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ARE WE GROWING SMART?: A NEW VISION FOR URBAN DEVELOPMENT IN ASIA AND THE PACIFIC

Hyunsun Choi

The present paper explores the implications of smart growth principles for Asia-Pacific urbanization, and discusses how to use such principles for development in this region over the coming decades. After the United States of America experienced urban pathology due to sprawl, the country implemented growth management policies, and later adopted smart growth policies. While Asian cities experience rapid growth and concentration, the principles of American urban planning can benefit future urban policy and public investment in the region. The paper also argues that smart growth policies can lead to more sustainable and equitable urban development by overcoming the current unplanned sprawl. The concept of smart growth emphasizes a sense of community, the preservation of natural resources and open space, support for existing communities, and predictability in decisions and plans.

I. INTRODUCTION

Cities have become increasingly important spaces and locations for human living, and they are rapidly evolving into the brain centres of the world economic system (Sassen 2006). Increasingly, people are moving to urbanized areas due to population growth and industrialization. According to the Department of Economic and Social Affairs of the United Nations (DESA 2007), most of the projected population increase from 2000 to 2030 will be concentrated in urban areas. Cities will hold an additional 2.1 billion people by 2030, and by 2050 the world urban population is expected to reach 6.4 billion—about 70 per cent of the forecasted world population. In addition, most of the increase will happen in the Asia-Pacific region.

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Because of this fast growth, many Asian cities are experiencing urban pathology, including poverty, inequity, sanitation and health problems, pollution and the lack of proper housing. Moreover, ongoing urban sprawl causes more strain on infrastructure and demands more and broader social services from local and central governments. In response to these challenges, central and municipal governments need to prepare more proactive policies to prevent urban pathology and the wasting of resources. It seems that social and economic development could be harmed by increasing social and urban problems, if there is no timely urban policy or management.

The present paper provides an alternative discussion of the principles of smart growth and growth management. It explores the diffusion of planning practices from the United States of America to Asian cities. The urbanization history and policy practices of the United States may have implications for reducing urban pathology through the adoption of smart growth policies. Despite the differences in urbanization and economic structures found in the United States and in Asian countries, the concept of smart growth can reduce the costs that Asian-Pacific cities would have to pay if smart growth principles are not adopted.

Contemporary urban policies in the United States focus on revitalizing inner-city areas through the provision of more social equity and affordable housing. Currently, many state and local governments in the United States have adopted the concepts of smart growth, growth management, sustainability and new urbanism in their urban development policies. The concept of smart growth is regarded as a new vision to accommodate the future of "urban America", and has important differences from the old vision. According to Anthony Downs (2005), while the old vision encouraged unlimited land consumption and spatial segregation based on wealth, the new vision aims for planned land use, social equity and sustainable development. The principles of the new vision can be diffused to other countries and cultures. As the Asia-Pacific region is experiencing intensive growth, its cities need to formulate more aggressive growth management approaches. Such policies must address the urban pathology and growth issues of the coming decades. As the region's cities are facing urban problems after compact economic and urban development, they must muddle through the present hardships and prepare policies for the next generation. This paper discusses how Asian-Pacific countries can build smart growth concepts into their city management and centralized planning systems.

II. SMART GROWTH THEORY

In the United States, suburbanization grew widely after World War II with rising productivity and salaries. As people could afford to buy bigger houses in suburban areas and commute in their cars, there was a massive exodus of the middle- and high-class populations from inner cities to suburbia in order to pursue the old vision of urban development. In some aspects, this urban sprawl is largely based on the prevailing emphasis in the United States on individualism (Hall 2002). The rapid suburbanization resulted in the urban decline of the 1960s. To respond to this challenge, state and local governments began to implement growth management and urban renewal.

As an extension of growth management, the concept of smart growth emerged in the mid-1990s, when traffic congestion and environmental pollution started to become serious concerns. Smart growth is a more advanced policy framework; the concept includes not only physical and managerial approaches, but also social equity and sustainability. The concept is also closely related to new urbanism and new management skills. It assumes that sustainable spatial development can increase social equity and quality of life.

Growth management

Generally, growth management is the regulation of the amount, timing, location, and character of development (Levy 2005). Growth management has become widespread in the United States since the 1960s as an important technique and policy in spatial planning. Like other planning tools, it can be misused. For example, sometimes, growth management may block legitimate growth and simply displace the inevitable costs of development to other jurisdictions. If implemented successfully, it can help ensure that future growth evolves in a planned manner. Growth management can yield good results—with a sensible and attractive pattern of development. Currently, in the United States, about 36 states out of 50 have anti-sprawl or growth management legislation (Palen 2005).

Maryland was the first state to adopt smart growth policies. There was a great deal of interest in smart growth because of the perception of growing suburban sprawl and, in particular, its associated traffic problems. Former Governor Parris Glendening coined the phrase that citizens wanted smart growth, not stupid growth (Levy 2005). The concept, which had appeared in the fields of planning and politics in the mid-1990s, rapidly became popular after the Governor's comments.

Smart growth draws on land-use controls, tax policy and public subsidies to encourage compact development. In the same vein, the smart growth programme places an emphasis on infill development and reuse of old buildings or previously used industrial and commercial sites. Maryland defines the goals of smart growth as follows: (a) saving the most valuable remaining natural resources; (b) supporting existing communities and neighbourhoods; and (c) saving taxpayers millions of dollars by avoiding the unnecessary construction of the infrastructure required to support sprawl. In addition, smart growth is also closely related to sustainable development planning. In recent years, planners have become more interested in environmental issues. Sustainable development can be defined as providing for today's human needs without jeopardizing the needs of future generations.

New vision in the United States

Anthony Downs (2005) criticized the "unlimited low-density sprawl" that resulted from the traditional vision of urban development in the United States. He identified sprawl as the most problematic variable in planning and sustainable development. Urban sprawl has brought more social problems and harmed social equity. In exploring how the United States could overcome this problematic aspect of urbanization, Downs argued that the country should adopt smart growth as a new vision for urban development.

There are 10 main goals in this new vision (Haines 2003; Downs 2005; Choi 2007). Smart growth is an urban and transit planning tool, which concentrates growth in the centre of a city and advocates compact, transit-oriented, walkable and bicycle-friendly land use. It is crucial to manage urban sprawl for the betterment of the environment and sound development of cities and communities. Compact development aims to make most goods and services accessible to residents. It seems that this principle has become a successful practice in the United States, because many new urban developments are adopting the approach. Smart growth also strives to achieve a unique sense of community and place; expand the range of transportation, employment and housing; preserve natural and cultural resources, and promote public health (table 1). For example, smart growth principles favour performance, inclusionary, and cluster zonings instead of traditional and strict zonings, recalling the criticisms Jane Jacobs (1961) made regarding orthodox city planning.

When smart growth is applied to cities, the goals need to be adjusted according to local needs and conditions. People's needs and opinions should be included in the implementation of smart growth through a public participation and visioning process. Those who favour smart growth tend also to support the closely

Table 1. Smart growth goals in the United States of America

Goal	*Concept*
Mix land uses	Stimulates diverse land use in urban space instead of traditional zoning. It is aimed at encouraging multiple-purpose development with a combination of commercial, residential, recreational, educational and other uses.
Take advantage of compact development and building design	Promotes more efficient land use by creating a convenient neighbourhood centre that is attractive to residents, and presents opportunities to efficiently absorb growth and development.
Create a range of housing opportunities and choices	Provides quality housing for people of all income levels.
Create walkable neighbourhoods	Ensures that goods (housing, offices, and retail) and services (transportation, schools, libraries) that a community resident or employee needs on a regular basis are available within an easy and safe walking distance.
Foster distinctive, attractive communities with a strong sense of place	Encourages communities to craft a vision and set standards for development and construction that respond to community values of architectural beauty and distinctiveness.
Preserve open space, farmland, natural beauty and critical environmental areas	Preserves areas in a community that people value and that provide valuable environmental functions.
Strengthen and direct development towards existing communities	Uses resources and infrastructure that existing neighbourhoods offer, and conserves open space and irreplaceable natural resources on the urban fringe.
Provide a variety of transportation choices	Responds to increasing demands by communities for a wider range of transportation options to improve beleaguered transportation systems. Communities are coupling a multi-modal approach to transportation with pedestrian-friendly development patterns to create a variety of transportation options.
Make predictable, fair and cost-effective development decisions	Helps make smart growth attractive and profitable to private investors and developers, who are key to a community's successful implementation of smart growth.
Encourage community and stakeholder collaboration in development decisions	Fosters creative, speedy resolution of development issues and greater community understanding of the importance of good planning and investment. Involving the community early and often in the planning process vastly improves public support for smart growth and often leads to innovative strategies that fit the unique needs of each community.

Sources: Haines (2003); Downs (2005); Choi (2007).

related concept of new urbanism, promoted by Andrés Duany and others, as well as sustainable development.

III. URBAN DEVELOPMENT IN ASIA AND THE PACIFIC

The Asia-Pacific region has experienced faster and more intense urbanization than any other region in the world. In 2000, the world urban population grew to 2.9 billion, and it is expected to increase to 5 billion by 2030. About 60 per cent of the total world population will live in urban areas in 2030, up from 40 per cent in 1950. The largest portion of this increase will be concentrated in the Asia-Pacific region. The cities in this region have different urbanization histories from those in the United States and Europe. Since most Asian countries have a history of colonization by Western countries, their cities have mixed models of urban development and planning. While some countries or regions may have benefited from British or French architecture and urban planning models, others have suffered due to inappropriate Western models. While the benefits and appropriateness of past development can be debated, it is evident that most Asian cities need a new strategy or principle for their urban development due to the rapid growth and changing environments brought on by globalization.

Primate cities—cities which house a large portion of a country's population and dominate industry and politics—have led to spatial disparity and social polarization in some countries. In terms of cities, Asia and the Pacific can be divided into four subgroups: South Asia, South-East Asia, East Asia, and Australia and the Pacific islands. Each subgroup has a unique history and pattern of urbanization. Among these subgroups, East Asia is the most urbanized and boasts some world cities.

Cities in East Asia

East Asia has more dynamic cities than any other subregion in the world due to its fast and intense economic growth. East Asian countries can be divided into two groups. The first group, including China and the Democratic People's Republic of Korea, has experienced low levels of urbanization; the second group has experienced high levels of urbanization and successful economic development. For example, even though historically China was one of the original centres of urban development, and is an emerging economic world power, it still has a very low rate of urbanization in comparison with Japan, the Republic of Korea, and Taiwan Province of China. Thus, China may go through different development stages than other economic engines in the region.

The total population of East Asian countries[1] is approximately 1.5 billion. While the countries of East Asia combined (excluding China) averaged 71 per cent (172 million) urban population, China had only 40.4 per cent (530 million) in 2005. The Republic of Korea has the highest urbanization rate (80.8 per cent) (DESA 2007). The annual urban growth rate of China was 3.1 per cent between 2000 and 2005, and growth for the remaining countries is 1.2 per cent. China has about 90 cities with populations of more than 1 million people, and the rest of East Asia has a total of 23. Major cities of East Asia include Beijing; Tokyo; Seoul; Shanghai, China; Osaka, Japan; Hong Kong, China; and Tianjin, China (Williams and Chan 2003).

East Asian cities have different histories and development patterns, but they share some common goals and development trajectories. All are currently moving towards greater economic development, or have already done so. Generally, colonialism had a less important role in urban development in East Asia in comparison with other parts of Asia. Japan; the Republic of Korea; and Hong Kong, China are already highly industrialized and urbanized, and all are deeply involved in the global economy. In addition, in the mid-1990s, there was much talk of the "four Asian Tigers", namely: Hong Kong, China; Republic of Korea; Singapore; and Taiwan Province of China. China is also showing fast and intensive economic growth, in keeping with the development trajectory of other newly developed countries. Furthermore, an international network is forming among cities in this region. The network takes its name from Beijing, Seoul and Tokyo (BESETO), and extends beyond national capitals to some major economic hubs, including Busan (Republic of Korea); Shanghai and Tianjin (China); Osaka (Japan); and Taipei (Taiwan Province of China).

Developing cities in Asia

Many Asian countries are still underdeveloped, and require urban management and planning to deal with urban pathology. South Asian[2] countries have a combined population of about 1.4 billion. Even though the cities of this subregion officially have 382 million people, roughly a 28 per cent urbanization rate, much of the population is concentrated in suburban areas of the major cities. Moreover, many South Asian metropolitan areas or urban agglomerations spill out

[1] Population figures for East Asia include China; Hong Kong, China; Japan; Macau, China; Mongolia; Republic of Korea; and Taiwan Province of China. The population data is based on Department of Economic and Social Affairs, *World Urbanization Prospects, 2001 Revision* (United Nations publication, Sales No. E.02.XIII.16).

[2] South Asia includes Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka.

over political boundaries, making the true urbanization levels and rates higher than those reflected in official statistics. The annual urban growth rate of the subregion is about 4.1 per cent. This subregion has 45 cities with populations that exceed one million people. The largest cities are Mumbai and Kolkata (India), and Dhaka (Dutt and Pomeroy 2003).

South-East Asia is home to roughly 530 million people, with a 38 per cent urbanization rate (203 million). According to the 2005 date from DESA (2007), the following countries have high urbanization levels: Singapore, at 100 per cent; Brunei Darussalam, 73.5 per cent; and Philippines, 62.7 per cent. Cambodia has the lowest urbanization rate in the subregion—19.7 per cent. The annual urban growth rate of the subregion is about 3.7 per cent. There are 18 cities with populations of more than 1 million. The largest cities are Jakarta, Manila and Bangkok (Tyner 2003).

Asia-Pacific cities have many problems due to the rapid or intensified influx of people. Since there is not enough housing, social services, and infrastructure, the urban population of the region suffers many urban pathologies, such as poverty, inequity, unemployment; high rates of HIV/AIDS infection, high fertility rates, high percentages of elderly people, poor ecosystem quality, inadequate physical infrastructure, poor quality of living, insufficient sanitation, poor housing, pollution, gender inequality and government ineffectiveness (Brunn, Williams and Zeigler 2003).

IV. SMART GROWTH FOR CITIES IN ASIA

Many Asian cities have achieved remarkable economic and social development in a relatively short period of time, compared with cities in developed countries. This fast growth has brought with it many problems that harm quality of life. In response to these urgent issues, cities need to introduce appropriate growth management policies. Even though many Asian countries have systems of strong central government, these systems are not responsive or accountable enough. Due to the lack of institutional readiness for the provision of effective and efficient services, the centralized administration systems have failed to provide proactive planning and management in cities. Asian cities are experiencing urban sprawl, unplanned development and social polarization. The region's sprawling urban spaces need more management and planning in order to leverage quality of life to a higher standard.

Implications for Asian cities

What are the implications of smart growth for Asian cities? First, municipal governments of Asian cities can work on ensuring that their current centralized policy systems are accountable and transparent. In terms of implementing smart growth principles, the centralization factor may be an advantage if governments incorporate a new governance approach and participatory decision-making. However, it is important to establish a reliable and effective policy path with political support.

In the United States, states with more centralized policy environments were able to implement smart growth policies more effectively than states with a more fragmented governmental system.[3] Even though Asian cities still need to fight against corruption, moral hazards and misconceptions by the public, they can maintain their current centralized policy environments.

Second, an essential element for the implementation of smart growth is government efforts to build systems that maximize public participation. The encouragement of public participation is not only a key element in democratic decision-making, but also a means for raising the awareness of city residents. Governments of Asian cities must understand that public participation can enhance policy implementation and outcome by forging a shared vision.

Table 2. Elements of smart growth in Asian cities

Element	*Purpose*
Centralized policy environments	To ensure a reliable and effective policy system with political support and accountability
Visioning to maximize participation	To maximize people's participation/share development goals
Public-private partnerships	To increase the feasibility of the projects with proper partnership and financing with private sectors
Development and environment in harmony	To invest for future generations/preserve the natural environment, open space and historic built environment

[3] For example, the states of Florida, Maryland and Oregon, which have more centralized policy and planning systems than other states, formulated and implemented smart growth and growth management aggressively. However, some states with fragmented planning and policy systems, such as Georgia, could not even successfully complete the formulation of state-wide growth management or smart growth policies.

Third, Asian cities need to build more partnerships among different sectors, including public-private, public-public, and public–non-profit. Since many current urban projects need enormous amounts of funds, they are impossible to implement with limited public budgets. Thus, it is critical to improve the feasibility of projects through experimental partnerships and financing from the non-profit and private sectors as well as other public institutions. The public participation and visioning process can enhance these partnerships. Moreover, large urban projects require the consideration of diverse stakeholders, such as community-based organizations, interest groups, environmental groups, neighbourhood organizations, religious institutions, private companies, and real estate developers.

Lastly, Asian cities need to emphasize harmony between development and the environment. The city needs to preserve its natural environment, open spaces, and historic built environment. To enhance sustainability of the city, urban policies must include such concerns.

Further implementation

Governments of Asian cities may wish to consider the 10 principles of smart growth in the context of the four elements described above. First, regarding mixed land use and compact building design, governments of Asian cities can consider establishing small or neighbourhood block developments rather than large-scale developments. If small communities and neighbourhoods, rather than new large projects, were the focus, people could expect more effective and efficient improvements to quality of life. Large projects frequently fail to satisfy residents and stakeholders, due to their tendency to focus less on people. Mixed land use and compact building design can fit well with the dense inner-city structure of many Asian cities, along with other principles, such as infill development, walkable community design, and diverse transportation choices. Many cities can improve the quality of life of their residents by applying these principles. Moreover, some spaces are being wasted by leapfrog-style development (Downs 2005). Cities should fill any unused space with public greens, amenities and necessary public facilities.

Second, regarding housing opportunities and choices, public or private housing projects need to produce a range of home types to accommodate diverse social classes. Unfortunately, many Asian cities currently segregate housing according to economic status, a system that can rapidly undermine social cohesion and urban development. Thus, cities should consider housing projects or spatial designs that incorporate diversity, in order to enhance interaction among different classes. These interclass or interracial connections may increase the social capital of cities and the economic opportunities of different social groups.

Third, in regard to walkable communities, Asian cities should continue to restructure streets designed for cars into spaces designed for pedestrians. In comparison to cities in the United States and Europe, many Asian cities currently have better urban design for pedestrians. Governments of Asian cities need to maintain the current pedestrian- and bike-oriented urban structure, while adding safety and convenience features, such as traffic signals, signs and dividers. Cities should also continue to improve their public transportation systems.

Fourth, in terms of fostering distinctive, attractive communities with a strong sense of place, governments of Asian cities need to focus on existing inner-city communities rather than new towns or new land development in suburban areas. It is much easier to implement social and urban policies in the many urban communities and neighbourhoods that have their own communal spirit and history. However, occasionally, policymakers attempt to develop new towns on the outskirts of cities or in suburban areas. Such developments have higher price tags, due to hidden costs and the need to construct new infrastructure. Since many Asian cities are suffering from a lack of resources, city decision makers should think smart. When cities invest in existing communities, it is possible to enhance the distinct identities of urban communities to produce a more profound impact.

Fifth, regarding preserving open space, cities need to focus on developed space or the reuse of depressed urban areas in order to improve sustainability. The reuse of sites can reduce shortages in the supply of land in many Asian cities. In addition, this can help cities to save their outskirts and suburban land for the next generation. When cities make smart land-use decisions, they can help to achieve sustainable development, and reduce the impact of climate change.

Finally, Asian cities need to use a visioning process for development projects and policy formulation by the municipal government. If a city needs to implement a large project, it should first establish participatory institutions, and communicate visions with diverse stakeholders. This process will reduce tension and conflict with stakeholders.

It is important for Asian cities to focus on creating institutional arrangements commensurate with smart growth. Without institutional readiness, cities may struggle with many challenges when they are implementing smart growth policies. Thus, Asian cities need local governments and stakeholders that are capable, committed and willing. While Asian cities experience intense growth and concentration, the principles of urban planning developed in the United States can benefit further urban policy and public investment in this region. Smart growth policies can lead to more sustainable and equable urban development by overcoming the current unplanned urban sprawl.

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FISCAL DECENTRALIZATION FOR POVERTY REDUCTION IN ASIA: OPPORTUNITIES, CHALLENGES AND POLICY ISSUES

*Muhammad Hussain Malik**

The increasing popularity of decentralization has been due to political imperatives and the economic rationale of improving the efficiency of the allocation of resources and the responsiveness of policymaking to local needs and preferences. There are various forms of decentralization, but this paper is focused mainly on fiscal decentralization. The paper analyses the challenges and policy issues of decentralization with respect to experiences of countries in Asia. It examines the benefits and advantages of decentralization, as well as the various costs. The financial and human resources costs can be quite large, especially in the early phases of decentralization. It is essential to conduct a careful cost-benefit evaluation before making a decision on the process of fiscal decentralization. The paper concludes with some suggestions for measures and policy options that could maximize the benefits and minimize the risks of the fiscal decentralization process and make it conducive to poverty reduction.

I. INTRODUCTION

Decentralization transfers from higher to lower levels of government the power to design and implement certain policies; it sometimes entails establishing additional tiers of government. The popularity of decentralization has been due to political imperatives and the economic rationale of improving the efficiency of the allocation of resources and the responsiveness of policymaking.

Despite economic growth over time, poverty is still a major problem for many countries. The provision of basic social services, such as clean water, sanitation, education, health and housing, is far from satisfactory, and environmental

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deterioration and a lack of good governance have become serious problems. Within many countries, development across regions has not been uniform. Certain areas, especially those that are remote, have not yet benefited from the fruits of socio-economic development; underdeveloped and rural areas lack basic services. These disparities have prompted calls for improved resources for less developed areas. Moreover, the people want a greater say in how these resources are to be utilized for their development.

The idea that decentralization can help in solving problems, including poverty, has led many countries to incorporate such a strategy or strengthen their existing decentralization initiatives. As noted in the following section, some countries were able to achieve certain objectives through decentralization. At the same time, they faced many difficulties and challenges while implementing decentralization; occasionally, the results did not meet expectations.

The main objective of this paper is to analyse issues and challenges related to decentralization, particularly fiscal decentralization, in the light of the experiences of countries in the region. It is likely that all countries will eventually implement some kind of decentralization, varying in terms of the speed and intensity of the changes. The present paper suggests some measures and policy options for maximizing the benefits and minimizing the risks of the fiscal decentralization process and making it conducive to poverty reduction.

Decentralization is a multidimensional concept; the next section explains various forms of decentralization with illustrative examples from selected countries. Section III attempts to analyse in detail the opportunities, challenges and issues of fiscal decentralization. The concluding section outlines policy recommendations and suggestions for making fiscal decentralization successful, particularly for poverty reduction.

II. VARIOUS FORMS OF DECENTRALIZATION

At least three types of decentralization can be identified: (a) administrative; (b) democratic (devolution); and (c) fiscal (Manor 1999). These forms of decentralization can take place simultaneously—quite often this is the case. Any particular form of decentralization can occur in isolation or in combination with another.

Administrative decentralization

Administrative decentralization, occasionally referred to as deconcentration, deals with relocating officials at higher levels of government to a lower-level arena so that they perform their duties at local levels. Sometimes, government officials at the local level are authorized to perform certain tasks which were traditionally within the purview of officials posted in the central government. In other words, it is the delegation of authority from an administrative headquarters to a field office.

Administrative decentralization is carried out in some cases, especially those related to public dealings, to increase convenience for local people and ensure that certain tasks can be accomplished without delay. However, government officials working at the local level remain accountable to higher officials in the system. In this way, higher-level government does not give up any authority. To achieve a degree of genuine decentralization, it is important that local people are consulted in some way, especially when major decisions affecting them are being made. Governments in all countries of the region have been carrying out administrative decentralization when needed, keeping in view financial and other resource constraints.

Devolution

Under devolution decentralization, also known as democratic or political decentralization, there is a transfer of power, resources and often tasks from higher- to lower-level governments within a political system. The lower-level governments are democratic in the sense that local people are involved in decision-making in some way. The best form of democratic decentralization is when lower-level governments are elected by secret ballots. However, consultations with community leaders and voluntary associations can help make decision-making more democratic. Lower-level governments perform their duties with participation of their communities; this increases the accountability of government institutions, thereby leading to improvements in the welfare of the people.

Major decentralization initiatives have been carried out by several countries, including India, Indonesia, Pakistan, the Philippines and Thailand.

In India, the *Constitution (Seventy-third Amendment) Act, 1992* installed panchayat raj as the country's third level of governance after the central and state governments (CIRDAP and FAO 2004). There are three tiers of local government in rural areas and each tier has its elected council, called panchayat, which are at the district, taluk (block) and village levels. The elected council at each level has seats reserved for women and socially marginalized sections of society. Local

governments are responsible for planning and implementing economic development and social justice schemes.

Indonesia is a vast country geographically, and has a large population characterized by linguistic and ethnic diversity. The country was under heavily centralized rule for decades. The Asian economic crisis contributed to the resignation of former President Soeharto in 1998 and a new Government was put in place. In response to growing pressure from the regions for greater political and legal autonomy and control over resources, two laws were enacted in 1999: Law 22/1999 on regional governance and Law 25/1999 on the fiscal balance between the central government and the regions.[1] These laws decentralized political and economic powers to democratically elected regional governments. Charged with new powers and responsibilities, regional governments obtained large quantities of funds, personnel and assets. Since the devolution of powers and responsibilities was to districts and cities, the provincial authority was considerably diminished. Under the new laws, provinces have no hierarchical authority over districts and most of their tasks are related to coordination.

In Pakistan, a three-tiered federated local government system comprising district (the top tier), tehsil (subdistrict) and union levels was set up in 2001 (CIRDAP and FAO 2004). Each tier has an elected council and head. An important feature of these councils is that marginalized social sections have been given adequate representation at each level of local government. More specifically, there are seats reserved for women, peasants, workers and minorities.

To improve governance, responsiveness and accountability, the district administration and police are accountable to the elected head of the district government. Then there are citizen community boards to motivate and involve the local community in local development and improved delivery of services. Supporting institutions for local governments are being established, but the process is slow. Moreover, capacity-building for the institutions has to be accelerated.

The local government system is an integral part of the provincial government. However, some representatives at the provincial level have expressed unhappiness that some of their powers have been transferred to local level governments. The Provincial Local Government Commission, which acts as an impartial arbiter, has been established to resolve any differences between provincial and local governments.

[1] For more details on decentralization in Indonesia, see Turner and Podger (2003).

In the Philippines, after the fall of former President Ferdinand Marcos, the 1987 constitution embraced decentralization. Later, the 1991 Local Government Code consolidated all existing legislation on local government affairs, providing the legal framework for the decentralization programme (Reinoso 2004). This comprehensive legal framework includes provisions affecting: (a) the assignment of functions across different levels of government; (b) revenue sharing between the central and local governments; (c) the resource generation/utilization authorities of local governments; and (d) the participation of civil society in various aspects of local governance. A devolution master plan (1993-1998) was formulated to further implement the process of decentralization. The implementation of the decentralization policy has led to more integrated services delivery, focusing on local priorities in a more cost-effective way.

The 1997 constitution of Thailand also embraced decentralization. The legal framework was further elaborated in law and through parliamentary cabinet decisions. However, the implementation of the framework has been slow.

Fiscal decentralization

In fiscal decentralization, higher levels in a system grant lower levels influence over budgets and financial decisions. There is a downward transfer of decisions on fiscal matters. Fiscal decentralization may accompany administrative decentralization only where government officials at the local level are accountable only to superiors at higher levels. True fiscal decentralization involves people at the local level in decision-making concerning fiscal matters.

China is a large unitary State with five levels of administration: in addition to the central Government, provinces, prefectures, counties and towns/townships each have administrative duties.[2] The lower levels form a strong system of local governments. The present intergovernmental fiscal system of the country has evolved over more than two decades, with a major fiscal reform in 1994. The effective decentralization of the 1980s and early 1990s was accompanied by economic growth and growing regional inequalities. At the same time, general government revenues declined along with the restructuring of the previously centrally planned economy.

[2] For more details on fiscal decentralization in China, see Ahmad and others (2002).

China introduced the major fiscal reforms of 1994 to simplify the tax system and raise the ratio of revenue to gross domestic product. The fiscal reforms were also aimed at raising the proportion of central Government revenue, which had been falling as a share of total government revenue. Another major objective of fiscal reform was to make the intergovernmental fiscal system more stable by shifting from ad hoc, negotiated transfers to a rule-based tax assignment. The fiscal reforms attempted to recentralize tax collection and reform the tax-sharing system. It was agreed that the coastal provinces that generated much of the revenue would be given a lump-sum transfer to protect their pre-1994 income levels. A new equalization transfer scheme was expected to gradually replace the lump-sum transfer. Subnational governments are becoming more responsible for financing their expanding functions from their own revenue, both formal and informal. This gives them more autonomy, except in sectors with mandated service standards.

In India, fiscal decentralization between the central and state levels is quite significant. As noted above, the constitutional amendment of 1992 established a system of elected local governments. In general, states had to devolve powers to local governments concerning both the collection of revenue and the incurring of expenditures, but the implementation of decentralization varied across states. The Constitution of India provides for the establishment of an independent finance commission at the state level to review and make recommendations once every five years on the fiscal interrelationships between local governments and the state government. Fiscal decentralization at the local level has been slow in most states, evidenced by the fact that revenue collections by them are still small. In many states, local governments are used as agencies to implement the development schemes stipulated by the central and state governments.

In Pakistan, the decentralization initiative of 2001 has fiscal aspects also. Since local governments have been made responsible for many development and service delivery activities, some provision of resources has also been made. Local governments receive financial resources in the form of transfers from higher levels of local government, grants from the respective provincial governments, proceeds of taxes/charges levied at the local level, fines for offences under local government laws/rules, and proceeds from other sources of income.[3] Local governments are empowered to levy taxes/fees with the approval of the local council, subject to vetting by the provincial government. Provincial finance commissions have been established as institutional mechanisms for equitable revenue sharing between provincial and local governments. Local revenue mobilization has been insufficient for carrying out many development activities or providing basic services.

[3] For further details on the sources of revenue of local governments, see CIRDAP and FAO (2004).

In Indonesia, regional government revenue comes from general allocation grants from central governments, regional taxes and other sources. As mentioned above, two laws were passed in 1999 to implement decentralization. Law 25/1999 introduced the sharing of oil and gas revenue among various levels of government (Ahmad and Mansoor 2002). With regard to onshore oil, 15 per cent of non-tax revenue is to be distributed to subnational governments in the following manner: (a) 3 per cent to the producing province; (b) 6 per cent to the producing district; and (c) 6 per cent (total) to the non-producing districts in the producing province. For onshore gas, the non-tax revenue to be shared is doubled to 30 per cent and distributed in the same way as non-tax revenue from onshore oil.

III. OPPORTUNITIES, CHALLENGES AND POLICY ISSUES

Under a decentralized system of governance, there are multiple tiers of government. A clear legal system and institutional framework is needed for the smooth functioning of the system. The interlinkages and coordinating mechanisms also need to be clearly specified so that governments at all levels are able to work in unison for the welfare of citizens. A comprehensive approach to decentralization is needed to ensure effective decision-making at the local level (Shah and Thompson 2004). However, the focus of this paper, by design, is mainly on fiscal decentralization. In this section, the discussion will touch on, among other things, interlinkages among various levels of governments, institution-building for successful decentralization, and the process of decentralization.

Participatory approach to development planning and implementation

The literature on decentralization is full of descriptions of opportunities. Decentralization facilitates participatory planning and the implementation of development programmes. Even marginalized groups and the poor can be represented in local governments so that they can actively participate, help make decisions and lobby for their interests. For example, as noted above, in local governments in India and Pakistan, seats are reserved for women and marginalized groups (CIRDAP and FAO 2004). Programmes tend to be more successful when owned by the people of the area, leading to greater prosperity and poverty reduction. Provision of public goods can be tailored to local preferences. Causes of poverty may vary in different parts of the country, and decentralization can help better target responses. The proximity of policymakers to the target groups reduces the information and transaction costs of identifying the poor. This can help in designing potentially successful programmes aimed at poverty reduction. Central governments tend to be overloaded with jobs and responsibilities; local governments can shoulder

some of the responsibilities as they have more room to manoeuvre in tapping new revenue potential. Also, it is easier under a decentralized system to form public-private partnerships at the local level for efficient delivery of services.

In Asian countries that have implemented decentralization reforms, the more-democratic processes have boosted the chances of meaningful participation in development planning and implementation. There is some evidence of improved provision of basic services in Indonesia, Pakistan and the Philippines after decentralization was implemented in those countries (World Bank 2005 and ILO 2004).

While local governments operate within their own jurisdictions, there can be healthy competition among them, leading to innovative programmes for the provision of public services and other development schemes. By sharing experiences on best practices of local governments, the welfare of people across the country can be improved.

Governance issues

One of the main advantages of decentralization often put forward is that it helps to promote good governance by introducing accountability and responsiveness through the preferences of local people. Government officials become accountable to people mainly through their locally elected representatives. The expected benefits of decentralization are based on the assumption that local accountability mechanisms are effective and that all information is available to citizens so that they can demand good governance. However, it is possible (especially when people are less educated and substantial financial resources are needed to contest local government elections) that local elites may capture the local government and divert resources for their personal gain and/or their own group (Jütting 2004). This is the case in many rural areas of Pakistan, where distribution of land is highly unequal—landlords with large landholdings usually dominate local governments. Under such circumstances, corruption may become more widespread and as a result fewer resources may be left for the benefit of the poor.

Decentralization as such may not guarantee that the poor will gain access to basic services; what matters is good governance. However, over time, regular democratic elections of local governments will help people to elect better representatives who will work to improve the quality of life in their jurisdictions. As mentioned above, special quotas for women and marginalized groups can be established in local governments. Institutions such as civil society organizations, which can regularly monitor the provision of basic services to the poor and voice their concerns, can contribute to good governance at the local level. In addition to

bottom-up approaches, some monitoring and oversight by the central government may be needed for good governance. Moreover, rules should replace discretionary approaches at all levels of government.

Local governments should be required to enhance access to information on their activities, particularly with regard to the provision of services for the poor. The free press and media can play a major role in building awareness of the successes and failures of local government. Surveys by communities on access to and the quality of basic services and wide publicity of such surveys by the media can spur local governments to make improvements. In Bangalore, India, citizen ratings of public services were compiled in a community report card and the results were widely disseminated by the media; this led to an improvement of those services (White and Smoke 2005). In sum, a multi-pronged strategy should be used to strengthen the accountability of local governments to citizens.

Financial and other costs of decentralization

Decentralization also imposes several costs. When decentralization is being introduced for the first time or it is a major initiative, the initial capital costs, in terms of building infrastructure, are huge. The recruitment of staff for supporting institutions to run the local government involves capital as well as recurrent costs. Quite often, developing countries are short of trained and skilled professional staff to run the businesses of government. Therefore, there are costs to train staff and build the capacity of local governments. Given the limited pool of human resources, there can be competition between central and local governments for qualified staff; a lack of trained staff can adversely impact the performance of all governments.

The transferring of functions from central to local governments may require the relocation of staff. The number of staff involved can be huge, as was the case with Indonesia. Almost 2.4 million personnel were transferred from central to local governments (Turner and Podger 2003). Such transfers can entail problems. Some staff working in major cities may not wish to move to smaller cities or places that lack social services. At the same time, local governments may not be interested in accepting staff previously employed by the central government. They may be more interested in employing their own people.

Successful decentralization requires a clear delineation of the functions and responsibilities of the various levels of government. Still, there is always a need to coordinate the activities of the various levels. Such coordination costs can be large during the initial stages of decentralization.

Impact on fiscal instability

Another cost of decentralization can be its possible adverse impact on fiscal stability. Fiscal decisions under decentralization are made by various layers of government. These fiscal decisions, if made too independently, can lead to fiscal instability and increase budget deficit. It is well recognized that macroeconomic stability promotes savings and investment, which in turn promote economic growth and poverty reduction. At the same time, the poor suffer more from the rapidly rising prices during periods of macroeconomic instability.

Maintaining macroeconomic stability is a major responsibility, and it is argued that this task can best be accomplished at the level of central government. Fiscal decentralization can make it more difficult to fulfil that responsibility. More specifically, the critics of fiscal decentralization argue that local governments tend to run fiscal deficits and that central governments can end up covering those gaps between revenue and expenditures. At the same time, central governments lose flexibility when they have to share their resources with local governments in a strictly defined manner, which can hamper efforts to deal with any macroeconomic instability. Moreover, when subnational governments have the power to borrow on the open market, they can accumulate huge debts. Domestic public debt is becoming a major problem in many countries.

One major assumption underlying the above arguments against fiscal decentralization is non-cooperative behaviour on the part of lower tiers of government. In theory, effective coordination mechanisms can be put in place to minimize the adverse outcomes of fiscal instability. However, given the difficulties in implementing these coordination mechanisms, the desired results may not be produced.

As shown, empirical evidence on the consequences of decentralization on macroeconomic stability is mixed. This, however, demonstrates that fiscal decentralization is not inherently destabilizing. When decentralization is supported by institutions which promote intergovernmental cooperation and arrangements that mandate and provide incentives for responsible local government fiscal behaviour, there is less risk of macroeconomic instability.

Generating resources for redistribution and poverty reduction

One can argue that a highly decentralized system could create impediments to redistribution and poverty reduction efforts. The central government is usually in a better position to implement redistribution policies. Its fiscal policies cover the whole country and revenues generated from rich regions of the country can be

used to provide infrastructure and basic services in poor parts of the country. The existence of externalities also supports a larger role for central government in redistribution and poverty reduction (Rao undated). For example, the benefits of poverty reduction programmes may spill over from one jurisdiction to another. Such externalities do not pose any problem for central government, as the entire country is its jurisdiction. Local governments can face the problem of a shifting of the tax base. In other words, if a local government imposes heavy taxes for redistributive purposes, taxpayers can move to other parts of the country where local taxes are low. Therefore, a local government may not be able to achieve its desired objective.

While the role of local government in generating revenue for redistribution may be limited, local governments have certain advantages in designing and implementing poverty reduction programmes. As discussed earlier, because of their close proximity to the poor, local governments can design poverty reduction programmes according to actual needs.

In sum, central governments should have a greater role in mobilizing resources for redistribution and poverty reduction. A major share of these resources can be passed on to local governments to achieve better results in terms of the delivery of goods and services to the poor.

Clear and well-defined allocation of expenditure and revenue

Expenditure

One widespread problem in Asia-Pacific countries where decentralization has been carried out is the overlap of functions and responsibilities of various levels of government. When governments at different levels are responsible for providing the same services, it becomes difficult to assign credit or blame to any particular level. Under such circumstances, there is no incentive for any government to improve the services. Moreover, a lack of effective accountability can lead to a deterioration of services. Therefore, it is important that expenditure assignments to local governments are defined clearly and precisely. This is also needed for proper revenue allocation. Imprecise expenditure assignments will result in poorly defined corresponding revenues. The assignment of expenditure under a decentralization framework is a dynamic issue. Effective processes and coordination mechanisms are essential for minimizing overlap.

As noted above, demand for public services can vary across a country. Decentralization provides a mechanism to meet the specific needs of each local area; certain functions can be assigned to local governments. However, while allocating functions, efficiency concerns should be considered. Certain capital-

intensive services, such as electric utilities and transportation systems, exhibit economies of scale in production and are more suited for provision by the central government.

The provision of some services, such as water and roads, can generate inter-jurisdictional externalities in terms of both costs and benefits. For example, a road built in a particular local jurisdiction can be used by people living in other jurisdictions while travelling to and from other parts of the country. Under such circumstances, efficient resource allocation requires that the service provision area be drawn in such a way that externalities are internalized. While it is possible to define an area for the efficient provision of a particular service (taking into account economies of scale and externalities), this may not correspond to the boundaries of existing political jurisdiction. Not only does changing boundaries of jurisdiction involve substantial costs, it is almost impossible to define a single optimal area for the provision of various public services. Therefore, certain services are better provided or regulated by central government.

Local governments should be assigned tasks which they can accomplish at a lesser cost than other levels of government could. Moreover, they should have the capacity to undertake the functions. If many functions are assigned to local governments without giving due consideration to their capacities, decentralization will result in failure. It is better to decentralize functions in a gradual manner so that local governments can better cope with their responsibilities.

Revenue

To perform their functions fully, local governments need sufficient revenue. This revenue can come from various sources. The discussion here is limited to taxes, fees and user charges. A number of factors should be considered while assigning taxes to local governments; for example, the taxes should be easy to implement. Administrative and compliance costs can be minimized by avoiding the assignment of complex taxes to local governments. Taxes with mobile bases should be avoided by local governments—there is not much use in imposing such taxes when the base can move to a jurisdiction with no or lower tax. Taxes with economies of scale in collection can be handed over to the central government and tax proceeds can be distributed among local governments. Taxes assigned to local governments should be buoyant, to reduce dependence on central government resources. Such taxes would represent greater revenue with the expansion of the economy.

A tax burden that can be exported to residents of other jurisdictions should not be assigned to local governments. For example, a substantial local tax should not be imposed on the output of a manufacturing factory in a jurisdiction if most of output of the factory is consumed by residents of other jurisdictions. Taxing the output forces the residents of one jurisdiction to bear the economic burden of taxes imposed by another jurisdiction. Under these circumstances, a tax on consumption rather than on output would be better. If the tax on output is to be maintained, it is better that such a tax should be levied by the central government.

Local governments should have at least some autonomy in levying their taxes so that they can modify their tax bases and rates; this fosters efficient resource allocation and accountability. When local governments feel that certain expenditures are essential for the welfare of their constituents, they should have the ability to finance those expenditures at the margin through additional taxation. Local governments cannot be held accountable for the provision of services if they cannot modify tax rates.

It is important that revenue yields should be stable and predictable over time. In some countries (for example, Indonesia), local governments get a share of revenue from natural resources such as oil and gas. Due to the fluctuation in prices, revenue from natural resources cannot remain stable. This can adversely affect the sustained provision of public services by local governments. Therefore, ways must be found to save revenue during times of high prices for utilization during times of price downswings.

The benefits of taxes, in terms of provision of services, should be clear and visible to the residents of the jurisdiction. Where possible, user charges can be levied for certain services. However, basic public services, especially for the poor, should be funded from revenue from progressive taxes.

Intergovernmental transfers as a source of revenue

Intergovernmental transfers are required when revenues and expenditures of governments at various levels do not match. Usually the revenue of local governments falls short of their expenditure, creating a vertical imbalance. The varying fiscal capacity of different jurisdictions to raise revenue is known as horizontal imbalance. Therefore, even with identical tax rates, different jurisdictions may not be able to provide the same level of public services. Another aspect of this horizontal imbalance is that the costs per unit of providing public services can also vary among jurisdictions. The central government can deal with these vertical and horizontal imbalances by sharing revenue or tax bases with local governments.

In the latter case, local governments can apply a surcharge on a central government tax.

The central government can also design a system of grants. In principle, general equalization grants can be designed to deal with horizontal imbalance. In practice, it is extremely difficult to work out the level of grants for different jurisdictions that would ensure that all are able to provide the same level of public services at a given tax rate. Therefore, when developing countries in Asia and the Pacific distribute general equalization grants, it is not strictly on the basis of tackling horizontal imbalances. However, central governments do provide various types of grants to local governments. The level of these grants can be determined through negotiations between the governments. However, this introduces arbitrariness and uncertainty and is not conducive to adopting a medium-term fiscal strategy or planning expenditures. Formula-based grants are better, given that they are more transparent and objective; they also reduce the transaction costs to the recipient.

Grants can be of two types: unconditional and conditional. Unconditional grants can be provided to close a vertical imbalance or redistribute revenue. However, one argument against grants is that they discourage subnational governments from cultivating their own revenue sources. To tackle this problem, conditional grants can be linked to the revenue efforts of subnational governments. A matching grant formula can be designed in which the matching rate varies inversely with local fiscal capacity. These types of grants become incentives for subnational governments to generate their own revenue. Another form of conditional grant is the specific purpose grant, which is employed to promote the use of specified services that are considered important. For example, with regard to direct anti-poverty interventions, specific purpose grants can be provided for self-employment and wage employment schemes (Rao undated).

Using various forms of grants to achieve different objectives can complicate the intergovernmental fiscal system. It can also produce unintended results—poorer areas can even end up with relatively fewer resources. Therefore, any intergovernmental transfer system should be kept simple and transparent. There should be some flexibility in determining the size of the transfer pools, so that during an economic crisis situation the central government has the fiscal power required to meet the macroeconomic challenges (Smoke 2001).

Access to borrowing

Borrowing is an option when subnational governments are unable to finance their expenditure obligations from their own revenue and grants from central government.[4] Infrastructure projects, including the building of schools and hospitals, usually require large investments; the benefits are spread over future generations. On equity grounds, it is better that future generations should also share the costs of such investments. This is possible through borrowing, which creates repayment liabilities for future generations. Borrowing also works as a useful tool when revenue and expenditure flows of a subnational government are not synchronized. A subnational government can borrow against its expected revenues in the latter part of the year and repay the loan when revenues are realized.

Subnational governments can borrow from government financial institutions, sometimes established especially for this purpose. Such loans can be subsidized. Public financial institutions are controlled by the central government, which can practice political favouritism in extending loans. As some of those loans might otherwise be considered unadvisable, repayment can become a serious problem.

Subnational governments can also approach the private capital market for funds. The use of this channel entails the development of a market-based relationship between lenders and subnational governments. A well-designed regulatory framework, including standardized accounting procedures for subnational governments, disclosure of subnational government liabilities and repayment capacity, is essential. To curb excessive borrowing by subnational governments and avoid default on loans repayment, limits on the borrowing ability can be imposed. As discussed earlier, the central government is responsible for macroeconomic stabilization; therefore, it should have the power to limit borrowing by subnational governments and thus retain control of public debt.

In the case of self-financing projects, where costs can be recovered from service users, private borrowing through loans or bonds is the most efficient way to mobilize resources (Smoke 2001). If the costs cannot be recovered, but the projects are considered important for the welfare of people, projects could be subsidized through grants from central governments. Poorer jurisdictions that might not be able to borrow could be provided more grants than the richer jurisdictions. This linking of borrowing and grants can serve both equity and efficiency objectives.

[4] Subnational governments in many developing countries usually finance their investment expenditure from their revenues and grants from central government. However, some decentralized governments, particularly of states/provinces and large cities, are able to borrow in some countries.

The decentralization process

Sequencing of decentralization measures

Any design of decentralization measures must follow a proper sequence if it is to be successful. Before embarking on a major decentralization, it is important to determine the role of the public sector in the provision of goods and services. Once this role is determined, the functions and responsibilities of various levels of government can be decided.

When designing fiscal decentralization, first the responsibilities of subnational governments, keeping in view their capacities, should be decided in order to determine their expenditure requirements. The next step is to identify the subnational government's own sources of revenue. Intergovernmental transfers and grants can be worked out to fill the revenue-expenditure gap.

Due to political pressure, the focus of fiscal decentralization initiatives is usually on the revenue side, and clear assignment of expenditure is neglected. This is misguided; the assignment of expenditure should be the priority. A lack of clear assignment of expenditure can adversely affect the provision of public services. For example, the major decentralization reforms in Indonesia focused more on revenue than expenditure assignments. The laws on revenue and expenditure were prepared quite independently, and financing was assured before the effective devolution of responsibilities (Ahmad and Mansoor 2002). This tendency of many countries to deal with various elements of fiscal decentralization as separate and independent can result in imbalances among expenditure responsibilities, sources of revenues and transfer programmes.

Major fiscal data requirements

Fiscal decentralization introduces significant complexity to the fiscal system of a country. As a result, fiscal data requirements become enormous. Both the central and subnational governments must devote resources and develop capacity to collect and compile such data. Such databases must be maintained and monitored regularly in order to facilitate efficient decision-making with regard to intergovernmental transfers. This can pose serious challenges, particularly for subnational governments.

The complexity of the task is reflected in the detailed records of revenue and expenditure that are required. Local governments must maintain data on their own revenue as well as on transfers or grants from the central government. While unconditional grants pose fewer problems, conditional grants require detailed records

of how they were spent. The central government also has to compile data on revenue if those are to be shared with subnational governments. Similarly, it will need good fiscal data to work out equalization grants and other transfers. Local governments occasionally implement projects on behalf of the central government. It can be very difficult for local governments to maintain data on various categories of expenditure that are financed through several different sources.

Capacity-building

Decentralization for poverty reduction requires local governments to provide certain basic services to the poor of their jurisdiction and raise finances from various sources. Therefore, local governments must have the required institutional, technical and managerial capacity. Without such capacity, decentralization cannot succeed; in fact, it can be counterproductive (Jütting 2004). With regard to the detailed fiscal data required, the capacity of officials (from both local and central governments) to collect the required data and maintain databases must be developed.

During the early phases of decentralization reform, the central government can lend trained officials to local governments to facilitate the transition. This approach was adopted in Indonesia. Operational capacity can also be borrowed from the private sector and civil society. In the long run, the training of local government officials is a must if operational capacity is to be augmented.

The central government can also play a major role in developing capacities of local governments through training programmes. In India, the National Institute of Rural Development has developed a training needs assessment and a programme for building the capacity of functionaries (both elected representatives and civil servants) in local governments. The training covers many areas, including the mobilization and management of resources. The managerial capacity to plan and implement development projects, including the provision of basic services, is essential for the success of decentralization. Training in accounting and auditing can help promote the efficient utilization of resources, accountability and good governance.

Some experiences of countries in the region suggest that greater success can be achieved by focusing on a few key areas rather than trying to accomplish too much simultaneously. Therefore, decentralization can be phased in gradually, so that responsibilities can be assigned to local government as their capacities develop.

IV. POLICY CONCLUSIONS AND RECOMMENDATIONS

The benefits of fiscal decentralization are well known: it allows participatory planning and implementation of development programmes. Fiscal decentralization is usually expected to have a strong and positive impact on poverty reduction through increased efficiency, better targeting of services and greater responsiveness to local needs. However, there are issues of governance, such as when elites dominate local governments; in such cases, decentralization may not have the desired positive impact. Therefore, issues of governance need to be addressed through a multipronged strategy, including the involvement of civil society, enhanced access to information, participation of free media and some oversight by the central government.

Decentralization also entails various costs. Financial and human resources costs can be quite large, especially in the early phases of decentralization. A careful cost-benefit evaluation must be made before making a decision on the process of fiscal decentralization.

When fiscal decisions under decentralization are made independently by various layers of government, fiscal stability can be threatened. The resulting budget deficits and macroeconomic instability can have adverse impacts on economic growth and poverty reduction. The central government is considered to be in a better position to deal with the problem of fiscal instability. Therefore, to facilitate the success of decentralization and minimize the possibility of fiscal instability, the central government should have the power and flexibility, especially during an economic crisis, to implement measures to contain the budget deficits of various levels of government. Equally important is the level of cooperation among the various levels of governments.

The central government is usually considered to be in a better position to implement redistribution policies because its fiscal policies cover the whole country. The central government can have a greater role in mobilizing revenue, and a major share of these resources can be passed on to local governments for expenditure to achieve better results in terms of the delivery of goods and services to the poor. However, certain capital-intensive services, such as electric utilities and transportation systems, exhibit economies of scale in production. In view of efficiency concerns, they are more suited for provision by the central government. The tasks assigned to local governments should be clear and precise as well as in line with their capacity. Imprecise expenditure assignments can result in poorly defined corresponding revenue.

Revenue for local governments can come from various sources. Local taxes should be easy to implement, and taxes with mobile bases should be avoided. Moreover, taxes with economies of scale in collection are more suitable for collection by the central government; such proceeds can be distributed among local governments. It is important that local governments should have at least some autonomy in levying their taxes, so that they can modify their tax base and rates. This will help increase the efficiency of resource allocation and the accountability of local governments. Moreover, revenue yields should be stable and predictable over time. While user charges can be levied for certain services, basic public services, especially for the poor, should be funded through revenue from progressive taxes.

Intergovernmental transfers are usually a major source of revenue for local governments. These transfers can take various forms. The central government can share revenue or tax bases with local governments. It can also design a system of grants. While the level of grants can be determined through negotiations between the governments, this introduces arbitrariness and uncertainty and is not conducive to adopting a medium-term fiscal strategy or planning expenditure. Formula-based grants are better, given that they are more transparent and objective; they also reduce the transaction costs to the recipient.

Unconditional grants can be provided for redistribution purposes. Conditional grants can be linked to the revenue efforts of subnational governments in order to encourage subnational governments to generate their own revenue. Specific purpose grants promote the use of specified services which are considered important. For example, in direct anti-poverty interventions, specific purpose grants can be provided for self-employment and wage employment schemes.

The intergovernmental transfer system should be kept simple and transparent. There should be some flexibility in determining the size of the transfer pool, so that during an economic crisis the central government has the fiscal power required to meet the macroeconomic challenges.

Borrowing from the public and private sectors is another way for subnational governments to finance their expenditure obligations. Loans from government financial institutions can be subsidized. For self-financing projects, where costs can be recovered from the users of services, private borrowing through loans or bonds is the most efficient way to mobilize resources. A well-designed regulatory framework should be in place for borrowing from capital markets. Moreover, to curb excessive borrowing by subnational governments and avoid defaults on loan repayments, limits on the borrowing ability of subnational governments can be

imposed. This is important for controlling public debt and achieving macroeconomic stability.

Any design of decentralization measures must follow a proper sequence if it is to be successful. To begin with, the responsibilities of subnational governments, keeping in view their capacities, should be decided in order to determine their expenditure requirements; then, sources of revenues should be identified and allocated. Due to political pressure, fiscal decentralization initiatives usually focus on revenue, and clear assignment of expenditure is neglected. This can adversely affect the provision of public services.

If decentralization is to be successful, local governments must have the institutional, technical and managerial capacity to perform their tasks of raising revenue and providing public services efficiently. Moreover, vast amounts of detailed fiscal data are required in operating a fiscally decentralized system. The capacity of both local and central government functionaries to perform their tasks, including collecting the required data and maintaining databases, must be developed. Training in accounting and auditing is important to facilitate more efficient provision of public services and minimize the misuse of resources. The central government can play a leading role in developing the capacities of local governments through training programmes. At the same time, decentralization can be phased in gradually so that responsibilities can be assigned to local government as their capacities develop.

In most countries of the region, poverty reduction is not the sole reason for decentralization. However, the institutions established through decentralization can lead to improved delivery of services to the poor, participatory planning and the implementation of development activities and programmes designed to benefit the poor, opportunities for the poor to articulate their needs and preferences, and improved governance at the local level, all of which can help in poverty reduction. Since the institutions and framework of decentralization are conducive to poverty reduction, they should be strengthened, thereby facilitating the design and implementation of pro-poor policies. The capacity of those running the institutions should be developed. The idea that decentralization, if implemented appropriately, can play a major role in poverty reduction should be promoted. More research should be done to further explore and enhance linkages between decentralization and poverty reduction.

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TRADE LIBERALIZATION EFFECTS ON THE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES IN INDONESIA: A CASE STUDY

*Tulus Tambunan**

The impact of international trade policy reform on the Indonesian economy, particularly in the areas of economic growth and development of the domestic manufacturing industry, has been studied extensively. However, the implications of such reform on the growth of small and medium-sized enterprises (SMEs) in Indonesia remain under-researched. This paper thus contributes to filling the gap by examining the impact of international trade policy reform, particularly following the 1997 crisis, on the growth of SMEs in Indonesia. Two main questions are posited: (a) how does international trade policy reform affect local SMEs?; and (b) has the growth of SME exports accelerated since the reform? The study does not find evidence that the reform has affected SMEs negatively. On the contrary, with the exception of a slight decline in 1998 due to the economic crisis, the number of SMEs has been growing. The paper suggests that such enterprises have not only managed to survive, but they have also been able to increase their output. Their exports also increased annually.

I. INTRODUCTION

The international trade regime in Indonesia has undergone fundamental changes since the 1980s, with a reduction of many tariffs on imports accompanied by a gradual shift from an inward-looking import substitution policy to an outward-looking export promotion strategy. Indonesia has also removed all non-tariff barriers

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and export restrictions. The process of trade policy reform accelerated shortly after the economic crisis of 1997. The Indonesian Government reduced tariffs on all imported food items to a maximum of 5 per cent, deregulated its trade regime in the major agricultural commodities (except rice, for social reasons), terminated production and trade monopolies in certain intermediate industries (cement, plywood and rattan) and reduced export taxes on wood and many other commodities.

The impact of international trade policy reforms on the Indonesian economy, particularly in the areas of economic growth and development of the domestic manufacturing industry, has been studied extensively. However, the implications of such reform on the growth of small and medium-sized enterprises (SMEs) in Indonesia remain an under-researched area. This paper thus contributes to filling the gap by examining the impact of international trade policy reforms, particularly following the 1997 crisis, on the growth of SMEs in Indonesia. In particular, answers to the following two questions are sought: (a) how does international trade policy reform affect local SMEs?; and (b) has growth of SME exports accelerated since the reform?

Following a brief review of the literature available on the effects of international trade policy reforms on SMEs, overviews of international trade reform in Indonesia and of the development of Indonesian SMEs are presented in chapters III and IV, respectively. Effects of the reform on Indonesian SMEs are examined in section V. Concluding remarks and policy recommendations are given in section VII.

II. LITERATURE REVIEW

The Asian region provides evidence of the benefits of external trade liberalization policies (in terms of exports and imports). With its continued growth in external trade, the region continues to generate the highest rates of economic growth in the world, and experienced an average reduction in poverty of about 12.5 per cent between the early 1990s and early 2000. Through external trade, the region has been further integrated into and benefited from the global economy (Bonapace 2005).

In most Asian economies, SMEs are considered the engine of economic growth by virtue of their numbers and their significant economic and social contributions. The role of such enterprises in industrial development is more pronounced in Asia than it is in the West. SMEs in developing Asia account for about 80 per cent of all non-agricultural enterprises, and generate about the same

percentage of total employment. In addition, they contribute between 40 and 70 per cent of total value added (Tambunan 2008).

In member countries of the Association of Southeast Asian Nations (ASEAN), SMEs have played increasingly strategic roles, especially in the aftermath of the 1997 Asian financial crisis. As those economies modernize and industrialize, SMEs are providing the much-needed inter-firm linkages required to support large enterprises and ensure that they remain competitive in world markets. In this subregion, SMEs generally account for more than 90 per cent of establishments, between 15 and 57 per cent of total gross output/value added, and between 32.5 and more than 90 per cent of the employment of the domestic workforce (table 1).

Table 1. Non-agricultural small and medium-sized enterprises in members of the Association of Southeast Asian Nations and selected countries in East Asia

Country or area	*Number of non-agricultural SMEs (thousands)*[a]	*Percentage of gross domestic product/value added/output*	*SMEs as a percentage of*	
			Non-agricultural firms	*Workforce*
Brunei Darussalam	30[b] (2004)	..	98.0	92.0
Cambodia	26 (2002)	..	99.0	45.0
Indonesia	21 896 (2006)	57.0 (total value added)	99.9	99.6
Lao People's Democratic Republic	22 (1998/99)	..	99.4	..
	26[c]	..	..	40.0[c]
Malaysia	205	15.0 (total gross output) 47.3 (total value added) 26.0 (manufacturing value added)	99.2	65.1 32.5[d]
Myanmar	34 (1998/99)		96.0	78.0
Philippines	68[e] (2001) 73 (2003)	32.0 (total value added) 25.9 (manufacturing value added) (1998)	99.6 99.0	99.0 47.0[d] (2003)
Singapore	60-72[b]	41.0 (manufacturing output) 34.7 (total value added)	97.8	58.0
Thailand	1 639 (2001)	47.0 (total value added)/40.0 (GDP) (2001)		79.0 (2001)
	2 274 (2006)	38.0 (GDP) (2006)	99.6	76.7 (2006)
Viet Nam	2 700[f]	42.0 (total value added) 39.0 (GDP)	96.0	86/85[g] (2004)

Table 1. *(continued)*

Country or area	Number of non-agricultural SMEs (thousands)[a]	Percentage of gross domestic product/value added/output	SMEs as a percentage of	
			Non-agricultural firms	Workforce
East Asia[h]				
China	8 000	60.0 (industrial output)	99.0	78.8
Hong Kong, China	292		99.3	60.7
Japan	6 140	52.0 (manufacturing output), 55.3 (total value added)	99.7	77.6
Republic of Korea	2 700	47.5 (total gross output), 50.0 (total value added)	99.8	86.7
Taiwan Province of China	1 050		98.1	78.4

Sources: Tambunan (2006a; 2008, Table III.1).

Note: Figures are for 2002, unless otherwise indicated.

Abbreviations: GDP, gross domestic product; SME, small and medium-sized enterprise

[a] Including microenterprises, unless otherwise specified.

[b] Estimated active.

[c] Excluding microenterprises.

[d] Manufacturing only.

[e] Excluding 744,000 microenterprises.

[f] Excluding 10 million microenterprises.

[g] Total permanent workers/total corporate workforce.

[h] Best guess for 2000.

It is generally believed that trade liberalization should be beneficial for the domestic economy as well as for the world as a whole. At an aggregate level, the channels through which trade reform could bring benefits are, broadly, the following: (a) improved resource allocation; (b) access to better technologies, inputs and intermediate goods; (c) economies of scale and scope; (d) greater domestic competition; and (e) availability of favourable growth externalities, such as transfer of know-how. Until recently, more attention has been given to the macroeconomic effects of international trade reforms.[1] There is now a small but growing empirical literature on the effects of international trade liberalization at a disaggregate level. Theoretically, reform towards international trade liberalization could affect (positively or negatively) local individual firms in four major ways:

[1] Some of the best known analyses are: Krueger (1978), Dollar (1992), and Kruger, Cantner and Hanusch (2000).

(a) *Increasing competition*. Lower import tariffs, quotas and other non-tariff barriers increase foreign competition in the domestic market. This is expected to encourage inefficient or unproductive local firms to try to improve their productivity by eliminating waste, exploiting external economies of scale and scope, and adopting more innovative technologies; if they cannot, the pressure is expected to force them to shut down. Greater openness of an economy to international trade leads to larger enterprises, because local firms adopt efficient technologies and exploit economies of scale;[2]

(b) *Lowering production costs through cheaper imported inputs*. Local firms benefit from lower input costs, which allow them to compete more effectively in domestic markets against imports and in export markets;

(c) *Increasing export opportunities*. Opening up to international competition will not only induce increased efficiency in domestic firms but will also stimulate their exports;[3]

(d) *Reducing availability of local inputs*. Eliminating export restrictions on unprocessed raw materials will increase export of the items at the cost of local industries.

In the case of SMEs, it can thus be expected that international trade liberalization that increases foreign competition in the domestic market will hurt some inefficient or uncompetitive SMEs, while benefiting efficient or competitive SMEs. The efficiency effects of foreign trade liberalization may lead to an increase in average plant size among SMEs and (presumably) lower average costs. The international literature on the effect of foreign trade policy on SMEs presents, however, some surprising and important findings. The seminal work of Tybout (2000) on the microdynamic effects of international trade liberalization on manufacturing firms in developing countries, for instance, consistently shows just

[2] This is in line with the general theory in which size is predicted to positively affect export performance of firms. The new international trade theory posits a positive impact of market size in view of economies of scale. It argues that the scale economy provides cost advantages in production, research and development and marketing efforts. See for instance, Tybout (1992) and Bonaccorsi (1992). The literature associated with export marketing suggests that large enterprises have greater resources for gathering information on markets in foreign countries and covering the uncertainties of a foreign market (see, for example, Wakelin 1997). It is therefore generally expected that large enterprises are likely to be more export-oriented than small and medium-sized enterprises.

[3] This is generally supported by econometric results. See, for example, Aggarwal (2001) and Tybout, de Melo and Corbo (1991).

the opposite: that increases in import penetration as well as reductions in protection are associated with reductions, not increases, in plant size. Thus, an important finding of that study is that liberalization, rather than improve efficiency immediately, may work against the scale efficiency of SMEs in the short run (or if there are gains in efficiency, they are quite small).

Tybout's findings are supported by Tewari's (2001) findings regarding the experience of Tamil Nadu, India, over the past 15 years. The government removed restrictions on many industries, allowing anyone to enter, and simultaneously liberalized trade. Shortly thereafter, there was a spate of relatively small firms entering those industries, notably textiles. Firms with 400 to 500 spindles set up shop, in contrast to the plants with 10,000 to 20,000 spindles that larger firms operated. By the mid-1990s, the average plant size in the spinning industry had fallen significantly.

Valodia and Velia (2004) investigated the relationship between foreign trade liberalization at the macrolevel and its micro- or firm-level adjustment effects in the South African manufacturing industry. Their findings suggest that there is a strong relationship between firm size and international trade. Most firms servicing only domestic markets are SMEs, whereas the majority of exporters are large enterprises; almost half of exporters are firms with more than 200 workers. It seems that larger firms have been more successful at integrating their manufacturing activities into global chains of production.

Tewari and Goebel (2002) studied SME competitiveness, also in Tamil Nadu. They found two interesting facts. First, SMEs are doing better in some industries than in others; just as some industries are doing better than others. Second, SMEs tied to low-end market segments in large urban or metro areas appear to be the most vulnerable to cheap import competition. SMEs serving similar niches in the rural areas or in small towns do not face the same pressures. Their access to intricate, socially embedded distribution networks that link them to rural markets appears to be a source of strength that non-local competitors find too costly to replicate.

Others, such as Kaplinsky, Morris and Readman (2002), Roberts and Tybout (1996) and Roberts (2000), suggest that the path to growth for SMEs in a trade-liberalized world lies in their ability to compete with imported goods and services. This, in turn, depends greatly on their ability to upgrade their production capacities, their access to human resources and new technology, and their ability to improve the quality of their products.

III. SME DEVELOPMENT IN INDONESIA: AN OVERVIEW

In Indonesia, SMEs have historically been the main players in domestic economic activities, especially as providers of employment opportunities, and hence generators of primary or secondary sources of income for many households. For low-income and poor farm households in rural areas, SMEs, especially small enterprises (including microenterprises), in non-farm activities are a particularly important source of employment. As a group, these enterprises have also been an important engine for the development of local economies and communities. However, compared with more developed economies, Indonesian SMEs are not yet contributing significant value added to the national economy. Instead, they have been more important as the locus of employment.[4]

Though no data are available to show how many SMEs operate in the informal sector, it is generally believed that numbers are high, particularly with respect to microenterprises. The informal sector refers to the part of the economy that operates outside the ambit of organized economic activities. The sector is characterized by: (a) ease of entry; (b) reliance on indigenous resources; (c) family ownership of enterprises; (d) small scale of operations; (e) lack of formal systems of organization; (f) low and uncertain incomes; (g) labour-intensive and adapted technology; (h) skills acquired outside the formal school system; (i) no social welfare or security; and (j) unregulated and competitive markets. In Indonesia, the informal sector played a crucial role during the economic crisis in 1997, as it absorbed many people who had lost their jobs in the formal sector.

Typically, SMEs in Indonesia account for more than 90 per cent of all firms, and thus they are the largest source of employment, providing a livelihood

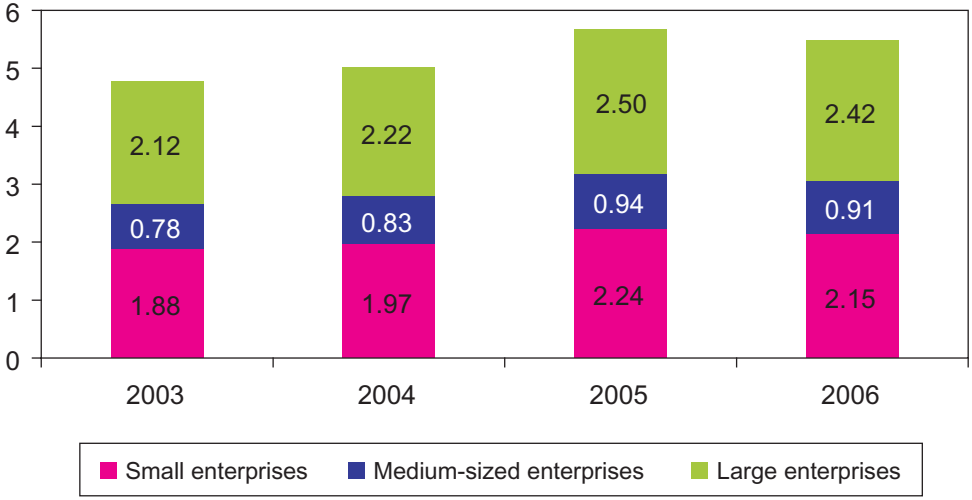
[4] In Indonesia, there are several definitions of small and medium-sized enterprises, depending on which agency provides the definition. As the present paper uses data from the State Ministry of Cooperative and Small and Medium Enterprises (Menegkop & UKM), the Ministry of Industry, and Statistics Indonesia (the central statistical agency), only the definitions of these three government agencies are used. Menegkop & UKM promulgated the Law on Small Enterprises No. 20 of 2008, which defines a microenterprise as a business unit with total initial assets of up to 50 million rupiah (Rp), not including land and buildings, or with an annual value of sales of a maximum of Rp 300 million. A small enterprise is defined as a business unit with total initial assets of up to Rp 500 million, or with an annual value of sales of a maximum of Rp 2.5 billion, and a medium-sized enterprise as a business unit with total initial assets of up to Rp 10 billion or with an annual value of sales of up to Rp 50 billion. Statistics Indonesia, which regularly conducts surveys of small and medium-sized enterprises, uses the number of workers as the basis for determining the size of an enterprise. In its definition, micro-, small and medium-sized enterprises are business units with, respectively, 1-4, 5-19, and 20-99 workers, and large enterprises are units with 100 or more workers. The Department of Industry categorizes an enterprise by its size in its sector and according to number of workers, following the Statistics Indonesia definition.

for over 90 per cent of the country's workforce, especially women and youth. The majority of SMEs in Indonesia are very small (microenterprises), and are scattered widely throughout the rural areas. Microenterprises are the most traditional enterprises, dominated by self-employment units without hired paid workers. They generally use primitive methods of production, generally with low levels of productivity, and produce poor quality goods mainly for local markets. There is little or no technological dynamism in this group of enterprises, and the majority provide barely a subsistence-level living. Some are economically viable over the long term, but many are not. Given such characteristics, microenterprises have more difficulties than SMEs in facing changing technology and the growing demand for higher quality, modern products.

Indonesian SMEs are most concentrated in agriculture, followed by the hospitality industry and the manufacturing industry. In manufacturing, SMEs are involved mainly in simple traditional products, such as wood products and furniture, textiles and garments, footwear, and food and beverages. Only a small portion of total SMEs produce machinery, production tools or automotive components. The latter is generally carried out through subcontracting arrangements with multinational car companies (Thee 1993 and Tambunan 2008). This structure of industry reflects the current technological capability of Indonesian SMEs, which are not yet as strong in producing sophisticated technology-embodied products as their counterparts in other economies such as Japan, the Republic of Korea, or Taiwan Province of China.

According to Statistics Indonesia (various years) the contribution of SMEs (including microenterprises) to annual gross domestic product (GDP) growth is higher than that of large enterprises. In 2003, the GDP growth rate was 4.78 per cent, of which 2.66 per cent was attributable to SMEs, compared to a contribution of 2.12 per cent from large enterprises. In 2005, the SME share in GDP growth reached its highest level—3.18 per cent—before slightly declining to 3.06 per cent in 2006. Within the SME group, the combined contribution of micro- and small enterprises to GDP growth is always higher than that of medium-sized enterprises. In 2006, of a GDP growth rate of 5.5 per cent, about 2.15 per cent was attributable to micro- and small enterprises, as compared to 0.91 per cent from medium-sized enterprises (figure 1). Unfortunately, no separate data on output are available for microenterprises. However, since the total number of such enterprises is much larger than that of small enterprises (see table 2), there is a strong reason to believe that the greater part of the contribution of micro- and small enterprises to the GDP growth, as shown in figure 1, came from microenterprises.

Figure 1. GDP growth contribution by size of firm, 2003-2006
(Percentage)



Source: Statistics Indonesia.

Table 2. Total units of enterprises by size category, Indonesia, 1997-2006
(Thousands of units)

Size category	*1997*	*1998*	*1999*	*2000*	*2001*	*2003*	*2004*	*2005*	*2006*
Micro-enterprises	36 528.3	33 085.5	35 158.2	36 131.7	35 894.8	40 336.8	41 109.7	42 306.2	44 428.8
Small enterprises	3 176.4	3 676.2	2 646.3	3 573.5	3 988.3	3 036.1	3 574.8	4 700.7	4 394.1
Medium-sized enterprises	60.5	51.9	51.8	78.8	81.0	87.4	93.0	95.9	106.7
Large enterprises	2.1	1.8	1.8	5.7	5.9	6.5	6.7	6.8	7.2
Total	39 767.3	36 815.4	37 858.1	39 789.7	39 970.0	43 466.8	44 784.1	47 109.6	48 936.8

Source: State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) database (available at www.depkop.go.id).

IV. INTERNATIONAL TRADE POLICY REFORM IN INDONESIA

When former Indonesian President Soeharto came to power in 1966, marking the beginning of the "New Order" Government (1966-1998), he initiated swift economic reform which, in its first five years, produced results beyond the most optimistic expectations. The main aim of the reform was two-pronged, namely, to reduce inflation (a short-term objective) and to generate economic growth and improve living standards (a medium- to a long-term objective). The Government was fully aware that macroeconomic stabilization was a precondition for achieving the first objective, and that international trade reform and liberalization of the capital account, including a more favourable investment law, were the most effective strategies for achieving the second.

During the New Order era, trade policy underwent a fundamental change in Indonesia. At the same time, development strategy evolved from the inward-looking import substitution approach of the oil boom in the early 1970s to an outward-looking policy of export promotion in the mid-1980s once the oil boom ended. The process of the trade reform that was part of the economic reform from 1966 to 2006 can be divided into three phases: 1967-1984, 1985-1997 (just before the economic crisis), and 1998 (during the crisis) onwards (table 3). The first phase was a period of limited liberalization and deregulation, as the Government implemented limited tariff reduction and removed quantitative restrictions and other non-tariff barriers on a small range of imported goods, particularly those which were essential for domestic consumption and industries.

Table 3. Reform in foreign trade and related areas in Indonesia since 1967

Period	*Phase*	*Most important measures*
1967 to 1984	I	• Some tariff reduction • Removal of quantitative restrictions on limited imports • Introduction of a national law on foreign and domestic private investment • Liberalization of the capital account in the balance of payments • Adoption of a managed floating exchange rate system
1985 to 1997	II	• Simplification of import-export procedures (including the duty drawback scheme for exporters, which was improved substantially) • Limited agricultural liberalization • Across-the-board tariff reduction • Removal of quantitative restrictions on some imports, especially import licensing and import monopolies

Table 3. *(continued)*

Period	*Phase*	*Most important measures*
		• Simplification of approval procedures for foreign investment and abolition of limitations on foreign direct investment, especially export-oriented investments (including more liberal treatment with regard to foreign ownership) • A revamping and replacement of the corrupt customs service with a private Swiss surveying company (Société Générale de Surveillance) • Exemption from duties and value added tax for export-oriented investments • Banking system deregulation
1998 onwards	III	• Liberalization of foreign trade and investment • Elimination of all cartels in all sectors • Agricultural liberalization, including actions such as: (a) removing import restrictions on various commodities; (b) removing export bans on wheat, soybeans, sugar and oil palm products; (c) replacing the monopoly role the State logistics agency (Bulog) played in rice imports with a 30 per cent tariff; (d) removing local content regulation for agricultural products; (e) privatizing plantations, estates and input suppliers; (f) liquidating cooperatives and removing land-use regulations that restricted crop choices of producers; (g) suspending the value added tax on rice and other essential commodities; (h) eliminating wheat, sugar and fertilizer subsidies; (i) phasing out soybean subsidies; (j) eliminating import subsidies and relevant import duties for soybean meal and fishmeal; and (k) allowing private traders to import rice, for the first time in 30 years • Removal of various import licensing schemes, such as the import licences for iron and steel products, engine and engine parts, heavy transport equipment, and electronic products • Removal of local content requirements, reduction of tariffs on imported cars and components, and simplification of licensing procedures • Elimination of all export restrictions and taxes • Introduction of anticorruption and competition laws • Approval of Importer and Approved Sole Agent licences, which were applied to various industries, from food-related products to lubricants • Removal of local content regulations under the World Trade Organization Agreement on Trade Related Investment Measures, as well as the local content requirements for motor vehicles

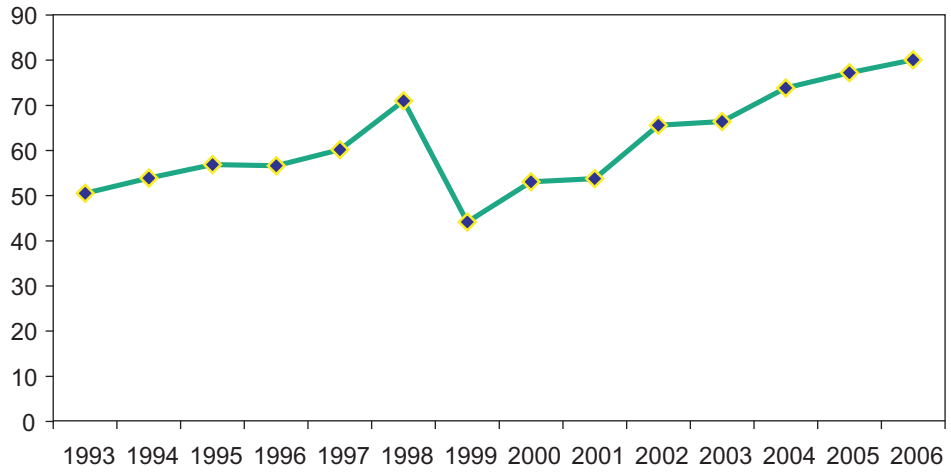
Source: Tambunan (2007b).

The second phase was a period of extensive liberalization and deregulation, with a broad range of measures. Between 1985 and 1992, the simple (unweighted) average tariff was cut to just under 20 per cent, down from 27 per cent. Non-tariff barriers as a percentage of tariff lines had declined from 32 down to 17 per cent by 1990 and to 5 per cent by 1992; as a percentage of imports they fell from 43 per cent in 1986 down to 13 per cent by 1990 (Iqbal and Rashid 2001). The private sector began to play a larger role during this period, as reflected by the increase in private domestic as well as foreign investments in Indonesia. There was also an emphasis on exports of non-oil and gas products, especially labour-intensive manufactured products, such as textiles and garments, footwear and wood products. Restrictions on foreign direct investment and ownership regulations, particularly on export-oriented investments, were gradually relaxed (Pangestu 2001).

The third phase is the broader post-crisis reform, which began with the International Monetary Fund-sponsored deregulation under a letter of intent and continued further with Indonesia's own initiatives. One of the most heavily regulated and protected sectors of the Indonesian economy, the automobile industry, was significantly affected by these developments. The tariff on completely built-up sedans was reduced to 200 per cent in 1995 and to 90 per cent in 2003.

Figure 2 shows the result of the foreign trade reform. The ratio of total trade (export plus import) to GDP increased steadily from the early 1990s up to

Figure 2. Growth in the external trade of Indonesia, 1993-2006
(Total trade as a percentage of gross domestic product)



Source: Asian Development Bank, Key Indicators database, (1993-2006).

1998, when the crisis reached its climax. That was also the year when many companies, especially in the manufacturing industry, experienced financial difficulties as a consequence of the huge depreciation of the rupiah (Rp) against the United States dollar. After 1999, Indonesia's external trade began to recover.

The bold reforms also resulted in rapid economic growth and an extremely rapid transformation from the beginning of the 1970s to 1997. High economic growth, together with low inflation, raised per capita income more than tenfold, from $70 in 1969 to $1,100 in 1997 (current prices). In 1998 the per capita income dropped significantly, but in 2000 it started to recover, though the process has been slow. The growth rate of per capita real GDP is still much lower than that of Thailand, another country seriously affected by the 1997 crisis. Growth during the New Order era was matched by similar success on the income distribution side. The number of people living below the poverty line was reduced from 70 million in 1970 to 26 million in 1993. This meant that the percentage of people living below the poverty line dropped to 14 per cent, down from 60 per cent.[5]

V. EFFECTS OF THE REFORM ON SMEs IN INDONESIA

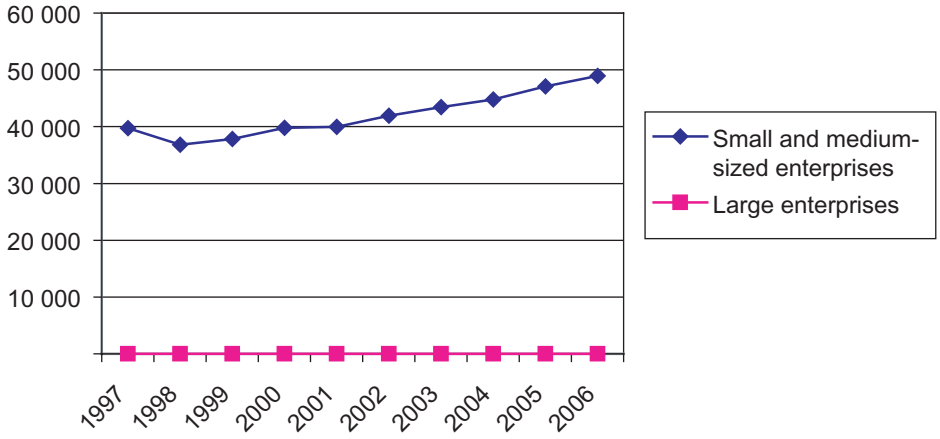
The rapid growth of the manufacturing industry and non-oil and gas exports in Indonesia before the 1997 crisis was an important success attributable to the trade policy reforms, which were accompanied by reforms in other important related areas, such as the investment and banking sector. However, there are always concerns regarding the survival of SMEs in the country. On the import side, can local SMEs survive if imports are allowed to freely enter the domestic market? On the export side, have export opportunities been more open for local SMEs since the reform? Has the growth of exports by SMEs accelerated since the reform?

With respect to the first question, after a slight decline in 1998 (many SMEs were adversely affected by the crisis), the number of SMEs continued to grow (figure 3). Of course, many SMEs in Indonesia must have difficulties in facing the stiff competition from the imports in the domestic market that is growing as a direct consequence of the trade policy reform. But figure 3 may suggest that SMEs in Indonesia in general have not been severely affected by trade liberalization. More interestingly, the number of SMEs tends to grow faster than that of large enterprises.

Moreover, the GDP share of SMEs remains above 50 per cent; in other words, the ratio of SMEs to large enterprises in GDP contribution is always above one, although it has been declining since its peak level in 2002 (figure 4). If the

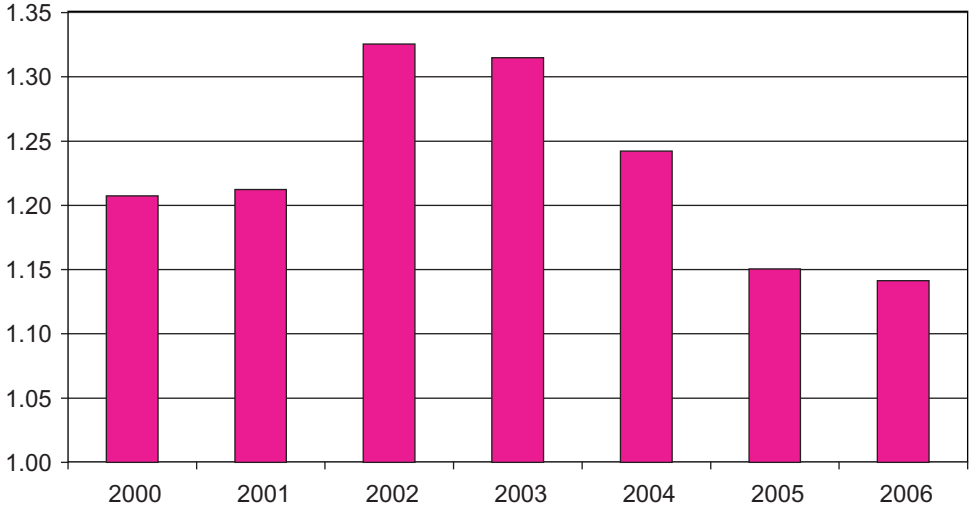
[5] The remarkable economic development in Indonesia during the New Order Government is discussed in many publications, including: Booth and McCawley (1981), Hill (1996) and Tambunan (2006b).

Figure 3. Growth in the number of small and medium-sized enterprises (excluding microenterprises) and large enterprises, 1997-2006



Source: State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) database (www.depkop.go.id).

Figure 4. Ratio of small and medium-sized enterprises to large enterprises in terms of gross domestic product contribution, 2000-2006



Source: State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) database (www.depkop.go.id).

Note: The data on small and medium-sized enterprises include microenterprises (no separate data are available for microenterprises).

reforms before and after the crisis favoured large enterprises, the share of SME contribution to GDP would have fallen to less than 50 per cent. SMEs have managed not only to survive, but also to increase their output. There is thus no evidence to support the suspected negative correlation between the openness of the Indonesian economy that resulted from the trade reforms and the existence of local SMEs.

With respect to the second and third questions, not only are SMEs able to export, but their exports increase on average per year. In 2000, their total exports amounted to Rp 75,449 billion; by 2006, exports had increased by 50 per cent to Rp 122,200 billion (table 4). However, the share of SMEs in the country's total exports (excluding oil and gas) is still very small as compared to that of large enterprises. In 1990, their share was 11.1 per cent; by 2006 it was 15.7 per cent. Medium-sized enterprises are much stronger in exports than small enterprises are. In 1990, medium-sized enterprises accounted for 8.9 per cent of total exports, compared with 2.2 per cent for small enterprise. In 2006 the ratio was 11.81 to 3.89 per cent (figure 5).

The majority of SME exports came from the manufacturing industry. However, the share of SMEs in total exports of the manufacturing industry continues to be smaller than that of large enterprises (figure 6). Many, such as Hill (1997), Tambunan (2006a and 2007a) and Thee (1993) argue that, although on average their annual export contribution to Indonesia's total manufacturing export is relatively small, SMEs seem to have shared in the manufactured export boom in the 1980s and 1990s. Thee (1993) concludes that, from the point of view of technology and adaptability, export growth of SMEs in the manufacturing industry has been achieved largely by finding niche markets and adapting costs and quality to market demand.

Perhaps the only microlevel evidence of the effects of trade reform in Indonesia on SME exports is from a field study conducted by Berry and Levy (1994). They surveyed 91 SME exporters in three subsectors of manufacturing, and conducted intensive interviews with 40 public and non-profit agencies active in SME issues between January and June 1992. The three subsectors were: garments in Jakarta and Bandung (both in West Java), rattan furniture in Jakarta and Surabaya (East Java) and carved wooden furniture in Jepara (Central Java). From a total of 33 interviewed exporters of rattan products, they found that all but one of the firms exported 90 per cent or more of their output; 26 of 33 firms began exporting the same year they entered into production. Most began to export or increased their export share in their total production since the Government of Indonesia imposed bans on the export of unprocessed and semi-processed rattan

Table 4. Exports of small and medium-sized enterprises and large enterprises in three major sectors, 2000-2006

(Billions of Indonesian rupiah)

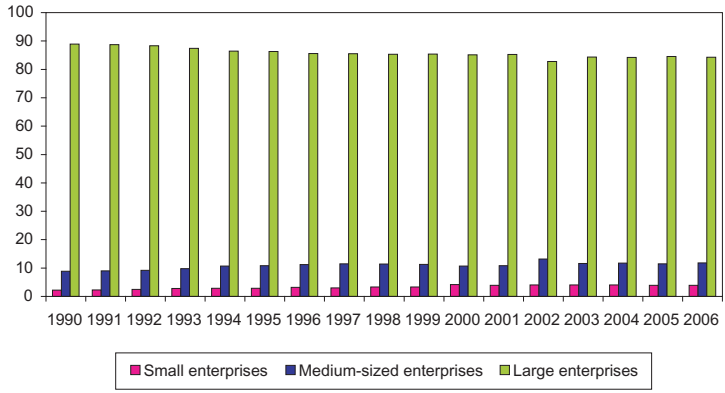
Sectors	2000		2001		2002		2003		2004		2005		2006	
	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE
Agriculture	8 396.3	427.5	9 013.6	552.7	9 771.6	962.2	8 479.7	536.6	8 715.3	881.8	11 535.4	1 037.9	12 662.7	1 078.8
Mining	657.0	74 490.8	980.9	89 811.2	684.7	79 541.5	583.9	77 829.2	638.7	92 822.5	1 139.9	132 107.3	1 621.3	153 874.3
Manufacturing	66 395.3	357 135.5	70 852.1	377 040.4	76 833.8	339 086.3	68 033.1	337 773.4	86 194.2	414 953.7	97 662.7	471 249.3	107 915.5	501 170.5
Total	75 448.6	432 053.8	80 846.6	467 404.3	87 290.1	419 590.0	77 096.7	416 139.2	95 548.2	508 658.0	110 338.0	604 394.5	122 199.5	656 123.6

Source: State Ministry of Cooperative and SME (Menegkop & UKM) database (www.depkop.go.id).

Note: The data on small and medium-sized enterprises include microenterprises (no separate data are available for microenterprises).

Abbreviations: LE, large enterprises; SME, small and medium-sized enterprises.

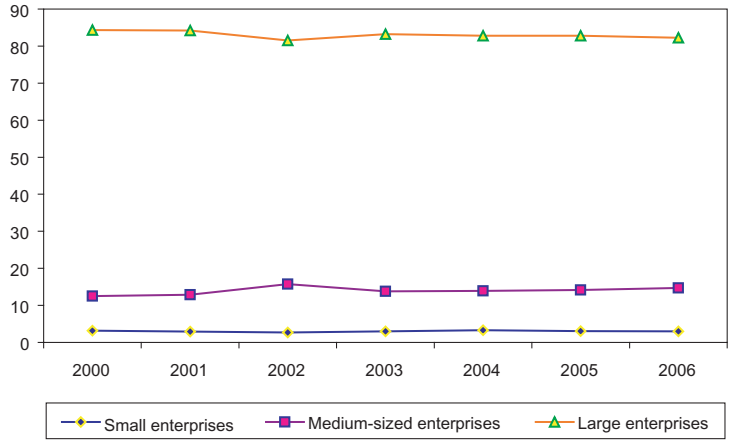
Figure 5. Contributions of small and medium-sized enterprises to total export value, 2000-2006
(Percentage)



Source: *State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) database (www.depkop.go.id).*

Note: *The data on small and medium-sized enterprises include microenterprises (no separate data are available for microenterprises).*

Figure 6. Share of small and medium-sized enterprises in total export value in the manufacturing industry, 2000-2006
(Percentage)



Source: State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) database (www.depkop.go.id).

Note: The data on small and medium-sized enterprises include microenterprises (no separate data are available for microenterprises).

in 1986 and 1988-1989. This suggests that the ban has been a key factor leading to a major expansion in exports of rattan furniture by SMEs in Indonesia.[6]

The view expressed by Berry and Levy (1994) is also supported by the author's own observations that free exports of raw materials have become serious constraints for many SMEs that produce or export goods made from such materials. For instance, several times during the 1980s and also in the 1990s, many SMEs in metalworking industry clusters, for example in Tegal and Ceper in Central Java and Pasuruan in East Java, experienced difficulties in continuing or expanding their production due to the lack of local scraps—their main raw material. This material has been exported mainly to China, leading to a scarcity in the local market.[7] In another case, PT Panasonic Manufacturing Indonesia, the leading electronic company in Indonesia, has subcontracting linkages with many SMEs to manufacture a variety of electronic products. Recently, subcontractors that make water pumps for the company have been facing difficulties due to a scarcity of one of their main raw materials—brass, which is one of the raw materials that are free for export.[8]

Shortly after the economic crisis in 1997, Dierman and others (1998) tried to assess the impact of the more aggressive trade and investment policy reforms related to the International Monetary Fund-sponsored deregulation on SMEs in the manufacturing industry in Indonesia. They concluded that the likely impact would vary by subsector or group of industry. SMEs in the industries that were most protected before the crisis were expected to be more adversely affected than those in the less protected ones. For instance, currently many SMEs in the textile and garment industry, one of the most protected industries before the crisis, are struggling to compete with very cheap textile products from China, which have been extensively penetrating the Indonesian market over the past few years.

Overall, based on the official data presented in the present paper and several studies, including that of Van Dierman and others (1998), there is no indication that the number of SMEs, including microenterprises, in Indonesia has been negatively affected by the international trade reform (figure 7). Moreover, relying on protection that restricts certain activities to domestic SMEs may actually

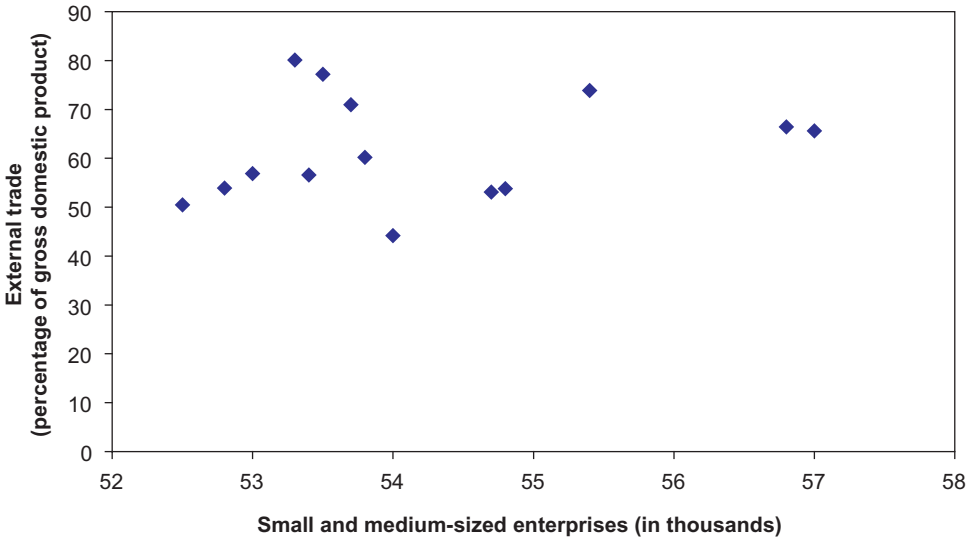
[6] Indonesia has long been a major supplier of raw rattan to the major rattan furniture exporting areas of Taiwan Province of China and the Philippines. In an effort to jump-start the rattan products industry in the country, the Government of Indonesia imposed this restriction policy (Berry and Levy 1994).

[7] Interviews by the author with some producers and local government officials in the Tegal cluster, February 2007.

[8] Interview by the author with Daniel Suhardiman, Group Manager from PT Panasonic Manufacturing Indonesia.

contribute to abuse of local market power and, by insulating firms from competition, make them less able to penetrate foreign markets or develop improvements in technology, productivity and efficiency (Thee 2000). However, there is also no evidence that the efficiency effects of trade liberalization resulted in an increase in average plant size among SMEs. This Indonesian case seems to be consistent with the findings by Tybout (2000) that trade liberalization may work against the (scale) efficiency of SMEs in the short run.

Figure 7. Scatter diagram of the number of small and medium-sized enterprises (including microenterprises) and trade in Indonesia



Sources: State Ministry of Cooperative and Small and Medium-sized Enterprises (Menegkop & UKM) Perkembangan Indikator Makro UKM database, Table 1 (www.depkop.go.id), and Statistics Indonesia data for Indonesian external trade and gross domestic profit.

As microenterprises represent the informal sector in Indonesia, it can also be concluded that the informal sector has managed to survive the processes of trade liberalization. There are two main reasons for this. First, although imported goods, especially from China, have been penetrating the domestic market at an accelerating rate in the period, such goods are still concentrated in urban areas or cities, while microenterprises are still the dominant source of basic consumption goods in rural areas. Second, in general, imported goods are still more expensive than those produced by the microenterprises on which most poor or low-income households are dependent.

As a comparison, in India as well as in China and other ASEAN countries with more or less similar stages of development, SMEs have also been playing an important role in exports, directly or indirectly (through subcontracting arrangements with large enterprises, including multinational companies), although the rate varies by country. As can be seen in table 5, among the surveyed countries, SMEs in China play the largest role, with export contributions running between 40 and 60 per cent. SMEs in Thailand, which is more comparable to Indonesia in terms of level of economic development, are more developed in export activities than their counterparts in Indonesia (figure 8).

Table 5. Share of small and medium-sized exports in total exports in selected Asian developing countries, 1990s

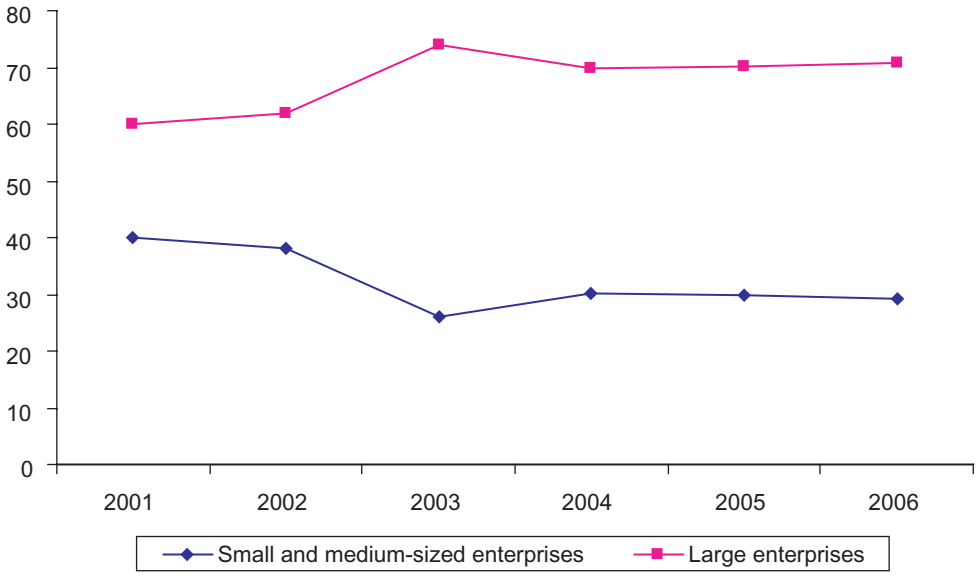
Country	*2003 Share (percentage)*	*2005-2006 Share (percentage)*
China	40 to 60[a]	..
Indonesia	11[a]	17.72 (2006)[b]
India	38 to 40[c]	..
Malaysia	15[a]	..
Pakistan	..	25 (2005)[d]
Singapore	16[a]	..
Thailand	10[a]	29.10% (2006)[e]
Viet Nam	20[a]	..

Sources: [a] United Nations Conference on Trade and Development (2003), for manufactured export only.
[b] State Ministry of Cooperative and SME (Menegkop & UKM) database (www.depkop.go.id).
[c] United Nations Conference on Trade and Development (2003), ICICI Bank and International Finance Corporation (2002), and Das (2007), for manufactured export only.
[d] Tambunan (2008).
[e] Thailand (2007).

All this evidence may suggest that trade openness does not negatively affect local SMEs. But neither does it automatically lead local SMEs to become exporters or increase their external market shares. It depends, among many other things, on the role of government in supporting capacity-building for local SMEs so that they can become highly competitive exporters. In other words, trade liberalization creates export market opportunities only for efficient and highly competitive local SMEs.

Figure 8. Export share of small and medium-sized enterprises in Thailand, 2001-2006

(Percentage)



Source: Thailand, Office of Small and Medium Enterprises Promotion (as cited in Tambunan 2008).

VI. CONCLUDING REMARKS AND POLICY RECOMMENDATIONS

The rapid economic growth and rapid transformation of the Indonesian economy in the New Order era may be due largely to the combination of reforms in trade and other related areas, such as investment and banking, undertaken during that period. After the economic crisis in 1997-1998, more aggressive reforms also started to show some results, as the country's GDP began growing again in 1999 and it has kept growing at an accelerating rate.

In the present paper, two main questions were posited: (a) how does international trade policy reform affect local SMEs?; and (b) has the growth of SME exports accelerated since the reform? The official data presented in the paper suggest that, overall, the reform has not affected SMEs negatively. However, the majority of SMEs (especially small and microenterprises) in Indonesia are not yet ready to compete due to their weaknesses in many areas, including, among others: technology, human resources, capital, marketing knowledge and global networks.

Therefore, the Government should take concrete actions in order to help SMEs maximize benefits and minimize losses related to the trade reform over the long run. This policy implication is also valid for many other Asian developing countries, where conditions for SMEs are similar to those in Indonesia.

The required policy actions are particularly related to the following aspects. First, trade liberalization should be accompanied by development schemes designed to support long-term capacity-building for SMEs; such schemes should focus on six major areas: (a) credit and market information; (b) human resource development; (c) technology and innovation; (d) global networks in both input and output markets; (e) subcontracting opportunities and capabilities; and (f) infrastructure that increases access for local SMEs to broader markets. Second, trade reform policies should be carefully designed to prevent the liberalization of exports of unprocessed commodities which are the key raw materials for SMEs, as such liberalization could lead to shortages of these items in the local market and reduce the production capacity of SMEs. Third, new plans with respect to trade regulations should be disseminated to all SMEs through all available channels (such as electronic media, newspapers, press releases and public gatherings) in advance of their implementation. At the same time, the Government should provide SMEs with effective alternative solutions in order to minimize the negative effects or maximize the positive effects of such new policies or regulations. Fourth, SMEs represented by, among other entities, SME associations or non-governmental organizations, should be more actively involved in the preparation and formulation of economic policies (such as in trade and investment) that will affect them directly or indirectly.

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GOVERNMENT FINANCES AND ECONOMIC GROWTH: A POLICY PERSPECTIVE ON THE DEVELOPING ECONOMY OF SRI LANKA

*Partha Pratim Ghosh, Arpita Dhar and Debesh Chakraborty**

In this paper, we analyse the fiscal policy orientation of the developing economy of Sri Lanka in the context of the growth performance of the economy during the period 1975-2000, using an integrated input-output and macroeconometric model. The paper draws upon the Government's policy approach towards faster economic growth. The empirical findings show that the Government's budget deficits are not primarily the result of an excess of consumption over revenue. Rather, other current expenses, such as Government transfers and interest payments, have been the main cause of the country's mounting public debt. The proportion of Government investment in total Government outlays has declined over time. This could be a major obstacle to economic growth. At the same time, the Government's recurring budget deficits have led to an escalating national debt, and the monetization of deficits has created inflationary pressures. In order to arrest these trends and encourage economic growth, reducing the current deficits in the Government budgets is imperative. Domestic private investment, foreign direct investment and Government investment have to be combined as complementary forces to ensure rapid economic growth in the country.

I. INTRODUCTION

Many developing countries have been interested in reducing Government activities in the realm of economics, consonant with encouragement to the private

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sector. In this paper, we have attempted to create a holistic picture of the overall fiscal scenario in one such developing economy, namely, Sri Lanka. The results obtained from the analysis of data on Government finances are then interpreted with the help of an integrated input-output and macroeconometric model developed for Sri Lanka, which is briefly outlined later in the paper.

Data from the Central Bank of Sri Lanka (2000-2006: 2006) reveal that the economy has been running fiscal deficits persistently. According to economic theory, fiscal deficits and Government debt squeeze out the growth potential of an economy (Abel and Bernanke 2001). This is not true of a demand-constrained economy. It also does not hold true when the Government runs a deficit to make investment expenditures, since investment leads to growth. In fact, modern growth theory encourages Government investment in the areas of infrastructure, education, health and similar areas (Abel and Bernanke 2001). In a developing economy that requires a high rate of growth, we should encourage both private investment and Government investment.

This paper is organized in four sections. Section II analyses the state of Government finances during the period 1975-2006. In section III, we present the integrated input-output and macroeconometric model developed in line with Keynes, Leontief and Klein to understand how the economy operates, and thereby be able to discuss the role of the Government in view of the integrated model. The estimated model is also presented in that section. Section IV contains some historical simulations that serve to highlight the possibilities of growth augmentation through appropriate economic policies. The summary and conclusions are presented in section V. Due to space considerations, a number of abbreviations and acronyms are used in the figures and tables; a complete list can be found immediately following the body of the paper.

II. GOVERNMENT FINANCES DURING THE PERIOD 1975-2006

In this section, we have analysed data on Government finances from the Government's policy document *Regaining Sri Lanka* (Sri Lanka 2002), the annual reports of the Central Bank of Sri Lanka (2000-2006) and United Nations National Income Statistics, for the period 1975-2000.

The Government's view on its finances and the public debt

In its policy document *Regaining Sri Lanka* (Sri Lanka 2002), the Government noted that a country that could not control its finances could not control its

economic future. It expressed concern over the way the Government debt had expanded dramatically, to the point where, at the time the document came out, the size of the public debt was larger than the country's gross domestic product (GDP). As a result, large budget deficits are incurred in order to service past interest obligations and to meet the essential day-to-day responsibilities of the Government. To put this in some perspective, the total public debt at that time translated to 77,500 Sri Lankan rupees (SL Rs) at current prices for every person in the country. The additional borrowing required to meet the deficit in the year 2002 added approximately SL Rs 6,000 to this burden. Also noted in the document was that if the large deficits continued unabated, public debt would grow faster than the economy. Ultimately, the reputation of the country regarding its creditworthiness would be damaged to the point where the economy would be unable to recover.

The Government, in the same document, stated that meeting the challenge of bringing the public debt under control required decisive action in two areas. The first objective was to create an environment where national income grew faster than the public debt, permitting the country to "outgrow" the debt burden. The second objective was to reduce the budget deficit to slow and eventually reverse the increases in public debt. This would entail both reducing public expenditures as well as increasing revenues. These adjustments were unavoidable and would have to be well managed to ensure that the burdens were shared fairly and did not impose an excessive burden on the most vulnerable members of society. It was also essential that the reforms be carried out in ways that did not limit the prospects for increased economic growth.

The Government's view rightly expressed concern over the current deficit rather than the overall deficit, because capital expenditures by the Government in the form of building infrastructure or through similar activities enhances the future growth potential rather than reducing it. However, in the context of public debt, there is a basic distinction between internal and external debt. An internal debt is like redistribution from one section of the society to another. As such, it entails no net burden, if we put debtors and creditors on the same footing. An external debt, on the other hand, is definitely a net burden to the national economy and has a bearing on its creditworthiness as perceived by international donors.

An increase in Government budget deficit adds to the existing public debt. If the Government raises tax rates in the future to retire this debt, there may be associated inefficiencies. In *Regaining Sri Lanka* (Sri Lanka 2002), the Government therefore proposed building a "world-class Revenue Authority" that incorporated transparency, simple mechanisms and low-to-moderate tax-rates. On the issue of curbing its current outlays, one had to be certain that the wasteful expenditures—not

the healthy branches of Government outlays—were pruned. A developing economy trying to restructure its fiscal stance should be careful not to bring down Government purchases of goods and services to the point of creating aggregate demand deficiency or to reduce Government investment in order to achieve a given target ratio of fiscal deficit to GDP.

The current deficit in the Government budget

Data at current prices from the Central Bank of Sri Lanka (2000-2006) on the current expenditures of the Government show an annual exponential growth rate of 14.97 per cent during the period 1975-2000. There has been a marked slowdown in this growth rate since the year 2000. If we compute the annual exponential growth rate of the current expenditures of the Government from 1975 to 2000, we find that it is even higher—15.98 per cent. For the same time period, National Income Accounts Statistics current-price data from the United Nations (1975-2002) on Government consumption show an annual exponential growth rate of 17.24 per cent, while the current-price data from the Central Bank of Sri Lanka (2000-2006) on such expenditures show an annual exponential growth rate of 16.12 per cent. We found that, over time, the Government's current expenditures have increased significantly beyond Government consumption. The reason for this gap is the rise in welfare expenditures and interest payments on Government borrowings. Figures A.1 and A.2 in appendix I show the Government's current outlays and current deficit, respectively, for the period 1975-2000.

Data from the United Nations (1975-2002) and the Central Bank of Sri Lanka (2000-2006) on the Government's total tax and non-tax revenue match almost perfectly, year to year. The annual growth rate as shown by the Central Bank data is 14.99 per cent. Figure A.2 clearly shows that prior to 1988 (shown as time point 12), tax and non-tax revenue was more or less in line with current expenditures of Government, but since 1988 (the war period) the latter has overtaken the former and the gap is increasing. In fact, according to data from the Central Bank of Sri Lanka (2000-2006), the Government's total current expenses were about twice its purchases of goods and service during the years 1988-2000 (figure A.1).

The continuing internal ethnic conflict has put a heavy burden on the Government. Data from the Special Statistical Tables of the Central Bank of Sri Lanka (2000-2006: 2003, 2004) reveal that since 1984, defence expenditures as a percentage of the excess of current expenditures of Government over final consumption expenditures has been rising. Further data from the Central Bank show that defence expenditures as a proportion of the Government budget deficit have increased steadily, from 10 per cent to more than 46 per cent between 1988

and 2000 (table 1). Had peace prevailed, these resources could have been free for economic development and the pressure on the budget deficit and public debt would have been considerably less. As the Government noted in *Regaining Sri Lanka*, the peace initiative is vital for economic development.

Table 1. Defence expenditures of the Government

	Defence expenditures (millions of Sri Lankan rupees)	*Government budget deficit (millions of Sri Lankan rupees)*	*Defence expenditures/ Government budget deficit (percentage)*
1984	5 029	54 341	9.26
1985	18 098	74 467	24.30
1986	16 100	81 241	19.82
1987	20 587	74 613	27.59
1988	14 786	108 689	13.60
1989	11 437	79 146	14.45
1990	15 731	74 380	21.15
1991	21 826	93 482	23.35
1992	24 893	65 813	37.82
1993	27 121	76 229	35.58
1994	31 137	97 388	31.97
1995	51 641	98 663	52.34
1996	50 461	95 820	52.66
1997	45 062	85 183	52.90
1998	47 332	103 748	45.62
1999	42 867	89 065	48.13
2000	56 733	124 144	45.70

Source: Central Bank of Sri Lanka (2000-2006).

The current primary deficit

A study of the current primary deficit in the Government budget helps to analyse the feasibility of the Government's ongoing consumption plans. Figure A.3 in appendix I shows that total tax and non-tax revenue are in excess of Government consumption. However, these resources are inadequate when we include Government transfers and the legacy of obligations arising out of past programmes, such as interest on past debt. Hence, the series reflecting the current expenditures of the Government lies above the tax and non-tax revenue series in figure A.2, as noted above.

Unless the principals of past debts are retired, the legacy of interest payments will continue. Thus, when it comes to downsizing the total public debt, the Government is left with the options of curtailing its purchases, its transfers or its investment in order to reduce its total outlays. Government consumption is a component of aggregate demand in the economy. Reduction in this component will affect capacity utilization unless there is a matching increase in private sector consumption or investment or net exports. Although neoclassical economists claim that permanent reductions in Government purchases would lead to permanent increases in disposable income and stimulate private consumption, there is no concrete evidence of such forward-looking behaviour, even in developed economies such as the United States of America or in a developing Asian economy, such as India. It is natural to expect that, in a developing economy such as Sri Lanka, market imperfections would produce similar results. Government transfers are a politically sensitive issue. That leaves the third option, Government investment. This component of public expenditure does not come within the ambit of discussions of current primary deficit. It is a part of the total purchases of goods and services by the Government and hence may be discussed in the context of the overall budget deficit and the resulting public debt. Annual reports (2002 and 2003) of the Central Bank of Sri Lanka have in fact mentioned that cutting down Government investment is not advisable, even if the economy suffers from high overall public debt. The next subsection discusses the issue of public investment expenditure.

Before that, let us look at the possibilities of increasing Government revenue. In *Regaining Sri Lanka*, the Government had projected an arrest and, ultimately, reversal of the trend of the growing budget deficit. Figures A.4 and A.5 in appendix I show two scenarios for the current deficit in the years 2000-2006, based on the ongoing trend in the economy and under the Government's policy programme. However, on comparing the Government's total tax and non-tax revenue collections under the two alternative scenarios—continuing with the past trend and implementing the Government's policy, we find that the total revenue collections do not differ much between the two scenarios. Figure A.6 in appendix I summarizes the relevant data. Therefore, the trend reversal in the current account of the Government's budget proposed in the policy document is actually due to the reduction in current outlay of the Government.

It is obvious that, despite the Government's intentions of creating a "world-class Revenue Authority", there is little scope for any substantive improvement in its revenue collection. The Government's action plan shows a trend reversal by 2004 in figure A.5. Its plan to halt and ultimately reverse the ongoing trend of the budget deficit (as shown in figures A.4 and A.5 in appendix I) is therefore conditional on cutting its outlays rather than on augmenting its resources.

Analysing data from the policy document *Regaining Sri Lanka*, we find that the Government's fiscal correction policy actually proposed drastic cuts in the total current expenses, ranging from 17.22 per cent to 47.34 per cent between 2000 and 2006. Table 2 shows the relevant figures.

Table 2. Current expenditures of the Government

Year	Level of current expenditures (millions of Sri Lankan rupees)		Percentage reduction
	Past trend	Government policy	
2000	254 279	254 279	–
2001	362 528	300 100	17.22
2002	425 362	330 100	22.40
2003	499 086	344 600	30.95
2004	585 589	367 700	37.21
2005	687 084	391 600	43.01
2006	806 171	424 500	47.34

Sources: Central Bank of Sri Lanka (2000-2006) and Sri Lanka (2002).

The trend of Government capital expenditures

We have taken data from Central Bank annual reports (2000-2006) to compute the ratio of Government investment (IG) to: (a) the excess of total tax and non-tax revenue (TR) over final consumption expenditures (CG), that is: IG/(TR-CG); and (b) the budget deficit, that is IG/BD.

Let us begin with the first ratio. As noted above, the Government's total tax and non-tax revenues have been in excess of Government consumption. The ratio IG/(TR-CG) gives an indication of the relative importance of Government investment expenditures in the Government budget. The current primary surplus (TR-CG) also measures the extent to which the Government can make transfers and interest payments without incurring current deficits in its budget. The ratio IG/(TR-CG) has always remained below unit level and declined over the period 1975-2000. This indicates that the importance of Government investment was on the decline, relative to interest and transfer payments.

The second ratio (IG/BD) shows to what extent (in percentage terms) Government investment might have contributed to the budget deficit. Both ratios show a declining trend, indicating that the relative importance of Government investment in the Government budget was on the decline. Both ratios, however, stabilize at around 40 per cent towards the end of the period 1975-2000. The

analysis reinforces our earlier finding that the Government's transfers and interest payments, rather than its consumption and investment expenditures, are the main sources of the deficit that resulted in the escalation of public debt. Columns 2 and 3 of table 3 show the two ratios explained above.

Table 3. Government investment, Government budget deficit, and national debt ratios

(Percentage)

				Growth rate of ND/GDPN	
(1) Year	(2) IG/(TR-CG)	(3) IG/BD	(4) ND/GDPN	(5) Actual	(6) Estimated
1975	57.72	71.50	54.80	5.87	6.56
1976	72.48	67.63	58.47	6.69	7.61
1977	51.99	87.21	68.63	17.38	20.94
1978	35.62	45.38	72.54	5.71	6.69
1979	52.23	51.81	67.72	-6.66	-8.17
1980	77.54	37.02	77.18	13.98	17.75
1981	47.32	30.26	76.10	-1.40	-1.79
1982	62.05	28.57	81.15	6.64	7.75
1983	43.92	36.14	80.97	-0.23	-0.28
1984	31.70	50.92	68.51	-15.38	-19.45
1985	39.65	41.04	80.24	17.11	18.08
1986	52.53	44.88	86.76	8.13	8.98
1987	49.43	51.38	96.99	11.80	12.93
1988	65.95	37.73	101.02	4.15	4.69
1989	52.20	51.06	108.72	7.62	8.65
1990	34.64	39.76	96.58	-11.17	-14.27
1991	40.16	35.94	98.48	1.97	2.28
1992	30.53	40.19	95.36	-3.17	-3.62
1993	39.50	47.91	96.87	1.58	1.85
1994	32.68	29.08	95.14	-1.78	-2.07
1995	39.64	35.17	95.20	0.06	0.07
1996	36.02	32.47	93.26	-2.03	-2.33
1997	41.12	42.75	85.82	-7.98	-9.25
1998	45.17	36.51	90.84	5.84	6.68
1999	36.68	42.32	95.06	4.65	5.05
2000	52.03	33.04	96.90	1.94	2.21

Source: Compiled and estimated from the statistical tables in annual reports of the Central Bank of Sri Lanka (2000-2006).

Abbreviations: See list of abbreviations.

Column 4 of table 3 shows clearly that the national debt to nominal GDP ratio has indeed reached alarming proportions in Sri Lanka. In order to curb the public debt that has snowballed over time, there remains the soft option of taking up expenditure-trimming measures directed at its consumption and investment outlays of the Government. However, the *Annual Report* of the Central Bank of Sri Lanka (2003) noted the need for the Government to step up its investment expenditure for growth as well as development of the economy.

Government budget deficit and national debt

We define the national debt (ND) of any year as the sum of the previous year's national debt (ND_{-1}) and the budget deficit (BD) of the given year, ($ND = ND_{-1} + BD$). This definition generates data that tracks the actual data very closely. Columns (3), (4) and (5) of table 3 show the ratio of national debt to nominal gross domestic product, as well as the growth rate of the debt-to-GDP ratio. These help us analyse the sustainability of national debt in Sri Lanka.

We find that the debt-to-GDP ratio took a turn for the worse since the beginning of the ethnic war in the late 1980s. The debt-sustainability issue has to be discussed keeping in mind the Government's policy of reducing the current deficit. Any cut in the excess of current expenditures over Government final consumption expenditures, if feasible, may augment resources for investment by the Government, increasing the growth potential of the economy. To obtain a clear picture on this, we calculated the trend growth rate of current expenditures of the Government minus final consumption expenditures for the period 1975-2000 at constant prices of 2000. It turned out to be 5.07 per cent.

Possibility of resource augmentation

The Government policy document (Sri Lanka 2002) relied on the initiative of the private sector to increase investment and step up growth in the economy. As per the official policy, the role of the Government would be to create an environment conducive to private investment in the economy. Our purpose is to discover whether the Government can, in addition, generate resources for its own investment, which we believe will attract, support and supplement the proposed private investment in the economy. To this end, we carried out a simple exercise using data from the *Annual Report 2003* of the Central Bank of Sri Lanka. The results are presented in table 4.

As shown above, Government consumption purchases are well within the limits set by its total revenue collections. The budget deficits are mainly due to the excess of current expenses over its consumption purchases. This shows that

the Government's interest payments and transfers are the main reasons for the deficits. Containing the deficit therefore requires curtailment of this excess.

Data show that during the period 1975-2000, the actual growth rate of the excess of current expenses over consumption purchases (CEG-CG (old) in table 4), was 5.07 per cent per annum (based on estimates from table 4). For the Government to make resources available for investment leading to growth, it would have to divert expenditures from the pool of CEG-CG, given the limited possibility of increasing its total current revenues and its commitment to the consumption purchases. If it had been possible to halve the growth rate of CEG-CG, then the balance amount could have been directed towards investment. At no extra burden to the public debt, these resources could have been channeled towards Government investment in the economy.

We computed a new set of figures for the excess of current expenses over consumption purchases (CEG-CG (new) in table 4), at a growth rate of 2.53 per cent per annum, which is half the historic growth rate of 5.07 per cent per annum. The gap, calculated as CEG-CG (old – new), is a measure of the extent to which additional resources could have been generated for Government investment within the existing scenario of Government finances. The current deficit would be taken care of, and there would be no extra burden on the existing public debt. Moreover,

Table 4. Possibility of resource augmentation, 1988-2000
(Millions of Sri Lankan Rupees, at constant 2000 prices)

Year	*CEG-CG (new)*	*CEG-CG (old)*	*Additional resources (old – new)*
1988	73 687	74 626	939
1989	75 577	78 504	2 927
1990	77 516	82 584	5 068
1991	79 505	86 875	7 370
1992	81 544	91 390	9 845
1993	83 636	96 139	12 503
1994	85 782	101 135	15 353
1995	87 982	106 390	18 408
1996	90 240	111 919	21 679
1997	92 555	117 735	25 180
1998	94 929	123 853	28 924
1999	97 364	130 289	32 925
2000	99 862	137 060	37 198

Source: Compiled and estimated from data from the Central Bank of Sri Lanka (2000-2006: 2000).
Abbreviations: See list of abbreviations.

the additional growth resulting from Government investment would stand the economy in good stead as far as long-term possibilities of debt retirement are concerned.

Table 4 presents the results regarding the possibility of resource augmentation in the economy for Government investment. It appears that, from the year 1988 onwards, it would have been possible for the Government to augment resources for investment in the economy.

Main observations on Government finances

Above we analysed the nature of the problem of the Government budget deficit and the resulting public debt in the developing economy of Sri Lanka. The different categories of deficit reveal that the Government's tax and non-tax revenues are actually in excess of its current consumption of final goods and services. The current account of the budget has been running deficits due to the excess of current outlays of the government over tax and non-tax revenues. More specifically, the current expenditures are nearly twice those of final consumption. The difference between the two is attributable to interest payments on past debt and current transfers made by the Government. The Government's proposed reforms do not seem to make much of a difference in terms of increasing current revenues. The main thrust of the fiscal reforms is on reducing current expenditures by about 17 per cent to 47 per cent within a span of six years (as shown in table 2).

Reducing final consumption expenditures may not guarantee a matching increase in private final consumption, due to imperfections in the market. Government investment, which is crucial for growth, is on the decline as a proportion of the budget deficit. Government investment as a proportion of the excess of current revenue over current consumption is also on the decline. Under such circumstances, the Government should try to augment resources for public investment so that the private sector may feel encouraged to participate.

Linking the Government sector to the rest of the economy

In the analysis so far, we have made some conjectures about possible measures in the domain of fiscal policy that could promote economic growth in Sri Lanka. To arrive at more concrete and substantive policy perspectives, the Government sector must be linked with a suitable quantitative model for the economy. This would open up the possibility of empirically testing the possibility of furthering growth.

In the next section, we present a model developed for Sri Lanka, which provides an overview of the economy and facilitates an understanding of how the economy actually works. The estimated model will form the basis for analysing the Government's finances, as well as the role of the Government in promoting economic growth.

III. THE KEYNES-LEONTIEF-KLEIN MODEL FOR SRI LANKA

In order to analyse the performance of the economy in detail, with particular emphasis on the role of the Government, we have developed an integrated input-output and macroeconometric model for the Sri Lankan economy by synthesizing the ideas of Keynes (1936), Leontief (1951) and Klein (1965, 1978, 1986).

While Colombage (1992) and others (as reported by Dasanayake 2000) have constructed macroeconometric models of various hues for Sri Lanka, these models have not considered the details of the production structure of the economy. In fact, Klein (1965, 1978, 1986) emphasizes that the supply-side of the economy should also be taken into account in any macroeconometric model. The complete model in this paper consists of the macroeconometric sub-model outlined in

Table 5. The macroeconometric sub-model

	Equation or identity	*Number*
1.	CP = f (GDPD, CP-1, RR)	Equation (1)
2.	GDPD = GDP – GTR	Identity (1)
3.	CG = f (CG-1, GR, FA, BCG)	Equation (2)
4.	GR = GTR + GNTR	Identity (2)
5.	GTR = f (GDP, IM)	Equation (3)
6.	GNTR = f (GDP, GNTR-1)	Equation (4)
7.	ID = f (GDP-1, BCP, BCG, FDI, RR)	Equation (5)
8.	TI = ID + FDI	Identity (3)
9.	GDP = (CP + CG) + TI + (EX-IM)	Identity (4)
10.	EX = f (EXCH, GDPW)	Equation (6)
11.	IM = f (EXCH, GDP)	Equation (7)
12.	R = f (GDP, MS)	Equation (8)
13.	CPI = f (MS)	Equation (9)
14.	RR = R-INFL	Identity (5)
15.	INFL = (CPI-CPI-1)/CPI-1	Identity (6)

Notes: Exogenous variables: CP-1, CG-1, BCG, GNTR-1, GDP-1, FDI, GDPW, BCP, EXCH, MS.
Endogenous variables: CP, GDPD, CG, GR, GTR, GNTR, ID, TI, GDP, EX, IM, R, CPI, RR, INFL.

Abbreviations: See list of abbreviations.

table 5 and an input-output sub-model given by x = Ax + f, where x represents the vector of gross outputs, A is the technology matrix, and f stands for the vector of final demands.

Thus, we have a complete circuit: GDP→ FINAL DEMANDS→SECTORAL PRODUCTION→VALUE ADDED→GDP. This approach provides substantial and detailed production-and-supply-side content to conventional macroeconometric models and remedies the short-circuit problem of conventional open static input-output models, where initial exogenous increases in final demand do not create subsequent rounds of income-induced, multiplier-led expansions of consumption and investment expenditures.

The input-output sub-model has 19 sectors based on a suitable aggregation scheme applied to the input-output tables of Sri Lanka for 1986, 1994 and 2000. The input-output tables have been sourced from the Ministry of Finance and Planning (Sri Lanka 1986, 1994) and the Institute of Policy Studies (Sri Lanka 2000).

Data for the macroeconometric model were sourced from various publications of the United Nations on national income statistics (United Nations 1975-2002). Detailed estimates of the behavioural relationships of various sectors of the input-output sub-model were obtained in order to supplement the macroeconomic estimates. For example, in the area of private consumption expenditure, individual functional forms were estimated for as many different sectors as permissible, given the data availability and compatibility constraints. These individual estimates were tied to the aggregate consumption function. Similarly, the total investment expenditure was divided into major categories, such as construction, and transport and machinery, and a similar detailed estimation procedure was repeated. The model focuses on capturing as many details as possible in the area of foreign trade by looking into commodity-level export-import data sourced from international trade statistics (United Nations 1975-2000).

The estimated macroeconometric model

Since our objective in this paper is to analyse Government finances, we present the estimated aggregate equations of the macroeconometric model only. The estimated results of that model, using the method of two-stage least squares, appear in appendix II. In the first-stage results of the estimation process, the Durbin-Watson statistics of the equations were statistically insignificant, implying the absence of a first-order autoregressive pattern in the disturbance terms of the individual equations. In a simultaneous equations system, the set of regressors is partly endogenous. Therefore, the conventional measures of R-squared may be misleading. Following Maddala (1988), we have used a measure of goodness of fit

denoted in table B.1 of appendix II by "R-squared", given by the expression [1-(Residual sum of squares/Total sum of squares)]. Below, we discuss a few salient features of our estimated macromodel.

Private consumption. Initially, we tried to estimate private final consumption expenditure as a function of disposable real output, lagged consumption, and also the real rate of interest. The estimated regression coefficients for disposable real output and lagged consumption were both significant at the 5 per cent level. However, the estimated form omits the real rate of interest, because its coefficient was statistically insignificant. Our estimated results indicate that the inter-temporal substitution effect supposed to operate through the real rate of interest is weak in the Sri Lankan economy.

Government consumption. It is widely believed that uneconomic Government expenditure lies behind many of the problems of macroeconomic management in developing economies. In order to test this proposition, we investigated whether the Government actually consumes out of bank borrowings or accumulated foreign asset holdings of the Central Bank. The estimated coefficient of lagged Government consumption and that of Government revenue were both significant at 5 per cent, while the coefficients of bank credit to the Government and foreign direct investment (FDI) were statistically insignificant. Hence, these regressors were not included in the final estimates, where both the variables lagged Government consumption expenditure and Government revenue are significant at 1 per cent. The important result obtained in this context is that Government consumption was shown to be directed by Government revenue and dependent on its own lagged value.

Total investment. We began with the proposition that total investment has two components: domestic and foreign. It emerged that domestic investment was not operating under an accelerator-type of mechanism, because the coefficient of lagged GDP was statistically insignificant even at the 10 per cent level. The coefficients of the other regressors were also not statistically robust. Repeated trials brought out the estimated result that total investment depends on the volume of bank credit available to the private sector, bank credit to the Government, and FDI, each significant at the 5 per cent level. The real rate of interest, however, remains insignificant even at the 10 per cent level.

Government tax revenue. The estimated results show the coefficient of the real output GDP to be significant at the 1 per cent level, while the other explanatory variable, imports, was not found to be significant at either the 1 per cent or 5 per cent levels. Hence, the final estimate shows Government tax revenue to be a function of real GDP alone.

Government non-tax revenue. It was found that the lagged Government non-tax revenue and real GDP were the only explanatory variables that were statistically significant, at the 1 per cent and 10 per cent level, respectively.

Exports. Export demand for the country's products was not found to be dependent on real income of the world. The estimated form omits the income-effect supposed to be operating through world-GDP because its coefficient was statistically insignificant. The other explanatory variable—exchange-rate—was found to be significant even at the 1 per cent level. Hence, it appears that the exports of Sri Lanka are sensitive to relative price.

Nominal rate of interest. No statistically significant relationship was obtained between the nominal rate of interest and the GDP and money supply variables at the 5 per cent level of significance.

Money and prices. The estimated relationship was best obtained in a double-log form, indicating a relationship between the rate of growth of money supply and the rate of inflation. The coefficient of the nominal money supply was statistically significant even at the 1 per cent level.

Integrating the real and monetary sectors. In the macroeconometric sub-model, we wanted to take into account both real and monetary factors in the economy. The proposed integration was attempted through the real rate of interest, which in turn was modelled as the money rate of interest net of the inflation rate. However, neither the consumption nor investment functions estimated showed significant coefficients for the real rate of interest. Therefore, to incorporate monetary and fiscal policy in the model later on, we have used the already-introduced credit-channel variables, namely, bank credit to the private sector and bank credit to the Government.

The estimated model was solved for GDP in terms of the purely exogenous and predetermined (lagged) variables. Repeated substitutions of the functional forms of the variables lead to a convergence of the GDP values that are very close to the actual figures.

Discussions on the detailed regressions of the input-output sectors

As mentioned above, the estimated sector-level equations are presented in appendix II. We now discuss the main features of the estimated sector-level details.

Consumption. Four main categories were identified: (a) food, beverages and tobacco; (b) textiles, clothing and footwear; (c) electricity, water and gas; and

(d) other manufactured products. All four were found to be strongly related to disposable GDP alone. In each of these regressions, the estimated coefficients were significant at the 1 per cent or 5 per cent level.

Investment. The model identified two major categories of investment expenditure: (a) construction and land development; and (b) machinery and equipment manufacturing. In the construction sub-group, the coefficient of bank credit to the private sector was statistically significant at the 1 per cent level, while the coefficients of the other factors, such as bank credit to the Government or FDI, were not significant even at the 5 per cent level. The equation estimating investment in the category of machinery showed a negative coefficient of bank credit to the private sector. However, the estimated coefficients of bank credit to the Government as well as FDI were positive and statistically significant at the 1 per cent level. The final estimates show investment in machinery and equipment manufacturing to be a function of bank credit to the Government and FDI, with both the respective coefficients significant at the 1 per cent level.

Export. Traditional exports, such as tea and rubber, were not strongly related to exchange-rate variations or world-GDP fluctuations, as indicated by low values of R-squared. However, the coefficients of exchange rate were statistically significant at the 1 per cent or 5 per cent level. Some of the main categories of exports were identified as: (a) other agricultural products; (b) garments; (c) non-metallic products; (d) other manufactured products; and (e) machinery and equipment manufacturing. Of these, machinery and equipment manufacturing showed a double-log relationship with the exchange rate, while other manufactured products showed a double-log relationship with world-GDP. In each case, the coefficient of the regressor was found to be statistically significant at the 1 per cent level. It may be recalled that overall, the exports of Sri Lanka were not found to be sensitive to world-GDP, indicating that the relative importance of other manufactured products (which is sensitive to world-GDP) in total exports was low during the period 1975-2000.

Import details. The main categories of imports were identified as: (a) rubber; (b) other agricultural products; (c) textiles; (d) food processing; (e) chemicals and chemical products; (f) non-metal products; (g) other manufactured products; (h) machinery and equipment manufacturing; and (i) basic metals. The main factor affecting these imports was identified as GDP, since its coefficient was statistically significant at the 1 per cent level. However, in the case of rubber and the machinery and equipment sector, imports were also found to be related to total investment in the economy.

In order to test the validation of this model, the root mean square percentage errors for the six broad sectors of the economy were computed by comparing the aggregate and detailed sectorwise GDP estimates with the corresponding figures from the national income accounts of Sri Lanka. The results are shown in table 6.

Table 6. Values of root mean square percentage errors

Broad sectors of the economy	*RMSPE*
Agriculture, hunting, forestry and fishing	0.25
Mining and quarrying	1.44
Manufacturing	0.25
Electricity, gas and water	3.05
Construction	0.33
Trade transport and other services	0.11

Source: Results from the present study based on data from the United Nations (1975-2002).

Abbreviation: RMSPE, root mean square percentage error.

In order to develop an understanding of how the economy works and to find out specifically whether the Government can initiate any active policy measures to increase the output level of the economy, we carried out some historical simulations. In the next section we discuss the results of these simulation exercises.

IV. HISTORICAL SIMULATIONS

The next step in our empirical investigation is to carry out some simulation exercises to find out how the economic performance of Sri Lanka would have been affected under alternative policy regimes. The first wave of liberalization in 1977-1979 included: (a) significant trade liberalization; (b) a revamping of foreign investment approval and provision of new incentives for investors; (c) interest rate reform; (d) the opening up of the banking sector to foreign banks; (e) limits on public sector participation in the economy; and (f) exchange rate reforms (Athukorala 2000). We wanted to investigate whether the performance of the Sri Lankan economy could have been better during the period 1975-2000. Our macromodel identifies four major exogenous variables that could possibly affect the growth performance of the economy. These are: (a) bank credit to the private sector; (b) bank credit to the Government; (c) FDI; and (d) the exchange rate between the Sri Lankan rupee and the United States dollar.

Historical data on these four policy variables reveal that each has been following a rising trend with marked fluctuations. In simulating the performance of the economy, we have altered the values of these variables at selected points of time, as far as permissible within the broad limits of historical data, and checked the sensitivity of GDP to such changes.

A method similar to the iterative convergence-based estimation procedure has been used for simulating the GDP of the economy during the period 1975-2000. Starting from the estimated GDP for 1975, estimates of private final consumption, Government final consumption expenditures, total investment, exports and imports were obtained. These formed the predetermined variables for the following year. Using those and the exogenous variables as per proposed alterations, the same procedure was repeated to arrive at the GDP of 1977. In this manner, a simulated series was obtained for the entire period 1975-2000. The proposed values of the exogenous variables were experimentally determined after closely observing their actual behaviour.

The first series to be considered was bank credit to the private sector. This variable recorded negative growth rates during the years 1980, 1988, 1989 and 1996. The simulation process proposes altered values of these variables. The value of bank credit to the private sector for 1980 was considered to be a 3 per cent increase over the previous year, instead of a decrease of 18.7 per cent. To revive the economy, the value for the following year (1981) was also considered to increase at the same rate of 3 per cent. For each of the years between 1988 and 1992, it was proposed that bank credit to the private sector grow annually at 1 per cent. Finally, for the years 1996, 1997 and 1998, annual growth of such credit was set at 2 per cent. The proposed changes were well within the limits set by the actual growth rates experienced by the variable during the period 1975-2000.

Next, we turned our attention to the second variable (bank credit to the Government sector). Historically, this series shows nine years with negative growth rates: 1978, 1983, 1984, 1990 to 1994 and 1997. It was proposed that there be an annual growth rate of 1 per cent in the variable during 1978 and 1984 to 1986, and of 0.5 per cent for each year in the period 1990 to 2000. If it had been possible to implement the proposed changes, the time path of GDP would have been higher than the actual figures for the entire time span 1975-2000.

In addition, we included some minor proposed changes in the series for FDI. We considered a low annual growth rate of 0.25 per cent from 1980 onwards, except for 1997 and 1998, when the growth rates were higher. Finally, we considered changes in the exchange-rate depreciation for the years 1979, 1986, 1991 and 1995. Together, the proposed changes cause the simulated time-path of

GDP to be higher than the actual time-path. The average compounded annual growth rate of GDP could have been 5.42 per cent instead of the actually recorded 4.91 per cent for the entire time period 1975-2000, if it had been possible to implement these modest proposed changes.

Discussion on the results of the simulations

Growth prospects in the initial years of liberalization

During the early years (1976-1983), despite periodic declines, the actual average annual growth rates of bank credit to the private sector, bank credit to the Government sector and FDI in percentage terms were 13.74, 13.11 and 19.65, respectively. The corresponding growth rate in GDP was 5.49 per cent. We observed the economy to be most sensitive to changes in FDI. If, instead of the drastic fall in the FDI figures during the period 1976 to 1983, it had been possible to maintain even a slightly positive growth rate of 0.25 per cent, the economy could have been on a higher time-path of GDP, recording an impressive 7.81 per cent annual growth on average. The simulation results are not particularly sensitive to changes in the variables of bank credit to the private sector or bank credit to the Government sector during this subperiod.

Effect of Government intervention during the war

The actual average annual growth rate of GDP during the period 1984-1990 was 3.64 per cent. It would have been possible to step up that rate to 4.16 per cent under an alternative moderately improved scenario, if the growth rate of foreign assets had been maintained, (even at levels as low as 0.25 per cent per annum), the growth rate of bank credit to Government had been maintained at 1 per cent per annum during 1984-1987, and the historical figures for bank credit to Government had been maintained thereafter.

A more optimistic alternative scenario would consist of maintaining the 0.25 per cent growth rate in FDI while going for a 15 per cent growth rate in bank credit to Government. The average growth rate of GDP could then have risen to 5.09 per cent per annum

Growth possibilities in the post-war period

Here we compare the actual GDP with two alternative scenarios during the period 1991-2000. In the moderate-improvement scenario, changes in the bank credit to Government and FDI figures have been considered. However, more marked changes in the former raise the annual growth rate from 5.3 to 6.55 per

cent on average. A summary of the results of the actual and simulated growth performance of Sri Lanka from 1976 to 2000 is provided in part 1 of table 7.

Table 7 has three parts: (a) policy led by bank credit to the Government sector; (b) policy led by bank credit to the private sector; and (c) policy led by bank credit to the private sector as well as FDI. In the first part, the estimated model shows that bank credit to the Government sector can stimulate growth in the Sri Lankan economy through its impact on total investment. This can be explained as the positive impact of Government investment in the economy. Therefore, it would seem that bank credit to the Government sector could stimulate growth.

However, a word of caution is necessary at this stage. The developing economy of Sri Lanka is also plagued by inflation. The estimated macroeconometric model detailed in table B. 1 in appendix II shows, through equation (9) of table 5, that the rate of inflation in Sri Lanka is closely related to the rate of growth of money supply. Growth in money supply, in turn, can be explained in terms of monetization of the Government budget deficit through bank credit to the Government sector. Figure C.1 and equation (C.1) of appendix III show that the stock of national debt is defined as the sum of the past stock and the yearly Government budget deficit. In figure C.2 and equation (C.2) we show that the rate of growth of the monetary base of Sri Lanka is largely explained through changes in the national debt. Finally, figures C.3 and C.4, together with equations (C.3) and (C.4) show the close connection between the Government budget deficit and bank credit to the Government sector. In other words, a high rate of growth of bank credit consequent upon widening Government budget deficits has been a major source of increase in money supply, creating inflation. However, bank credit to the Government explains only a part of total investment in the economy, because such credit has been used mainly to finance current account deficits. Therefore, the costs and benefits need to be weighed.

Data on the Sri Lankan economy for the period 1975-2000 show that Government investment accounts for a small percentage of bank credit to the Government sector, supporting the observation that the bulk of such funds sourced by the Government goes towards meeting current expenses. Again, the current expenses of the Government are comprised partly by the Government's current purchase of goods and services and partly by other current expenses in the form of interest payments and transfers to the private sector. It has been shown in this paper that Government revenue adequately finances the Government's current purchase of goods and services. In addition, the ratio of Government investment to Government budget deficit is small.

Table 7. Summary of growth rates, 1975-2000
(Percentage)

		1975-1983	1984-1990	1991-2000	1975-2000
Policy led by bank credit to the Government sector					
BCP:	Actual	13.74	0.40	9.24	8.58
	Simulated	13.74	3.35	8.14	8.58
BCG:	Actual	13.11	9.32	2.61	5.02
	Simulated	14.80	15.00	15.00	14.94
FDI:	Actual	19.65	-14.95	25.82	4.82
	Simulated	24.51	0.25	1.41	7.25
EXCH:	Actual	15.83	7.86	6.96	9.59
	Simulated	15.83	7.86	6.87	9.59
GDP:	Actual	5.49	3.64	5.30	4.91
	Simulated	7.81	5.09	6.55	6.03
Policy led by bank credit to the private sector					
BCP:	Actual	13.74	0.40	9.24	8.58
	Simulated	16.19	15.00	15.00	15.35
BCG:	Actual	13.11	9.32	2.61	5.02
	Simulated	13.11	9.32	2.61	5.02
FDI:	Actual	19.65	-14.95	25.82	4.82
	Simulated	24.51	0.25	1.41	7.25
EXCH:	Actual	15.83	7.86	6.96	9.59
	Simulated	15.83	7.86	6.87	9.59
GDP:	Actual	5.49	3.64	5.30	4.91
	Simulated	7.95	6.07	7.39	6.96
Policy led by bank credit to the private sector and foreign direct investment					
BCP:	Actual	13.74	0.40	9.24	8.58
	Simulated	16.19	15.00	15.00	15.35
BCG:	Actual	13.11	9.32	2.61	5.02
	Simulated	13.11	9.32	2.61	5.02
FDI:	Actual	19.65	-14.95	25.82	4.82
	Simulated	27.85	5.00	5.00	11.21
EXCH:	Actual	15.83	7.86	6.96	9.59
	Simulated	15.83	7.86	6.87	9.59
GDP:	Actual	5.49	3.64	5.30	4.91
	Simulated	8.16	6.31	7.43	7.12

Source: Results from the present study, based on data from United Nations (1975-2000).

Abbreviations: See list of abbreviations.

Therefore, the Government's interest payments and transfers to the private sector can be singled out as the main reason for the growing budget deficit, leading to monetization through bank credit to the Government sector and inflation in the economy. Since bank credit to the Government as a policy variable favours investment in the country, the implication is that public investment should be stepped up, and not that credit should be indiscriminately increased to finance additional current expenses of the Government, creating additional current account deficits and inflation.

Among the three factors explaining investment in Sri Lanka, the coefficients of bank credit to the private sector, as well as FDI, show a much larger impact on total investment compared with bank credit to the Government sector. These results are shown in table 7. For each of the three periods, the rate of GDP growth is highest under the policy led by bank credit to the private sector and FDI, followed by policy led by bank credit to the private sector, and least under a policy led by bank credit to the Government. Thus, the present paper in no way serves as a critique of growth led by the private sector.

The major conclusion that we reached is that private-sector investment, through bank credit to the private sector and FDI, and Government investment through bank credit to the Government sector, are complementary. The proposal for resource augmentation in no way requires additional funds in the form of bank credit to the Government. Rather, the resource augmentation proposal focuses on curbing the other current expenditures of the Government to accommodate Government investment. In this way, the public sector investment programmes could be financed in a non-inflationary manner.

V. SUMMARY AND CONCLUSIONS

In the present paper, we have analysed the twin problems of Government budget deficits and mounting public debt in Sri Lanka in the context of economic growth. While analysing the data on the Government budgets from 1975 to 2000, the authors found a current primary surplus throughout. The Government's current purchases of goods and services have not exceeded its total tax and non-tax collections. However, the total current expenditures of the Government have fallen short of the tax and non-tax revenues. The ratio of Government investment expenditures to the budget deficit has also been low. This leads the authors to conclude that the Government's transfer payments and its interest payments on past debt have been the two main reasons for the cumulating budget deficits, resulting in the snowballing public debt in the economy. The continuing internal ethnic conflict has also put a heavy burden on the Government.

In order to reverse this trend, the Government's policy document *Regaining Sri Lanka* (Sri Lanka, 2002) proposed a two-pronged action plan consisting of reductions in the Government's expenditures as well as increased revenue through a "world-class Revenue Authority". The authors find that the past trend of the Government's total tax and non-tax revenues is close to the projections of revenues made in the policy document, under the proposed revenue system. Therefore, the only two areas where the Government really has space to manoeuvre are its transfer payments in the form of social welfare programmes and attempts to retire past debts.

The present study has quantified the extent to which it would be possible for the Government to augment resources by curtailing such welfare expenditures as mentioned above. Table 4 showed the extent of real resource augmentation that would have been possible after the year 1988, if the growth rate of the current expenditures of the Government-Government consumption expenditures series had been reduced to 2.5 per cent per annum (half the actual rate). Those additional real resources could therefore have augmented Government investment in areas where private investment is slow to venture. In this way, the current deficit of the Government could have been reduced and an increase in Government investment could have stimulated growth.

An outline of the integrated macroeconometric and input-output model developed for the Sri Lankan economy shows clearly, through historical simulations, that Government investment could play a significant role in accelerating economic growth in Sri Lanka. Simulation exercises based on the macroeconometric model also highlight the potential of private investment and FDI in generating economic growth.

However, increasing Government investment and bank credit to the Government are not synonymous. The study indicates that the latter has largely been used to bridge the Government budget deficit that arose from the excess of current expenditures over revenues. Increases in bank credit to the Government have caused the monetary base to expand rapidly, creating high inflation in Sri Lanka. A high rate of inflation begets a high expected rate of inflation. Such inflationary expectations could erode the growth potential of the economy through its adverse impact on the supply side. Thus, while the role of Government investment in the economy is crucial, it is equally important to understand that bank credit to the Government may not be the best way to increase Government investment.

Hence, the authors conclude that the growth rate of the GDP of Sri Lanka can be substantially increased by encouraging market-based private-sector participation, and by systematically reducing the current deficits in the Government budget to release resources for investment. In following this policy, the Government has to provide a strong positive and credible signal to the private sector by reducing its current primary deficits, curbing current account expenditures and focusing on investment. The present paper therefore emphasizes a policy of augmenting growth by promoting the complementary roles of Government and private investment, both domestic and foreign.

ABBREVIATIONS

BCG	Bank credit to the Government sector
BCGEST	Estimated bank credit to the Government sector
BCP	Bank credit to the private sector
BD	Budget deficit
CEG	Current expenditures of the Government sector
CG	Government consumption expenditure
CG_{-1}	Lagged Government consumption expenditure
CP	Private consumption expenditure
CP_{-1}	Lagged private consumption expenditure
CPI	Consumer price index
ESTND	Estimated national debt
EX	Exports
EXCH	Exchange rate (Sri Lankan rupee/United States dollar)
FDI	Foreign direct investment
GBD	Government budget deficit
GDP	Gross domestic product
GDP_{-1}	Lagged gross domestic product
GDPD	Disposable gross domestic product
GDPN	Nominal gross domestic product (at current prices)
GDPW	World gross domestic product
GNTR	Government non-tax revenue
$GNTR_{-1}$	Lagged Government non-tax revenue
GR	Government revenue
GTR	Government tax revenue
ID	Domestic investment
IG	Government investment expenditure
IM	Imports
INFL	Inflation
MS	Money supply
ND	National debt
R	Nominal rate of interest
RR	Real rate of interest
TI	Total investment
TR	Tax revenue

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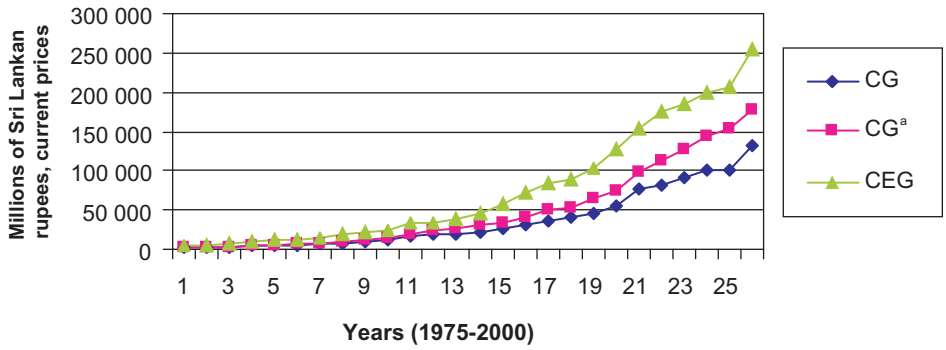
Annex I

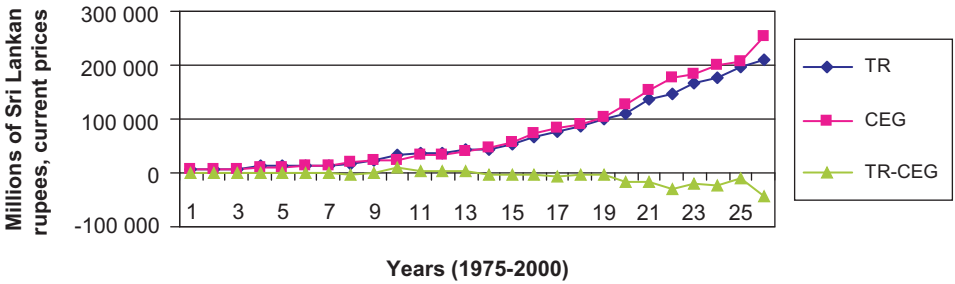
MAIN FEATURES OF THE GOVERNMENT BUDGET

Figure A.1. Current outlays of the Government



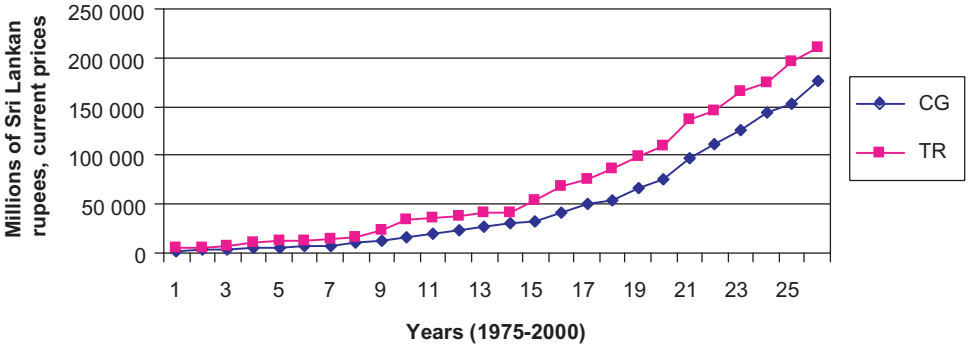
Source: Data from the Central Bank of Sri Lanka.
Abbreviations: See list of abbreviations.
[a] Data from United Nations (1975-2002).

Figure A.2. Current deficit



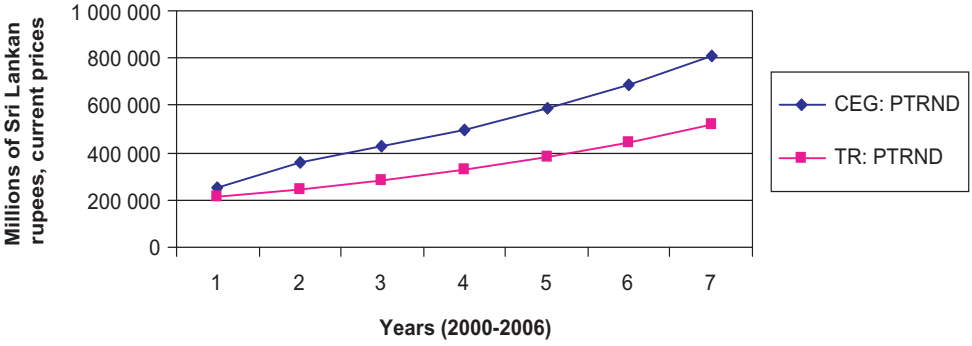
Source: Central Bank of Sri Lanka (2000-2006).
Abbreviations: See list of abbreviations.

Figure A.3. Current primary deficit



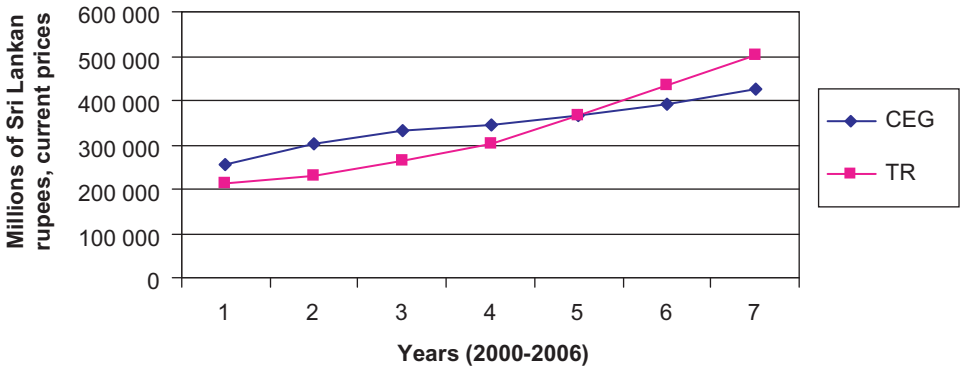
Source: Central Bank of Sri Lanka (2000-2006).
Abbreviations: See list of abbreviations.

Figure A.4. Current deficits based on past trend



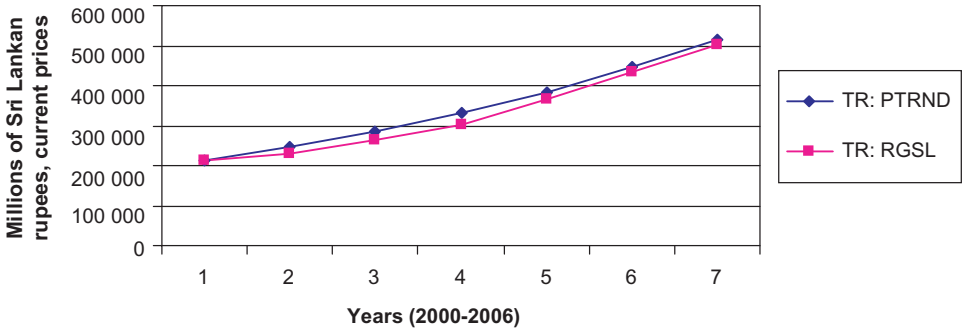
Source: Central Bank of Sri Lanka (2000-2006).
Abbreviations: See list of abbreviations.

Figure A.5. Current deficits: reversal proposed by Government



Source: Data from Sri Lanka (2002).
Abbreviations: See list of abbreviations.

Figure A.6. Comparison of the total revenues of the Government



Source: Data from the Central Bank of Sri Lanka and Sri Lanka (2002).
Abbreviations: See list of abbreviations.

Annex II

THE ESTIMATED MODEL

Table B.1. Macroeconomic estimates

	Equations							
	CP (1)	*CG (2)*	*ID (3)*	*EX (4)*	*IM (5)*	*LogCPI (6)*	*GTR (7)*	*GNTR (8)*
Constant	12 500.62 (-1.21)	-2 702.07 (-0.53)	86 157.35 -6.3	-3 766.09 (-0.36)	-47 362.9 (-2.58)	-4.68 (-29.92)	12 395.32 (-2.05)	1 431.31 (-0.58)
CP_{-1}	0.51 (2.38)**	–	–	–	–	–	–	–
GDPD	0.42 (2.43)**	–	–	–	–	–	–	–
CG_{-1}	–	0.71 (5.52)*	–	–	–	–	–	–
GR	–	0.25 (2.58)*	–	–	–	–	–	–
BCP	–	–	0.45 (11.41)**	–	–	–	–	–
BCG	–	–	0.28 (2.31)**	–	–	–	–	–
FDI	–	–	0.5 (4.73)**	–	–	–	–	–
EXCH	–	–	–	62.05 (24.41)*	–	–	–	–
$GNTR_{-1}$	–	–	–	–	–	–	–	0.69 (4.67)*
GDP	–	–	–	–	0.5 (2.36)*	–	0.15 (19.77)*	0.01 (1.54)***
logMS	–	–	–	–	–	0.78 (51.96)*	–	–
R-Squared	0.99	0.96	0.94	0.96	0.95	0.99	0.94	0.77

Source: Results from the present study, based on data from United Nations (1975-2000).

Note: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent.

Abbreviations: See list of abbreviations.

Table B.2. Significant explanatory variables

Equation	*Significant explanatory variables*
1. Private consumption expenditure	Lagged private consumption expenditure, disposable gross domestic product
2. Government consumption expenditure	Lagged Government consumption expenditure, Government total revenue (tax and non-tax)
3. Investment	Bank credit to private sector, bank credit to Government, foreign direct investment
4. Exports	Exchange rate of Sri Lankan rupee/ United States dollar
5. Imports	Gross domestic product
6. Nominal rate of interest	None found
7. Inflation	Rate of growth of money supply
8. Government tax revenue	Gross Domestic product
9. Government non-tax revenue	Lagged government non-tax revenue, gross domestic product

Table B.3. Detailed sector-level econometric estimates, private consumption expenditure

	Food, beverages and tobacco	*Clothing, textiles and footwear*	*Electricity, water and gas*	*Other manufactured products*
Constant	38 021.8	-4 896.2	16 740.1	-3 493.8
	(-7.33)	(-2.97)	(-6.69)	(-4.48)
GDPD	0.28	0.05	0.03	0.03
	(34.4)*	(19.30)*	(7.5)**	(25.24)*
R-squared	0.98	0.94	0.71	0.97

Source: Results from the present study, based on data from United Nations (1975-2000).

Note: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent.

Table B.4. Detailed sector-level econometric estimates, domestic investment

	Construction and land development	*Machinery and equipment manufacturing*
Constant	16 467 (-0.22)	35 631.1 (-1.43)
BCP	0.22 (13.12)*	–
BCG	–	0.75 (3.26)*
FDI	–	1.06 (4.99)*
R-squared	0.89	0.56

Source: Results from the present study, based on data from United Nations (1975-2000).

Note: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent.

Abbreviations: See list of abbreviations.

Table B.5. Detailed sector-level econometric estimates, exports

	Tea	*Rubber*	*Other*[a]	*Garments*	*Products*	*Other*[b]	*Machinery and equipment*[c]
Constant	25 593.5 (-10.43)	1 331.55 (-8.67)	3 451.31 (-4.33)	-48 307 (-8.70)	-341.48 (-0.91)	-15.98 (-10.77)	-0.63 (-1.63)
EXCH	260.1 (4.33)*	5.48 (1.46)**	168.27 (8.61)*	3 277.22 (24.08)*	70.13 (7.63)*	–	–
Log (EXCH)	–	–	–	–	–	–	2.48 (14.19)*
Log (GDPW)	–	–	–	–	–	5.53 (15.63)*	–
R-squared	0.45	0.08	0.76	0.96	0.72	0.91	0.9

Source: Results from the present study, based on data from United Nations (1975-2000).

Notes: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent. Log refers to natural log.

Abbreviations: See list of abbreviations.

[a] Other agriculture.

[b] Other manufactured products (in natural log form).

[c] In natural logarithms.

Table B.6. Detailed sector-level econometric estimates, imports

	(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*
Constant	-58.5 (-4.26)	18 193.77 -4.73	-63 532.6 (-12.87)	-10 298 (-5.51)	2 628.99 (-0.86)	-1 833.7 (-9.49)	-185.14 (-7.36)	-860.1 (-6.59)	25 946.24 (-2.89)
GDP	0.00013 (4.73)*	0.02 (4.43)*	0.15 (23.75)*	0.03 (13.76)*	0.04 (11.20)*	0.04 (23.79)*	0.04 (23.79)*	–	0.1 (8.96)*
TI	0.0004 (2.94)**	–	–	–	–	–	–	0.01 (16.4)*	–
R-squared	0.94	0.47	0.96	0.9	0.85	0.95	0.96	0.92	0.78

Source: Results from the present study, based on data from United Nations (1975-2000).

Note: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent.

Abbreviations: See list of abbreviations.

[a] Rubber.

[b] Other agriculture.

[c] Textiles, footwear and leather products.

[d] Food processing.

[e] Chemicals and chemical products.

[f] Non-metallic products.

[g] Other manufactured products.

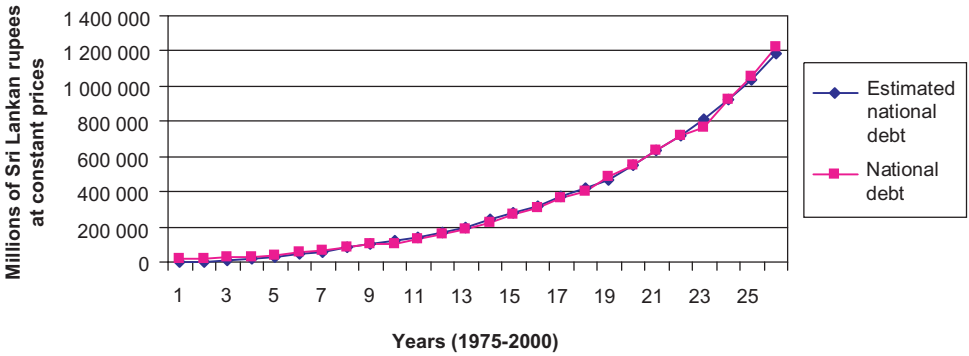
[h] Machinery and equipment manufacturing.

[i] Basic metals.

Annex III

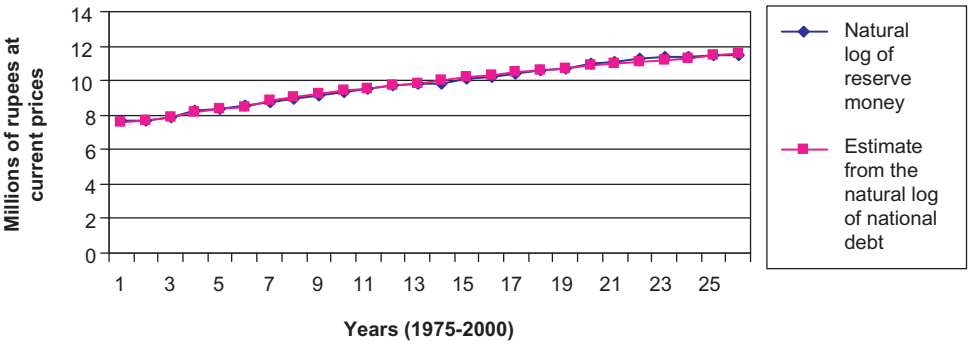
INFLATION AND THE GOVERNMENT'S BUDGET DEFICIT

Figure C.1. National debt and its estimate from Government's budget deficit



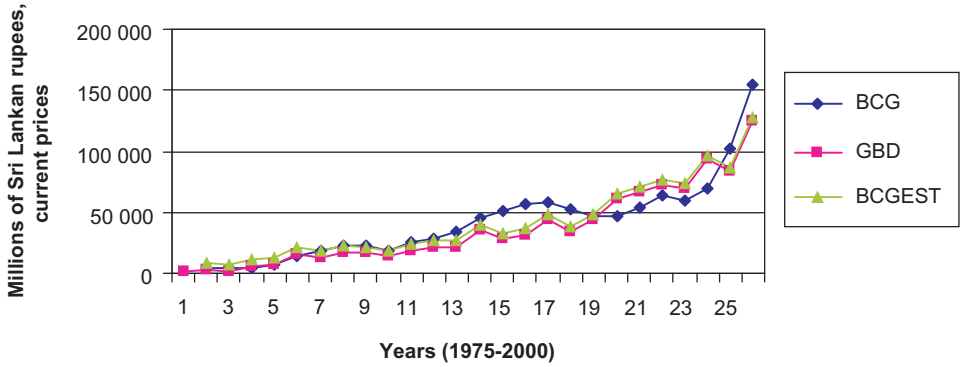
Source: Central Bank of Sri Lanka (2000-2006) and results from the present study.

Figure C.2. Natural log of monetary base and its estimate from the natural log of national debt



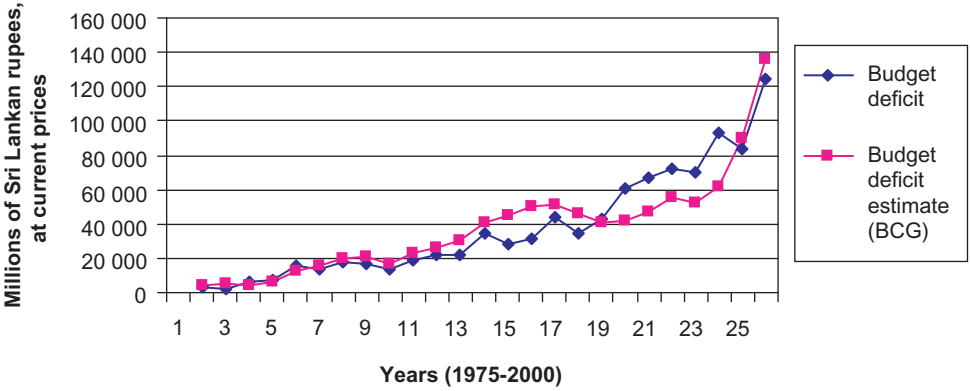
Source: Central Bank of Sri Lanka (2000-2006) and results from the present study.

Figure C.3. Bank credit to the Government and its estimate from the Government's budget deficit



Source: Central Bank of Sri Lanka (2000-2006) and results from the present study.
Abbreviations: See list of abbreviations.

Figure C.4. Government budget deficit and its estimate from bank credit to Government



Source: Central Bank of Sri Lanka (2000-2006) and results from the present study.
Abbreviations: See list of abbreviations.

Table C.1. Econometric estimates of national debt, monetary base, Government budget deficit and bank credit to the Government

	Equation (C.1) National debt	*Equation (C.2) Natural logarithm of money base*	*Equation (C.3) Government budget deficit*	*Equation (C.4) Bank credit to the Government*
Constant	-17 226.00	-1.00	608.58	5 583.82
ND_{-1} + BD	1.26 (110.27)*	–	–	–
LogND	–	0.91 (63.49)*	–	–
BCG	–	–	0.87 (11.64)*	–
GBD	–	–	–	0.98 (11.64)*
R-squared	0.99	0.99	0.85	0.85

Source: Results from the present study, based on data from United Nations (1975-2000).

Note: Figures in the parentheses are the t-values, significant at: (*) 1 per cent, (**) 5 per cent, (***) 10 per cent.

Abbreviations: See list of abbreviations.

STIMULATING INCOME GENERATION FOR THE POPULATION IN UZBEKISTAN: AN ECONOMETRIC ANALYSIS

*Sergey V. Chepel**

The core issue of national anti-crisis programmes in many countries is to stimulate domestic demand. Anti-crisis programme in Uzbekistan also includes such measures as reducing tax burden, expanding access to credit resources for producers and providing additional government support for small and medium-sized enterprises. These measures are expected to have an impact on income growth in small and medium-sized enterprises as well as in the population, in turn stimulating the expansion of cumulative demand and its positive influence on the dynamics of gross domestic product. This paper outlines channels and mechanisms through which these measures can be carried out, and explores methodological approaches and methods of quantitative estimation used in medium-term forecasting. Based on the results, scenarios are constructed to analyse and compare the rates of disposable-income increases that could potentially result from various combinations of measures and economic policy parameters.

I. THE DYNAMIC TENDENCIES OF DISPOSABLE INCOME AND MECHANISMS OF ITS INFLUENCE ON ECONOMIC GROWTH

In Uzbekistan, as well as in other countries of the Commonwealth of Independent States (CIS), steady growth of population income has been observed in the past few years. In nominal terms, the growth rate of the country was 123.8 per cent in 2005 and 138.2 per cent in 2006.[1] Even if the deflator of gross

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[1] Unless otherwise specified, the data used in this paper was taken from the journal *Uzbekistan Economy: Statistical and Analytical Review* (USAID-CER 2005-2007).

domestic product is applied, real income growth, adjusted for population increase, is estimated to be more than 10 per cent in 2006 and 2007.

A notable feature of the income structure of the population is that, during the last three to four years, slightly more than half (55 to 60 per cent) of the total income amount was derived from entrepreneurial activities and sales of agricultural products, whereas the remaining portion (about 40 to 45 per cent) was derived from personal income, including salaries and social transfers, such as pensions and stipends.

Periodic indexation of regular sources of income is a primary growth factor for personal incomes in Uzbekistan. Salaries, pensions and stipends are increased twice a year, and the indexation rates are usually 15 to 20 per cent.[2] However, when minimum salaries increase, so do the costs of services and production for small and medium-sized businesses, as well as the prices of agricultural goods produced by private farms. This inflates enterprise incomes, although growth in real terms tends to be slowed by increase in consumer prices, which accelerate correspondingly.

These tendencies in personal incomes are true for gross (before tax) incomes. In general, they also apply to disposable (after tax) incomes. However, the calculation of disposable incomes at a macrolevel in Uzbekistan is complicated by significant intricacies, given the available statistics.[3] In the System of National Accounts, gross income is converted to disposable income by deducting from the total gross domestic product the sum of amortization, indirect business taxes, contributions to pension funds, corporate profit taxes, retained corporate profits, transfer payments, property taxes and income taxes. Uzbekistan possesses significant experience in developing calculations under the System of National Accounts; however, such work was mainly for research purposes, and only rarely has this type of calculation been considered in the economic policymaking of the country.

The most recent statistics that are reported in a form that can be used in System of National Accounts calculations are from 2002, and data to this date are available only in annual form. Under these conditions, quarterly statistics for disposable income can be derived from simplified calculation schemes. Thus, in practice, the disposable income of the population is often calculated as gross

[2] The last such increase was 20 per cent, in accordance with Government resolution 3931 of 23 October 2007 (Uzbekistan, 2007).

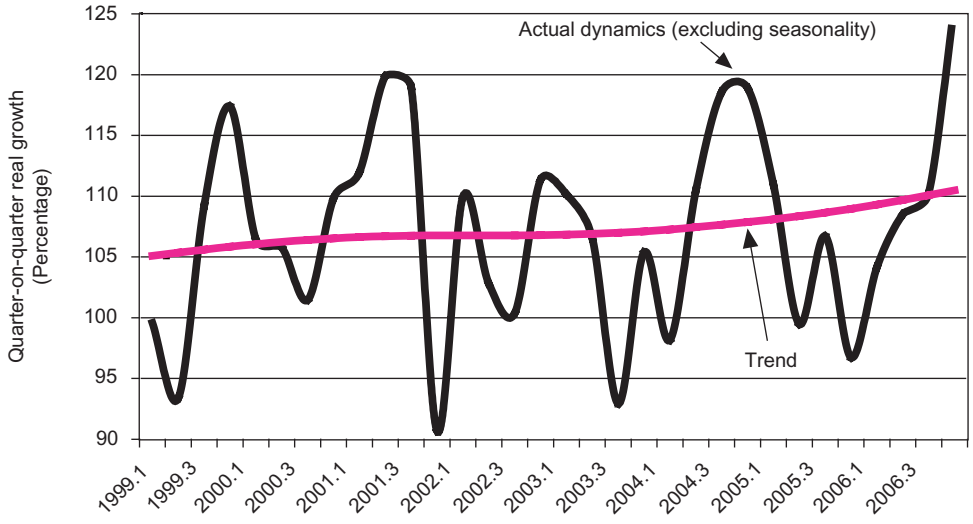
[3] The statistics source referred to here is *Official statistics in Uzbekistan: institutional basis, quality and access* (UNDP, 2006).

domestic product minus Government revenues. Average quarterly rates of disposable-income growth calculated this way do not differ significantly from available annual estimates for 1999-2002. Furthermore, the simplified system makes it possible to incorporate post-2002 data. The deflator of gross domestic product was used to convert nominal growth rates to real growth rates.

As illustrated by the quarterly ranges shown in figure 1, even when factoring out seasonality, changes in growth rates oscillated considerably (between 90 and 120 per cent). This reflects both instability of income sources and instability in the dynamics of the gross domestic product deflator. Furthermore, as shown in figure 2, the dynamics of gross domestic product influenced the stability of income dynamics, since most significant deviations in incomes were accompanied by deviations in gross domestic product.

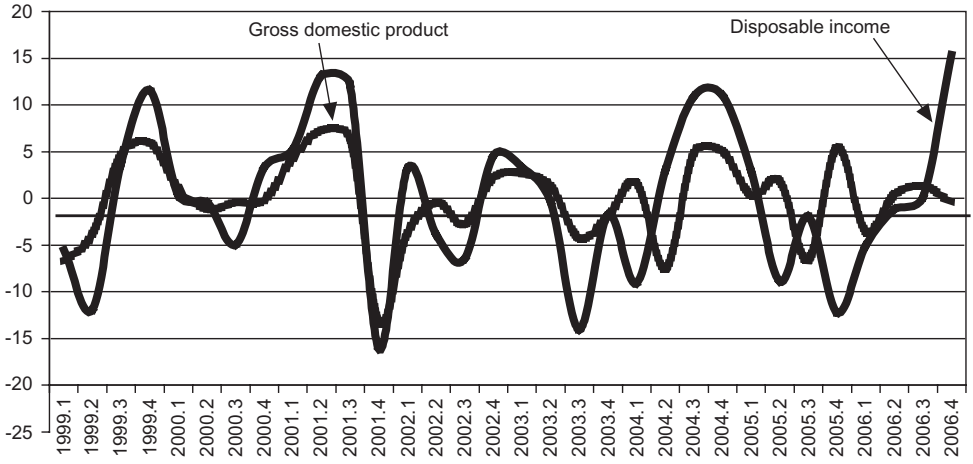
At the same time, the long-term trends in both quarterly and annual dynamics reflect increases in the real incomes of the population between 1999 and 2007. Mid-quarter growth rates increased during this period, up from 5 to 6 per cent in 1999 to 7 to 14 per cent at the beginning of 2007. But are these rates high enough to improve the well-being of the population and stimulate economic growth?

Figure 1. Disposable income: trend and actual dynamics



Source: Data from *Uzbekistan Economy: Statistical and Analytical Review* (USAID-CER 2005-2007).

Figure 2. Deviation of gross domestic product indicators and disposable income from the trend



Source: Data from *Uzbekistan Economy: Statistical and Analytical Review* (USAID-CER 2005-2007).

Note: Quarterly dynamics of disposable income and gross domestic product are given in the form of "net quarters".

Given that Uzbekistan is considered a moderately developed country, the income growth rates it has achieved must be recognized as insufficient. The World Development Indicators for 1996 to 2005 (World Bank 2007) compare country gross domestic product (GDP) per capita in terms of purchasing power parity. According to those figures, in 1996 the GDP per capita in Uzbekistan was about 80 per cent lower than the average middle-income country, and remained this far behind until 2005. Positions of other leading CIS countries for that period noticeably improved: in the Russian Federation, GDP per capita rose from 35 per cent above the middle-income country average up to 40 per cent above the average; Kazakhstan brought its levels from 20 per cent below the average up to par by 2004; Belarus went from 25 per cent below the average to 5 per cent below.

A similar picture emerges regarding the dynamics of the average salary (in dollar terms) for the last 10 years. In the mid-1990s, average monthly gross salary levels in Uzbekistan and the CIS countries considered here were approximately identical ($50-$80). But in 2007, despite the country's growth, income rates in Uzbekistan were about 2 to 2.5 times below those of the Russian Federation

(ISCCIS database).[4] Hence, growth rates of disposable incomes of the population in Uzbekistan need to be increased. This requires a detailed analysis of the available potential of income growth, taking into account the specifics of the economic structure and its efficiency.[5]

An econometric analysis and modelling of the processes of disposable incomes of the population was carried out on the basis of the theoretical scheme presented in figure 3. As noted above, growth in the population's real incomes is possible only through the growth of goods and services production. Thus the influence of national economy specifics (structure of employment, system of estimating cost of work, among other things) on population incomes can be revealed only by estimating the strength of the relationship between incomes and economic activity indicators. To this end, the group of indicators analysed here includes investment activity, foreign trade activities and production activities (industrial production growth, the share of gross domestic product attributable to small and medium-sized enterprises, and an index of commodity circulation).

Processes of economic reform and liberalization can significantly influence incomes. Effectively carried out reforms are associated with job creation and the removal of barriers to intersectoral and interregional labour flows, in turn creating additional opportunities for the economically active population.[6] Demographic structure and urbanization may also play a part in this process.

An important factor to consider is that the population in Uzbekistan earns a substantial share of income from the sale of vegetables and fruits grown on personal plots. Furthermore, as in other transition economies, such income is based on unregistered commercial activity and not reflected in population income statistics. In recent years, incomes connected with labour migration have become increasingly weightier in the structure of incomes.

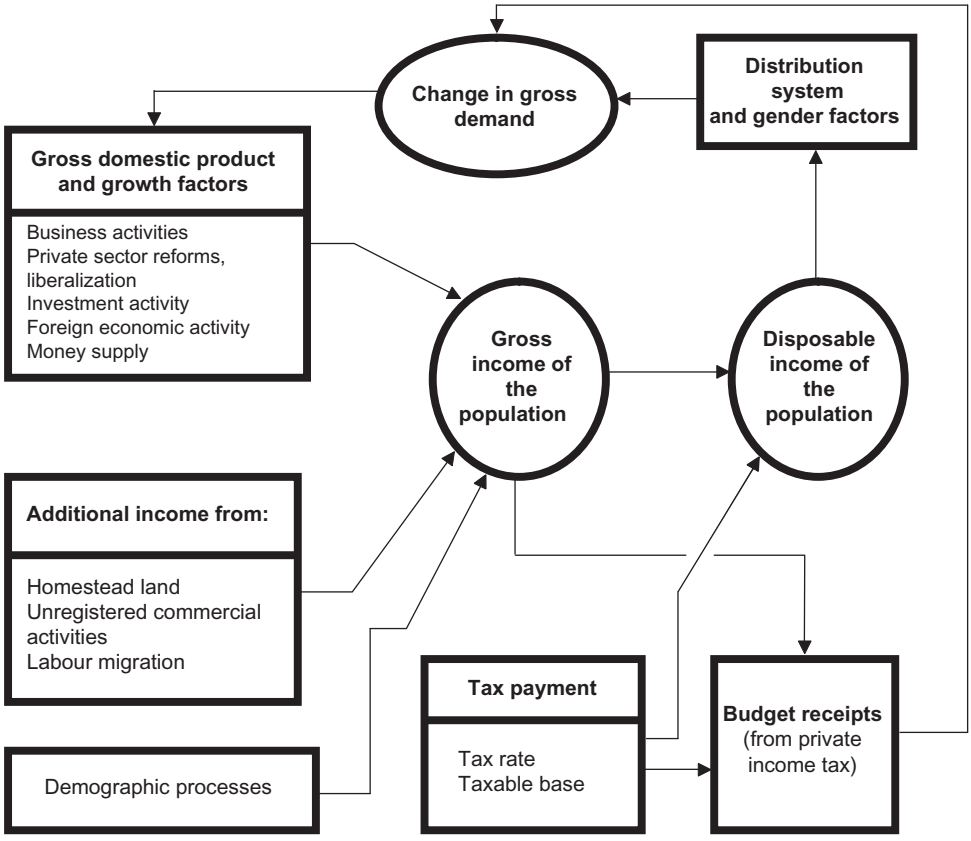
The income factors and sources shown in figure 3 are not all equally reflected in the statistical reporting. There is almost no data about additional incomes. Data for other sources of income can also be spotty. The application of an econometric approach partially overcomes these statistical problems. To this

[4] In December of that year, the average monthly salary in Uzbekistan was $210 ("Program of social and economic development republic of Uzbekistan in 2008", Newspaper "Narodnoe slovo", 12 February 2008).

[5] The author shares the opinion of the World Bank that solving these problems requires a complex approach, adapted to local specifics and assuming the use of a detailed diagnostic of certain barriers to population income growth (see Dillinger 2007).

[6] See Ali (2007).

Figure 3. Disposable income of the Uzbekistan population: factors and sources



end, the list of potential factors also includes those that can have an indirect influence on disposable incomes, but that may not be apparent in the national statistics. For example, certain changes in the dynamics of monetary aggregates can be attributed to the influence of currency flows (transfers or remittances) from labour migrants who are employed abroad. The dynamics of food exports can be affected by incomes from personal gardens, and investment dynamics, including taxes on housing construction, reveal influences from incomes earned through unregistered commercial activity.

To convert gross income to disposable income, it is necessary to have information on the size of income tax withdrawals, including the average income

tax rate and the calculated taxable base. Changes in tax withdrawals directly and indirectly influence primary sources of income. Tax increases reduce disposable incomes and negatively affect aggregate demands, gross national product and growth factors. On the other hand, Government revenues go up, and greater State spending increases aggregate demand and stimulates the economy. The final result, in many respects, is defined by the degree of equality in income, the propensity of the population and the State to save, the potential of various sources of incomes, and the sensitivity of gross national product dynamics to aggregate demand, as well as by other quantitative parameters that describe the extent to which income indicators and factors are interrelated.

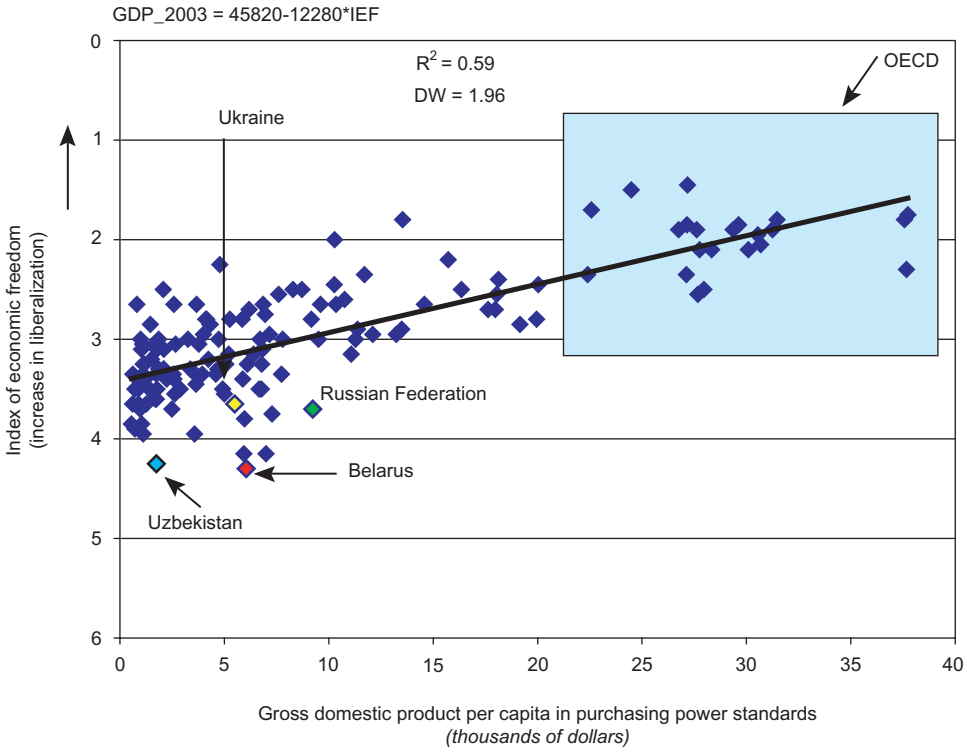
This paper set out to determine the possibility of defining which economic reforms provide the maximum increase in disposable income in the shortest time, considering the structure of the economy, and systems of formation, distribution and use of incomes.

One of the main factors that accelerate income growth is the process of economic liberalization. Effective economic reforms and liberalization hold significant potential for the growth of population incomes. The results of an intercountry analysis, illustrated in figure 4, demonstrate this. The main indicator of population incomes at the macroeconomic level is per capita GDP. World Bank intercountry statistics for 2004, which include an index of economic freedom, show that income growth is related to increased economic liberalization. In figure 4, transition-economy countries tend to be grouped in the bottom left corner, with economic freedom index levels of 2.5 to 4.5 and per capita income levels of $5,000 to $10,000. The most developed countries, which showed income levels of $25,000 and above, also had greater economic freedom (index of levels ranging from 1 to 2.5).

The econometric analysis in this paper shows that the relationship between income and liberalization is nonlinear. The best equation received under this analysis looks like a polynomial of the second degree, and the interrelationship is illustrated in figure 5. When economic freedom is low (index levels of 5 to 3), increased liberalization does not have a strong influence on population incomes. Only at index levels higher than 3 is rapid growth of incomes expected.

The Russian economist V. Popov (2007) arrived at a similar conclusion. He led a team of researchers who studied the world's 28 transition economies, including those of China and Viet Nam, in order to measure the relationship between gross national product dynamics and the major factors and conditions of the first 10 years of the transition periods. The list of factors analysed included baseline conditions (level of population incomes, the degree of distortion in the economic

Figure 4. Liberalization and income-level relationships
(Gross domestic product per capita)

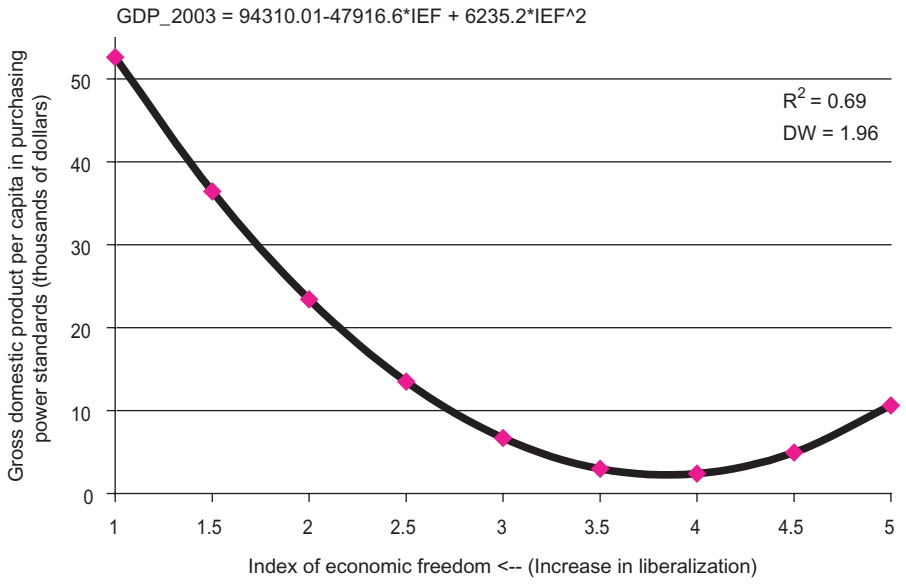


Source: Author's calculations based on data from World Bank Development Indicators (2007).
Note: The set comprises data for 2004 from 162 countries.
Abbreviation: OECD, Organisation for Economic Cooperation and Development.

structure, existing State debt, among other things); the development level of formal and informal institutions, and the economic policy parameters applied by the countries. The results showed that liberalization had only a weak influence on gross national product dynamics during the initial stage of the transition period (1989-1995). Other factors (for example, inflation) showed a substantially stronger influence on gross national product dynamics.

At some point between 1995 and 2003, the influence of liberalization on gross national product dynamics underwent a shift, and became positive. The effect of liberalization varies according to the stage of development and is closely related to the capacity of a country's institutions. During the initial stages, when

Figure 5. Correlation between gross domestic product per capita and index of economic freedom levels



Source: Author's calculations based on data from World Bank Development Indicators (2007).
Note: The set comprises data for 2004 from 162 countries.

market institutions were underdeveloped, liberalization did not have a major influence on economic growth. In fact, amid the conditions and shocks of the transition period, this influence was slightly negative. However, when new institutions began to consolidate themselves, liberalization became a major factor in gross national product growth. In other words, a minimum level of development of market institutions and relations is required to take proper advantage of the benefits gained from economic deregulation.

Estimates put Uzbekistan at level 4 in the index of economic freedom. Thus, greater liberalization is not expected to have a major influence on the growth of population incomes in the short-or midterm. However, in the long term, as State institutions become stronger, the role of liberalization will increase significantly.

II. THE SENSITIVITY OF DISPOSABLE INCOMES TO GROWTH FACTORS AND CHANGES IN ECONOMIC-ENVIRONMENT PARAMETERS

International experience shows that certain economic activities and parameters of the economic environment directly influence disposable income (figure 3). The current system of quarterly statistics reporting in Uzbekistan has identified a set of indicators of such economic activity, measured in terms of the following five indices: industrial production growth, small and medium-sized business production, consumer goods production, exports, and investment. Among the key parameters of the economic environment are money supply, public expenditures and indicators of tax burden.

In terms of methodological and statistical comparability, all indicators used in this analysis reflect processes of income formation for the economy as a whole (that is, specified at the macrolevel) and are expressed as real growth rates for the period 1999 to 2007 (second quarter), except in the case of tax burden. Quarterly dynamics of growth rates were calculated using the quarterly dynamics of macroindicators at constant prices of 2003 (quarter averages). In addition, the factors of seasonality and stationarity conditions were excluded from all indicators and parameters (applying the ADF test statistics.).

Another reliability factor is that the results of econometric analysis, including estimates of income sensitivity to factors of economic activity and parameters of macroregulation, are based not on absolute level of indicators, but on the changes in those levels. In our opinion, estimates at the level of changes in industry output and exports, among other things, are more reliable than estimates of absolute levels. Furthermore, the real-income index, export production, State expenses and other items are calculated using the GDP deflator, which, in our opinion, more precisely reflects the dynamics of inflationary processes rather than the consumer price index.

In view of the above reliability considerations, the statistical base from Uzbekistan used in the analysis can be said to reflect the real processes of income formation and their influence on growth. Consequently, the results of the analysis drawn from this can be used as a reliable reference for preparing practical recommendations for solutions to the low levels of disposable income.

The results of the econometric analysis include regression equations (table 1), and generalized estimates of selected factor influences on the income dynamics.

Table 1. Factors explaining the growth rate of disposable income in 1999-2006: time series ordinary least square regression results

Factors (real rate, per cent)	*Dependent variable: disposable income*				
	Equation 1	*Equation 2*	*Equation 3*	*Equation 4*	*Equation 5*
Money supply	0.13**	0.2**	0.2**		0.26**
Investment	0.19***			0.17***	
Industry	1.09***			0.83**	
Government expenditures		-0.64***			
Export		0.15***			
Small business			0.15*		
Private income tax			-4.8***	-4.6**	-4.6**
Retail turnover (-4)[a]					0.69***
Constant	-44.2	134.9	147.6	75.4	84.8
AR, MA specification	AR(3) MA(3)	AR(3) MA(3)	AR(1) MA(3)	AR(1) MA(3)	AR(1) MA(2)
Durbin-Watson Statistics (DW)	1.89	1.83	2.12	1.85	1.87
R^2	0.86	0.72	0.78	0.82	0.84

Source: Author's calculation, based on econometric analysis.

Note: Dependent variable and factor values used in equations were real rate percentages.

[a] Mean lagging variable: influence on income has a four-quarter lag.

*$p < .10$, ** $p < .05$, ***$p < .01$

The analysis of the results shows that in Uzbekistan, as in many other countries, factors related to economic activity and the economic environment have the strongest influence in the formation of disposable income dynamics. The equations explain 72 to 86 per cent of the dependent variable (disposable income) variations.

Of the factors analysed, the following had the most explanatory power: tax burden (including Government expenditures), which accounted for up to 32 per cent of the variation; investments (33 per cent); monetary supply (25 per cent); growth of commodity circulation (20 per cent); and growth of small business (10 to 16 per cent).

Among the factors defining the economic activity level, industrial production growth had the greatest influence on disposable income.[7] An increase of 1 percentage point in this growth rate in the period covered translated to an average additional increase in disposable income rates of 0.74 percentage points.

In the simplest terms, this increase can be seen in the fact that the average salary in manufacturing was traditionally higher than that of other sectors. However, it has influenced disposable income in other ways as well. For example, since around 2002, medium-sized and large organized industrial enterprises have been establishing themselves outside of Tashkent—mainly in rural areas. This shift has led to the creation of new workplaces and the introduction of new technologies for processing local raw agricultural materials and mineral resources, which in turn have resulted in the growth of exports and local population incomes. Thus, it is clear that increased industrialization in a country such as Uzbekistan is the major precondition for income growth and the well-being of the population.

The second greatest economic-activity influence on incomes during this period was the dynamics of commodity circulation (retail turnover). The elasticity coefficient in this case was 0.69, which suggests that developing the services sector holds major potential as a way of increasing population incomes.

Parameters of the economic environment were shown to have had a notable influence on the dynamics of incomes during this period. The elasticity coefficient for money supply was 0.22 (on average). However, in Uzbekistan, safe money-supply growth would be possible only with farther-reaching banking sector reform and liberalization of the financial market. Hence, a developed banking sector is a precondition for population income growth.

The results also show that high rates of budget revenues (Government expenditures) can negatively affect the well-being of the population, at least in the short term. This is indicated by the elasticity coefficient, which is -0.64. In contrast, income growth could increase significantly through reductions in the tax burden. An income-tax reduction of 1 percentage point (for example, bringing the present average of about 20 per cent down to 19 per cent) would result in real disposable income growth of 2 to 3 percentage points.

The econometric analysis also showed that the law of diminishing returns plays a role in the income factors of Uzbekistan. So, the introduction of a logarithmic function into equation 3 for the “small business” variable without compromising

[7] The importance of the development of certain sectors of the economy (mainly the industrial sector) for poverty eradication has been stressed (see Loayza and Raddatz 2006).

the value of its statistical criteria reduces the sum of square deviations (from 197 to 190 in the corresponding equation) and makes the equation more reflective of real economic processes, where nonlinear relationships among economic environment parameters, resource costs and production results prevail.

Accordingly, the value of the elasticity coefficient is not constant. The extent of the fluctuations depends on the size of the factor change. When changes in the output of small and private businesses are small (1 to 10 per cent), the elasticity coefficient is about 0.38 to 0.39. If changes are significant (for example, output increases by 30 per cent), then the coefficient value falls noticeably, to 0.24.

The same type of relationship is found with the "industry output" factor. In other words, the effect of factors that influence income growth is greater when factor change occurs at a steady, rather than high, rate; also, the more factors (sources of growth) involved, the stronger the effect.

Based on such analyses of income factor dynamics, it is possible to draw the following conclusions. In the period analysed, only the industry factor of income growth showed significantly high (over 100 per cent) growth rates, although they were not absolutely steady. In other factors (such as investments, exports, monetary supply and small business), growth rates fluctuated significantly, which destabilized the dynamics of the disposable income indicator.

Using the results of this econometric analysis, it is possible to estimate the contribution of these factors to income dynamics (table 2). It is clear that during these six years, industry development accounted for up to one third of all disposable income growth. A quarter of overall income growth is attributed to commodity circulation growth, which reflects the development of the service sector. Together, these two factors account for over 60 per cent of all population income growth in the period. This emphasizes the importance of the role industry and service sectors play in increasing population income levels in Uzbekistan.

The contribution of other factors was either insignificant or incidental. The liberalization of the currency market in late 2003 and the fast growth of small business between the second half of 2004 and the beginning of 2007 raised the contribution of the small business factor to 10.7 per cent in 2006, up from 8.5 per cent in 2002 (see table 2). Improvement of the external economic conjuncture in 2003 and subsequent export growth led to an increase in the contribution of this factor to 9 to 10 per cent in 2003-2004, up from 7 per cent in 2001-2002.

Table 2. Contribution of disposable income-sources and other factors to disposable-income growth
(*Percentage*)

	2001	*2002*	*2003*	*2004*	*2005*	*2006*
Industry	36.9	37.8	38.1	35.5	38.5	35.8
Small business	10.5	8.5	10.8	9.9	11.9	10.7
Investment	8.1	8.3	8.6	7.8	8.8	8.1
Export	7.3	7.1	9.7	9.1	8.7	8.2
Money supply	10.4	9.8	10.0	10.5	13.4	11.5
Private income tax	-1.6	-0.6	0.1	-0.4	-1.3	-0.7
Retail turnover	26.3	24.9	26.5	23.8	27.3	26.0
Other factors	2.0	4.2	-3.7	3.7	-7.2	0.3
Total increase	**100**	**100**	**100**	**100**	**100**	**100**

Source: Author's estimates based on the elasticity coefficient (see table 1).

In 2006, the greatest contribution to disposable-income growth was attributable to industrial development factors (36 per cent of all gain) and retail commodity circulation growth (26 per cent). Notable influence also came from the growth factors of monetary supply (12 per cent), small business (11 per cent), investments (8 per cent) and exports (8 per cent). The situation was about the same in 2007.

The higher tax burden, which took a greater share of average income, had a negative influence on disposable incomes. The contribution of this factor went from -0.4 per cent in 2004 to -1.3 per cent in 2005. Decreases in income tax rates and the introduction of a tax-free income bracket for the lowest wage earners are important preconditions for policies that aim to increase the standards of living in Uzbekistan and maintain steady economic growth.

III. PRECONDITIONS AND PRIORITY MEASURES: THE RESULTS OF MODELLING

An analysis of recent tendencies in the dynamics of disposable income indicates that the current income-regulation strategy could be made more efficient. As noted previously, in past years the strategy has entailed moderate salary increases (generally of 15 to 20 per cent), implemented by budgetary institutions once or twice per year. However, this does not help reduce the gap between

average incomes in Uzbekistan and those of the leading CIS states. Furthermore, the strategy feeds inflationary expectations and does not help reduce the inequality in income distribution that has developed. It is a testament to the necessity of improving current economic policy in the area of the formation of population income.[8]

When determining the measures and preconditions required to accelerate disposable-income growth, it is necessary to recognize that the various economic policy measures and directions do not all offer the same degree of potential. Of these measures, a significant decrease (about 4 to 6 percentage points) in the income tax rate would have the most rapid effect, as explained below.

First, this economic influence is under Government control and, unlike other income growth factors (for example, accelerated industry or commodity circulation growth), measures to decrease the income tax rate can be implemented within a relatively short timeframe and at minimal cost.

Second, in past years, the average income tax has tended to increase (see figure 5). The current average (about 18 per cent) clearly exceeds income tax rates in a number of leading CIS countries. For example, in the Russian Federation a flat-rate income tax of 13 per cent has been the standard for years. In this context, a decrease in the rate would raise the attractiveness of the national labour market in Uzbekistan and contain labour migration.

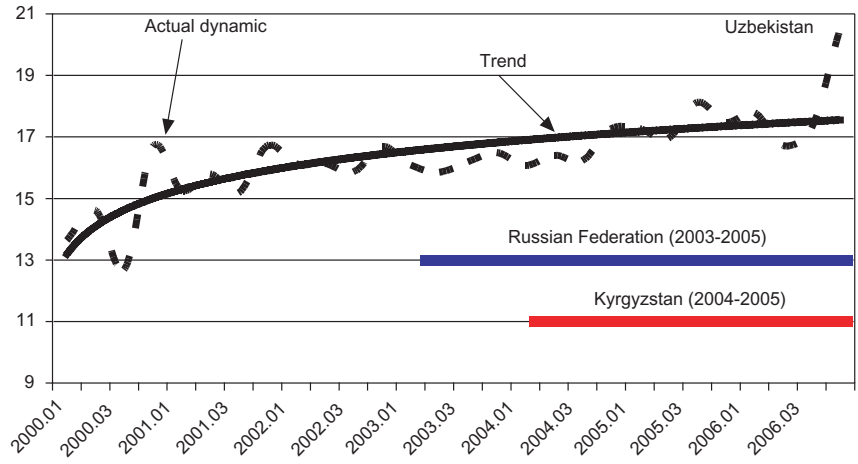
Third, a decrease in the rate would help equalize income distribution, since the benefits would be felt most strongly by public sector workers and working pensioners—that is, workers whose incomes are noticeably below the average national level.

Lastly, because disposable-income dynamics are highly sensitive to income tax rates, even a rate decrease of as little as 3 percentage points would result in appreciable growth.

Various forecasts of disposable-income dynamics for 2007-2008 support the above-mentioned hypothesis. Those calculations assume the continuance of tendencies demonstrated over the last two years in respect to growth-rate changes of income factors other than the tax burden (such as industry growth, commodity circulation, exports, small business and monetary supply). Forecasts are calculated on the basis of the received equations, and their results are shown in figure 7 (quarterly dynamics), and table 3 (annual dynamics).

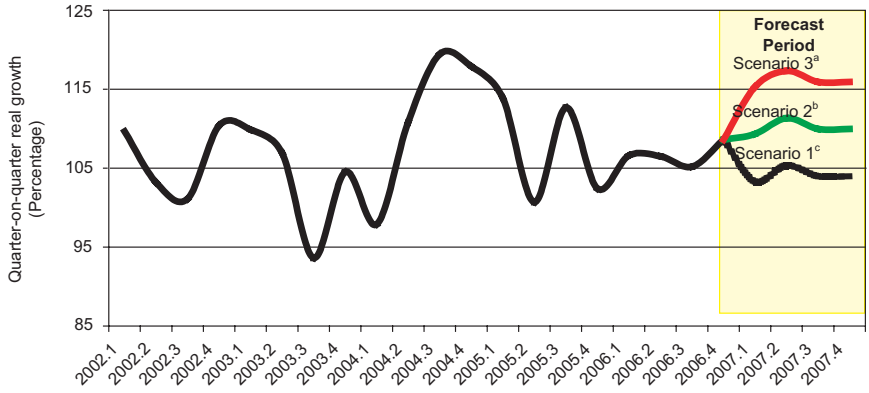
[8] For a detailed discussion of the current strategy for maintaining population income and reducing poverty in Uzbekistan, see Center for Economic Research (2007).

Figure 6. Dynamics of income tax as a proportion of the average gross wage



Source: Author's calculations based on the current private income tax scale.

Figure 7. Short-term forecasts for disposable-income dynamics derived from various private income-tax-rate scenarios



Source: Author's calculation.

[a] Decrease in the private income tax rate (as a proportion of the average accounted wage) of 6 percentage points.

[b] Decrease in the private income tax rate (as a proportion of the average accounted wage) of 3 percentage points.

[c] Initial (base) variant: All factors that affect disposable income continue to demonstrate the trends that characterized the 2002-2006 period.

Table 3. Short-term forecasts for disposable-income dynamics derived from various private income-tax-rate scenarios

	2002	*2003*	*2004*	*2005*	*2006*	*2007*
Disposable income						104.16[a]
(Real growth percentage)	105.60	102.40	113.30	102.30	113.80	110.15[b]
						116.11[c]
Private income tax						18.92[a]
(Percentage of wage)	16.20	16.20	16.50	17.50	18.10	15.92[b]
						12.92[c]

Source: Results of quarterly forecasts (see figure 7).

[a] Initial (base) variant: All factors that affect disposable income continue to demonstrate the trends that characterized the 2002-2006 period.

[b] Decrease in the private income tax rate (as a proportion of the average accounted wage) of 3 percentage points.

[c] Decrease in the private income tax rate (as a proportion of the average accounted wage) of 6 percentage points.

An analysis of these results allows us to draw the following conclusions. If changes in the factors that shape disposable income dynamics follow the current trend in the forecast period (the baseline scenario), the real disposable-income growth rate would be expected to be 104.2 per cent in 2007 (as compared to 113.8 per cent in 2006, 102.3 per cent in 2005 and 113.3 per cent in 2004). In the second scenario, where the average rate of income tax is reduced by 3 percentage points (as measured against the tax level in the baseline scenario), the disposable-income growth rates would reach 110.2 per cent. The tax decrease would give an additional impetus to the demand for growth. This would also lead households to positively affect the dynamics of gross national product.

At the same time, it is necessary to consider the negative effect caused by reducing budgetary revenue and increasing the budget deficit. However, considering that in the last eight years, salaries accounted for about 20 per cent of the gross national product, the proposed reduction of income tax revenue would not have serious consequences for the budget, as the budget would not increase by more than 0.6 percentage points. Furthermore, in reality, the deficit increase would be even lower than that, since growth in demand and gross national product (0.45 percentage points) would increase the base for the value added tax and other taxes. In scenario 3 (a decrease in the average tax rate of 6 percentage points), disposable income growth rates are even higher: 116.1 per cent in 2007.

However, the one-time nature of the measure must be taken into account. It cannot be considered to have a long-term effect on disposable-income growth, since the potential decrease in the rate is limited by 3 to 4 percentage points (if using the level of taxation in the Russian Federation as a reference point). For this reason, it is necessary to apply a combination of economic policy measures. These must include not only decreases in the tax rate, but also efforts to increase the monetization of the economy, stimulate industrial production and commodity circulation, and develop the private sector and export potential. Results of alternative forecast calculations for 2007-2008 that model the effect these measures have on disposable-income growth are shown in table 4.

Table 4. Variants of forecasts for disposable-income dynamics, derived from alternative combinations of economic policy measures
(Percentage real growth, yearly dynamic)

	2004	*2005*	*2006*	*2007 (forecast)*	*2008 (forecast)*
Disposable income	113.3	102.3	113.8	104.1[a]	105.2[a]
				109.0[b]	112.0[b]
				110.7[c]	114.6[c]
				111.1[d]	115.2[d]
				111.6[e]	116.1[e]

Source: Results of quarterly forecast based on equations 1-5 in table 1.

[a] Scenario 1 (Initial (base) variant): All factors that affect disposable income continue to demonstrate the trends that characterized the 2002-2006 period.

[b] Scenario 2: Decrease in the private income tax rate (as a proportion of the average reported wage) of 2 percentage points plus a 5 per cent increase in the money supply growth rates.

[c] Scenario 3: Conditions of variant 2, plus an increase of 4 per cent in the industry growth rate.

[d] Scenario 4: Conditions of variant 3, plus an increase of 4 per cent in the retail turnover growth rate.

[e] Scenario 5: Conditions of variant 4, plus an increase of 4 per cent in the small business growth rate.

The disposable-income growth achieved by decreasing the rate of income tax by 3 percentage points (scenario 2, table 3) is almost the same as that reached by a more moderate (2 per cent) decrease in the tax rate, when the smaller reduction is combined with other policy measures (see scenario 2, table 4). In the latter case, budgetary revenue is less affected, resulting in a revenue decrease of 0.4 percentage points compared to the 0.6 per cent decrease forecast in the tax-reduction-only scenario. However, the combined measure also entails raising money supply growth rates by 5 percentage points. As the scenario 2 forecast in

table 4 shows, disposable-income growth rates were expected to reach 109 per cent in 2007; this figure corresponds roughly to the average annual growth rates of 2004-2006. However, increasing the monetary supply requires additional measures to mitigate the inflationary risks such an action entails.

The experience of some CIS countries, primarily the Russian Federation, has shown that the greatest impact can be achieved through measures that stimulate both production growth and investment activity. To this end, scenarios 3 to 5 progressively add the following conditions: industrial production growth of 4 per cent above the baseline, commodity circulation growth of 4 per cent, and small business growth of 5 per cent. The results show that, given a combination of all these conditions, disposable-income growth would have reached up to 112 per cent in 2007 and would top 116 per cent in 2008.

The results of the modelling shown in table 4 can be used to conduct and coordinate the most appropriate (in terms of a cost-benefit analysis) measures to improve economic policy. The measures addressed in this paper (such as decreasing the tax burden, increasing commodity circulation and industrial production and liberalizing the banking sector) should be accompanied by measures that stimulate a range of disposable-income factors and sources simultaneously. For example, granting credits to small and private business projects with fast, high returns, such as manufacturing modern home appliances, would help increase the level of monetization of the economy as well as stimulate growth in industrial production, commodity circulation and the development of private business.

To help implement such a measure, the State could require commercial banks to earmark for such loans a certain percentage of their credit portfolios; the State could also provide support for banks that surpass the Government standard.

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