Introduction to Innovation Policy for Developing Countries

Module 4 - Part 2

Supporting Innovators Through Financing and Regulatory Frameworks

World Bank Institute

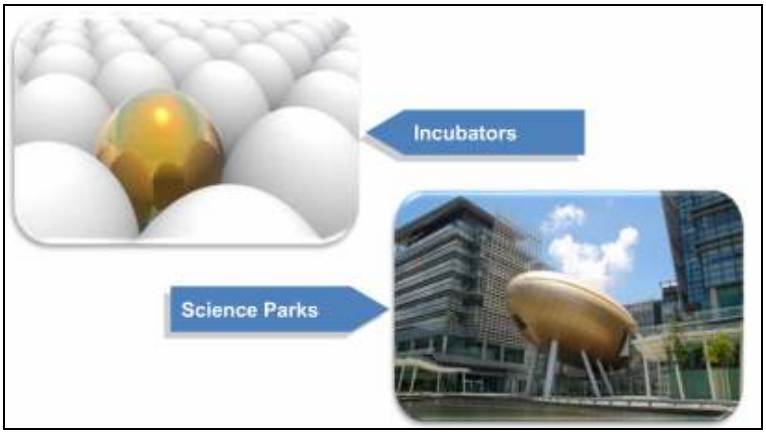
Presentation Script

Topics

In part 1, we learnt about first three topic of this module. We shall now proceed with the fourth topic of this module.

Government's Support Structure for Innovators

While public business services have value in their own right, they are sometimes poorly coordinated, resulting in a cacophony of initiatives that are difficult for entrepreneurs to locate and navigate. Therefore we'll look into government's provision of incubators and science parks to catalyze the innovation.



Role of Incubators as one-stop shops: Success Story

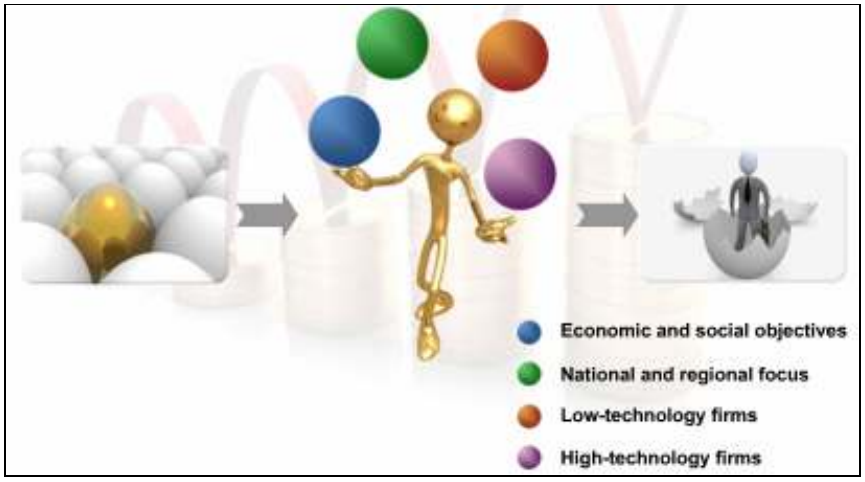
One solution that provides simplicity and coherence is to house services in a business incubator which provides for a limited period and at low cost, the use of shared premises, capital equipment, and business and technological services. In some cases, incubators have taken the form of 'managed workplaces' and been targeted at declining industrial regions to stimulate job creation.

Successful incubators have conformed to a number of principles. Flexibility is paramount: there should be easy conditions for entry, exit and expansion while tenants should be given a choice over what services they pay for. It is also important that services are professionally managed, that buildings and the surrounding environment are maintained, and high-quality reliable central services are delivered.

A number of developing countries demonstrate how to establish and run successful incubators: the Bahrain Business Incubator, which provides capacity building and training to young entrepreneurs, has become a template for other regional initiatives. The experience of Mexico and Singapore also offers useful lessons for the design and operation of incubators.

Role of Incubators as one-stop shops: Risks

Nonetheless, there is a risk –as we've seen with venture capital- that these policies are burdened by too many objectives: they may seek to have both a commercial and a social impact, or to encourage regional development. Countries' experience of running such schemes suggests that it can be very difficult to juggle so many competing goals – economic and social objectives, national and regional focus, low-technology and high-technology firms.



Role of Science Parks in Innovation

Science parks build on the logic of incubators but on a larger scale. Typically they focus on mature-technology, science or research businesses and promote innovation by fostering close collaboration with institutions of higher education or research institutions.

As most parks are located in or near cities, they need to be integrated into the wider fabric of urban activity. Land policy needs to be attentive to the considerable time required to sell or lease space to firms in science parks (1-2 hectares a year). Science parks also need to be served by adequate transportation links, affordable housing and a skein of cultural institutions and attractions.

Governance of Support Structures and Sites

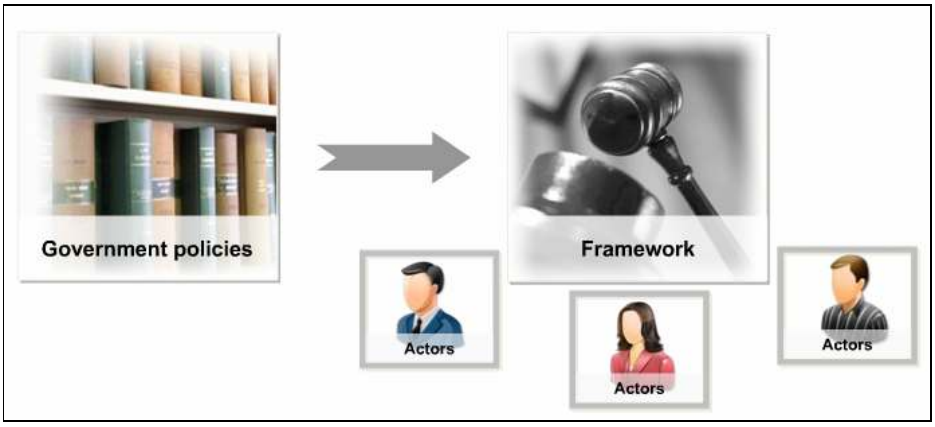
The governance of business services, incubators and science parks raises important questions for policymakers. The need to build consensus and provide honest brokerage, especially when sensitive information is being handled, suggests a strong role for government; on the other hand, private sector involvement may inject a degree of focus and discipline that is sometimes absent from purely public forms of provision. This is particularly important when it comes to ensuring that sites are financially sustainable and to identifying various revenue streams. In this respect, the use of public-private partnerships arguably allow public and private actors to join forces in areas in which they have complementary interests but cannot act as effectively alone.

Managing intermediary institution calls upon a distinctive set of skills, including the ability to build awareness of the site's services; the ability to frame technical issues and provide tailored advice to users; the ability to create and maintain relationships between firms and major stakeholders; and the ability to raise funding from public and private institutional sources.

Design Issues of Sites and Services

Determining which interventions are most appropriate for a country is a matter of careful, case-by-case analysis. Gap analysis, technology foresight, road mapping and needs-assessment techniques –reflecting the quality of input data- can help uncover existing, potential and dormant activities and the most fitting institutional response.

As policymakers contemplate more ambitious policies, so the limits of public action must be recognized. Experience shows that more substantial interventions such as creating industrial clusters from scratch, are parasitic on the existing contributions of active networks of local champions with the ability and motivation to organize themselves. Government policies can help create a framework for dialogue and cooperation between different actors; but they rarely initiate action from scratch.



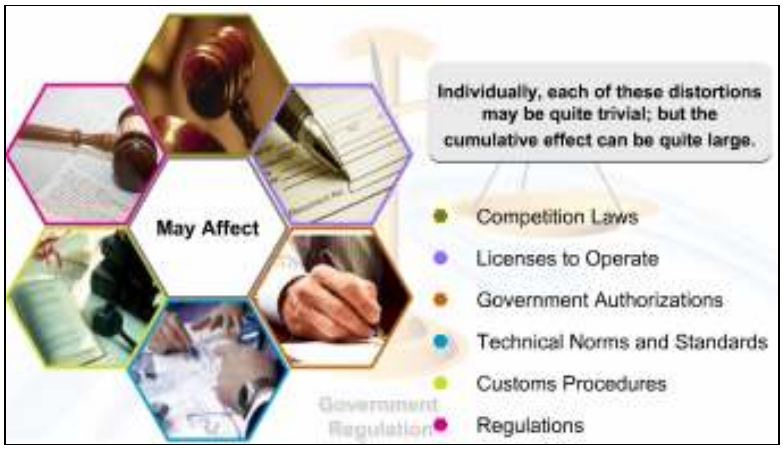
Topics

And now we'll proceed to our next topic "Enabling Environment: Competitive Climate for Entrepreneurs"

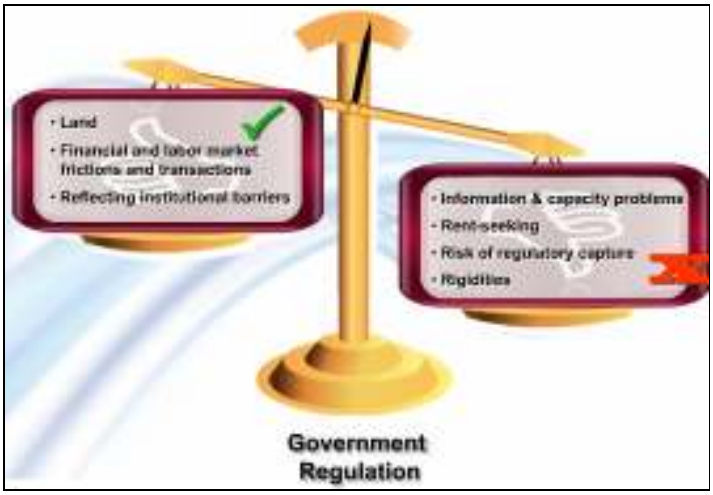
Enabling Environment: Competitive Climate for Entrepreneurs

Innovators and investors do not operate in a vacuum but depend on an enabling environment that is both attractive to foreign investment and the dissemination of knowledge and locally supportive entrepreneurs. There is a general agreement that individuals may be deterred from entrepreneurship and innovation by a thicket of land, financial and labor market frictions and transactions, reflecting institutional barriers.

These may affect competition laws, licenses to operate, government authorizations, technical norms and standards, customs procedures and many other regulations. Individually, each of these distortions may be quite trivial; but the cumulative effect can be quite large.



Clearly some regulation is necessary to correct market failures; however the benefits may be outweighed by government failure, arising from information and capacity problems, rent-seeking and the risk of regulatory capture and rigidities that make it hard to adapt to changes in technology or business practices.



Areas and Consequences of excessive and uncertain regulation

Ill-considered regulation can rear its troubling head in a number of areas: starting a business, dealing with construction permits, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and closing a business. However compliance costs tend to fall disproportionately on smaller firms.

The consequence is that many may be tempted to dodge these costs through informality. Which may hinder firm growth and its ability to access finance and formal contract enforcement. Excessive red tape can also have a dampening effect on entry rate of new businesses while forcing new entrants to have a certain size and incumbent firms in high-growth industries to grow more slowly.

Reforms to address excessive and uncertain regulation

Reforms to remove the obstacle

1. Identification, sequencing of important reforms that are credible and feasible yet achieve substantial results

2. Strategies to mobilize support and get reform on the policy agenda and to mitigate and eventually overcome opposition from interest groups;

3. Creation of incentives and capacity for implementation and institutional mechanisms to ensure implementation and sustain reform

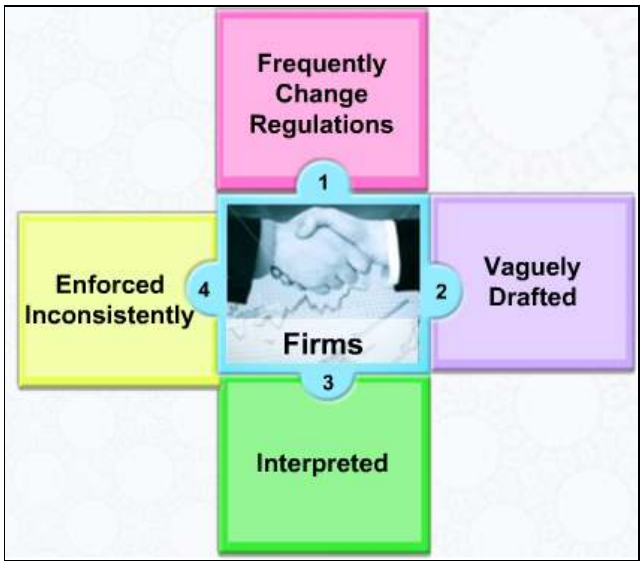
One important element here is effective regulatory review and evaluation. Many countries now have mandatory periodic evaluation of existing regulation, automatic review requirements for specific primary laws, and mechanisms by which the public can make recommendations to modify existing regulations.

Sunsetting clauses are also growing in importance. For instance, South Korea introduced a new "Sunset for Review" mechanism in 2009 whereby regulations are to be reviewed on a regular basis and become null once they are found to lack feasibility. These apply to not only new regulations but also existing ones, with a predicted 20 per cent of existing regulations to be reviewed regularly under this mechanism.

In order to create a leaner institutional framework for regulation, reform may entail the creation of one-stop shops and the provision of integrated services, whether physical or electronic, the use of risk-based approaches so that low-risk businesses can be identified, thus reducing unnecessary inspections or compliance costs and the introduction "silence is consent" rules for some licenses and permits which grant authorization for activity automatically after a specific time has lapsed.

Strategies to address excessive and uncertain regulation

Firms may also be adversely affected when the regulations change frequently, are vaguely drafted, or are interpreted or enforced inconsistently. Uncertainty militates against long-term decisions about entering markets, choosing production technologies, or hiring and training workers.



Clearly a degree of flexibility and discretion is desirable to respond to changing circumstances as many entrepreneurs can attest; as such, risks can be managed by

instituting advisory opinion or pre-clearance processes on sensitive issues and publishing administrative decisions in a timely manner.

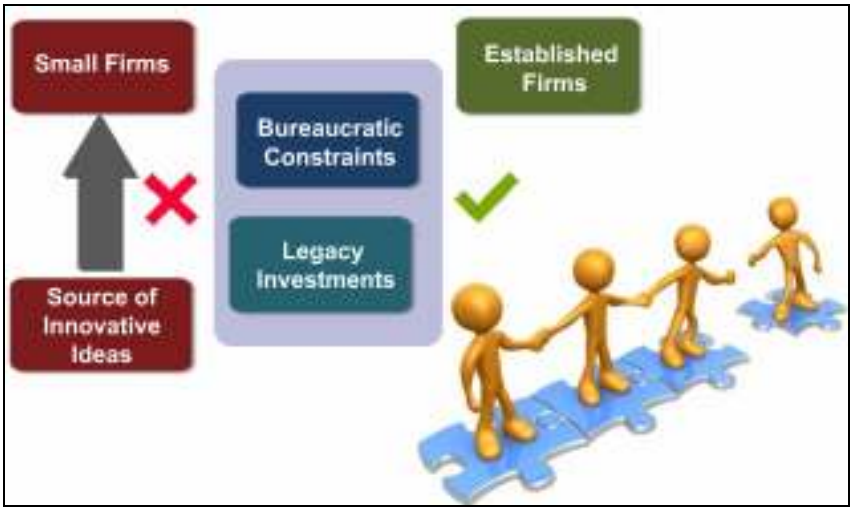
Regulatory Incentives to Innovation, Entrepreneurship and Growth

Within the framework of this module we'll focus on Competition Law and Labor Market Regulation as an important part of regulatory incentives to Innovation, Entrepreneurship and Growth

Competition Law: Keeping entrepreneurs on their toes

Competition is another important issue. While individual firms typically desire less competition, not more, competition creates opportunities for new firms and forces incumbents to raise their game by innovating.

Entry of new firms is particularly important since while many will falter and fail, some will grow and expand. Because small firms are not encumbered by the same bureaucratic constraints or legacy investments as established firms, they are a greater source of innovative ideas. It is not a coincidence that many of the world's major inventions –from the airplane to the zipper- originated from outside the business mainstream.



Impediments to Competition

Regulatory barriers to entry and exit can slow down the process of separating winners and losers. One of the most common barriers is long and costly bankruptcy

regulation which gums up the market with unproductive firms, thereby limiting opportunities for new entrants. Firms will also be more cautious entering new markets, and lenders more adverse to lend to firms they do not already have a relationship with, further dulling competition.

Regulation is not the only impediment to competition. Due to the natural evolution of an economy, the large may get larger and use their superior weight to resist novelty by colluding or forming cartels, by abusing their dominant market position, by lobbying politicians and bureaucrats or simply by merging with competitors. All these areas require close supervision by local competition authorities.

Competition Law exceptions

Network industries such as telecommunications, electricity, air and rail transport are not typically to subject to normal competition rules for reasons of consumer protection, security of supply and universal service provision. As these industries play an important role in technology diffusion, they need to be run as reliably and economically as possible and ensure where feasible non-discriminatory third-party

access to the network. The rapid diffusion of telecommunications technology in Africa demonstrates the widespread benefits of increased competition.

Competition and distance to the technology frontier

For all the benefits of competition, we must acknowledge a number of caveats and qualifications.

For instance, newer theories argue that by reducing the monopoly profits that go to successful innovators, competitions may deter new entrants who are lured by large rewards. Much will depend on the distance of firms, sectors or countries from the technological frontier. While firms at the frontier can escape competition by innovating, thereby earning temporary monopoly profits, no such comfort exists for firms that lag far behind and lack the capabilities to pull away. These firms are more likely to be discouraged from entering markets and innovating by the prospect of more intense competition than firms that are close to the frontier.

Again these issues should be examined on a careful, case-by-case basis -after all, even countries that are in aggregate far from the world technology frontier will sometimes boast a number of innovative firms which are able to withstand competitive pressure; but it does again remind us that what is appropriate for what country –and even within a country what is appropriate for one industry may not be appropriate for another.

Link between Labor Market Regulation and Innovation

One of the most controversial issues is the impact of labor market regulation. The employment protection offered to regular workers and the conditions for temporary employment vary considerably across developing countries with the strongest protection observed in Latin America and in Eastern Europe and Central Asia.

The link between the effect of high hiring and firing costs and innovation activity, however, is complex and depends on the institutional and industrial relations setting in which firms operate and the type of technology prevalent in the sector.

On the one hand, labour market regulation may raise adjustment costs, making it harder for firms to change gears and adopt leading technologies. But in other cases, greater job security –often supported by strong co-ordination between employers and trade unions- may increase worker loyalty, effort and investment in innovative activity.

In reality, both effects will be at work – and which one is stronger depends on the technological comparative advantage of the country. Where countries specialize in incremental innovation – doing existing activities but doing them better through cumulative product or process improvements, then employment protection would appear to increase the benefits of incremental innovation; however, where innovation results in genuinely new breakthroughs typified by short-life cycles of products and rapid capital depreciation, then the costs of employment protection will increase.

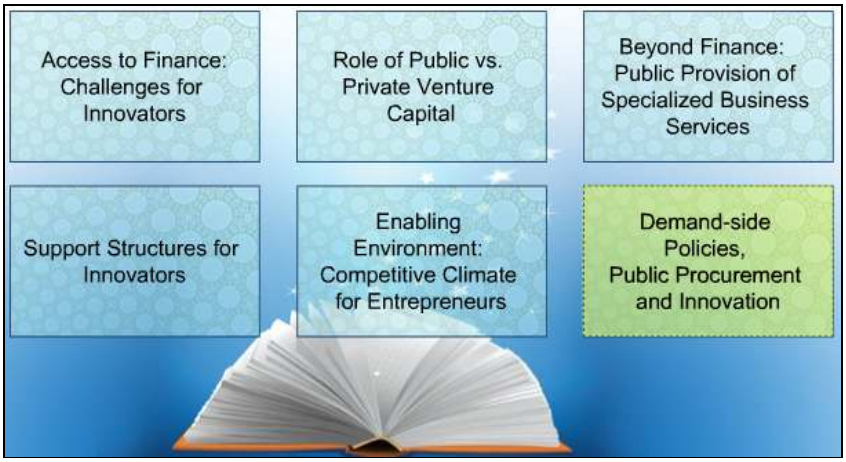
Link between Labor Market Regulation and Innovation

A final and perhaps more robust way to deal with the trade-offs of labor market regulation is to give firms contractual flexibility but ensure that workers have greater economic security through improved social welfare. Even when public resources to finance these schemes are limited much can be done to improve their effectiveness through better targeting and adherence to insurance principles.

A safety net both helps workers cope with large-scale restructuring rather than increasing pressures for protectionism and allows firms to adapt to the needs of new technologies, enabling better matches between worker abilities and the skills requirements of firms.

Topics

And now we'll proceed to last topic in this module "Demand-side Policies, Public Procurement and Innovation"



Contribution of Demand and Public Procurement to Innovation

Demand is a major potential source of innovation, yet the critical role of demand as a key driver of innovation has often been ignored by the traditional supply-side focus

of government policy. By contrast, demand-side argue that even if the capacity to innovate is present, entrepreneurship will not be forthcoming unless there are significant market opportunities.

In this respect, active and informed consumers perform a vital function– providing signals to markets, de-risking R&D and closing the finance gap. For instance, many attribute the success of the consumer electronics and information technology industries in Japan and the US to the adventurous purchasing habits of consumers as much as to the inherent innovativeness of producers.

The public sector, as a large-scale purchaser of goods and services, can remedy market and system failures on the demand-side. Public procurement is perhaps the largest and most visible of the discrete instruments available to developing countries. Through commercial procurement, innovation becomes an essential criterion in the call for tender and assessment of tender documents.

Other Areas of Public Procurement for Innovation

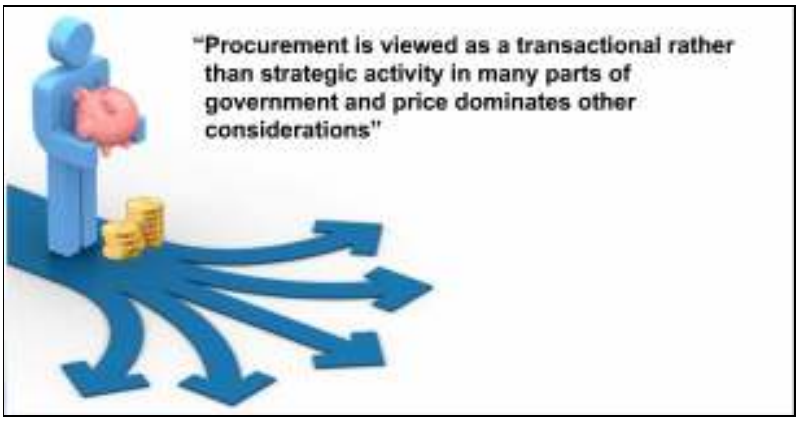
At the same time, the public sector may target innovative products and services for which further R&D needs to be done. Through pre-commercial procurement, R&D services contracts are granted to firms across different stages of the development

process -from exploration and feasibility up to prototyping and finally commercialization. The advantage in terms of innovation generation is that it gives procurers more freedom of selection, definition and interaction. This is premised on the argument that R&D-intensive procurement needs more intensive interaction and cannot be assessed on the basis of written specifications and proposals. For developing countries, this multistage process may be the best way to test solutions developed elsewhere and adapt them to local context and conditions.

Finally, the government may act as a launch customer for goods, but the purchased innovations are ultimately used exclusively by the private end-user. This is referred to as catalytic procurement.

Challenges and Strategies of Effective Public Procurement

A conflict may arise between public procurement and innovation because procurement is viewed as a transactional rather than strategic activity in many parts of government and price dominates other considerations such as the advantages gained by users over the whole life of the purchase.



The evaluative criteria for innovative procurement can be spelt out by clearer guidance, tools and support though stronger incentives may be necessary to overcome the inertia and risk-aversion that informs many procurement decisions.

Consideration should also be given to how public procurement rules may discriminate against young and small enterprises. The costs of bidding for government contracts are generally higher than comparable private-sector contracts. Contract bundling, driven by efforts to reduce civil administrative works, may also work against SMEs that lack the necessary supply capacity to bid for larger contracts. Levelling the playing field between small and large firms in public procurement is a key challenge for many governments. For instance, in Korea, the New Technology Purchasing Assurance scheme requires public agencies to give preference to procurement of products from SMEs, which also receive a New Technology guarantee from the government.

Conclusion

We have learned in this module:

1. Access to Finance: Challenges for Innovators
2. Role of Public vs. Private Venture Capital
3. Beyond Finance: Public Provision of Specialized Business Services
4. Government's Support Structures for Innovators
5. Enabling Environment: Competitive Climate for Entrepreneurs
6. Demand-side Policies, Public Procurement and Innovation