

Going Beyond the Basics?

PART III

GOVERNMENTS CAN GO BEYOND THE BASICS of a sound investment climate by conferring special policy privileges on particular firms or activities or by drawing on the growing body of international rules and standards that deal with investment climate issues. This part looks at the role these measures might play in creating a better investment climate.

Chapter 8—*Selective interventions* reviews international experience with a variety of strategies and highlights the special challenges of each.

Chapter 9—*International rules and standards* looks at how these measures might contribute to better investment climates, and the challenges they can present for developing countries.

Selective interventions

chapter 8

The approaches to improving the investment climate discussed in Part II can benefit all firms and activities in the economy. Given the breadth of that agenda, some firms or activities may benefit from improvements earlier than others—as with infrastructure in a particular region, or regulatory reforms affecting a particular activity. As stressed in chapter 3, policy perfection isn't needed to ignite significant growth and poverty reduction. The key is to address important constraints in a way that gives firms confidence to invest—and to sustain a process of ongoing improvements. But beyond the sequencing of reforms, beyond delivering the basics of a good investment climate, can governments accelerate growth by providing special and more selective support to particular firms or activities? Possibly.

Governments have been experimenting with such selective interventions for a long time. In the 14th and 15th centuries, English monarchs encouraged further processing of the wool industry.¹ After World War II many developing countries pursued “infant industry” strategies to support local industries by erecting import barriers—with nominal tariff rates for consumer goods exceeding 250 percent in Argentina, Brazil, and Chile.² In the 1960s and 1970s several East Asian countries undertook selective interventions to support export-oriented industries—prompting an ongoing and sometimes heated debate on the desirability, efficacy, and replicability of such strategies.³

The experiments continue to this day, with governments pursuing a wide variety of strategies and approaches. They vary in their special efforts—to accelerate research and development or regional development, to promote foreign direct investment (FDI) or exports, to help small or rural firms, to

target specific industries or activities. They vary in their policy instruments, too, from market restrictions, to special tax or regulatory privileges, to information-based strategies, to enclave approaches or “clusters,” to directed or subsidized credit, to public risk-sharing. Some interventions have an economic rationale—externalities or other market failures.⁴ Some may be regarded as a form of “second best” response given slow progress in addressing the basics.⁵ Yet others seek to accelerate growth by fostering particular industries. Whatever the rationale, all such schemes must navigate the heterogeneous and self-interested requests of firms, rent-seeking pressures, and other sources of potential policy failure.

This chapter begins by examining some of the general lessons in undertaking selective interventions. It then looks at emerging practices aimed at several common objectives of such interventions: integrating firms in the informal and rural economies, unleashing the growth potential of smaller firms, taking advantage of international openness, and climbing the technology ladder.

The allure—and traps—of selective interventions

If specific activities or industries that are sure to deliver strong benefits could be identified and targeted cost effectively, growth might be ignited or accelerated without addressing the often difficult challenges in improving the basics of a good investment climate. Such strategies also hold great political appeal. Governments often feel under pressure to be seen as promoting economic development, and firms benefiting from preferential treatment welcome their special privileges.⁶ That is why

governments explore the feasibility of various selective interventions.

Experience suggests that such strategies are far from straightforward—and can go spectacularly wrong. There are three general challenges: identifying candidates that merit special policy treatment, resisting rent-seeking, and ensuring that any intervention is cost effective.

Identifying candidates that merit special policy treatment

Some interventions are motivated by broad notions of market failure. As discussed in chapter 3, research and development, FDI, and (possibly) exports can create positive spillovers for the economy, and so may be

worthy of special treatment on this basis alone. Even within a country the goal of expanding economic activity and employment in a given location may prompt special efforts by local governments to attract investment. Particular types of firms—such as small and rural firms—are also often believed to suffer special disadvantages that justify additional measures.

In other cases governments seek to target particular industries through special policy treatment. Sometimes the choice of industry to target might appear fairly clear: for example, many countries that are natural resource exporters have an interest in increasing the level of processing in their economies, and a country endowed with tourism assets may seek to leverage that advantage. Sometimes governments look beyond obvious areas of comparative advantage in the hope of promoting industries that promise even higher returns. While schemes of the latter kind may promise large benefits, experience shows they are also far more challenging.

Industrial development is usually a process of discovery, and it is difficult to predict what a country or region will be good at producing.⁷ There is no shortage of examples of governments missing what turned out to be winners—garments in Bangladesh, cut flowers in Colombia, software in India, horticulture in Kenya, and Honda and Mitsubishi in Japan's automotive industry (box 8.1).⁸ And many interventions targeting specific industries have ended up producing losers (box 8.2).

Even where selective intervention seems to have been successful, the contribution to growth has been debated. For example, recent work suggests that South Korea's promotion of its heavy and chemical industries did not have a clear impact on growth.⁹ Measures that curb competition can be particularly costly for the incentives firms face to innovate and perform efficiently, retarding rather than helping the long-term development of industries.¹⁰

Identifying specific industries that might emerge as winners outside a country's obvious areas of comparative advantage is becoming even more difficult. The falling cost of information, the greater mobility of capital, the emergence of global supply networks, and ongoing advances in technology

BOX 8.1 *Unforeseen successes in Bangladesh and Kenya*

Bangladesh and Kenya show how tough it is for a government to predict a winning sector.

Garments in Bangladesh. Hoping to beat U.S. quotas and get rid of old textile machinery, South Korea's Daewoo teamed with a Bangladeshi entrepreneur in the joint venture Dosh garments in 1979. Dosh's employees and managers spent some time in Korea to learn new processes and managerial techniques. Nobody (not even Daewoo) had very high expectations for Dosh, but it turned out to be successful. Eventually, all but 5 of the 130 original workers left Dosh to create their own factories or join other new businesses. Bangladesh became a major player in the garment industry, with close to 1 million workers, most of them women, and exports in 2003 of \$3.6 billion.

Horticultural products in Kenya. Over the last 10 years Kenya has become a major

exporter of horticultural products—fruits, vegetables, and cut flowers. Among developing countries, Kenya is now the second-largest exporter of fresh vegetables to the European Union and the second-largest exporter of cut flowers. Horticultural exports exceeded \$350 million in 2003, surpassing coffee exports, and the sector employs over 135,000 people, many of them women. The sector emerged from the entrepreneurial efforts of firms, not from government intervention. Smallholder farmers, foreign investors, exporters from the Kenyan Asian minority—all played important roles in developing contract farming arrangements, introducing new technologies and varieties, and connecting the horticulture sector to global markets.

Source: Easterly (2001); Rhee (1990); and English, Jaffee, and Okello (2004).

BOX 8.2 *Picking “winners” can be an expensive gamble—SOTEXKA in Senegal*

SOTEXKA (Société Textile de Kaolack) was created around 1980. It was intended to be an internationally competitive textiles and clothing conglomerate with a spinning, weaving, knitting, dyeing, and printing factory in Kaolack and a garment factory in Louga. The initial \$25 million investment was financed by government-guaranteed loans and 28 percent direct government participation.

The factories, completed in the mid-1980s, did not begin operating until 1989,

when the Kaolack factory operated briefly at 20 percent capacity. It was shut down after a few months because of technical difficulties and the inability to pay for cotton and electricity. In 1990 it operated for just a few months, but then shut down again. Despite a series of efforts to revitalize the initiative, success remains elusive.

Source: Golub and Mbaye (2002).

mean that patterns of industrial development and areas of competitive advantage are shifting faster than ever before.¹¹ Competition among countries is also intensifying. When East Asian countries experimented with selective interventions to support their export-oriented industries, few other developing countries were doing the same. Today it is difficult to find a government without the same ambitions, yet heightened competition reduces the prospects for success. Since 1962 the number of countries exporting electrical equipment has tripled, and the number exporting motor vehicle parts has more than doubled (figure 8.1).

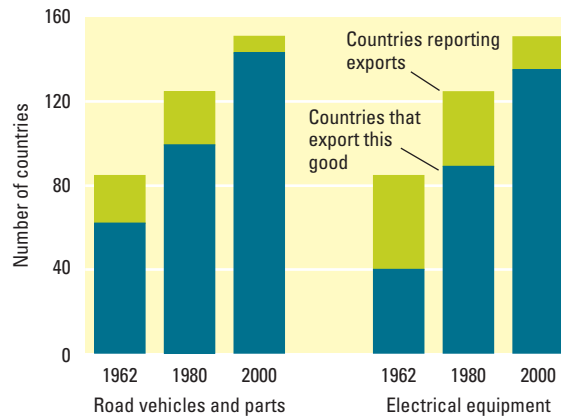
So strategies that may have worked in earlier periods offer few insights into what might work today. At best, identifying specific industries is a gamble. Individual firms make such gambles as a matter of course, but they are betting with their shareholders' money, and their shareholders capture the rewards—and take the risk of losing their stake. When governments enter the casino, they are betting with taxpayer resources, which should mean something for the size of the bet and the length of the odds they are willing to accept.

Resisting rent-seeking

Successful interventions need to resist the inevitable rent-seeking by firms. Most firms regard their contribution to economic development as special in some way, and can be willing to invest considerable resources in making their case to policymakers. Selective interventions that transfer costs and risks to consumers, taxpayers, or others are enticing. Forms of intervention that obscure the extent of the transfer are particularly attractive.

Import barriers and other market restrictions have been especially popular. They offer firms monopoly profits and reduce pressure to perform efficiently. The costs to consumers (including firms dependent on inputs from the protected sector) through higher prices typically far exceed the benefits gained by the protected industry, but can be hard for consumers to evaluate. Transferring commercial risks to taxpayers—whether through government guarantees of specific risks or broader pooling of risks through public-private joint ventures of various kinds—also weakens firms' incentives to perform efficiently. The risks borne by taxpayers are rarely accounted for explicitly.¹²

Figure 8.1 Competition has increased with more countries exporting a larger range of goods



Source: World Integrated Trade Solutions database (available at wits.worldbank.org).

Subsidized or directed credit can also obscure the cost to taxpayers and other borrowers.

Schemes that create rents for firms are also notoriously difficult to dismantle—even when the costs clearly exceed the benefits. Firms benefiting from special privileges have strong incentives to resist their removal and often treat them as entitlements. Those who bear the burden of the distortion are typically more dispersed and have weaker incentives to organize.

Getting value for money

Selective interventions would be less hazardous if governments could be reasonably sure they would get value for money. Sometimes the results of intervention do meet expectations. For example, successfully attracting Intel to Costa Rica created considerable spillovers to the economy (see box 7.2).¹³ Recent work in the United States suggests that at least some cities that successfully attract major investments through incentive schemes may also get value for money when the benefits are construed broadly, including increases in the local tax base due to higher land prices.¹⁴

Unfortunately, good outcomes cannot be taken for granted. For example, when offering special incentives to attract investment, governments face a severe information disadvantage. They can never know the “right” level of incentive to induce the desired behavior. They can easily fall prey to opportunistic behavior by firms to provide incentives when none were necessary—or they can simply pay too much.¹⁵ Particularly in a competitive setting,

pressures on politicians to overbid may contribute to the “winner’s curse” that can afflict bidders in any auction.¹⁶ Governments can also fail to get value for money when the incentive is paid up front or takes the form of the provision of specific infrastructure and the firm does not deliver as expected—as the U.S. city of Indianapolis recently discovered (see box 8.9).

Nor are the costs limited to forgone tax revenues or specific public investments. Schemes that involve market restrictions transfer costs to consumers, and those involving directed credit transfer costs to other borrowers. Selective interventions can also create distortions that ripple through product and factor markets. Indeed, many distortions in countries’ investment climates today are the legacies of earlier efforts to intervene selectively.

Overall lessons of experience

Before looking at particular strategies, it is useful to spell out some general lessons. In theory, selective interventions can yield positive social outcomes. In practice, cases of unambiguous success are rare, and there are many examples of costly failures, even in developed countries with abundant technical expertise and well-established checks on rent-seeking. Selective interventions that target specific industries outside a country’s obvious areas of comparative advantage are most clearly a gamble. But a review of international experience reveals no sure-fire strategies even for less ambitious schemes, suggesting that the analogy applies more broadly. The potential size of the reward is obviously one factor governments need to consider. But what determines the odds of success in realizing those benefits in a cost-effective way? Three factors stand out:

- *Breadth of focus of the intervention.* Given the dynamic nature of industrial development, the narrower the focus of the intervention in terms of specific firms or industries, the longer the odds of success. Thus measures to encourage FDI or technological progress in general involve fewer risks than those focusing narrowly on a specific firm or industry.

- *Relationship with the basics of a sound investment climate.* Given the many factors that shape the incentives for firms to invest productively, the more a scheme tries to substitute for inadequacies in the basics of a sound investment climate, rather than build on them, the longer the odds of success.
- *Quality of governance.* Selective interventions do not necessarily require more expertise or resources than more basic measures—indeed, many demand less. But selective interventions are more vulnerable to rent-seeking by firms and officials, and the weaker the restraints on such behavior, the longer the odds of success.

When positive outcomes cannot be assured, the size of the bet matters. Schemes involving large budget outlays, transferring substantial risks to taxpayers, or creating serious market distortions involve greater stakes than measures focusing on the dissemination of information—although even those can be costly. Beyond such calculations, what else might governments do to reduce the risks inherent with selective interventions? International experience suggests six basic guidelines for the design and implementation of any such scheme:

1. Have a clear objective and rationale. Unless a clear objective is stated, it will be impossible to judge whether a scheme is meeting its intended goal at all, let alone cost effectively. Often multiple (and sometimes conflicting) goals are pursued simultaneously.¹⁷ Schemes with vague objectives or rationales can also mask the conferral of benefits on politically influential groups without broader social benefit.

2. Focus on the sources of problems, not the symptoms. Many obstacles facing firms stem from government failures in other areas—weak protection of property rights, red tape, corruption, dysfunctional infrastructure policies, or government crowding out credit markets. Progress in addressing the underlying causes promises a broader and more sustainable impact than targeted measures that may introduce new distortions or simply distract attention from dealing with those causes.

3. Match the instrument to the rationale.

Different rationales call for different instruments. Financial market interventions will rarely be the most effective way to address potential spillovers. Tax incentives do not address credit market constraints. The provision of public infrastructure has no clear impact on incentives to innovate, and the conferral of market restrictions weakens those incentives.

Where a selective intervention is intended to address poverty alleviation or other social objectives, policymakers need to consider a range of alternative instruments. For example, direct transfers to individuals or the provision of education or training are usually more effective at helping poor people than providing support to firms that employ poor people, because in the latter case owners and managers will capture many of the benefits.

4. Maintain discipline. One of the key failings of traditional import replacement strategies was that firms faced little discipline to improve their performance. Instead, firms typically grew complacent, dependent on ongoing public support. Many forms of financial and other support to firms have also not been conditional on performance, resulting in weak discipline even in repayment, let alone delivering the intended social benefits.

Where feasible, special policy treatment should be conditional on demonstrated performance against objective criteria.¹⁸ South Korea's interventions to promote export-oriented firms benefited from performance-related discipline.¹⁹ That discipline can take many forms. Rather than providing upfront payments or tax holidays, support might be based on accelerated depreciation and so accrue to firms only if they make the intended investment.²⁰ Making any special treatment time-bound can also impose more discipline on firms.

5. Be transparent. Transparency is the key to disciplining both governments and firms. Rent-seeking is behind many demands for special treatment, and benefits can easily be tied to corruption. Schemes that give officials significant discretion in selecting eligible firms create uncertainty for firms—and opportunities for abuse. Transparency in the

design of the scheme—including the level and form of the support provided and the beneficiaries of that support—facilitates regular public scrutiny of program effectiveness. Well-defined objectives, instruments, and performance measures all play a role. Being transparent is easier with explicit subsidies and tax incentives. It is harder to evaluate market restrictions, directed credit, or other schemes where the level of private benefits and social costs are opaque and thus more vulnerable to capture and misuse. Most Organisation for Economic Co-operation and Development (OECD) countries and a growing number of other countries publish estimates of the cost in tax revenue of preferential treatment.²¹

6. Review schemes regularly. Even schemes that meet the first five criteria may fail to deliver intended results, create unanticipated distortions, or not keep up with changing conditions. Yet the beneficiaries of such schemes have strong incentives to resist efforts to dismantle them. That makes it important to review schemes at regular intervals. Botswana and Taiwan, China, eliminated schemes following reviews that raised concerns over their effectiveness.²² Policymakers can ensure that schemes have sunset clauses making continuation or extension beyond a specified date conditional on a transparent evaluation of costs and benefits.²³ The time between reviews needs to be long enough to give firms some predictability—but not too long (in all but the most capital-intensive industries).

Experience in specific areas

Beyond attempts to pick winners, governments often use selective interventions to hasten progress toward a subset of the goals that a good investment climate can deliver. As discussed in chapter 3, these include:

- Integrating informal and rural firms
- Unleashing the growth potential of smaller firms
- Taking advantage of international openness
- Climbing the technology ladder.

What has been learned?

Integrating firms in the informal economy

The informal economy comprises a diverse set of firms and so calls for a multidimensional approach (chapter 3). Strategies for strengthening incentives to become formal were discussed in chapter 5. Here the focus is on the possible role of selective interventions to improve the conditions facing microentrepreneurs in the informal economy. Those firms benefit from the basics of a sound investment climate—from more secure property rights, better approaches to tax and regulation, more efficient finance markets and infrastructure, and well-functioning labor markets. Some governments do more.

Expanding voice and access. A first step in dealing with the concerns of microentrepreneurs in the informal economy is to give them more voice in policy circles. Many are not recognized by the government and not seen as constituents, but there are examples of their voices being heard. In Ahmedabad, India, the Self-Employed Women's Association helped organize 550,000 women to provide cooperative financial, health, and childcare services. It has also worked with the Ministry of Urban Development and

other local groups to draft a national policy to give street vendors legal status and address crime and licensing.²⁴ Durban, South Africa, shows other ways for governments to expand the opportunities for important sectors in the informal economy (box 8.3).

Improving access to credit. Microfinance offers an important source of external credit for informal firms without collateral, and can help microentrepreneurs build viable firms (chapter 6). While most microfinance programs have been funded by governments and donors, efforts are now shifting to fostering commercial microfinance institutions—by removing regulatory impediments, supporting credit information bureaus, and ensuring that noncommercial entities do not undermine market development (see box 6.3).

Fostering links with formal firms. Promoting links with formal firms, often seen as a key way to bring informal firms into the formal economy, is seldom successful. Even so, initiatives that facilitate information sharing can be low cost and help match suppliers and buyers. PROMICRO in Central America provides an example: International organizations, nongovernmental organizations (NGOs), and local associations of microenterprises have joined to use the Internet to link firms across five countries and disseminate information on sector-specific events of interest, economic data, and links to related sites.²⁵

Integrating firms in the rural economy

Integrating rural firms can overlap with addressing informality, because many firms in rural areas are informal. However, rural locations bring added challenges. Some of the main impediments for rural firms are inadequate infrastructure and public services, and difficulty in getting credit (chapter 3).

Expanding infrastructure and public services. Expanding infrastructure and public services in rural areas is an important part of any strategy for integrating the rural

BOX 8.3 *Integrating informal traders in Durban*

With South Africa's transition from apartheid to democracy in 1994, the status of small business development rose in national economic policy thinking. Under apartheid, many informal activities were disallowed. For example, "move-on laws" dictated that street vendors had to move their sites of trading every half hour.

The Amended Businesses Act allowed local authorities to formulate bylaws over a wider range of activities. With only one in three economically active people employed in the formal sector, Durban responded by establishing a Department of Informal Trade and Small Business Opportunities, which came up with innovative approaches to support informal enterprises and expand their link to the formal sector. Treating informal activities as contributors to the local economy is apparent in the structure of levies, the system of registration, and the provision of services.

Durban charges less than other cities for the use of inner-city space. Flat rates are still charged for sites, but a new policy recommends charging formal and informal firms different rents and rates for different levels of service. Decentralized registrations and pay points reduce transaction costs for poorer traders. An integrated information system is being developed to link incentives (such as access to subsidized training) to registration.

The program benefited from consultations. Durban engaged in a year-long consultative policy development process about priority issues, eliciting the views of formal and informal business associations, politicians, civil society, and community organizations. Informal traders are now represented as stakeholders in pilot initiatives in area-based management.

Source: Lund and Skinner (2004).

economy, but subsidizing services for rural communities is difficult to sustain for resource-constrained governments (chapter 6). Some governments are responding by removing obstacles to the entry of small commercial providers, which play a big role in providing electricity services in rural areas in countries such as Cambodia.²⁶

Improving access to credit. Thinking on how to improve access to credit in rural areas is evolving (chapter 6). The early emphasis on providing subsidized or directed credit through public agencies often had disappointing results (box 8.4). Schemes proved unsustainable and failed to reach the majority of farmers.²⁷ They also discouraged the entry of private financial intermediaries.²⁸ The programs generated an unintended “grant” in the form of negative on-lending interest rates, captured by wealthy and influential groups rather than the poor. Loan repayment rates of subsidized credit often dropped well below 50 percent, and the costs of subsidies ballooned.²⁹

The traditional approach was based on misconceptions about the rural credit market: rural communities were seen as too poor to save, so efforts concentrated on credit. Financial institutions were discouraged from mobilizing rural savings, which might have been available for lending to entrepreneurs and households. Yet the lack of savings institutions is cited as a significant constraint in rural surveys.³⁰

The new emphasis is on improving the investment climate for commercial providers of finance, including stronger property rights and better regulation. Improving the environment for microfinance can also extend more credit to the rural poor.³¹ Approaches are being developed to adapt microfinance to the needs of rural areas for seasonal borrowing and non-farming activities.³²

Supporting rural extension services. Extension services can help to improve agricultural productivity and increase rural incomes, and some studies have found high rates of return.³³ Public provision of these services, however, has often been plagued with poor accountability, poor coordination

BOX 8.4 *Rural credit in Brazil*

The Brazilian rural finance credit program illustrates some of the problems in directed credit programs.

Although many rules for directed lending have been relaxed recently, it remains an important source of credit (about 38 percent of lending in Brazil in March 2002). These programs, along with below market interest rates, segment markets and distort prices, raising the overall cost of capital. Loan recovery remains low, and public sector banks, with poor loan portfolios and operating inefficiencies, required recapitalization in June 2001.

Rarely did directed credit programs reach their targeted recipients: the largest 2 percent of borrowers receive more than 57 percent of the loans; the smallest 75 percent of borrowers receive a mere 6 percent. Wealthy farmers seem to have captured the subsidies, pushing up rural land prices as subsidies were capitalized into land values. The cost of funding these subsidies, borne by mandated lending rather than the Treasury, widened interest rate spreads and increased the cost of finance for nonpriority sectors.

Source: Klapper and Zaidi (2004).

with agricultural research, and unsustainable finance. New approaches try to address these problems, contracting service delivery to private providers, decentralizing program design and management, and making programs more demand-driven. But financial sustainability remains a challenge.³⁴ Fee-for-service arrangements improve sustainability but reduce demand from poorer farmers. Decentralization can enhance accountability, but it also increases the risk of political interference.

Providing tax incentives. Many countries offer tax breaks, particularly to larger firms that locate in rural areas. Beyond appeals for creating jobs and diversifying activities in areas with higher poverty, there can be a justification given the more limited availability of public services.³⁵ But reducing taxes also reduces the resources governments have to improve those services.

Unleashing the growth potential of smaller firms

Governments often give special attention to the needs of small formal firms. While many of the bolder claims about the contribution small firms make to growth are difficult to substantiate (chapter 3), they do tend to face disproportionate burdens in a poor investment climate and have more difficulty getting credit than larger firms.

Improving the basics of a sound investment climate will provide disproportionate benefits to smaller firms. This includes improving the security of property rights,

reducing red tape, improving the efficiency of tax administration, curbing corruption, improving the functioning of finance markets, and strengthening infrastructure. Some governments go beyond this by providing special benefits to smaller firms.

Improving access to credit. The disadvantages smaller firms face in getting credit stem from information asymmetries, are exacerbated by weak property rights, and are further compounded when governments create other distortions in financial markets (chapter 6). Instead of addressing these problems, many governments come up with special schemes to provide directed or subsidized credit to small firms. These schemes have a poor track record in developing countries. Loans tend to go to politically connected firms. Weak repayment discipline jeopardizes sustainability. And subsidized credit crowds out potential providers of credit on a commercial basis.³⁶ Nor do subsidized loans help most firms grow faster.³⁷ A survey of small firms in South Korea found that subsidized credit was no more valuable than commercial credit, mainly because of narrow eligibility criteria and delays in obtaining the funds.³⁸ Efforts to expand access to finance will also have little impact when other investment climate concerns reduce the incentives for firms to reinvest their own resources.³⁹

Providing business development services. Small firms are often assumed to face special difficulty in obtaining access to business development services—training, consulting, marketing, technology transfer, and business links—tailored to their needs. Traditionally, governments or donors created public institutions, or arranged for NGOs to deliver these services to firms for free or at highly subsidized rates. The efforts were generally found to be ineffective, with low take-up rates, cost overruns, and difficulties in tailoring services to the needs of clients. These efforts also deterred the emergence of commercial providers of these services. More market-friendly approaches are now being explored that aim to increase outreach to currently underserved sectors with self-sustained and cost-effective pro-

grams.⁴⁰ However, experience highlights the possible conflicts in trying to achieve outreach and sustainability simultaneously,⁴¹ and the cost-effectiveness of the newer approaches has not yet been evaluated.⁴²

Fostering industry clusters. Agglomeration economies associated with proximity to other firms can stimulate productivity upgrading and growth.⁴³ Efforts to stimulate those economies through industry clusters gained momentum in the 1990s as a way of helping small firms grow and upgrade through sharing complementarities.⁴⁴ A recent study identified more than 500 such initiatives, mainly in developed and transition economies.⁴⁵ But governments have difficulty identifying sectors where clusters will succeed,⁴⁶ and the heterogeneity of clusters makes it difficult to come up with recipes for successful intervention.⁴⁷ In clusters of low-productivity firms there is also a tradeoff between strengthening individual firms and reinforcing their synergies, and opportunistic behavior by firms can undermine collective services.⁴⁸

Experience shows that cluster initiatives need to be private sector-driven and that public support cannot substitute for lack of private commitment. A review of U.S. Agency for International Development (USAID) experience in cluster development in 26 countries concluded that large amounts of public funding weakened local ownership of projects.⁴⁹ The success of cluster initiatives depends on firms being able to work together for their common interests. Overcoming animosities among firms can be challenging, as a donor-driven initiative in the Mongolian cashmere sector discovered. In that case, however, the realization of benefits from new markets built further trust in the process and led to the sector's expansion.⁵⁰

Providing market privileges. Some countries erect regulatory barriers to shield smaller firms from too much competition from larger firms. But regulatory barriers also discourage firms from growing. Consider the reservation of market segments for small firms in India. In addition to limiting participation by larger and more efficient firms—to the detriment of consumers—the

scheme kept firms small, stunting overall productivity growth (box 8.5).

Taking advantage of international openness

FDI and exporting both have the potential to provide spillovers to the local economy (chapter 3). To capture these benefits, many governments pursue selective interventions to attract FDI, promote exports, or both.

Enclaves and export processing zones. One way to begin improving the investment climate in difficult environments is to create enclaves that provide participating firms with better security and infrastructure and a less burdensome tax and regulatory environment. Enclaves allow governments to focus efforts on a specific geographic location. They can also be used to test new policy approaches—as China did with its Special Economic Zones after 1980 (box 8.6).

Export processing zones (EPZs) are a common example of enclave approaches. By the end of 2002 some 3,000 EPZs had been created in 116 countries, providing jobs for some 43 million workers—most of them women (table 8.1).⁵¹

Despite their popularity, not all EPZs succeed. Countries with poor protection of property rights, weak governance, or poor infrastructure can fail to attract investors to their EPZs.⁵² Even in successful cases closer analysis suggests the EPZ was often complemented by other favorable factors (box 8.7).⁵³

The benefits from enclave approaches are inherently limited when they confine investment climate improvements to one area—or confer special privileges that cannot be easily generalized to the broader economy. This is likely to be especially problematic in small economies without a developed industrial base. Without a broad base of local suppliers, enclaves are less likely to develop linkages and channels for spillovers to local firms or to create constituencies for broader trade liberalization. They are most likely to generate benefits the more they are integrated into a broader strategy to test and demonstrate the benefits of reforms and to progressively improve the investment climate for the broader economy, as in China.

BOX 8.5 *Staying small in India—by design*

Since 1967 the manufacture of specified product lines in India has been reserved for small firms (with investments in plant and machinery of up to about \$200,000). The list of reserved product lines has grown from 47 when the scheme was introduced to some 675 items in 2004. Once a product line is reserved, no new medium or large firm is allowed, and those already producing the product are restricted to the highest annual level achieved in the three years preceding the date of reservation.

Reservation tends to motivate many small firms to “stay small.” If they do increase operations, they do so by establishing more small units. The policy, encouraging stagnation and incurring high costs for producers and consumers, has hampered growth in light engineering and food processing, as well as in textile and leather exports. Survey results and empirical tests show that firms manufacturing reserved products operate at

lower capacity than those producing unreserved items, are technologically less dynamic, and perform less well in productivity and even in profitability.

As much as it intends to protect small firms, the reservation policy is self-defeating. Many reserved products are either freely importable or local levels of production are low. A review in 1997 found that more than 550 items on the list of reserved products could be freely imported, and as many as 90 were manufactured by just one firm. Sixty-eight items accounted for 81 percent of the total value of production of reserved products and 83 percent of the firms. The review recommended abolishing the reservation system. By the end of 2003, 165 items had been taken off the list.

Source: Morris and others (2001); Hussain (1997); Gupta (1999); India—Ministry of Small Scale Industries (2003); Harsh (2003); Katrak (1999); World Bank (2003c); and Deccan Herald (2003).

BOX 8.6 *China’s special economic zones*

In 1980 China designated four Special Economic Zones: three in Guangdong province (Shenzhen, Zhuhai, and Shantou), and one in the Fujian province (Xiamen), adjacent to Hong Kong, China, and Taiwan, China, respectively. The zones offered special incentives to foreign investors, including tax breaks and duty exemptions for exporters and flexible labor regulations. Infrastructure and the legal framework for FDI were also improved. Domestic firms were encouraged to establish links with foreign investors. In fact, a thriving domestic private sector developed in the zones, favored by learning from FDI and by the better investment climate.

Two factors contributed to the success of the first zones. One was the proximity to fast-growing Hong Kong, China, and Taiwan, China, whose investors were attracted by the low cost of land and labor in the zones. The other was the agreement between central and provincial authorities to share fiscal revenue, an incentive to develop infrastructure in the zones.

FDI in the zones shot up from \$23.4 million in 1980 to \$672 million in 1993 in the Shenzhen zone alone. The average annual growth rate exceeded 35 percent in 1980–95, three times China’s average. The growth was mainly driven by the expansion

of light manufacturing, real estate, and later financial services. In Shenzhen exports grew at an average of 75 percent. While most inputs were imported initially, local content grew in the early 1990s, showing further integration of the zones into the domestic economy.

The zones soon expanded to other areas. In 1984 14 coastal cities and Hainan Island opened to foreign investment. In the late 1980s more coastal areas opened to create a coastal belt, including the Yangtze River Delta, the Pearl River Delta, and other areas in Fujian, Shandong, Liaoning, Hebei, and Guangxi provinces. In 1990 the Pudong New Area was created in Shanghai along with other cities in the Yangtze River valley.

Since 1992 border areas and the capital cities of all inland provinces have been opened to foreign investment, as the Chinese authorities try to balance the previous concentration of foreign investment in coastal areas. The eastern provinces along the coast still account for 85 percent of the accumulated stock of FDI. Fiscal incentives, such as tax holidays, vary across zones—and are generally more generous in export-oriented and high-tech sectors.

Source: OECD (2003b); Chen (2002); and Ge (1999).

Table 8.1 Export processing zones have proliferated into the thousands

	1975	1986	1995	1997	2002
Countries with EPZs	25	47	73	93	116
EPZs	79	176	500	845	3,000
Employment (millions)	..	..	..	22.5	43
China	...	..	..	18	30
Other countries with available figures	0.8	1.9	..	4.5	13

Note: .. = not available.

Source: ILO (2003a).

Promoting exports. To encourage exporting, governments often provide duty exemption and drawback systems, provide export credit, and support trade promotion activities. Because benefits granted on the condition of meeting export targets can distort international trade flows, they are being phased out under World Trade Organization (WTO) rules (box 8.8). Duty drawback systems and export subsidies helped expand East Asian exports, but many countries have embarked on similar strategies with little success.⁵⁴ These programs often require burdensome procedures and paperwork that increase costs and create opportunities for corruption. The problems can be especially severe in countries with weak tax and customs administrations.

Information asymmetries in international markets are sometimes used to justify government support for trade promotion activities. Many countries have created trade promotion organizations to conduct market research, organize trade fairs, pro-

vide advice on trade logistics, and, in some cases, administer export incentives. With a few exceptions (Australia, Finland, Ireland, New Zealand, and Singapore), the results appear to have been modest. One clear lesson is that export promotion activities cannot substitute for progress on more fundamental obstacles to successful exporting, including a poor climate for firms to develop world-class products and weak transport infrastructure.⁵⁵

Providing incentives to attract FDI. In the mid-1990s more than 100 countries offered fiscal incentives to attract FDI, a trend that continues.⁵⁶ A recent survey of 45 developing countries found that 85 percent offered some kind of tax holiday or reduction of corporate income tax for foreign investment.⁵⁷ The incentives can be substantial (table 8.2). In Tunisia incentives for FDI amounted to almost 20 percent of total private investment.⁵⁸ In Vietnam it was estimated that the revenue loss from incentives reached 0.7 percent of GDP.⁵⁹ The package India offered Ford in 1997 was estimated to cost \$420,000 per job.⁶⁰ Incentive packages often include tax incentives, special regulatory exemptions, subsidies, and public funding of related infrastructure.

Do these incentives actually influence the decisions of firms? The answer seems to be sometimes. Firms tend to assess investment opportunities, including relevant gov-

BOX 8.7 Export processing zones in Mauritius and the Dominican Republic

Despite their popularity, not all EPZs meet expectations. Experience in Mauritius and the Dominican Republic throw light on two common issues.

Mauritius—More than just EPZs

Mauritius used EPZs as part of a successful strategy to spur export-led growth and diversify its economy. EPZ status was granted to firms independent of location. Manufactured exports grew at 5.9 percent a year between 1991 and 2001, and accounted for 73 percent of merchandise exports in 2002. Employment in the EPZs ranges between 80,000 and 90,000. Many workers and managers trained in the foreign sector later created their own businesses. Economic growth in 1980–2002 averaged 5.5 percent, accompanied by substantial improvements in human development indicators.

What accounted for the impressive performance? Certainly, the EPZs played a role. But several complementary factors also seem to have been important. Mauritius enjoyed fairly stable macroeconomic conditions and high levels of political stability, contributing to the security of property rights. It also enjoyed preferential access to the apparel markets in the EU and U.S. And the diversity of its population, with Chinese and French minorities and an Indian majority, helped attract investments from Hong Kong and mediate investments in India.

Dominican Republic—The elusive quest for backward linkages

Like many countries, the Dominican Republic hoped to build backward linkages from its EPZs to its local industries, so that local firms would become exporters themselves. The Industrial

Linkages Program, developed in the late 1980s and early 1990s, had the goal of developing backward linkages to 40 local manufacturers and \$80 million of local value-added.

Progress has been disappointing. By 1993 only 12 local suppliers participated in backward linkages, with local value-added of just \$4 million. Local value-added has remained low. In 2002, only 55 of 720 EPZ firms purchased raw materials from local firms, a decline from 61 the previous year. Why? Local manufacturers, isolated from competitive pressures by import substitution policies, showed no interest in assuming new risks to meet the standards of the EPZs.

Source: For Mauritius, Subramanian and Roy (2003); Moran (2002); Rodrik (1999); and World Bank (2004k). For Dominican Republic, Schrank (2001) and Consejo Nacional de Zonas Francas de Exportación (2002).

BOX 8.8 The WTO and selective intervention

Selective interventions to promote firms or activities may distort international trade and harm other countries. To address these concerns international agreements impose restrictions on trade-distorting policies. Restrictions on export subsidies date from 1947 in Article 16 of the General Agreement on Tariffs and Trade (GATT). The Uruguay Round of multilateral trade negotiations, which led to the creation of the WTO in 1995, set new limits on what governments can do to support domestic industries, promote exports, or affect the consequences of foreign investment:

Subsidies. The Agreement on Subsidies and Countervailing Measures prohibits subsidies contingent on meeting certain export targets or on using domestic rather than imported goods. Other subsidies to specific firms or industries

may be challenged at the Dispute Settlement Body by other WTO members if they hurt their interests.

Trade-related investment measures. The Agreement on Trade-Related Investment Measures (TRIMs) imposes limits on measures aimed at extracting benefits from FDI. The agreement includes a list of measures inconsistent with the principles of national treatment and the GATT prohibition of quantitative restrictions, including local content and trade-balancing requirements.

Intellectual property rights. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) strengthens the rules and enforcement of intellectual property rights. Practices such as compulsory licensing and reverse engineering are limited by the agreement.

Services. Under the General Agreement on Trade in Services (GATS), countries commit services to national treatment and market access according to their own schedule, leaving room to accommodate their policy goals.

The Doha Round of multilateral trade negotiations, launched in 2001, includes proposals to negotiate a tightening of disciplines in the use of agriculture subsidies and antidumping measures.

The above arrangements include special and differential treatment for developing countries. For example, the prohibition of export subsidies is waived for countries with a GDP per capita below \$1,000.

Source: World Bank (2004d); Hoekman, Mattoo, and English (2002); Hoekman, Michalopoulos, and Winters (2003); and GATT.

ernment policies, as a package. The level of tax and other obligations can influence that package but rarely will be enough to cancel out other factors, including more fundamental concerns about policy stability, the quality of infrastructure, and the quality of a workforce. Indeed, the Bank's Investment Climate Surveys show that unreliable power supply, weak contract enforcement, corruption, and crime can impose costs several times greater than taxes (chapter 1).

The weight applied to any one factor varies between industries and even between firms in a single industry. Incentives will typically carry less weight when firms are in extractive industries or intend to serve the local market. In such cases firms will usually have identified the market for other reasons and cannot pursue the same opportunity elsewhere. Investments in manufacturing, especially in export-oriented sectors, might be more responsive to tax incentives.⁶¹ But tax holidays are only rarely the decisive factor. A survey of 191 companies with plans to expand operations found that only 18 percent in manufacturing and 9 percent in services considered grants and incentives to be influential in their choice of location.⁶² Of 75 Fortune 500 companies surveyed, only four identified them as influential.⁶³ When alternative locations are otherwise closely matched, however, differences in tax obligations can influence decisions at the margin.

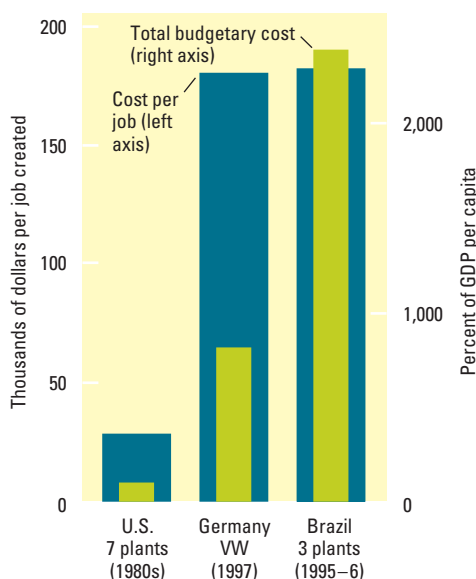
Table 8.2 Effective reductions in corporate tax rates due to fiscal incentives (percent)

	Philippines	Malaysia	Thailand
Effective tax rate (before incentives)	47	30	46
Reduction in effective rate due to:			
Tax holiday	19	0	28
Indirect tax concessions	7	8	11
Effective tax rate (after incentives)	21	22	7

Source: Chalk (2001).

Do governments get value for money when they offer special incentives? The costs and benefits need to be assessed in each case. If the firm would have made the same investment without the incentive, or with a lower level of incentive, the answer would be no.⁶⁴ Certainly the cost per job created can be high, as the examples illustrate (figure 8.2). However, governments are rarely interested only in the jobs associated with the immediate investment; they usually expect broader benefits in spillovers to local firms. Governments often also hope that winning a major investment will signal to the broader universe of investors that their country is a good place to do business. But experience suggests that these benefits cannot be taken for granted.

The design of the incentive package can also influence the net return to the country.⁶⁵ Incentive schemes that involve up-front subsidies or the provision of highly specific infrastructure are generally

Figure 8.2 Incentives can be costly

Note: Percent of GDP per capita is PPP adjusted.
Source: McKinsey Global Institute (2003).

riskier than tax incentives, because if the firm fails to deliver, the infrastructure may be of less value to other firms (box 8.9). Tax incentives have the advantages of being reasonably transparent and conditional on income earned—if the investment does not proceed or the firm chooses to relocate the government's exposure will be limited. Providing tax incentives based on accelerated depreciation can strengthen the link between the incentive and actual investment.

It may not be necessary to offer tax holidays of long duration. Because of the discount rates firms apply when evaluating

investment opportunities, benefits occurring in the future are of declining influence, and firms tend to apply bigger discount rates to projects in countries they perceive to be riskier. Often more important than the level of tax rates is their predictability. Firms may prefer to pay a fixed rate for a definite period than pay no taxes now and an uncertain amount in the future—Chile and Colombia offer this option to foreign investors.⁶⁶

A better strategy is to improve the quality of the overall investment climate, thus reducing the pressure to compete on taxes. Tackling bottlenecks of particular concern to foreign investors (customs administration, property rights security) will likely do more to make a location attractive—and will benefit local firms, too. The same principles apply not only to efforts to attract foreign investment, but also to subnational governments that compete for investment within a country (box 8.10).

Promoting inward investment. Governments also try to attract FDI through investment promotion agencies (IPAs). There are now at least 160 national and more than 250 subnational IPAs, compared with only a handful two decades ago.⁶⁷ These agencies play a variety of roles including the following:⁶⁸

- *Information dissemination.* Collation and presentation of information on the local economy.
- *Image building.* Promoting the perception that the country is an attractive location for investment through activities such as advertising and public relations.
- *Investment facilitation.* Helping investors through administrative procedures and clearances needed to set up and operate business establishments. In some cases IPAs serve as one-stop shops (chapter 5).
- *Investment generation.* Identifying and directly targeting firms in sectors that might be attractive for foreign investment through direct mailings, telephone campaigns, and presentations to individual investors.
- *Investor monitoring and aftercare.* Assisting firms already established to continue and expand their operations. This is

BOX 8.9 Rolling the dice in Indianapolis

Governments often offer subsidy packages to firms that promise to create jobs and bring new technology. Experience in the U.S. city of Indianapolis shows that the expected benefits can remain elusive.

Local and state governments granted up-front subsidies worth over \$300 million to build an advanced aircraft maintenance center for United Airlines. The deal was negotiated during an economic slowdown in the early 1990s, and the authorities considered the subsidy was worth the promise to create 5,000 high-paying jobs. That number was never achieved, however, and the company walked away in 2003 after

recession hit the industry and felt pressure to cut costs.

The result: high sunk costs for state and local governments in highly specific infrastructure, resources that could have been used for other priorities. In all likelihood, new tenants for the facilities would come only if new subsidies are offered. More than 80 firms had been contacted to take over the maintenance center in the 18 months following its closure. Yet the facility's size and technological sophistication imply high operating costs, a hard sell in a distressed industry.

Source: O'Malley (2004) and Uchitelle (2003).

BOX 8.10 *Competing to attract investment within countries*

Without specific efforts to influence location choices, firms tend to prefer to locate in areas with stronger investment climates and to concentrate to take advantage of product or factor markets. Agglomeration economies help explain the concentration of industrial activity in most countries, with the effects reinforced by and reinforcing the urbanization around the world. To help spur agglomeration economies, build their industrial base, or create jobs, many subnational governments or cities compete for investment in much the same way as their national counterparts. As with competition for international investment, the broader investment cli-

mate is essential for success, including the security of property rights, adequacy of infrastructure, a skilled labor force, and the like.

Subnational governments also often extend special incentive schemes. At least 20 U.S. states were interested in the Mercedes-Benz plant that finally located in Vance, Alabama, with a \$153 million incentive package in 1993. More than 250 European locations competed for a BMW plant that went to Leipzig with \$224 million in incentives in 2001. A recent study found that revenue forgone by state and local governments in the United States due to fiscal incentives was up to \$50 billion. In the mid-

1990s some Brazilian states also joined the competition for automobile plants, offering incentive packages in the range of \$54,000 to \$340,000 per job.

Most of the issues associated with attracting investment at the national level apply to subnational governments as well. This includes the difficulty in assessing whether any incentives offered are necessary or cost-effective. Similar design issues can arise as well.

Source: Yusuf (2003); Scott and Storper (2003); Charlton (2003); Christiansen, Oman, and Charlton (2003); and Peters and Fisher (2004).

emerging as an important function in second-generation reforms.

- *Policy advocacy.* Identifying issues that inhibit investment and advocating policy changes that might stimulate development. IPAs often act as champions of reform in lobbying other government agencies to correct observed problems. This function, potentially the most effective in attracting FDI, usually represents only a small part of the budget (figure 8.3).⁶⁹

There is some evidence that IPAs can help countries attract FDI. One study found that FDI increases by about 0.25 percent for every 1 percent increase in the IPA's budget. IPAs appear to be more successful in countries where the investment climate is already amenable to foreign investors: increases in the budget of an IPA increased FDI nearly twice as much in countries with the most favorable investment climates than in countries with the least favorable.⁷⁰ Success stories in investment promotion have been costly in per capita terms, however, especially at the image building stage (table 8.3).

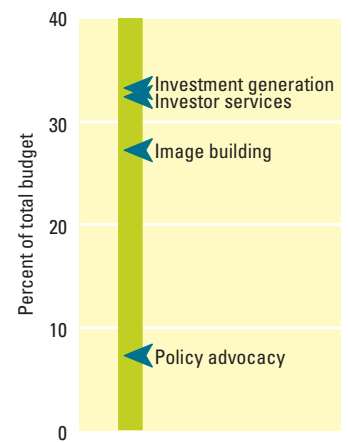
Fostering spillovers from FDI. Beyond attracting investment, governments often make special efforts to increase the likelihood of positive spillovers to the broader economy. Governments often look to FDI to help develop local industry and promote technology transfer, but local suppliers and partners may not develop automatically. In the past governments used import restric-

tions and local content or joint venture requirements to promote the likelihood of FDI spillovers. Difficulties with those approaches have led more recent efforts to focus on incentives to encourage the desired behavior from foreign investors.⁷¹

Local content requirements have been used to ensure that foreign investors use inputs from local firms. Because the evidence suggests that local firms benefit from supplying foreign-owned firms (see chapter 5), this might seem to be a way of increasing the benefits from FDI. Unfortunately, such restrictions also increase the costs of FDI, reducing the foreign investors' incentives to enter and expand production (box 8.11). Local content requirements in the automobile sectors in Chile and Australia also resulted in large inefficiencies.⁷² Local content requirements are also inconsistent with international trade rules and so are being phased out (see box 8.9).

Another approach has been to require foreign investors to participate in joint

Figure 8.3 Policy advocacy by investment promotion agencies receives a small share of budget



Source: Morisset and Andrews-Johnson (2003).

Table 8.3 IPAs are not cheap

	Annual FDI promotion budget (\$ million)	Population (millions 1999)	Per capita budget (\$)
Singapore (EDB)	45.0	3.2	14.06
Ireland (IDA 1999)	41.0	3.7	11.16
Costa Rica (CINDE)	11.0	3.5	3.14
Mauritius (MEDIA 1996)	3.1	1.2	2.58
Dominican Republic (IPC)	8.8	8.4	1.05
Malaysia (MIDA)	15.0	22.7	0.66

Source: Velde (2001).

BOX 8.11 *Fixing the FDI strategy for Mexico's computer industry*

In 1985 computer production in Mexico was protected by import quotas. Local content requirements were set at 25 percent for minicomputers and 35 percent for microcomputers for the first year, rising to 50 percent and 60 percent in the third and fourth years. Foreign ownership was allowed as a minority share in joint ventures with local firms. The market was dominated by joint ventures involving two U.S. firms, Apple (58 percent) and Hewlett-Packard (18 percent).

High protection meant computer prices in Mexico were 74 percent higher for Apple and 61 percent higher for HP models than in the United States. Both firms were assembling computers at volumes well below the efficient scale of 20,000 units annually. The perverse incentives of this policy surfaced when IBM presented the Mexican government with a proposal to invest in a wholly owned export-oriented facility to produce

between 100,000 and 180,000 computers a year.

The proposal triggered strong opposition from domestic suppliers. Their argument was that the large investment would create a monopoly, crowding out domestic players—but the prediction was not fulfilled when the IBM proposal was accepted. Indeed, competition increased as other foreign firms, including Apple and HP, also invested in wholly owned large facilities. The share of imports in the final product decreased and the component industry gained technological upgrading. With these investments, computer exports surged from \$21 million in 1985 to \$252 million in 1989, and \$9.6 billion in 2001.

Source: Moran (1998) and OECD International Trade by Commodity Statistics Database.

ventures with local partners. In some cases these requirements have been used to benefit specific local firms by allowing them to participate in a lucrative foreign investment, but they are also intended to increase technological spillovers. As with other mandatory measures, however, they have costs. They may deter rather than encourage investment, and they can make foreign firms wary about using advanced or sensitive processes, reducing rather than enhancing spillovers.

Because foreign investors in the automobile sector in China were required to have a local partner, major international firms were reluctant to use up-to-date processes. As a result, manufacturing methods lagged behind industry standards by about 10 years.⁷³ Similarly, Kodak was required to have local joint venture partners in its investments in China but allowed to have one wholly owned subsidiary. It invested six times more in the wholly owned firm than it did in the average joint venture partner. Its wholly owned subsidiary ended up producing its most advanced film and camera technologies, while the joint ventures produced conventional film under the Kodak label.⁷⁴

Another strategy is to work with foreign affiliates and local firms to overcome information and cultural barriers. These programs are often combined with incentives to help the domestic suppliers meet the production standards demanded by foreign investors. This approach has been followed in economies such as Ireland, Malaysia, Singapore, and Taiwan, China (box 8.12).⁷⁵

Climbing the technology ladder

Technological progress plays an important role in economic growth, leading many governments to encourage innovation (chapter 3). But innovation is not limited to activities that might merit a patent. It includes more modest advances and the implementation of better business processes.

BOX 8.12 *Successful "linkage programs" in Singapore and Ireland*

Singapore and Ireland illustrate the potential impact of well-designed programs to foster spillovers from FDI.

Singapore's Local Industry Upgrading Program

To promote technology and skill transfers from foreign firms to local suppliers, Singapore's Economic Development Board (EDB) offered organizational and financial support. An engineer or manager from the foreign firm was paid by the EDB for two to three years to select and assist local suppliers. Thirty-two partnerships were created between 1986 and 1994 involving 180 domestic suppliers. The electronics industry was the biggest sector, followed by services. Productivity of suppliers in the early stages rose by an average 17 percent, and value added per worker increased by 14 percent. The program was link-

ing 670 local businesses with 30 foreign affiliates and 11 large local businesses and government agencies in 1999.

Ireland's National Linkage Program

Ireland's Industrial Development Agency (IDA) led a consortium of agencies that identified potential linkages in a range of sectors, developed a group of domestic suppliers, and offered buyer support and development services. The program targeted "winner" companies in selected sectors and worked with them to enter subcontracting arrangements with multinational firms. Between 1985 and 1992, foreign affiliates increased their local purchases of raw materials by half (from 438 to 811 million Irish pounds) and their purchases of services by one third (from 980 million to 1.46 billion Irish pounds). In the electronics industry, local sour-

ing increased from 9 to 19 percent during that period. More than 200 foreign firms and 83 domestic firms participated. Suppliers saw sales rise by 83 percent, productivity by 36 percent, and employment by 33 percent—and some became international subcontractors. The purchase of Irish materials and services by foreign affiliates supported by IDA in 2001 reached €5.49 billion and €5.12 billion respectively.

The programs in Singapore and Ireland share two characteristics. First, they are market-based, creating fewer distortions than imposed local content requirements. Second, they combine policy advocacy, proximity to suppliers, and specific linkage opportunities. Their goal is to reduce the risks perceived by suppliers and buyers.

Source: Battat, Frank, and Shen (1996); UNCTAD (2001b); and Ireland-IDA (2002).

It also involves lots of adaptation and adoption—countries don't need to invent everything afresh. This underlines the importance of reducing barriers to trade and FDI—and to the competition that provides incentives for firms to improve their productivity.

As countries move closer to the technological frontier, governments often seek to encourage original innovation in their economies, including local R&D. To do so, governments have experimented with a range of selective interventions. The cost-effectiveness of these schemes has not been evaluated in all cases, but their impact is likely to depend on the adequacy of other aspects of the investment climate critical to innovation, including a skilled labor force, competitive pressure, and the protection of intellectual property rights. Without those elements, it is not clear that government interventions can do much to increase R&D.

Providing tax incentives, grants, and financial market interventions. Many governments provide tax deductions to encourage private R&D. Some developed countries offer tax credits, full expensing of R&D, and even double deductions of some R&D spending (table 8.4). Although these schemes are not too costly, they have their weaknesses. Firms may claim R&D deductions for spending barely linked to any real R&D. Firms also tend to choose projects with the highest rates of private return, not those with the largest spillover effects.⁷⁶ In the United States almost 80 percent of tax returns claiming R&D credits are audited, with an average downward adjustment of 20 percent of the claimed credits.⁷⁷ While some studies of Pakistan and Canada found evidence that R&D incentives were cost-effective, others are more skeptical.⁷⁸

The use of R&D tax incentives, grants, or a combination of both varies from country to country (figure 8.4). Grants are preferred by governments that want to influence the type of R&D, but this raises more difficulties in governments "picking winners" than broadly based tax incentives. Interestingly, Sweden and Finland, two countries with high levels of private R&D, do not offer substantial direct or tax support.⁷⁹ Some

Table 8.4 Fiscal incentives for R&D in selected developing countries

Country	R&D depreciation rate	R&D capital depreciation rate	Tax credit rate
Brazil	100%	100%	None
India	100%	100%	None
South Korea	100%	18–20%	10–25%
Mexico	100%	3 years' straight-line depreciation	None
South Africa	100%	25%	None
Taiwan, China	100%	Same as other investment	15–20%
Malaysia	200%	Same as other investment	None

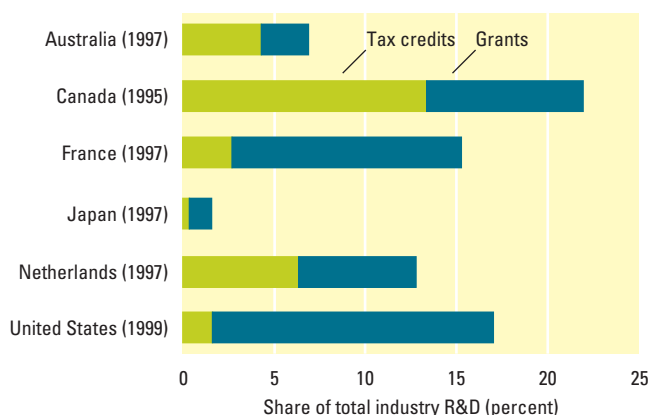
Note: Depreciation methods of 100 percent or more indicate full expensing of R&D.
Source: Mani (2001a) and de Ferranti and others (2003).

countries have also used financial market interventions to encourage firms to pursue R&D, including directed credit schemes (South Korea) and venture capital funds (Malaysia).⁸⁰

Other strategies for supporting local R&D. To support innovation, the public sector can undertake R&D activities directly—on its own or with private partners. The experience is mixed, however (box 8.13). The government is seldom in a good position to judge the types of research that would help firms or have market potential. There is also a debate about whether public R&D would crowd out or complement private efforts. A review of the econometric evidence finds mixed results, but concludes overall that well-designed efforts can be complementary.⁸¹

Fostering high-tech industrial clusters has also met with mixed results. Following the

Figure 8.4 Grants make up the lion's share of public funding for private R&D in many developed countries



Source: OECD (2003f).

BOX 8.13 *Public-private partnerships for R&D*

Many governments have established R&D centers to promote the technological upgrading of firms. The support of the Industrial Technology Research Institute in Taiwan, China, helped spin off the first integrated circuit manufacturer. However, attempts to create partnerships between R&D centers and private firms do not always meet expectations.

In the Philippines the Department of Science and Technology had little interaction with industry. Its staff did not have very high qualifications and were not in touch

with international technological advances. In India the network of publicly funded research organizations under the Council of Scientific and Industrial Research had little contact with industry. Latin America has its own cautionary tales. Competing agendas between different government agencies in Brazil and Argentina made public-private partnerships in R&D ineffective.

Source: UNCTAD (2003c); de Ferranti and others (2003); and Mani (2001b).

success of the Hsinchu Science Park in Taiwan, China, and the Magnet Program in Israel, some governments created science parks and business incubators.⁸² But innovative clusters require a dynamic interplay of entrepreneurship, R&D institutions, skilled labor, capital, and infrastructure. Without these factors, government-led initiatives are unlikely to succeed.⁸³ For example, top-quality infrastructure in such science centers as Tsukuba Science City (Japan) and Daeduck (South Korea) failed to turn into

high-tech clusters—both remain as isolated research centers.⁸⁴

Recent work on national innovation systems emphasizes the importance of collaboration between industry and universities. Governments can foster links between universities and firms by strengthening property rights for universities and encouraging private contracts.⁸⁵

So the possibility exists for governments to intervene selectively in ways that contribute to growth and poverty reduction. Experience shows, however, that such strategies are not straightforward, and that the likelihood of success is greater when they complement rather than attempt to substitute for broader investment climate improvements. Schemes that meet the guidelines suggested at the beginning of this chapter reduce the risk of selective interventions going astray.

Another strategy governments can adopt to complement the basics of a sound investment climate is to draw on the growing body of international rules and standards in this area. The strengths and weaknesses of such strategies are discussed in chapter 9.