

INDUSTRIAL POLICY: DON'T ASK WHY, ASK HOW*

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Received 14 August 2008

Revised 30 August 2008

The theoretical case for industrial policy is a strong one. The market failures which industrial policies target — in markets for credit, labor, products, and knowledge — have long been at the core of what development economists study. The conventional case against industrial policy rests on practical difficulties with its implementation. Even though the issues could in principle be settled by empirical evidence, the evidence to date remains uninformative. But the traditional informational and bureaucratic constraints on the exercise of industrial policy are not givens; they can be molded and rendered less binding through appropriate institutional design. Three key design attributes that industrial policy must possess are embeddedness, carrots-and-sticks, and accountability. A review of industrial policy in three non-Asian settings — El Salvador, Uruguay, and South Africa — highlights the extensive amount of industrial policy that is already being carried out and frames the need for industrial policy in the specific circumstances of individual countries. Some implications for the Middle East are discussed.

Keywords: Industry; economic growth; policy.

1. Introduction

Consider a set of policy interventions targeted on a loosely-defined set of market imperfections that are rarely observed directly, implemented by bureaucrats who have little capacity to identify where the imperfections are or how large they may be, and overseen by politicians who are prone to corruption and rent-seeking by powerful groups and lobbies. What would your policy recommendations be?

You might be excused for thinking that I am referring to industrial policy and you might retort: “these are all reasons why governments should stay away from industrial policy.” But in fact what I have in mind are some of the traditional, long-standing areas of government intervention such as education, health, social insurance, and macroeconomic stabilization. All of these policy areas share the features described in the previous paragraph. Yet, curiously in light of the skepticism

*This paper is adapted from and draws heavily on Rodrik (2008), which was prepared for the Commission on Growth and Development.

that attaches to industrial policy, almost no-one questions whether they properly belong in the government's arsenal.

Consider the parallels with industrial policy. Interventions in each one of the conventional areas I just listed are justified by market failures that are widely felt to exist, although rarely documented with any precision. So education and health policies are motivated by human capital externalities, social insurance by asymmetric information, and stabilization policy by aggregate-demand (Keynesian) externalities (to list just some of the more prominent market failures). Systematic empirical evidence on these market imperfections is sketchy, to say the least, which is why there continue to be vibrant academic debates on their role and magnitude. Even the least controversial among them, positive externalities associated with schooling, have proved difficult to pin down convincingly (Acemoglu and Angrist 2001).

Moreover, in each one of these areas bureaucrats have wide latitude in implementing policies, while remaining mostly in the dark about the nature of the root problems. Spending ministries make budget allocations with little capacity to evaluate the impact of their decisions. Bureaucratic routine rather than economic logic determines much of the behavior on the ground. And powerful groups and lobbies typically exert significant influence on the policy process. In education, teachers' unions have a loud voice on what should be done (or cannot be done). In health policy, it is often insurance firms and the medical doctors' association who get their say. Tax and spend decisions are similarly subject to influence from organized lobbies.

All these shortcomings notwithstanding, the debates in these policy areas are rarely ever about *whether* the government should be involved; they are about *how* the government should go about running its policies. It's not about whether, but about how. For example, the policy discussion on education focuses these days largely on reforming the incentive systems for parents and teachers. Doing away with public funding for education or eliminating the ministry of education are not part of the discussion — and only an ideologue would consider recommending them. The appropriate mix between public and private pension systems or the correct approach to counter-cyclical fiscal policy are similarly hotly debated issues. But joining these discussions while holding the maintained assumption that the government should have no role in education, pensions, or macroeconomic stabilization would be considered an ideological, rather than a well-informed stance.

My purpose in this paper is to suggest that the discussion on industrial policy should be similarly "normalized." The market failures that provide a role for industrial policy are the bread-and-butter of development economists. They are widely perceived to be pervasive, even if systematic evidence is sketchy and hard to come by. Informational and political problems in administering industrial policy are legion — but in that respect too industrial policy is no different from many other areas of policy. Moreover, most governments do carry out various forms of industrial policy already, even if they call it by other names ("export facilitation,"

“promotion of foreign investment,” “free-trade zones,” etc). Consequently, it is far more productive for the discussion to focus on how industrial policy should be carried out than on whether it should be carried out at all.

And in fact there are ways of intervening effectively. This is as true of the Middle East as it is of elsewhere. A key purpose of this paper is to show how we can design institutions that take into account and ameliorate the informational and political problems which have preoccupied industrial policy skeptics. We should start seeing these problems not as insurmountable obstacles, but as difficulties that any sensible policy framework has got to tackle. Political capture or lack of information do not require governments to give up social or macroeconomic policies, where there are similar difficulties. They simply make it imperative that we come up with institutional solutions to those agency problems. It's hard to see why it shouldn't be the same with industrial policy, and I will present some ideas along these lines here.

A word about the meaning of “industrial policy.” I will use the term to denote policies that stimulate specific economic activities and promote structural change. As such, industrial policy is not about *industry* per se. Policies targeted at non-traditional agriculture or services qualify as much as incentives on manufactures. Public subsidies for high-yielding varieties of traditional agricultural products, for new crops such as pineapple or avocados, for call centers, or for tourism are some examples. As the next section will make clear, the market failures that justify industrial policy can be found virtually in all kinds of non-traditional activities, and not just in manufacturing.

I will begin in Section 2 by discussing the theoretical case for industrial policy and argue that it is a very strong one. The market failures which industrial policies target — in markets for credit, labor, products, and knowledge — have long been at the core of what development economists study. Next, I turn in Section 3 to the practical difficulties with industrial policy and present the conventional case against industrial policy. Even though the issues could in principle be settled by empirical evidence, I will argue in this section that the evidence to date is uninformative. Section 4 presents some country vignettes, discussing the present context of industrial policy in three non-Asian settings: El Salvador, Uruguay, and South Africa. This discussion frames the need for industrial policy in the specific circumstances of these countries, describes the extensive amount of industrial policy that is already being carried out (in two out of three countries), and highlights the challenges policy makers face. In Section 5, I focus on some of the key design features of industrial policy that are needed to maximize its contribution and minimize its potential adverse effects. In short-hand, these can be characterized as embeddedness, carrots-and-sticks, and accountability. My objective is to show that the traditional informational and bureaucratic constraints on the exercise of industrial policy are not givens; they can be molded and rendered less binding through appropriate institutional design. Finally, I offer some concluding thoughts and implications for Middle Eastern countries in Section 6. Even though this paper is about the design of industrial policy in general, this final section

shows how some of the broad principles I advocate carry over to the Middle Eastern context.

2. The Strong Case for Industrial Policy (in Theory)

It is if anything too easy to make the case for industrial policy. Few development economists doubt that the market imperfections on which the theoretical arguments for industrial policy are based *do* exist, and that they are often pervasive. Collateral constraints combined with asymmetric information result in credit market imperfections and incomplete insurance. Problems with monitoring effort result in labor-market arrangements that are less than efficient. Learning spills over from producers who adopt new processes. Labor can move from employer to employer, taking their on-the-job training with them. Many projects tend to be lumpy relative to the size of the economy, requiring coordination. And so on. The “new” growth theory, which is often used to elucidate the performance of developing countries, is based heavily on externalities in knowledge and in new-good creation (Rodriguez-Clare and Klenow 2005). It is not an exaggeration to say that contemporary development theory is built around the view that markets work poorly in developing countries.

These market imperfections have been studied in a number of different contexts and adorn the syllabi of courses on development economics. Foster and Rosenzweig (1995) provide the classic study of how learning-by-doing and spillovers affected the pattern of adoption of high-yielding varieties in Indian agriculture. Shaban (1987) and the subsequent literature has analyzed how costly monitoring and incomplete risk markets shape land tenancy contracts and their consequences in a number of agricultural settings. Morduch (1999) summarizes the financial-market imperfections that have given rise to the spread of microfinance arrangements that do not rely on collateral. Munshi and Rosenzweig (2003) have studied how extra-market social arrangements — the caste system in India — constrain and shape the operation of the labor market. Udry (1996) documents the adverse effects of unequal power and bargaining within the household on labor decisions and the efficiency of resource allocation in African agriculture. Banerjee and Duflo (2005) summarize a wide range of studies that show huge variation in interest rates paid by different borrowers and conclude that these can be explained only by credit-market imperfections. Head *et al.* (1994) provide evidence of spillovers associated with geographical agglomeration looking at the location decisions of Japanese multinationals in the U.S. Javorcik (2004) finds evidence of productivity spillovers in Lithuania, from subsidiaries of multinationals to their suppliers upstream. A spate of case studies reviewed in Hausmann and Rodrik (2003) yield strong evidence of demonstration effects that are generated by entrepreneurs who engage in new economic activities, with learning transmitted to copycats largely through labor turnover.

These market imperfections have to be seen not as isolated instances, but as part and parcel of what it means to be underdeveloped and as the reason for why

economic development is not an automatic process. Development is fundamentally about structural change: it involves producing new goods with new technologies and transferring resources from traditional activities to these new ones. That is the central insight of the classical two-sector models of development (Lewis 1954). It is also a robust empirical fact, which has recently been documented by Imbs and Wacziarg (2003). Structural change is a process which is a fertile ground for many of the market shortcomings listed above. Investment in new industries requires finance, but presents no track record and appears excessively risky to private lenders. It needs complementary services and inputs which are unlikely to exist absent a substantial scale of operation of the activity in question. It entails training workers and managers, who then become free to circulate to competitors and copycats. It generates learning-by-doing, which others can benefit from. Under these conditions, the deck is stacked against entrepreneurs who contemplate diversifying into non-traditional areas. Poor countries remain poor because markets do not work as well as they could to foster the structural transformation that is needed.

None of this is to deny that government failures and institutional shortcomings in protecting property rights and enforcing contracts are often also a fundamental stumbling block. Sometimes they can be the major constraint on economic growth, as analysts of Middle Eastern economic development have amply shown. But for all the reasons I have listed, development requires more than a good night watchman. The literature on development gives us good conceptual and empirical reasons to believe that market imperfections hinder the full private appropriability of social returns in growth-promoting investments, and this problem would remain even when institutions are decent. “Good governance” has to be seen in part as the ability to generate and implement the policy initiatives needed to alleviate the consequences of market imperfections. Countries such as South Korea, Taiwan, and China have developed not by suddenly perfecting their institutions, but by coming up with policies that overcame the market obstacles that their investors faced in modern tradable industries (see Rodrik 1995, 1996).

One of these policies deserves special mention as it sheds light on the mechanics of economic growth and the rationale for industrial policies. In recent work I have documented a strong positive relationship between the level of the real exchange rate (adjusted for the Balassa-Samuelson effect) and growth in a large panel of countries (Rodrik 2007). Since the real exchange rate is the price of tradables relative to non-tradables, the implication is that countries that manage to raise this relative price grow more rapidly.^a South Korea and Taiwan in the 1960s and 1970s, and China in the 1990s provide apt illustrations of this process. In all of these cases, growth was preceded and accompanied with a substantial rise in the undervaluation index for their currencies (see Rodrik 2007). Among Middle Eastern

^aThe regression is estimated with a full set of fixed effects, so the results apply to the variation “within” countries.

countries, Tunisia since the 1960s and Turkey during the early 1980s are examples of the same strategy. Interestingly, this relationship disappears in developed countries, indicating that the growth promoting role of high real exchange rates applies only in low-income settings. This evidence is suggestive that there is something “special” about tradables in these settings.

What might that be? In Rodrik (2007) I discuss two categories of explanations. In one, tradables are special because they suffer disproportionately from the market failures that block structural transformation and economic diversification. These market failures are the ones that I have just discussed, with the added presumption that they predominate in tradables. In the other, tradables are special because they suffer disproportionately (compared to non-tradables) from the institutional weakness and contracting incompleteness that characterize low-income environments. There is some evidence for each one of these explanations, but ultimately it does not greatly matter which one is the dominant factor. In either case, there is a second-best role for subsidizing tradables. The reason currency undervaluation works is that it performs this subsidization function. And regardless of market failures, tradable economic activities are inherently scalable in the sense that small economies can expand output without running into diminishing returns (unlike domestic services). In other words, currency undervaluation acts just like industrial policy, by favoring some (growth-promoting) sectors over others.

This discussion allows me to highlight another misunderstanding. In response to a list of market failures like the one above, the industrial-policy skeptic often accepts the need for policy intervention, but points to the need for “horizontal” policies rather than preferential ones that discriminate across activities. Financial market imperfections, human capital externalities, or learning spillovers are best remedied, the counter-argument goes, by uniform measures that target financial markets, education, and R&D directly. But horizontal interventions need to be thought of as a limiting case, and not as a clear-cut alternative, to sectoral policies. In practice most interventions, even those that are meant to be horizontal, necessarily favor some activities over others. For example, policies targeted at improving financial intermediation by commercial banks are partial to firms in the formal sector that have access to external finance, and discriminate against small and informal firms. Policies targeted at microfinance have the reverse effect. Accelerated depreciation helps capital-intensive activities and discriminates against labor-intensive ones. R&D subsidies and intellectual property protection help firms that undertake patentable innovations, but not those who generate “cost-discovery” externalities (i.e., knowledge about what can be profitably produced at home). And the exchange-rate policy I have just discussed, the archetypal horizontal policy if there ever was one, favors tradable activities at the expense of non-tradable ones. Thus, policy makers do not have the luxury of neglecting the asymmetric effects of their “horizontal” interventions. They need to ensure that the activities being ultimately favored are those that disproportionately suffer from the market imperfections in question.

In Hausmann and Rodrik (2006), we made the point that the public inputs that producers require tend to be highly specific to the activity in question. There are really very few truly “horizontal” interventions:

Production of a particular good or service requires a set of rather *specific* inputs. By *specificity* we mean that these inputs would be much less productive if deployed in some other activity. Hence, the degree of specificity can be approximated by how much less productive an input would be in its alternative use. These inputs include physical installations and machinery, workers with particular skills, a set of specific intermediate inputs, a logistic system to transport the inputs and deliver the outputs, a procurements and marketing system to acquire information about suppliers and customers, a system of property rights and contracts that society finds legitimate and is willing to respect, a set of standards and regulatory rules on product characteristics, labor norms, financial rights and consumer protection that affect the behavior of other stakeholders, etc. These inputs or requirements are developed to solve the more or less particular needs of existing activities, but they may or may not be supportive of some other, potentially not yet existing activities. (Hausmann and Rodrik 2006)

Interestingly, governments often act in ways that show they are cognizant of the specificity of private needs and public inputs, even when they maintain the fiction that they do not engage in industrial (read preferential) policies. For example, most Latin American countries officially gave up on industrial policies in the 1980s and 1990s as part of the reorientation of their economic strategy. Yet their policies towards direct foreign investment and export processing zones typically focused not on across-the-board policies, but on providing specific public inputs to these activities (Rodrik 2004). So foreign investors were offered tax incentives (available only to them) to get them to overcome their lack of familiarity with host countries, facilities that help them navigate through domestic laws and regulations, protection against the weakness of the domestic legal regime, subsidies for training workers, and sites with dedicated infrastructure. Firms in export processing zones obtained fast-track customs procedures, good infrastructure, cheap inputs, and flexible labor practices. In both instances, governments engaged in active industrial policies in the sense of providing public inputs which differentially benefited particular economic actors.

3. The Ambiguous Case for Industrial Policy (in Practice)

This is all fine in theory, and many observers are even willing to believe that some countries are able to pull industrial policy off. But aren't the practical difficulties facing most others so great as to be insurmountable? An analogy Larry Summers likes to give puts the skeptical view quite well. We know that there are some stock-market analysts who are very good at picking stocks and making money. But most

of us would be terrible at it. It makes little sense for us to try to emulate those investment wizards. We should stick to a diversified portfolio and forget about picking stocks. Similarly, most countries should forget about industrial policy, as they are likely to make a mess of it while trying to emulate South Korea.

The specific practical objections to industrial policy are twofold. First there is the informational objection, which states that it is impossible for governments to identify with any degree of precision and certainty the relevant firms, sectors, or markets that are subject to market imperfections. Pack and Saggi (2006), for example, provide a detailed list of informational requirements intended to suggest the impossibility of industrial policy. This critique is often expressed by saying “governments cannot pick winners,” a highly effective conversation stopper. The implication is that in the absence of omniscience, i.e., almost always, an activist government will miss its targets, support economic activities with no positive spillovers, and waste the economy’s resources.

The second objection is that industrial policy is an invitation to corruption and rent-seeking. Once the government is in the business of providing support to firms, it becomes easy for the private sector to demand and extract benefits which distort competition and transfer rents to politically-connected entities. Entrepreneurs and businessmen spend their time in the capital asking for favors, rather than looking for ways to expand markets and reduce costs.

The degree to which the debate on industrial policy centers on these two assertions is remarkable. In fact, the debate revolves not around the economic merits of industrial policy, but around sharply conflicting views regarding the relative importance and pervasiveness of these obstacles. Opponents of industrial policy find these objections sufficient grounds to dismiss it. Meanwhile proponents point to East Asia and argue that successful industrial policy can obviously be done.

I have argued in the introduction that neither of these objections is fatal on its face value. Many of the same counter-arguments can be made in other areas of government policy where all sides accept a useful public role. On the other hand, the East Asian example, while useful, does not help much. Perhaps those countries were indeed special, as the Summers analogy indicates. We need a more comprehensive answer to the objections that the critics raise. This means taking them seriously and thinking their implications through for the design of industrial policy institutions. I will do precisely that later in the paper. But first I offer a few observations on the empirical literature on industrial policy.

In principle, the debate about the feasibility of industrial policy could be settled by careful empirical study and by ascertaining the circumstances under which, if any, industrial policy seems to work. And in fact there is no shortage of empirical work that tries to do that. Interestingly, both the proponents and the critics believe that they have empirical evidence on their side. Proponents rely on the case evidence, pointing to a number of instances where government support seems to have nurtured successful world-class firms in developing nations. Some of the leading examples are the South Korean steel firm POSCO (Sohal and Ferme 1996), the

Brazilian aircraft manufacturer Embraer (Goldstein 2002), Chile's highly successful salmon industry (UNCTAD 2006), and India's and China's makers of auto parts (which have been stimulated by local content requirements as discussed by Sutton 2005). But case studies typically suffer from three problems: absence of an explicit counterfactual,^b selection bias, and difficulties of generalization to other settings.

Opponents rely largely on cross-industry econometric studies, which seem to suggest that traditional industrial policy instruments do not generate the productivity benefits they seek to achieve. See for example Krueger and Tuncer (1982), Harrison (1994), World Bank (1993), Lee (1996), Beason and Weinstein (1996), and Lawrence and Weinstein (2001) for studies on Turkey, South Korea, and Japan. These tend to find, with few exceptions, that industrial policy interventions are either negatively correlated with performance, or not correlated at all. Econometric studies of this kind have all the problems of cross-sectional growth empirics, including complications arising from the linear specification, omitted variables, measurement issues, and so on (Rodriguez 2006, Durlauf *et al.* 2005). But the difficulty runs much deeper. When governments use industrial policies systematically — and regardless of whether they target economically desirable or undesirable ends — the correlation between the degree of intervention and performance across industries cannot tell us anything meaningful about their desirability. A negative correlation, for example, may simply indicate that badly performing sectors suffer from larger market imperfections and hence invite greater intervention. See Rodrik (2008) for a detailed analysis of this and other complications. The bottom line is that cross-industry regressions do not greatly enhance our ability to answer the question “does industrial policy work in practice?”

But we should not be entirely nihilistic when it comes to evidence. Comparative data on TFP trends do allow us to rule out some of the more extreme assertions about industrial policy. In particular, it gives us plenty of reason to discount the view that it has had a systematically damaging effect on growth and productivity compared to hands-off strategies — even when it was carried out badly. In particular, the TFP growth estimates we have for individual regions of the world over different time periods, such as those provided by Bosworth and Collins (2003), deserve serious study as they contradict some of the received wisdom on the adverse effects of the import-substitution (ISI) strategy. What these data show is that countries that adopted Washington Consensus strategies typically failed to reach the levels of TFP growth they had experienced under ISI. During the 1990s, Latin American

^bThe lack of counterfactual can cut both ways. If the social opportunity cost of labor is low, even an unprofitable venture may have been worth supporting. Alternatively, export success — which is the benchmark often used — is not fully informative if the resources could have been used more productively elsewhere. Three studies with explicit counterfactuals are Irwin (2000) on infant-industry protection of the U.S. tinplate industry during the 1890s, Ohashi (2005) on the Japanese steel industry during the 1950s and 1960s, and Banerjee and Duflo (2004) on directed credit in India.

TFP growth remained a fraction of what it had been before 1980 — despite the boost that the region received due to the recovery from the debt-crisis years. In the Middle East, which also followed classic import substitution policies early on, productivity performance was stellar in the 1960s (2.6 percent growth in TFP per annum according to Bosworth and Collins), turned negative in the 1970s, and has not recovered since.

Of course one should not read too much into the decadal correlations between policy and performance for reasons I have already indicated. What we can say without much hesitation is this: if there is a clear association between how rampant industrial policies are and how poor productivity growth is, or between adherence to non-interventionism and strong economic performance, it does not show up in the numbers.

So let me return now to the Summers analogy. Are countries really better off sticking with the “diversified-portfolio” strategy and not emulating East Asia’s policies of “picking stocks”? Given the TFP evidence, it is not at all clear. When countries in Latin America, the Middle East, and even Africa were “picking stocks” they were actually doing mostly fine; and when they stopped, they did not do better. So the Summers analogy doesn’t quite work. The choice that developing country governments face is perhaps more akin to that between handing over their portfolio to Nick Leeson, the infamous rogue trader who brought Barings Bank down, and managing it themselves. Governments may not be the greatest stock-pickers, but it beats being taken to the cleaners.

4. Industrial Policy in Practice: Some Country Vignettes

There is no shortage of descriptions of industrial policies in East Asian countries during their heyday of the 1960s and 1970s. In this section I focus on recent experience in three non-Asian countries, El Salvador, Uruguay, and South Africa, drawing on my joint work with Ricardo Hausmann, Andres Rodriguez-Clare, and Charles Sabel.^c One of my purposes here is to establish some kind of international context and benchmark for the Middle East without relying on the typical East Asian comparisons. Another is to show the diversity of approaches that are on display in different countries. El Salvador is an instance of a country that had forsaken industrial policy until very recently, but which is badly in need of one. Uruguay is a country that maintains the fiction that it has no industrial policies, although its public sector provides key inputs to certain industries and its tax code is full of incentives that are hard to make sense of. Finally, South Africa is in the midst of self-consciously constructing a new program of industrial policies under very difficult circumstances. I will discuss briefly the challenges that each of these countries

^cSee in particular Hausmann and Rodrik (2005), Hausmann *et al.* (2005), and Hausmann *et al.* (2007).

face in designing industrial policies that are appropriate to their needs and that do not greatly strain existing institutions. A final objective is to show that industrial policy is very much a live issue in many countries. The challenge in countries like Uruguay and South Africa is not to embark on industrial policies anew, but to channel what exists in a better direction. This is similar in many ways to the situation that most Middle Eastern countries confront.

Figure 1 shows the growth performance of the three countries. Strikingly, El Salvador and South Africa have yet to reach their peak income levels from the late 1970s/early 1980s, and in view of the long decline their economies have experienced, their growth since the early 1990s looks truly anemic. Uruguay had more rapid growth in the 1990s, alongside its neighbor and major economic influence Argentina, but accompanied Argentina into a tailspin in 1999–2002. Its fortunes have since recovered, alongside Argentina's once again.

Figure 2 is a good indicator of the problems these economies face. In all three economies, investment remains quite low: below 15 percent of GDP in Uruguay, and barely above that in the other two countries. This is substantially below the levels these countries experienced in their own recent past and nowhere near what is required for sustained and rapid economic growth. Despite the considerable reform these economies undertook during the 1990s, the investment response has remained muted. The evidence suggests that the animal spirits of entrepreneurs can remain quite depressed in liberalized market environments, particularly where investments in modern tradable sectors are concerned.

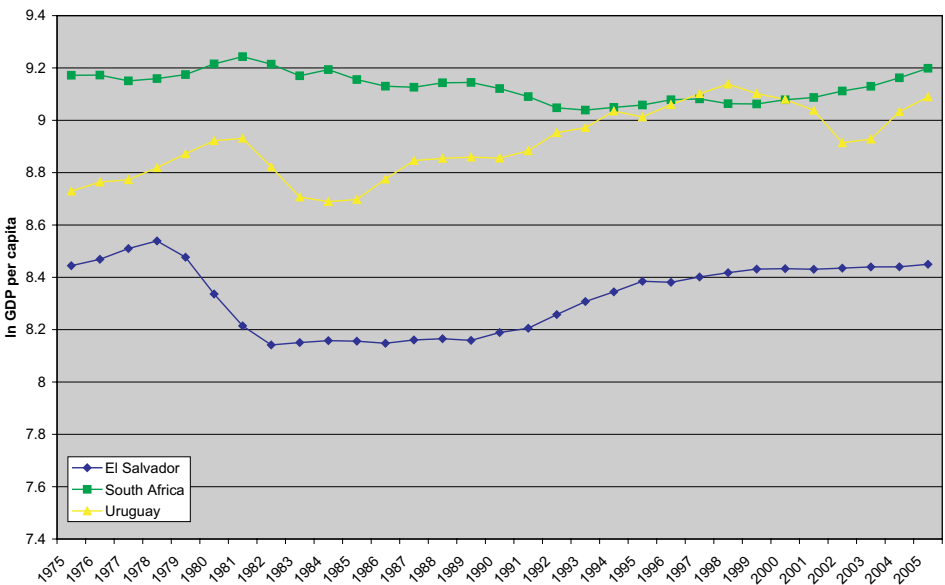


Fig. 1. Growth experience.

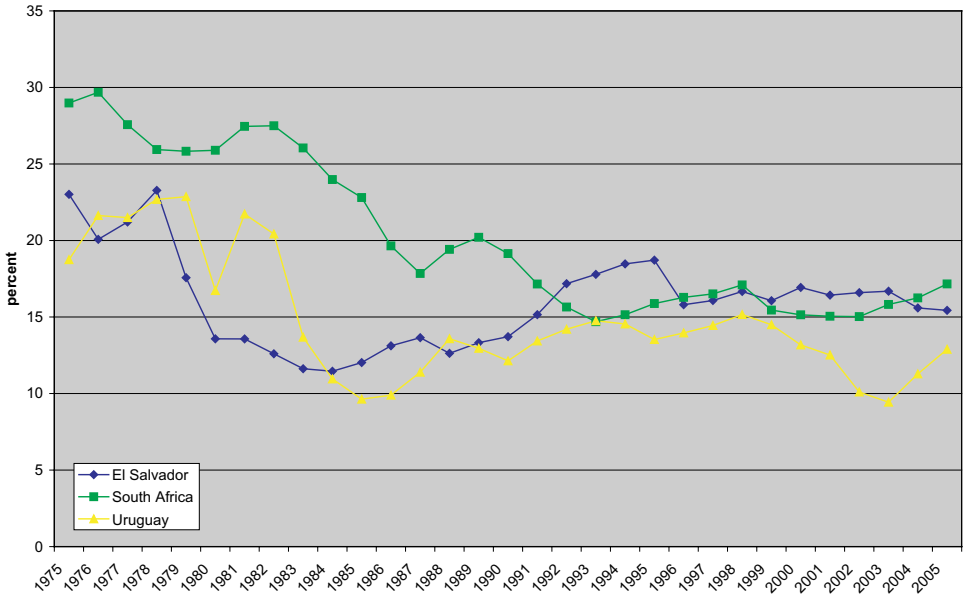


Fig. 2. Investment as a share of GDP.

4.1. *El Salvador*

The Salvadoran puzzle is why a substantial reform effort during the early 1990s — involving a complete opening up of the economy to trade and finance, an impressive macroeconomic stabilization including dollarization, a significant dose of privatization and deregulation, and the establishment of democracy supported by a large influx of remittances — has failed to pay off economically. As Figure 1 shows, an early growth spurt has fizzled out. The Salvadoran experience should give pause to any analyst who assumes market-oriented reform will be a necessary and sufficient condition for stimulating growth in the Middle East.

As we argued in Hausmann and Rodrik (2005), it is difficult to attribute this outcome to the usual culprits — a poor investment climate or macroeconomic instability. Instead the problem seems to be the disjuncture between an economy that is badly in need of diversification — given its traditional reliance on coffee and other commodities whose prices are depressed — and the inadequacy of entrepreneurial incentives to invest in new areas. El Salvador seems to be caught in a classic self-discovery trap (Hausmann and Rodrik 2003). The problem is aggravated by a currency that is overvalued (thanks to remittances) and the unavailability of exchange-rate policy to engineer an increase in competitiveness (given dollarization). The only success in recent years has been the *maquila* sector, which operates under a special tax regime and benefits from trade preferences granted by the U.S. (an industrial policy in all but name). But the *maquila* have been insufficient to make up for the loss in traditional exports on their own.

Until very recently, Salvadoran economic strategy was based on the idea that stimulating economic growth requires nothing more than getting the fundamentals in order. This is a view that takes growth to be an automatic process, coming into its own in full force once the government removes certain distortions that are the result largely of its own policies. The disappointing outcomes have forced the present administration to re-evaluate this view and take a more pragmatic, hands-on attitude. What might an appropriate industrial policy framework look like in such a setting?

We listed in Hausmann and Rodrik (2005) a number of “design features” that we thought any new industrial policy arrangements must possess: the need to limit incentives to “new” activities, the use of automatic sunset provisions, the establishment of clear benchmarks for success (or failure) of programs, the reliance on agencies with demonstrated competence and a degree of autonomy from daily politics, the identification of a high-ranking political principal with “ownership” of the industrial policy effort as a whole, and the systematic use of deliberation bodies that engage the private sector.

We then recommended a number of concrete programs, while emphasizing that these were meant to be illustrative of the type of activities the government might engage in following proper deliberation within itself and with the private sector. Some examples:

- One proposal is a co-financing facility to subsidize the costs of “self-discovery.” This would be a contest in which private sector entrepreneurs bid for public resources by proposing potential investment proposals. Proposals would have to relate to substantially new activities in El Salvador, have the potential to provide learning spillovers, and be subject to oversight and performance audits. The facility would co-finance feasibility studies.
- A second proposal is to redeploy the public Multisectoral Investment Bank (BMI) as a public venture fund engaged in risky investment finance. The BMI has traditionally played a passive role, and has not sought new economic activities. The BMI is staffed with good talent, and operates relatively autonomously.
- A third recommendation is to establish (or strengthen existing) forums where businesses and sectoral associations come into regular dialogue with the government, with the purpose of identifying investment opportunities that might otherwise fall prey to coordination failures.

In settings like El Salvador, where the government has long been hostile to industrial policy,^d what is perhaps most important in the early stages is the change in attitudes itself and its signaling to the private sector. If entrepreneurs and investors are led to believe that they now face a government that is willing to give them an

^dThe WTO’s 2003 survey of trade practices in El Salvador says: “The Salvadoran authorities have pointed out that there are no programmes of assistance either for individuals or enterprises or for regions or specific factors to facilitate modernization and adjustment to structural change” (p. 61).

ear and help finding solutions to their problems, the benefits can be larger than any specific program of support.

4.2. *Uruguay*

One surprise in Uruguay is the extent of industrial policy that takes place under the radar screen. Precisely because it is hidden from view or not talked about much by policy makers, the result is a mixed bag. Some of the efforts work well while others are designed quite poorly. Another surprise is the apparent absence of the rent-seeking that we normally associate with industrial policy. This is important as it suggests that East Asian states are not the only ones that are immune to capture by private interests. Uruguay is a democratic country with a social democratic tradition, and therefore its political setting is quite different from that in East Asia. A “hard,” authoritarian state may not be necessary for running industrial policies cleanly. This is another important lesson for Middle Eastern countries.

As Figure 1 shows, Uruguay has been recovering nicely from its recent crisis. Aided by a more competitive exchange rate, the animal spirits of entrepreneurs appear to have revived. Unlike in El Salvador, the private sector is keenly aware of and interested in investment opportunities in a wide variety of tradable sectors: meat, rice, soybeans, forestry, pulp and paper, ports, tourism, software and business services.

The public sector has played an identifiable and important role in providing key inputs and support for each one of these new economic activities. As we put it in Hausmann *et al.* (2005, p. 4):

Meat has reappeared in the scene thanks to the capacity of Uruguay to control foot and mouth disease through improved animal sanitation and tracking techniques. Rice has benefited from a public-private partnership in seed development through INIA that has increased productivity to the highest global standards. Forestry has benefited from a consistent policy of investment subsidies and of the perceived commitment to the sector in terms of attracting the complementary investments in pulp and paper and in port infrastructure. Tourism has benefited from a consistent policy to broaden destinations, diversify markets and provide the needed infrastructure, advertisement and security. Software has benefited from the high level of public education in the country as well as from an adequate tax treatment.

A key question for Uruguay is whether a combination of significantly improved macroeconomic fundamentals (including a more competitive currency) together with these successful instances of public-private partnerships to foster new economic activities can put the country on a growth path that delivers much better results over the long term.

Uruguay is comparatively good at providing a range of public goods: a competent and honest bureaucracy, public safety, law and order, health and sanitary standards, research and extension services in some agricultural areas, functioning democratic procedures, social cohesion. In Hausmann *et al.* (2005) we argued that these assets can be deployed more effectively in the service of productive renewal and economic diversification. Sustaining growth requires targeting Uruguay's considerable institutional strengths more closely on productive transformation.

Uruguay's industrial policy regime suffered from a number of shortcomings (as of around 2005). First, the government had no systematic, pro-active strategy for going after investments in new areas. Investment promotion was a passive, ad hoc, idiosyncratic affair. For example, the Investors' Attention Office, the one-stop shop for investment incentives, did not actively recruit investors; it simply waited for them to come. Second, while there were plenty of investment incentives, these incentives were not targeted at self-discovery proper. Most critically, the existing tax-incentive scheme made no distinction between pioneer firms and copy cats or between tradables (and therefore scalable activities) and non-tradables. The logic of self-discovery is that it is pioneer, scalable investments that provide the valuable information externalities. Subsidizing others is a waste of resources, unless there exist additional market imperfections. And third, the economy lacked a source of public risk capital. The Corporacion Nacional para el Desarrollo (CND) had not fulfilled its potential promise in this area. In sum, the Uruguayan incentives were not well targeted on the market imperfections that matter. In addition, they were not based on performance standards, and tended to employ a restricted range of instruments that were specified ex-ante regardless of the nature of problems (mainly tax incentives, tariff exemptions, and free zones).

Perhaps the greatest weakness of the Uruguayan approach is that it lacks a unifying, politically salient "vision." This is due in part to being in denial that the government is already extensively engaged in industrial policies. A concrete indication of this is that there is no high-ranking political official (say a government minister) who views economic restructuring and diversification to be his primary objective. No one feels accountable for the low level of private investment in the country — in the same manner that the Central Bank feels accountable for inflation or the finance minister feels accountable for debt dynamics. Yet investment is as much a product of the policy environment as inflation and public finances are. The end result is that existing programs are not always well targeted, are of varying effectiveness, and are not regularly evaluated to see whether their goals are being met.

4.3. *South Africa*

South Africa made a transition to democracy under auspicious conditions. The governing coalition that took power represented the aspirations of the historically excluded and disadvantaged black population, and the pressures for redistribution

and populism were strong. In its first decade in power, the African National Congress managed to steer a prudent course, emphasizing monetary and fiscal prudence, steady, if not dramatic (by Latin American standards) trade liberalization, and social transfers targeted at the poor. The economy avoided the worst prognostications, but also fell short of achieving rapid growth. In particular, it generated too few low-skill jobs, with the consequence that unemployment rose to very high levels.

Behind the unemployment problem in South Africa lies the structural change pictured in Figure 3 (Rodrik 2006). The tradable sector has steadily shrunk, driven by the loss of employment in mining and the slow increase in demand for labor in manufactures. The tradable sector (including manufactures) was the traditional absorber of low-skill labor in South Africa. Therefore, this pattern of structural change implied a collapse of demand for unskilled labor. The fall in real wages required to maintain low unemployment was politically and institutionally unacceptable in a democratic, post-Apartheid South Africa. A sizable (and sustained) real currency depreciation could have helped revive demand for labor. But even though the currency did experience some depreciation in real terms, the effect on tradables was largely nullified by trade liberalization and other competitive forces (China among them) acting on them.

Spurred by low growth and the employment imperative, the South African government recently embarked on a new growth strategy, dubbed the Accelerated and Shared Growth Initiative for South Africa (ASGI-SA). A key departure from the past (and a striking difference from the other cases I have discussed) is that ASGI-SA places industrial policy squarely at the center of the agenda. The government is currently engaged in a self-conscious formulation of an industrial policy that, along

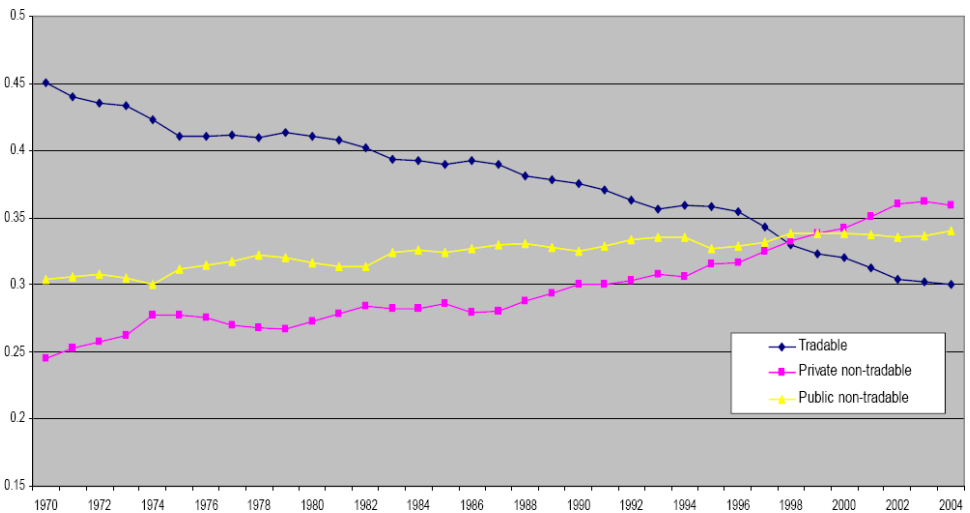


Fig. 3. Employment shares in South Africa.

with reforms in other areas, will counter the negative trends discussed above. A particular challenge is to reinvigorate the manufacturing sector and expand other non-traditional tradables, in view of their employment-absorbing and growth-promoting role.

This effort has several planks. First, the Department of Trade and Industry is engaged in developing so-called Customized Sector Programs (CSPs) with the objective of formulating policy initiatives for individual sectors. The CSPs revolve around dialogues between DTI and private-sector associations, and they cover a wide range of sectors from call centers to capital equipment.

One of the most important initiatives concerns the auto industry, which has been promoted to date through incentives that enable multinational firms to import parts or assembled vehicles in return for exports. The Motor Industry Development Program (MIDP) has served to create a solid base of vehicle assembly, but the domestic supplier links remain weak. The main challenge here can be viewed as one of coordinating investments upstream and downstream. The OEMs are hesitant to expand operations in the absence of a strong complement of local first-tier suppliers, given the transport and logistical costs of importing parts. The suppliers themselves are wary of becoming dependent on a single OEM, and need the assurance that their services will be in demand from a diversified downstream industry. That is why there remains a useful government role here. The MIDP is now being reviewed by the DTI. In view of the argument just made, the most important task will be to replace the existing incentive scheme — which favors exports of assembled vehicles — with support targeted at strengthening domestic supplier industries directly.

Other parts of the public sector are involved as well. The Department of Public Enterprises (DPE) has a supplier development program, aimed at enhancing the productive and technological capacity of suppliers to the state-owned transport and electricity enterprises. The Department of Minerals and Energy seeks to create incentives for “beneficiation” (i.e., domestic processing) of minerals such as diamonds and titanium. The departments of Labor and Education are reviewing vocational training programs to make them more demand-driven. The Industrial Development Corporation (IDC) is financing SMEs and some self-discovery activities. In addition, many provincial governments have their own investment promotion agencies, engaged in providing small-scale support and facilitation services to enterprises in their region. Some of these policies make more sense than others. For example, promoting beneficiation does not seem a good idea in general, as it is hard to make the case that forward linkages from mining to processing generate greater externalities than other kinds of inter-industry relationships (e.g., sideways linkages from mining to mining equipment). By contrast, it would seem desirable for the IDC to expand its role as venture capitalist in financing new tradable activities.

There is a tension in these ongoing efforts between two different modes of carrying out industrial policy. One is the traditional, East Asian style where the government picks certain sectors and provides incentives to get them off the ground.

This approach is defined by a collection of policy instruments (tax credits, subsidies, directed credit) and a range of sectoral priorities (call centers, biofuels, autos, and so on). An alternative one, which I will discuss more fully in the next section, views industrial policy as a *process*, without a preconceived list of sectors and policy instruments. In this conception, the emphasis is on constructing an institutional framework that elicits the problems to be addressed and the remedies to be employed through dialog and deliberation with the private sector. The South African industrial policy regime has been slowly gravitating towards the second model.

The new model overcomes some of the traditional problems of industrial policy, but poses new ones. The institutional framework must be designed carefully to ensure that there is a productive dialog between the private sector and the government, information flows adequately in both directions, needs are well identified, policy instruments are appropriately targeted, and self-correction mechanisms are in place. The good news for South Africa is that the seeds of this new approach are already in place and need not be planted anew. What is needed is a rebalancing of the portfolio of existing industrial policies, along with institutional changes designed to deepen them.

Another issue that the South African case highlights is the tension between the conduct of monetary policy and the health of the tradables sector. While South Africa has not gone to the Salvadoran extreme of dollarizing, its inflation targeting framework tends to deliver an appreciated currency — especially during a commodity boom. This increases the premium on appropriate industrial policies. In effect, the less room for maneuver there is on the exchange rate front, the greater the need for a compensating industrial policy.

5. Institutional Design Features for Industrial Policy

As we have seen, the theoretical justification for industrial policy interventions is fairly strong. By contrast, the empirical evidence on whether industrial policy works “on average” — or on what kind of industrial policy works — is inconclusive. In addition, the literature raises a number of well-placed worries about the likely shortcomings of industrial policy in practice. As I have argued, none of this makes this area of policy different from conventional areas of government responsibility such as education, health, social insurance and safety nets, infrastructure, or stabilization. In each one of these areas, it is recognized that the market-failure arguments for intervention can be exploited by powerful insiders and overwhelmed by informational asymmetries. But policy discussions typically focus on how to make it work, not on *whether* the government should do it in the first place. Making progress with the debate on industrial policy requires a similar shift. Only then can we provide adequate guidance to countries that are in fact already doing it, whether they recognize it or not. The poverty of the economics discussion on these issues is in fact striking. It can be overcome only by going beyond stale existential debates.

As the discussion in the previous section suggests, the specifics of industrial policy depend heavily on the circumstances and institutional capabilities of a country. Still, there are some general principles we can articulate about how institutions carrying out industrial policy should be designed. These principles follow from these considerations:

- (1) The requisite knowledge about the existence and location of the spillovers, market failures, and constraints that block structural change are diffused widely within society.
- (2) Businesses have strong incentives to “game” the government.
- (3) The intended beneficiary of industrial policy is neither bureaucrats nor business, but society at large.

The first of these requires that industrial policy be “embedded” within society. The second calls for strong safeguards against bureaucratic capture. And the third necessitates accountability. I discuss each one of these in turn.

5.1. *Embeddedness*

Economists tend to think of policy design as a top-down process. Formally, it is typically modeled in principal-agent terms: the principal (government) designs a rule that provides the incentive to the agent (the firms) to act in a socially desirable manner in view of the private information (e.g., costs) that the agent (but not the principal) has. This approach takes the informational asymmetry as given, while keeping the private-sector at arms’ length. The bureaucrats simply have to issue the rules and then step aside. It has the advantage that it gives bureaucrats autonomy and facilitates resistance to private sector rent-seeking.

While useful in some settings, this model is unhelpful, and in fact counter-productive in the industrial policy context. The standard model assumes the principal’s objective function is well-defined and known *ex ante*, and that the space of policy instruments, action types, and informational incompleteness is low-dimensional. In practice, none of this is likely to be true. The government has only a vague idea at the outset about whether a set of activities is deserving of support or not, what instruments to use, and what kind of private-sector behavior to condition these instruments on. The information that needs to flow from the private sector to the government in order to make appropriate decisions on these are multi-dimensional and cannot be communicated transparently through firms’ actions alone. A thicker bandwidth is needed.

An industrial policy that is cognizant of the government’s lack of omniscience has to be constructed as a system of discovery about all those sources of uncertainty. It requires mechanisms for eliciting information about the constraints markets face, and hence close collaboration between the government and the private sector. This is what the sociologist Peter Evans (1995) has called “embeddedness.” The success of South Korean industrial policies is often ascribed to the “autonomy” of the state.

Evans showed that it was in fact due to an autonomy qualified by being embedded in private-sector networks — in other words, due to “embedded autonomy.” The capacity to design and implement industrial policy requires both autonomy and embeddedness:

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 continually 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. (Evans 1995, chap. 1)

The right model for industrial policy therefore lies in between the two extremes of strict autonomy, on the one hand, and private capture, on the other. It is a model of strategic collaboration and coordination between the private sector and the government with the aim of uncovering where the most significant bottlenecks are, designing the most effective interventions, periodically evaluating the outcomes, and learning from the mistakes being made in the process.

What are some of the specific mechanisms that can serve to achieve these ends? Deliberation councils are the classic institution for this purpose, but we can add supplier development forums, “search networks,” investment advisory councils, sectoral round-tables, diaspora associations, and private-public venture funds as additional examples. Contests that allow private sector firms to bid for public resources (whether to fund feasibility studies or provide specific public inputs) can be particularly useful for eliciting private-sector needs and priorities.

An interesting idea for an institutional arrangement that deals with the issues I have highlighted comes from Romer (1993).^e Romer’s proposal is to set up “self-organizing industry investment boards.” These boards are collective organizations

^eI thank Ricardo Hausmann for bringing Romer’s paper to my attention.

of firms aimed at providing specific public input to their industry. These inputs could be an R&D lab for the industry or an infrastructure project. The proposal is submitted to the government, and is subject to its approval. Once approved, the project is paid for by a tax levied on the sales of the industry. Firms are free to set up alternative boards, serving different needs, and allocate their tax dollars appropriately. While Romer had the U.S. in mind, such boards could be even more useful in developing country settings.

This way of thinking about industrial policy ensures that we view it not as a list of policy instruments, as in the traditional model, but as a process of discovery. The process focuses on learning where the binding constraints lie and on eliciting information on the private sector's willingness to invest subject to the removal of those obstacles. The government's choice over policy instruments — tax breaks, R&D subsidies, credit incentives, or other specific instruments — emerges from the process. The appropriate way to judge the success of the policy is then to ask: have we set up the institutions that engage the bureaucrats in an ongoing conversation with the private sector, and do we have the capacity to respond selectively, but also quickly and using a range of policies, to the economic opportunities that these conversations are helping identify?

5.2. *Carrots and sticks*

A central insight that goes back to Schumpeter is that innovation requires rents. Without rents for entrepreneurs, there is too little investment in cost discovery and other activities that promote structural change. Rents are in effect a second-best mechanism for alleviating the market failures discussed previously. The trade-off is that open-ended rents bottle up resources in unproductive activities and allow producers to live the “easy life of the monopolist.”

The contrasting experiences of East Asia and Latin America are illuminating in this respect. During the heyday of their industrial policies (1960–90), East Asian countries were well known for relying on both incentives and discipline. While tax incentives (Taiwan) and credit subsidies (South Korea) were generous, they were conditioned on performance, and especially on export performance. Non-abiding firms were penalized by withdrawal of subsidies and in other ways. This generated lots of new economic activities, while allowing failures to wither away. Under its traditional import-substitution policies (1950–80), Latin America also provided considerable incentives (trade protection and cheap credit), but failed to exert discipline on the beneficiaries. This too generated many successes, as I have already discussed, but it also kept alive many unproductive firms. The latter were finally disposed of when the stick in the form of market discipline arrived on the scene in the late 1980s and 1990s (assisted by sharp business cycle downturns). Arguably today Latin America has too much market discipline and too few carrots to encourage firms to invest in transforming industries. That is one way to understand the comparatively low investment and growth of the region.

Hence the conduct of industrial policy has to rely on both prongs: it needs to encourage investments in non-traditional areas (the carrot), but also weed out projects and investments that fail (the stick). Conditionality, sunset clauses, built-in program reviews, monitoring, benchmarking, and periodic evaluation are desirable features of all incentive programs. Bringing discipline to bear on incentive programs does not require a hard state. Relatively minor details of how programs are designed can make a big difference in practice. Requiring that an incentive expire unless a review recommends that it be continued is much more likely to generate phase-out than simply promising a review x years from now. Being very explicit *ex ante* about the criteria by which a program will be judged a success — so many jobs and so much exports after x years — is helpful to distinguish between hits and flops *ex post* and guards against the tendency to scale down expectations when things do not work out.

And bringing the discipline of the market to bear on incentive programs is always a good idea, whenever practical. For example, one of the most attractive features of export subsidies is that it conditions the reward on performance in world markets. Unproductive firms are unlikely to export much, even with the subsidy, and therefore do not receive any benefits. Both South Korea and Taiwan greatly benefited from export subsidies during the 1960s and 1970s. By making incentives conditional on export performance, these countries set up the right incentives for firms to enhance productivity. While export subsidies are now illegal in the World Trade Organization, the least-developed countries are still permitted to use them. Co-financing is another mechanism to bring in the discipline of markets. It allows screening between firms that are willing to risk their capital and those that aren't.

This discussion on the need to combine sticks with carrots highlights an important point about the appropriate yardstick for judging success in industrial policy. Remember the claim that governments cannot pick winners, which is often used to argue against industrial policy. If industrial policy is in part about self-discovery, which is inherently uncertain, many promoted enterprises will necessarily fail. Optimal policy under these conditions requires acceptance of a certain failure rate (Hausmann and Rodrik 2003). Conducting policy in a manner that would ensure zero failure would make as much sense as a pharmaceutical company investing only in drugs that are guaranteed to be profitable from the outset. As the analogy suggests, if none of the promotion efforts produces duds, this is as good an indication as any that the promotion did not go far enough. It is said that the top few successes of Fundacion Chile, including most notably salmon, paid for the entire budget of the organization, including its many failures.

The appropriate question therefore is not whether a government can always pick winners — it shouldn't even try — but whether it has the capacity to let the losers go. The trick is having mechanisms of the sort just described that can recognize when things are turning sour and the ability to phase out the support. This is still hard to do, but orders of magnitude less demanding of the government than full omniscience.

5.3. Accountability

The considerations up to now are mostly concerned about getting the relationship between the private sector and the policy makers/bureaucrats right. But if bureaucrats monitor business, the question is who monitors the bureaucrats? The ultimate “principal” here is the general public and we need to ensure that the industrial policy apparatus is responsive to it. This is good both for economic reasons — to keep the bureaucracy honest — and for legitimacy. The public deserves an accounting of how decisions are made in this domain and why certain activities or firms are favored — especially since industrial policy may often seem to privilege large and politically connected firms rather than SMEs or poorer parts of the economy.

One response to this challenge is to raise the political profile of industrial policy activities and to associate a high-level champion with them. The virtue of this is that it identifies a person who has the job of explaining why the agenda looks as it does, and who can be held politically responsible for things going right or wrong. If there is a minister of education who is responsible for education policy and a central bank governor who is accountable about monetary policy, why not accord similar treatment to industrial policy? Many governments do have a minister of industry (or trade and industry) of course. But as we saw in the South African case, a lot of industrial policy actually takes place in other parts of the public sector — in other ministries and in development banks. In such circumstances, it is not clear that any particular person bears responsibility for failure.

Accountability can also be fostered at the level of individual agencies by giving them clear mandates and then asking them to report and explain any deviations that occur from the targets set in the mandate. The model to follow is that of central bank independence and inflation targeting. Under this model, the central bank is fairly autonomous in selecting the instruments it uses to achieve its inflation target, but is expected to provide a good accounting for missed targets. Following a similar approach, we could imagine, say, the industrial development bank being given quantitative targets for a range of venture-fund type activities: completed pre-feasibility studies in non-traditional activities, volume of co-financing generated, divestments from old projects, and so on. The bank would periodically report on its activities and explain reasons for any deviations in the outcomes.

Another fundamental tool for accountability is transparency. Publication of the activities of the deliberation councils and periodic accounting of the expenditures made under industrial policies would greatly help. Any request made by firms for government assistance should in principle be public information. And ensuring that government-business dialogs remain open to new entrants would assuage worries about the process being monopolized by incumbents.

6. Implications for the Middle East

When it comes to Middle Eastern development two key ideas dominate thinking within multilateral agencies and among Western-trained economists. One is that the

state's heavy hand has traditionally played an important role in blocking economic take-off. The other is that public institutions are particularly weak in this part of the world (World Bank 2003). Both ideas seem to militate against an industrial policy of any sort. Poor governance renders industrial policy particularly risky; the real challenge, it would appear, is for the state to get out of the way rather than dream up additional interventions.

True as both ideas may be, the conclusion that industrial policy is irrelevant or harmful does not follow. An appropriate metric for improved "governance" must surely track the enhancement of the capacity to generate and implement those policy initiatives needed to alleviate market imperfections — which is what industrial policy is about. South Korea, Taiwan, China and many other successful countries all started out with very weak institutions by standard criteria. What stimulated high growth in these countries was not the chimera of first-world institutions, but the formulation of specific policies that overcame the market obstacles that their investors faced in modern tradable industries. And as the example of El Salvador strongly suggests, the absence of such policies can hamper growth even when critical government failures — consequences of the "heavy hand of state intervention" — have been largely removed.

In fact, the need for industrial policies may be even greater in the Middle East. As I mentioned previously, highly competitive real exchange rates have made an important contribution to growth accelerations. This is an instrument that is unavailable to most Middle Eastern countries for a variety of reasons. Some, like the Gulf states, are major oil exporters, others like Jordan and Egypt are important recipients of remittances, and yet others like Turkey have open capital accounts and suffer from the "curse" of capital inflows. In such contexts it is too difficult to undervalue the currency as a matter of policy for any length of time. Industrial policy of some sort must compensate. This is an unpleasant trade-off, but one that policy makers must face up to.

Luckily, the practice of industrial policy in the Middle East is not inevitably doomed to corruption and ineffectiveness. This part of the world has its own examples of successful industrial policy. Leaving the record of import substitution aside, which was quite respectable until the 1970s as we saw above, recent decades have seen some notable successes in efforts to create internationally competitive industries. For example, Turkey's extensive subsidization of export-oriented manufactures under Turgut Ozal during the 1980s, along with an undervalued currency, played a key role in transforming the country's inward-oriented economy into an open one, albeit in a highly unorthodox manner. Even though these subsidies created a fair amount of rent-seeking, their record has to be judged positive on balance. Dubai provides a very different kind of example from among the Gulf countries. Dubai's peculiar mix of free-market policies (such as its low taxes), strategic vision (embodied in Dubai Strategic Plan 2015), and explicit planning (entailing large public investments, specialized zones, mega-projects, clearly defined sectoral priorities in tourism, financial services, and transportation) has produced a high rate

of growth and an impressive process of diversification away from oil. Despite their manifest differences, a key shared characteristic in these two instances is that the programs have had high-level political champions (Turgut Ozal in one case and Sheikh Mohammed bin Rashid al Maktoum in the other), providing for continuity, coherence, and accountability. This is one of the important design features I have emphasized in the discussion in the previous section.

A relatively little known, but exemplary initiative is Tunisia's *Mise à Niveau* (MAN) program, developed in the wake of the association agreement with the EU in 1995 and targeted at improving the productivity of Tunisian firms. Under the MAN program, firms were eligible to receive technical and financial assistance to upgrade their operations and become internationally competitive. As described by Murphy (2006) the program had many desirable features, along the lines I have discussed previously:

- It was a home-grown effort but had the benefit of careful study of similar efforts in other countries.
- It was built around a pilot program to test out the central ideas behind the initiative.
- It entailed an explicit quid pro quo: financial assistance in return for a commitment to modernize all aspects of the operation.
- It was designed as a collaborative effort between the government and private sector (for example the federations of employers and of labor and the banking sector were asked to help identify promising firms at the outset), which helped elicit information and enforce a certain degree of accountability.
- It eschewed rigid administrative guidelines in favor of flexibility, in recognition of the differing needs of individual firms (the absence of standard criteria was criticized by the World Bank and the EU, who initially withheld financial support).
- Firms were expected to undertake their own diagnostic exercises with respect to financial and strategic outlook.
- The program had the full support of President Ben Ali who gave it considerable attention and ensured that the bureaucracy ran it smoothly, efficiently, and with little petty corruption.

Murphy calls the *Mise à Niveau* program “the major government initiative of the Ninth Development Plan” (2006, p. 528). Even though the program has not been rigorously evaluated, firms that took part in MAN appear to have improved their productivity and export performance compared to others (and also relative to their early performance). It is not a stretch to believe that it has played a positive role in the generally impressive record that Tunisian industry has exhibited since 1995.

Some of the large countries of the region — such as Turkey and Egypt — have long had traditional incentive programs built around tax incentives and sectoral and regional priority lists. It is fair to say that most of these programs are no longer working well, as they pursue too many diffuse objectives, are administered in overly

bureaucratic fashion, and entail infrequent monitoring (if any). Many of these programs are now being reviewed and reformed. For example, Egypt eliminated tax holidays in 2005 at the same time that it reduced its corporate tax rate, substituting more finely tuned subsidies on land, infrastructure, training, and employment, particularly in special economic zones and Upper Egypt. Turkey is in the midst of a review of its industrial incentives, and has set up a deliberative private-public body, much like that advocated in the previous section, to guide it along. What is clear is that industrial policy is here to stay in the region. As long as it is reconstructed along the lines I have sketched above, this should not be considered bad news.

I have argued in this paper that the various objections to industrial policy are less powerful than they seem at first sight. They are based on unexamined assumptions about the nature of economic development and the capacity of governments. They misrepresent what the empirical evidence really shows. They ignore the fact that many (if not most) developing countries are already engaged in industrial policies, even if they do not call them by that name. And they overlook the fact that many of these same points are not specific to industrial policy and could be made for other areas of government policy as well. At the end of the day, it is difficult to understand why industrial policy is held in such disdain.

What I have proposed is an approach that recognizes the potential problems in the conduct of industrial policy, but does not take the informational and rent-seeking constraints to be immutable. In many other areas, such as monetary policy, fiscal policy, or development banking, experience has shown that it is possible to design institutional arrangements that achieve social objectives reasonably well while keeping agency problems in check. Policy advice in some of the most conventional areas of government responsibility, such as trade and financial reform, is increasingly predicated on a similar view about the malleability of institutions. It acknowledges that reaping the benefits of openness on trade and finance requires a battery of accompanying institutional reforms, and pushes for those reforms as a necessary complement (see IMF 2007 and World Bank 2006).

The debate on industrial policy remains in an impoverished state in the Middle East as in other parts of the world (outside East Asia) — still hung up on the question “should we or should we not?” — because economic analysts and development professionals have not fully come to grips with this point. The way to move forward is to understand that industrial policy is not that special: it is just another government task that can vary from routine to urgent depending on the nature of growth constraints a country faces. Once this point is grasped, it becomes easier to contemplate the institutional experimentation that its successful implementation will necessarily entail.

Acknowledgments

I thank Michael Spence for suggestions and guidance, Roberto Zaghera for inspiration and detailed comments, Ricardo Hausmann and Chuck Sabel for many lengthy

conversations that substantially influenced my thinking on these matters, and Lyn Squire for very helpful comments and suggestions.

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