chose particular sectors or industries for these policies, one can argue that they still picked winners, albeit in a different sense than the usual use of the term.

I think one cannot be dogmatic about the role of government in this context. There is no reason why industry and government together cannot identify specific opportunities for future growth. However, there is an argument that existing business interests may have distorted incentives for such identification, and to the extent to which such interests influence government policy, lock-in to a long-run suboptimal equilibrium may be difficult to avoid. This is one of the problems facing Punjab.<sup>6</sup> The coordination failure approach can be conceived of as including the need to provide an appropriate environment for doing business: indeed, one can think of this provision as reducing an implicit tax on investment, rather than providing a subsidy. This, in turn connects to other issues of political economy, in addition to the influence of vested interests. Rodrik (1995) provides a discussion of why the political economy of South Korea and Taiwan worked, whereas it has not done so in other countries, and that will be an important issue to consider for Punjab.

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<sup>6</sup> To some extent, this is a generic problem, and affects India as a whole, not just Punjab. Crony capitalism, which is related to this problem of vested interests, also creates distortions in business investment, but can be based on social or family ties, rather than the influence of money.

The political economy of Punjab is the most challenging aspect of breaking the mold that constrains future development, involving a complex interplay of interests, institutions and ideas. Before I turn to this central challenge, there is one other critical element of a future growth story. I suggested earlier that Punjab's human capital was well-suited for overcoming the disruption of Partition, and the green revolution was also supported by the strength of this resource – in addition to investments in public infrastructure. However, Punjab's human capital is no longer adequate for future growth. Indeed, an important part of Rodrik's argument for how government policy worked in South Korea and Taiwan is that a necessary precondition was the relative abundance of skilled labor, achieved prior to the increase in physical investment triggered by overcoming coordination failures. From this perspective, Punjab's policy failure in the 1970s included an inadequate attention to human capital development. One of the problems, of course, was that in this period, at the national level, it seemed that India was producing more college graduates than it could absorb into the labor force, and devoting excessive resources to higher education. Global economic stagnation, a stifling of domestic industrial investment and misallocation of resources within each segment of the education sector were all contributory factors to this situation. However, Punjab had its own special problem of political conflict that also served to affect both access to, and the benefits of education.

India's information technology (IT) boom led to several southern states greatly expanding engineering education. The opportunity to serve a large global market also created jobs for engineers across a range of specific disciplines – computer science or computer engineering graduates were a minority of those who were employed by India's new software industry. Punjab, emerging from a decade and a half of turmoil, lagged in training students with the necessary skills for these new jobs, and those with the skills sought the better opportunities of Bangalore, Hyderabad and the National Capital Region. At this juncture in Punjab's economic development, investments in education are required across a range of sectors, not just engineering and IT. Agricultural science, biological and life sciences, and manufacturing technology are examples of areas where Punjab can build human capital capabilities, by expanding and upgrading higher education in the state. Essentially, human capital investment has to match market needs, in particular demand niches, whether for consumer products or industrial

goods. Hence, this investment needs to be shaped by the strategic vision for the state's future development, which will determine what kinds of jobs will be available. Furthermore, industry in the state needs to help in formulating a strategy for building human capital. The Indian School of Business campus in Mohali is an example of how things might progress, with specialized institutes for manufacturing, health care, infrastructure and public policy, funded by business interests.

Clearly, the ISB is an elite private institution that will serve a small minority of the country's – let alone the state's – students. At the other end of the spectrum is the Punjab Technical University, with as many as five hundred thousand students across India, served through an eclectic mix of decentralized institutional arrangements. In the middle lie the traditional universities, such as Panjab University and Punjabi University, with centers of excellence, but also hampered by legacy models of education delivery and institutional and financial arrangements. Achieving the requisite scale, agility and quality in Punjab's higher education provision quickly enough will require importing individual and organizational expertise. National-level liberalization of entry by foreign education providers should be seized on proactively by Punjab's industry and its government. Such providers, with established brands, have an incentive not to behave as fly-by-night operators, but do not need to be Ivy League or other elite institutions. Mohali, Punjab's hill areas, and the fading but still palpable grandeur of the former princely states of Patiala and Nabha provide possibly attractive physical locations for new education facilities. In this context, the agreement between PTU and my own university, the University of California, Santa Cruz, to collaborate on an institute of excellence, will be an effort that will bear close monitoring.

In some ways, the argument for developing higher education facilities in Punjab is independent of the state's future economic development in other dimensions – higher education can be a growth sector by itself, serving a national or even global student body. The situation of Massachusetts, in the United States, is instructive, with its plethora of colleges and universities. Of course, some of those institutions also provide the human capital for other dimensions of economic development, with MIT being the prime example. The relatively recent growth of a cluster of biotech companies in Cambridge, Massachusetts, in an area still filled with former

factories and warehouses from the 19<sup>th</sup> century, is illustrative of the possibilities at the high end of the higher education spectrum.

Now I turn to the political economy of Punjab. I have argued that national politics has had a baleful, even malignant impact on the trajectory of the state. But the state's own fault lines, rural vs. urban, Sikh vs. Hindu, and others, more variegated, have also contributed. The evolution of the state's political coalition in the last decade is of interest here. Most obviously, the alliance of the main Akali Dal party and the Bharatiya Janata Party, dating back to the national Emergency, and cemented by the Congress' role in brutal repression in the state, represents a significant step forward. It provides an opportunity to balance different interests within the state government, rather than reducing politics to polarization. The greater influence of the capitalist industrial families of Punjab, rather than just small traders, may approximate what Peter Evans (1995) called "embedded autonomy" in the context of South Korea's experience.<sup>7</sup> It is perhaps too soon to tell whether Punjab's rulers can achieve the balance of coherence and connectedness captured by the idea of embedded autonomy, rather than continue in their path so far, which has been one of crony and family capitalism. In some sense, the issue is whether a more fundamental coordination failure – that of the ruling elite – can be overcome before the coordination failure at the level of the economy can be tackled.

There are several other issues that arise in considering the political equilibrium and its economic consequences. First, the Akali-BJP alliance has the potential to marginalize the Congress, attenuating the incentive effects of electoral competition. Of course, the examples of South Korea and Taiwan show that policies to support development can precede democracy. In such

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<sup>7</sup> To quote Evans (1995, Chapter 1): "The internal organization of developmental states comes much closer to approximating a Weberian bureaucracy. Highly selective meritocratic recruitment and long term career rewards create commitment and a sense of corporate coherence. Corporate coherence gives these apparatuses a certain kind of "autonomy." They are not, however, insulated from society as Weber suggested they should be. To the contrary, they are embedded in a concrete set of social ties which binds the state to society and provides institutionalized channels for the continual negotiation and renegotiation of goals and policies. Either side of the combination by itself would not work. A state that was only autonomous would lack both sources of intelligence and the ability to rely on decentralized private implementation. Dense connecting networks without a robust internal structure would leave the state incapable of resolving "collective action" problems, of transcending the individual interests of its private counterparts. Only when embeddedness and autonomy are joined together can a state be called developmental. This apparently contradictory combination of corporate coherence and connectedness, which I call "embedded autonomy," provides the underlying structural basis for successful state involvement in industrial transformation."

cases, one has to identify another motivating force, such as security, ideology, national pride, and so on. What this can be in the Punjab case is somewhat problematic. Fault lines of identity exist in ways that were not salient in the various East Asian successes. While (in contrast to the traditional Arya Samaj) the BJP has been willing to put aside its Hindutva agenda to access political power (Brass, 2005), the shadow of that agenda always remains, and is expressed in ways that can be uncomfortable for the Sikh community, which remains a tiny minority in India despite having a slender majority in Punjab.

Given the history of Punjab in the late 19<sup>th</sup> century, when the founder of the Arya Samaj launched an attack on the founder of Sikhism, and the role of Hindu ideologues in the conflict of the 1970s and 1980s, where Bhindranwale ultimately became the center of conflict, it will be important for the ruling coalition in Punjab to deal squarely with concerns about erosion of identity, tradition and heritage. Indeed, these issues would be problematic even in the absence of Hindutva, with influences from Western hip-hop to Bollywood and Hollywood challenging the traditional order. In this complicated scenario, the obvious approach of government support of religiosity on multiple fronts (something the national government has also indulged in) does not get to the roots of the challenge. This is a talk on economics and politics, and so one cannot get to grips with the entire complexity of the societal issues that are and will be associated with modernization, but this range of issues needs to be made explicit, and the main actors who should be involved (including religious and other civil society leaders) need to be identified.

The issue of identity does have some bearing on more immediately addressable problems of political implementation of a transformative strategy for Punjab's economy. I have stressed the need for breaking out of the existing economic mold. But, just as Punjab was not well placed to take advantage of economic liberalization, there is a danger that some groups within Punjab will be left out of the state's economic transformation, if and when it occurs. This danger is a strong argument for pushing access to good quality, skill-oriented higher education throughout Punjab, particularly the rural areas of the west and south of the state. From this perspective, concentrating educational developments around Chandigarh would be a mistake. Educational centers in places like Talwandi Sabo and Tarn Taran would provide regional outreach as well as symbolic significance. Secondly, while I have argued that agricultural diversification and

infrastructure development will not provide the needed engine for Punjab's future growth, there is a strong political economy case for investments on this front, from the perspective of making sure that rural Punjab and its inhabitants are not left out of future development.

I will now try to conclude by summarizing my main arguments, and noting some additional nuances. I have argued that Punjab needs a strategic vision for future economic development. This process requires government and industry to jointly take a proactive role in mapping possible futures and feasible pathways. Feasibility requires managing potentially conflicting political interests, and these are driven by broader societal and cultural concerns, in addition to material interests. A critical precondition for any form of development is accelerated investment in human capital at several levels, from basic skill acquisition to world-class higher education. I have not given attention to fiscal policy, or to details of how the government can create the right kind of business environment or affect private sector incentives for positive outcomes, but these are topics for the detailed individual papers in the conference. I have also not discussed the details of how infrastructure needs to be upgraded, particularly in cities and towns that will need to serve as growth poles in the state's economic transformation. Again, individual papers deal with these issues.

My goal has been to provide a conceptual framework for thinking about Punjab's future economic development, recognizing the roles played by society, culture and history in determining where Punjab is today. To change the interplay of interests and institutions in shaping economic development, one needs to refresh one's ideas, and that is what I hope I have contributed to doing. I want to close by stating that I think that the choice for Punjab is not between stagnation and growth, or between stasis and transformation. I think that the alternative to a fundamental and rapid transformation of Punjab's economy is collapse and chaos, since the core of the current economy is built around an economic system that will end in total environmental collapse in a decade or shortly thereafter. Hence, there is an urgency to addressing Punjab's situation that is absent for many other regions of India, or indeed, the world. In microcosm, of course, Punjab's challenge is one that the whole world faces, on a global scale, and with a somewhat longer timeline for action. But at least let us save Punjab as a start. Thank you for the opportunity to say this in the important public forum of this conference.

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