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**Trade and Development Board**  
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Item 3 of the provisional agenda

## Partnering public and private investment for development

Note by the UNCTAD secretariat

### *Executive summary*

Investment plays an essential role in promoting growth and sustainable development, boosting countries' competitiveness, generating employment, and reducing social and income disparities. As public investment alone cannot meet critical needs, it is vital to trigger a rise in private (foreign and domestic) investment. One way of leveraging private investment for development purposes is to link it to public investment. Public-private partnerships of various kinds entail both opportunities and risks. The policy challenge, therefore, is to maximize the benefits and appropriately manage the risks. This includes numerous aspects, such as setting the right regulatory framework, identifying investment projects suitable for public-private cooperation, targeting the types of partnerships that are the most promising for achieving development objectives, and attaining a proper distribution of risks between the public and the private sector. Other critical policy issues are stronger regional cooperation and greater support from the international community in order to boost public-private partnerships in strategic industries. Some significant areas for action might be, inter alia, promoting infrastructure development, mitigating climate change, and increasing agricultural production. These three industries were identified, at the second session of this expert meeting, as key industries with regard to enhancing synergies between domestic and foreign investments.

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1. The third session of the Multi-Year Expert Meeting on Investment for Development will consider “Public investment and development”. This follows the first and second sessions, the themes of which were “The development dimension of international investment agreements” and “Foreign direct investment and domestic investment and development: enhancing productive capacities”, which were held on 10–11 February 2009 and 3–5 February 2010, respectively. At its fifty-fifth session, the Trade and Development Board agreed that the “expert meeting will examine the partnership between public and private investment in areas of particular importance for development. It will, among other things, consider how policies at the national, regional and international level can enhance synergies from public–private partnerships” (TD/B/55/9; 1 October 2008).

2. This note outlines the issues to be addressed on the development implications of investments combining both public and private sources, including designing and preparing effective and proactive policies to boost synergies from public and private partnerships. The meeting will mainly examine three case studies – infrastructure, agriculture, and climate change – all of which were identified in the last session of this expert meeting as industries where synergies between domestic and foreign investment could be enhanced and different country experiences could be explored (TD/B/55/9), with due regard given to partnerships between public and private investments. This note also examines how these two sources of investment – public and private (both domestic and foreign) – have evolved in developed and in developing countries, highlighting the main differences between them.

## **I. Public and private investments: macro perspectives**

3. Over the past three decades, there has been a gradual change in the role of public<sup>1</sup> and private investments in promoting development and economic growth. While the achievement of a more dynamic economic growth requires a greater role to be played by the private sector and a stronger partnership between public and private investment, the recent financial crisis has revived the importance of public investment in stimulating aggregate demand. Before discussing the impact of different types of investment on economic growth, this section examines trends and patterns in public and private investments at the global and regional levels.

### **A. Overall trends by region**

4. Global investment (public, domestic private, and foreign direct investment) reached \$12 trillion in 2009, having more than doubled between 2002 and 2008. This was followed by a decline of 8 per cent in 2009, as a consequence of the global financial and economic crisis (fig. 1). The rise of investment in the last decade is explained by high economic growth rates in both developed and developing countries. Private domestic investment<sup>2</sup> has been larger in absolute values than both public investment and FDI flows; moreover, it has grown more rapidly in recent years, particularly since 2000. While foreign direct investment (FDI) declined globally in 2008 and 2009, public investment has continued to increase, as many governments have used it as a countercyclical tool against the economic downturn. Also, in some countries, brimming public coffers – for example because of high commodity prices – have created the wherewithal to fund significant rises in public

<sup>1</sup> In this issues note, only investment directly financed by the budget of the government – be it at central or subnational level – qualifies as public investment.

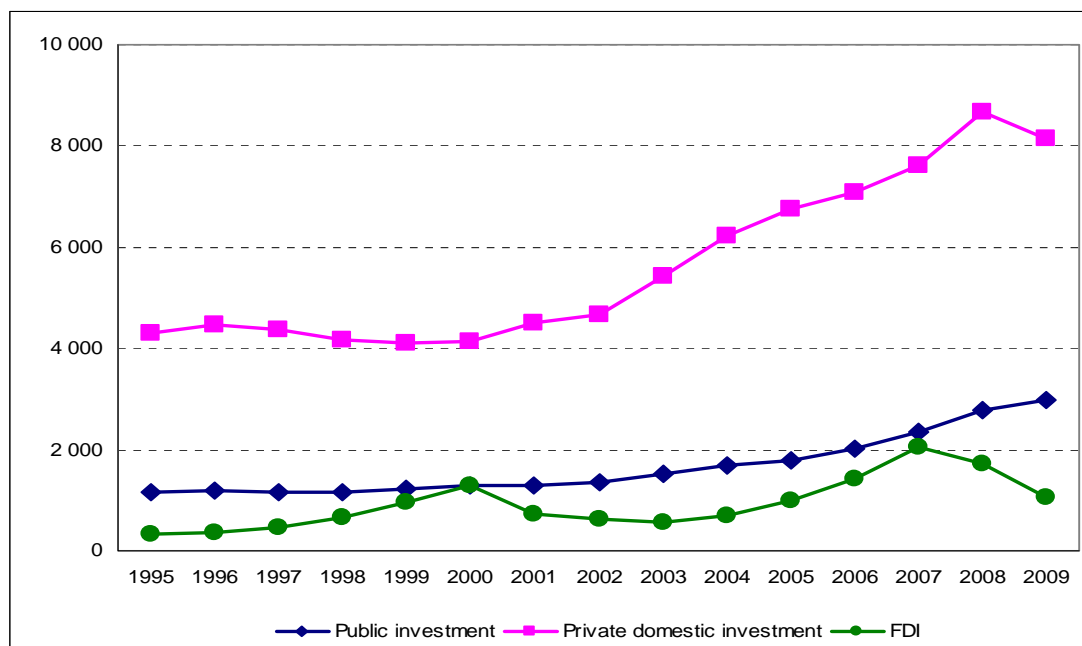
<sup>2</sup> It is calculated as the difference between total private investment and FDI flows. Therefore, it is considered only proxy to the real value of private investment.

investment. Partly because of this, for example through state-owned enterprises (SOEs) and sovereign wealth funds (SWFs), the share of developing and transition economies in global FDI flows has been on the rise too, reaching half of global FDI flows in 2009 (UNCTAD, 2010).

Figure 1

**Global public and private investment, 1995–2009**

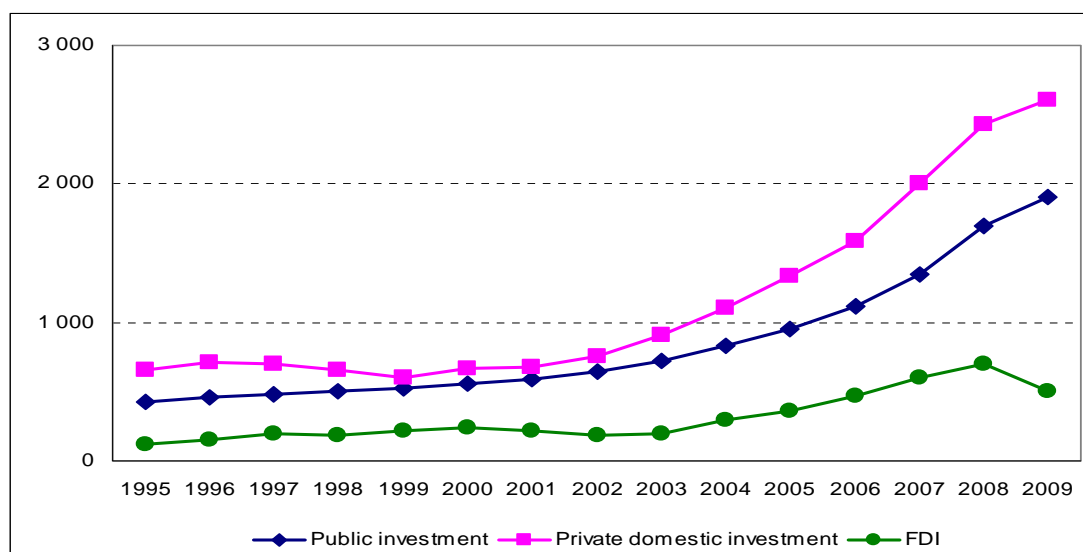
(in billions of dollars)



Source: UNCTAD secretariat calculations and estimates, based on data from the International Monetary Fund's *World Economic Outlook* and from the Organization for Economic Cooperation and Development (on public and private investment), and from the UNCTAD FDI database (on FDI inflows).

5. In developing and transition economies alone, private domestic investment has grown quickly since 2000, reaching \$2.6 trillion in 2009, and reflecting stronger economic growth and confidence in the renewed emphasis placed on the private sector (fig. 2). Similarly, public investment has increased in the past ten years, and domestic investments, both public and private, remained resilient in 2009 from the global economic and financial crisis. The share of FDI in total investment in developing and transition countries has almost continuously been higher than in developed countries, including in the year 2009 when FDI flows declined (although with the exception of the years 2000 and 2007).

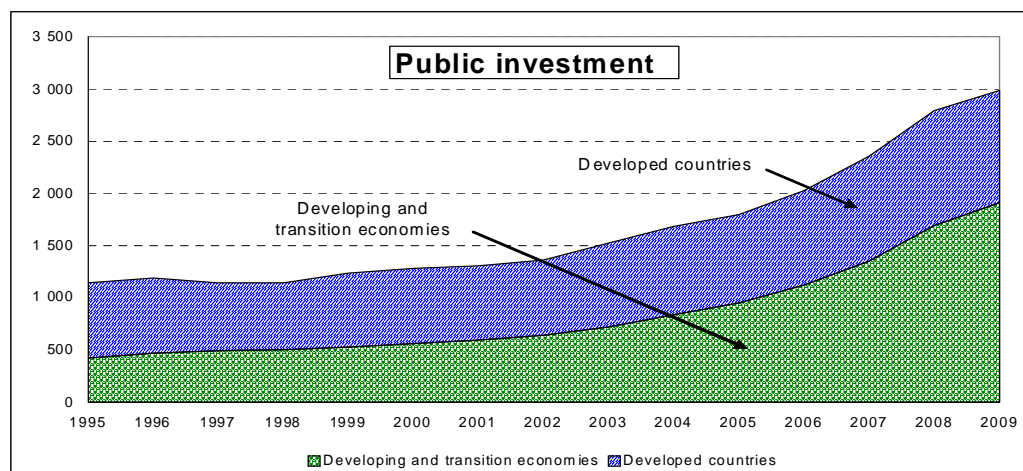
Figure 2  
**Public and private investment in developing and transition economies, 1995–2009**  
 (in billions of dollars)

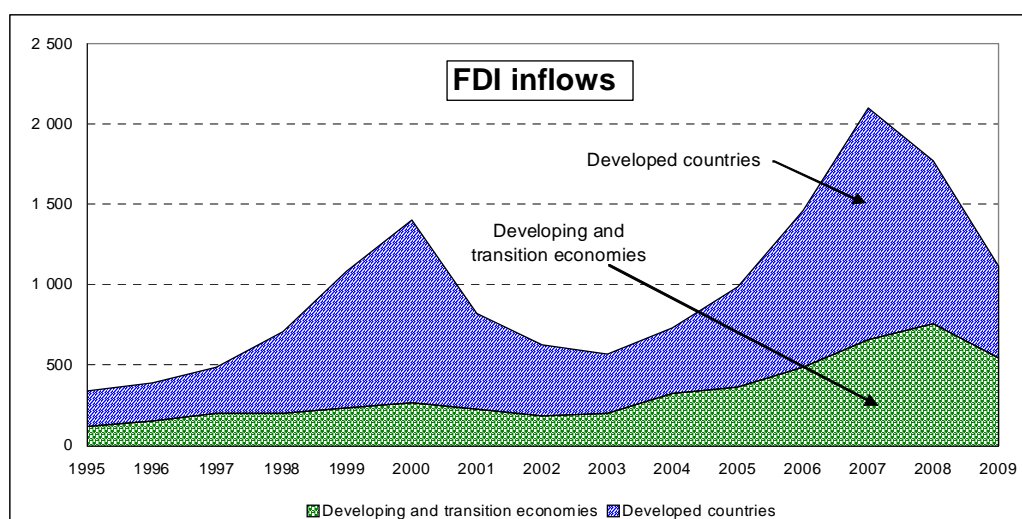
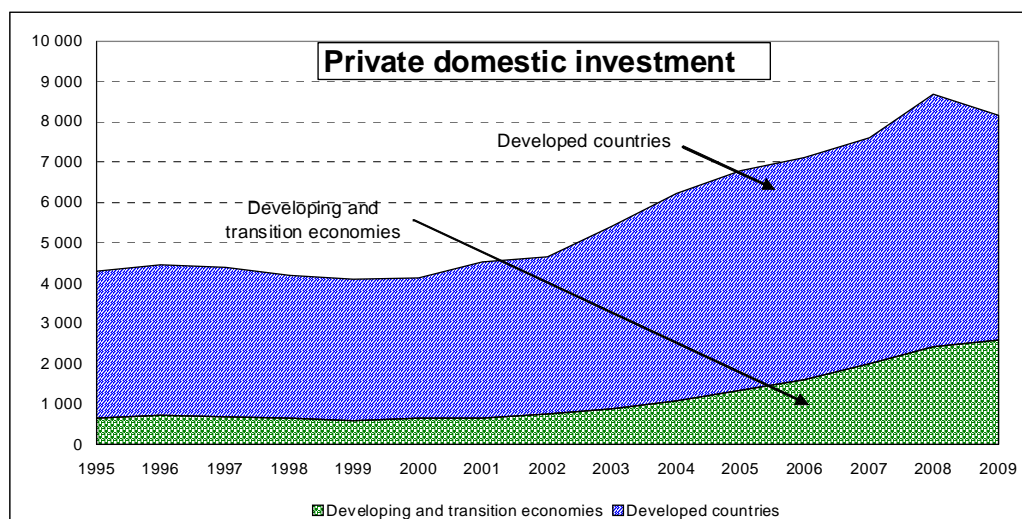


Source: UNCTAD secretariat calculations and estimates, based on data from the International Monetary Fund's *World Economic Outlook* and from the Organization for Economic Cooperation and Development (on public and private investment), and from the UNCTAD FDI database (on FDI inflows).

6. Developing and transition economies differ from developed countries in terms of the dynamics of their public and private investments. As developing countries have invested heavily, particularly in infrastructure, the public investment share in global public investment has increased over the past 15 years, from 37 per cent in 1995 to almost two thirds in 2009 (fig. 3). The limited capacity of the private sector in developing and transition economies, and the thin capital markets in these economies, have prompted extensive government participation in large-scale investment projects. By contrast, the bulk of global private domestic investment has taken place in developed countries, although the share in total investment declined from 84 per cent in 1995 to 68 per cent in 2009 (fig. 3).

Figure 3  
**Global public and private investment, 1995–2009**  
 (in billions of dollars)





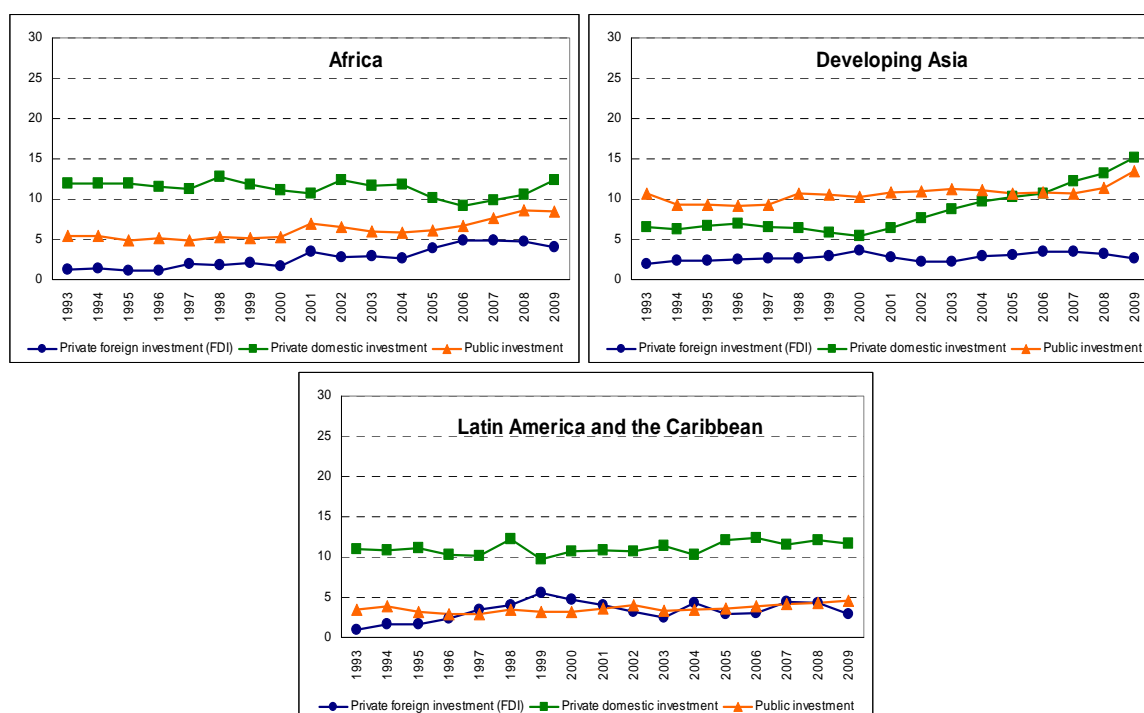
Source: UNCTAD secretariat calculations and estimates, based on data from the International Monetary Fund's *World Economic Outlook* and from the Organization for Economic Cooperation and Development (on public and private investment), and from the UNCTAD FDI database (on FDI inflows).

7. The relative importance of public investment in developed countries (measured in relation to gross domestic product (GDP)) has been on a downward trend in the past two decades, falling to 2.8 per cent in 2009. On the contrary, the relative share of public investment (to GDP) in developing and transition economies reached 15 per cent of GDP in 2009, up from 11 per cent in 1995.

8. The pattern of public and private (foreign and domestic) investments is different at the regional level (fig. 4):

- In Africa, public investment as a share of GDP began increasing in 2006, and held steady in 2009. Private domestic investment, which had weakened as a share of GDP in recent years, rebounded over the 2007–2009 period, increasing even during the current crisis. Private foreign investment in Africa fell as a share of GDP in 2008 and 2009, after rising steadily since 2000, largely due to the impact of the crisis on the countries that are the primary investors in the region.

Figure 4  
**Public and private (foreign and domestic) investment as a share of GDP, 1993–2009**  
 (as percentages)



Source: UNCTAD secretariat calculations and estimates, based on data from the International Monetary Fund's *World Economic Outlook* and from the Organization for Economic Cooperation and Development (on public and private investment), and from the UNCTAD FDI database (on FDI inflows).

- In Latin America and the Caribbean, public investment and private domestic investment, as shares of GDP, held remarkably steady between 1993 and 2009, suggesting that both have grown, or declined, at the same rate as GDP. Private foreign investment, which peaked as a share of GDP in 1999, has fluctuated between 3 per cent and 5 per cent during the past decade.
- In developing Asia, private domestic investment has surged as a share of GDP, moving from roughly 5 per cent in 2000 to 15 per cent in 2009. In 2009, its share grew even faster, reflecting to some extent the relaxation in credit in China because of government policy. Public investment, which has been relatively stable as a share of GDP, jumped in 2009, as governments in several countries, including China and India, expanded the sector significantly to counteract the effects of the crisis.

## B. Public investment, private investment and economic growth

9. As the Monterrey Consensus emphasized, investment is a powerful catalyst for innovation, economic growth and poverty reduction. Much more investment will be needed if developing countries are to reach the Millennium Development Goals. While the total amount of investment matters, it is also important to understand the differences or nuances between public and private investment, inasmuch as these two components can have a differential impact on economic growth.

## **1. Public investment and growth**

10. Public investment is of paramount importance for development and long-term growth, as it plays an important role in expanding productive capacities, helping to stimulate aggregate demand and allocate resources across an economy, especially in the least developed countries (LDCs). By expanding productive capacities, public investments can help stimulate private investment and raise labour productivity. The recent financial crisis has further intensified the focus on public investment as a potential countercyclical tool, with many governments, in developing and developed countries alike, launching and advancing further public investment programmes, both to bolster and create employment and to lay the foundations for renewed and sustained growth.

11. While it is clear that massive public investment during the current crisis has helped keep many economies from going into further recession, the impact of public investment on growth is not always significant or rapid. This is because public investments often support the broad functions of government, which only indirectly feed into factors influencing productivity growth. In infrastructure, much public investment has its impact on productivity only over a long period of time. In addition, public investment in infrastructure suggests that the impact varies with its scale and interaction with other industries (Sunderland, 2009). The impact of public investment on economic growth is also relevant from a regional policy perspective. Governments can influence the rate at which regions accumulate productive factors, particularly through regional infrastructure. These factors affect productivity and the location of mobile private factors, thereby influencing the regional dispersion of income (de la Fuente and Vives, 1995).

12. There is a significant body of evidence on the need for public investment in the three areas identified as those for which synergies between domestic and foreign investment can be enhanced, namely infrastructure, “climate change”, and agriculture. In infrastructure investment there are large gaps, as indicators of infrastructure availability in many countries show. The lack of basic sanitation services, shortages in electricity and/or water provision, the frequency of intense road congestion, and sharp differences in infrastructure availability between urban and rural areas, all require substantial public investments. Pressures to address climate change mitigation, to adapt to ongoing climate change developments (particularly sea-level rise and changing precipitation patterns) and to transform the energy generation sector with technologies that reduce carbon emissions, all require substantial public investments. Similarly, as the agricultural sector needs structural transformation if long-term food security is to improve, public investments have a crucial role to play in this process, for instance by raising farm productivity.

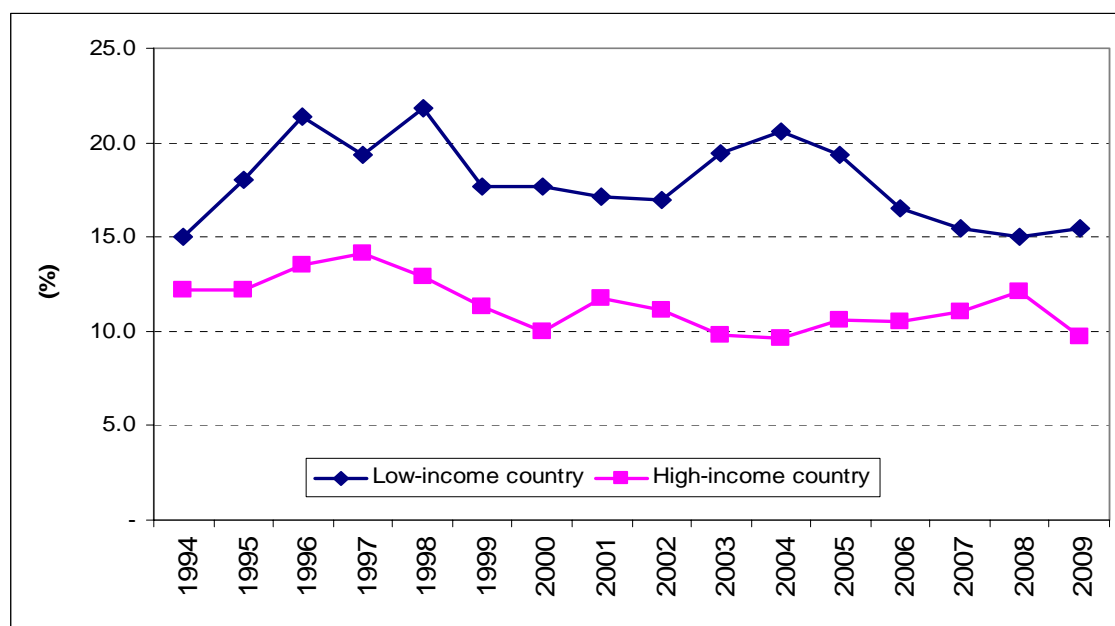
13. The strong growth of some economies, such as in developing Asia, coupled with high public investment rates, has led to a debate about whether there is an optimal level of public investment and capital stock for maximizing growth (Kamps, 2005; Marrero 2008). However, clearly the optimal level will differ between countries and regions, depending on the quantity and quality of capital stock, and institutional and policy factors.

## **2. Private investment and growth**

14. It is widely accepted that expansion of private investment – both domestic and foreign – is a main impetus for economic growth. For example, a number of countries that have had high growth rates over the past two decades have also had consistently higher private investment than countries that did not experience such sustained economic expansion (fig. 5).



Figure 5  
Private investment as share of GDP, 1994–2009



Source: UNCTAD secretariat calculations and estimates, based on data from the International Monetary Fund's *World Economic Outlook* and from the Organization for Economic Cooperation and Development, and from the UNCTAD FDI database.

Note: Low-growth countries have an average growth rate of less than 2 per cent per annum, and high-growth countries are those with an average growth rate of more than 8 per cent per annum.

15. As domestic private investment remains the principal source of capital formation in the world (fig. 1) as well as in developing and transition economies (although to a lesser extent (fig. 2)), its importance to the growth and development strategies of developing countries is paramount. In certain cases, high ratios of public investment and FDI to GDP have not been enough to guarantee high economic growth rates in the absence of significant domestic private investment (Roache, 2006).

16. Nevertheless, while the empirical evidence is not conclusive, in general the literature suggests that, in addition to domestic investment, developing countries should also draw on foreign private investments (mainly FDI) to spur economic development. Foreign private capital flows to developing countries (particularly FDI) are regarded as a means of accelerating poverty reduction, especially in LDCs, through private sector-led growth, by providing additional stable external financing, investment and technology for development. FDI flows are particularly important, because they provide a package of tangible and intangible assets, and because the firms deploying them – transnational corporations (TNCs) – are now important players in the global economy. TNCs can affect development, by complementing domestic investment and by undertaking both trade and transfers of knowledge, skills and technology. However, TNCs do not substitute for domestic effort: they can only provide access to tangible and intangible assets, and catalyse domestic investment and capabilities. In a world of intensifying competition and accelerating technological change, this complementary and catalytic role can be very valuable (UNCTAD, 1999).

17. Several studies and surveys, such as the Foreign Private Capital Capacity-Building Programme survey for 22 countries in Africa and Latin America undertaken by

Development Finance International, conclude that while foreign private capital has provided additional capital, there are some unfavourable impacts. For example, the net impact on balance of payments (e.g. foreign exchange availability) has been less positive than expected due to high import and capital outflow levels, even though export earnings are increasing (Bhinda and Martin, 2009). With respect to portfolio investment, most countries in the survey are slowly developing formally organized capital markets. While those investments may be highly speculative and destabilizing, in some instances they may be stable and contribute to private sector development. The benefits brought by formal markets have been shown to be highly limited in terms of the numbers and types of enterprises listed, although they have also increased vulnerability to global shocks (Bhinda and Martin, 2009).

### **3. Partnerships between public and private investment, and economic growth**

18. The relationship between public and private investment has been a focus of attention in the literature since the early 1980s, the main question being whether public and private investments have a different impact on economic growth. On theoretical grounds, there is no clear reason why the institutional source of total investment levels should matter. However, if there are inefficiencies or distortions associated with the use of public investment, which is not the case for private investment, then the difference could indeed matter. A number of studies have concluded that both private and public investment have a positive impact on long-term growth, but the magnitude of these two types of investments differ considerably, with private investment having a much stronger impact on the economy than public investment (Khan and Kumar, 1997; Bouton and Sumlinski, 2001).

19. Focusing on the public/private dichotomy, there has also been a debate about whether public investment raises or lowers the efficiency of private investment. Some components of public investment, for example, might be complementary to private investment, and, insofar as private investment has a positive impact on growth, would be beneficial to growth. Such complementarities arise, for instance, in public investment in infrastructure, education, climate change mitigation, and agriculture. On the other hand, since public investment utilizes scarce resources competing directly with private sector, it can also crowd out private investment. As such, an increase in public investment in some circumstances may have adverse consequences for private investment and growth.

20. As governments in developing countries operate on limited budgets, especially in countries experiencing rapid population growth and urbanization, they need to tap into the private sector (domestic and foreign) for capital, for technology, and for the expertise to finance, develop, and manage public-sector projects in infrastructure and in other areas. How do public-private partnerships (PPPs) influence economic growth? Evidence suggests that – all else being equal – the more PPP projects are launched in a nation, the higher the rate of GDP growth is, since such projects tend to be both large and long-term. Private investment of this nature also attracts other private investors to the market, creating a virtuous cycle for economic growth.

## **II. Partnership between public and private investments: case studies**

21. Partnerships between public investment and private investment have increasingly been recognized as an effective and appropriate mechanism for managing the complexity of the development challenges facing developing countries, and for attainment of the Millennium Development Goals.

22. This section will discuss successful case studies, in order to describe the partnership between public investments and other sources of investment in three areas identified in the last session of this expert meeting – infrastructure, agriculture, and climate change.

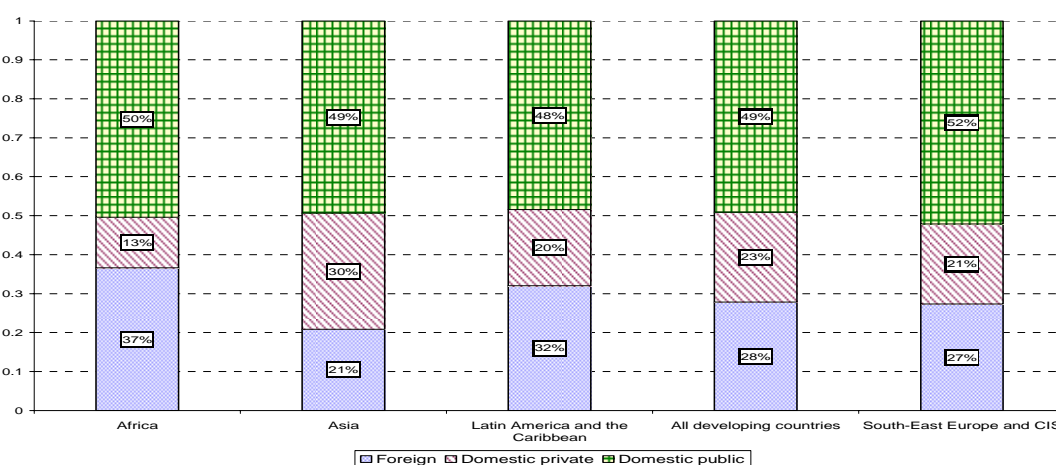
## A. Infrastructure

23. Infrastructure is an area in which a close association between public and private investment can help substantially in meeting local development needs. As developing countries' investment requirements in the area of infrastructure far exceed the amounts that can be invested by the public sector, governments have opened up infrastructure industries and services to much greater involvement by the private sector, including by TNCs (UNCTAD, 2008). Indeed, whether it is with the aim of facilitating PPP projects in general, or targeting foreign companies to engage in such arrangements in particular, individual countries have set up "PPP centres", for example the recently established Kazakhstan Public–Private Partnership Centre.<sup>3</sup>

24. Fiscal space limitations and debt sustainability considerations have led many governments in developing countries to assess the potential role for private sector financing for some of the recognized public infrastructural investment needs of the future. For instance, according to the World Bank's *PPI Database*, the share of private investors in total investment commitments in developing economies in infrastructure industries was 50 per cent over the period 1996–2008 (fig. 6). By region, the ratio of private to total commitments was relatively high in Asia (80 per cent), and lower in Latin America and Africa (77 per cent and 64 per cent respectively). The ratio for transition economies was higher than that of any developing region in all infrastructure industries.

Figure 6

**Share of foreign, domestic private and domestic public investors in the investment commitments of the infrastructure industries**  
(as percentages)



Source: UNCTAD, based on the World Bank's Private Participation in Infrastructure (PPI) databases.

<sup>3</sup> Public–private partnership in Kazakhstan. Presentation by Mr. Kairat Tilebaldinov, Deputy Chair, Kazakhstan Public–Private Partnership Centre, JSC; given at the second session of the Team of Specialists on Public–Private Partnerships meeting, held in Geneva on 3–4 December 2009. Presentation available at: [http://www.unece.org/ceci/ppt\\_presentations/2009/ppp/presentationppp09.html](http://www.unece.org/ceci/ppt_presentations/2009/ppp/presentationppp09.html) (accessed on 8 November 2010).

25. A number of partnership examples and case studies can be used to illustrate the importance of PPP arrangements in various infrastructure industries in developing countries, and how the private sector participates in them.

26. In the first case, the Government of Uganda has launched the Bujagali Hydropower Project, to foster economic growth by providing sustainable and affordable electricity, and has brought in partners to address financing and technical capacity gaps (Q Finance, 2010; New Vision, 2010). In this PPP, the main partners are the Government of Uganda, several private companies, the Aga Khan Fund for Economic Development, and multilateral and bilateral development financial institutions and commercial lenders.

27. In this PPP, the private sector is responsible for developing, financing, constructing and maintaining the power generation facility at Bujagali; for managing construction of the related interconnection projects on behalf of the Government (the owners and operators), which will connect the facility to the national electric grid; and for selling all electricity exclusively to the Government under a 30-year power purchase agreement. Financing of around \$860 million will cover both the power generation facility and the interconnection project. This comprises 22 per cent equity and 78 per cent debt on a limited recourse basis (i.e. the debt is only secured to a certain amount): the equity is largely provided by the private sector, with the Ugandan Government making a smaller in-kind contribution; and the debt is covered largely by a number of international development finance institutions.

28. Although the project is not yet complete, the contractual arrangements are judged to be a success, as project-related risks (borne by the project sponsors and commercial lenders) are mitigated by contracts and insurance arrangements with the Government and international organizations. However, several serious concerns have been raised about the wider impact of the project, including the spread of benefits being limited to major enterprises and not to the population as a whole, as well as overestimated productivity and a lack of transparency (Development Finance International, 2010).

29. A second case is the Mbombela (Nelspruit) Water Concession in South Africa. The Nelspruit Transitional Local Council awarded a 30-year concession in 1999 (amended in 2003) to the Greater Nelspruit Utility Company, owned by national and international private-sector actors, under which the company was to provide capital and management resources. The cost of the lease to the Greater Nelspruit Utility Company was based on the cost to the Council of existing borrowings on these assets. Proceeds from the disposal of movable assets were to be reinvested. All assets would revert to the Council on termination of the contract. The company was additionally required to pay an annual concession fee and performance guarantee, and would be liable to pay penalties for non-performance. Tariffs to consumers can only be set by the Municipality, although the company may advise annually on the charges needed in order to operate the concession and achieve the agreed rate of return. If the Municipality sets the tariffs at a lower level than the charges, it is required to pay the difference in revenue to the concessionaire.

30. Evaluation is based on eleven areas specific to the project's goals, of which nine are reflected in the contract. Successes include meeting targets for (a) management quality; (b) access to water; (c) infrastructure extension and upgrades; (d) full use of the Municipality's capital grant in formerly underserved areas; (e) employee training and development; and (f) tariff levels. Some remaining challenges include (a) ensuring a 24-hour supply; (b) monitoring a complex contract; and (c) substantial reallocation of financial risk from the company to the Government/Municipality (Bender and Gibson, 2010).

31. Examples of harnessing the private sector for financing and operating infrastructure are very commonly found in the transport industry, so the final case relates to the Enfidha Airport Project, which involved an extension of the Tunisian transport infrastructure with

the support of a Turkish TNC.<sup>4</sup> In order to harness the financial and technological abilities of the private sector, the investment model that was adopted involved two 40-year concession contracts: (a) to operate, maintain and develop the existing Monastir airport; and (b) a build–operate–transfer (BOT) scheme for a new airport in Enfidha. TAV Airports Holding, an Istanbul-based company which specializes in the construction, operation and management of airports, and which operates airports in the former Yugoslav Republic of Macedonia, in Georgia and in Turkey, was awarded the contract.

32. The Enfidha Airport Project is an example of how various actors came together in a common effort; in this case, the World Bank's International Finance Corporation, commercial banks, and the African Development Bank all contributed to financing the project. The principal reason for the project was to relieve pressure on the two existing airports, amid the continuing drive to expand the country's tourism sector.

## B. Agriculture

33. The expansion and revitalization of agricultural production is crucial for developing countries, both to meet the rising food needs of their populations, and to lay the foundations for economic diversification and development. Both public and private investments can contribute to the development of the agricultural sector, and there is considerable potential for interaction between the two. PPPs are essential for the advancement of agriculture, to meet global challenges in food security and to provide solutions along the entire agricultural value chain.

34. There are numerous successful cases of PPPs in agricultural production in developing countries. Such partnerships can especially be found in the area of improving agricultural technologies, research and development (R&D), seeds, and extension services to help farmers move from subsistence to market-oriented production. For instance, in Uganda, a PPP arrangement in vegetable oil production aims to develop the industry, generate jobs, and increase income for rural people, including replacing exports by revitalizing and increasing domestic vegetable oil production. The PPP project, through a consortium involving Wilmar International (Singapore), a plantation conglomerate, manages outgrower schemes, involves smallholders, and directly employs over 1,400 local farmers. Some 80,000 households have benefited from increases in income, and the country is expected to become self-sufficient in vegetable oils in the future.<sup>5</sup>

35. Companies such as BASF (Germany) and Syngenta (Switzerland) have established partnerships with some developing countries in agricultural research and development.<sup>6</sup> Syngenta has established partnerships with public agriculture research institutes in China and India.<sup>7</sup> In China, Syngenta's PPPs include involvement with the Hubei Biopesticide

<sup>4</sup> Source: African Development Bank website at <http://www.afdb.org/en/news-events/article/tunisia-enfidha-airport-leveraging-public-private-partnership-in-development-7258/> (accessed on 8 November 2010).

<sup>5</sup> International Fund for Agricultural Development (IFAD). Republic of Uganda: Interim evaluation – Executive summary of the Vegetable Oil Development Project. IFAD document no. EC 2010/63/W.P.4. 25 June 2010. Available at <http://www.ifad.org/gbdocs/eb/ec/e/63/EC-2010-63-W-P-4.pdf>. See also: IFAD. Progress in Eastern and Southern Africa. Issue no. 9. September 2008. Available at <http://www.ifad.org/newsletter/pf/9.htm>.

<sup>6</sup> International Food Policy Research Institute (2005). Can public and private sectors work together for the poor? *IFPRI Forum*. June. See: <http://www.ifpri.org/sites/default/files/publications/if11.pdf>.

<sup>7</sup> Syngenta Foundation. Public–private partnerships in agriculture: Teamwork achieves many goals. Available at <http://www.syngentafoundation.org/index.cfm?pageID=602>. See also: Extending the productivity of thousands. Available at <http://www.syngentafoundation.org/index.cfm?pageID=182>.

Engineering Research Centre, and the Shanghai Institute of Organic Chemistry for crop protection innovations.<sup>8</sup> In India, Syngenta has PPPs that support improvements to farming practices and to the livelihoods of poor smallholders. Another interesting case of successful public–private collaboration is the involvement between the Agricultural Genetic Engineering Institute in Egypt and Pioneer Hi-Bred Inc. (United States), on the application of a technology to develop insect-resistant maize.<sup>9</sup> Nestlé (Switzerland), together with international development organizations, was involved in a PPP project in Viet Nam to promote the sustainable production of Robusta coffee and the use of efficient irrigation, and to train local coffee farmers.<sup>10</sup>

36. Embrapa (Brazil) represents a very interesting case of a leading public agricultural research institute proactively creating partnerships with TNCs and with non-TNC private actors at home, as well as with developed and developing countries (box 1).

**Box 1.**

**International public–private partnership between public research institutes and TNCs: the case of Embrapa in Brazil**

Established in 1973, Embrapa is the leading public agricultural research institute in Brazil. It has established several types of domestic and international partnerships with TNCs:

- *Partnerships with TNCs for the development of new technologies.* In this kind of partnership, Embrapa and its partner develop R&D projects together, and the resulting technology is then made available for broader local use. For example, BASF and Embrapa signed a technical collaboration agreement to create cultivars resistant to herbicides. These cultivars will soon be available on the market.
- *Partnerships for incorporating technologies from other corporations into Embrapa products.* This type of agreement enables Embrapa to identify and license technologies from other organizations and incorporate them into its own products. It helps the R&D process and facilitates the transfer of technology transfer. Some of the TNCs and technologies involved are: BASF (herbicide resistance), MONSANTO (resistance to glyphosate-based herbicide) and JIRCAS (drought resistance).
- *Partnerships where Embrapa provides licences of its technologies to TNCs.* In this type of partnership, Embrapa's technologies are licensed to be validated and commercialized abroad. Under this kind of contract, the licensee pays royalties or a similar fee.

Since 1998, Embrapa has created several virtual laboratories abroad – in France, the Netherlands, the United Kingdom, and the United States. Furthermore, with the aim of providing humanitarian aid to low-income developing countries through technology transfer, Embrapa carries out several cooperation projects in all of the South American countries and in 13 African countries.

*Source:* UNCTAD 2009b.

<sup>8</sup> Syngenta: Company history. Available at [http://www2.syngenta.com/en/about\\_syngenta/companyhistory.html](http://www2.syngenta.com/en/about_syngenta/companyhistory.html).

<sup>9</sup> Public–private partnerships in modern biotechnology. *Science and Development Network*. 1 October 2002. Available at <http://www.scidev.net/en/policy-briefs/public-private-partnerships-in-modern-biotechnolog.html>.

<sup>10</sup> International Trade Centre (2009). Nestlé's public–private partnerships in agricultural sourcing: Promoting sustainable Robusta production in Viet Nam's Dak Lak Province. *International Trade Forum*. Issue 4. Available at [http://www.tradeforum.org/news/fullstory.php/aid/1502/Nestl\\_E9\\_92s\\_public-private\\_partnerships\\_in\\_agricultural\\_sourcing.html](http://www.tradeforum.org/news/fullstory.php/aid/1502/Nestl_E9_92s_public-private_partnerships_in_agricultural_sourcing.html).

## C. Climate change

37. There is considerable potential for interaction between public and private investments in mitigating the effects of climate change (UNCTAD, 2010), especially in areas such as renewable power generation. Given that renewable energy technologies are not yet price-competitive with traditional, more carbon-intensive technologies, their use by private firms often requires some form of PPP. These partnerships can take a number of forms, but typically they include government assurances of access to the power grid and preferential rates for the electricity produced, in addition to long-term purchase agreements and financing at concessional rates. Some typical examples taken from the wind energy generation sector include the following:

38. In Costa Rica, the government-owned electric utility Instituto Costarricense de Electricidad (ICE) awarded a 20-year contract to build, own, operate and transfer (BOOT) a 49.5MW wind energy project (Proyecto Eólico Guanacaste) to the JUWI Group, together with GDF Suez (France). The wind park is certified under the Clean Development Mechanism (CDM). Econergy International, a subsidiary of GDF Suez, will own the 37,000 Certified Emission Reductions (CERs) that the project is expected to generate annually through to 2012. Costa Rica plans to generate its entire power supply via renewable energies by 2021.<sup>11</sup>

39. In Brazil, the Brazilian Development Bank (BNDES) approved R\$72m (\$35 million) in financing for the 18MW Pedra do Sal windfarm in Piauí State, which came into operation in early 2009. The financing was 69.5 per cent of the project's total investment, with the rest coming from private sources. The project was handled as part of the Government's growth acceleration (PAC) and renewable promotion (Proinfa) programmes. Announced in August 2007, the project involves Econergy International, a subsidiary of GDF Suez, which signed an equipment purchase and installation agreement to install twenty 900 kW wind turbines. The company has acquired the rights to purchase, subject to government approval, 100 per cent of the project.<sup>12</sup>

40. In Jordan, the country's Renewable Energy Law – endorsed in 2010 – coupled with the desire to promote greater energy independence, has led the Government to seek investments in wind parks. Bidding for a 30–40 megawatt wind park, to be located in Kamshah, has concluded, and the Government is currently in negotiations with a Greek firm to finalize a build–operate–transfer contract. The financing is to be provided by the World Bank.<sup>13</sup>

## III. Policy options to promote interaction between public and private investments

41. The case studies above show that fostering the interaction between private and public investment with a view to generating development benefits is a complex challenge. Firstly, the sectors where interaction between public and private investment is most likely to occur tend to be politically sensitive, with many stakeholders potentially being affected. Therefore, there is a need to properly manage the interactions between investors, governments, and civil society. Secondly, there is no “one size fits all” solution that would

<sup>11</sup> Thomson Reuters. *Project Finance International* database, and the company websites of JUWI Group and Enercon.

<sup>12</sup> Thomson Reuters. *Project Finance International* database, and [http://www.greenmomentum.com/wb3/wb/gm/gm\\_content?id\\_content=955](http://www.greenmomentum.com/wb3/wb/gm/gm_content?id_content=955).

<sup>13</sup> Thomson Reuters. *Project Finance International* database, and the *Jordan Times* of 31 August 2010.

apply to all countries and industries/sectors equally, and designing the “right” policy framework, as well as identifying the “best” form of public–private cooperation, requires adequate skills and capabilities. All of this is compounded by the fact that the investment needs in these sectors are huge, and countries are competing for foreign investors. Infrastructure development, agriculture, and climate change mitigation are all cases in point, where investment needs are considerable, and where private investment – both foreign and domestic – has a crucial role to play, effectively complementing public funds, and providing know-how and technology.

## **A. At the national level**

42. A priority for governments in host developing countries should be to strengthen the rule of law and the development of transparent and predictable sectoral laws and regulations. A high-quality institutional and regulatory framework is crucial for fostering the interaction between public and private investment, and for achieving the attendant development goals. This is particularly important when investments are highly capital-intensive and/or have long gestation periods and strong government involvement (e.g. in infrastructure), when industries are at an early stage of development (e.g. low-carbon investments), or when sectors exhibit considerable social challenges (e.g. agriculture).

43. Appropriate regulation is also crucial where private investors deliver services that have so far been provided by public enterprises. The challenge for governments is to ensure that the same public policy factors that originally motivated public sector investment (e.g. equity factors, natural monopoly conditions or externalities) are taken into account in the way in which the private sector produces and delivers services. This may include pricing policies (UNCTAD, 2009a).

44. Countries need to decide on the extent to which they want to open their industries to private investment, and whether this would include foreign investment. Many countries have privatized domestic industries, with the resulting policy challenges, as well as the ultimate development impacts, differing between individual economies and sectors. For instance, while agriculture is largely in private hands, public control is still widespread in many infrastructure-related industries. To the degree that private investment is allowed, governments also need to identify critical bottlenecks for private investment, and should formulate a priority list of projects for which they see a need to engage private investors.

45. The decision whether to allow foreign investment becomes particularly relevant in strategic industries, such as energy distribution and transmission and the extractive industries, and also in industries that are considered politically sensitive for socio-cultural reasons (e.g. agriculture). Governments may wish to restrict FDI in order to ensure control over these industries, but can also opt for alternative forms of investment that limit transfer of control to the private sector.

46. Countries have to consider what kind of interaction between public and private investment best suits their development needs. There are three basic policy options, ranging from no direct contractual relationship between public and private investments, to equity-based partnerships:

### *Option 1*

47. Public investment to support corresponding private investment in specific industries. One example relates to national R&D programmes to enhance the development of high-tech industries (e.g. in renewable energy generation). Another case in point is public investments in infrastructure, such as the establishment of industrial parks or storage facilities for farmers. These investments can be either independent from individual private



investments (e.g. general road or grid constructions) or related to specific private investment projects (e.g. a port connection for a specific plant).

*Option 2*

48. Public–private equity joint ventures. This could be an option, for instance, if the business relates to an activity where the public is actively engaged through state enterprises (e.g. in the extractive industries), but where private equity investment is also allowed. Another example would be R&D-related public–private joint ventures (e.g. in agriculture).

*Option 3*

49. Non-equity private investment supporting public investment. In this case, private investment can play a supplementary role, for instance through management contracts or build–own–transfer models. For example, in infrastructure, foreign involvement may be limited to public–private partnerships where ownership ultimately remains with the state and operational control is based on concessions.

50. Public–private partnerships of any kind entail both opportunities and risks, and seizing these opportunities, as well as managing these risks, is essential if there is to be a genuine sharing of both the gains and the risks between the public sector and the private sector. This includes the capacity to assess development impacts (whether with private domestic or foreign investors, and whether through PPPs or other types of partnership) and to design specific investment projects.

51. What makes PPPs attractive to governments is the ability to harness the potential of the private sector to establish and operate an investment with greater efficiency than would be the case for the public sector. At the same time, by substituting the private sector for public provision, the government can save scarce public funds and relieve strained budgets (UNCTAD; 2009a). The public sector can also greatly benefit from access to technology and know-how through such partnerships.

52. As regards risks, there is a need for (a) caution over PPPs' high costs and potentially high risks, implying limitations to high-priority/high-return projects where cheaper financing and alternative technical capacity is not available; (b) thorough and transparent needs assessments and feasibility studies; (c) full participation and consultation of the public; (d) due diligence; and (e) transparent selection criteria and procurement. Because private sector financing cannot be necessarily relied upon, governments should also intensify their efforts at creating more fiscal space and at prioritizing what public investment projects should be implemented (UNCTAD, 2009a).

53. Appropriate risk distribution between the parties also requires substantial government involvement in the monitoring, evaluation and regulation of the investment throughout the contract period. Investment contracts between the public and the private sector can also be a means of obliging foreign investors to carry out certain development commitments, for instance in support of public infrastructure development.

54. Active promotion by investment promotion agencies (IPAs) can contribute to raising awareness of the existing opportunities for private–public investment. IPAs need to identify economic activities with the potential for such interaction, and to promote such investment through investor targeting (which includes identification of the core players in the relevant industries, information, and matchmaking) and by ensuring appropriate investment aftercare.

## B. At the regional and international level

55. More regional cooperation among developing countries should be encouraged in order to foster interaction between private and public investment. Closer regional integration can help create larger markets and thereby promote investment opportunities. This is relevant for the development of numerous industries in developing countries, including those related to agriculture, energy generation and climate change mitigation. Regional cooperation can also play an important role in promoting market access through regionally integrated infrastructure projects (particularly important for landlocked countries) and with respect to the creation of regional research institutions (e.g. regional public-private partnerships in agricultural R&D).

56. There is a need for international support for private-public investment-related interaction. Such support can be provided through several avenues – including the granting of official development assistance (ODA), home-country measures, and development provisions in international investment agreements and in sector-specific initiatives. It is vital that development partners give sufficient attention to financing those projects for which it would otherwise not be possible to mobilize sufficient private sector involvement.

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57. Experts may wish to discuss the following issues and policy measures – among others – with respect to enhancing productive capacities and achieving development goals through synergies between private and public investment:

- How can public-private partnerships be utilized in building productive capacity (industrial upgrading, technological development and R&D, and entrepreneurship and human resources development)?
- What are the ideal levels of public investment, private domestic investment and private foreign investment for maximizing growth without crowding each other out? Which factors are relevant in determining such levels for any particular country?
- What industries/sectors are the most promising for investments through public-private partnerships? What bottlenecks exist in these industries that may prevent such partnerships?
- What is the role of policies at the national, regional and international level to foster such partnerships? What needs to be done to maximize the benefits and minimize the risks associated with them?
- How can the potential for creating linkages and synergies between domestic (public and private) and foreign investment best be realized? Could TNCs from the South and sovereign wealth funds play a greater role in this context?
- What further work should be undertaken to understand and better exploit synergies between public and private investment, including in the areas of infrastructure development, agriculture, and climate change?

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