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Impatience and Incentives: The Possibility of Industrial Policy

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Abstract

In this paper I will outline and analyze Sanjaya Lall's view of the development process in "latecomer countries" by discussing both the positive aspects of his vision (the nature of technological knowledge and technological capabilities) and the normative aspects of his vision (the promotion of competitiveness). I will evaluate his contributions in terms of (1) the debate on the nature of knowledge and its implications in terms of market failure and, consequently, the necessity of industrial policy, (2) the debate on the political economy of industrial policy in terms of the costs of discretionary policy interventions and, consequently, the possibility of industrial policy. The broad validity and promise of Lall's vision of late-industrializing development depends on establishing the grounds for both the positive dimensions (necessity) and the normative dimensions (possibility) of industrial policy. The possibility of industrial policy, in turn, is circumscribed by the ability to control the potential costs of discretionary government – itself a function of the "social capital" that was a late concern of Sanjaya Lall's.

1. The Urgent Master

Almost exactly forty years ago a group of Alexander Gerschenkron's students produced a collection of essays in his honor. Titled Industrialization in Two Systems, and edited by Henry Rosovsky (1966), the book's epigraph is a quote from the Pirke Avot, the Sayings of the Jewish Fathers: "The day is short, and the work is great, and the laborers are sluggish, and the reward is much, and the Master is urgent". Mentioning this here seems apt because Gerschenkron was an influential thinker on development thanks to his studies of the potentially beneficial aspects of what he termed "economic backwardness". The epigraph might also seem apt because it conveys a sense of great labors that have yet to be completed, of opportunities that are ready for the taking, of the need to get going, the need to impart momentum on a process that is necessary and desirable. In short, it conveys a sense of impatience.

But the impatience alluded to in the epigraph relates not only to the impatience of the community, or the impatience of its leaders, but to the impatience of an individual who perceives the need for action and feels the urge to make something happen – the "Master' of the epigraph. The epigraph of the "urgent Master" seems appropriate here: Sanjaya Lall was an impatient man, his scholarly and advisory activities were many and overlapping, his projects, his research and policy interests were wide-ranging, and there was always a sense of urgency about him and his work. And, for a development economist, this was an altogether appropriate temper.

2. The Positive Vision: Technology, Knowledge and Production in the Real World

In attempting to put together a coherent framework that would allow him to understand (and help promote) industrialization in latecomer countries, Lall drew on a wide variety of sources and approaches. The result was imaginative, eclectic and pragmatic rather than narrow, formalistic and dogmatic. It has become an important part of an emerging paradigm that might be called a "revisionist economics of late industrialization" within the broadly structuralist school of development thought. This paradigm's toolkit of concepts and theoretical tools was the result of a quest for ingredients that might be assembled to enrich (and to counteract) what Lall and others perceived to be an unhelpfully reductionist and policy-irrelevant approach to understanding development: what has been variously labeled "laissez-faire", "free market", "neoclassical" or "neoliberal" development economics. Either augmenting or altering this approach, which had experienced a return to the mainstream as part of a backlash against statist or planning-based ideas during the 1980s, is the project that Lall and others were engaged in. The debate continues because Lall and others provided both theoretical and policy-relevant ammunition defending the possibility of industrial policy, broadly defined, as an instrument of late industrialization and development.

The conceptualization and understanding of "technological capabilities" constitutes the keystone of Lall's theoretical approach. The main driver behind the elaboration of technological capabilities was the inability of, or lack of interest by, mainstream or neoclassical economics to provide an account of firm-level behavior in the real world, in

particular the way in which firms choose technology and the ways in which they become competitive in domestic and international markets. The technological capabilities approach was therefore devoted to "opening the black box" of the firm, focusing on dynamic processes of learning and technology use. It is distinguished by a strong emphasis on, firstly, uncertainty and imperfect knowledge and, secondly, on the continuous or dynamic evolution of firm-level capabilities.

To elaborate on the first aspect (uncertainty and imperfect knowledge), the cognitive underpinnings of the technological capabilities approach are distinctly non-neoclassical, related as they are to evolutionary economics. A linchpin is provided by the concept of "tacit knowledge" (non-codifiable, idiosyncratic or "personal" knowledge) as introduced and elaborated by Michael Polanyi in Personal Knowledge and The Tacit Dimension and used widely in evolutionary approaches as different as Austrian and Schumpeterian economics. Lall and Teubal (1998) list this key ingredient at the top of their table of differences between neoclassical and evolutionary approaches. The fact that much knowledge is tacit implies that learning processes, rather than the purely mechanical transmission of information implied in neoclassical models, must take center stage in a dynamic model in which firms become competitive over time (Lall 2003). Learning itself is uncertain in this setting, and dependent in part on learning processes that take place elsewhere in the economy. Learning is, according to Lall, collective, cumulative, and path-dependent, and neither automatic nor predictable. Differential processes of learning under uncertainty and tacitness drive an economy composed of heterogeneous firms and non-firm institutions connected not only by competition (the standard neoclassical

assumption) but by cooperation in partly collective processes. This dynamic process is path-dependent and the convergence of productivities and firm-level performances is not automatic (David 1993). As argued below, these positive aspects of his vision establish, for Lall and others, the necessity of industrial policy.

3. The Normative Vision: Creating Competitiveness in the Real World

Lall's positive vision is linked to a normative and policy-relevant vision by the concept of technology transfer, a key ingredient of "catching up" and an important aspect of the latecomer's advantage. Lall considers technology transfer in the broader context of the ability of markets to coordinate individual choices and provide incentives for coordination through the price mechanism. If the positive vision outlined above is true then the puzzle of non-convergence, and the fact that the Gerschenkronian advantages of "backwardness" have materialized for only a small number of economies, is at least partly explained. Technology absorption cannot, on this view, be assumed to be automatic or simple. If processes of learning, and the achievement of competitiveness, are nonlinear, highly uncertain and partly collective, then markets will, by themselves, potentially fail to provide signals that embody all the information relevant for firm-level decision-makers. So the incentives embodied in market-generated price signals cannot be sufficient and there is potentially a role for what Lall calls "market-stimulating" policies (and non-market mechanisms) in the quest for industrialization and competitiveness.

For Lall, the potential market-augmenting or market-stimulating role of government relates, broadly, to the creation of competitiveness. Lall's normative vision is, importantly, market-friendly in that his view of competitiveness does not ask government to substitute for all private-sector decision-making. Instead, he sees the government's role as enabling, active, and even leading. Competitiveness should be understood within a broader appreciation of dynamic comparative advantage in a world where his positive vision holds true – a world of highly imperfect markets and uncertain learning (Lall 2001). It is only in such a world that the concept of competitiveness has any meaning as a concern for firms or governments. But government policies aimed at improving competitiveness cannot, for Lall, be merely about "picking winners" and promoting or protecting them: industrial policy is more comprehensive and complex in that it helps "create winners" within a market environment guided and stimulated by a capable and visionary (and impatient) government that shares its vision with civil society and the private sector.

Industrial policy is broadly defined as a set of policies aimed at improving the competitiveness of firms, industries or sectors. It is, for Lall and others, *prima facie* necessary – and this necessity is based on a positive vision of the nature of technological knowledge and the market failures inherent in technology production and transfer. But is industrial policy also possible?

This distinction may appear moot but it points to an ongoing debate concerning the political economy of industrial policy - and concerning the degree to which recent "late

industrialization" experiences might be replicated by other countries with less fortunate histories of industrial policy and discretionary intervention. Analogously, and digressing to a different area of economics, Amartya Sen gave his 1998 Nobel Prize acceptance lecture the title "The Possibility of Social Choice" (Sen 2002). While the necessity of social choice had long been established and argued, the contribution of Kenneth Arrow appeared to have established its impossibility in a very general but highly abstract setting based on highly restrictive assumptions concerning information and individual behavior (Arrow 1951). Lall's project may be compared to Sen's in that the highly restrictive assumptions of neoclassical economics appear to rule out much of a role for government in industry (except in the case of rather narrow interventions addressing clearly defined market failures). The possibility of industrial policy, in the sense of a welfare-improving set of policy measures, must therefore be established in order to counter a prevailing "impossibility theorem" expressed explicitly or implicitly in the tenets of mainstream economics. Lall's study of industrialization in the East Asian NICs led him to the view that industrial policy is not just necessary but also possible - and that its desirability is borne out by the historical evidence. His view though, can be contrasted with that of other writers.

4. Industrial Policies and Late Industrialization: Three Views

(a) Industrial policy as necessary and possible

It is widely acknowledged that many experiments in industrial policy have failed. Consequently, the role of government envisioned by Lall is different from that of the "high development economics" of the early postwar period, with its emphasis on government planning and government ownership and its neglect of the role of markets in development (Lall 1987, Lall 1990, Lall 2003). For Lall, successful industrial policies (i.e. policies with net beneficial effects on welfare) are not narrowly selective ("picking winners") nor are they narrowly functional (addressing market failures in a narrow neoclassical sense). Successful policies are what Lall and Teubal call horizontal in that they "promote selected activities across sectors", improve markets and may be targeted at particular sectors or industries (Lall and Teubal 1998). The composition or mix of policies will vary across countries but the most successful cases of what Lall terms "market stimulating technology policies" are, he argues, to be found in the East Asian economies, especially South Korea and Taiwan, where the results have included high rates of economic growth, diversification of manufacturing and successful capture of overseas market share. For Lall and others the link between industrial policy and economic performance is causal, and not simply a correlation. While not all industrial policies succeeded in all the Asian NICs, the configuration of private sector and public sector was such that it engendered high rates of investment, high rates of education, and high rates of growth. On this view, industrial policy is both necessary (in that the positive

vision outlined above holds true) and possible (in that it can be shown to have resulted in net increases in aggregate welfare).

A recent exposition of the theoretical dimensions of this view is by Dani Rodrik (2004). Rodrik provides rationalizations for industrial policy in terms of the informational externalities provided by successful and unsuccessful entrepreneurs as they discover their comparative advantages in markets. Since these benefits are not captured by these entrepreneurs themselves the level of entrepreneurship in a developing economy would be suboptimal, providing a *prima facie* case for government intervention. Such intervention has to be discretionary because it has to be responsive to changing circumstances and sensitive to the feedback from government policies.

An even more enthusiastic defense of industrial policy as both necessary and possible is advanced by Ha-Joon Chang and Ali Cheema (2002). They emphasize the importance of "learning and innovation rents" that are created by discretionary industrial policy, providing incentives to selected sectors or businesses. Chang and Cheema conclude that the externalities, market imperfections and coordination failures inherent in technology-driven development processes call for a broad set of discretionary interventions in support of late industrialization and catching-up in the form of subsidies to specific activities.

(b) Skepticism about the necessity and possibility of industrial policy

An intermediate view of industrial policy is developed by Howard Pack and Marcus Noland (2003). Pack had previously argued that Korea's industrial policies had been successful in promoting industrialization without dissipating too many of the gains in efficiency losses (Pack and Westphal 1986). Pack and Noland, more recently and after considering the empirical evidence on TFP growth rates and the externalities generated by high-growth sectors, have become more skeptical regarding the role of industrial policy in the "East Asian miracle". They conclude instead that "[a] large part of the 'Asian Miracle' was attributable to nonmiraculous good macroeconomic policy, including limited government deficits, low rates of inflation, and very stable real exchange rates" (Noland and Pack 2003, 100). While there may have been "atmospheric" effects due to a credible commitment of the government to intervene, and inter-sectoral externalities may have been important, Noland and Pack find these factors hard or impossible to quantify. Pack concludes, similarly, that recent experiences of growth and learning generated in private industries without assistance by governments suggest that "[o]verall, there appears to be little empirical evidence for an activist government policy even though market failures exist that can, in principle, justify the use of industrial policy" (Pack and Saggi 2006, 267).

In terms of the necessity/possibility distinction introduced earlier, Pack's intermediate position is receptive to, or even supportive of, the view that industrial policy may be <u>necessary</u> in that the positive features of knowledge and technological change reflected in

Lall's vision are likely true, and that markets are not guaranteed to find the best solutions to the challenges of late industrialization. In terms of Lall's normative vision, though, the intermediate position is less sanguine in that it notes the shaky empirical basis supporting industrial policy. Pack also emphasizes the necessity to take the political economy of industrial policy more seriously, i.e. the possibility that potentially socially beneficial effects of such discretionary policies will be dissipated, endogenously, by rent-seeking and inefficiencies.

(c) Industrial policy is neither necessary nor possible

Furthest from Lall's positive and normative visions of development policy are the approaches exemplified, among others, by Stephen Parente and Edward Prescott (2002) and by William Baumol (2002).

Parente and Prescott acknowledge the enormous advantages of latecomers but believe that policy should aim at the abolition of domestic and international barriers to importation and investment: "the efficient application of ideas developed elsewhere will require investments in physical and intangible capital. If barriers are absent, these investments will be made" (Parente and Prescott 2002, 5). Government policy should furthermore support competition and free trade to help boost productivity and increase per capita output and incomes. In their view, successful development policy reduces the power of insiders and vested interests, unleashing entrepreneurship in the private sector

within a regulatory environment that creates and maintains a "level playing field" for all participants and entrants. In accordance with their broadly neoclassical outlook, Parente and Prescott favor rule-based minimal government (and the provision of pure public goods such as law and order) over discretionary or activist interventions.

Baumol emphasizes the "imperfect but substantial economic efficiency and growth under capitalism" within a free-enterprise system (Baumol 2002, 5). He explains and demonstrates the voluntary dissemination of proprietary technologies and the importance of "spillovers" which, according to old and new theories of growth, are a potential source of inefficiency and therefore constitute a rationale for government intervention. For Baumol they are the driving force of the "free market innovation machine", and any static inefficiency due to uncompensated spillovers is more than compensated for by the overall social benefits generated by knowledge externalities and by private-sector attempts to capture these externalities in competitive markets for technology and goods – within a rule-based and non-discretionary framework of well-developed and enforceable property rights that sets broadly favorable conditions for private transactions "in the shadow of the law": this term is due to Avinash Dixit (2004) who refers to "private orderings in the shadow of the law" when law serves as a "backstop" or threat point in private negotiations but does not set out to privilege particular transactions or particular market participants.

Both its positive and the normative aspects of this position are different from those embodied in Lall's works. Both of the contributions just outlined note that, indeed,

technology and knowledge as economic goods may have peculiar characteristics that are also acknowledged by the other two views. But Parente and Prescott, as well as Baumol, emphasize the evolving and dynamic ability of private actors and competitive markets to maximize the benefits and minimize the costs of these peculiar characteristics. On this view industrial policy, or any set of selective and discretionary interventions, is not necessary since the most appropriate incentives are embedded in a decentralized system that makes best use of local and diffuse knowledge. Furthermore, this position does not view industrial policy as possible due to skepticism regarding the ability of governments to structure selective interventions in such a way that they will generate net gains in welfare. This assessment is based on political economy arguments regarding the tendency for insiders or special interests to capture policy and dissipate any potential gains from centralized coordination or guidance.

The three views described above were distinguished along two dimensions: the necessity of industrial policy and the possibility of industrial policy. In what follows I will elaborate on these two dimensions.

5. The Necessity of Industrial Policy: The Role of Knowledge

The "necessity" dimension of industrial policy is related to the positive aspects of Lall's vision. Lall himself related the theoretical foundations of his approach to that of evolutionary economists, in particular Nelson, Winter, Dosi, and Freeman, as well as

information economists such as Stiglitz (Lall 1990). The evolutionary vision of a population of heterogeneous agents and firms interacting and evolving dynamically through processes of "mutation" (innovation) and "selection" (competition) was given coherence in the Schumpeterian models developed by Nelson and Winter (1982). Their assumptions about knowledge were in turn informed by Herbert Simon's concept of bounded rationality. Nelson and Winter also refer to Michael Polanyi's work on tacit knowledge. Agents may not be possible to fully articulate all production-relevant knowledge or the rules and routines that guide the functioning of firms. Nelson and Winter's use of tacitness was influential and became a key ingredient of evolutionary models. Giovanni Dosi, in his "seven propositions on technical change, markets and institutions", emphasizes the tacitness and idiosyncratic nature of knowledge and notes that this feature of technology may limit the degree to which firms or countries can imitate each others production processes, thereby reducing the potential advantages of latecomers in the development process (Dosi 1988).

The key role of "tacit knowledge" in evolutionary economics, in Lall's framework, and its importance as a positive underpinning and possible rationale for government intervention, would help establish a tight link between the positive and normative aspects of Lall's vision. Such a tight link would lend support to a view of industrial policy as clearly necessary. Once it is acknowledged that technological information and knowledge do not meet neoclassical requirements of perfection in terms of homogeneity and codifiability, market failure is likely to be ubiquitous: Stiglitz assumes as much when he writes that "markets for information/technology cannot work in the way that standard

competitive markets […] work" (Stiglitz 1994, 149). Furthermore, corrective intervention should not be merely functional (narrowly corrective in a neoclassical sense) but selective in a "horizontal" way because technologies differ inherently in their tacit features and externalities and because the learning process is highly technology-specific (Lall 2004).

These counts in favor of the necessity of industrial policy face two possible criticisms: first, they are not necessarily compatible because tacitness could be argued to "cut both ways" since it implies that knowledge is naturally protected by its systemic and tacit nature, a fact that would at least partly counteract demands for subsidies or protections; second, due to the tacitness and the local or idiosyncratic nature of knowledge its generation, absorption and use should be decided and allocated in a decentralized way rather than a centralized way.

This latter point indicates a possible, and mostly unacknowledged, source of criticism of revisionist views of late industrialization such as those developed by Lall. Interestingly, Michael Polanyi's elaboration of tacit or personal knowledge was accompanied by his philosophical writings on scientific, political and economic freedom collected in The Logic of Liberty (Polanyi 1951). There he argued that the self-organizing nature of scientific inquiry should serve as a model for economic organization. For Polanyi, recognizing the universality of "personal knowledge" should lead one to embrace decentralized structures that would emerge and evolve to enable self-coordination (Polanyi 1962). Polanyi argues against all forms of central direction and economic planning, and in favor of a "spontaneous order" that will allow tacit and local knowledge

to be generated, transmitted and used by those who have the correct incentives. The importance of a decentralized and "spontaneous" economic order, flexible enough to allow for a wide number of transactions involving local or personal knowledge, is famously underscored in Friedrich von Hayek's writings, especially his Use of Knowledge in Society (Hayek 1945) and Der Wettbewerb als Entdeckungsverfahren (Hayek 1968). Importantly, Hayek's views, like Lall's and those of other structuralist economists, involve a strong critique of neoclassical precepts and assumptions. In particular, Hayek believes that neoclassical economics trivializes problems involving production and information and therefore neglects the importance of competition in the economic process.

This classical-liberal critique of the neoclassical view of competition and markets is broadly evolutionary, emphasizing process, uncertainty, and a behavioral emphasis on cognitive factors. This school has, in Polanyi (and, to a lesser extent, in Schumpeter), a "common ancestor" with the structuralist and developmentalist view embodied in Lall's approach to technology and industrialization. Yet their respective views on the implications of tacit or local knowledge in terms of policy and political economy are radically different.

Polanyi and Hayek see the "market process" as the mechanism most likely to solve allocative issues relating to information. The fact that markets do not meet the standard of perfection set out in neoclassical economics is an indication of cognitive limitations and behavioral factors that apply as much to individuals and organizations in government as

they do to individuals and institutions in the private sector. Therefore, in this view, the neoclassical term "market failure" embodies far too narrow and static a view of markets and too mechanistic a view of possible governmental remedies or interventions. Instead of emphasizing "failures" Hayek would emphasize the imperfections and idiosyncrasies of market processes, noting that the benchmark of "perfect markets" is irrelevant, incoherent and misleading since a world of perfect markets would be unrecognizable and would not feature either real competition or innovation – or any endogenous economic change, for that matter.

Like Hayek, Lall criticizes the narrow and "functional" view of market failures expressed by neoclassical economist. But, unlike Hayek or Polanyi, Lall notes that a broader view of market failures is supported by the evolutionary approach, as is a broader view of the role of government in not only correcting these failures but providing leadership in doing so selectively and as a coordinating mechanism. For Lall and other structuralists the ubiquity of market failures provides an opening for a model of discretionary policy interventions; the "perfect market" benchmark is rejected as being irrelevant to the needs of countries trying to make the most of backwardness.

In summary, the necessity of industrial policy cannot be established simply by emphasizing non-neoclassical features of information and knowledge. The implications of tacit knowledge are viewed in radically different ways by classical-liberal and structuralist economists. The former group views the decentralized market process as the superior mechanism for solving informational problems and places the burden of proof

on those who would take a more interventionist view; the latter group views the market process as inadequate and makes a prima facie case for intervention and corrective action in the face informational challenges. Even so, many classical-liberal writers acknowledge that the case for non-minimal government intervention is partly empirical. Therefore, even if industrial policy is not, on the whole, viewed as necessary, classical-liberal writers have a strong presumption against its possibility. This presumption is based on a particular set of views about the nature of evolutionary processes, and of political economy.

6. The Possibility of Industrial Policy: The Role of Political Economy

Any broadly evolutionary approach (including Lall's structuralist view and the classical-liberal vision of Hayek and Polanyi) has to confront the question whether evolutionary processes are goal-oriented, or teleological. Models of biological evolution since Darwin have been non-teleological: the evolutionary process is understood as being unguided and driven by local processes of mutation and selection. "Market process" views of economic change and development (such as, broadly, the Austrian or classical-liberal variants) do not see the political economy, comprising the public and private sectors, as having "a goal" (or overarching end) at all. In their view development is undirected change, not change in a particular or aggregate direction, and only local criteria are used in evaluating the process, by local actors or agents. Developmentalist views, in contrast, emphasize the role of government in setting framework conditions that place constraints on, or guide,

market-based evolutionary processes in such a way as to increase the likelihood of welfare-improving structural change. In that sense development is directed change and it is necessary to use global criteria (i.e. global optimality, suitably defined) to evaluate the outcomes and the desirability of the process in aggregate.

Considering the differences between the classical-liberal and structuralist schools of thought in terms of the possible goals of evolutionary processes points to the contrast between development based on "catching up" in a number of well-defined industries, and the development of industrial leaders close to, or on, the technological frontier. Lall was most concerned about technology transfer and absorption in situations where technological mastery was fairly clearly defined and countries were far from the frontier. In these situations development may have a more clearly goal-oriented character with both governments and the private sector having relatively clear visions of, and criteria for, success (such as sustaining rapid economic growth, capturing export markets, or attracting foreign investment). Under conditions of late industrialization, therefore, broadly market-guiding policies correcting certain market failures may be more easily conceived and implemented. Such coordinating policies, if successful, may be a mark of the impatience of both rulers and the ruled; impatience in this case is defined as developmental (geared towards investment and growth) rather than predatory (geared toward redistribution). Late industrialization might reflect a widespread impatience with backwardness among both rulers and the ruled. The costs of curtailing the self-organizing and dynamic market processes extolled by classical-liberal approaches may be outweighed by the benefits of rapid catch-up using more heavily guided or static market

mechanisms – as long as the costs of discretionary policy interventions can be controlled or contained.

The difference between the institutions and policies required for "catching up", compared to those required for innovation or for the adoption of radically new technologies, is developed in a recent contribution by Barry Eichengreen (2006). Eichengreen analyzes the institutions (including bank-based finance and worker co-determination, what he calls coordinated capitalism) devised for European economic growth when growth implied the mobilization of investment by existing enterprises using relatively well-known technologies. Eichengreen ascribes the relatively weak performance of these institutions after the 1970s to their lack of adaptability when technological change became more fast-paced and international competition increased. Weak European economic performance, in this view, is partly a function of the capture of these previously successful institutions by special-interest groups trying to avoid the exposure to new kinds of competition. In political-economy terms, the European relationship capitalism (Rajan and Zingales 2003) of the postwar golden age which provided security and insurance to insiders did not appear to impose direct and indirect costs of significant relative magnitude - until the system as a whole could no longer deliver high rates of economic growth. At that point the redistributive aspects of the system came to dominate the growth-oriented ones (Olson 1982).

Coordinated capitalism and relationship capitalism involve particular mechanisms of bargaining, incentives and enforcement that are the hallmarks of "impatient economies"

bent on catching up with more innovative and dynamic leaders. In the best case relatively clearly defined developmental goals are achieved within an institutional environment characterized by relatively exclusive bargains between governments and selected private agents or insiders operating in guided and fairly static markets, access to which is determined politically in accordance with an overarching economic strategy. The system is broadly corporatist (Wade 1990) and governments focus more on developing the capacity for discretionary policy-making and less on the capacity to enforce impersonal rules (Root 2006).

The classical-liberal ideal extols a minimal government providing law and judicial enforcement as truly public goods in an "open access" environment, creating framework conditions for private entrepreneurs to create value in competitive markets. The developmentalist ideal sees government as providing coordination and a focal point for expectations, providing good governance and implicit insurance as private goods to selected parties, with the benefits of coordinated investments shared widely - what has been called credibly shared growth (Campos and Root 1996). In this view government is itself an entrepreneurial force creating and stimulating markets – a state-guided capitalism that underplays the role of freewheeling private entrepreneurship. A firm that operates in the corporatist world of relationship, or state-guided, capitalism is successful when granted implicit insurance through protection or subsidies, often via the government's control of financial markets, and is therefore not entrepreneurial in the classical-liberal view. Firm-level entry or exit are controlled or guided by discretionary

intervention rather than by rule-guided framework conditions, overriding the rule-based Schumpeterian "creative destruction" of classical-liberal market processes.

The entrepreneurial capitalism of classical-liberal approaches, defined in contrast with the state-guided varieties, allows the rates of growth and innovation to emerge from decentralized and largely self-organizing market processes. In this system individual entrepreneurs may be "impatient" but there is no meaning to the concept of an "impatient economy" - and no need to grant an "impatient government" the capacity and power to coordinate economic activity as part of a development strategy. This is simply because "the economy" is not viewed as having any goal or end – it has, in fact, no distinct identity apart from that of its constituent agents.

The classical-liberal approach favors a small and rule-bound government for both economic and political reasons. In general, it does not see a necessity for industrial policy because its non-neoclassical assumptions about the nature of knowledge undermine, in its own view, the narrow neoclassical focus on easily correctable and narrowly defined market failures. Also, it does not see a possibility for industrial policy because its assumptions about the self-interested behavior of individuals in government lead to skepticism regarding the ability of private agents to control any discretionary power granted to rulers. So the classical-liberal view does not so much see government intervention as impossible in principle (it may even be successful on occasion), or even as undesirable in specific cases, but instead it emphasizes the tendency for the total costs of discretionary government intervention to outweigh its benefits over a relevant period

of time. The relevance of these views is an empirical rather than an ideological matter; nevertheless, classical-liberal views create strong presumptions in favor of decentralization and place the burden of proof on those who would create significant spaces for discretionary government intervention.

Since industrial policy involves discretionary government intervention that moves beyond both the minimalist provision of pure Smithian public goods (such as law and order, defense, or judicial enforcement) and beyond the correction of narrowly defined market failures, the possibility of industrial policy (defined as its ability to be broadly welfare-enhancing) depends on the "ability" of an economy to control the potential costs of these discretionary interventions. Neither structuralist nor neoclassical approaches, though, typically describe or specify in any detail the various actual and potential costs of discretionary intervention in terms of a broad political economy framework. But estimating these total costs would have to account at least for the following broad categories of costs: (1) the direct budget costs, including the budget opportunity costs, of a particular policy; (2) the deadweight costs imposed as a result of taxation (3) the direct costs imposed by rent-seeking activities that are largely redistributive (Tullock 1971); (4) the opportunity costs of rent-seeking as potentially productive resources are drawn into unproductive activities (Cowen and Tabarrok 1999); (5) the aggregate deadweight costs of regulatory policies and market restrictions, (6) private-sector costs aimed at acquiring information about future government policy, and (7) what might be called "Schumpeterian costs", an additional opportunity cost of rent-seeking due to foregone inventive and innovative activities that potentially increase an economy's long-run

growth rate. Finally, (8), widespread perceptions of favoritism and government manipulation of economic opportunities might create costs by undermining the perceived legitimacy of rule and weakening enforcement (Popper 1945).

To use a physical or chemical analogy, the possibility of any set of discretionary interventions would depend crucially on the ability to control potentially "runaway reactions" (initiated by largely unproductive private activities aimed at capturing the benefits of government discretion) that would dissipate their effectiveness. In contrast, government credibly based on the provision of pure public goods, with transparent rules and few opportunities for discretionary policy-making would altogether avoid most or all of these costs.

Understanding and modeling, in terms of a particular configuration of economic, political and social institutions, the ability of an economy to control the costs of discretionary intervention has been one of the most important quests of development economics. In the context of the successful Asian economies analyzed by Lall, this institutional configuration has been variously described as "making shared growth credible", "relationship capitalism", "embedded autonomy", "neo-corporatism", "modulation of competitive pressures", "reciprocal control mechanism", "getting prices wrong" within the context of "disciplinary mechanisms" and "government entrepreneurship", and "state promotion" creating "innovation rents", to name a few. This quest is akin to the alchemical search for the philosophers' stone – a substance that would help transform base metal ("underdevelopment") into precious metal ("development") without

dissipating the potential energy of the reaction and simply creating worthless waste products.

7. Impatient Government: Social Capital and Legitimacy

The quest for such a mystical ingredient, one that will make industrial policy possible because the potential costs of discretionary interventions are controlled, has been elusive. But Lall's work has helped us understand some of the processes involved. Suitably embedded within a broad political-economy framework Lall's work can help demarcate the domain within which industrial policy might be possible.

Lall himself noted that late industrialization involves a complex mix of government entrepreneurship and private enterprise and that the institutional demands on successful industrial policy are likely to be high for (and possibly, in the short term, unachievable by) the poorest countries. He frequently decried the "bad old days of import substitution" and emphasized that successful industrial policies need to be designed and implemented within the specific institutional context of individual countries. He was well aware of the demanding institutional preconditions for successful industrial policy, noting that "where government capabilities are so weak that strategic policies would cause more harm than good, it may be better to leave resource allocation to market forces" (Lall 2003, 5). He explored the possible limits of industrial policy more explicitly in two of his later

contributions, in which he wrote, respectively, of Africa's experiences and prospects, and of the role of social capital in late industrialization and economic development.

Describing Africa's poor economic performance, Lall writes that Africa has a strong need for comprehensive and proactive policies to build industrial capabilities (Lall and Pietrobelli 2002) - but he also notes that African industrial policy institutions often exist in name only and are largely ineffective. Elsewhere, in one of his last publications, Lall de-emphasizes macroeconomic stability and governance and instead concludes that African countries need to build institutions capable of building technological capabilities, and need to develop industrial strategies that draw on the East Asian experience (Lall 2005). It is clear from this that Lall was moving towards a greater and more detailed appreciation of the institutional and social underpinnings of successful industrial policy - including the intermediate goal of building better-functioning governments that could be entrusted with the design and implementation of industrial policies. In a rare foray into the study of social capital Lall explored the importance of the "social capacities that allow economic capabilities to be developed and efficient policies to be designed and implemented" (Lall 2002).

Lall's concerns about Africa and social capital can be understood in the broad political-economy context outlined above - if we augment Lall's ideas by distinguishing between "local" and "national" types of social capital. If government policies do not take the realities and concerns of civil society, broadly defined, into account, they will likely fail. In that case the government's "development vision", the importance of which was

frequently underscored by Lall, is not shared by significant sections of society even if it can be readily communicated. In other words, while there may be considerable local social capital in an economy there may not be a significant amount of what might be labeled national social capital providing cohesion. Such a misalignment might be seen as an important determinant of an economy's inability to control the costs of discretionary interventions. It could also be understood in terms of the broad legitimacy of government. If rulers and the ruled cannot agree that the state is indeed a legitimate instrument or mechanism of broad collective action then the power to conduct discretionary interventions may not be granted – and interventions are more likely to be countermanded and undermined by private action mobilized by local social capital. This may then lead to "runaway reactions" and unintended consequences that will considerably increase the total costs of discretionary interventions. This is especially likely to occur when government is perceived as predatory, using discretionary interventions for narrow private gain – when the rulers are seen as impatient to redistribute rather than impatient to develop.

In this case private agents will use their local social capital in a socially unproductive way, to access benefits available to those close to power; or they will violently oppose state action; or they will withdraw from the formal economic sphere, building informal economic structures to protect livelihoods and investments; and /or they will use their local social capital for unproductive or destructive activities aimed at other private agents. Under these conditions national development, however defined, is unlikely to follow. These possibilities also draw attention to the fact that, even if the government is impatient

to develop, it may not be able to provide incentives for private agents to invest their time and capital patiently and productively in accordance with the government's "vision". In this case private agents may mobilize local social capital to capture public goods for purely private gain, dissipating their potential benefits through redistributive or predatory activities.

8. Conclusion

As part of the ongoing appreciation of Sanjaya Lall's contributions this paper has sought to place his evolutionary vision of structuralism and developmentalism in the broader context of informational or cognitive issues and of political-economy issues. Both the necessity and the possibility of industrial policy depend on assumptions and inferences that are ambitious and often ambiguous. Lall's vision of market-stimulating government leadership is inspiring but also challenging and problematic. This paper takes up the constructive challenge of embedding Lall's vision and his findings within a broad political-economy framework that takes the peculiarities of different countries seriously and proposes to account fully and properly for the costs and benefits of discretionary policy interventions in latecomer countries. Responding to Lall's vision of industrial policy will require work and research in specifying the historical and geographical domain of its applicability. In particular, his later emphasis on the importance of social capital for industrial policy provides a promising avenue for future research into the

social and political preconditions for discretionary, developmental and "impatient" government.

References

Arrow, K. (1951) **Social Choice and Individual Values** (New York, NY, Wiley).

Baumol, W.J. (2002) **The Free Market Innovation Machine** (Princeton, NJ, Princeton University Press).

Campos, J.E. & Root, H. (1996) **The Key to the Asian Miracle: Making Shared Growth Credible** (Washington, DC: The Brookings Institution).

Chang, H-J. & Cheema, A. (2002) Conditions for Successful Technology Policy in Developing Countries, **Economics of Innovation and New Technology**, 11, pp. 369-398.

Cowen, T. & Tabarrok, A. (1999) The Opportunity Costs of Rent Seeking, **Journal of Public Finance and Public Choice**, XVII, pp. 121-127.

David, P. (1993) Knowledge, Property and the System Dynamics of Technological Change, in: L. Summers and S. Shah (Eds) **Proceedings of the 1992 World Bank Conference on Development Economics** (Washington, DC, The World Bank) pp. 215-248.

Dixit, A. (2004) **Lawlessness and Economics: Alternative Modes of Governance**, (Princeton, NJ, Princeton University Press).

Dosi, G (1988), Markets and Institutions in a Dynamic World, **The Manchester School**, 56, pp. 119-146.

Greenwald, B. & Stiglitz, J.E. (1986) Externalities in Markets with Imperfect Information and Incomplete Markets, **Quarterly Journal of Economics**, 101, pp. 229-264.

Hayek, F. von (1968), Der Wettbewerb als Entdeckungsverfahren, **Kieler Vorträge**, 56, pp. 1-20.

Hayek, F. von (1945), The Use of Knowledge in Society, **American Economic Review**, 35, pp. 519-530.

Lall, S. (1990) **Building Industrial Competitiveness in Developing Countries** (Paris, OECD)

Lall, S. & Teubal, M.(1998) "Market-Stimulating" Technology Policies in Developing Countries: A Framework with Examples from East Asia, **World Development**, 26, pp. 1369-1385.

Lall, S. (2001),Comparing National Competitive Performance, **Queen Elizabeth House Working Paper Series,** No. S 61

Lall, S. (2002), Social Capital and Industrial Transformation, **Queen Elizabeth House Working Paper Series,** No. 84

Lall, S. (2003), Investment and Technology Policies for Competitiveness, **UNCTAD Technology for Development Series**

Lall, S. (2004), Reinventing Industrial Strategy, **UNCTAD G-24 Discussion Paper Series***,* No. 28

Lall, S. (2005), "Is African Industry Competing?", **Queen Elizabeth House Working Paper Series,** No. 122

Lall, S. & Pietrobelli, C. (2002) **Failing to Compete: Technology Development and Technology Systems in Africa** (Cheltenham, Edward Elgar)

Nelson, R.R. & Winter, S.G. (1982) **An Evolutionary Theory of Economic Change** (Cambridge, MA, Belknap Press)

Noland, M. & Pack, H. (2003) **Industrial Policy in an Era of Globalization: Lessons from Asia** (Washington, DC, Institute for International Economics)

Olson, M. (1982) **The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities** (New Haven, CT, Yale University Press)

Pack, H. & Westphal, L. (1986) Industrial Policy and Technological Change, **Journal of Development Economics**, 22, pp. 87-128.

Pack, H. & Saggi, K. (2006) Is There a Case for Industrial Policy? A Critical Survey, **World Bank Research Observer**, 21, pp. 267-297.

Parente, S.L. & Prescott, E.C. (2000) **Barriers to Riches** (Cambridge, MA, MIT Press)

Polanyi, M. (1962) The Republic of Science: Its Political and Economic Theory, **Minerva**, 1, pp. 1-21.

Polanyi, M. (1958) **Personal Knowledge: Towards a Post-Critical Philosophy**, 2nd ed., (Chicago, IL, University of Chicago Press)

Polanyi, M. (1966) **The Tacit Dimension** (Garden City, NY, Doubleday)

Popper, K. (1945) **The Open Society and its Enemies** (London, Routledge and Kegan Paul)

Rajan, R. & Zingales, L. (2003) **Saving Capitalism from the Capitalists** (New York, NY, Crown Business)

Rodrik, D. (2004) Industrial Policy for the Twenty-First Century, mimeo**, Kennedy School of Government, Harvard University** (available online at www.ksg.harvard.edu/rodrik)

Root, H. (2006) **Capital and Collusion: The Political Logic of Global Economic Development** (Princeton, NJ, Princeton University Press)

Rosovsky, H. (Ed) (1966) **Industrialization in Two Systems: Essays in Honor of Alexander Gerschenkron** (New York, NY, and London, John Wiley)

Sen, A. (1993) Markets and Freedoms, **Oxford Economic Papers**, 45, pp. 519-541.

Wade, R. (1990) **Governing the Market** (Princeton, NJ, Princeton University Press)