Armenia
The Caucasian Tiger

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ACRONYMS AND ABBREVIATIONS

ACF	Average Cost of Funds
ADA	Armenia Development Agency
AIA	Armenian International Airlines
ASA	Air Service Agreements
ASRA	Accounting Standards of the Republic of Armenia
ASYCUDA	Automated System for Customs Data
ATC	Air Traffic Control
BA	British Airways
BEEPS	Business Environment and Enterprise Performance Survey
BSP	Bank Settlement Plan
CAA	Civil Aviation Administration
CBA	Central Bank of Armenia
CEEC	Central and Eastern European Countries
CEM	Country Economic Memorandum
CES	Constant Elasticity of Substitution
CGE	Computable General Equilibrium
CIS	Commonwealth of Independent States
CMEA	Council for Mutual Economic Assistance
CNC	Computer Numerical Control
CPEC	Commission for the Protection of Economic Competition
CPI	Corruption Perception Index
CRS	Computer Reservation Services
DSA	Debt Sustainability Analysis
EASA	European Aviation Safety Agency
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECA	Europe and Central Asia
EDC	Electricity Distribution Company
EIF	Enterprise Incubator Foundation
EIR	Economic and Institutional Regime/Economic Incentive Regime
EQ&R	Education Quality and Relevance
ERC	Energy Regulatory Commission
EU	European Union
FAT	Foreign Affiliate Transfers
FDI	Foreign Direct Investment
FIAS	Foreign Investment Advisory Service
FSAP	Financial Sector Assessment Program
FSU	Former Soviet Union
GAMS	General Algebraic Modeling System
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDCA	Director General of Civil Aviation
GDP	Gross Domestic Product
GERD	General Expenditures on Research and Development
GFS	Government Finance Statistics

GNI	Gross National Income
GSM	Global System for Mobile Communications
GTAP	Global Trade Analysis Project
GVA	Gross Value Added
HDI	Human Development Index
HH	Household
HSBC	Hong Kong and Shanghai Banking Corporation
IAP	International Aviation Policy
ICAO	International Civil Aviation Organization
ICT	Information, Communications and Technology
IDA	International Development Association
IEF	International Enterprise Foundation
IFC	International Finance Corporation
IFRP	Integrated Financial Rehabilitation Plan
ILC	International Labor Organization
ILCS	Integrated Living Conditions Survey
IMF	International Monetary Fund
IO	Input-Output
IP	Internet Protocol
IPR	Intellectual Property Rights
ISAM	Internal Single Aviation Market
ISIC	International Standard Industrial Classification
ISP	Internet Service Provider
IT	Information Technology
ITA	International Technology Agreement
JAA	Joint Aviation Authorities
JAC	Junta de Aeronáutica Civil de Chile
KAM	Knowledge Assessment Methodology
KE	Knowledge Economy
KEI	Knowledge Economy Index
K4D	Knowledge for Development
KI	Knowledge Index
LBB	Law on Banks and Banking
LCC	Low Cost Carriers
LIL	Learning and Innovation Loan
MCA	Millennium Challenge Account
ME	Maximum Entropy
MFN	Most Favored Nation
MTEF	Medium-Term Expenditure Framework
NBER	National Bureau for Economic Research
NSS	National Statistical Service
OECD	Organization for Economic Co-operation and Development
PPORF	Practical Program of Revolution in Factories and Other Organization
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
PSRC	Public Services Regulatory Commission
R&D	Research and Development
RA	Representative Agent
RCA	Revealed Comparative Advantage
RCS	Regulatory Cost Survey
REER	Real Effective Exchange Rate

S&T	Science and Technology
SAC	Structural Adjustment Credit
SAM	Social Accounting Matrix
SEE	Southeastern Europe
SIMA	Statistical Information Management & Analysis
SITC	Standard International Trade Classification
SME	Small and Medium Enterprises
SNA	System of National Accounts
SNCO	State Non-Commercial Organizations
SOE	State-Owned Enterprise
SRI	Structural Reform Index
SWOT	Strength, Weakness, Opportunities, Threat
TCS	Teaching Company Scheme
TFP	Total Factor Productivity
ULC	Unit Labor Cost
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USPTO	United States Patent and Trademark Office
VAT	Value Added Tax
VOIP	Voice-Over Internet Protocol
WBI	World Bank Institute
WTO	World Trade Organization
YBF	Yerevan Brandy Factory

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EXECUTIVE SUMMARY

INTRODUCTION

This book is intended to explain the factors underlying the stellar growth record that has led to Armenia's emergence as the Caucasian Tiger and to provide policy advice to the Armenian authorities to ensure the continuation of this growth. The book is presented in two volumes, with the current volume (together with its Annex on recent economic developments) containing the analysis and the policy advice and the second volume containing detailed background papers. In this volume, the first chapter sketches the pattern of growth, indicating the opportunities for broadening growth, and establishes linkages to employment and poverty. It is followed by an examination of the record of reform and the principal constraints to growth in the future, using a growth diagnostics framework being piloted in the World Bank and making use of comparisons with the experiences of more advanced post-transition reformers. That analysis is followed by an investigation into the key opportunities for reform: strengthening the framework for competition, lowering the costs of financial intermediation, developing policies that will deepen the integration of the economy into global markets, and creating the conditions for building on knowledge assets and promoting innovation.

GROWTH, POVERTY AND EMPLOYMENT

Over the past half-decade the Armenian economy has grown by double-digit rates annually on average – reminiscent of the East Asian tiger economies, and high growth rates have been registered for over a decade. This impressively consistent performance can be attributed to the steadfast pursuit of market-oriented reforms, assisted by large external inflows on grant or soft terms. Nevertheless, Armenia remains poor, with income per head at around US$1,600 today or only about a third of that in the Baltics. Growth has now begun to make a significant dent in poverty, but its impact on employment has been muted. This book will examine the reasons for the weak transmission link to employment and will suggest policy reforms. It will discuss the major sources of risk to the continuation of high growth and will outline the policy adaptations necessary to place growth on firmer foundations. To meet the aspirations of the public, economic policies will have to be designed to maximize the prospects for growth; and, thus, impediments to growth will have to be addressed early and vigorously.

Armenia was quick to recover from the output shock experienced by transition economies: its upturn in output, dating from 1994, corresponds to the experience of Central Europe and the Baltic States and pre-dates by four to five years the recovery in the rest of the former Soviet Union (FSU). Growth has been driven by productivity gains in the private sector as macroeconomic stability took hold, the role of private markets was rapidly expanded, the public sector remained small as a share of the total economy, and important institutional measures were adopted to ensure free price formation, liberal trade in goods services and investment, private ownership of assets (including land), and industrial restructuring. Moreover, the adoption of responsible fiscal and monetary policies in the late 1990s led to the defeat of inflation and to predictability in the stance of financial policies. Thus, first generation structural

and institutional reforms were achieved and have laid the foundations of the impressive growth performance.

The recent period of growth has resulted in a sharp rise in consumption for the poor. The poorer quintiles of the income distribution have gained more from growth than the richer quintiles, with the extremely poor showing the greatest gain. The reduction in poverty—with overall poverty falling from over half to one-third of the population between 1998 and 2004 and extreme poverty falling from over one-quarter to just 6 percent of the population over the same period—has been driven by consumption growth rather than by redistribution effects. The capital city of Yerevan has reaped large dividends from the fall in poverty, with other urban areas benefiting to a much lesser degree.

Despite the impressive GDP growth, unemployment, according to survey data, stands at around one-fifth of the labor force, and a dual labor market has emerged with large under-employment or subsistence employment co-existing with a more skilled labor force that has enjoyed large real wage gains in expanding sectors of the economy. The causes of the weak response of employment to investment and growth lie in a business climate that has discouraged the flexible use of labor, and in inadequate skills among the unemployed. Addressing the binding constraints to the formation and expansion of firms would remain central to raising employment. More broadly, the book argues that the incompleteness of structural reforms and the inadequacies in the development of institutions and practices that would encourage competition are factors leading to the persistence of unemployment.

This book suggests that the continuation of high rates of productivity gains in the economy requires Armenia to make use of new opportunities in reforms directed at sharpening the competition framework of the economy, achieving closer integration with international trade and capital markets, deepening financial markets and creating the conditions for the absorption of knowledge leading to higher technological sophistication. Should the country fail to seize the opportunities to advance in this second generation of reforms and to overcome the associated institutional and political difficulties, high rates of growth over the next decade would be put at risk. Growth remains narrowly based, despite some widening of the base in recent years, exports remain concentrated by product and markets, significant barriers to domestic and private investment remain within a context of a weak competition framework and high policy-induced costs, and the country has made poor use of opportunities for knowledge and innovation. All these factors make up constraints to growth over the medium term. The challenge to policymakers now lies in seizing the opportunities for reform by breaking through these constraints and capitalizing on the solid reform achievements thus far.

SEIZING NEW OPPORTUNITIES FOR REFORM

As experience has repeatedly shown—not least among the Southeast Asian tigers—rapid growth over prolonged periods can conceal underlying weaknesses in an economy and can lull policymakers into complacency. Armenia has begun to address the second generation of reforms somewhat fitfully. Utility reform and privatization have proceeded and some improvements to the business environment have been made; however, a primitive state of corporate governance, poor property rights enforcement, arbitrary practices in the tax and customs administrations, the distortions associated with corruption, and stunted financial markets all act to impose a large risk

premium on investment. Surveys conducted over a number of years and using varying methodologies provide robust evidence of the importance of these factors in inhibiting business. Policy shortcomings in the telecommunications and civil aviation regimes in particular effectively levy a large tax on all economic activities. This environment of weak second generation reforms has resulted in a dualistic output market (parallel to the dual labor markets), in which entrepreneurs enjoying property rights protection, benefiting from distortions in tax and customs practices, and having recourse to internal financing, gain from being incumbents, while potential entrants to the market are placed at a disadvantage.

The policy adaptations discussed above are also essential to dealing with the weak response of employment to high rates of economic growth in Armenia. The initial output and price shocks of transition led to a shift of labor to subsistence agriculture and to the development of a large informal economy. Macroeconomic stability, privatization and enterprise re-structuring have promoted flexibility in labor markets, but deficiencies in the business environment, some rigidities in the employment regime, and inadequate financial markets have led to a dual labor market: a market of real wages that are rising on the strength of impressive productivity gains; the other market (a larger one) which is informal, stagnant, and immobile. This book can be seen as an attempt to analyze the policy responses necessary to make the growth in rates of employment commensurate with output growth.

Investment has been financed to a disproportionate degree from external sources, though the domestic share of investment financing has been rising in recent years. The opportunity offered by a further bout of external grant financing over the medium term, with Armenia qualifying for a large increase in U.S. bilateral assistance in the form of the Millennium Challenge Corporation, can prove a prize if the policy environment is reformed so as to deal with the weaknesses outlined above, or it can be a curse if, in a weak policy setting, private investment is crowded out and excessive consumption or non-sustainable public investment is encouraged. Again, as experience shows, under conditions of grant inflows, the pursuit of reforms can become more difficult and the quality of growth can often be sacrificed. This underscores the importance of redoubling reform efforts in a farsighted manner in order to position the economy for the time when external support will dwindle. The rest of the book focuses on how to make the best use of this window of plentiful external funds.

SHARPENING COMPETITION

Within the Armenian economy, competition is hobbled by weaknesses in the law and its application (as with the competition law and the law on contracts) in formal and informal institutions and their workings (such as corporate governance arrangements); by business regulations and governance rules and practices (such as arbitrary and unpredictable behavior of the tax and customs administrations); and by policy-induced high costs that fall on the shoulders of all enterprises (such as telecommunications and transport costs). The competition law, a recent innovation, needs to be strengthened in both structure and implementation, notably by clarifying what is meant by collusive behavior and dominant market practices, and by modernizing the basis for judging pricing practices. Implementation is bedeviled by a weak commission and by the inadequate legal powers of the commission. The commercial transactions law offers insufficient safeguards, with the result that contracts tend to be informal.

Equally worrisome is the state of corporate governance, where laws, regulations and institutions are particularly weak. In the areas of several key transparency issues, notably public access to company registries and lists of founders and shareholders, Armenia is among the weakest of the CIS countries. The quality of corporate financial reporting also remains weak. Moreover, while the securities law has some weaknesses, the greatest corporate governance deficiencies are found in the company law and other basic legislation affecting the corporate sector. Weak corporate governance practices reinforce the dominant position of a limited number of businessmen and undermine investor confidence. Furthermore, informal barriers to competition—such as the system of interlocking obligations arising from favors and interventions among businessmen—act as a substantial barrier to entry, for foreign investors as well as for new local businesses.

Despite satisfactory indicators in a number of categories measuring the ease of doing business (such as ease of formal entry, hiring employees, and business exit) Armenia's weakest areas are the registration of property, access to credit, property rights and large severance payments (at least until the recent reform of the Labor Code, now being put into effect). Overall, however, even in the most streamlined and reformed areas, the level is well below the best practices in transition economies. In addition, Armenia has a large informal economy, with the main incentives to informality being the arbitrary behavior of public servants, the burden of administrative regulation, and a poor record in establishing the rule of law. Absent in Armenia is a major attraction of formality—the access to credit for which formal registration is a pre-condition.

Such constraints to enterprise activity have implications for efficiency and also carry growth costs. The weaknesses in market institutions act as a barrier to the development of financial markets, and, in turn, this leads to the dominance of the incumbent in markets. Financial intermediation is shallow and the cost of funds is high.

DEEPENING FINANCIAL INTERMEDIATION

Confidence in banks is affected by the shortcomings in corporate governance, notably the lack of transparency regarding the ownership and control of banks. Moreover, the opaque ownership structure of the corporate sector makes it more difficult for the banking sector to assess risks concerning corporate sector exposures. Official disclosures of direct and indirect ownership are substantially weaker than in other transition economies. No disclosure of beneficial owners is required under Armenian law. This limits the ability of banks to ensure compliance with prudent limits on loan portfolio concentrations and related party transactions. These shortcomings in corporate governance can be addressed through legal, institutional and supervisory reforms**.** The Central Bank has developed a proposal to accelerate improvements in corporate governance in the banking sector through legislative and supervisory means, and by introducing upward-consolidated supervision.

The protection of creditor rights is one of the main legal problems hindering the growth of bank lending. The enforcement of collateral is difficult for banks and this translates into high lending rates. In Armenia, movable property cannot be used effectively as collateral to secure loans. There are numerous problems with the secured transactions framework. Floating pledges are not allowed and there are no registries which allow pledges to be perfected. Repossession is

time-consuming and costly. A particular problem with financing exports is that there is no provision which allows the use of future production as collateral, so that financing against export orders is not feasible. A similar problem arises with imports because there is no provision for pledging goods that are not in the possession of the borrower; goods that are being imported, even though they have been paid for by letter of credit, cannot be seized in the event of default. The effect of the inadequacies of the collateral framework extends throughout the economy, with the result that banks correctly perceive lending as extremely risky.

Overall, Armenia lacks a regularized system of credit that should be stimulated by mechanisms providing efficient, transparent and reliable methods for recovering debt. Armenia's financial sector (possibly with help from the Central Bank and the Ministries of Finance and Justice) should promote an informal, out-of-court, process for dealing with cases of enterprises with financial difficulties in which banks have a significant exposure.

Finally, given the vital role played by the generation and transmission of information on creditworthiness in ensuring low intermediation costs, it is suggested that the Central Bank adopt an active role in facilitating private credit bureau development by making credit bureau reports a requirement for lending, coupled with mechanisms to ensure efficient entry and exit by bureaus to avoid abuse of their exclusive rights, and by requiring borrowers' explicit consent prior to allowing anyone to gain access to their files in order to ensure greater privacy protection. In addition, improving governance in credit bureaus and raising the quality of information disseminated remain important.

REMOVING THE BARRIERS TO INTERNATIONAL INTEGRATION

Armenia enjoys an admirably open regime in trade in goods and services, and in capital and investment flows. No legal restrictions are in place for foreign capital inflows; the foreign investment regime provides for national treatment, MFN, and full repatriation of capital and earnings. Access to Armenian markets of goods is liberal in terms of official border and behind-the-border arrangements. Tariffs are low not only by CIS standards but by international standards as well. Although both its weighted and unweighted average MFN tariff rates are twice as high as in the EU, they are still well below 5 percent. Furthermore, commitments made upon accession to the WTO have infused a considerable degree of stability and predictability into Armenia's foreign trade policy and have also reduced the potential for the capture of foreign trade decisions by narrow interest groups by providing the government with tools for taming the rent-seekers. Armenia's two-band tariff regime, with applied MFN tariff rates at zero or 10 percent ad valorem, has been locked.

Armenia has made highly liberal commitments under the WTO General Agreement on Trade in Services (GATS). Except for telecommunications, Armenia's bound sectoral commitments are extensive in terms of both coverage and market access across different modes of supply of services. The number of sub-sectors in which exceptions are placed on a mode of supply (i.e., unbound) is very small in Armenia's schedule.

Yet neither commitments under the WTO agreements nor legal provisions protecting private property rights and enforcing contracts alone have ensured the high contestability of Armenia's domestic markets. First, the capacity of courts remains weak, as they operate slowly

in enforcing contracts and mediating commercial disputes. Second, the computerization of customs has to date fallen well short of improving the quality of customs services, with customs procedures yet to achieve WTO standards of transparency. The time needed to complete customs clearance is grossly excessive. VAT reimbursements do not occur quickly enough and are underpaid by the government, though there was a substantial improvement in 2005.

Weaknesses in the provision of backbone services add greatly to the cost of participating in the emerging division of labor. Falling transportation and communications costs create opportunities for outsourcing, just-in-time production and supply-chain management. The high transportation and communications costs in Armenia are barriers to participation in the division of labor based on production fragmentation. This is illustrated particularly by services in telecommunications and civil air transport. The government's decision to grant a legal monopoly (originally until 2013) to ArmenTel, the local telecommunications company owned by a foreign investor, has led to greatly increased costs and to a considerably lowered quality of service in this key economic activity. The cost of using the Internet in Armenia was 41 percent higher than the average for the CIS. The prices charged by ArmenTel for high-speed connections are 30 times those of countries with competition in telecommunications. Armenia has a surprisingly low number of Internet users, well below the CIS average.

The poor quality of the information technology infrastructure is a barrier to the development of the economy, and the very high telecommunications costs severely exacerbate the disadvantage associated with Armenia's geographical location. ArmenTel's dominant position has been reduced by the introduction of a cellular competitor in 2005, and provision has been made for a second cellular operator in 2009. However, the new mobile operator was licensed in a process that was not transparent and fell far short of international good practice; it is unlikely that a competitive regime will emerge. Duopolies can produce outcomes close to monopolies unless competition law is actively applied to prevent tacit collusion.

It is proposed that the regulator will be given enhanced powers in an attempt to countervail the adverse effects of ArmenTel's continuing dominant market position. Furthermore, future policy should be developed and announced now, namely, that all government-imposed economic entry barriers would be removed at that time and, in addition, the available and necessary radio frequency spectrum would be auctioned off well before 2009 so that further mobile operators, to the extent that they consider they would be commercially viable, would be able to enter the market as soon as restrictions are lifted. After 2013, with the termination of ArmenTel's right to exclusivity, the market at that point should be regulated only by competition law.

Freight shipped by air from Yerevan fell by more than two-thirds between 1997 and 2003—a dramatic development considering that the value of exports of goods rose 3.3 times. The fall in the share of the most dynamic worldwide mode of transport—air transport—can be attributed to the fall in the competitiveness of air transport services, largely because of a restrictive aviation policy. Armenia has operated a bilateral system of air transport regulations which is based on a restrictive positive list approach, limiting the provision of services to those services that are explicitly permitted.

The empirical evidence from countries that have deregulated the domestic aviation sector (e.g., the United States, the EU countries) is robust: passengers and air freight shippers in both the EU and the United States have experienced a dramatic and continuing decline in airfares. The costs of bilateral aviation agreements are not confined simply to the higher prices of air transport but include more difficult to estimate costs of forgone opportunities. These costs are potentially large, as lower airfares boost tourism, stimulate important flows of ideas and human capital, and deepen networks. For a small land-locked economy aiming to maximize its long-term economic growth rate, the best aviation policy would be to eliminate government-imposed entry barriers to air transport. Armenia could gain considerably from following Open Skies arrangements among CIS countries modeled on the EU European Civil Aviation Area Model as well as joining the many countries that have signed Open Skies agreements with countries such as the United States.

Because of the limited contestability of markets and deficiencies in backbone services, information, communications and technology (ICT) firms have not been able to crest the recent change in the ICT sector worldwide. Armenian firms have successfully entered software and imaging technology niches, but they have failed to enter other stages of the production and delivery processes—in particular as providers of front-end customer contact/support services or suppliers of components.

CAPITALIZING ON INNOVATION AND KNOWLEDGE

The generation and diffusion of knowledge and the use of innovative technology are important factors behind growth, in general, and the raising of labor productivity, in particular. Information technology externalities that promote the expansion of producer services (communications, sophisticated financial and insurance products, marketing) explain a significant portion of the total factor productivity growth. Armenia has the advantage of a large proportion of highly educated population, yet with largely obsolete specialized skills, that has eroded through emigration, low public spending on education and delayed reforms in university education. The country has experienced an entrepreneurial diaspora. But it suffers from weak local entrepreneurship, in which clusters and value chains are not developing. Entrepreneurs and policymakers alike do not appreciate (and hence do not seek to improve) the value of intangibles (brand names, business reputations, marketing and managerial skills, networks).

The policy challenge lies in the mobilization and recombination of the existing human capital, triggered by an initially modest investment in intangibles, such as mechanisms of knowledge and skill transfer from the diaspora to Armenia. International experience suggests that, although major reform efforts from the top are vital, bottom-up experiments in Armenia, some of which are already under way, need to mature. Central to the policy task are improvements in what may be called the innovation system (i.e., the network of organizations, rules, and procedures that affect how a country acquires, creates, disseminates, and uses knowledge). Traditional measurements for an innovation system include indicators of expenditure on R&D, activity in high-technology sectors (biotechnology, ICT), patenting activity (numbers, intensity), and number of researchers per 10,000 population. These indicators proxy the ability to generate new knowledge. Key organizations for the creation of knowledge include universities, public and private research centers, and policy think tanks. Private firms are at the center of the innovation system. If the private sector has little demand for knowledge, the

innovation system cannot be effective. Effective R&D-industry linkages are vital to transform knowledge into wealth. Therefore, networking and interactions among the different organizations, firms, and individuals are critically important. The intensity of these networks, as well as the incentives for acquiring, creating, and sharing knowledge, are influenced by the economic incentive regime in general.

KEY POLICY RECOMMENDATIONS

Matching Reform Priorities to Policies and Instruments

	Policy Objectives	Instruments and Interventions
Macroeconomic policies to foster growth.	Raise the domestic investment ratio, raise public investment, and increase the effectiveness of public spending.	• Improvements in the business climate, regulatory and tax simplification, and measures to fight corruption. Redirect budget resources to public investment, particularly to enhance human capital and build rural infrastructure.
Sharpening competition.	To foster competition and encourage private sector development by lowering cost of doing business.	• Strengthen the competition law by clarifying collusive behavior, dominant market practices, and by modernizing the basis for judging pricing practices. • Enhance the administrative capacity of the competition commission to review cases and enforce its rulings. • Modify the commercial transactions law to strengthen safeguards.
Integration into global markets for goods and services.	To create infrastructure facilitating and encouraging firms to engage in international trade.	• *Customs and VAT*: a "white list" of firms on a subject to a special treatment by Customs and VAT Administration based on quick customs clearance; using provisions of the WTO Agreement on Customs Valuation instead of using reference prices; effective scheme that provides duty waivers and exemptions from other restrictions on imported inputs; and rebates of VAT as soon as exports are cleared by customs. • Extend direct transfer input to all customs houses. • Bringing customs-related documents in line with what is really required under a computerized system of the ASYCUDA-type. • Simplification of customs clearance procedures for exports with a strict time limit on releasing a shipment; if it is exceeded, a shipment should be immediately released. • Supporting participation in international R & D networks (e.g., EU 6th Framework Program). • Signing the WTO Information Technology Agreement.
International integration.	Liberalized air services markets. Maximizing the contribution of information, communications and technology.	• Statement of government civil aviation policy published for consultation. • New and increased services in 2005/6. • New telecommunications law passed and responsibility for implementation including of the ArmenTel license passed to PSRC. • Cellular competitor entered service. • Regulatory policy statement to be prepared by PSRC in 2006 which inter alia lays out implementation plan for entry of third service provider by 2009.
Deepening financial markets.	Strengthen corporate governance standards and practices.	• Implement new law on corporate governance of banks. • Strengthen official disclosures of direct and indirect

	Policy Objectives	Instruments and Interventions
		ownership.
	Build legal foundations for protection of creditor rights.	• Make disclosure of beneficial owners required by Armenian law.
	Improve information flows and promote capital markets.	• Ensure public access to the company registry and lists of founders and shareholders. • Implement law on creditor rights and secured transactions with streamlining of judicial procedures.
	To foster investment activity through expanding access to bank credit to small and medium firms.	• Strengthen supervision of capital markets. • Implement unified supervision of financial and capital markets, with new standards for supervision of insurance, pensions and housing finance institutions. • Promote the development of a credit bureau.
Capitalization on innovation and technology.	To foster competitiveness by introducing basic innovation skills and encouraging adoption and application of new ideas.	• Business advisory and support services – SME and micro-enterprise support agencies. • Facilitation of access to finance (including micro-finance). • Management and skills development.
	To support market development and entry into global value chains by fostering strategic alliances and certain in-house innovation capabilities.	• Internet-based information services. • Support for technology adoption and adaptation projects. • Cluster-based approaches to stimulating innovation. • Support for participation in international R & D networks (e.g., EU 6th Framework Program).
	Diffuse experience of innovation leaders as role models for the rest of the economy.	• Encouraging participation of national innovation leaders in national advisory bodies, technology foresight and cluster processes.

CHAPTER 1.
THE PATTERN OF GROWTH

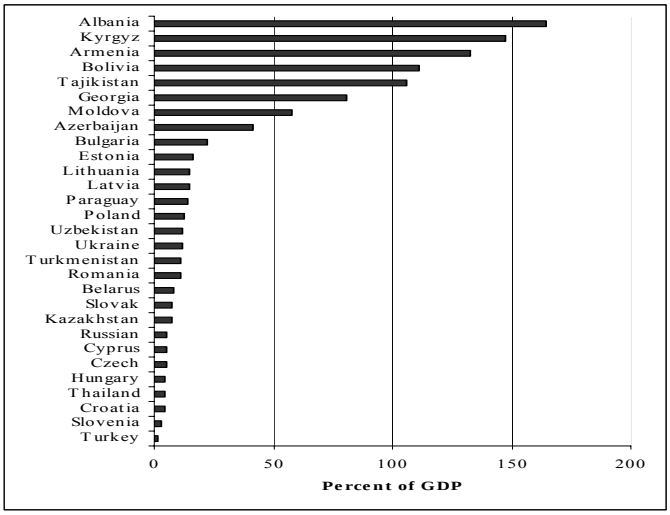
INTRODUCTION[1]

Armenia's macroeconomic performance has been a success. **Moderate but robust economic growth in the initial years of the recovery (5 percent on average over 1994-2000) accelerated in the late 1990s reaching an average annual rate of 11 percent since 2001.** Growth has been fostered by a sound macroeconomic stance and a steady pursuit of first generation structural reforms, and has relied on exceptionally high foreign assistance. Poverty began to fall at the end of the 1990s.

Yet unemployment has persistently remained at double-digit levels and every third Armenian was still below the overall poverty line in 2004.[2] On average, roughly one out of five economically active people is unemployed (based on survey data) and two-thirds of formal workers depend on incomes from low productivity agriculture and trade. The brain drain had not been reversed as of 2005, thus indicating limited employment opportunities across a wide range of skills. As in other transition economies, the formal labor market has seen strong gains in real wages based on rises in productivity but little increase in employment; informal labor markets have been stagnant.

The impact of growth on poverty and extreme poverty has been strong. The initial phase of growth (1994-2000) had a moderate and uneven impact on poverty reduction, but, with the sharp acceleration in growth since 2000, poverty has fallen massively. The favorable effects from recent growth have been uneven across the regions, with the greatest benefit occurring in Yerevan. Urban areas outside of Yerevan, in particular, have experienced a lesser improvement. The present growth pattern rests on concentrated and volatile sources. The impact of growth on the generation of employment continues to be disappointing.

Figure 1.1: Official Development Assistance, Cumulative 1992-2003



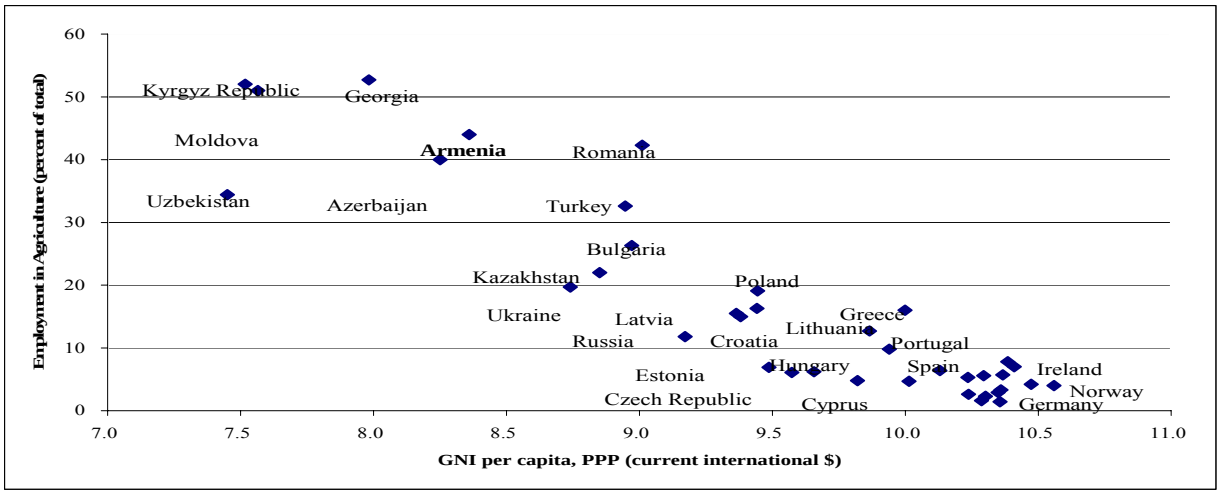
Source: WDI.

[1] A background analysis for the pattern of growth can be found in Chapters 1 to 3 of Volume II of this book.

[2] Survey-based data show unemployment rates of around one-third; registered unemployment is around 10 percent. In EU-15 (the 15 EU members prior to the most recent enlargement of membership) and EU-10 (the 10 most recent members) less than 0.5 percent and 5.4 percent of the population, respectively, live below the poverty threshold of US$2 a day.

Growth has been foreign aid-dependent. During the entire transformation period Armenia has benefited from exceptionally generous international assistance (Figure 1.1) and has also been aided by a high level of remittances and private transfers from diaspora Armenians. Income and investment in Armenia continue to rely heavily on foreign savings, while gross domestic savings, although on an increasing trend, are still low at about 9 percent of GDP.

Figure 1.2: ECA Countries, Income Per Capita and Employment in Agriculture, 2003



Source: WDI.

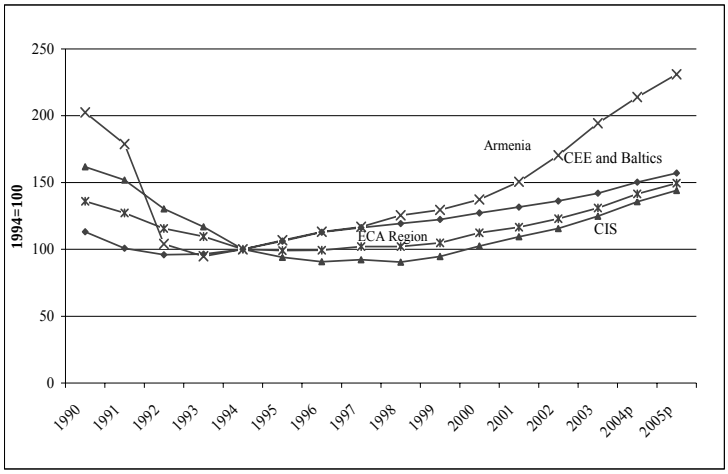
The economic diversification of industry, manufacturing and services, and financial deepening have not taken off (Figure 1.2). Agriculture's contribution in Armenia to GDP is around 30 percent, and to employment it is more than 45 percent, well above the levels of 4.5 percent and 20 percent, respectively, in new EU member states. The services sector, concentrated in public administration and trade, generates about 35 percent of GDP in Armenia compared to more than 60 percent in new EU member countries. As a small developing economy Armenia depends critically on external markets. With a population estimated at 3.2 million and a GDP per head of about US$1,600 distributed quite unevenly, Armenia faces considerable challenges in both development and poverty reduction.

Armenia is a land-locked country with high transportation costs. Two important neighbors, Azerbaijan and Turkey, closed their borders with Armenia for political reasons soon after Armenia's independence. Border closures have imposed costs on the economy, with the main surface trade link limited to (i) low-capacity rail and road connections with Georgia and its Black Sea ports, and (ii) Iran via a single road. High transport costs arise from border closures, but also, importantly, from policy weaknesses in the transport and communications regimes. Overcoming policy-induced and structural problems such as these makes development and poverty reduction challenges even more complicated.

GROWTH IS SUSTAINED, WITH IMPRESSIVE PRODUCTIVITY GAINS

As noted, Armenia's macroeconomic performance during the transition has been very successful. A sharp 60 percent decline in output between 1991 and 1993 was reversed by a rapid recovery. Since 1994, Armenia has grown at a remarkable average annual rate of over 8.0 percent and by 2005, its real GDP reached 120 percent of its pre-transition level. **This growth pattern is comparable with the Central European and Baltic countries, where the resumption of growth dates from 1996-97,[3] rather than with the CIS** (Figure 1.3).

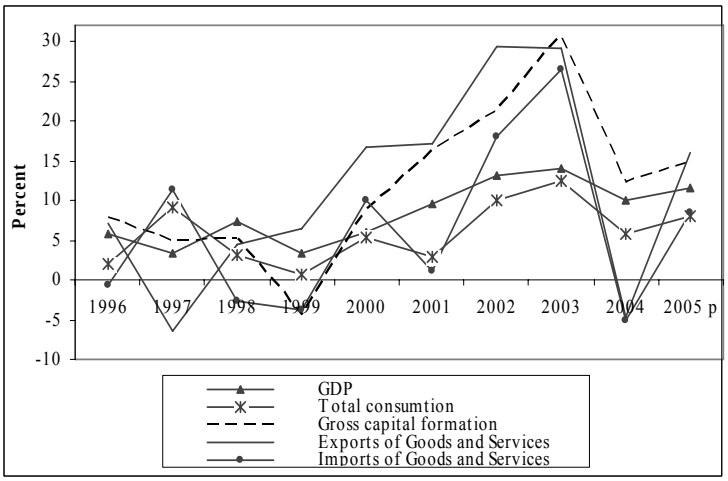
Figure 1.3: Index of Real GDP, 1990-2005



Source: World Bank, ECA Regional Tables.

Growth was robust for the entire past decade (Figure 1.4). It started moderately in the first years of economic recovery (1994) and accelerated toward the end of the decade in response to the strong contribution from investments. The macroeconomic impact of the regional financial crisis (1998-99) was moderate. The authorities have mitigated the negative impact by the timely implementation of precautionary measures. In addition, the initiation of diamond exports and subdued imports have compensated for the temporary erosion of other sources of growth in 1999.

Figure 1.4: GDP Growth Rate, 1996-2006



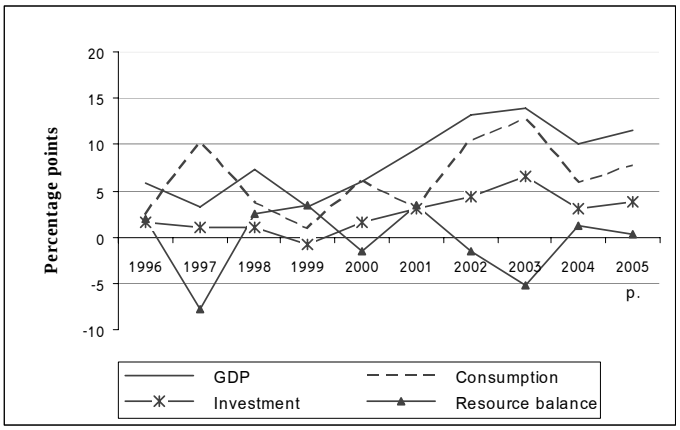
Source: National Statistical Service of Armenia.

[3] For a more detailed cross-country comparison see Elena Loukoianova and Anna Unigovskaia, "Analysis of Recent Growth in Low-Income CIS Countries," IMF Working Paper, 2004.

The regional crisis, however, had a strong adverse impact on the terms of trade for agriculture, with an associated impact on poverty. It also dampened remittances with a painful effect on household incomes. Economic growth accelerated in 2000 and was led by growth in consumption, while net exports contribution was small as both exports and imports showed strong expansion (Figure 1.5).

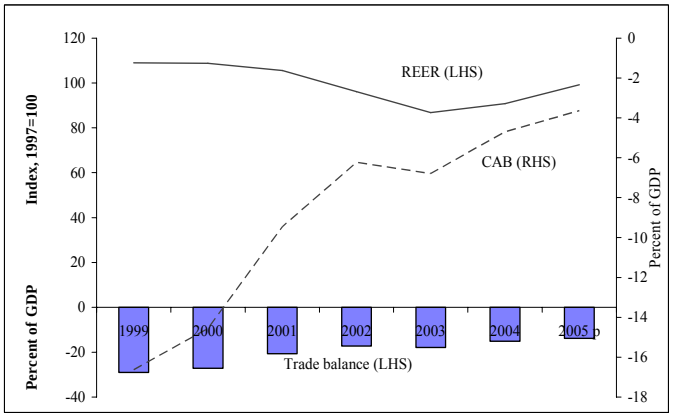
As noted, **growth has been foreign aid dependent**. During the entire transition period Armenia has benefited from exceptionally generous international assistance and has also been aided by a high level of remittances and private transfers from diaspora Armenians.[4] The CAB has seen considerable improvement as a result of steady reduction in trade deficit (Figure 1.6). The **foreign trade and exchange regime was liberalized** in the early 1990s and has contributed to promoting trade and investment. In addition to a prudent monetary policy, the large import content of the consumer price index also helped to hold down the rate of inflation when import prices fell in the late 1990s.

Figure 1.5: GDP Growth and Contribution of Expenditure to GDP, 1996-2005



Source: National Statistical Service of Armenia.

Figure 1.6: Evolution of REER, Trade Balance and Current Account Balance, 1999-2005

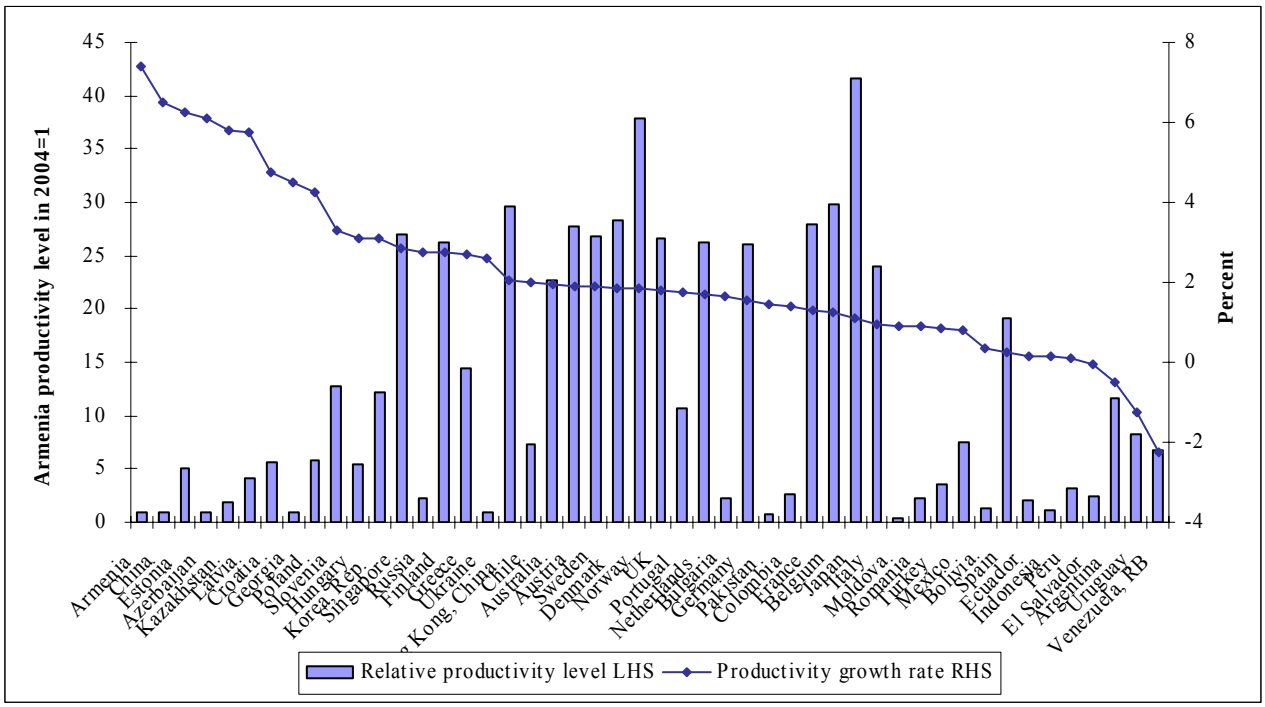


Source: National Statistical Service of Armenia.

Total factor productivity, reflecting efficiency gains from macroeconomic stabilization and structural changes, has driven GDP growth in Armenia. During the 1990s and early 2000s, Armenia realized much of the "catch up" potential which arose following the economic transformation. Labor productivity growth outperformed GDP growth and capital productivity growth was also high. As a result, the productivity gap between Armenia and the industrialized countries has narrowed, but it remains substantial (Figure 1.7).

[4] Armenia has a very large diaspora of about 5 million compared to the country's population of about 3.2 million people. The diaspora is spread over the world and is large in the Middle East, the United States, Russia and Western Europe.

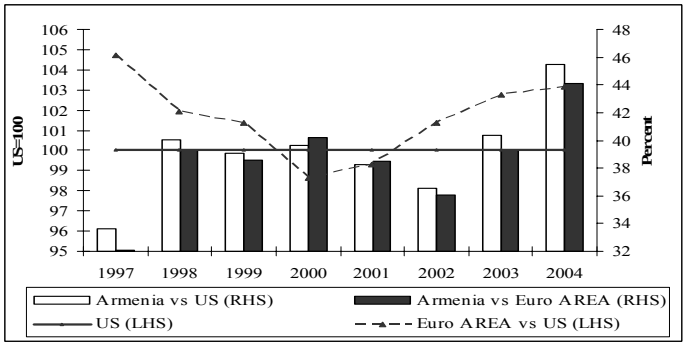
Figure 1.7: Relative Productivity Level and Productivity Growth Rate, Latest Data (2004 and 2003 if 2004 data are not available)



Source: WDI, Staff Calculations.

Armenia's unit labor cost (ULC) generally compares favorably to neighboring markets. This is mainly due to Armenia's comparative advantage in having an educated and skilled workforce and the country's strong tradition of highly skilled craftsmen. In the mid-1990s the real wage increase outperformed the increase in labor productivity. This was partially due to the wage adjustment from a very low base. Unit labor costs did not rise during the 1990s as the real exchange rate depreciated. The early 2000s were characterized by strong productivity gains and, except in 2003, outperformed the increase in real wages. The unit labor cost started to increase in late 2002, reflecting both the increase in employment compensation and the REER appreciation and declined again in 2005 in response to wage stability and strong productivity growth. Over the 1990s, the unit labor cost increased to about 46 percent of the U.S level (about 44 percent of the Euro area level) from as low as less than 3 percent in the early 1990s (Figure 1.8).

Figure 1.8: Relative Unit Labor Cost Index, 1997-2004

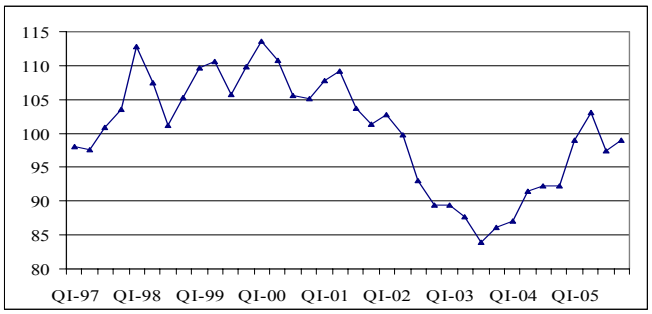


Source: OECD, WDI.

Productivity gains have risen because of the enterprise restructuring and the contemporaneous macroeconomic discipline that enabled enterprises, through competition and trade, to realize efficiency improvements in the areas of management, marketing, and technology. They have also risen because of labor shedding from declining economic activities and sectors and the absorption of labor by new enterprises. In contrast, productivity fell in agriculture for reasons discussed earlier.

Armenia's exchange-rate regime has been stable since the national currency was introduced, and the real effective exchange rate (REER) depreciated gradually until 2004 (Figure 1.9). The strong appreciation of the dram since early 2004, in response to sustained high rates of growth and productivity gains in the economy (the Balassa-Samuelson effect), has ensured the continued importation of price disinflation to the benefit of economic performance.

Figure 1.9: REER Quarterly (1997=100) Increase Indicates Appreciation



Source: Central Bank of Armenia.

GROWTH IS INCREASINGLY EXPORT-LED

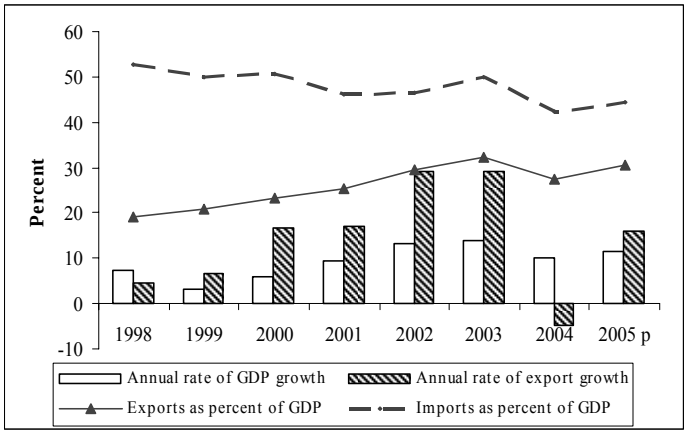
Following an initial prolonged period of export weakness, partly owing to adverse geopolitical conditions peculiar to Armenia, extremely strong export growth has been registered since the late 1990s. This development reflects a transition to market conditions in three ways. First**, exports have been based on restructured industrial capacities**. The inherited industrial capacities that were incompatible with market disciplines have been dismantled. No other CIS economy recorded such a strong growth in 1999-2004. Armenian firms have also outperformed other non-oil CIS competitors in both CIS and EU markets, with their shares in respective markets increasing very significantly in the 1999-2004 period. The export share in total EU imports doubled in 2003 alone. Against the background of falling Russian imports from most CIS countries, the Armenian performance is particularly impressive, with the value of exports of goods more than doubling between 1999 and 2004. Trade with the CIS appears no longer driven by the post-Soviet hysteresis in trade patterns, with the emerging trade reflecting a comparative advantage in these increasingly competitive and market-oriented markets.

Second, the **re-adjustment in the geographical pattern of trade,** reflecting the economic weight of regional markets, appears to be complete. While in 1995 Russia, together with other CIS countries, took 56 percent of Armenia's exports and supplied 49 percent of Armenia's imports of goods, these shares fell to 25 percent and 27 percent, respectively, in 1999 and 19 percent and 23 percent, respectively, in 2003. The shift has been largely towards the EU-15, whose share in Armenian exports rose from 26 percent in 1995 to 48 percent in 2003 and in imports from 15 percent to 32 percent over the same period.

Third, **the expansion in exports has not been confined to goods but has also included services,** especially if the estimate that puts exports of IT services at around US$100 million rather than the US$11 million reported in the balance of payments category of "computer and information services" is broadly correct. With or without a revised figure for these services, revenues from services increased more than expenditures. With a revised figure, the balance of trade in services swung to the surplus in 2003, and the overall deficit in trade in goods and services was significantly lower.

Finally, **Armenia's growth has become export-led**, as exports growth has far outstripped GDP growth. Exports as a percent of GDP doubled between 1999 and 2004 from 20 percent to 40 percent (Figure 1.10). Moreover, a strong GDP growth performance considerably lessened an overall potentially negative macroeconomic impact of trade imbalances. In terms of the GDP, the trade deficit fallen rather rapidly from 38 percent in 1997 to 27 percent in 2000 and 12 percent in 2003.

Figure 1.10: Key Economic Indicators of External Performance, 1998-2005



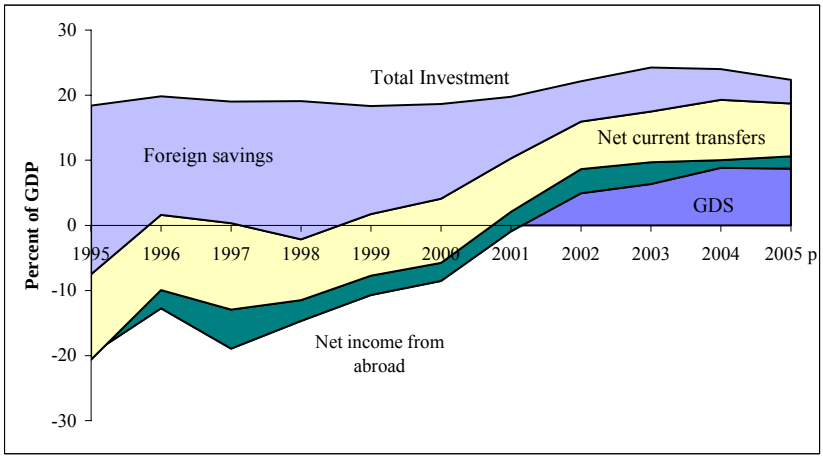
Source: National Statistical Service of Armenia.

The composition of exports of goods has registered some encouraging developments, with exports diversifying towards high value added goods. Yet a significant weakness is that **manufactures, other than diamonds, have been conspicuously absent in Armenia's exports**. Although the share of manufactures excluding chemicals increased in Armenia's total exports from 39 percent in 2000 to 60 percent in 2003, this was mainly due to the increase in exports of diamonds. Other manufactured exports fell in terms of value from US$59 million in 2000 to US$44 million in 2002 and increased to US$54 million in 2003. Their share in total exports fell from 29 percent in 2000 to 11 percent in 2002 and 10 percent in 2003.

BUT RELIANCE ON EXTERNAL SAVINGS REMAINS LARGE

Armenia's heavy reliance on foreign savings to finance its investment needs has declined over time but remains large (Figure 1.11). In 2003 about 30 percent of total investment was financed through foreign savings as compared to 90 percent in 1999. This reduction in reliance on foreign savings did not entail a decline in investments, as a commensurate rise in gross domestic savings has taken place**. But the investment share in GDP has risen only modestly – growth has been productivity driven –and the rise in investment necessary for sustained growth will require a greater domestic savings effort**. Total investments averaged 19 percent of GDP during 1996-2000, increasing to 23 percent of GDP in 2001-05, but Bank projections show that the investment to GDP ratio will need to rise to around 28 percent by end-decade to sustain growth, assuming a return to a steady rate of productivity growth.

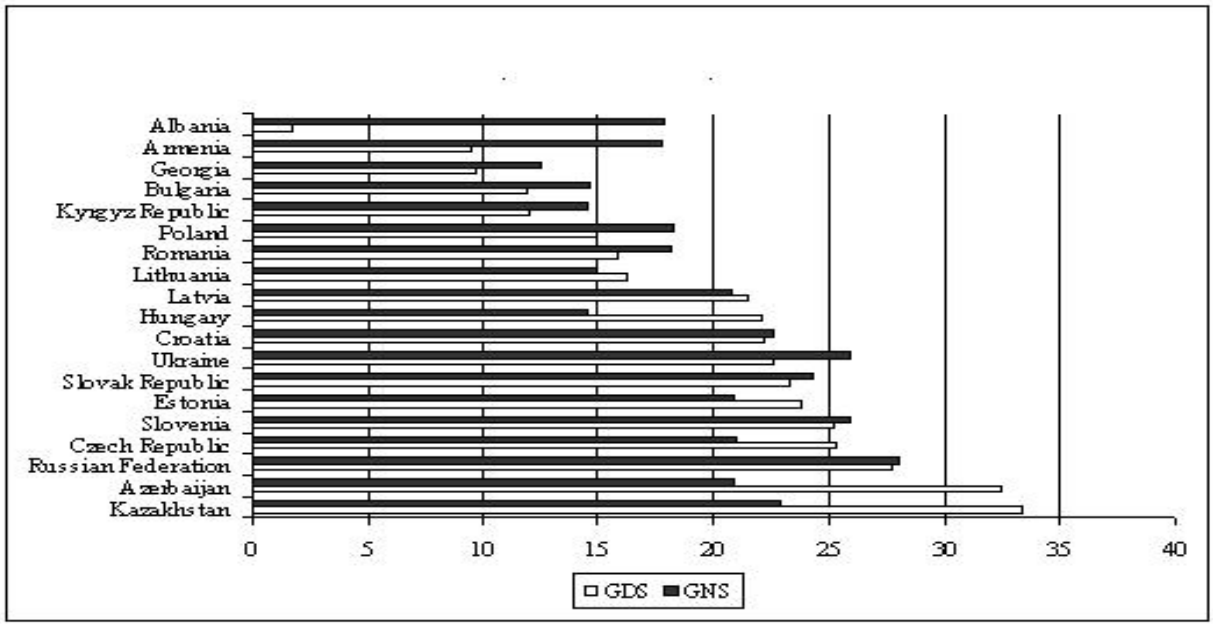
Figure 1.11: Savings and Investment Balance, 1994-2005



Source: National Statistical Service of Armenia.

Gross domestic savings remain low as shown by international comparisons; and gross national savings fall short of those in some other CIS countries. **Though the external debt and current account positions are comfortable, these figures illustrate the dependence of the economy on income and transfers from abroad to finance investment needs** (Figure 1.12).

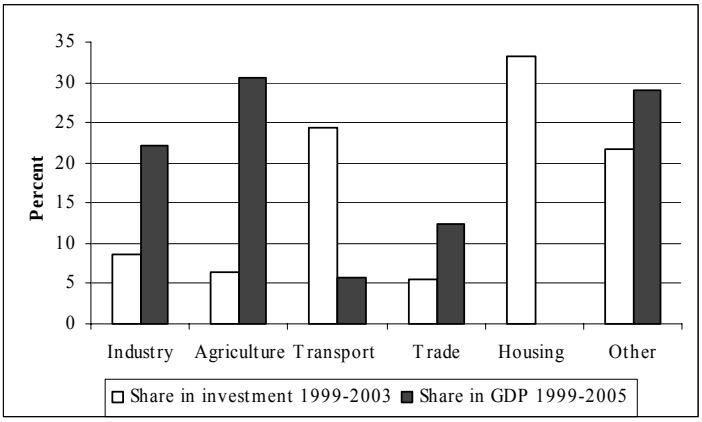
Figure 1.12: Gross Domestic Savings and Gross National Savings, 2004 (as percent of GDP)



Source: World Bank ECA Regional Tables.

Investment has been broad-based, but with a tilt towards housing construction. The structure of investments by sectors during 1999-2005 (Figure 1.13) shows that housing represents over 30 percent of total investment. Infrastructure has also attracted a considerable share of investment. Several profitable and competitive traditional sectors have attracted private investment during the process of economic transformation (e.g., gem cutting, brandy distillation, electric motors, hotels, high technology manufacturing and software services). **A significant source of investment financing has been FDI, but associated with large transactions**. A large part of the FDI, in infrastructure (telecommunications through the privatization of the national telecommunications company, ArmenTel) and in industry (privatization of the gas distribution network) was the direct result of large-scale privatization.

Figure 1.13: Sectoral Shares in GDP and Investment by Sectors, Average, 1999-2005



Source: National Statistical Service of Armenia.

THE OUTLOOK FOR EXTERNAL DEBT IS COMFORTABLE

A debt sustainability exercise carried out for Armenia shows that **the country is considered to be at a low risk for debt distress,** with all debt indicators well below the relevant country-specific debt-burden thresholds, including when subjected to stress tests (see Table 1.1).

Table 1.1: Armenia's External Debt Burden Indicators

	Threshold[1/]	Armenia's Ratios	
		2005	2025
NPV of debt in percent of:			
Exports	200	60	25
GDP	50	15	8
Debt service in percent of:			
Exports	25	6	2

[1/] Threshold values are based on the guidelines for low-income country DSAs, in which Armenia is considered to be a strong performer.

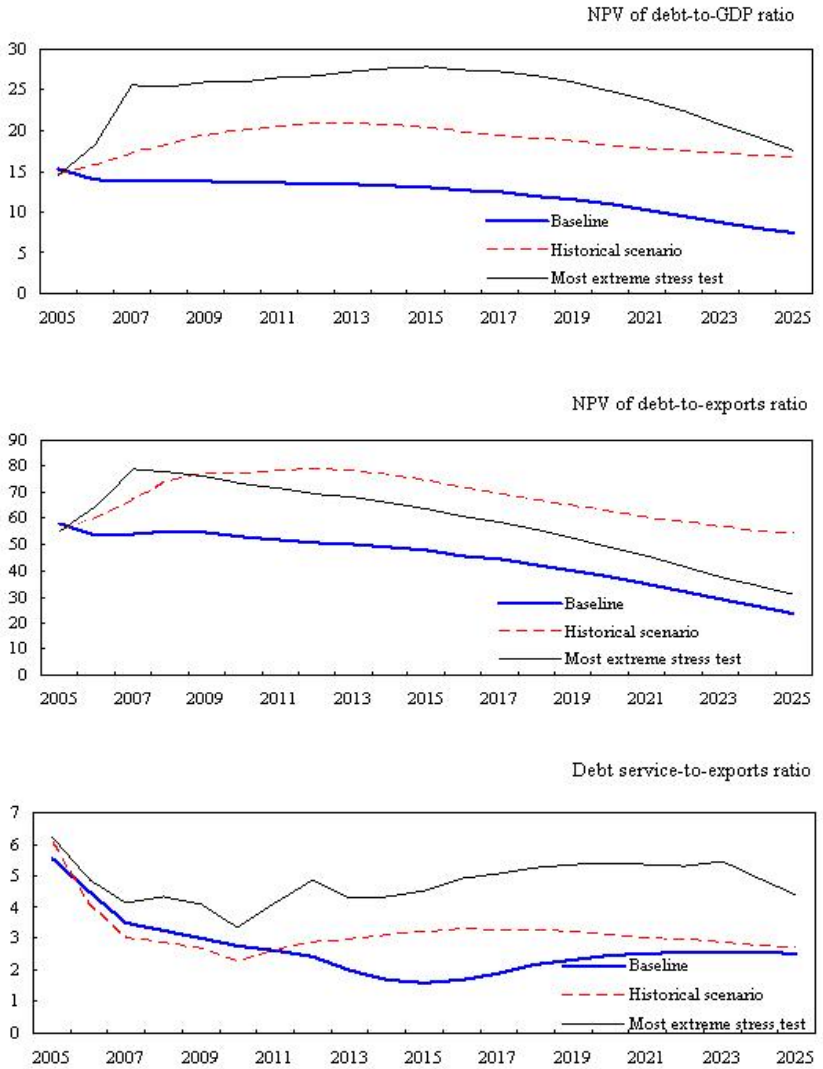
Source: IMF-WB Debt Sustainability Analysis for Armenia.

The **baseline DSA has been developed on a cautious set of assumptions**, including: (i) a real GDP growth of 5 percent per year over the period 2008–12 and 4 percent thereafter; (ii) an inflation rate of 3 percent throughout the projection period; (iii) an overall fiscal deficit of 2.9 percent of GDP through the PRSP horizon of 2015 and 2.3 percent of GDP thereafter (implying a debt-stabilizing primary balance); (iv) a steady increase in the share of both exports and imports as a proportion of GDP, leading to a gradual improvement in the current account

balance over the projection period; and (v) a shift away from highly concessional forms of external financing.

Under the baseline scenario the fiscal position remains sustainable. The net present value of debt to revenue, and the debt service to revenue ratio, remain relatively stable throughout the projection period. In particular, the net present value of external debt falls steadily from around 15 percent of GDP in 2005 to just over 8 percent by 2025, the net present value of debt-to-exports falls from just over 60 percent to around 25 percent over the same period, and the debt service-to-exports ratio declines from just under 6 percent in 2005 to around 2 percent by the end of the projection period (Figure 1.14).

Figure 1.14: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2005-25 (in percent)



Source: IMF-WB Debt Sustainability Analysis for Armenia.

The **framework for low-income country DSAs also incorporated alternative scenarios and bound tests** aimed at identifying the sensitivities of the baseline projection to a range of potential shocks. Based on these scenarios and tests it can be seen that Armenia's debt outlook is particularly sensitive to: (i) a lasting shock to the growth outlook, and (ii) a slowdown in export growth. Nevertheless, even under these scenarios, Armenia's debt outlook is likely to remain manageable.

The DSA also considered the possible impact on debt sustainability of a "significant" fiscal event, such as the assumption by the government of pension liabilities. Assuming such an event were to occur in 2010, costing around 10 percent of GDP, the net present value of the public debt-to-GDP ratio in 2025 would remain manageable at about 40 percent. While the historical scenario (which can be considered as a "no-reform" scenario) also projects debt ratios

below the threshold indicators, the ratios generally continue on an upward trend through the projection period. **This finding underlines the importance of continuing the process of structural reform, and preserving macroeconomic stability, in order to safeguard the debt outlook.**

KEY MACROECONOMIC CHALLENGES

Despite the success of macroeconomic management thus far and the sustainability in medium term fiscal and external accounts, the authorities have to remain vigilant regarding the major sources of vulnerability to economic performance. Economic projections to the year 2010 (given in the Annex to this book) indicate that even with some moderation of growth to an annual average of 6 percent per annum, external debt and debt service indicators will fall sharply, thereby creating both fiscal space and greater private sector funds for financing investment. On reasonable assumptions of productivity growth and incremental capital-output ratios**, the investment-to-GDP ratio will have to rise by around 4 percentage points in the rest of this decade**. This rise is projected to be financed equally by external savings (as grant inflows into the economy rise substantially) and private sector savings.

Thus, the macroeconomic management challenge will lie in ensuring stability that ensures that greater private savings are generated and official inflows are used efficiently. **The task of monetary and exchange rate policies will be to bear down on inflation, which has tended to flare up periodically in recent years.** The appreciation of the dram that is under way will help to fight inflation. In an economy with rapid productivity growth such as Armenia's, a real appreciation of the currency is to be expected and is the mechanism for establishing a balance between the tradables and the non-tradables sectors. The Central Bank is entirely right in permitting the nominal appreciation seen thus far: were it to seek to hold the nominal rate down, the real appreciation would be realized through higher inflation. **It is particularly important to permit the exchange rate to be determined entirely through market forces,** as the bank lacks the long-duration financial instruments necessary for sterilization activities. One year bills currently being issued will help in short-term liquidity control and in operations to dampen day-to-day volatility in the exchange rate.

The fiscal deficit over the medium term should be confined to a range of 2.5 to 3 percent of GDP. This will require some broadening of the fiscal base and a rise in the revenue mobilization ratio to finance priority social expenditure needs. The narrowness of the fiscal base and the insufficient reliance on direct taxes lead to a lack of balance in the tax structure and to a mobilization ratio that is too low to fund priority social expenditure needs. Changes in tax policy to enhance the role of direct taxes[5] and in tax administration to ensure minimal evasion and fair treatment of all taxpayers will go a long way to stabilizing the fiscal base. As labor taxes and social contributions are high, particularly given the high unemployment and the large informal economy, consideration could be given to a shift towards direct taxes. Any temptation to relax on tax reforms against a background of large donor grant inflows should be resisted.

[5] Indirect tax rates are high (VAT is levied at 20 percent) and the tax base is commendably broad; thus the scope for further action on indirect taxes is small. The tax system is discussed in Volume II of this book.

Questions also arise as to the capacity of the economy to efficiently absorb the large volume of the external grant funds flow from the Millennium Challenge Account (MCA) and other sources. Constraints to efficient absorption arise from macroeconomic factors, institutional and managerial factors, and infrastructure. The projected inflows of the order of the equivalent of 2 percent of GDP will not be inconsistent with macro-stability provided the monetary and exchange rate stance is as discussed above, the import content of the counterpart to the grant financing is high (as would be the case with infrastructure capital spending), and domestic spending (e.g., on salaries) is controlled. In this manner, the inflationary impact and the real appreciation of the dram will be minimized. Macroeconomic challenges will also arise if grant financing is used to substitute for domestic revenue mobilization or if it leaks into public consumption – these would pose a danger to fiscal sustainability over the medium term.

On the institutional side, the appropriate budgeting of inflows and the selection of projects to reflect high priority needs as identified in the PRSP action plan, as well as careful management of the public investment program, are essential if absorption is to be efficient and not wasteful. Moreover, infrastructure constraints to efficient absorption will be eased if priority is given – as envisaged – to addressing needs in the transport and water sectors (especially in rural areas).

There is a concomitant need to ensure high quality in public expenditures. Over 2005-06, a large increase in teacher salaries will take place as current salaries are grossly inadequate to attract quality services. This increase is related to productivity increases (the pupil-teacher ratio rises). In subsequent years, expenditures must shift from wages to items that enhance service quality, as envisaged in the medium-term expenditure framework, such as curricular reform and education aids, the broadening of education services, primary health care, and the real rate of the poverty benefit and its sharper targeting. A strategic approach to capital spending based on an overall public investment plan that explicitly makes sector choices is also necessary, particularly in the context of the MCA disbursements.

GROWTH HAS LED TO A PRONOUNCED FALL IN POVERTY[6]

The most recent period of growth has resulted in a sharp, disproportionate rise in consumption by the poor (Table 1.2). Growth incidence curves are useful for analyzing the impact of aggregate economic growth across households, as they plot the growth rate in consumption for individuals ranked according to their consumption. Figure 1.15 a-d presents growth incidence curves for the period 1998/99-2004. The

Table 1.2: Armenia's Poverty Indicators, 1999-2004

	Poverty Incidence				
	All	**Urban**	**Yerevan**	**Other Urban**	**Rural**
		Extreme poverty			
98/99	26.1%	32.1%	29.6%	34.5%	18.0%
2004	6.4%	7.5%	6.1%	9.2%	4.4%
		Overall poverty			
98/99	56.3%	62.7%	58.7%	66.5%	47.7%
2004	34.6%	36.4%	29.2%	43.9%	31.7%

Source: Integrated Living Conditions Survey 1998/99-2004.

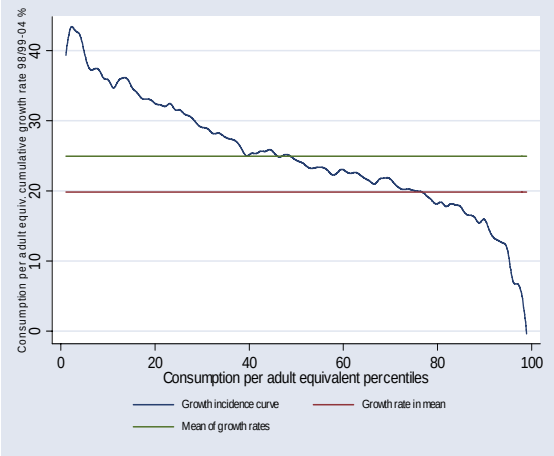
[6] A detailed study of developments in poverty can be found in "Poverty Assessment" (report by a World Bank team headed by Sashka Posarac, 2006).

vertical axis is ordered by increasing the levels of per adult equivalent consumption. A downward sloping incidence curve indicates that people in the poorest quintiles of the population have benefited from growth more than the average. The horizontal line parallel to the horizontal axis indicates the growth rate in mean.

In 2004 per adult equivalent consumption was about 10 percent higher than consumption in 2001, while output in Armenia grew by a cumulative 30 percent during the same period. This trend was not uniform across the capital and non-capital urban and rural areas. Overall, this pattern appears to be driven by the distribution of the growth impact in the capital city and the rural areas. In contrast, with an exception of the people below the tenth percentile, whose consumption increased by 10 percentage points on average, the consumption of the non-Yerevan urban population was either unchanged or declined in 2004 compared to 1998/99.

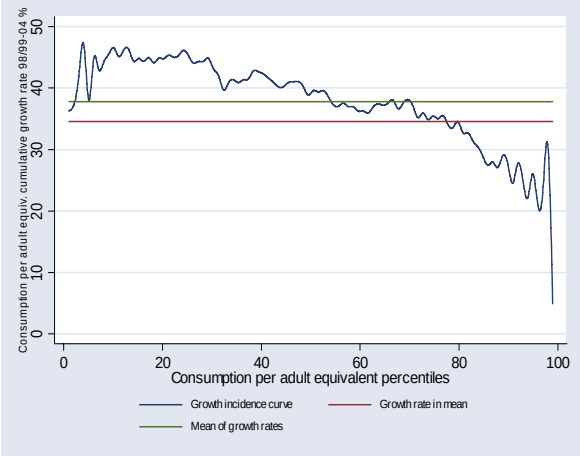
Figure 1.15: Growth Incidence Curves, 1998/99-2004

Figure 1.15a: Armenia: Growth Incidence Curve, 1998/99-2004



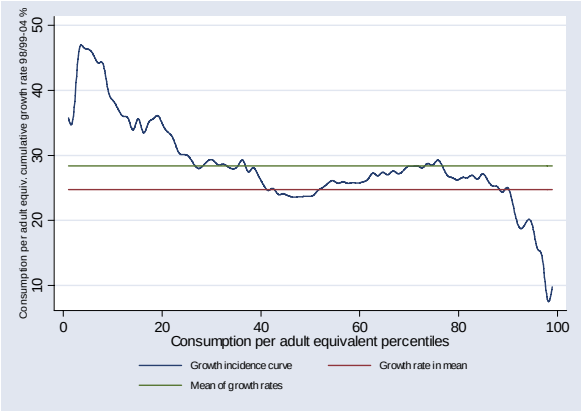
Note: The curve refers to the period of 5 years and 9 months.
Source: ILCS 1998/99 and 2004.

Figure 1.15b: Armenia: Growth Incidence Curve in Yerevan, 1998/99-2004



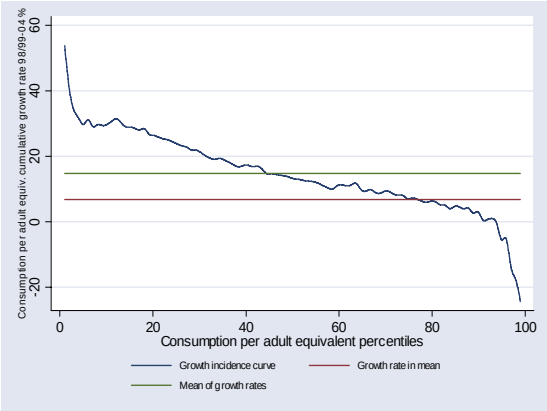
Source: ILCS 1998/99 and 2004.

Figure 1.15c: Growth Incidence Curve in Other Urban Areas, 1998/99-2004



Source: ILCS 1998/99 and 2004.

Figure 1.15d: Growth Incidence Curve in Rural Areas, 1998/99-2004



Source: ILCS 1998/99 and 2004.

The population across all deciles, with the exception of non-Yerevan urban areas, experienced consumption growth, except for the richest population above the ninetieth percentile, which experienced a negative growth rate everywhere except in the capital city. **The poorer quintiles of the income distribution gained more from economic growth than the richer quintiles. The extremely poor have gained the most from the recent economic growth.** This evidence is consistent with the evolution of inequality for the period—the Gini coefficient decreased from a value of 0.32 in 1998/99 to a value of 0.23 in 2004 – and indicates that the growth was accompanied by a compression in the overall structure of the consumption distribution. This favorable pattern has been driven by the increase in non-factor income and indicates the effectiveness of the social protection policy through the improved targeting of the family poverty benefit system and the increased social transfers (pensions, family poverty benefits and others), and also points to the effect of remittances and the multiplier effect from externally driven demand sources.

The consumption figures shown above fit in well with the data on poverty indicators. The strong gains for both poverty and extreme poverty in Yerevan are consistent with growth rates of about 17 percent in the mean consumption of the bottom three deciles, as compared to about 6 percent for the same deciles in the non-Yerevan urban areas and 12 percent in the rural areas. Armenia's poverty is skewed towards being an urban problem (outside of the capital).

The reduction in poverty is mostly driven by consumption growth. The decomposition of poverty reduction into a growth and a distributional component developed by Datt and Ravallion (1992) gives better insight into the poverty effects of decreasing inequality (Table 1.3). Calculations for both extreme and overall poverty incidence reveal that the growth and redistribution components worked in the same directions in influencing the reduction in poverty. However, most of the observed poverty decline is attributed to the growth component (around two-thirds, on average). Changes in consumption distribution played a more important role in extreme poverty reduction than in overall poverty reduction. Decreased inequality contributed about 31 percent to extreme poverty reduction and 7 percent to overall poverty reduction. Thus, the importance of the inequality component in explaining changes in overall poverty in Armenia is similar to that in other CIS countries where changes in inequality explained 5 percent of the changes in poverty (ECAPOV2, 2005).

Table 1.3: Armenia: Growth and Inequality Decomposition of Changes in Poverty Incidence between 1998/99 and 2004 (average effects)

	Total	Urban	Yerevan	Other urban	Rural
			Extreme Poverty		
Change in poverty incidence	-20.6	-25.9	-26.3	-25.4	-13.5
Growth component	-14.2	-22.6	-21.4	-21.7	- 4.1
Redistribution component	- 6.4	- 3.4	- 4.8	- 3.6	- 9.5
			Overall Poverty		
Change in poverty incidence	-24.3	-32.0	-36.7	-26.8	-13.8
Growth component	-22.5	-31.1	-33.3	-27.4	- 7.8
Redistribution component	- 1.8	- 0.9	- 3.4	0.6	- 6.0

Source: ICLS 1998/99 and 2004.

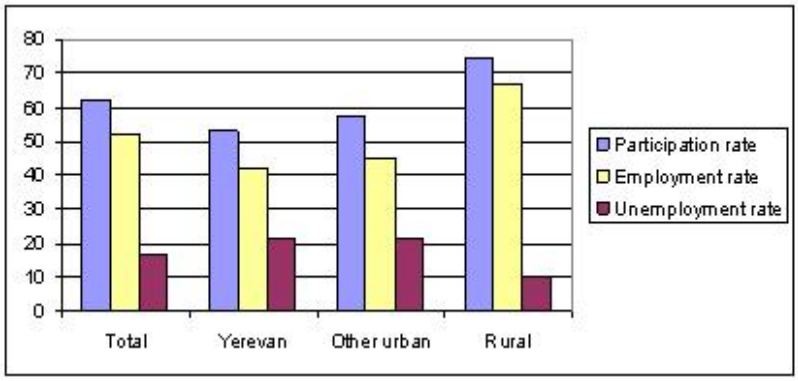
In urban areas, in both the capital city of Yerevan and urban areas outside of Yerevan, consumption growth was the most important source of the reduction in poverty (extreme and overall), as its contribution was over 80 percent. For rural poverty, on the other hand, both components—the decline in inequality and consumption growth—were almost equally important. Extremely poor rural households benefited mainly from the decline in inequality, as 70 percent of the reduction in rural poverty is attributable to decreased inequality.

BUT UNTIL VERY RECENTLY GROWTH HAS NOT MEANT JOBS

An analysis of the impact of growth on employment is bedeviled by the change in economic regime (the shift from a command economy directed at realizing economies of scale on a narrow range of products—such as electronics and synthetic rubber—for dispatch to the rest of the Soviet Union to a market-based economy) and by the large external price, output and infrastructure shocks felt by the economy upon independence. In the initial phase (1992-94), there occurred a massive shift of labor to subsistence agriculture in response to the initial price and output shocks, and labor hoarding took place in enterprises that continued to function at considerably shrunken levels of output.

The strong growth in output seen over the past decade has not resulted in a commensurate rise in employment until very recently. Output growth has been supported by strong labor productivity increases. Though registered unemployment stands at around 10 percent of the labor force, survey data point to rates twice as high, and the labor force has been affected by weak participation rates (Figure 1.16) and large migration, both skilled and unskilled. Much of the work force is to be found in subsistence agriculture or in the informal economy, with under-employment being endemic. The weak demand for labor has persisted for a decade, with the rapid growth in productivity in formal activities being translated into rising real wages rather than an expanding demand for labor. The labor market is segmented, with weak geographical mobility within the country.

Figure 1.16: Armenia: Participation, Employment, and Unemployment Rates in Urban and Rural Areas (according to the 2004 ILCS, population aged 15 and older)



Source: World Bank and NSS (2006).

This phenomenon, called "jobless growth," is not specific to Armenia but is typical of most transition economies, where initial growth is mostly based on large productivity gains due to structural changes and labor shedding in the process of labor rationalization and more efficient utilization of labor resources rather than through an increased use of the labor force. According to a recent study,[7] Armenia has actually registered a significant "job loss growth." Over the last

[7] Armenia: Labor Market Dynamics (World Bank team headed by A. Kuddo, 2006).

15 years since 1990, employment has declined by 34 percent from 1.63 million people to around 1.1 million in 2004. In the process of the country's search for new equilibrium, the destruction of unproductive jobs has been accompanied by the creation of new and more productive jobs. Job losses usually exceed job gains, leading to a net fall in employment. Only the 2004 Integrated Living Conditions Survey (ILCS) has recorded some increase in the employment rate among the population. Recent positive trends in employment indicate that Armenia may have reached a new equilibrium, and that growth will start to rely increasingly on improved labor utilization.

The cities have been more deeply affected by transition. Labor participation and employment are higher in rural areas than in cities. Other key features of labor conditions in Armenia relate to: the high substantial percentage of youth that are neither in work or in study; the significant gender differences in participation; the extremely long duration of unemployment; the considerable regional disparities in participation; and the notable shift of employment from the state sector to the private sector in recent years.

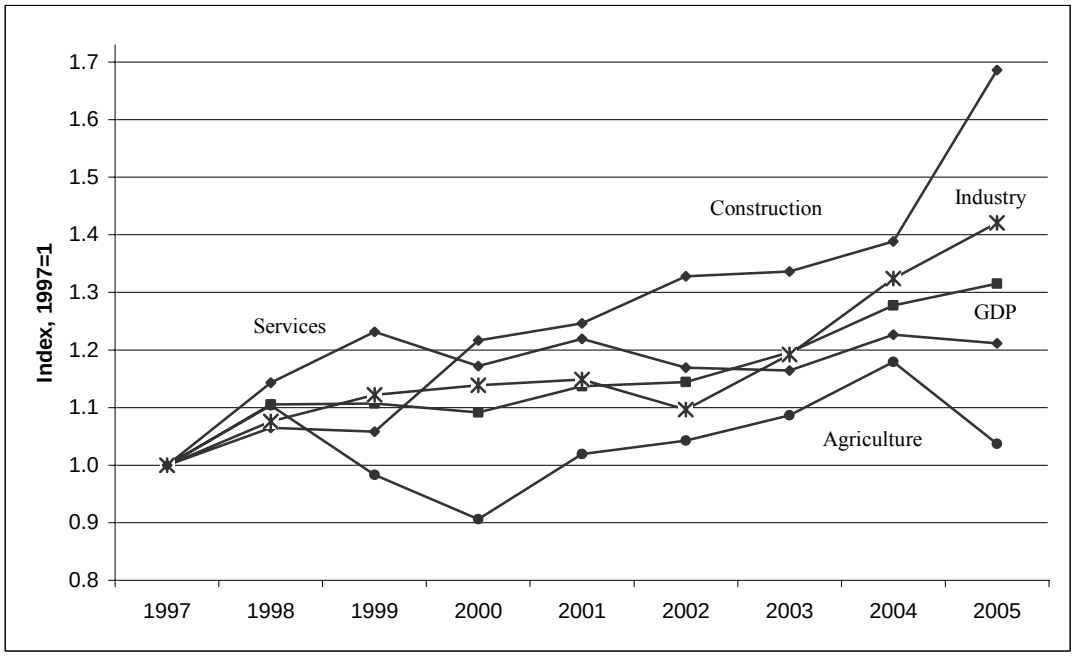
In Armenia, the economic diversification of industry, manufacturing and services and financial deepening (the processes that have taken place in new EU member countries) has been slow. The share of agriculture in GDP is around 30 percent and agricultural employment accounts for more than 45 percent of total employment, well above the levels of 4.5 percent and 5 percent, respectively, in new EU member states. Activity is concentrated in low value added agriculture (dairy, meats and grains). The services sector, concentrated in public administration and trade, generates about 35 percent of GDP in Armenia, compared to more than 60 percent in new EU member countries. **Subsistence agriculture, which is susceptible to supply shocks, remains over-manned, and those who rely on subsistence agriculture remain economically vulnerable.**

The impact of growth on formal job creation outside the construction and trade sectors has been weak. Agriculture, which had been growing more slowly than the rest of the economy during the 1990s, has absorbed a surplus of (unskilled) labor released in the process of economic transformation. Part of the decline in the share of agriculture in total output from over 30 percent to 25 percent over the 1990s was related to changes in relative prices (i.e., a decline in agriculture terms of trade since the 1998 Russian crisis) (Figure 1.17). Agricultural prices have been declining until recently, while prices in services (led by the utility price adjustment) and industrial prices have been consistently increasing. The special conditions that drove up the price of oil recently required another round of relative price adjustment. Agricultural prices saw another considerable decline in 2005. Clearly, such price shifts benefit the urban consumer and lead to the shift in resource allocation away from agriculture. But they have not led to the expected fall in employment in agriculture. In contrast, the fastest growing sector of the economy – construction – has made a significant contribution to job creation: the share of the labor force employed in construction has risen from 4 to 9 percent over the past five years. Job creation in industry in recent years was mostly concentrated in new private enterprises. Out of 26,500 jobs created in industry during 1999-2003, 22,000 were established in newly created private enterprises.

To reinforce this situation, recent enterprise surveys indicate that there is a potential for employment growth. Average capacity use in Armenian firms (as surveyed by

BEEPS 2005) equals 82 percent, indicating that new jobs can be generated using the available capital stock. Moreover, employers point out that the optimal employment level in their firms compared to the current level implies an expansion of the workforce by 12.1 percent. This is more than the average in the ECA region of 8.6 percent of potential new employment in existing firms. GDP growth is expected to be more employment-intensive, since the rate of production growth in service sectors is expected to rise.

Figure 1.17: Change is Sector Prices, Nominal Value Added Deflator, Index, 1997=1



Source: National Statistical Service of Armenia.

Public employment has been constrained by the political choice of a small public sector in the economy. Other labor-intensive sectors and sectors with a demand for skilled labor, such as banking and light manufacturing, have been growing slowly since 2003 (Figure 1.18). The share of unskilled labor in total employment rose from 50 percent in 1990 to 75 percent in 2002. This development reflects some out-migration of skilled labor and possibly a worsening of the skills

Figure 1.18: Jobs in the State and Private Sectors of the Non-agricultural Productive Sphere in 1998-2003

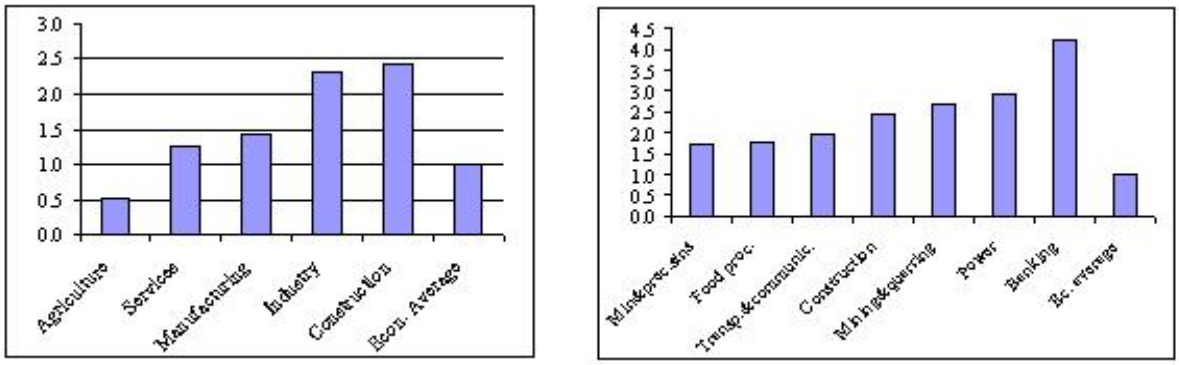
Source: National Statistical Service and authors' calculations.

mismatch in the labor force after the collapse of central planning, as skills that were in demand under a planned economy proved to be not needed under market conditions. (Labor market research under way will examine such factors).

Strong labor productivity growth and the increases in the ULC appear to have curtailed the potential for new employment in the short term. This trend has been reversed very recently with the increased reliance of growth on labor utilization. From an international perspective, the Armenian labor market is still characterized by relatively low participation (65.9 percent compared to 70 percent in EU-19 and OECD) and employment rates and high unemployment rates (above 20 percent in 2004). In general, growth in labor productivity, if associated with slower growth in real wages, reduces ULCs and creates room for new employment. In Armenia, rapid growth in labor productivity was accompanied by increases in hourly compensation above the productivity growth level and related increases in ULC. The benefits of recent economic growth secured stronger earnings for current workers but did not generate higher employment, and the increase in labor costs contributed in part to jobless growth during the mid-1990s.

Figure 1.19 illustrates the mismatch between the rapidly expanding sectors and labor productivity. The contrast between the rapidly growing sectors and formal employment indicates that the majority of the labor force has benefited only modestly from rapid economic expansion.

Figure 1.19: Relative Labor Productivity by Sector (Index, average for the economy =1)



Source: Armenian Department of Statistics.

The causes of the weak employment response to investment and growth lie in a business climate that discourages the flexible use of labor (business surveys provide evidence for this statement and are discussed in detail in Chapter 3 of this book). Thus, a central policy task is to create conditions that will lead to an expansion of jobs. Raising the rate of job creation would require addressing the binding constraints to the formation and growth of firms. The principal weaknesses in Armenia are uncertainty in property rights; poor enforcement of contracts; arbitrary and predatory behavior on the part of public authorities; restrictiveness in the formal regime governing employment; and stunted financial intermediation.

Considering that the labor market situation may be aggravated due to the fact that during the decade the labor supply will increase significantly, while the generation born at

the birthrate peak in the 1980s will enter the labor force, Armenia will need to create more and better jobs. Thus, in addition to improving the business climate, Armenia will need to reform labor market institutions to create an adaptive labor market—that is, a market in which employers have the incentives to hire and workers have the incentives and required skills to take up available jobs. The upgrading of the labor force, or vertical mobility, is a precondition for rapid structural and technological change, for competitiveness and for raising the share of high value-added products and services. The new role of employment services should be specified and **the overall state of the labor market should be thoroughly analyzed,** including new forms of employment, underemployment, and unemployment, the components of labor force growth, age structure, industry and occupation structure, labor market segregation (for example, by age or gender), and regional imbalances.

In contrast to some other CIS countries, the long record of stable macroeconomic management in Armenia reduces policy uncertainties. Moreover, with privatizations and enterprise re-structuring being complete, labor hoarding has practically been eliminated. In addition, wage-setting mechanisms are market-based and are decentralized to the firm level. However, employment protection legislation is restrictive, with dismissal costs being high in terms of severance pay, though enforcement is erratic (see Chapter 3 and Table 3.5).

Thus, the muted employment response to growth reflects the incompleteness of structural reforms and of the development of institutions and practices that would encourage competition and enterprise activity. Policymakers would need to focus on property rights and all aspects of the rule of law, including rules-based regulation and regulatory behavior, bureaucratic arbitrariness and corruption, and the creation of a framework for bank and capital markets development.

The persistent, very high rates of unemployment and the associated large informal economy entail risks for the continuation of "tigerish" rates of growth. At a time when the memory of Soviet full employment (even if of the "we pretend to work and they pretend to pay us" variety) and the adequate provision of very basic goods is still strong, the creation of haves and have-nots in the employment world—with strong rises in real wages for a minority and with no clear prospect of a strong generalized growth in employment—diminishes support for the stringent reform agenda still to be addressed. This is particularly so given the strong association between unemployment and poverty; with the worst affected being the less skilled, middle-aged workers, less attuned by attitude and skills to the new economy.

Thus, the remainder of the book can be viewed as being structured along an analysis of the policy response necessary to raise employment growth to the rates in comparable tiger economies, and, therefore, to deal with questions of competition, the impediments to enterprise activity, the absorption of knowledge, the use of finance for investment and the benefits of the international division of labor.

SUMMARY OF THE CHAPTER

Armenia's growth performance has been impressive and has had a sharp impact on poverty reduction. But growth has been dependent on foreign inflows (although the share of national savings has risen substantially), and growth has had a muted impact on lowering unemployment until very recently. The economy is insufficiently diversified; the export base remains narrow. The economy can be characterized as having a dual labor market: one formal, with rising productivity and real wages; the other, informal and stagnant. Thus, growth has been based on rising investment and productivity gains rather than on higher employment – a phenomenon seen in other CIS states. Broadening the base of growth and generating new jobs will require changes in the business climate, sharper competition conditions and a shift in taxation away from labor and social security taxes and charges and towards direct income taxation.

CHAPTER 2.
CONSTRAINTS TO SUSTAINED GROWTH

THE RECORD

As has been noted, Armenia has shown an impressive decade-long experience of sustained double-digit rates of growth on average, although incomes remain well below those in countries such as Lithuania. **Armenia's strong growth record has been fostered by sound macroeconomic performance**: namely, modest fiscal deficits, low inflation, and a stable (recently appreciating) currency. Exports have accelerated and the current account deficit has declined from over 20 percent of GDP in the mid-1990s to less than 5 percent in 2005. Gross international reserves remained at about four months of imports. Armenia has pursued a prudent debt management strategy. By now, almost all non-concessional debt, accumulated during the first years of independence, has been settled[8] and the debt burden has been kept under control. Macroeconomic projections, on the assumption of continued stability-oriented policies, indicate a comfortable fiscal sustainability and plunging debt service and debt burden indicators (as discussed in Chapter 1 and in Annex 1).

Armenia has already implemented an impressive range of market-oriented reforms, including free price formation in a highly open market with a **liberal regime for trade and investment**, a **liberal financial system**, total **private ownership of land**, and small and medium enterprise (SME) and large-scale **privatization**. Accession to the WTO in December 2002 has locked Armenia into a liberal foreign trade regime. The early and swift privatization of land was particularly impressive and stands in contrast to all other CIS countries. Land ownership reforms have continued with an acceleration of land registration processes and streamlined titles issuance to farmers. These actions have been followed by the development of rural land markets. The government adopted a privatization program in 2000 that resulted in privatization of 75 percent of the large public enterprises and almost all of the small and medium enterprises. For those enterprises that were not sold following three attempts at privatization, the government established appropriate exit strategies for public enterprise reorganization or liquidation.

[8] Armenia's external debt management has improved over time. Bilateral debt to Russia has been settled through a number of debt-to-equity swap operations, which improved Armenia's financial position but increased its dependence on Russia through the monopoly gas suppliers Gasprom and Itera.

Box 2.1: Armenia – Production Statistics by Sector

	Output		Value Added		Supply To Domestic Market		Exports		Import	
	UD Dollar	Sector Share in Total	US Dollar	Sector Share in Total	US Dollar	Share in Output	US Dollar	Share in Output	US Dollar	Share in Arming-ton Supply
grn: Wheat potatoes and legumes	155.5	3.6	98.7	4.6	155.2	99.8	0.3	0.2	50.7	24.6
vfr: Vegetables and fruits including grapes and dried fruits	132.5	3.1	115.4	5.4	126. 9	95.8	5.6	4.2	24.0	15.9
vol: Vegetable oils and fats	15.8	0.4	1.0	0.0	15.8	100.0	0.0	0.0	14.7	48.1
ocr: Crops not elswhere classified	103.1	2.4	81.1	3.8	98.1	95.2	5.0	4.8	19.9	16.9
mil: Diary products including eggs and milk	342.6	7.9	168.2	7.8	342.1	99.9	0.5	0.1	6.8	2.0
omt: Beef pork mutton and poultry meat	159.0	3.7	66.9	3.1	158.9	99.9	0.1	0.1	23.1	12.7
enr: Energy - oil and natural gas	75.7	1.7	0.0	0.0	75.7	100.0			156.7	67.4
min: Mining and Quarrying	65.9	1.5	39.4	1.8	27.2	41.3	38.7	58.7	1.1	4.0
fod: Food processing and beverages	430.7	9.9	158.1	7.4	379.6	88.1	51.1	11.9	46.7	11.0
tbc: Tobacco products	80.9	1.9	13.7	0.6	77.3	95.6	3.6	4.4	30.0	28.0
lmf: Light manufacturing and textiles	52.6	1.2	5.3	0.2	23.5	44.7	29.1	55.3	40.2	63.1
crp: Chemicals rubbers and plastics	53.0	1.2	10.4	0.5	44.7	84.4	8.3	15.6	81.8	64.6
mnm: Mineral products and precious stones	269.3	6.2	40.7	1.9	11.3	4.2	258.0	95.8	206.4	94.8
mtl: Metals and metal products	109.9	2.5	43.6	2.0	65.3	59.4	44.7	40.6	55.3	45.9
mch: Machinery equipment and motor vehicles and precision optical equipment	88.7	2.0	5.8	0.3	33.0	37.2	55.7	62.8	185.7	84.9
omf: Other manufacturing	61.2	1.4	17.9	0.8	56.1	91.8	5.0	8.2	52.1	48.2
utl: Electricity gas and water supply	152.0	3.5	111.6	5.2	152.0	100.0	-	-	0.0	0.0
ele: Electricity supply and distribution	163.2	3.8	102.1	4.8	149.8	91.8	13.4	8.2	5.6	3.6
con: Construction	518.3	11.9	298.6	13.9	512.1	98.8	6.2	1.2	2.8	0.5
trn: Transport and communications	259.9	6.0	153.1	7.1	172.2	66.3	87.7	33.7	24.0	12.2
trd: Retail and wholesale trade and public catering	447.2	10.3	288.6	13.5	447.2	100.0	-	-	0.0	0.0
bnk: Banking lending and insurance	51.6	1.2	35.7	1.7	44.9	87.0	6.7	13.0	11.3	20.1
gov: "Governance, defense, and public procurements	362.5	8.4	197.7	9.2	354.8	97.9	7.7	2.1	7.8	2.2
osr: Other services not elsewhere classified	93.7	2.2	23.6	1.1	23.1	24.6	70.6	75.4	60.5	72.4
dwe: Housing and dwellings	92.6	2.1	68.2	3.2	92.6	100.0	-	-	0.0	0.0
Total agriculture	908.6	20.9	531.3	24.8	897.0	98.7	11.5	1.3	139.3	13.4
Total manufacturing	1,036.4	23.9	251.9	11.7	690.9	66.7	455.5	43.9	698.3	50.3
Total industry	403.5	9.3	194.7	9.1	254.9	63.2	38.7	9.6	157.8	38.2
Total construction	518.3	11.9	298.6	13.9	512.1	98.8	6.2	1.2	2.8	0.5
Total services	1,470.8	33.9	869.0	40.5	1,284.7	87.3	186.1	12.7	109.2	7.8
Total	4,337.6	100.0	2145.5	100.0	3,639.6	83.9	698.0	16.1	1,107.4	23.3

The above table displays Armenia's production and trade statistics for 2002. The largest single *output* sectors were construction, trade and processed foods. Other large activities include the public sector, cut gems, transportation services, and electricity output. Food is probably more important to the Armenian economy than it appears in this table. If we combined the three largest food industries: processed foods, dairy, meats and grains, then consumable food would be the largest single industry in Armenia. The total combined output for these four industries accounts for 25.1 percent of total production. If we re-organize these statistics according to *value added*, a different story emerges. Value added is generally high in the non-tradable sectors (e.g., construction, trade, banking and public services). Food and food products (crops, vegetables and fruits) are the leading tradable sectors in the economy. Growth in these sectors is more likely to contribute to higher personal income for Armenians in the short term. Other manufacturing sectors such as machinery and jewelry cutting have the lowest share of value added in production, which implies that these industries are comprised mostly of intermediate inputs and short-term spillover effects from these sectors are insignificant. These sectors have, however, the highest *export potential* and

have considerable implications for the medium-term and long-term growth of the Armenian economy. Some industries, such as cellular telecommunications, mining, or utilities, may exhibit a high degree of value added in production, but since those industries are capital-intensive, their contribution to personal income will depend upon who collects the capital rents. For example, a foreign-owned mine may capture significant rents, but most of this income could be forwarded off-shore. Table 1 also displays exports, imports and total domestic supply for each sector. Import and export volume is dominated by a single sector: uncut and cut gems. This sector alone represents about one-fourth of total trade volume for Armenia. Export potential is highest in the manufacturing sector, as most of the manufacturing sub-sectors show high export/output shares.

Source: Armenia SAM 2002.

The government implemented several structural reforms in the **energy sector**, which included undertaking the financial and technical restructuring of the sector, increasing tariffs, establishing a regulatory framework, improving the collection of electricity bills, and reducing cross-subsidization. The price of electricity reflects cost recovery. In addition, the government mitigated the adverse impact of tariff increases on the poor through increasing the well-targeted family benefits. Furthermore, the government privatized the Electricity Distribution Company (EDC) in 2002. Since its privatization, the EDC has improved its financial performance significantly. The government has ensured that the privatized electricity distribution company will comply with its license.

The government also carried out a wide range of reforms to improve the **regulatory framework** for utilities and infrastructure, especially for the power sector. The role and the independence of the Energy Regulatory Commission (ERC) were strengthened and a strategy was developed to improve the efficiency of the non-privatized parts of the power sector. In addition, the government established a single utility regulator based on the ERC, adopted the necessary legal framework to ensure its financial autonomy and transferred the economic regulations of the energy, drinking water and telecommunications sectors to the single Public Services Regulatory Commission (PSRC), and also carried out performance monitoring and a public dissemination program to ensure that the public is made aware of the power sector's performance in a timely and credible manner.

Other **utilities** also underwent deep reforms and experienced a gradual increase in private sector participation. The government adopted the Integrated Financial Rehabilitation Plan (IFRP) for public utilities, covering electricity, drinking water, irrigation and urban electric transport, to guide the policy reforms and to ensure the ultimate commercialization of the utilities. The government made adequate provisions in the annual budgets to support the financial recovery plan of the transport and water sectors in order to ensure that full payments are made to the energy sector. Reforms in the water sector included the financial restructuring of drinking water companies, tariff increases, the adoption of a new water code and improved collections. In addition, the government adopted a schedule for irrigation tariff increases in 2002-07 to provide full cost recovery tariffs for the irrigation system by 2007.

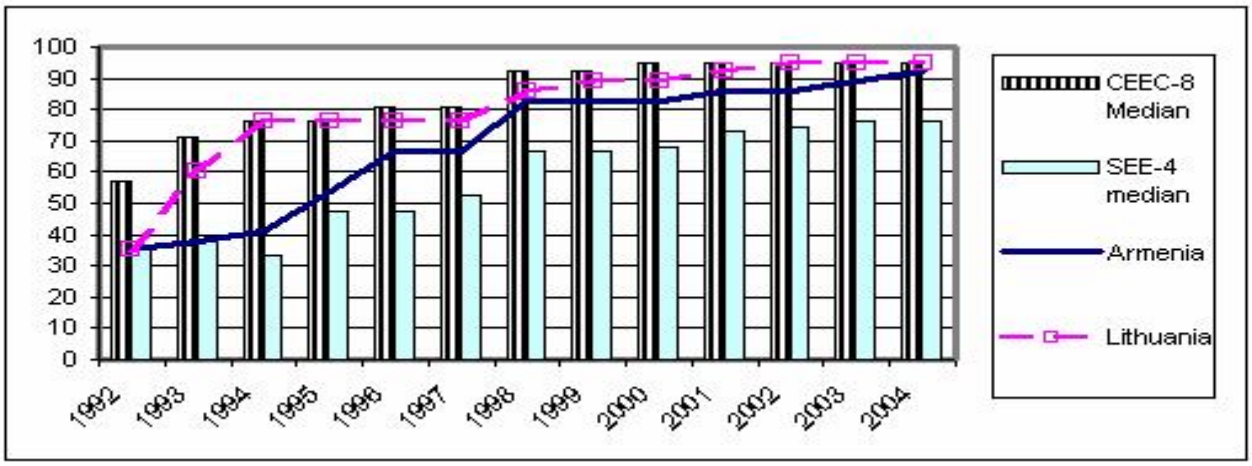
The government undertook several reform measures in the **banking sector** to improve the lending environment. The government restructured two weak and failing banks, adopted the law on the bankruptcy of banks, increased the minimum capital requirements of the banks and modernized the loan classification system. In the area of banking supervision, the Central Bank developed manuals on-off site and on-site supervision and introduced regulations for the internal control of banks. The payments system was improved, diagnostic studies were completed that resulted in the revoking of the licenses of six banks, a credit registry at the Central Bank was

introduced, and confidence in the banking system was enhanced by the introduction of a deposit guarantee system and a series of accounting standards. The government also adopted the law on insurance, took initial steps to strengthen creditor rights and corporate governance for banks, and established a regulatory and supervisory environment for insurance and adopted regulations and procedures for the Securities Commission. These reforms contributed to enhancing confidence in the banking system and accelerating credit growth.

THE RECORD IN A COMPARATIVE CONTEXT

Some interesting comparative insights can be gleaned from the examination of EBRD transition indicators of progress in the liberalization of prices, small-scale privatization, and foreign trade and exchange rate regimes normalized for the purpose of this analysis.[9] They all comprise measures at the core of the first generation reforms (see Figure 2.1). Armenia and Lithuania began their journey towards a market-based economy from the same level, estimated at around 35 percent of the "desired" level. Nevertheless, while Lithuania made a big leap in 1993-94, Armenia initially lagged behind Lithuania. However, both countries had largely completed first-generation reforms by 1998. It is interesting to note that the SEE-4 economies, although at the same starting point in terms of EBRD scores, have lagged behind Armenia in implementing first generation reforms.

Figure 2.1: Progress in First Generation Reforms as Revealed in Values of the EBRD-Based Aggregate Index in 1992-2004 in Selected Transition Economies (in percent)



Notes: (1) The aggregate is the average of scores ranging between 1 (no liberalization) and 4.5 (liberalization at the levels of highly developed market economies) for prices, foreign trade and exchange rate regime and small privatization. It has been normalized with 1=0 and 4.5=100; (2) SEE-4 includes Albania, Bosnia and Herzegovina, Macedonia, and Serbia and Montenegro.

Source: Own calculations based on data from EBRD *Annual Transition Reports.*

[9] These three policy areas constitute the core of the first generation reforms. Scores for each area ranging between 1 for no reforms and 4.5 for reaching the average conditions in highly developed economies have been normalized with 1=0 and 4.5=100. The average of these three indicators amounts to the achieved progress in first generation reforms.

CONSTRAINTS TO FUTURE GROWTH

The preceding section of this chapter has argued that the factors underpinning Armenia's impressive growth performance are: durable stability in macroeconomic stance and the pursuit of first generation structural reforms; price and trade liberalization; a liberal foreign exchange regime; the privatization of all small enterprises and some medium and large enterprises; and the reversion of land to private ownership. **The experience of advanced transition countries (Central European countries and the Baltics) suggests that the following factors are important for sustained rates of growth: undertaking deep structural and institutional reforms centered on creating contestable and competitive conditions for economic activity; entrenching property rights; facilitating banking and capital markets to provide low-cost intermediation; fostering an environment for innovation and product diversification; and locking in integration with international services and factor markets.**

In identifying the constraints to the maintenance of high growth rates, the framework building on the idea of growth diagnostics[10] can be useful. This permits a focus on the **country-specific constraints** to growth as the first step towards identifying a growth strategy for the country. The question to be answered is not so much "What creates success?" but rather "What are the constraints to better performance?" The work on growth diagnostics suggests that constraints could be placed as a tree diagram (see Figure 2.2). The driving factors of growth are seen as the private return to accumulation (that portion of the social return which is subject to private appropriability) less the cost of financing accumulation. In Armenia, observation indicates that social returns are high, based on the rising productivity of factor use, but private appropriability is compromised by poor property rights protection and enforcement, inflexible labor regimes, and arbitrary customs and tax administration, and the cost of finance remains high, partly because of low domestic savings rates but, more fundamentally, because of barriers to intermediation related to secured transactions and extremely weak corporate governance.

The high growth rates of the past decade have resulted from productivity gains in the use of labor, with little additional labor use: the evidence supports this conclusion. The evidence for weaknesses in private appropriability comes from the large degree of informality in the economy (this is discussed in detail in Chapter 3) and from the use of informal mechanisms for the protection of property rights and the perpetuation of monopoly positions in production and distribution; this is evidence of inadequacies in the competition framework. The evidence for the intermediation constraint arises from the internalization of finance through firms and business groups, the high shadow price of capital, and the dependence of investment on external financing.

[10] Hausman, Rodrik and Velasco, "Growth Diagnostics," (2004).

Figure 2.2: Tree Diagram: Challenge of Sustaining and Diversifying Sources of Growth toward Those with Stronger Spillover Effects

Macroeconomic stability – GP

High social returns	**Low private appropriability**	**High cost of finances**
Productivity gains **SP**	Competition framework weak **BC**	Low domestic savings **UV**
Investment in infrastructure **SP**	Poor contract enforcement **BC**	Weak bank corporate governance **SW**
Stable price, fiscal, trade regimes **GP**	Corruption and arbitrary state behavior **SW**	Insecure regime for secured loans **SW**
Scientific and entrepreneurial endowment **SP**	Burdensome cost of backbone services	
Diaspora and emigrant support **GP**	(telecom, transport) **BC**	
	Outmoded investment in human capital **SW**	

BC – binding constraint
UV – underlying vulnerability
SW – structural weakness
SP – satisfactory progress
GP – good progress

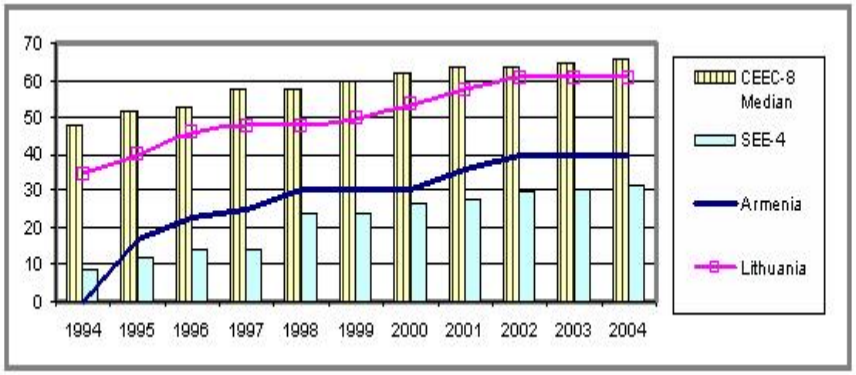
EVALUATING THE STATE OF THE BINDING CONSTRAINTS

While progress in first-generation reforms (e.g., free price formation, the convertibility of domestic currency for current account transactions, trade and investment restrictions, private ownership) can be readily assessed, this is not so with second-generation reforms covering, as a rule, actions, policies and institutions where progress can be gauged, at times, only indirectly. **Moreover, the binding constraints are usually highly intertwined.** Progress in one area can be "neutered" by the lack of progress in another area. For example, large-scale privatization may be completed, but its benefits may not materialize if privatized companies are subsidized by still state-owned banks (the Czech Republic in the mid-1990s), or if competition policy is too weak. Excessive minimum capital requirements or instabilities in tax or customs policy or administration may offset the benefits for business formation and growth offered by the simplicity of procedures for business entry.

Figure 2.3 compares Armenia to three other country groupings, using an index derived from EBRD transition indicators for competition policy, government and enterprise restructuring, large-scale privatization, banking reform and interest rate liberalization, and policy and regulations for security markets and non-bank financial institutions.[11]

The results presented in Figure 2.3 show that moving to the institutional environment of highly developed countries takes time. The median value of a structural aggregate reform index for new EU CEEC-8 member states stood in 2004 at 66 percent of the level of mature market economies. While this figure is above the level of institutional maturity achieved by Armenia (40 percent), the CEEC-8 countries have a long way to go to catch up with the highly developed countries.

Figure 2.3: Progress in Structural Reforms: Values of SRI in 1994-2004 (in percent)



Notes: (1) The aggregate is the average of scores ranging between 1 (no liberalization) and 4.5 (liberalization at the levels of highly developed market economies) for government and enterprise restructuring, competition policy, banking reform and interest rate liberalization, security markets and non-bank financial institutions, and large-scale privatization. It has been normalized with 1=0 and 4.5=100; (2) SEE-4 includes Albania, Bosnia and Herzegovina, Macedonia, and Serbia and Montenegro.

Source: Own calculations based on data from EBRD *Annual Transition Reports*.

So does Armenia. The greatest "distance" (Table 2.1) separating it from institutions in highly developed countries is in competition policy (at 29 percent of the "normal" desired level)

[11] The average of scores in each of these areas—normalized for a minimum score of 1 to equal zero and a maximum score 4.5 to equal 100—is the indicator of progress in structural reforms. For countries that achieved institutional maturity in terms of establishing institutions supporting competitive markets, the indicator is equal to 100, whereas for those that have not started the process it equals zero.

and in security markets and non-bank financial institutions (29 percent). **Competition policy and financial intermediation are key binding constraints.** Other institutional areas where the value of the index is below its average for second-generation reforms are government and enterprise restructuring (38 percent) and banking reform and interest rate liberalization (38 percent). The most advanced area of structural reforms is large-scale privatization (67 percent).

Another interesting observation that can be derived from data in Figure 2.3 is that **Armenia's reforms** have moved in leaps that extended over three to four years and that they appear to **have slowed in the areas of competition policy, financial sector reforms and governance over the past three years.**

The critical weaknesses in competition deserve particular attention. Although reforms and large investments in infrastructure have generated a strong short-term growth response, the **creation of a strong monopoly in the area of communications**– a strategic sector – damages competitiveness and future growth. Telecommunications infrastructure in Armenia is currently one of the least developed in the CIS, despite the fact that it was among the earliest of the CIS to privatize. The 15 year monopoly granted to a private investor has led to the extremely high cost and poor quality of telecommunications services. Research shows the large and often economy-wide impact of the cost and diversity of telecommunications services on investment, international integration and growth.

Competition in the backbone sectors remains restricted. Competition forces tariffs down and boosts the quality of services, thus facilitating progress in all other sectors. It also encourages utilization of a skilled technically qualified labor force, which has traditionally been a comparative advantage for Armenia. Competition in backbone services has strong spillover effects on household welfare and employment through multiple channels. Competition and transparency in backbone services can also stimulate private investment (both domestic and foreign) and can entail technology transfer and technological capacity-building, as well as human resources development. (Box 2.2 discusses gains to be made from the liberalization of the service sectors.)

The quality of service links is critical in the location decisions of multinational corporations and in a country's capacity to attract outsourcing activities. Services linking production operations include procedures for the simplification and harmonization of international trade, the state of infrastructure and its management together with the provision of such backbone services as telecommunications, banking, insurance, transportation, business services, etc. Together with customs, related border clearance regulatory procedures, technical standards regulations and port efficiency, they shape the ease and speed with which goods and services move across national borders and, therefore, are crucial to trade in goods. **The weakest link in the "service chain" in a country may tip the balance against including a firm in the global supply chain**. As a consequence, improvements in the domestic business climate may have limited positive economic effects if they are not accompanied by similar improvements in trade facilitation. In short, weaknesses in any of these services may lead to the excursion of a country by firms searching to locate outsourcing activities abroad.

Table 2.1: Progress with Second Generation Reform II, 1994-2004

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Large-Scale Privatization											
Armenia	0	29	57	57	57	57	57	57	67	67	67
Lithuania	57	57	57	57	57	57	57	67	76	76	76
Government and Enterprise Restructuring											
Armenia	0	29	29	29	29	29	29	29	38	38	38
Lithuania	29	29	57	48	48	48	48	48	57	57	57
Banking Reform and Interest Rate Liberalization											
Armenia	0	29	29	38	38	38	38	38	38	38	38
Lithuania	29	57	57	57	57	57	57	57	57	57	57
Security Markets and Non-Bank Financial Institutions											
Armenia	0	0	0	0	29	29	29	29	29	29	29
Lithuania	29	29	29	38	38	48	57	57	57	57	57
Competition Policy											
Armenia	0	0	0	0	0	0	0	29	29	29	29
Lithuania	29	29	29	38	38	38	48	57	57	57	57

Note: the EBRD scores ranging between 1 (absence of institutions supporting competitive markets) liberalization) and 4.5 (presence of institutions at the levels of highly developed market economies) are normalized with 1=0 and 4.5=100. The difference between 100 and the actual value represents the distance to the level prevailing in highly developed market economies.
Source: EBRD.

Box 2.2: The Gains from the Liberalization of the Services Sectors

The importance of backbone services such as finance, telecommunications and transport is threefold. First, these services constitute major inputs into the production of goods and services—including agriculture—with their cost accounting often for a major share of the total cost of production. Considering that services contribute on average around 10-20 percent to the production cost of a product and account for all trading costs (transport, trade finance, insurance, communications, distribution services), the savings can indeed be substantial (Hodge, 2002).[1]

Second, services related to education, training and health influence the productivity and quality of human capital. Thanks to lower input costs and higher quality inputs, services assist industries and agriculture in improving their capacity to withstand competition from imports.

Last but not least, the availability of cheap backbone services combined with efficient and unobtrusive customs is the necessary condition for domestic firms to participate in the emerging division of labor based on international outsourcing, just-in-time production and supply-chain management. The poor quality of backbone services and trade facilitation deters foreign firms from incorporating domestic firms into their supply chains. It also acts as a barrier to other types of trade. This so-called network has been the fastest growing component of world trade over the last two decades, generating employment and assuring access to most dynamic markets.

The liberalization of the services sector and its opening to external competition will improve the quality of these services and reduce their prices. Empirical research suggests that these measures may generate gains that substantially exceed those that come from merchandise trade liberalization undertaken in isolation. Cross-country growth regressions for ECA economies, juxtaposing EBRD progress reform indices and per-capita GDP growth, point to a strong linear, positive relationship between service sector policy reform and per-capita GDP growth (World Bank, 2005). The econometric study of the impact of liberalization in basic telecommunications on sectoral performance in 86 countries has found that complete liberalization has paid off in terms of higher tele-density (8 percent higher than in countries following the route of partial liberalization) and labor productivity. See Fink, Mattoo and Rathindran (2002).[2]

[1/] Hodge, James, 2002. "Liberalization of Trade in Services in Developing Countries," in B. Hoekman, A. Mattoo, and Ph. English, eds., *Development, Trade, and the WTO: A Handbook*. The World Bank, Washington, D.C.

[2/] Fink, Carsten, Aaditya Mattoo and Randeep Rathindran. 2002. "An Assessment of Telecommunications Reform in Developing Countries." World Bank Policy Research Working Paper 2909, Washington, D.C.

Finally, it may be noted that the indicator of progress in structural reforms appears also to provide a good measure of the quality of governance and the incidence of corruption. The value of the correlation coefficient for the values of the structural progress indicator for 27 transition economies in Europe and Central Asia and the Corruption Perception Indices compiled by Transparency International was 73 percent in 2004. The positive correlation is higher for governance indicators (average of political stability, government effectiveness, and regulatory quality)[12] as compiled by the World Bank. For the 1998-2002 averages, its value was 93 percent. In other words, countries with higher values for the structural progress indicator are better governed and are less corrupt.

[12] There are two arguments in favor of focusing solely on these indicators: First, these indicators are critical dimensions of a business climate. Political stability affects investment decisions and, in extreme situations, its absence may disrupt economic activities. The quality of regulation is of little relevance unless supported by the government's capacity to enforce regulations. Second, three other indicators pertinent to such dimensions of governance as the rule of law, the control of corruption, and voice and accountability, are not taken into account because they do not yield extra information. For all transition economies, they are strongly correlated with the selected three indicators, with the values of correlation coefficients equal to or above 0.9. For the explanation and data, see www. worldbank.org/ wbi/governance/gov_data.htm.

SUMMARY OF THE CHAPTER

Armenia's strong growth performance is due to the completion of first generation structural reforms and the persistence of the conditions for macro-stability. In these respects, Armenia's growth performance is much closer to the record of the CEEC-8 countries than to the CIS countries or the Balkan nations. Future opportunities for growth will depend on the pursuit of second generation reforms: competition policy, banking and capital markets, deeper international integration and the laying of the base for innovation and knowledge. The chief binding constraints to growth are the weak conditions for fair competition and the shallow nature of financial intermediation. A strong monopoly in telecommunications raises costs, and restrictive air transport policies also handicap the landlocked and blockaded economy – these are policy-induced failures. Such weaknesses prevent the emergence of strong supply chains, to the detriment of future growth.

CHAPTER 3.
THE FRAMEWORK FOR COMPETITION[13]

Within the Armenian economy, competition is hobbled by weaknesses in the law and its application (for example, the competition law and the law on contracts) and in formal and informal institutions and their workings (for example, corporate governance arrangements); by business regulation and governance rules and practices (for example, arbitrary and unpredictable behavior of tax and customs administrations); and by policy-induced high costs that fall on the shoulders of all enterprises (such as telecommunications and transport costs). The conditions for competition diverge from a level playing field, particularly in sectors related to trade and distribution, where monopoly profits are being earned and welfare losses are being imposed on the public. This chapter examines the interplay of these factors on the state of competition and the prospects for sustained growth.

GOVERNANCE, THOUGH IMPROVING, IS A HINDRANCE TO COMPETITIVENESS

Given the intimate link between the governance standards and the level playing field essential for fair competition, this section provides an analysis based on tools developed by the World Bank to measure the quality of governance (Kaufmann, Kraay and Mastruzzi, 2003). As international experience shows, FDI inflows and competition move up with improvements in the quality of governance. Table 3.1 reports the values of three indicators of governance (political stability, government effectiveness and regulatory quality).[14] A single aggregate index of governance is a simple average of the values of these three governance indicators. Their values range between –2.5 (the worst case) and +2.5 (the best case).

Table 3.1: Selected Indicators of the Quality of Governance in 1998-2004

	Political stability				Government Effectiveness				Regulatory Quality				Aggregate (average)			
	1998	2000	2002	2004	1998	2000	2002	2004	1998	2000	2002	2004	1998	2000	2002	2004
Armenia	-0.5	-0.7	-0.5	-0.5	-0.5	-0.9	-0.4	-0.3	-0.5	-0.4	0.1	0.1	-0.5	-0.7	-0.3	-0.3
Lithuania	0.4	0.4	0.9	0.9	0.2	0.4	0.6	0.7	0.2	0.5	1.0	1.2	0.3	0.4	0.8	0.9
CEEC-8 median	0.9	0.8	1.0	0.9	0.5	0.6	0.7	0.7	0.8	0.6	0.9	1.1	0.7	0.7	0.9	0.9
CIS-11 median1/	-0.2	-0.5	-0.4	-0.9	-0.7	-0.9	-0.8	-0.8	-0.9	-1.2	-0.8	-0.6	-0.6	-0.9	-0.7	-0.8

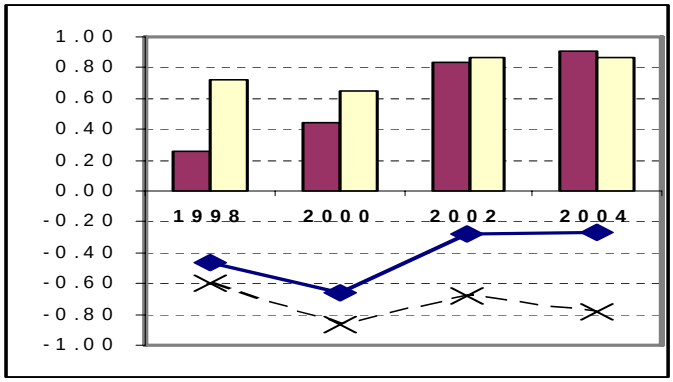
Source: Derived from data available at www.worldbank.org/wbi/governance/gov_data.htm.

[13] Background material supporting the analysis of this chapter can be found in Chapters 4 and 5 of Volume 2 of this book.

[14] As has been mentioned in Chapter 2 (note 13), there are two arguments that focus solely on these indicators. First, these indicators are critical dimensions of the business climate. Political stability affects investment decisions and, in extreme situations of its absence, may disrupt economic activities. To be relevant, the quality of regulation must be supported by government capacity to enforce regulations. Second, three other indicators pertinent to dimensions of governance, such as the rule of law, the control of corruption, and voice and accountability are not taken into account and do not yield extra information. All transition economies are strongly correlated with the selected three indicators, with the values of correlation coefficients equal to or above 0.9.

The quality of governance in Armenia has improved significantly since 1998, although the pace slowed down somewhat in 2002-04. The value of the aggregate indicator of governance, after a significant deterioration in 2000 triggered by both political instability and a contraction in the state's capacity to govern, improved considerably in 2000-02 and registered a less pronounced improvement in 2002-04. The improvement over 2000-02 coincided with progress made in second generation reforms as captured in EBRD structural indicators, where the largest push came during this period (see Figure 3.1).

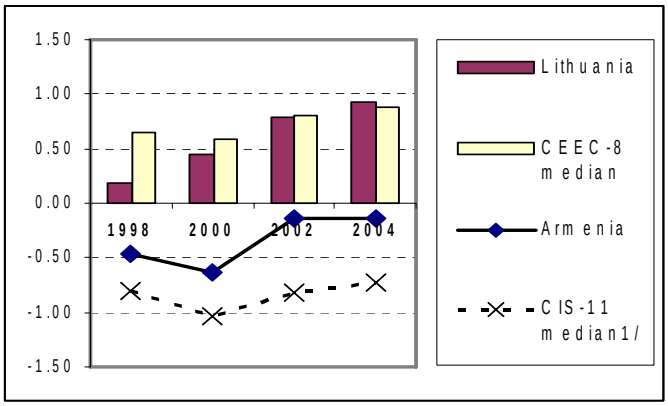
Figure 3.1: The Aggregate Quality of Governance in 1998-2004



Source: Derived from data available at www.worldbank.org/wbi/governance/gov_data.htm.
CIS-11 countries do not include Armenia.

Armenia scores high among transition economies in terms of the overall quality of governance. Only CEEC-8, new members of the EU, and three other countries in the EU-accession pipeline had in 2004, higher values in the aggregate quality of governance. Furthermore, Armenia's lead over other CIS economies increased significantly in 2002-04. While the median value of the aggregate quality of governance in CIS-11 also increased in 2000-02, trends diverged in 2002-04, albeit with Armenia recording a limited improvement (Figure 3.2).

Figure 3.2: The Average of Government Effectiveness and Regulatory Quality in 1998-2004



Source: Derived from data available at www.worldbank.org/wbi/governance/gov_data.htm.
CIS-11 countries do not include Armenia.

But much remains to be done. Although the quality of governance is higher in Armenia than in other CIS economies, it is significantly lower than in Lithuania or in a "median CEEC-8" economy. It is also significantly lower than in Bulgaria, Romania and Croatia.

In areas directly relevant to setting the level playing field essential for fair competition, government effectiveness and the quality of regulations, the average of these indicators is higher than the overall quality of governance. The greatest progress Armenia has achieved is in regulatory quality, the only area in which the value of the indicator is in a "positive" domain. However, decent levels in terms of regulatory quality, in the presence of a low capacity of the state to effectively implement policies and regulation, will not lead to significant welfare gains.

Since better governance usually implies a lower level of corruption, the question is whether international investors—surveyed by Transparency International—have noticed the improvement. The point to be borne in mind is that the two conditions, although significantly correlated, are different, as governance also embraces the supply of public goods and services and their quality. The values of the Corruption Perception Indices (CPIs) provide information on international investors' judgment of corruption in a country in a comparative context. International investors' perception of the Armenian investment climate has improved substantially since 1998 (Table 3.2).

Table 3.2: Values of Corruption Perception Indices for Selected Countries and Groups in 1999-2000 and 2002-04

						Index, 2004
	1999	2000	2002	2003	2004	1999=100
Armenia	2.5	2.5	3.0	3.0	3.1	124
Lithuania	3.8	4.1	4.8	4.8	4.6	121
Median CEEC-8	4.4	4.2	4.4	4.4	4.6	105
Median SEE-5	2.5	N/a	2.5	2.7	2.7	108
Median EU-15	7.7	7.6	7.3	7.7	8.4	109
Armenia in percent of CEEC-8 median	57	60	68	68	67	118

Source: Derived from data available at the web site of Transparency International at http://www.transparency.org/

While progress in reducing opportunities for rent seeking has not been impressive, Armenia has maintained its edge over other CIS economies. However, while the values of the CPI for Armenia in relation to CEEC-8 increased between 1999 and 2002, no perceptible improvement has occurred since then. Since the values of the CPI are low, indicating high levels of graft, the challenge is to introduce measures that will enhance transparency and simplify regulations. Considering the relatively low levels of government capacity (as indicated by the value of government effectiveness indicator) in the implementation and enforcement of laws and regulations, the latter is of particular importance.

REGULATORY ENVIRONMENT WEAKNESSES THAT IMPEDE COMPETITION

While the Transparency International CPI scores and the World Bank governance indicators capture either the perception of investors of the extent of graft in a country or an overall assessment of a country's capacity to govern, the World Bank's Doing Business Survey captures tangible "legal" components of the investment climate together with the cost-burden and time-burden imposed on businesses across 145 countries (Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2000).[15] It is a useful diagnostic tool for conducting an initial assessment of the quality of the business environment, identifying most binding constraints and assessing the overall ease/difficulty of doing business in Armenia in comparison with a selected group of

[15] It provides data on the tangible components shaping the cost of conducting business in Armenia and allows casting them in a comparative perspective. The survey covers the following eight areas: starting business, flexibility of employment, registering property, contract enforcement, doing business, protection of investors, getting credit, and ease of doing business. Each area has several different indicators ranging from 1 (protection of investors) to 5 (getting credit and labor market flexibility) (see http://www.worldbank/doingbusiness.org).

countries (CIS and CEEC-10 economies). Armenia performs strikingly well in many measures of regulation and the business environment, but *nevertheless has a large informal economy*, estimated to be in the range of one-third to nearly one-half of the size of the registered economy.[16]

The next section of the chapter considers why this might be so, and attempts to drill down into the specific factors in the regulatory regime that constitute the binding constraints to fair competition. In particular, attention is paid to the interactions between the various characteristics of the business climate. Thus, for example, strong foreign trade facilitation measures will be of little relevance if the domestic environment discourages the entry of new businesses and encourages the exit of firms either for good or to the informal economy. In a similar vein, the limited capacity of firms to recover due payments from other firms discourages increased ties and limits the intensity of business activity, with negative consequences for domestic production and exports.

THE FORMAL REGULATORY BURDEN OF DOING BUSINESS IS LOW AMONG TRANSITION COUNTRIES

Table 3.3 presents the ranking of CIS and CEEC-10 economies in terms of the formal ease of doing business.[17] Armenia ranks sixth among 20 transition economies. **Doing business across all areas is on average easier than in three new EU member states—Hungary, Poland and Slovenia—and in all other CIS countries as well as Bulgaria and Romania.** Only the Baltic states, the Czech Republic and the Slovak Republic—all of them with strong reform credentials—score higher than Armenia.

Armenia owes its high ranking to the procedural ease in hiring and firing employees, the simplicity and effectiveness of enforcing contracts, and effective procedures for closing a business. Its weakest areas are the registering of property, access to credit and the large severance payments that must be made when staff is fired.[18] Overall, however, even in the most streamlined and reformed areas, the level is well below the best practice in transition economies. The distance is particularly large for labor market flexibility and registering property for Armenia.

[16] B. Tunyan, "The Shadow Part of the Armenian Economy" (World Bank, 2005).

[17] The procedure used to assess the ease of doing business in Armenia is as follows. In order to assess Armenia's relative position among transition economies in terms of overall ease of doing business, we aggregate seven areas identified in the Doing Business Survey. We identify best practice indicators not worldwide but among transition countries. Indicators for countries are expressed in terms of percent of the best practice set at 100. We average them for each area covered by the Survey and the average of these values yields an overall assessment of the ease of doing business for each country.

[18] The labor code that will be in effect from 2005 greatly eases the severance pay burden for enterprises.

Table 3.3: Ranking of CIS and CEEC-10 Economies in Terms of Ease of Doing Business in 2005

	Starting Business	Flexibility of Employment	Registering Property	Enforcing Contracts	Closing Business	Protecting Investors	Getting Credit	Ease of Doing Business
Armenia	47	**64**	*38*	**65**	**68**	50	*37*	53
Azerbaijan	44	33	29	56	43	33	24	38
Belarus	18	50	48	54	44	17	44	39
Bulgaria	35	46	19	48	41	33	69	42
Czech Republic	33	56	28	72	18	100	89	57
Estonia	40	37	40	83	45	67	63	53
Georgia	39	51	18	54	53	83	56	50
Hungary	34	38	27	76	36	83	40	48
Kazakhstan	41	69	18	60	24	83	23	45
Kyrgyz Republic	70	54	22	28	53	50	31	44
Latvia	48	30	15	77	100	83	70	61
Lithuania	58	37	74	86	68	100	40	66
Moldova	33	50	26	51	41	50	36	41
Poland	32	49	19	51	60	67	57	48
Romania	79	17	17	51	27	33	53	39
Russia	43	69	21	62	77	50	13	48
Slovak Republic	39	100	27	49	31	100	54	57
Slovenia	28	28	20	45	27	67	48	38
Ukraine	27	17	14	65	32	50	28	33
Uzbekistan	33	39	10	45	47	67	39	40
worldwide	52	0	10	77	58	86	54	48

Source: Own calculations based on data in World Bank Doing Business database.

FORMAL ARRANGEMENTS DO NOT TELL THE WHOLE STORY ABOUT THE FRIENDLINESS OF THE BUSINESS ENVIRONMENT: "REVEALED" EASE OF DOING BUSINESS

The Cost of Doing Business indicators measure the extent to which a country deviates from the best practice on each indicator within each area; they do not provide information on which is more restrictive than the other within a country. An examination of the size of the informal economy throws light on such restrictiveness. Three causes of informality are important: the chances of getting credit, the fear of predatory administration, and a lack of trust in the state capacity to enforce contracts. While the Survey captures both getting credit and contract enforcement, it does not capture informal administrative interventions. Furthermore, the overall ranking procedure assigns the same weight to all areas of doing business. This book takes the average of the performance in terms of the informal economy and the ease of doing business as an indicator of the quality of the business environment. This indicator is referred to as the **"revealed'" ease of doing business**.

The large size of the informal sector, as is the case in Armenia, suggests that the hassle cost of doing business is higher that its high score would indicate. This observation applies also to other transition countries, as the value of a correlation coefficient between the values of the overall ease of doing business indicators and the respective size of the informal economy is very low at 38 percent, albeit, as expected, negative. This runs counter to the expectation that in countries with higher values of the aggregate "ease of doing business"

indicator, the informal economy should be smaller. In other words, the ranking in terms of formal overall ease of doing business diverges rather significantly from that based on the size of the informal sphere. Furthermore, while the ranking in terms of the size of the informal sector in transition countries is highly correlated with the incidence of corruption as measured by Transparency International's CPI (correlation coefficient of 79 percent), the ranking in terms of formal ease of doing business is not so correlated—with the value of the correlation coefficient at 33 percent, albeit a positive one.[19]

None of the above comes as surprise. The ease of doing business indicators for CIS/CEEC countries cannot capture all of the factors determining the quality of the business environment. First, they have not been designed to do so, as they do not capture all variables relevant to the cost of doing business. For example, they do not take into account the fact that predatory tax administration operating according to ad hoc rules may dramatically increase the hassle cost of doing business, discouraging start-ups and encouraging exit from business activity. Second, the procedure used here to rank transition economies gives equal weights to all variables describing the formal regime of doing business. Countries with best practices on most counts may rank relatively high in rankings despite weaknesses on other counts. For example, a small number of procedures, speed and low administrative fees to start a business would matter little in the presence of a huge minimum capital requirement.

Since the size of the informal sector, which for transition economies happens to go in hand with the increase in the incidence of corruption, appears to be negatively linked to the friendliness of a business environment, **a comprehensive assessment of the quality of the business climate should take into account both the formal ease of doing business and the size of the informal sector**. One way of doing this is simply to normalize the size of the informal sector in terms of its lowest level among transition economies (i.e., the Slovak Republic with 18.9 percent, would be 100) and incorporate it into the final measure referred to as "revealed" overall ease of doing business.[20] Table 3.4 presents the ranking in terms of revealed ease of doing business.

The "fall" in Armenia's position, as well as in the position of other CIS economies, is a reminder that not only do other factors (not covered in the Doing Business Survey) determine the quality of the business environment but also that, within various areas, binding constraints exist that neuter the positive impact of other changes. The ranking approximates well the progress achieved by the countries in building an institutional environment to support private business activity. It illustrates that in Armenia (as in Georgia and Russia) an apparently friendly regime is not sufficient to curb informality to the detriment of economic growth and productivity. The factors that countervail the strengths of the regime are discussed next.

[19] For a more detailed discussion, see Kaminski (2005).

[20] It is "revealed" because it takes into account the extent to which businesses express a preference to opt out of the official economy or to stay in it.

Table 3.4: The Size of the Informal Economy and the "Revealed" Ease of Doing Business

	Informal Economy Percent of 2003 GNI	"Revealed' Ease of Doing Business Indicator	Previous Ranking	Difference Between Current and Previous	Memorandum: CPI, 2000-04
Armenia	46.3	46.8	6	5	3.0
Azerbaijan	60.1	34.5	18	2	1.9
Belarus	48.1	39.2	17	1	4.1
Bulgaria	36.9	46.4	13	-1	4.0
Czech R.	19.1	77.8	4	-2	3.9
Estonia	n/a	74.0	5	-2	5.7
Georgia	67.3	39.3	7	10	2.1
Hungary	25.1	61.5	10	-5	4.9
Kazakhstan	43.2	44.6	11	3	2.3
Kyrgyz R.	39.8	45.8	12	1	2.2
Latvia	39.9	53.9	2	5	3.8
Lithuania	30.3	64.2	1	3	4.7
Moldova	45.1	41.4	14	2	2.3
Poland	27.6	58.2	8	-2	3.8
Romania	34.4	47.2	16	-6	2.7
Russia	46.1	44.4	9	6	2.7
Slovak R.	18.9	78.5	3	-2	3.8
Slovenia	27.1	53.7	19	-11	6.0
Ukraine	52.2	34.6	20	-1	2.3
Uzbekistan	34.1	47.7	15	-6	2.5

Note: CPI—Corruption perception index, the average for 2000-04. It assumes values between 1 (maximum incidence of corruption) and 10 (minimum).

Source: Own calculations based on data in World Bank's Doing Business database, and web site of Transparency International.

WEAKNESSES AND STRENGTHS OF ARMENIA'S "DOING BUSINESS" FORMAL REGULATORY REGIME

The formal regulatory burden of conducting business in Armenia is relatively low, especially when benchmarked against the CIS and CEEC-8 economies. Table 3.5 presents values of respective indicators for Armenia, the CIS economies, Russia, the CEEC-8 and New Zealand. It also provides information on the best practice across the globe for each indicator. Indicators describe formal arrangements in terms of time and complexity in the following eight areas: starting a business, labor market flexibility, registering property, contract enforcement, closing business, protecting investors, getting credit, and ease of doing business. Armenia outperforms Russia in all indicators except that: it is more difficult to hire in Armenia; it costs more to enforce a contract; and creditors recover less in terms of the value of a loan. Armenia represents the best practice in the CEEC and CIS in two indicators: the difficulty of firing index and the cost of closing a business (Table 3.5). However, neither the latter nor the former is necessarily an indication of the supreme quality of the formal arrangements pertinent to the respective areas—labor market flexibility and closing a business.

Table 3.5: Doing Business in Armenia and Selected Comparators in 2004

Area	Indicator	Armenia	CIS-10 Median	Russia	CEEC-8 Median	Best Practice in CEEC and CIS	New Zealand	Best Practice
Starting a Business	Number of Procedures	10	10	9	9	5	2	2
	Time(days)	25	32	36	46	18	12	2
	Cost (% of income per capita)	7.0	14.2	6.7	12.0	3.7	0.2	0.0
	Minimum capital (% of income per capita)	4.5	23.3	5.6	47.9	0.0	0.0	0.0
Hiring and Firing Workers	Difficulty of hiring index (0-100)	*33*	33	0	33	0	11	0
	Rigidity of hours index (0-100)	*40*	60	60	60	20	0	0
	Difficulty of firing index (0-100)	*10*	60	20	60	10	10	0
	Rigidity of employment index (0-100)	*28*	44	27	44	10	7	0
	Firing costs: severance payments in weeks of wages)[1]	*30*	21	17	21	17	0	0
Registering Property	Number of procedures	4	7	5	5	3	2	1
	Time (days)	18	71	354	72	3	2	1
	Cost (% of property value)	0.9	2.2	9.5	2.1	0.5	0.2	0.0
Enforcing Contracts	Number of procedures	24	29	29	24	17	19	11
	Time (days)	195	324	395	333	150	50	27
	Cost (% of debt)	17.8	18.0	9.5	10.8	8.1	4.8	4.2
Closing a Business	Time of insolvency (years)	1.9	3.8	1.5	2.5	1.1	2.0	0.41
	Cost (% of estate)	4.0	7.4	4.0	18	4.0	4.0	1.0
	Recovery rate (cents on the US$)	39.6	5.3	48.4	39.8	85.0	71.4	92.0
Protecting Investors	Investors Disclosure index (0-7)	**3**	3	3	5	6	5	7
Getting Credit	Cost to create collateral (% income per capita)	0.9	3.6	11.6	3.7	0.6	0.0	0.0
	Legal rights index 0-10	4	5.0	3	6	9	9	10
	Credit Information Index (0-6)	…	0.0	0	4	5	5	6
	Public registry coverage (per 1,000 adults)	…	0.0	0	6	44	0	637
	Private bureau coverage (per 1,000 adults)	0	0.0	0	17	380	978	1,000

1/ As noted, this cost will be greatly eased once the new Labor Code is put into effect.
Source: Data from *Doing Business in 2005: Removing Obstacles to Growth*. The World Bank and Oxford University Press, Washington DC, 2005.

Since the **worst indicator *does the most* to discourage business activity and thus contributes to the higher size of the informal sector** under most circumstances, a question more pertinent to an overall assessment of the regulatory and policy hassle felt by businesses concerns the issues in which Armenia's regulatory environment is the most burdensome for private firms. While in each area Armenia's overall score is high vis-à-vis its peers in the CIS and CEEC-8 countries, within some areas indicators point to weaknesses. **These areas are labor**

markets (firing and hiring), getting credit, and contract enforcement—as for contract enforcement, it takes more money (18 percent of the debt as compared with 14 percent). But other indicators favor Armenia.

For an important dimension of labor markets, Armenia's business environment has significant weaknesses even when benchmarked only against other CIS countries. **The high value of "difficulty of hiring index" combined with an obligation to pay the wages of a fired worker over a period of 30 weeks lowers the flexibility of Armenia's labor market rather significantly.** More favorable values for the remaining two indicators can in fact do little to lessen the constraints on businesses in hiring when the demand for their product goes up and in firing when conditions deteriorate.

Considering that research shows the crucial importance of labor market flexibility for both reducing unemployment and boosting investment, this is a serious shortcoming. While the relationship between low unemployment rates and high flexibility is empirically firmly established, the impact of labor market flexibility on FDI appears to be significant as well. A recent study (Javorcik and Spatareanu, 2004), using the labor market indicators from the Doing Business database for 2002, shows that, all else being equal, flexibility in labor markets has a significant impact on FDI flows. For example, if the flexibility of the host country's labor market increases from the level of the Slovak Republic (inflexible prior to reforms in 2003) to the level of Hungary (flexible), the volume of investment goes up by between 14 and 18 percent. Moreover, FDI in the services sectors appears to be more sensitive to labor regulations than investments in manufacturing.

Armenia also scores relatively low in terms of investors' protection, with the disclosure index of 3 putting it on a par with Russia. The absence of regulations compelling disclosure has several negative consequences: investments are lower as potential investors fear expropriation; the stock market is under-capitalized; economic growth is lower than under full disclosure; and returns from investment are lower (Cost of Doing Business in 2005, World Bank, 2005, pp. 56-57).

But more powerful financial constraints to doing business relate to other legal underpinnings of financial markets in Armenia. Although the cost of creating collateral is very low by both regional and international standards and the legal rights index is within a median range, there are countervailing deficiencies. **The lack of market information on the quality of borrowers, combined with the absence of a secured transactions framework, is a binding constraint on lending in Armenia**. Movable property cannot be used effectively as collateral to secure loans, as repossession is time-consuming and costly. Neither can collateral-based lending function effectively in the absence of an effective framework for creating and enforcing claims. Banks price in the corresponding (large) risk into the lending spread.

Armenia's disadvantage is lower in registering property: the number of procedures is only slightly higher (4 versus 3) but it takes significantly more time to complete the process (18 days versus 3 days). The same applies to closing a business. The time of insolvency is longer (1.9 years versus 1.2 years), although it is lower than in New Zealand (2 years), with the "best international practice" at 0.41 years. The recovery rate of 39.6 cents on the US dollar (i.e., the percent of what creditors collect on their debt) is below Lithuania's level, but similar to the

CEEC-8 median of 39.8. An indicator in starting a business area that is lagging behind comparator values is the cost of starting business, which is higher than in Lithuania but lower than the median value for the CEEC-8.

Although Armenia appears to be a top performer among CIS countries, this is not sufficient. It should be borne in mind that Armenia has to neutralize the negative effects of its remoteness to the centers of gravity of global markets, and to land-locked situations. The frame of reference for Armenia's regulatory reforms should be at least the best practice in CIS/CEEC-10 region, if not the best international practice. Here, on both counts the differences are huge, even though Armenia fares quite well overall in relation to other former centrally planned economies.

SOLVING THE PUZZLE OF THE LINK BETWEEN THE FORMAL EASE OF DOING BUSINESS AND THE LARGE INFORMAL ECONOMY

Surveys covering various areas of the business environment paint a picture of a general dissatisfaction of businesses with **the quality of regulations, administrative requirements and bureaucratic behavior of state agencies**, despite some improvements over the last three years. The reasons for this assessment are manifold. First, difficulties encountered in interaction with **tax administration,** compounded by unstable and frequently changed rules and tax rates, are cited as a major barrier to conducting business in Armenia. This is perceived as a bigger problem than corruption by both local- and foreign-owned firms, and for the former it continues to be regarded as a significant barrier.[21] The Administrative Regulatory Cost Surveys (RCSs), which have been conducted in Armenia on annual basis since 2000, persistently identify tax administration as the biggest obstacle. For example, in both 2003 and 2004 more than 80 percent of respondents identified tax administration as the largest obstacle. This view appears to be shared by foreign-owned firms to the tune of 90 percent of all respondents (FIAS 2003). Furthermore, foreign-owned businesses complained that the tax burden in 2003 increased considerably compared with 1999. Uncertainty associated with frequent changes in policy was flagged by around three-fourths of RCS respondents.

The second barrier relates to the cost that businesses must incur in order to meet the requirements of the country's **administrative regulations**. According to the RCS, the costs remain huge and there has been no major improvement over the past several years. The costs are not related to formal and informal payments but above all to the burden in terms of time and firms' resources that the firms need to allocate to assure regulatory compliance.

A corrupt bureaucracy applies regulations arbitrarily. The high level of corruption results in firms' directing activity underground in order to reduce their vulnerability to extortion by government officials. Changes in legislation are only rarely announced or publicly disclosed before implementation. Bureaucratic procedures can be burdensome and time-consuming when as investor negotiates a contract with the foreign government, as the contract may require the

[21] According to the 2004 RCS, 71 percent of respondents identified corruption as a persevering problem, up from 66 percent over the previous year. Interestingly, corruption appears to be much less of a problem for foreign-owned firms than for domestic companies (FIAS 2003).

approval of several ministries. Corruption continues to affect business. Bribery is widespread and is the most common form of this corruption.

According to a business climate survey carried out by the World Bank, in 2004, 84 percent of companies surveyed were dissatisfied with legislative and administrative regulations in the country. Armenia's business legislation in general is good, but the implementation of the laws has been poor, which has hampered business operations. The prevailing negative sentiment had worsened compared with previous years: the indicator stood at 63 percent in 2003 and 50 percent in 2002. The unequal treatment of companies by the authorities, and unfair competition, were the most widely cited impediments to doing business.

The third barrier is that non-transparent procedures give credence to businesses' complaints about the practice by customs of extracting "irregular" payments from them. Customs clearance procedures are applied with equal zeal not only to imports but also to exports further corroborating the opinions about customs erecting a non-tariff trade barrier. The time needed to complete customs clearance as well as the amount of effort undertaken by a firm to deal with customs are shocking, especially for exports. In consequence, the most obvious benefits of the computerization of customs services (i.e., reducing the release time of consignments and slashing the documentation or bureaucratic burden placed on a trader or a customs broker) have so far failed to materialize. Neither traders nor customs brokers have access to the system. The old practice of bureaucratic delays fueling corruption, combined with a lack of capacity in customs administration, continues.

Although Armenia is no exception to the generally **poor record in most transition countries in establishing the rule of law and strengthening the courts**, the situation has improved on several important counts.[22] For example, Armenia has made gains in judicial reforms. Armenia is "the only country where significantly more respondents viewed the courts as fair in 2002 than in 1999" (WB 2005b). However, considering, however, that in 2000 only 2 percent of firms surveyed viewed judges as honest (CES 2000), the improvement should be measured from the low starting point. Fairness, however, does not exhaust all of the dimensions related to efficiently functioning courts.

Other important dimensions from the point of view of conducting business include the perception of the honesty or dishonesty of judges, the capacity to implement enacted commercial laws, and the ability to adjudicate disputes in an efficient and timely manner. It appears that firms regard Armenia's courts as relatively honest. In response to a question about the frequency of unofficial payments when dealing with the courts, firms surveyed under BEEPS (Business Environment and Enterprise Performance Survey) identified the courts as not extracting bribes on a significant scale. The percent of firms negatively assessing courts in this dimension was among the lowest in the region—on a par with Slovenia, Estonia and Lithuania. Moreover, Armenia, together with Lithuania, recorded the greatest improvement among 26 transition economies between 1999 and 2002. Furthermore, although most respondents perceive courts in

[22] According to the World Bank study reviewing progress in judicial reform in transition economies, this progress has been much weaker in all transition countries than in other areas of institutional reform since 1990. Furthermore, firms' perceptions of the legal and judicial systems in transition countries are worse than comparable perceptions in most other regions of the world, according to a recent world wide survey of business executives (WB 2005b).

transition countries as neither honest nor fair, the percent of those that do not share this view is comparatively high, at 30 percent, putting Armenia in the same group as Croatia and Latvia.

Armenia, like most other transition economies, has experienced **a growing gap between the enacted legislation setting the grounds for market economy and the capacity of the courts to implement new commercial laws.** This gap between the extent of commercial legislation existing in 1999 ("legal extensiveness") and the degree to which it was being implemented at that time ("legal effectiveness") was particularly high for Armenia—well above the level in other transition countries (EBRD 1999). Although this "implementation gap" persisted in 2002, it has fallen sharply to levels similar to that in the Czech Republic.

The ability of courts to adjudicate disputes in an efficient and timely manner reduces uncertainty in actual or potential business deals. Armenia, together with Hungary, Macedonia, Latvia, Lithuania, and the Czech Republic, showed the largest improvement in the perceived speediness of courts between 1999 and 2002. While in 1999 only 10 percent of firms viewed courts as rapid in Armenia, this proportion rose in 2002 to 25 percent of respondents—the level comparable to Hungary. This should rise further once the case management and court administration systems currently developed are put in place.

Thus, the reasons for the large size of the informal sector in Armenia stem from the high regulatory compliance costs due to official and unofficial payments, instabilities in state policies towards the business sector, and predatory tax and customs administrations, rather than weaknesses in the judicial system. While efforts designed to reform the judiciary should continue, improving tax and customs administrations together with injecting stability into business regulations and policies stand out as major "other" ingredients accounting for the gap between the formal and revealed ease of doing business in Armenia.

LAW AND INSTITUTIONS: FORMAL AND INFORMAL

The state is not able to effectively protect high levels of competition in domestic markets. Laws and institutions underpinning anti-trust policies in Armenia provide a good illustration of the welfare and growth implication of the gap between the quality of regulations and their often opaque enforcement. **Competition law** is a recent innovation in Armenia. The law establishing the Competition Commission was passed in 2000 and the Commission itself began prosecuting cases in 2001. An analytical examination of the key aspects of the law shows that:

- The law prohibits collusion among enterprises, but it fails to distinguish between vertical and horizontal collusion. Generally, economists view horizontal collusion as being potentially much more damaging to consumers. Vertical agreements can also present problems, but the circumstances under which this occurs need investigation and analysis, case-by-case, within clear guidelines requiring the assessment of economic benefits and costs. Potential problems could arise here in Armenia because the technical capacity for this analysis with the Commission is limited.

- Article 4 of the law prohibits anti-competitive practices between loosely connected groups, although the criteria for determining such behavior are loosely set out and would require intensive investigation and several different levels of complexity.

- Article 6 of the law indicates that a firm may be considered having a dominant position in the market if it is not exposed to substantial competition, or if it commands a market share of more than one-third of total sales. Depending on the definition of markets, and the degree of concentration in the market under consideration, this could be a low threshold. Generally, public policy should be concerned with "conduct" and "performance" rather than with market structure as such.

- The law forbids the abuse of dominant market power. In Armenia, the Commission keeps a record of firms with such power and supposedly tracks them to ensure that their behavior does not involve abuse. Most of the cases brought by the Commission have involved firms that are in a "ledger" of dominant companies. Cases have been prosecuted under Article 7 of the law, which applies to the abuse of dominant market position. FIAS has criticized this approach on the grounds that the Commission appears to have an attitude that any firm on the list is automatically suspect – which essentially means any large company. Once a firm is on the list of dominant firms, scrutiny intensifies and transactions costs for the firm rise sharply.

- The Commission has brought a number of cases of "unjustified pricing" based on a methodology involving comparisons between the selling prices of the company and general price indices. This makes little analytical sense, in that there is no analysis of entry barriers or sunk costs or allowance for shifts in relative prices. Moreover, such a methodology implicitly assumes that profits or rates of return on investments should not differ between products, companies and sectors, regardless of differences in risk.

- Article 8 of the law defines market concentration and control through mergers and acquisitions and revolves around a market share of 35 percent or more. Combined with Article 10 of the law, which prohibits concentration unless it fosters competition, Article 8 is used to justify action against such companies.

- Article 9 requires that firms with substantial market power must be registered as being dominant.

Consideration should be given by the government to bringing the competition law into line with the EU or U.S. model so that regulators and courts are better able to use well-established methodologies and precedents. Allowing private enforcement of the law can also contribute to efficiency.

Implementation of the competition law presents a number of problems. The weak institutional framework that exists in Armenia appears to result in some cases not being prosecuted, especially in the areas outlined in later sections of this chapter, while there may be at the same time excessive targeting of some firms. As in many other areas of competition in Armenia, the law itself is not the primary problem. The existing legislation, while inadequate in

some areas, could be used to prosecute anti-competitive behavior which harms consumers. Rather, the problems lie in the application of the law, the protection that some groups appear to have, and the generally weak private sector business environment that limits opportunities for new entrants. These issues are explored at greater length below.

The law governing commercial transactions is inadequate, with the result that contracts tend to be informal and take place between people who know each other well. The effect is a barrier to entry – arm's length contracting is a requirement of a well-functioning economic system. It also has the effect of increasing incentives for informal behavior, which is widely observed in Armenia. Problems include the following:

- Decisions on issues related to commercial transactions are based on an agglomeration of civil code laws, making the applicability of contract provisions uncertain.
- Contractual agreements are based on "unless otherwise governed by law" provisions rather than on "unless otherwise stated in the contract" provisions. Since many commercial transactions are subject to a wide range of laws rather than a more unified commercial code, this provision requires a full knowledge of all the laws and implementing regulations that may apply to an agreement, which compounds the problem of the unavailability of translations.
- Not only does precedent not play a role in court decisions, but there is no record of cases being kept, although this is partly being addressed by a World Bank legal reform project.
- On top of the uncertainty arising from the commercial code, judges are widely viewed as less than competent or honest. As a result, businesses have little recourse if they are the victims of anti-competitive behavior.

Laws, regulations and formal institutions in **corporate governance** are particularly weak in Armenia. The EBRD ratings on corporate governance and enterprise restructuring place Armenia at the same level as Russia, but behind the Baltics as well as the Balkans. **On several basic issues related to transparency, notably public access to the company registry and lists of founders and shareholders, Armenia is among the weakest of the CIS countries**. The quality of corporate financial reporting also remains weak.

Moreover, while the securities law has some weaknesses, the greatest corporate governance deficiencies are found in the company law and other basic legislation affecting the corporate sector. The extent of such weaknesses also places an undue burden on government regulators. In the area of financial regulation, for example, the central bank is obliged to provide for extensive guidelines and proposed legislation to make up for the shortfalls. Company legislation permits state-owned enterprises to get away with weak corporate structures, as seen, for example, in railways.

Such limitations in the law and institutions in corporate governance have serious implications for fair competition. Particularly in emerging markets, corporate governance has become recognized as an important part of the business climate. In virtually all of the CIS countries, weak corporate governance practices reinforce the dominant position of a limited number of businessmen. At the same time, weak corporate governance undermines investor

confidence in the capital markets, which as a result fail to provide an adequate source of financing for capital-worthy projects and new enterprises. In the CIS countries, stock markets are littered with publicly traded companies that are little traded.

Informal barriers to competition. Informal institutions and practices play an important role in determining the fairness of the framework for competition. Many private sector participants in Armenia operate in ways that rely frequently upon **facilitation payments** as a means of ensuring that dealings with the public sector proceed without undue delay. However, unlike the situation in other countries, the system has so far not degenerated into one where massive corruption is pervasive, although undoubtedly there is corruption that extends to the highest levels. Rather, it has evolved into one in which **interlocking obligations arising from favors and interventions govern much of the interaction in the business community as well as between businesses and the legal system**. A person who acts to intercede on behalf of another becomes a *roof*, and the benefactor incurs an obligation to return the favor in one form or another at some point in the future. In Armenia, there appear to be few rules which cannot be modified or adjusted through the intervention of a *roof* even within the judicial system. In sectors where a powerful *roof* exists, the incumbents appear to have the power to make life extremely difficult for new entrants.

It is also noteworthy that foreign investors often do not have the network which would provide them with a *roof* and so are frequently more likely to have difficulty navigating their way through the various bureaucracies and the judiciary, as noted in all the surveys on foreign investment in Armenia. In addition, companies which are only exporters claim that they are singled out for unfavorable treatment, especially with respect to VAT refunds.

This phenomenon, however, can act as a substantial barrier to entry in the economy, on the part of foreign investors as well as for new local businesses that attempt to compete with well-established companies and individuals operating in the Armenian economy. Although there have been improvements recently, subtle methods are used to impose severe operating constraints on new competition, ranging from problems in clearing goods through customs to inspections of various types by government officials.

WEAK COMPETITION IN PETROLEUM DISTRIBUTION CREATES LARGE WELFARE LOSSES

As the economic effects of deficiencies in the competition framework for the utility (telecommunications) and transport (civil aviation) industries are discussed in subsequent parts of this book, it is interesting to consider here the welfare losses imposed by lack of competition in the distribution of petroleum products. Having no oil or natural gas resources, Armenia is totally dependent upon imports. Imports of fuel products constitute about 20 percent of total imports. This import group includes two major components in terms of volumes: petroleum products (which include gasoline and diesel) and natural gas imports.

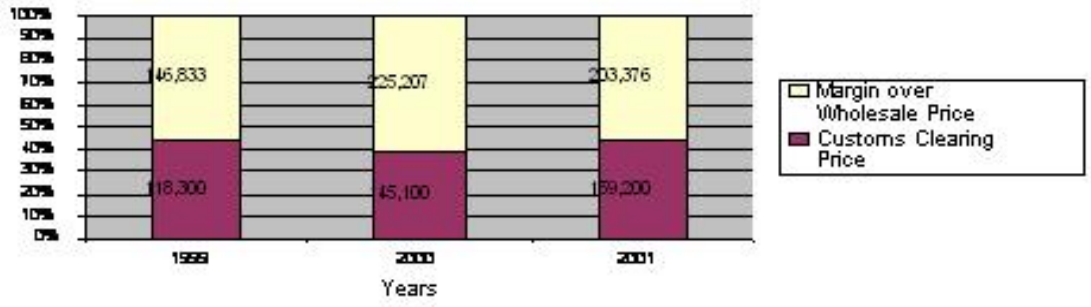
Statistics on petroleum product imports appear to have been underreported. In spite of very rapid growth, gasoline and diesel imports into Armenia show that in 2000 there was a sharp drop in the import volumes and only a very modest growth afterwards. This occurred in spite of a very sharp increase in automobile imports, which rough statistics indicate exceeded 14,000 vehicles per year, compared with 1,200 per year in 1999. Although it is true that in 2000 oil

prices rose, depressing the demand that recently imported automobiles are more fuel efficient and that there has been conversion of motor vehicles from gasoline to natural gas, it does not seem likely that in the face of such rapid growth fuel consumption could go down. The most likely explanation for the flat fuel imports is that there is smuggling of petroleum.

The structure of market concentration underwent changes in the 1999-2000 period. In 1999 there was only one gasoline importer in Armenia, so that market power was located inside the borders of the country. In 2000 and 2001 the number of importers into the country increased – looking only at the number of operators within Armenia, the market could not be defined as uncompetitive. However, an analysis of the import chain reveals that there is only one supplier that provides the bulk (88 percent) of imported gasoline to importers. While the concentration of direct importers has declined, the virtually single sourcing of supply for gasoline importers means that the supply chain remains highly concentrated. Even though it has been reported that one more company started to supply importers with gasoline in 2002, the share of the incumbent supplier firm remained dominant. It constituted about 70 percent of the total supply to importers.

What is more interesting is that, even though the large number of retail companies operating in Armenia ensures retail competition, the retail mark-up price was substantially higher than the imported (wholesale) price (which we took to be the customs clearing price). The gross profit mark-up, most of which probably occurred at the wholesale level, constituted more than half of the retail price in 2001 (Figure 3.3). Since competition at the retail level is strong, it is most unlikely that excess profits are being earned by retailers – most of the profits probably accrue to the wholesalers. **These calculations (see Box 3.1) indicate that there appear to be large welfare losses arising from the concentration of the petroleum market which could amount to the equivalent of over 1 percent of GDP**. This loss figure could be even higher if we consider that there is a further profit margin earned by the single source monopoly supplier of imports. This is not included in the calculations of the deadweight loss, which can occur as a result of the monopoly power of the one supplier of importers. This loss figure could also be higher if we also consider that the same situation dominates in similar markets (such as the diesel market).

Figure 3.3: Gasoline Price Structure for the Period 1999-2001 (AMD per Ton)



Source: National Statistical Service of Armenia.

Box 3.1: The Petroleum Distribution Market

To stress the negative impact of non-competitive behavior in the gasoline market we made a very simple calculation of welfare losses (see table). (For the explanation of the terms used in the analysis below one is referred to Tirole, 1988). We assumed a linear market-specific demand curve and estimated its slope and intercept considering price-increase verses demand-decrease scenarios during 1999-2000 (such a decrease in demand is mainly explained by a price increase in international oil prices in contrast to the observed non-price impact [such as increased imports of cars after 2000] on the demand during later years).

Welfare Calculations in the Petroleum Market, 1999-2001

	1999	2000	2001
Retail Price (AMD per Ton)	265,133.7	370,307.4	362,576.0
Customs Clearing Price (AMD/Ton)	118,300.0	145,100.0	159,200.0
Quantities Consumed (Tons)	258,100.0	181,400.0	187,500.0
Total Profit (AMD)	37,897,777,970.0	40,852,622,360.0	38,133,000,000.0
Estimated Slope of the Demand Curve	-1.4	-1.4	-1.4
Estimated Intercept of the Demand Curve	626,473.7	626,473.7	626,473.7
Quantities under Customs Clearing Price	362,981.2	343,838.4	333,766.9
Deadweight Loss (AMD)	7,700,048,377.0	18,291,160,036.2	14,873,591,432.6
Deadweight Loss (USD)	14,528,393.2	33,256,654.6	26,094,020.1
GDP (in mln. USD)	1,845.5	1,911.5	2,118.4
DWL as a percentage of GDP	0.8	1.8	1.3

It turns out that welfare loss, as a result of non-competitive behavior in the gasoline market alone, was averaged on 1.3 percent of GDP. This loss figure can be even higher if we consider that there is a double marginalization (we have not included in the calculations the deadweight loss, which can occur as a result of the monopoly power of one supplier of importers) and that the same situation dominates in many other similar markets (such as the diesel market).

Moreover, the fact that the concentrated rather high gasoline market profits (about 3.7 percent of GDP) have not contributed to reducing the unequal distribution of income in the country accentuates the importance of liberalizing the petroleum oils market.

Source: The National Statistical Service of Armenia and Authors' Calculations.

ECONOMIC IMPLICATIONS AND POLICY CONCLUSIONS

Lack of competition, however, holds long run efficiency implications as well as the danger that the apparent concentration of wealth could reduce political support for reform and limit the benefits of rapid growth. There is ample evidence of poverty in Armenia, even in Yerevan; outside the capital it is far worse. Poverty reduction requires that the benefits of growth are spread to a substantial number of people, because even at current growth rates it will be some time before Armenia can afford adequate social safety nets. The more competition is restricted and activities are reserved for incumbents, the less likely it is that the benefits of growth will be widespread.

There are additional unfortunate consequences of the dominance of the oligarchs in some sectors. The concentration of wealth provides substantial ability to grant "favors" to officialdom to subtly (and sometimes, not so subtly) hinder competitors entering the market. **The phenomenon of *roofs* or protection rackets is one manifestation of the way in which**

incumbents maintain their market power. In other cases, it appears that there are direct attempts to prevent competition. Widespread subversion of the "rules of the game" by the rich and powerful sends strong messages to those who are on the outside. It contributes to a general attitude that taxes should not be paid, officials should be bribed and goods smuggled. This does nothing to develop the foundation for a modern competitive economy.

In the long run, promoting competition in Armenia is inseparable from promoting private sector development in the country. The ability to restrict competition frequently arises because the institutions that underlie private sector activity are underdeveloped, providing strong incentives for informal behavior. In Armenia, the public goods that provide the foundation for private sector development are weak. The court system does not function effectively and arm's length contracting is risky, so that transactions tend to take place between those who know and trust each other. This gives powerful advantages to incumbents.

Similarly, the financial system remains extremely underdeveloped even by the standards of low income countries.[23] Hence, those that have substantial financial resources are in an especially strong position to maintain and strengthen their market dominance. The development of institutions supporting the private sector is the only long run solution to promoting a competitive market environment. Legal reform and the reform of the secured transactions framework are two measures that will greatly enhance private sector activity. In addition, the institutions of government must be upgraded. They need to be of positive assistance to the private sector rather than being the instruments for maintaining anti-competitive behavior that they are now. In particular, reform of the customs service is the key to promoting competition.

Should the State Commission on the Protection of Economic Competition be one of the pillars of a policy to promote competition in Armenia? There are concerns that it could become yet another layer of bureaucracy that leads to "inspections" and the ability of businesses to function without undue interference of officialdom, which in turn can be used to harass entrepreneurs and to protect incumbency. This concern can be addressed by emphatically according to the Commission as its core role, within a strengthened statutory framework, the implementation of competition laws and the duty of advising the government on regulatory reform.

Arguments in favor of strengthening the Commission are based on the recognition that it could be one of the ways in which the restrictions on competition that abound in several sectors of the economy could be resisted. The view of this book is that in its present form the Commission is not a significant bulwark against anti-competitive behavior.[24] It does not have the necessary skills, the staff, or the facilities to operate effectively. Although it has been successful in a limited number of cases, it is not a force in areas where competition is

[23] Discussed in the next chapter.

[24] The Commission has investigated a number of recent cases, among which was the successful elimination of a monopoly granted by the airport operator to a taxicab company. There have also been several hearings concerning the abuse of monopoly power by ArmneTel. The company had cut-off the telephone lines of some internet service providers without prior notification, suspecting them of providing Voice-Over IP service in Armenia.

obviously restricted. Its report on the petroleum market is deficient in terms of depth as well as analysis.[25]

Does this mean that attempts to assist the Commission should therefore be abandoned? No, over the longer term it could be one of the instruments for promoting competition in Armenia. Modest technical assistance is warranted to help the Commission to better implement the law and to perhaps provide some help with improving its IT resources. It is unrealistic, however, to perceive it as useful in the shorter term. It needs several years to evolve into any sort of instrument against restrictions on competition. Nevertheless, its continued existence is assured and the interests of the private sector lie in its improving its technical competence.

SUMMARY AND KEY RECOMMENDATIONS OF THE CHAPTER

Governance, though improving, remains a hindrance to competition, particularly in the areas of government effectiveness and the quality of regulations as well as excessive discretionary behavior in the tax and customs administrations at the expense of rules-based discipline. Armenia does well in a CIS comparison, but lags far behind good international practice in setting a fair and attractive competition framework for investors. The large informal economy is illustrative of the high costs of doing business (especially taking into account the "hassle" factors) and of high labor (payroll) taxes as well as weak incentives to going formal, such as the possibility of being able to obtain credit from banks. Formal laws and institutions in competition and corporate governance are weak, enforcement is erratic and informal barriers to competition abound.

- Strengthen the competition law by clarifying collusive behavior and dominant market practices, and by modernizing the basis for judging pricing practices.
- Enhance the administrative capacity of the competition commission to review cases and enforce its rulings.
- Modify the commercial transactions law to strengthen safeguards.

[25] A four-page analysis concluded that there is competition in the distribution of petroleum because of the fact that there are several wholesalers/importers within Armenia. The paper does point out that there is only one supplier/seller to the wholesalers but appeared not to view this as a problem.

CHAPTER 4.
FINANCE AS A BARRIER TO ACCUMULATION

FINANCIAL INTERMEDIATION IS SHALLOW; THE COST OF FUNDS IS HIGH

International comparisons show the shallowness of financial intermediation in Armenia (see Table 4.1).

Table 4.1: Financial Indicators in Selected Countries

Countries	M2X[2]/GDP (percent)		Credit[3]/GDP (percent)		B/GDP (percent)	
	1995-01	2004	1995-01	2004	1995-01	2004
Armenia	8.34	15.10	5.75	7.52	5.2	6.97
Azerbaijan	11.63	17.95	12.98	10.94	7.56	8.16
Czech Republic	67.83	66.63	69.75	41.44	21.57	10.36
Estonia	28.81	41.12	27.44	65.40	11.69	11.79
Georgia	6.67	13.27	4.9	18.83	4.96	8.40
Kyrgyz Republic	13.1	20.60	5.93	6.17	9.01	13.16
Latvia	25.16	38.27	12.22	51.29	11.94	13.01
Moldova	18.12	25.43	16.29	23.13	10.65	16.61
Poland	34.85	41.02	21.83	27.46	8.72	7.83
Russia	17.15	31.63	11.02	25.94	7.68	14.21
Ukraine	12.58	36.36	7.94	25.67	6.99	12.27

Source: National Central Banks.

The financial system in Armenia remains small and bank dominated. A wave of bank failures since end-2000 has reduced the number of banks from 31 to 20. One foreign bank (a subsidiary of a large first-tier international bank) is a dominant player with about 18 percent of all assets and a quarter of all deposits. Total assets of the banking sector were a paltry 19 percent of GDP in 2004, substantially below the CIS average of about 30 percent in 2003. Broad money, which excludes foreign currency cash in circulation, remained flat at about 15 percent of GDP, compared with an average of about 20 percent for CIS countries. Foreign currency cash holdings are large and have been roughly estimated at one-third of GDP. The non-bank financial sector plays a negligible role in intermediation. The insurance sector is tiny, with an annual premium income of only about US$5 million.

Since the savings to-GDP-ratio in Armenia is not dissimilar to those in countries with much deeper intermediation (such as the Baltics and Central Europe), the supply base of potential deposits for banks is clearly not a constraint. One explanation for the low intermediation arises from the importance of remittances and the informality of the economy. The substantial inflow of remittances from abroad provides a source of funds to finance real estate and investment expenditures that reduces the need to rely on the financial sector. Remittances reach a significant percentage of the population and provide individuals and small

firms with funds for investment in small businesses and real estate purchases or improvements. The large informal economy, which is unofficially estimated to be at least one-third of GDP, also does not rely on the formal financial sector. The firms and individuals in this economy rely exclusively on cash for transactions, partly to evade taxes. This significantly diminishes the potential deposit base of the banking system and the market for products offered by banks and other financial institutions.

But if **deposit mobilization is weak, lending is weaker still**. For example, the largest bank in Armenia (HSBC) lends a much smaller proportion of its liabilities (10 percent) to private business than it does in other countries in which it operates (60 to 70 percent). Moreover, commercial banks hold large and growing excess reserves at the Central Bank, indicative of their comfortable liquidity positions even at low levels of deposit mobilization. Thus, deep structural problems lie at the heart of the abysmally low rates of bank lending to enterprises.

Both the high cost of loans – averaging about 20 percent - and the lack of finance to business act not only as a deterrent to formality but are also a factor behind weak competition that reflects **inefficiencies in the financial system**. According to the FIAS report (2003), more than half of the firms that participated in the survey believe that financing is the fourth leading constraint to the expansion of firms. Potential competitors cannot obtain finance, either in the form of working capital or for foreign trade. The result is that incumbents' market dominance is rarely threatened by new entrants and that wealth remains concentrated within them.

The rapid growth (albeit from the low base described above) in credit and monetary aggregates since 2004 is encouraging. The annual rate of growth of deposits has accelerated from 15 percent on average in 2001–03 to 22 percent in 2004—exceeding 50 percent in eight banks—and 18 percent in 2005. Similarly, the annual rate of growth of gross domestic non-government credit (excluding loans classified as losses) has accelerated from 24 percent in 2001–03 to 37 percent in 2004—exceeding 65 percent in six banks—and 32 percent in 2005.

IMPACT OF INSTITUTIONAL WEAKNESSES ON COSTS

Banks have a limited capacity to assess risks and limit their lending to the insiders and activities with guaranteed returns (e.g., consumer lending) and under high and liquid collaterals. Some importers do use the banking system to raise letters of credit but the practice is not widespread. There is little export financing. The practice of using irrevocable letters of credit as a basis for providing funds to fulfill export orders appears to be non-existent. As a result, the financial system cannot be said to support the growth of trade that, in turn, is the key to promoting more competition in Armenia. The essential skills in raising letters of credit are confined to a small number of banks. Before exporting under letters of credit can occur, training in the minutiae of the procedures will be required for most banks in Armenia.

Two indicators point to **the limited degree of competition within the banking industry**. The bank concentration indicator—the share of the assets of the five largest banks in the total assets of the banking system – is given in Table 4.2. It points to a notable increase in bank concentration over the recent past.

Table 4.2: Bank Concentration Indicator, 2000-04 (in percent)

	2000	2001	2002	2003	2004
Share of the assets of five largest banks in total assets of the banking system	46.8	48.4	54.1	54.5	56.3

Source: Central Bank of Armenia.

Moreover, out of these five banks, one large bank has about one-fifth of the total banking assets and almost a quarter of the banking sector deposits. Despite the recent increase in banking intermediation, the degree of concentration and the associated lack of competition among banks do not augur well for long-term financial stability. Concentration and lack of competition are evident in the high interest rate spreads.

Second, the interest rate spreads remain high (see Table 4.3); in particular, entirely because of very high nominal and real interest rates prevail on the lending side of bank balance sheets. The cost of interest bearing liabilities has declined significantly and reached extremely low nominal levels that approximate to low single digit rates in real terms in the recent past.

Table 4.3: Decomposition of Interest Rate Spreads, 1999-2004

Percentages	1999	2000	2001	2002	2003	2004
	Total Banks	Total Banks	Total Banks	Total Banks	Total Banks	Total Banks
1.II/L	28.32	20.70	17.24	12.96	12.30	12.29
2. IC/D	13.52	12.34	7.38	4.85	3.41	3.10
3. II/L-IC/D(spread)	14.80	10.17	11.91	9.87	10.47	10.78
4. Sum of factors below	14.65	8.87	8.46	7.21	7.95	7.76
5. NII/D(-)	5.01	3.62	4.72	6.17	6.06	5.76
6. NIC/D	10.42	8.38	8.11	8.18	7.69	7.38
7. Net prov/D	3.08	3.62	3.35	3.99	1.50	0.52
8. ROA*A/D	3.89	-1.16	0.34	0.18	3.84	4.88
9. II/L*r	2.27	1.66	1.38	1.04	0.98	0.74
Residual (e) 3-4	-0.15	-1.30	-3.44	-2.66	-2.52	-3.02

Note: Definitions used in the Table: II-interest income of banks; L- assets ensuring interest income, IC - interest expenses of banks; D- interest bearing liabilities of banks, II/L- derived interest income of banks, IC/D-derived interest expenses of banks, NII - non-interest income of banks; NIC - non-interest expenses of banks; Net prov.- net assignments to reserve funds on loans, securities and receivables.
ROA * A/D- the ratio of total assets in cost bearing liabilities weighted by ROA, ROA-return on assets.
ε - residual emerges as we compare the statement data on income and expenditures of commercial banks (flow indicators) with the balance sheet indicators (supply indicators), and consider a simplified assumption that commercial banks invest the total non-reserved part of the attracted interest-taking liabilities into the interest earning assets.

Source: Central Bank of Armenia. FSAP update team preliminary calculations.

The principal factors behind the high and rigid spread structure in Armenia are the poor state of corporate governance, weak institutions and practices that affect banking transactions, such as the availability and flow of information on borrowers, the ease with which secured transactions can take place, the costs experienced in contract enforcement, as well as the costs associated with the management of banks and the high unit costs of bank activities arising from

diseconomies of scale. These factors point clearly to the role that structural reforms can play in alleviating finance as a barrier to sustained economic growth.

Banks' administrative and non-interest bearing costs are very high; at the same time banks make significant earnings from non-interest bearing transactions, which indicates heavy reliance on non-bank operations. The incompetence of the bank management itself can become a risk to the system. First of all, it can support the growth of low quality loans owing to the lack of capacity to implement proper credit analysis. Second, if the quality of financial services does not improve in line with the credit growth, this can "force" clients to use "non-bank alternatives" of financing. The table substantiates the above description. The indicators provide evidence that the costs of the interest bearing liabilities of banks have declined significantly over the last years. At the same time the earnings of interest bearing assets declined at a lower speed.

Analyzing the factors contributing to the formation of the mentioned spread dynamics, it is easy to see that the main factors contributing to higher spread remain the non-interest costs of banks, which indicates that the banking system suffers from inefficient bank management and high administrative costs.

These costs are even higher if we would exclude the largest bank in Armenia, which could perhaps indicate that the presence of this foreign-owned bank alone did not create competitive pressure on the domestic banking system to increase its efficiency and push the interest rate spreads down.

Another factor contributing to the higher spread is the ratio of total assets in cost bearing liabilities weighted by the return on assets. This indicator has high volatility due to the significant restructuring of the banking system over the last years. It shows a growing tendency over the last two years; although this indicates a profitable allocation of the low cost resources, its rapid growth contains future risks for the banking system.

It is only through greater competition, brought about by improvements in the lending environment, that spreads will decline sustainably. Since the cost of interest bearing liabilities is very low, the fall in spreads will come through a lowering of lending rates.

The key challenge for the authorities is to extend the recent deepening in intermediation and entrench confidence in the financial system while maintaining macroeconomic stability. Steps to be taken are summarized in Box 4.1. Rapid credit growth is a necessary element in the expansion of still shallow financial intermediation; moreover, such growth poses a limited immediate risk, as the banking system is highly liquid and well capitalized. Further steps are needed to improve the quality of financial intermediation and to increase the range and penetration of financial services. The rest of this chapter considers the policy reform tasks ahead.

Box 4.1: Priorities in Financial and Capital Markets Reform[1]

Action

Liquidity Management

- Raise the stock of local currency monetary instruments
- Lengthen the maturity of T-bills and bonds

Bank Supervision and Regulation

- Amend bankruptcy law for banks to extinguish bank owners' shareholder rights in case of insolvency
- Revise central bank law to explicitly protect supervisors from civil liability
- Strengthen bank corporate governance based on the proposal by the CBA
- Enhance consolidated supervision especially with respect to exposures to beneficial owners and affiliated companies

Insurance Supervision and the Insurance Sector

- Complete regulations implementing the new insurance law

Corporate Governance

- Strengthen coverage and enforcement of the company law, especially on fiduciary duties and accountabilities of boards
- Improve accounting and auditing practices, financial reporting, and creditor rights and strengthen disclosure by beneficial owners

Pension Reform

- Develop actuarial projections and analyze impediments to reform options before deciding on a pension reform strategy linking benefits to wages

Housing Finance

- Focus reform on the development of a primary market for housing finance
- Develop a liquidity facility to facilitate longer maturity mortgage lending while ensuring that there are no implicit guarantees

1/ Based on Financial Sector Assessment Paper (IMF and World Bank, 2005).

CORPORATE GOVERNANCE DEFICIENCIES RAISE THE COST OF FINANCIAL INTERMEDIATION

Central to weak corporate governance is lack of transparency of ownership and control of banks. The Detailed Assessment of Compliance with the OECD Principles of Corporate Governance indicated that, while company law governing open and closed joint stock companies is sound, implementation is weak. Only a few banks and corporations choose to operate under this law, covered under the securities legislation and enforced by the exchanges and securities commissions. Many of the banks and corporations are closely held and have few owners, who do not see the benefits of adopting a more formal governance structure and they are not publicly traded. The enforcement of sound corporate governance practices through securities legislation and securities regulators is weak. Clearly, there is a need for a fundamental reform to enhance the coverage and enforcement of company law if corporate governance, disclosure and

accounting are to improve – improvements in transparency and accounting are basic first generation reforms in corporate governance.

The opaque ownership structure of the corporate sector makes it more difficult for the banking sector to assess the risks of corporate sector exposures. Official disclosures of direct and indirect ownership are substantially weaker than in other transition economies. No disclosure of beneficial owners is required under Armenian law. This limits the ability of banks to ensure compliance with prudent limits on loan portfolio concentrations and related party transactions. Although legislation requires all companies to prepare their financial accounts in line with the Accounting Standards of the Republic of Armenia (ASRA), in practice the ASRA are not observed or are implemented only partly due to lack of training. Steps should be taken to improve accounting and auditing practices and financial reporting requirements and to strengthen public information; this should include beneficial owners of banks and publicly traded companies. Furthermore, the supervising boards of Armenian companies are not sufficiently effective or accountable. The company law should clearly establish the right of shareholders to decide on owner-manager relations (in cases, for example, where a separation of company owners from company managers may be desirable and should be provided for), subject to the protection of the contractual rights of minority shareholders. Moreover, legislation should strengthen and clarify the fiduciary duties and accountability of boards of directors.

The above-mentioned shortcomings in corporate governance can be addressed through legal, institutional and supervisory reforms. Given the weak implementation of company law, the Central Bank has developed a proposal to accelerate improvements in corporate governance in the banking sector through legislative and supervisory means, and through the introduction of upward-consolidated supervision to address exposures to beneficial owners. There are a number of specific reforms applying to the corporate sector that should be implemented to address the shortcomings in corporate governance. These reforms include: improvements in accounting and auditing practices; provision of financial reporting requirements; enhanced disclosure of the shareholders of corporations; improved access to information by the public, in particular by making the company registry publicly available; and, the strengthening of the role of boards of directors.

Such shortcomings in corporate governance detract from confidence in the banking system, lead to information gaps that raise the cost of loans through higher risk premia, and impose a "tax" disadvantaging for local enterprises. The Central Bank has started to address governance, including the areas of accounting and audit requirements and transparency in reporting through regulations. However, a number of key weaknesses remain which, unless addressed, would add to risks and intermediation costs:

- Banks should reform corporate governance practices with a view to taking the legal form of open joint stock companies to increase the transparency of ownership

- The responsibilities and accountabilities of bank owners and boards of directors should be explicitly defined in law, including taking responsibility for the safe and sound operation of the institution, being informed of their banks' operating condition, in part through ensuring an adequate external and internal audit process, and providing accurate and truthful reporting to the public and the central bank

- Central Bank remedial actions should extend to both boards of directors and significant participants in the case of unsafe and unsound bank operation and significant compliance breaches.

In late 2005 the authorities approved a policy paper that outlines a plea for the strengthening of corporate governance in banks. Specifically, measures are envisaged to protect shareholder rights (especially those of minority shareholders), to clearly define the powers of the boards and the executives of banks, and to delineate the fiduciary responsibilities of management and publicize bank activities.

Improvements in the legal and regulatory framework and procedures have strengthened the supervisory process, but some weaknesses remain to be addressed. It is encouraging that the Central Bank conducts a rigorous supervisory process, with enforcement grounded in legislation, regulatory reporting, and prudential norms. But there are weaknesses. Bank corporate governance and risk management, including the evaluation of risks in new banking products, requires further strengthening. Furthermore, a framework should be established to strengthen the monitoring of the parent and affiliated companies of banks in the context of consolidated supervision. The Law on Banks and Banking (LBB) should be amended to allow the CBA to reject bank licenses if the legal and managerial structure does not permit adequate identification of ownership and control, thereby hindering effective supervision. The dialogue between the CBA and the external auditors should be substantially improved, if necessary through legislation. In addition, the LBB should be amended to obligate external auditors to report to the CBA on issues of material importance arising from their audits. Communication among regulators should be established, and formal agreements for information sharing put in place. The Law on the CBA should explicitly provide for protection for supervisors from civil liability

CREDITOR RIGHTS AND SECURED TRANSACTIONS FRAMEWORK, AS A FACTOR HINDERING THE GROWTH OF FINANCIAL INTERMEDIATION

A recent NBER paper, "Private Credit in 129 Countries" (S. Djankov, C. McLiesh and A. Shliefer), using the sample of 129 countries shows that "stronger legal rights of creditors are associated with a higher level of development of private credit markets." The paper underlines the fact that this is mainly true in developed countries where the legal framework and contracting rules are more developed.

The protection of creditor rights is one of the main legal problems that hinder the growth of bank lending. The enforcement of collateral is difficult for banks and this, as we have already observed, translates into high lending rates. Although the legislation on allowing secured creditors to sell collateral without resort to a court is more or less adequate, the enforcement and the infrastructures supporting the laws are very weak and underdeveloped and do not work in practice. Collateral enforcement is difficult because of the absence of a unified and digitally accessible registry for immovable items and title issues related to the ownership of property. The judicial capacity is weak owing to lack of experience, corruption, insufficient capacity and the long lead time required to adapt to the new legislation. Measures are being implemented to improve the legal and institutional arrangements for secured credit and the registration of ownership and security interests and to reduce the inefficiencies in court systems

that impede debt recovery, which should address most of the existing weaknesses in creditor rights.

In Armenia, movable property cannot be used effectively as collateral to secure loans. There are numerous problems with the secured transactions framework. Floating pledges are not allowed and there are no registries which allow pledges to be perfected. Repossession is time-consuming and costly. A particular problem with financing exports is that there is no provision which allows the use of future production as collateral, so that financing against export orders is not feasible. A similar problem arises with imports because there is no provision for pledging goods that are not in the possession of the borrower – goods that are being imported, even though they have been paid for by letter of credit, cannot be seized in the event of default. The effect of the inadequacies of the collateral framework extends throughout the economy, with the result that banks correctly perceive lending as extremely risky.[26] The stages necessary for establishing a framework for secured transactions are as follows:

- *Creation.* The process by which the creditor establishes a security interest in a specific property (the collateral)
- *Priority*. The process by which the lender establishes the priority of the security interest
- *Publicity*. The process that makes public the priority status of the security interest
- *Enforcement.* The process by which, upon the debtor's default, the creditor will seize and sell the collateral to satisfy his/her claim.

Each of these stages must function effectively for collateral-based lending to occur. Currently, in Armenia, none of them work well.

In this context, efforts by the authorities to reform the framework for secured transactions are most encouraging. But a reform program is likely to require several phases, given the complexity and the multi-sectoral nature of the task involved. **Comprehensive collateral reform requires that the whole process for the pledging of property be reviewed and changed**. While rewriting the laws governing the ability of property to serve effectively as collateral is an integral part of this process, it is a long way from being all that is needed. Without a thorough revision of the whole system, collateral reform will remain elusive.

There have been many attempts at such reform in other countries, most of them unsuccessful. Legal analysis, without corresponding analysis by economists of suggestions for reform, has failed in most countries in which it has been tried. Internationally known legal practice may not represent best economic practice. In many places model laws have provided the foundation for attempts to reform the collateral framework. Thus, a good project requires close coordination among economists, international expert lawyers, local lawyers, and technical experts.

[26] Some advocate "relationship lending" in terms of which banks make loans on the basis of the analysis of business plans and the borrower's history as an entrepreneur. This is unlikely to happen. First, most lending to businesses in the United States is secured by collateral. Second, the skills available for drawing up business plans are scarce. Third, those who have run businesses successfully are often the entrenched interests in Armenia, so that loans go to those who have tight control of the business sector.

Examples of successful reform do exist and serve as a model of what could be done in Armenia. A recent reform of the secured transactions framework in Romania has transformed Romania's lending environment by facilitating the use of collateral as security for lending, not only from the banking system, but also from equipment suppliers, wholesalers, and agricultural suppliers. Before this reform there were many similarities between the Romanian financial sector and that in Armenia – severe financial underdevelopment, the inability of a large sector of the economy to access credit, and a distrust of banks. Furthermore, Romania is also a civil code country. Use of this model could have significant potential for the development of the Armenian financial system and could substantially reduce barriers to entry. The secured transactions reform in Romania tightly integrated diagnosis, drafting, and regulations and is one of the main reasons for its success. This methodology has rarely been followed in reform efforts elsewhere.

Legislation before Parliament is intended to strengthen creditor rights. Specifically, measures are planned to make the seizure of collateral property and its disposition easier, to broaden the category of properties that may be used for collateral, and to abridge rights that may interfere with seizure of collateral.

Overall, Armenia lacks a regularized system of credit that should be stimulated by mechanisms that provide efficient, transparent and reliable methods for recovering debt, including the seizure and sale of immovable and movable assets and the sale or collection of intangible assets, such as debt owed to the debtor by third parties. An efficient system for enforcing debt claims is crucial to an efficient functioning of the credit system in Armenia.

Armenia's financial sector (possibly with help from the Central Bank and the Ministries of Finance and Justice) should promote an informal, out-of-court process for dealing with cases of enterprises with financial difficulties in which banks have a significant exposure. Armenia's credit-based economy requires predictable, transparent and affordable enforcement of both unsecured and secured credit claims by efficient mechanisms. Although commercial transactions in Armenia have become complex as more sophisticated techniques are developed for pricing and managing risks, the basic rights governing these relationships and the procedures for enforcing these rights have not changed much. Those rights that should enable parties to rely on contractual agreements, fostering confidence that fuels lending, are not in place. Therefore, uncertainty about the enforceability of contractual rights increases the cost of credit to compensate for the increased risk of nonperformance.

THE ROLE OF INFORMATION FLOWS IN REDUCING INTERMEDIATION COSTS

The NBER study[27] emphasizes that information sharing through public and private credit registries is a significant factor promoting intermediation. The authors also find that "in addition, public credit bureaus are strongly associated with private credit in the poorer, but not the richer, countries, pointing to a possible role of government in facilitating information sharing."

The credit registry, which was introduced by the Central Bank in January 2003, aims to reduce credit risks by the creation of an information system on the creditworthiness of customers

[27] Referred to in the preceding section of this chapter.

of banks and credit organizations operating in Armenia. However, while the credit registry has been beneficial to banks' supervisors, this information is limited to debtors of banks only. A private credit bureau began operations in early 2004 and focused in its first year on obtaining information on debtors from the banks, other financial institutions, utility companies and government offices. This information should improve creditors' ability to evaluate prospective borrowers' creditworthiness. However, the credit bureau has faced difficulties because most banks are reluctant to provide information for free and then to have to pay for services. Furthermore, based on tradition and culture, Armenian borrowers are reluctant to share their information with others, and ensuring privacy protection substantially constrains the effectiveness of the credit bureau. This credit bureau is currently revisiting its operating model and expanding ownership to include banks with a view to remedying these obstacles.

In countries where credit bureaus have been established successfully, the central bank plays an important role in creating incentive mechanisms for commercial banks to share information on their customers. In Armenia, the Central Bank proved to be less than enthusiastic, apparently because the credit bureau would compete with information that it sells. The lack of support by the Central Bank has, in turn, led to a waning of enthusiasm on the part of the commercial banks for the new credit bureau and only one has signed up for its services. In other countries in which credit bureaus have been established successfully, it has usually been necessary for the central bank to insist that the commercial banks share information on their customers.

Given the vital role played by the generation and transmission of information on creditworthiness in ensuring low intermediation costs, it is suggested that the central bank adopt an active role in facilitating private credit bureau development by the following means:

- Making credit bureau reports a requirement for lending coupled with mechanisms to ensure efficient entry and exit by bureaus to avoid the abuse of their exclusive rights.

- Requiring a borrower's explicit consent prior to anyone's gaining access to their files to ensure more privacy protection. Other actions that may prevent privacy violations include: strict bank policies on gathering certain kinds of information, conditions on right to access, and validation of own files, and rules on the elimination of individual files after a certain period.

- Adhering to the following policies. Access to information by borrowers and credit institutions should be granted on the basis of membership. In other words, the principle of reciprocity should guide credit bureaus and should be stated in the contractual agreement between the bureau and the credit institutions. Membership should not be based on fees of any form. However, credit bureau activity should be profit-oriented. In cases where a member provides inaccurate information or fails to provide data, sanctions (ranging from fines to loss of membership and hence denial to the bureau's files) should be imposed.

- Adopting a balanced ownership policy. Credit bureaus are exposed to potential conflict of interest, especially if they are owned by a group of lenders: lenders want to

exploit the information provided by other lenders without disclosing their own. Therefore, Armenia should adopt a balanced-ownership policy. For example, credit bureaus could be incorporated as private companies and owned by a consortium of lenders to create the incentive for information exchange. Alternatively, independent ownership, coupled with a proper membership policy, could provide incentives for lenders to exchange information.

- Regulating the quality of disclosed information. Apart from the efficiency debate and the coexistence of different institutional arrangements, there is concern regarding the optimal amount of information sharing and the content of the information. In contrast to relying on the general statement that information dissemination reduces adverse selection problems (due to bad risks in the population of credit seekers) and makes the information on which the banks base their lending decision homogenous, the policy for the development of an efficient credit information sharing system should be focused on the regulation of the quality of disclosed information.

MONETARY OPERATIONS AND MONEY MARKETS

While monetary policy has ensured low inflation, it has been constrained by a low volume of securities for use in liquidity management—the stock of local currency government debt is low at about 3 percent of GDP. As a result, the CBA must rely on foreign exchange operations as its primary market instrument to manage local currency liquidity. This worsens the classic trade-off between exchange rate volatility and a buildup of excess liquidity, which could pose an inflation risk.

An increase in the supply of local currency securities would enable monetary operations in local currency to concentrate on liquidity management. This would free foreign exchange operations to focus on managing large capital inflows. The recent agreement between the government and the Central Bank to increase the supply of securities will enhance the role of money markets.

The monetary transmission mechanism is weak because banks are highly liquid, money market activity is low, and dollarization is high. It can be strengthened by the development of money markets, which should lead banks to move away from buy-and-hold investment strategies, to hold lower excess reserves and to rely to a greater extent on money markets. Improvements in monetary transmission should also result from a strengthening of the broader financial system infrastructure, including corporate governance and creditor rights, which would contribute to the narrowing of lending margins and lead banks to become less liquid by reducing lending risks.

Finally, an increase in reserve requirements from their current level of 6 percent to reduce banking system liquidity could be considered if it would be difficult for market instruments alone to absorb the excess liquidity. But this instrument (which is effectively a tax on banks) is a blunt one, and market or price based instruments are to be preferred.

THE INSURANCE, PENSION AND HOUSING FINANCE REFORM

The new Law on Insurance adopted in 2004 is comprehensive, but may be ambitious in light of the current level of supervisory expertise. The authorities should finalize and implement key regulations to improve accounting, auditing, and financial reporting, and solvency and reserves. The oversight of reinsurance also needs strengthening.

The supervisory authorities should align the regulations implementing the new insurance law to international best practice and implement them as soon as possible. Key areas include the following:

- **Licensing.** Given the very small size of the market, the existence of 24 insurers would appear to be inefficient. The increase in minimum capital levels will help address this.

- **Accounting, auditing and financial reporting.** Accounting, auditing, and financial reporting practices in the market are weak, as is monitoring of insurers' market conduct for consumer protection. Regulations in these areas should move the market toward international practices.

- **Solvency and technical reserve requirements.** Regulations need to be in place for the industry to be able to take on and prudently manage additional risk.

- **Reinsurance.** Given that 98 percent of risks are currently reinsured, the supervisors should make the oversight of the quality of reinsurance programs a high priority.

The insurance supervisory unit has to build its credibility and staff capabilities. A major effort is needed to upgrade the institutional capacity for insurance supervision and the technical competence of the staff. In addition, it is critical to launch an education campaign to explain to the public the potential uses of insurance products. While the Insurance Association is best placed to take the lead in organizing such a campaign, the government should support its drive to do so where possible.

Armenia currently has a pay-as-you-go first pillar defined benefit **pension system.** The system provides quite low pension benefits and is widely seen as unfair because it does not link the level of benefits to the level of wages (averaging a replacement value of just over 20 percent of average salaries). Pension benefits total only about 3 percent of GDP. The low pensions are due to (i) demographics – an aging population and emigration by working age Armenians; and (ii) tax evasion by employers and employees in the large shadow economy. The contributor base is less than half of the working population and the ratio of contributors to pensioners is virtually 1:1.

The government has formed a working group on pension reform, which is preparing a concept paper for transition to a three-pillar pension system and has already conducted actuarial projections on reform options. The concept under consideration includes replacing the current system with a compulsory funded pillar and establishing the framework for voluntary funded pension insurance while ensuring a minimum level of pensions for all through budget support.

Contributions to the mandatory and voluntary pillars would be placed in individual accounts and invested in financial instruments. However, there are a significant number of considerations for the government to keep in mind in contemplating the direction, shape and pace of pension reform, including the following:

- ***Conflicting objectives.*** The objectives of the plan involve significant trade-offs among key policy objectives. In particular, during the transition period (which can last 30 years) there would be a direct trade-off between utilizing reserves to increase current pensions or using them to fund individual accounts. Finding the appropriate balance between these objectives could be important for achieving public support for reform.

- ***Fiscal policy sustainability.*** During the transition period to a compulsory funded pillar, supplementary budget support may be needed to pay current pensions and fund mandated levels of contributions to individual accounts. However, budget support should be provided only within a sound fiscal policy framework and appropriate limits on the size of public debt and debt servicing requirements.

- ***Lack of financial instruments in Armenia's financial sector.*** Armenia has few financial instruments that pension funds could invest in aside from bank deposits. The government debt market and corporate securities markets are quite small. In the initial years of funded pensions, a substantial portion of assets would probably have to be invested in foreign assets.

- ***The need to develop regulatory capacity and expertise.*** Funded pension systems are usually privately managed and have to be regulated. Before such a system could be established in Armenia, the government would need to form a regulatory body and build up its expertise. An appropriate financial institution with the requisite capacity would have to be found to act as custodian for pension fund assets (an Armenian bank that intended to receive deposits from pension funds should not be eligible).

- ***Scale of contributions.*** Given the small size of Armenia's pension system, the size of the pool of funds that would be created in the initial years of funded pensions would probably be too small to attract interest from qualified foreign pension fund managers, or to be financially viable in light of the fees that would be charged. A transitional set of arrangements might be needed during a start-up phase before a critical mass of funds was achieved and management by private pension companies was implemented. The transitional arrangements should also cover the creation of pension plans by interested employers.

- ***Public skepticism of financial institutions.*** While there is discontent with the current pension system, the Armenian public also holds some distrust of financial institutions as a consequence of previous experience with bank failures. There could be doubts on the part of the public that contributions to pension funds would ultimately be paid. A gradual transition could be beneficial, under which private

accounts would accumulate slowly in the initial years, allowing confidence to grow over time.

The Armenian housing finance market is at a promising early stage of development, but risks and weaknesses exist that could be reduced with limited government intervention to meet the needs of the broad population. Banks lent an estimated US$7.1 million in 2003, to total 1.5 percent of total bank assets. Most mortgage lending is to upper-income households, in U.S. dollars, at fixed interest rates ranging between 14 and 18 percent, for low loan to value ratios of 50 percent, at a short average term to maturity of five years.

The main focus of reforms to housing finance should be on the development of the primary market for moderate and low income households**.** Key areas include improving the technical capacities of lenders, enhancing public sector processes and systems, and improving the legal and regulatory framework. The government has proposed important reforms to strengthen the legal basis for property markets and mortgage lending, including defining real estate as a combination of land and structures, and improving the enforceability of the mortgage pledge. These reforms should be rapidly adopted. The government should shorten and simplify the process for title transfer and the registration of the mortgage pledge. The CBA should adjust provisioning rules to address the mismatch between the currency denomination of mortgage loans and the denomination of borrowers' incomes. The government and banks should more systematically gather and publicly disclose data on housing prices, transactions, mortgage lending and mortgage performance to improve transparency and liquidity. The government should promulgate consumer disclosure regulations on loan terms and risks, especially for non-dram mortgages.

SUMMARY AND KEY RECOMMENDATIONS OF THE CHAPTER

Financial intermediation is shallow and the cost of funds is high. Both deposit and loan ratios to GDP are amongst the lowest in the CIS countries, and the interest rate spread is high. The cost of intermediation is raised by weak corporate governance, where even first generation reforms related to transparency, disclosure of ownership and accounting are still to be implemented. Creditor rights are being reformed but have been weak thus far, and the framework for secured transactions has been largely missing. Moreover, institutions to support the flow of information to support credit risk analysis need strengthening. Current reforms that are in progress, if implemented with determination, would lead over time to a lowering of costs and to a greater provision of bank credit to support growth.

- Implement a new law on corporate governance of banks.
- Strengthen official disclosures of direct and indirect ownership.
- Make the disclosure of beneficial owners required by Armenian law.
- Ensure public access to the company registry and lists of founders and shareholders.
- Implement a law on creditor rights and secured transactions with streamlining of judicial procedures.
- Strengthen the supervision of capital markets.
- Implement the unified supervision of financial and capital markets, with new standards for the supervision of insurance, pensions and housing finance institutions.
- Promote the development of a credit bureau.

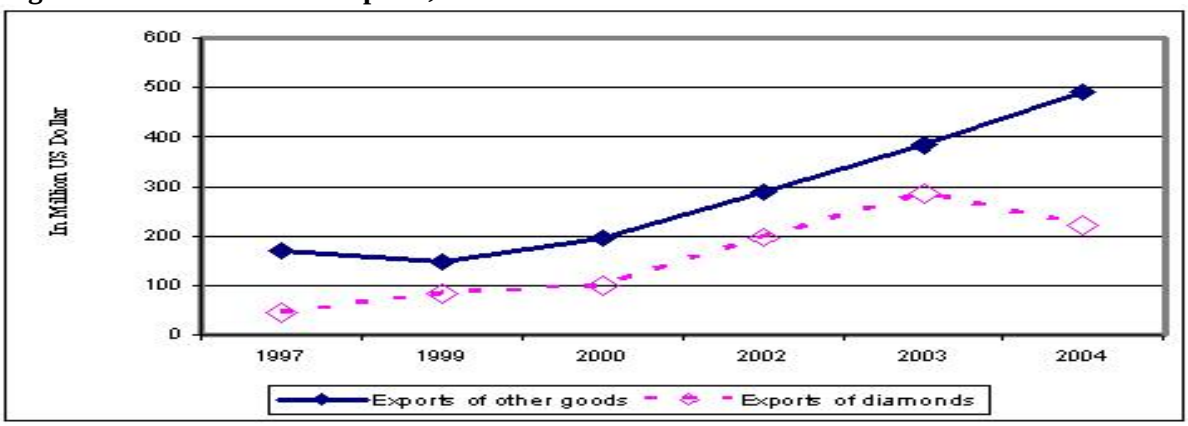
CHAPTER 5.
IMPEDIMENTS TO INTERNATIONAL INTEGRATION

The previous chapter discussed the impact of the weak framework for competition on economic efficiency and growth. The deficiencies in competition policy also affect the integration of the Armenian economy into international goods, services and factor markets.

- For a small economy, the key to fast economic growth is **integration into global markets.** While Armenia has entered into a diamond global value chain (see Table 5.1), it has failed to exploit the opportunities offered by participation in other global networks and for production and distribution owing to weaknesses in the business environment.

- Given the country's geographic isolation, global integration depends vitally on **export opportunities in the services trade**, which has grown rather impressively. Armenian participation in the international outsourcing of ICT-related services as well as other services sectors (e.g., tourism, transportation) is below its potential owing to lack of competition and regulatory constraints.

Figure 5.1: Armenian Exports, 1997-2004



Source: National Statistics Office of Armenia.

The composition of exports illustrates three structural weaknesses in international integration:

- First, there is a gap between Armenia's endowment in skilled labor and its content in Armenia's export offer. **The share of unskilled labor intensive products in Armenian exports appears to be below what might be expected from Armenia's endowment** as well as from what developments in the factor intensity of exports of other transition economies might indicate. The share of unskilled labor intensive products in Armenia's total exports was 1 percent in 2003—this share

amounted to 15 percent in Czech exports, 28 percent in Lithuanian exports and 41 percent in Albanian exports. The deviation is smaller when set against the performance of other CIS economies: Georgia has the same share as Armenia, Kazakhstan's is even lower (0.3 percent), and the Kyrgyz Republic's is 15 percent. These countries, like Armenia, *have yet to become part of the global garments value chain*. Armenia has succeeded in entering the diamond value chain (characterized by skilled labor activity) but has failed to capitalize on its large reserves of cheap unskilled labor. While garments have accounted for a huge share of manufactured exports from European transition economies, this has not been the case with Armenia.

- Second, **Armenian firms have not become integrated into the production and distribution networks.** Trade in such networks as furniture, the automotive industry and the information revolution (or e-network) has been the lever of export expansion for the successful recent Central European entrants to the EU. Despite outstanding success in the development of the ICT sector, trade in the e-network (electronics, including office equipment and telecommunications) has remained modest at best. This is also the case in a much less technologically demanding furniture sector. Furthermore, not a single Armenian firm has become a supplier to a major producer of automobiles.

- Third, **information, communications and technology (ICT) firms have not been able to take full advantage of the recent change in the ICT sector worldwide**. With the disappearance of the global "one-stop-shop" industry structures in the early 1990s,[28] new opportunities have emerged for new entrants. Armenian firms have successfully entered software and imaging technology niches. But they have failed to enter other stages of the production and delivery processes—in particular as providers of front-end customer contact/support services or suppliers of components (e.g., metal, plastics, and electronic components).[29]

The cost of missed opportunities seems to be significant. The incorporation of local producers into the clothing chain, production and marketing networks and the supply of ICT consumer services usually brings new technologies and managerial know-how as well as direct access to larger markets, and thus benefits of economies of scale. It boosts exports without local firms having to incur marketing expenses and provides for greater stability in earnings, thanks to the global reach of a "parent" company. The fragmentation of production eliminates the need to gain competency in all stages and aspects of production and allows a small country to focus on a subset of activities. At the same time, production sharing can broaden the range of final products whose components are produced in the small country and thus protect the country from a demand shock to a particular good.

[28] A large number of firms connected through complex and borderless supply chains made up of high volume multi-customer and multinational specialists at each level have replaced the vertically integrated firms still dominant in the 1980s and early 1990s.

[29] The front-end, customer centric portion of the supply chain includes service providers such as contact centers, order processing and technical support. At the same level is the order fulfillment hub, which is a combination of a logistics center with order picking and configuration capabilities.

The reasons for failure to tap into these opportunities can be related to the unfinished agenda of demanding and complex structural reforms together with trade facilitation measures. This unfinished agenda constitutes a barrier to a deeper involvement of Armenian firms in a finer global division of labor based on in-time production and inventory management and complex web-based communication links. The fundamental impediments to a deeper international integration are discussed in this chapter.

CONTESTABILITY OF DOMESTIC MARKETS

The major constraints to the contestability of Armenia's domestic markets for goods, services and capital stem mainly from lack of transparency and consistency in the implementation of regulations and laws.[30] The legal arrangements concerning entry to these markets are liberal with one exception—telecommunications services are not open to external competition. Access to other services sectors is liberal and is "locked-in" by Armenia's commitments made as a condition for accession to the WTO in 2003. With the notable exception of the temporary exemption of telecommunications services to most-favored nation (MFN) status, other sectors have been open to most modes of supply, with the usual caveat concerning restrictions on the employment of foreigners.[31]

No legal restrictions are in place on foreign capital inflows. The foreign investment regime, governed by the 1994 Law on Foreign Investment, provides for national treatment, MFN, and full repatriation of capital and earnings. The law banning foreigners from owning land (they can only lease it) is not restrictive, as companies registered by foreigners in Armenia as Armenian business entities have this right. The barriers in the opinion of international businesses relate to the inconsistent application of tax, customs (especially valuation) and regulatory rules, especially in the area of trade. While these may not be prohibitive for large firms with easy access to high levels of state administration, they create conditions of unfair competition for medium-size businesses and other market entrants, and add to uncertainty.

Access to Armenian markets for goods is liberal in terms of official border and behind-the-border arrangements. Tariffs are low not only by CIS standards but by international standards as well. Although its both weighted and unweighted average MFN tariff rates are twice as high as those in the EU, they are still well below 5 percent (Table 5.1).

Furthermore, **commitments made upon accession to the WTO have infused a considerable degree of stability and predictability into Armenia's foreign trade policy**. They have also reduced, although they have not completely eliminated, the potential for the capture of foreign trade decisions by narrow interest groups, by providing a government with tools to tame the rent-seekers. Armenia's two-band tariff regime with applied MFN tariff rates at

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[30] The following sources have been used in this section: the World Bank's various country reports, the World Bank Investment Climate Survey, BEEPS and BEEPS II surveys, Economist Intelligence Unit information, the Heritage Foundation's Index of Economic Freedom, the World Bank's Doing Business Indicators.

[31] Armenia, however, has made a pre-commitment "… to provide unlimited market access for all basic and value added telecommunications services subsector initially covered by the monopoly immediately upon suspension or termination of monopoly rights in that subsector on or at anytime prior to the end of the monopoly." (See *Report of the Working Party on the Accession of the Republic of Armenia*, Part 2- Schedule of Specific Commitments in Services. List of Article II MFN Exemptions. WT/ACC/ARM/23/ Add.2, Geneva, 6 December 2002).

zero or 10 percent ad valorem, has been locked, thanks to accession to the WTO, at low levels. Armenia's schedule of MFN "bound" tariff rates has seven ad valorem rates—zero, 4, 5, 6.5, 8, 10 and 15.[32] But, as a condition of accession, Armenia has been required to bind tariffs across all Harmonized System items. In addition, Armenia has committed itself, as a result of direct pressure from members of its WTO working party, to review periodically the specific tariff rates to assure that these do not exceed their equivalents of ad valorem bound tariff rates.[33]

Table 5.1: Average Applied and Bond MFN Tariff Rates in Selected Countries (in percent)

		Armenia	Kyrgyz Republic	Lithuania	European Union (15)
		2001	**2002**	**2003**	**2002**
Total Goods	Simple Average (%)	3.3	4.5	1.3	1.5
	Weighted Average (%)	2.2	3.2	0.6	1.4
Agricultural Goods	Simple Average (%)	8.3	7.1	4.7	3.2
	Weighted Average (%)	6.6	6.6	4.3	2.9
Industrial Goods	Simple Average (%)	2.9	4.3	1.0	1.3
	Weighted Average (%)	1.1	2.7	0.3	1.3
Bound Rate of All Goods	Simple Average (%)	8.5	7.4	9.2	3.9
	Weighted Average (%)	9.6	6.4	9.4	3.0
Binding	Coverage (%)	100.0	99.9	100.0	100.0
Memorandum: Simple average tariff rate in 2004		3.0	5.2	1.5	1.5

Sources: Based on the UNCTAD TRAINS and WTO IDB database and the IMF trade information database for 2004.

Armenia has made significant commitments towards a liberal trade regime in the context of WTO membership, including commitments under the WTO General Agreement on Trade in Services (GATS). Except for telecommunications, Armenia's bound sectoral commitments are extensive in terms of both coverage and market access across different modes of supply of services. The number of sub-sectors in which exceptions are placed on a mode of supply (i.e., unbound) is very small in Armenia's schedule. Except for "settlement and clearing services for financial assets, including securities, derivative products, and other negotiable instruments," there are no exceptions under delivery mode 1 (cross-border). Consumption abroad (mode 2) is subject to no restrictions. The only restriction in market access under mode 3 (commercial presence) is the requirement that suppliers of technical testing and analysis services should be legal entities constituted under Armenian legislation. In contrast to a number of countries—including highly developed economies—limiting a maximum foreign equity stake, there is no such a limit in Armenia.

[32] The simple average bound tariff rate for all products is 8.6 percent, with the average rate of 14.9 percent for agricultural products and 7.7 percent for industrial products (own calculation based on Armenia's "Bound" Schedule). Both averages put Armenia in the middle of transition economies. For agricultural products, Albania, the Slovak Republic, and the Czech Republic (prior to the EU accession) have lower rates of 9.4 percent and 10 percent. Estonia's and Latvia's rates are higher—17.5 and 34.6 percent, correspondingly. For industrial products, Albania, the Czech Republic together with the Slovak Republic, Hungary, and Estonia have lower average rates of 6.6, 4.2, 6.9 and 7.3 percent, respectively.

[33] This is an extra Armenia-specific commitment coming on top of all other commitments to observe the provisions of the WTO Agreement.

Given the emphasis in national economic policy on promoting the ICT sector, and given Armenia's specialization in computer services, which sets it aside from countries at a similar level of economic development, **it is puzzling that Armenia did not join the Information Technology Agreement (ITA) upon accession to the WTO**. The ITA, concluded by 29 participants at the Singapore Ministerial Conference in December 1996, provided for participants to completely eliminate duties on IT products covered by the Agreement by 1 January 2000. The number of WTO members that participate in ITA has risen to 63 states, including China and India as well as East Asian countries (e.g., Malaysia, Singapore and Thailand). Participation does not assure knowledge-intensive growth but can help to create the right conditions for such growth.

Yet neither commitments under the WTO Agreements nor legal provisions protecting private property rights and enforcing contracts alone have ensured the high contestability of Armenia's domestic markets. First, **the capacity of courts remains weak,** as they operate slowly in the enforcement of contracts and the mediation of commercial disputes. Furthermore, firms do not trust the ability of courts to act independently and enforce decisions. Neither do they trust the impartiality of the state administration, regarded by businesses as corrupt. Second, the **computerization of customs has to date fallen well short of improving the quality of customs services, with customs procedures yet to achieve the WTO standards of transparency**. The lack of the bilateral harmonization of customs practices with Georgia, corruption, and the limited application of information technology further exacerbate transaction costs.

Non-transparent procedures give credence to businesses' complaints about the continuing practice of customs of extracting "irregular" payments from them. Corruption and the imposition of unofficial fees at the border are most frequently reported by the private sector as serious issues. The fact that customs clearance procedures are applied with equal zeal also to exports is suggestive, as, generally, in other countries, customs efforts are largely directed only at imports. For example, on the rail system from Armenia to Georgia, unofficial fees account for approximately 6-13 percent of the total costs of transport (Molnar and Ojala, 2003). A typical container shipment by truck from Tbilisi to Rotterdam is subject to unofficial payment costs totaling 7 to 40 percent of the total logistics costs, with customs clearance being the most significant element.

The administration of VAT rebates to exporters is an important factor that deters exports. VAT reimbursements do not occur quickly enough and are underpaid by the government. A recent survey (WB/Armenia 2004) notes that only 44 percent of surveyed firms entitled to the refund have claimed it.[34] The reason is not difficult to figure out. It should be considerable that for the remaining 56 percent of companies it took, on average, 145 days to receive a VAT refund. Moreover, on average they received 15 percent less than the amount to which they were entitled by the law. In the course of 2005 a significant improvement has occurred in the pace and quantity of refunds.

Moreover, it appears that the most obvious benefits of the computerization of customs services (i.e., reducing the release time of consignments and slashing the documentation or

[34] Data show that a significant improvement in timeliness in VAT refunds began to take place in 2005.

bureaucratic burden put on a trader or customs broker) have so far failed to materialize. Ttraders and customs brokers have limited access to the system. The old practice of bureaucratic delays fueling corruption, combined with a lack of capacity in customs administration, continues.

Other barriers to the high contestability of Armenia's domestic markets stem from the earlier discussed high "hassle" cost of doing business in Armenia. Weaknesses in tax administration, the capacity of the State Commission for the Protection of Economic Competition to enforce competition laws, and the weak judicial system have been responsible for low FDI inflows and for Armenia's limited success in attracting activities outsourced by multinational corporations (except for diamonds).

REFORMING CUSTOMS RULES

Ideally, the government should extend the same customs rules that it applies to diamond cutting activity to other sectors of the economy. This would entail reducing the time for customs clearance to one day, accepting the invoice value, and conducting in-house clearance, if needed. While these steps would be a dramatic improvement over the current practice, other transaction cost-raising elements would have to be addressed as well, such as, as has been noted, the VAT refund system.

Extending a "diamond-like" regime with an improved VAT refund mechanism to all exports would be difficult. While inputs crossing customs borders are usually subject to tariff rates and indirect taxes if sold domestically, the tariff rate on diamonds is zero and no taxes are levied. By the same token, a domestic firm has no incentive to sell the imported input, domestically circumventing customs and depriving the budget of customs and other tax revenues. In short, there is no need for duty drawback, temporary admissions or bonded warehouse schemes, which require considerable capacity on the part of customs administration to be really effective. While computerization—if accompanied by administrative reforms and changes in customs procedures commensurate with the newly acquired technological capacities—may significantly improve this capacity, this might take some time.

Therefore, the suggested reform would be to move gradually and **establish a diamond-like regime in terms of administrative efficiency for a selected group of firms.** The selected firms would be put on a "white list." Firms on such a white list would be subject to special treatment by the customs and VAT administration. Customs would be obliged to complete customs clearance within a very short period; it would also have to observe the provisions of the *WTO Agreement on Customs Valuation* instead of using reference prices; and it would be obliged to run an effective scheme that provides duty waivers and exemptions from other restrictions on imported inputs for established exporters that import inputs, whether for domestic production or export, or both.[35] The VAT administration would be obliged to rebate the VAT to a firm on the same day that exports are cleared by customs. For any delays, a firm would be entitled to a refund plus interest.

[35] Their design and implementation would require the attention of policymakers. The possible mechanisms are: a rebate scheme on account, a deferred drawback, or a temporary admissions mechanism.

Which firms, in addition to diamond-cutting firms, should be put on a white list? While the criteria to be used may be subject to further refinement, the general guidelines are easily discernible. First, the process and the criteria should be transparent and open to the public scrutiny of press and non-government organizations, such as business associations. Second, foreign-owned firms publicly traded on the U.S. and EU stock exchanges should be automatically included. Their operations are subject to the highest standards of international scrutiny—they can ill-afford to enter into shady business operations. This would take care of the participation in the global networks of production and distribution, simply because their major movers are publicly traded large multinational corporations.

Third, firms operating in the ICT sector should also be included in the white list as their use of imported inputs is limited and the value added created locally is huge. Their exports are not subject to customs clearing procedures. In fact, they are virtually impossible to monitor. But in order to claim duty and VAT rebates, they would have to disclose some transactions to the financial authorities. The overall direct benefits to ICT firms of being included in the white list are lower than for exporters of manufactures, although firms of this sector are as vociferous in their criticism of the VAT rebate scheme as are the diamond-cutting firms. Furthermore, this would be a significant step in improving the business climate for a sector critical to Armenia's move to a knowledge-intensive economy.

Fourth, for the remaining firms, one would have to identify one or two criteria related to a record of past dealings with the tax administration. One criterion might involve the number of years in existence; another might take into account the past record of dealing with tax and customs administrations. Both would have to be clearly defined. The general idea would be to reward law-abiding firms. Firms that do meet the criterion of the length of existence but are involved in inward processing (e.g., garments or footwear) might be exempted.

- Representatives from government and other relevant business administration would annually or semi-annually update the white list. A mechanism to address the grievances of those that have not been included should be designed and implemented. However, if the criteria are precisely defined and transparently implemented, the number of cases handled under this mechanism would be rather limited. But a white list alone would not be sufficient. There are other areas which might be relatively quickly fixed. These "quick fixes" would include the establishment of an Independent Professional Association of Customs Brokers. The Association would be empowered to license and scrutinize its members. In order to assure integrity and responsibility, it would operate according to a transparent Code of Conduct that would be obligatory for all members and it would have an institutional voice in the government bodies responsible for overseeing customs administration.

- The customs computer system would be opened to customs brokers.

- Customs-related documents would be brought in line with what is really required under a computerized system of the ASYCUDA type.

- Customs clearance procedures for exports would be simplified. Under normal circumstances, the customs clearance of exports serves one major purpose: to assure

that the shipment does not contain products banned for exports. Once an exporter produces a certificate of origin issued by the Chamber of Commerce, the shipment should be immediately cleared. Hence, a strict time limit on releasing a shipment should be introduced; if the time limit is exceeded, a shipment should be immediately released.

- The above measures are relatively easy to implement. While they require the close attention of policymakers, they consume administrative resources in a very moderate way. Over the longer haul, they would actually reduce the administrative burden.

INTEGRATION IS BURDENED BY HIGH COSTS OF BACKBONE SERVICES

The domestic dimension of the business climate (i.e., regulatory regimes and measures directly affecting entry, conduct and exit for firms) also influence the external interaction of domestic firms. The elements of this dimension are the procedures for the simplification and harmonization of international trade, the state of the infrastructure and its management, and the provision of such backbone services as telecommunications, banking, insurance, transportation, and business services. These are as important for domestic as for external activities. Together with customs procedures, related border clearance regulatory procedures, technical standards regulations and airport efficiency and effectiveness they shape the ease and speed with which goods and services move across national borders services; therefore, they are crucial to trade in goods. In consequence, improvements in the domestic business climate may produce limited positive economic effects if not accompanied by similar improvements in trade facilitation.

Weaknesses in the provision of backbone services add greatly to the costs for domestic firms to participate in the emerging division of labor based on international outsourcing, just-in-time production, and supply-chain management. Increasingly, sliced value-chains, with individual production stages being moved to countries with corresponding comparative advantages, have become trademarks of a current global economic landscape. Interaction among "production blocs" of border-spanning production networks is particularly vulnerable to delays in and disruptions between individual stages of the supply chain owing to weaknesses in service links. Hence, the poor quality of backbone services and trade facilitation deters foreign firms from incorporating domestic firms into their supply chains and also acts as a barrier to other types of trade. In a nutshell, these are the factors responsible for the emergence of trade within global value chains and networks.

The factors responsible for the emergence of a new form of the division of labor driven by the globalization of production appear to be missing in Armenia. Falling transportation and communications costs have created opportunities for the outsourcing, just-in-time production and supply-chain management that have been altering the competitive landscape of many countries by relocating business activities and providing a new source of entry into international markets. **However, the high transportation and communications costs as well as the high transaction cost of doing business in Armenia are barriers** to participation in the division of labor based on production fragmentation.

The limited presence in the garments global value chain and the network trade, and the almost complete absence of Armenian providers of some ICT customer support services have not been the result of adverse external conditions. These conditions are mostly home made, and thus can be addressed by changes in government policies. While the constraints imposed by geography or the requirements of high politics are difficult to overcome, contemporary technology combined with a right mix of policies may considerably ease their negative impact. Outsourcing, just-in-time production and supply-chain management, which are all critical to transferring abroad a slice of a production process, cannot function efficiently if there are delays and disruptions because of weaknesses in the service chain. The weakest link in the service chain in a country may tip the balance against including a firm in the global supply chain. The service chain includes backbone services, namely, telecommunications, transport, financial services (banking, insurance, securities trading), distribution and business services (legal services, accounting, consulting), as well as customs procedures .

Neither of the above potential constraints on outsourcing has affected Armenia's strong and expanding presence in the diamond value chain. This is the result of inherently low transport costs and friendly government policies that are not extended to other sectors. Potential or actual producers of parts and products for other chains and networks are not in a similarly privileged position. Transportation costs usually account for a larger share of total costs—few items match diamonds or services in terms of the combination of a lightweight and high unit value. Just-in-time production and supply-chain management are of lesser importance in the diamond business. So is the intensity of the communications links.

In consequence, for non-diamond products the distance from major markets clearly matters, as it raises trade costs, including transportation, customs and communications, in ways that may make operations simply non-competitive in world markets. But even though trade has expanded more rapidly in areas geographically closer to the major world markets, trade in more distant regions has also grown, which demonstrates that policies that reduce transaction costs can soften the negative impact of distance: air and telecommunications links play a crucial role in this.

Wilson, Mann and Otsuki (2004) identify four indicators of the capacity to facilitate trade. These are port efficiency, the customs environment, the regulatory environment, and the ICT infrastructure. Port efficiency measures the quality of the infrastructure of maritime ports and airports. The customs environment measures the direct customs costs as well as the administrative transparency of customs and border crossings. The regulatory environment measures the country's approach to regulations and their quality. The ICT infrastructure measures the extent to which an economy has the necessary domestic infrastructure (such as telecommunications, transportation, financial intermediaries, and logistics firms) and is using networked information to improve efficiency and to transform activities to enhance economic activity. Since we have discussed regulatory environment and customs practices, and since a private operator runs the airport in Yerevan, we shall focus on IT infrastructure and transportation services.

ICT INFRASTRUCTURE: THE PRIVATE TELEPHONE MONOPOLY

Rapid technological development in the electronics, computer and telecommunications industries has eroded the previously inherent natural monopoly characteristics of telecommunications. By the same token, it has weakened somewhat the negative impacts of the government's decision to grant a legal monopoly (originally until 2013) to ArmenTel, the local telecommunications company, owned by the Hellenic Telecommunications Organization. The monopoly also encompasses cellular, the local loop providing land line links to firms and households and international sources, including, theoretically, Internet services. The only area that has escaped the monopoly's reach, albeit not completely, is, in effect, voice-over Internet provision (VOIP) and private international satellite communication such as that operated by Lycos, a private foreign company. As mentioned earlier, this might have contributed to a lower volume of officially captured international calls. But satellite communication is not a full substitute for access through lines, and these have non-trivial fixed costs and cannot be connected to the telecommunications network to provide back-up and higher utilization. Overall, however, while modern technologies offer some ways of circumventing the monopoly reach of ArmenTel, the bottom line is that it also controls the decisive "last mile" local loop access and has dominated the mobile phone market.

How has ArmenTel's monopoly affected the development of telecommunications in Armenia? One way of addressing this question is to compare the costs and the use of telecommunications services in Armenia to those in other CIS countries. This may not be a very demanding benchmark, as many other CIS countries have equally poorly handled regulatory reform and privatization and some still maintain a state monopoly service provision. But even against these not very demanding comparators, the general conclusion is that, overall, Armenia's telecommunications services vis-à-vis other CIS countries performed poorly over 1998-2002. Despite an increase in 2002 over 2001, the international outgoing traffic from Armenia declined significantly more, on average than that from other CIS countries in 2003. The cost of using the Internet in Armenia was 41 percent higher than the average for the CIS. The prices of high-speed connections charged by ArmenTel are around 30 times more than those in countries where telecommunications services are not monopolized. Armenia had a surprisingly low number of Internet users, well below the CIS average. Last but not least, the number of cellular phones per 1,000 people is significantly lower than in neighboring Georgia.

Telecommunications in Armenia, Azerbaijan, and Georgia

Tables 5.2 and 5.3 compare the telecommunications situation in Armenia with those in Azerbaijan and Georgia.

Table 5.2: Telecommunications Sector Overview

	Armenia	Azerbaijan	Georgia
Population, 2003, million	3.80	8.23	4.89
GDP per capita 2003, PPP, US$	3,607	3,606	2,569
Telecom revenue, 2002, US$ million	70.1	85.8	135.0
Telecom investments, 2002, US$ million	22.7	28.7	N.A.
Number of fixed lines, 2003	563,679	941,366	650,500
State ownership share in the incumbent fixed-line operator, Sep 2004	ArmenTel 10% (90% owned by Greece's OTE)		
Number of mobile subscribers, Jun 2004	137,530	1,317,560	779,300
Number of mobile operators, Jun 2004	1	2	3

Sources: WDI, ITU, European Mobile Communications Report.

Table 5.3: Percentage of Households with Access to Telephone

Country		Total	Income quintiles				
			1	2	3	4	5
Armenia (ISLS 2001)	Capital (Yerevan)	83.7	73.6	80.6	78.9	88.4	92.8
	Other urban	64.8	46.8	59.5	67.5	76.8	79.9
	Rural	44.0	34.8	40.4	42.8	48.1	53.3
	Whole country	61.8	50.4	56.4	59.4	68.1	74.5
Azerbaijan (HBS 2001)	Capital (Baku)	63.4	58.4	55.1	62.8	68.5	71.6
	Other urban	44.4	43.2	42.7	40.8	48.2	48.7
	Rural	18.4	18.2	17.3	18.3	17.9	20.1
	Whole country	38.6	38.4	36.9	35.8	38.9	43.1
Georgia (HBS 2001)	Capital (Tbilisi)	71.7	59.1	63.7	70.9	76.9	82.1
	Other urban	47.3	31.8	44.1	49.9	58.6	66.7
	Rural	8.8	5.0	8.2	8.8	10.5	10.8
	Whole country	34.7	25.4	33.2	34.5	37.9	42.5

Note: Comparisons should be made only within countries and not between them, since the surveys were conducted independently and the questions were not identical.

Source: ISLS – Integrated Survey of Living Standards; HBS (Household Budget Survey).

Telecommunications in Armenia and Selected Countries

Tables 5.4 and 5.5 compare benchmarks for telecommunications infrastructure and the Internet in Armenia with selected countries.

Table 5.4: Basic Telecommunications Infrastructure Benchmarks

Country	GDP per capita 2003, PPP, US$	Percent of households with a television, 2002	Main lines per 100 inhabitants, 2003	Mobile penetration, Aug 2004
Armenia	3,607	91%	15	4%
Azerbaijan	3,606	121%	11	17%
Georgia	2,569	76%	13	17%
Ukraine				19%
Belarus				17%
Moldova	1,505	N.A.	22	14%
Albania	4,571	90%	8	32%
Bosnia and Herzegovina	6,029	87%	24	31%
F.Y.R. Macedonia	6,762	82%†	27♠	40%
Serbia and Montenegro	N.A.	92%	24	37%
Bulgaria	7,807	93%*	38	59%
Croatia	11,139	94%†	42♠	60%
Romania	7,222	97%	20	40%
Turkey	6,749	108%	27	45%
Czech Republic	16,448	99%	36	100%
Greece	19,973	98%‡	45	96%
Hungary	14,572	96%†	35	76%
Poland				52%
Slovak Republic	13,469	100%	24	75%
Slovenia	19,300	91%	41	95%

*Data from 2003; ♠ Data from 2002; ‡ Data from 2001; † Data from 2000; N.A. Data not available.
Sources: WDI, ITU, European Mobile Communications Report, Paul Budde Communication.

The poor quality of the IT infrastructure is a barrier to the development of the economy and to its shift towards the higher knowledge intensity and enhanced networking that technological change permits and encourages. The absence of high quality services and their high costs affect all sectors of the economy, amounting often to the equivalent of a prohibitive tax on some potential markets.. It is impossible to estimate how many transactions have not taken place because of this situation. Neither is it possible to tell how many industrial or service operations would have been transferred to Armenia had there been more efficient telecommunications services. It is, however, indisputable that very high telecommunications costs have severely exacerbated the disadvantage associated with Armenia's geographical location. High quality IT infrastructure and services are crucial to the development of a contemporary economy.

The ArmenTel monopoly has been reduced and further cellular competition allowed in 2009. A further mobile operator has been licensed, although, given the objectives pursued and the process followed, it is unlikely that a competitive regime will emerge. Duopolies can produce outcomes close to monopolies unless competition law is actively applied to prevent tacit collusion. The regulator, the Public Service Regulatory Commission, (PSRC) has been given

enhanced powers in an attempt to countervail the adverse effects of ArmenTel's continuing dominant market position. There is little expectation that Armenia will benefit fully from the rapid fall in costs and the introduction of new services that a fully liberalized market would offer. It is understood that the government regards the current policy settings as the best achievable until the current ArmenTel license expires in 2013. It is crucial that every opportunity be taken to maximize the possibilities for competition within the current policy and agreements.

Table 5.5: Internet Benchmarks

Country	PCs per 100 inhabitants, 2002	Internet users per 100 inhabitants, 2003	International Internet bandwidth per capita, 2002, bps	Internet hosts per 1000 inhabitants, 2003
Armenia	1.6	4	2.1	0.55
Azerbaijan		4♠	0.3	0.07
Georgia	3.2	3		1.01
Ukraine				
Belarus				
Moldova	2.1	8	9.4	3.32
Albania	1.2	1	3.9	0.08
Bosnia and Herzegovina	N.A.	3♠	6.6†	1.89
F.Y.R. Macedonia	4.5	5♠	24.2	1.73
Serbia and Montenegro	2.7	8	0.9‡	1.84
Bulgaria	5.2	21	10.1	6.66
Croatia	17.4	23	41.2	6.78
Romania	8.3	18	89.3	2.18
Turkey	4.3	8	16.3	5.08
Czech Republic	17.7	31	2,189.1	27.44
Greece	8.2	15	222.0	17.05
Hungary	10.8	23	246.3	35.78
Poland				
Slovak Republic	18.0	26	1,516.0	21.22
Slovenia	30.1	38♠	539.6	21.48

Data from 2002; ‡ Data from 2001 † Data from 2000; N.A. Data not available.

Source: ITU, http://www.mac.doc.gov/ceebic/countryr/Fyrm/MARKET/Macedonia%27s%20Information%20Technology%20Sector.pdf.

Clearly, the government faces the difficult issue of minimizing the negative impact of some of the most damaging restrictive provisions of its contract with ArmenTel without endangering the credibility of Armenia's commitment to the sanctity of contracts or facing a considerable fiscal cost. The policy so far has been a combination of a strong commitment to respect the contract while requiring that ArmenTel meets its obligations, together with a declaration that regardless of its outcome, mobile (cellular) and data services sectors will be open to domestic and foreign companies in the future.

In the meantime, the tactic of increasing the regulatory pressure on ArmenTel by placing telecommunications under the jurisdiction of the PRSC, which deals also with power, water and natural gas, is being followed. However, as long as ArmenTel essentially has monopoly rights, the major task would be overseeing a monopoly and trying to use regulatory tools to encourage the utility to expand its output and lower its prices to efficient levels. The management of the license should ensure that all provisions concerning the commitments of ArmenTel are

implemented. This task is different from setting the regulatory framework that facilitates entry and protecting the competitive process.

Hence, as long as the monopoly is in place, the best intervention is to ensure that the PSRC is an efficient and effective regulator and enforcer of the modified agreement with ArmenTel. With the current duopoly likely to continue until 2009, an additional option would be for the government to develop and announce **now** its future policy: namely, that all government-imposed economic entry barriers would be removed when the license expires (e.g., so that the electricity distribution company could provide telecommunications services if technically and commercially viable). Furthermore, the available and necessary radio frequency spectrum will be auctioned off well before 2009, so that further mobile operators, to the extent that they consider they would be commercially viable, would be able to enter the market as soon as restrictions are lifted. Private networks (including those using satellite links) could prepare to inter-connect and provide services to other customers. The market post-2013 could be regulated only by competition law.

AIR TRANSPORT: AN UNTAPPED ASSET

Despite the importance of land transport, the infrastructure system in Armenia requires modernization, with adequate provisions for ongoing maintenance and management along with considerable road rehabilitation; in addition, most of its rail track and rolling stock are in need of repair or replacement. Since rail and road links from Georgia to Armenia account for 70 percent of Armenian trade, their quality is of particular importance. They are all in poor condition. The lack of direct sea access, the mismanaged state–owned railway company (Holden, Sahakayan 2004), the high freight rates, and the ongoing blockade of the borders with Azerbaijan and Turkey, all contribute heavily to the high transportation costs faced by importers and exporters, which puts Armenian firms at a competitive disadvantage.

Unless transport costs go down, the trade patterns will remain biased towards goods with high value relative to weight at the expense of the bulky low cost products of light industry. This may explain why, unlike the situation in other transition economies, Armenia's exports of textiles, apparel and footwear have been limited.

What can the government do about transportation costs? Ensuring efficient and effective road operation and development in order to lower vehicle operating costs and time savings is important, and it is possible that the government is under-resourcing this area (e.g., the MTEF 2006-8 suggests declining state road funding as a share of GDP). Placing the state-run railway on a businesslike footing would allow it to compete more effectively with road transport and to maximize its economic value added. The government can influence the performance of infrastructure service providers through changes in incentives and the institutional environment. Improvements in infrastructure and the regulatory structure can reduce transport costs. Both seem areas to have been responsible for the apparent fall in land transportation costs, but not of air transport or railway costs. Overall, however, as mentioned earlier, transportation costs, both overland and by air, are well above the levels in other CIS landlocked countries, including those located further away than Armenia from their most important markets, largely in the EU.

The shift away from air transport to land transport indicates that the former has become less competitive. Providers of air cargo services have proved to be unable to retain their clients or to lure new ones with more attractive prices, as freight shipped by air from Yerevan fell between 1997 and 2003 by more than two-thirds depending on the indicator.[36] The fall has been even more dramatic considering that the value of exports of goods rose 3.3 times over this period. Volumes increased significantly in 2004, back to the level four years earlier. The re-opening of the land corridor through Georgia might have boosted land transport. But had there been more aircraft belly space available, thanks to an increase in the number of passenger flights, lower air cargo rates would have attracted a much larger portion of shipments than was the case. This clearly has not happened, as there was no significant increase in the frequency of flights until 2004. It remains to be seen whether the resumption of growth in air services continues, is sustained, and translates into better services for cargo shippers (including lower prices).

The fall in the share of the most dynamic worldwide mode of transport—air transport—can be attributed to the fall in the competitiveness of air transport services owing to poor infrastructure and a restrictive aviation policy. The poor infrastructure component has been potentially addressed, thanks to the government's decision to sign a 30-year concession agreement with Argentina-based Corporacion America for the management of the Yerevan Zvartnot International Airport in 2003. With careful management of the concession by the government, within a clear policy framework, this should result in a more efficient and effective provision of airport services.

However, the removal of the infrastructure barrier alone will not suffice. The appropriate regulatory environment must be in place in order to take advantage of better infrastructure. But it appears that, with the signing of an agreement with the Russian airline Siberia for the establishment of a new airline (Armavia) to take over Armenian international air "rights" on an exclusive basis until 2013 (with a stream of annual payments to the government for these rights), the approach to aviation policy has remained restrictive via exclusive and restrictive route rights. Instead of moving to a less restrictive approach that emphasizes the removal of government-imposed entry barriers to air services (as pioneered by Chile and implemented by countries such as Latvia), Armenia has retained the bilateral system of air transport regulations, which is based on a positive list approach that limits the provision of services to those that are explicitly permitted.[37] An existing Armenian airline, the Armenian International Airline, has been forced out of serving the Armenian air markets as a result of the government's agreement with Armavia.

Leaving aside safety and aviation security issues, which need to be addressed under both approaches, the regulatory philosophy underlying the restrictive approach to bilateral aviation agreements has been to protect the "national" carrier from external competition - Armavia in this case. Governments have understandably been concerned about service continuity and have often considered that only a national carrier will ensure such continuity. Costly regulatory assistance is usually given, as in this case, although the government, unusually by international practices, is receiving explicit annual payments in return for the grant of exclusive rights. Inferior services in

[36] Freight in thousand metric tons stood at 33 percent of its 1997 level in 2003 and in million ton-kilometers at 26 percent.

[37] According to this approach, a service can be provided only if it is explicitly permitted.

terms of costs and quality often result. International experience shows that in a deregulated environment airlines will serve markets: concerns about service continuity have been generally unfounded. Regulatory restrictions impede this process and tend to exclude the most efficient airlines.

The empirical evidence from countries that have deregulated the domestic aviation sector (e.g., the United States, the EU) is robust: passengers and air freight shippers in both the EU and the United States have experienced a dramatic and continuing decline in airfares. Thanks to the opening of the sector to new entrants, existing carriers have come under strong competitive pressures. These in turn have reduced costs through gains in productivity. The entry of the so-called Low Cost Carriers (LCCs) has halved airfares and stimulated volume by at least 70 percent in both the EU and the United States. Competition has also been responsible for a faster adaptation and diffusion of new technologies. The combination of liberalization and technological progress has been behind a 3.5 percent average annual decline in real yield over 1991-2001.

The costs of bilateral aviation agreements are not confined to the higher prices of air transport due to the absence or limited competition. In fact, they also involve the much more important and more difficult to estimate costs of forgone opportunities. These costs are potentially large as lower airfares boost tourism, stimulate important flows of ideas and human capital, deepen networks and create new opportunities for firms to market their products domestically and internationally. Tourists in turn increase the demand for a range of services and goods. The empirical evidence can be supplemented by several examples. The liberalization of aviation policy, together with the investment in the Emirates airline, has contributed to Dubai's impressive economic development driven largely by tourism and services. The result of the relatively liberal policies pursued by the United Arab Emirates since the 1980s is that Dubai is now served by around 100 airlines to 145 destinations and Emirates has become a formidable world class competitor. More important, it has become a tourist and business center in the Middle East. Last, but not least, one suspects that the probability for a firm to become incorporated in global production and distribution networks increasingly on the basis of just-in-time production is low in the absence of reliable high frequency competitive air transport services.

A second example that suggests that airline liberalization has been a contributing factor to economic development comes from Ireland—often described as a Celtic Tiger because of its spectacular economic growth performance over the last decade or so. It is often overlooked that the measures that created a "virtuous circle" leading to the Irish economic boom included not only public expenditure cutbacks that allowed for tax reductions but also EU-driven airline deregulation that allowed Ryanair to fully develop the LCC business model following the U.S. Southwest Airlines example. The latter "… facilitated a more than doubling of tourist numbers over the following decade" and contributed significantly to FDI inflows (Barry 2003, p. 909).

For a small landlocked economy aiming to maximize its long-term economic growth rate, the best aviation policy would be along the lines of the Chilean "Open Skies" policy, which would include Armenian carriers having reciprocal rights to compete. Under this arrangement the government policy would be to eliminate government-imposed entry barriers to air transport. This should be the option that Armenia should adopt as quickly as possible, although under the

government's agreement with Armavia their own agreement would probably be required, unless the government's agreement is re-negotiated.

Full implementation of such a policy is not likely in the immediate future, as it takes both governments to agree to liberalize a bilateral agreement. Taking into account the lack of Armavia's business interests in some routes and interests of other governments to open access for their carriers, Armenia may be able to strike Open Skies agreements with the United States, the United Arab Emirates, and Bahrain, for example. Since all three are potentially important markets, and since the latter two offers relatively close outlets to a wide range of markets, these agreements would be of significant economic importance to Armenia. The reason why the United Arab Emirates and Bahrain might be interested in Open Skies agreements is that both have carriers with well-connected hubs that offer high frequency connections throughout the Middle East and Asia. Such an agreement would also offer an extra air cargo link to European markets.

The reasons why the United States might accept the offer are twofold: one related to the Armenian diaspora and commercial relations in the United States and the other to the international aviation policy of the United States. The pressure from the diaspora might be reinforced by U.S. carriers interested in flights to Armenia. As for the U.S. aviation policy aspect, such an agreement would be natural, as this is U.S. policy. At present, the United States has Open Skies agreements with over 70 countries, including Uzbekistan and, recently, India. The U.S. type of Open Skies agreement typically includes the fifth freedom[38] code-share rights for U.S. carriers extended beyond hubs outside the United States. This would allow a U.S. carrier to add its code to any partner airline (e.g., an EU carrier flight into Yerevan).

To date, the EU has displayed little interest in entering into negotiations to achieve the major modifications that Open Skies agreements would entail with small countries with restrictive air service policies. Rather, it has been seeking to extend European Civil Aviation Area types of arrangements to other countries with open sky type policies (the United States, Singapore and New Zealand, for example). Within the parameters of this approach, The CIS might be a potential partner but not Armenia alone.

Under these circumstances, the Open Skies agreement with the EU is currently an unlikely option, and Armenia should, instead, announce its objective of removing restrictions on carriers and inbound flights, subject to receiving reciprocal rights. If Armenia considers that the protection this would accord Armavia would be insufficient (including taking account of the agreement with Armavia), then depending on the assessment of the agreement with Armavia,[39] the government could take a phased approach towards a fully liberal and unrestrictive policy. The steps could be as shown in Table 5.6.

[38] This would allow, for example, a U.S. airline to stop en route to Armenia or fly beyond Armenia providing services at each stage.

[39] Or its successor.

Table 5.6: Phased Civil Aviation Reform

Time Framework	Incumbent Carriers	New Entrant Carriers
April 1 2006 to April 1 2007	Up to 3 daily flights	Up to a daily freq.
From April 1 2007	Unrestricted	Unrestricted

Source: Staff own estimates.

The government could also implement a liberal approach to fifth freedom rights as well as explicitly announcing that it favors a multi-airline policy.

Armenia could gain considerably from Open Skies arrangements among CIS countries modeled on the EU European Civil Aviation Area model. But this would take time, as Armenia would have to develop the model and convince other CIS members, perhaps building a coalition with like-minded countries.

A likely increase in the number of flights connecting Yerevan with the Middle East, the United States and the EU would exert competitive pressure on airlines that service routes to Moscow and other destinations in Russia, particularly as the recent survey of passengers through Yerevan airport has shown that the great bulk of passengers flying to Moscow were actually en route to Europe and the United States.

SUMMARY AND KEY RECOMMENDATIONS OF THE CHAPTER

Armenia enjoys an admirably open trade and investment regime, but firms are insufficiently linked to the international production and distribution chains, and ICT firms have not been able to make good use of international opportunities. Major constraints lie in the lack of transparency and consistency in regulation and the poor customs administration. Customs rules can be reformed to make its administration more rules-based. Policy induced high costs in telecommunications and in air transport need to be fought, as current structures impose a high "tax" on competitiveness. It is suggested that the future liberal telecommunications regulatory regime be decided and announced now, and that rapid steps be taken to remove economic restrictions on civil aviation with the aim of developing an open skies policy in conjunction with the EU.

- *Customs and VAT*: A "white list" of firms subject to special treatment by Customs and VAT Administration based on quick customs clearance; using provisions of the WTO Agreement on Customs Valuation instead of using reference prices; an effective scheme that provides duty waivers and exemptions from other restrictions on imported inputs; and rebates of VAT as soon as exports are cleared by customs.
- Extending direct transfer input to all customs houses.
- Bringing customs-related documents in line with what is really required under a computerized system of the ASYCUDA type.
- Simplifying customs clearance procedures for exports with a strict time limit on releasing a shipment; if the time limit is exceeded, the shipment should be immediately released.

- Supporting participation in international R & D networks (e.g., EU 6th Framework Program).
- Signing the WTO Information Technology Agreement.
- Publishing a statement of government civil aviation policy for consultation.
- Introducing new and increased services in 2005/6.
- Passing a new telecommunications law and seeing that the responsibility for implementation, including that of the ArmenTel license, is passed to PSRC.
- Having a cellular competitor enter service.
- Seeing that a regulatory policy statement is prepared by PSRC in 2006 which, inter alia, would lay out an implementation plan for the entry of a third service provider by 2009.

CHAPTER 6.
KNOWLEDGE AND INNOVATION

The creation, dissemination and use of knowledge, together with the required strengthening of the competition and external integration policies, must lie at the heart of the effort to ramp up technology in production. For the efficient use of knowledge, the widely accepted conditions are the following:

- An economic and institutional regime that provides incentives for the efficient creation, dissemination, and use of existing knowledge.

- An educated and skilled population that can create and use knowledge.

- A system of research centers, universities, think tanks, consultants, firms and other organizations that can tap into the growing stock of global knowledge, and assimilate and adapt it to local needs.

- A dynamic information infrastructure that can facilitate the effective communication, dissemination, and processing of information.

Armenia is distinctive in having the following qualifications:

- **An intense flow** of energetic, motivated individuals who value knowledge and higher education. Armenia's private higher education (although of a predictably low quality) is one of the most vibrant sectors of the economy.

- **A large stock** of highly educated people, yet with largely obsolete specialized skills. In the former USSR Armenia specialized in R&D, and all the tribulations of the past 12 years notwithstanding, Armenia still boasts a critical mass of human capital that sustains a culture that values knowledge. However, this stock has been eroded recently owing to emigration, a low level of public spending on education and delayed reforms in university education.

- **A large and entrepreneurial diaspora** which is as generous in philanthropic contributions to Armenia as (with few exceptions) it is reticent in business initiatives.

- **Weak local entrepreneurship**. Although there are some first movers (e.g., in the software and jewelry sectors), they are nowhere close to the critical mass. Clusters and value chains are not developing. There are of course the usual reasons of a weak investment climate and geographical isolation, but these do not appear to be the main problem. Armenian entrepreneurs and policymakers alike do not appreciate (and hence do not seek to improve) the value of **intangibles** (brand names, business reputations, marketing and managerial skills, networks, etc.). This

is where a large stock of educated engineers and scientists, with their attendant focus on assets that one can touch, turns to a disadvantage.

- **Fragmentation of the policy debate**. Traditions of collective action and public-private partnerships are also weak.

The policy challenge lies in building on the strengths of the country and addressing the critical weaknesses so that growth at higher productivity levels can be ensured. Here the major burden falls on the mobilization and recombination of the existing human capital, triggered by an initially modest investment in intangibles, such as mechanisms of knowledge and skill transfer from the diaspora to Armenia. The major contribution that policy analysis can make is to provide a fresh perspective on problems: an invitation for policymakers to change the mindset and to identify pilot knowledge-intensive initiatives.

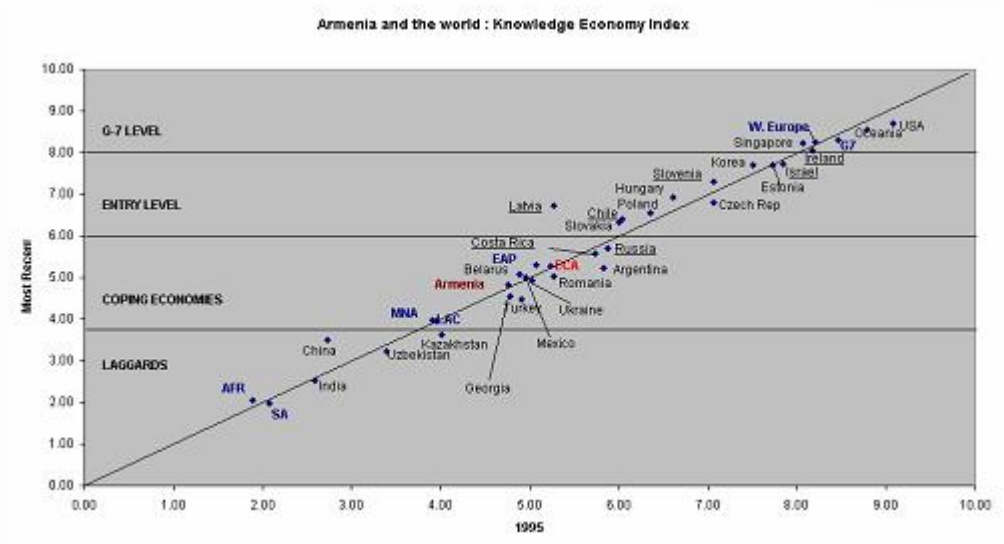
THE KNOWLEDGE ECONOMY IN THE INTERNATIONAL CONTEXT

The following figures provide illustrate a preliminary picture of Armenia's knowledge readiness from the mid-1990s to the early years of this decade. Figure 6.1 demonstrates the relative performance of countries and regions in the Knowledge Economy Index (KEI), a composite index which measures the preparedness of the country for a knowledge-based development framework. The KEI is calculated by computing the average of the performance scores of a country or region in all four pillars of the KE (see footnote below).

Overall, during the last five to seven years, Armenia improved rather marginally its performance in the KEI. In the knowledge map (Figure 6.1), as defined by countries' performance in the index, Armenia stands within the medium performers group, yet noticeably below the average of the ECA region. Armenia falls further behind OECD and EU members, while the performance gap between Armenia and its selected comparators is significant.[40] In particular the gap with respect to Israel and Ireland is significant. These indicators should signal the sense of urgency for Armenia which, despite its well-documented large potential and impressive economic growth trends, does not seem to be maximizing the benefits from its competencies. Armenia is also falling behind other former socialist economies which have managed to compete better in a rapidly changing knowledge-based environment.

[40] In figures like the one presented in Figure 6.1 the reader should note that: On the horizontal axis the 1995 KEI scores are plotted. On the vertical axis the KEI scores for the most recent year are plotted. The more advanced KE performers plot in the northeast quadrant of the graph, while the weaker ones plot in the southwest quadrant of the graph. Not only the position along the 45-degree line, but whether a country plots above or below the line is significant. The countries or regions that are plotted below the line indicate a regression in their performance relative to where they were in 1995. The countries or regions that are marked above the line signify an improvement in their position in the latest period compared to their position in 1995. Those countries that are plotted on the line have maintained their relative position over the two periods. Each country's performance as depicted in the figure is relative to the performance of the total country sample included in the KAM (121 countries).

Figure 6.1: Armenia and the World: Knowledge Economy Index



Note: The comparators for Armenia are underlined.

Source: Knowledge Assessment Methodology (KAM), Knowledge for Development Program, World Bank Institute (WBI), World Bank (www.worldbank.org/kam).

Countries can be divided into four broad classes:

- Very low endowments—laggards.
- Relatively low endowments—coping economies.
- ”Accession club”—entry-level to knowledge economy—which is characteristic of upper middle-income economies that are starting to compete on knowledge and innovation, not on low labor costs alone. These are more advanced ECA countries and Asian countries.
- G-7 levels of knowledge endowments.

While the criteria distinguishing one class from another are necessarily arbitrary, the messages for Armenia are quite clear:

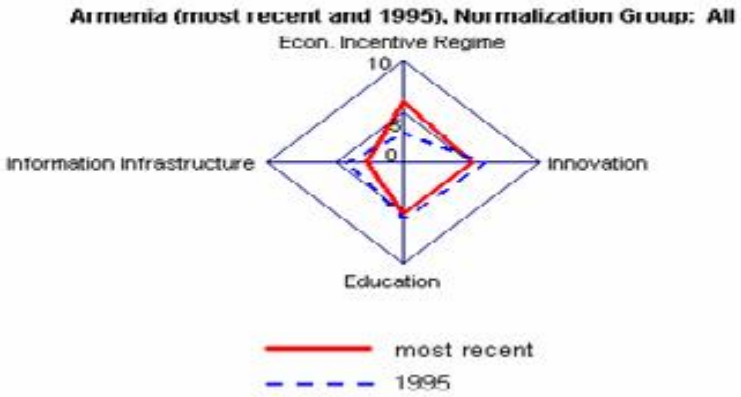
- On the overall knowledge economy score, Armenia is among the coping economies: within the same league as Russia, Ukraine and Costa Rica and within a healthy distance from both laggards and entry level economies.

- Yet Armenia’s performance across the four pillars is unusually unbalanced. On economic and institutional regime Armenia performs very well, on a par with recent EU entrants. In contrast, the ICT pillar is shockingly underdeveloped. Not only is Armenia squarely among laggards (the worst category, occupied by Sub-Saharan Africa, Albania and the Central Asian republics of the FSU); its relative position has actually worsened quite significantly since 1995. This is all the more worrisome given its geographical isolation. Because of its landlocked status and unfriendly neighbors it should have at least accession club ranking on ICT.

- On education, Armenia still performs reasonably although lagging behind many Eastern European economies. However, relatively good human capital is a heritage of Soviet times and that is not translated into adequate innovation performance. The innovation pillar remains weak.

Examining performance in the four KE pillars (Economic Incentive Regime, Education, Innovation and Information Communication Technologies [ICTs]) that define the aggregate KEI (Figure 6.2), Armenia performs poorly in the pillar of ICT, an area in which it lost significant ground relative to the world. In absolute terms Armenia did improve its ICT indicators (explicitly shown in Figure 6.2) but the world on average (defined by the 121 countries in the KAM sample) made a significantly larger improvement. Armenia's strongest pillar is its Economic and Institutional Regime (EIR), which was the weakest in the mid-1990s, an area in which the country demonstrated significant improvements and in which it has remained particularly competitive in the ECA region. In the Education pillar, a traditionally strong area for the country, Armenia lost some ground, while in the Innovation pillar the country regressed even more.

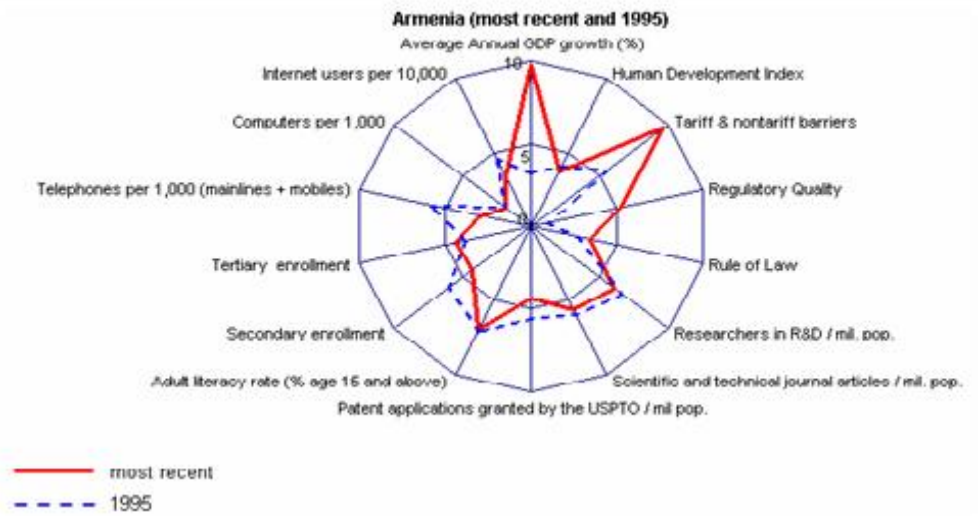
Figure 6.2: Armenia: Performance in the Four Knowledge Economy Pillars, 1995-Most Recent



Source: Knowledge Assessment Methodology (KAM), Knowledge for Development Program, World Bank Institute (WBI), World Bank (www.worldbank.org/kam).

Figure 6.3 illustrates how Armenia performed, throughout time, in each of the twelve variables that describe the four KE pillars, and therefore the aggregate KEI, plus two performance variables (GDP growth and Human Development Index – HDI).

Figure 6.3: Armenia Knowledge Economy Index Scorecard



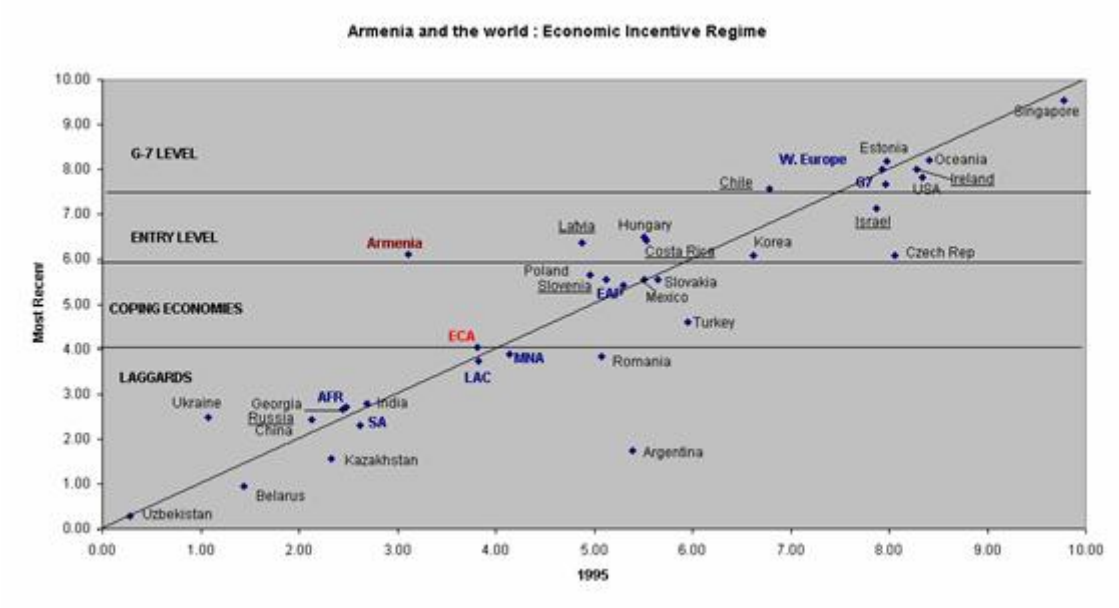
Source: Knowledge Assessment Methodology (KAM), Knowledge for Development Program, World Bank Institute (WBI), World Bank (http://www.worldbank.org/kam).

In the pillar on **Economic Incentive Regime (EIR)** the country demonstrated the largest improvement in the ECA region, currently performing well above the regional average, behind Latvia and Hungary (Figure 6.4). Armenia significantly improved its terms of trade by reducing tariff and non-tariff barriers[41] and also managed to significantly improve, relative to the world, its regulatory quality indicators by implementing market and business friendly policies. Rule of Law indicators did not improve significantly and they are below the regional average levels, but still the country showed better improvement than the average of the KAM country sample, and therefore it demonstrates an improvement relative to the world. Armenia is lagging behind all of its selected comparators in this pillar, with the exception of Russia, which is moving particularly slowly towards a modernized institutional phase.

Figures 6.4 and 6.5 show several additional KAM indicators that describe performance in the pillar of Economic Incentive Regime. The scorecard indicates that Armenia is characterized by low levels of gross domestic investment, the lowest among its comparators. On average for the years 1995-2002, Armenia spent around 19 percent of GDP in domestic investments – the least share with Costa Rica—while the closest was Russia 20 percent, and Latvia and Slovenia topped the list with 25 percent. Armenia on average for the same time period (1995-2002) spent a significantly smaller amount in domestic investments than was spent, on average by the groups of low income and low and middle income countries.

[41] This reflects 2003 data from the Heritage Foundation. Nevertheless, the Heritage Foundation states for the newly issued 2004 Index of Economic Freedom: "In 2001, according to the World Bank, Armenia's weighted average tariff rate was 2.5 percent, up from the 1.9 percent reported in the 2003 Index of Economic Freedom by the Heritage Foundation." The U.S. Department of State reports that most imports are free of prohibitions, quotas, or licensing, but businesses complain about "cumbersome procedures [and] bribes solicited by customs officials." Based on new evidence of customs corruption, Armenia's trade policy score is 1 point worse in this year (2004).

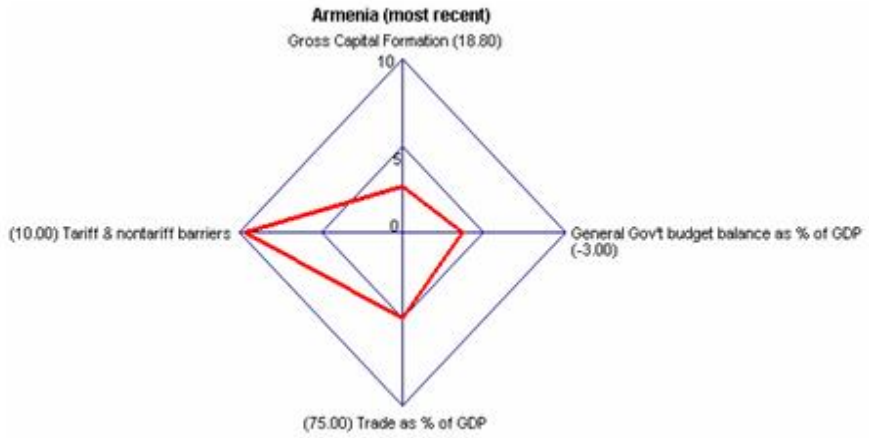
Figure 6.4: Economic Incentive Regime: Armenia and the World



Note: Armenia is an open economy with total trade representing currently 75 percent of GDP, which is still below the average of the ECA region. Armenia's exports of goods and services as a share of GDP – a solid indication of international competitiveness – is significantly lower than all comparator countries and the same income group average. In Armenia in 2002, despite the fact that exports of goods and services had significantly increased since 1995 and accounted for almost 30 percent of GDP, imports accounted for 47 percent of GDP, causing Armenia to carry over a significant trade deficit, much larger than any of its comparator countries.

Source : Knowledge Assessment Methodology (KAM), (http://www.worldbank.org/kam)

Figure 6.5: Armenia's Scorecard in the Economic Incentive Regime



Note: Data for gross capital formation shown in the figure is the average of the period 1991-2001.
***Source*:** KAM **(**www.worldbank.org/kam**).**

On governance and institutional quality variables, Armenia performs significantly worse (with the exception of Russia in rule of law, and Israel in voice and accountability indicators) than all other comparators and the average of the region. In particular, despite a national campaign against corruption, the high incidence of corruption continues to affect business and the attraction of foreign investment. The Heritage Foundation[42] states in its analysis that "bribery is widespread and is the most common form of corruption, especially in the areas of government procurement, all types of transfers and approvals, and such business-related services as company registration, licensing, and land or space allocation." The Bleyzer Foundation[43] in a benchmarking analysis of 15 FSU countries on FDI driving conditions, notes that Armenia is ranked thirteenth in the corruption level index, while in the overall composite index it is ranked sixth, behind Estonia, Latvia, Lithuania, Kazakhstan and Russia.

Furthermore, the size of the shadow economy in Armenia, which is equal to 45 percent of GDP, is significantly larger than that in some of its comparator economies and the average for the region (Table 6.1). This reveals the poor institutional capacity and high incidence of corruption in Armenia, combined with the increasing tax burden and social security payments. The size of the shadow economy in Armenia is a prohibitive factor in fiscal revenue generation, which could create a vicious cycle with tax base erosion, resulting in higher taxes, the worsening of fiscal constraints[44] and ambiguous effects on private sector development and the quality of products and services. Unless urgent and radical reforms transform the effectiveness of the governance and institutional capacity of the country, Armenia will be facing competitiveness challenges which will be hard to meet.

Table 6.1: The Size of the Shadow Economy (as percent of GDP)

	1990-1993	2000-2001
Armenia	40.1	45.3
Slovenia	22.9	26.7
Estonia	34.3	39.1
Russia	27.8	45.1
Ireland	15.4*	15.7**
Average FSU	32.9	44.8
Average Central & Eastern Europe	23.4	29.2
Average of 21 OECD countries	15.7*	16.7**

*1994-5 - ** 2001/2002.

Source: Schneider, F. 2002. "The Size and Development of the Shadow Economies of 22 Transition and 21 OECD Countries." Discussion Paper No. 514, University of Linz and IZA Bonn. (June).

In **Education,** a pillar in which Armenia has a strong tradition, the country lost some ground relative to the world and remains weak relative to the regional ECA average (Figure 6.6). Enrollment in secondary education has fallen significantly in the post-transition period and

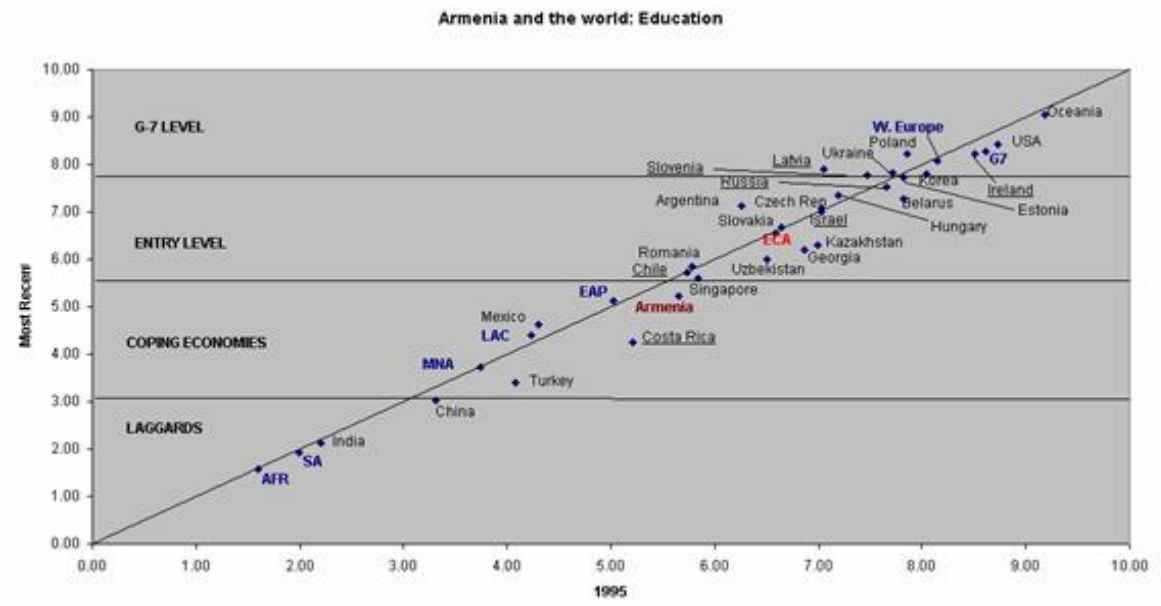
[42] 2004 Index of Economic Freedom, The Heritage Foundation (http://www.heritage.org).

[43] The Bleyzer Initiative: Completing the Economic Transition in FSU countries (2002), Sigma Bleyzer and the Bleyzer Foundation. In this analysis 15 FSU countries are ranked in the following FDI driving elements: liberalization and deregulation of business activities, stability and predictability of the legal environment, corporate and public governance, liberalization of foreign trade and international capital movements, financial sector development, corruption level, political risk, country promotion and image and targeted investment initiatives.

[44] The Economist Intelligence Unit, Armenia Country Profile 2003.

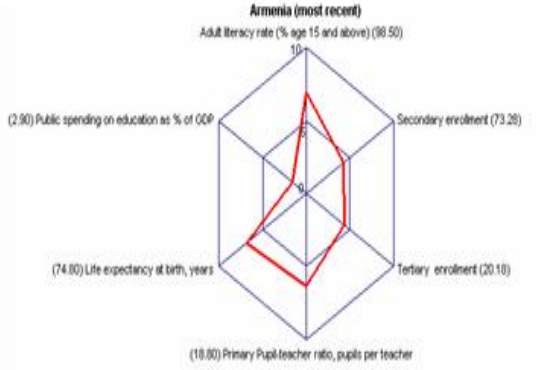
remains well below the (ECA) regional average. On the contrary, enrollments in tertiary education improved significantly but still remain at very low levels by regional standards.[45] The vast majority of ECA economies, and all selected comparators (with the exception of Costa Rica), outperform Armenia in the KAM variables used to define aggregate performance in the Education pillar.

Figure 6.6: Education: Armenia and the World



Source: Knowledge Assessment Methodology (KAM), (http://www.worldbank.org/kam).

Figure 6.7: Armenia's Scorecard on Education



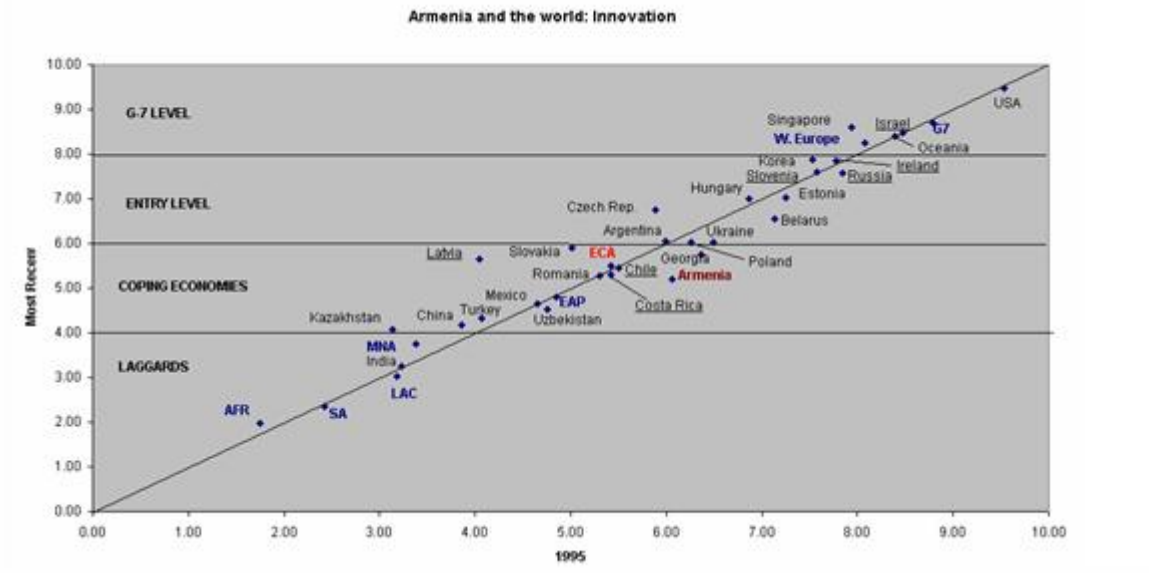
Source **KAM (www.worldank.org/kam).**

Figure 6.7 isolates Armenia and presents the available set of variables used in the KAM to define performance in the Education pillar. It is striking to realize, relative to the large availability and potential of educated human capital in the country, how little Armenia spends on education—less than 3 percent of GDP (2000 data). The significant gap in education spending between the ECA regional average (4.6 percent of GDP) and Armenia is particularly alarming.

[45] Based on SIMA data for the year 2000, Armenia is performing better in tertiary enrollment rates than are Albania, Tajikistan and Turkey.

Based on the KAM variables that define the **Innovation** pillar, which in the mid-1990s was the strongest pillar of the country, Armenia lost significant ground relative to the world, and its performance currently falls below the ECA regional average (Figure 6.8). Considering the large Diaspora, it is evident that Armenia lost a significant part of its stock of researchers (brain-drain), while at the same time the amount of scientific and technical publications has been reducing over the years. Patent activity is minimal and has remained rather stagnant throughout the years. Although close behind Costa Rica and Chile, Armenia lags behind all selected comparators.

Figure 6.8: Innovation: Armenia and the World

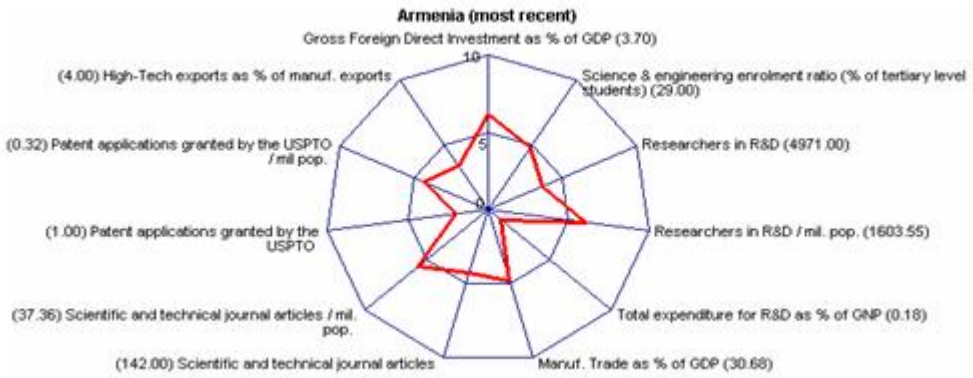


Source: Knowledge Assessment Methodology (KAM), (http://www.worldbank.org/kam).

In Figure 6.9, basic KAM indicators using the most recent available data are presented describing the performance of Armenia in the Innovation pillar. One of the weakest indicators for Armenia is spending on R&D (0.2 percent of GDP) while the average for the lower middle income group is close to 0.9 percent (Figure 6.9).

In the Information and Communication Technologies (ICT) pillar, in the variables that describe the availability and penetration ratios of these technologies, Armenia scores dramatically below the world and the ECA regional average, indicating the country's weakness in keeping up with regional and global technology penetration and usage trends (Figure 6.10). ICT is the country's weakest pillar. In absolute terms, however, some improvements in Internet usage and computer penetration ratios were achieved, but the volume of these improvements was much less significant than those occurring globally. In Armenia the current levels of Internet users per 10,000 people and computers available per 1,000 people are among the lowest in the region and globally. The availability of telephones and mobile phones per 1,000 people is also very limited—an additional element indicating the profound weaknesses and state of emergency in the telecommunications infrastructure of the country. The gap in performance between Armenia and its selected comparators is tremendous and is apparently widening.

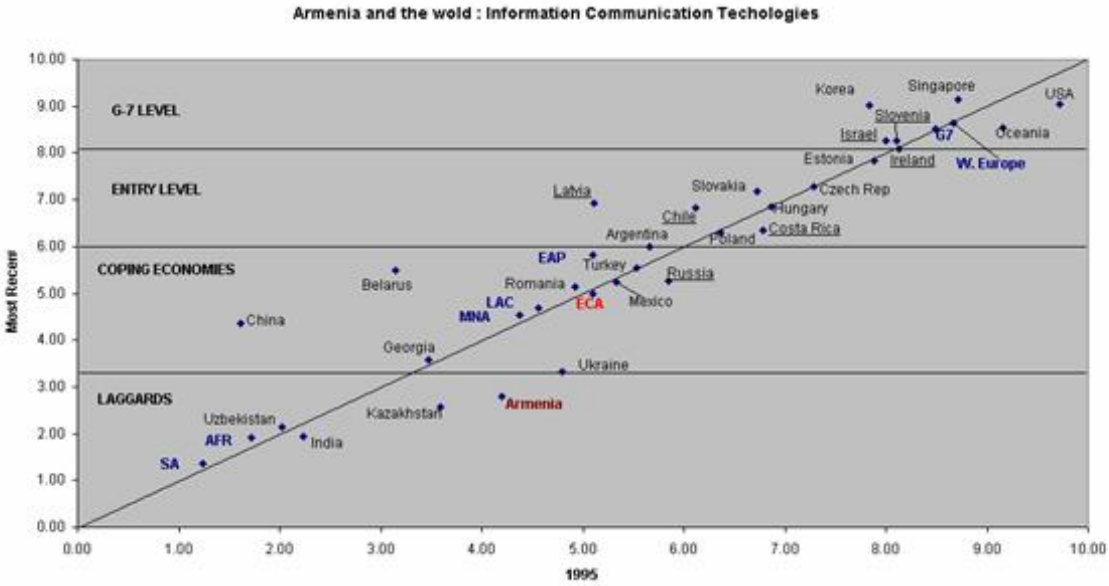
Figure 6.9: Armenia's Scorecard in Innovation



Source: KAM (www.worldbank.org/kam).

One can describe the current growth conundrum as Armenia's growth paradox: a high potential of knowledge utilization which shows tantalizing promise (e.g., in software and certain enterprises of heavy industry) yet remains largely untapped.

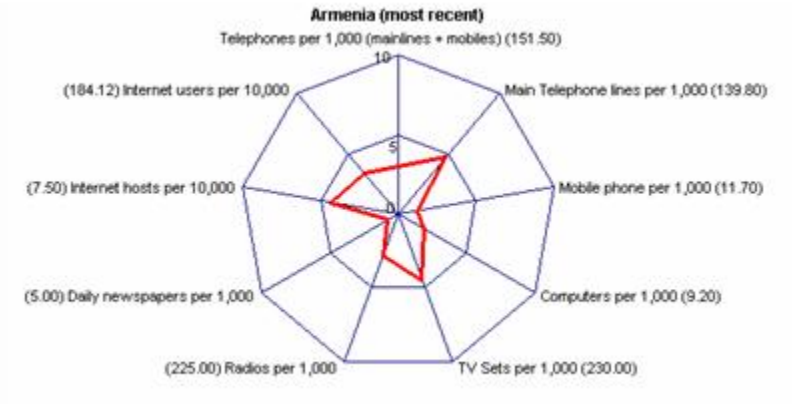
Figure 6.10: ICT: Armenia and the World



Source: Knowledge Assessment Methodology (KAM), (www.worldbank.org/kam).

Figure 6.11 shows Armenia's performance relative to the world in ICT variables.

Figure 6.11: Armenia's Scorecard in ICT Variables



Source: Knowledge Assessment Methodology (KAM) (http://www.worldbank.org/kam).

POLICIES TO STRENGTHEN KNOWLEDGE-BASED COMPETITIVENESS

A pragmatic agenda for change will entail focusing on bottom-up entry points (immediate policy agenda), then scaling them up to assure coordination and concerted action (medium-term policy agenda) and then moving to major reforms (longer-run policy agenda).

Finland, Ireland, and Korea are the best-known, best-practice exemplars of concerted action – countries that have engineered successful transitions to knowledge-based economies. In all of these cases, national economic crises compelled diverse actors to define and implement a new agenda through explicit or implicit national agreements on goals and mechanisms to move forward. The crises also prompted policymakers and private sector leaders to lengthen the time horizon of the policies adopted. Thus, Nokia – Finland's first mover toward an innovation-based economy – dramatically increased R&D investments. Finland responded by increasing public R&D and transforming the innovation system to fit business needs. Members of Parliament took courses and went on study tours demonstrating the need for the new agenda. National public innovation organizations played a crucial role, by transforming technology into businesses and assuring a critical mass of demonstration cases.

Ireland also exemplifies a successful combination of top-down and bottom-up policies. It made an investment in education and R&D infrastructure in the 1980s, followed by drastic policy changes beginning in 1987. To complement its top-down policies, Ireland instituted pragmatic bottom-up programs – regional partnerships to mitigate high unemployment and a program to expand national-supplier linkages from FDI. South Korea's powerful and shared national vision—from which impetus a private sector champion emerged—was followed by effective government coordination (see Box 6.1).

Box 6.1: Korea's Transition to a Knowledge Economy: Bottom-up Initiative Leads to Government Action

In 1998, the Republic of Korea officially launched a national strategy to move to a knowledge-based economy in the wake of a financial crisis. The initial impetus came from the private sector—the Maeil Business Newspaper—which concluded in 1996, even before the crisis, that there was an urgent need for a more coherent vision of the future of the Korean economy. This newspaper launched the "Vision Korea Project" as a national campaign in February of 1997, and developed the first *Vision Korea Report.*

Eventually, the government—the Ministry of Finance and Economy—became the main champion of the knowledge economy policy agenda. The Korean Development Institute was a so-called system integrator and coordinated the work of a dozen think tanks. A joint World Bank and OECD report provided a framework, outlining concrete steps for reforms in the various policy domains.

Progress was monitored closely. This was a crucial step in identifying and addressing any inertia or resistance, as for example, with education. Korea's knowledge strategy of April 2000 evolved into a three-year action plan for five main areas: information infrastructure, human resources, knowledge-based industry, science and technology, and the elimination of the digital divide. To implement the action plan, Korea established five working groups involving 19 ministries and 17 research institutes, with the Ministry of Finance and Economy coordinating the implementation. Every quarter, each ministry submits a self-monitoring report to the Ministry of Finance and Economy, which puts out an integrated report detailing progress. The mid-term results and adjustments to the plan are sent to the executive director of the National Economic Advisory Council, which reports on the progress of the implementation and gives an appraisal of the three-year action plan to its advisory members.

Source: Author's own elaboration.

Three lessons from the above are relevant for Armenia. First, simple institutional recipes do not exist for concerted action. Armenia will need to devise its own recipe for a knowledge economy. Given its great regional diversity, Armenia's regional and state-level policy initiatives would be a key entry point for a knowledge-based economy. Armenia has already advanced somewhat in that direction.

Second, the experiences of Korea and Finland indicate that even when major crises call for urgent economic transitions, countries must "prepare the bases." This essential preparatory stage is seen in the initial *Vision Korea Report.* It is seen in Finland's major effort to facilitate and accelerate business R&D.

Third, although major reform efforts from the top are vital, they may not provide the all-important impetus for transformation. Concerted effort must evolve. Bottom-up experiments in Armenia, some of which are already under way, must mature. These transitional stages then proceed to *concerted efforts* (the Korean knowledge strategy is one example).

Drawing on a diversity of best practices, we suggest that Armenia constructs and implements a strategy to move towards knowledge-based competitiveness in three stages:

- ***Immediate agenda (2005-06):*** massive awareness-building and initiation of pilot/ demonstration projects.

- ***Medium-term agenda (2006 – 2008):*** creation of a springboard for major reforms by assuring major improvements in the investment climate, strengthening

stakeholders for reforms and proceeding with a private sector-led shared vision process Armenia 2025.

- ***Longer-run agenda (2008 onwards):*** major reforms that would transform and create 2 world-class innovation capacity, education system and ICT infrastructure (Table 6.2).

Table 6.2 outlines a medium-term agenda (establishing a "springboard for knowledge economy") and a longer-term agenda (major reforms: creating a world-class knowledge economy infrastructure). We view the last decade, from 1995 to 2003, as a stage of building foundations. Armenia's accession to the WTO in 2003 was an important event signaling that Armenia had a certain macroeconomic and socioeconomic stability and had created the basic institutional foundations for a market economy. We argue that the time has come for a new stage of policy: assuring a critical mass of stakeholders for reforms. That, in turn, would imply a two-pronged strategy:

- A top- down approach: a dramatic reduction of the administrative barriers to growth and a dramatic improvement in the investment climate.
- A bottom-up approach: the facilitation of private sector-driven "centers of excellence" in innovation, enterprise upgrading, education and ICT.

This policy stage should be characterized by more strategic and proactive government policies to improve innovation, the education systems and the ICT infrastructure. By proactive, we do not mean a sectoral industrial policy of "picking winners." Rather, the focus should be on functional interventions which are open to all eligible stakeholders and which are designed to accelerate existing policy trends, rather than creating policies from scratch. Examples of policy initiatives in this vein include competitive grant schemes to enhance business innovation (more on this is given below) and the creation of an innovation council to assure linkages among higher education, R&D organizations and the enterprise sector. Benchmarks and signaling events of the completion of this stage of reform could be as diverse as the following:

- A multinational establishes knowledge-intensive operations in Armenia.
- The ArmenTel monopoly is eliminated.
- Some skilled emigrants come back to Armenia and become successful entrepreneurs.
- This is a rising share of business R&D in the overall R&D budget and of merchandise exports in overall exports.

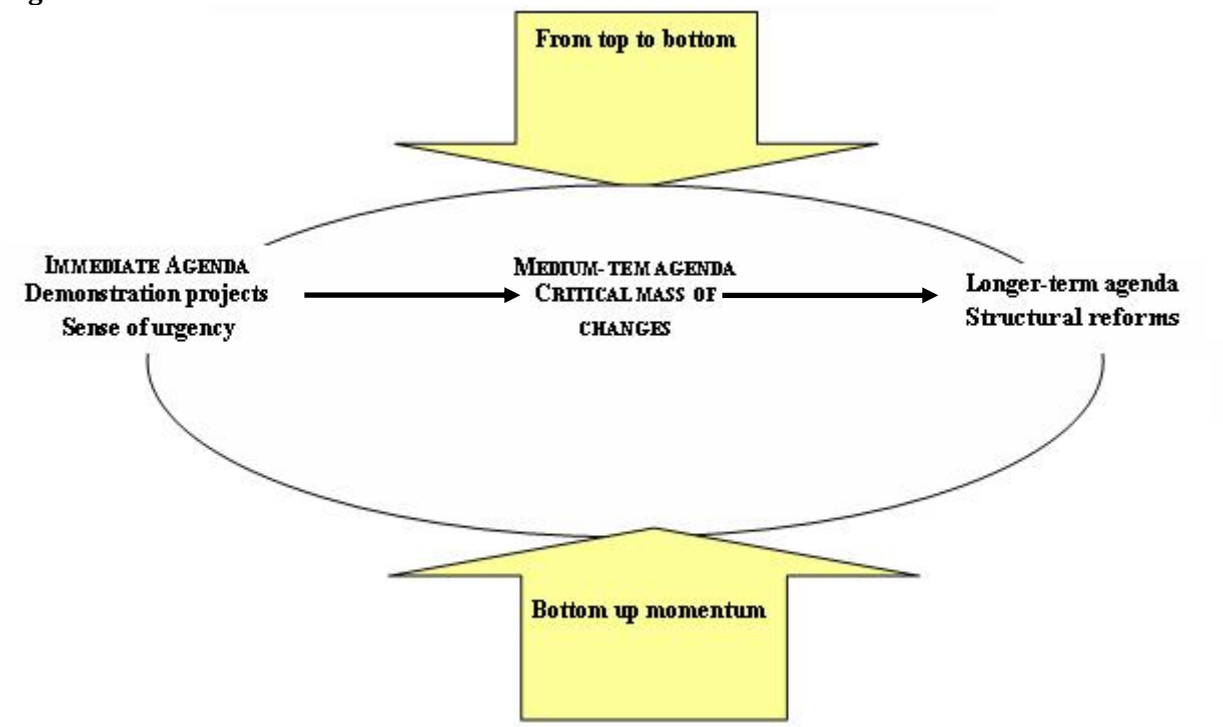
Table 6.2: Sequencing of the Armenia Knowledge Economy Policy Agenda

Stages of Economic Reform and Growth	Major Constraints	Drivers of Growth	Thrust of Government Policy	Examples of Policy Initiatives	Benchmarks
Building foundations 1995 – 2003	Sustainability of macroeconomic stability and market reforms	Remittances and other transfers from abroad Infrastructure and services	**Assuring macro and social stability** Some initiatives to improve innovation climate	Infrastructure projects Creation of business council	Signaling event: Accession to WTO (2003) Other indicators: Investment share in GDP, private investment in GDP (reasonably high) Level of knowledge-based exports (very low) Business share in innovation (practically nil)
Establishing a springboard for knowledge economy, 2005—2008	Dearth of role models and stakeholders for reforms (self-made start-up and spin-off entrepreneurs)	Increasing share of merchandise exports; growing role of services	**Assuring a critical mass of stakeholders for reforms** through a two pronged strategy: Top- down: dramatic reduction of administrative barriers to growth Bottom-up: facilitation of private sector-driven "centers of excellence"	Examples of policy initiatives Competitive grant schemes to enhance business innovation Creation of innovation council	Signaling event: • A multinational establishes knowledge-intensive operations in Armenia • Elimination of ArmenTel monopoly • Some skilled emigrants come back and become successful entrepreneurs • Rising share of business R&D and merchandise exports
Major reforms: creating world-class knowledge economy infrastructure, 2008 – 2015	Human capital constraint: inadequate stock and flow of technical skills Inadequate ICT infrastructure	Skill intensive exports Robust internal demand	Major overhaul of education, information infrastructure and innovation systems	Wide-scale introduction of income-contingent scheme to finance private higher education	Significant return migration of highly skilled Robust knowledge-intensive clusters are established

Source: Elaboration by the author.

The achievement of these benchmarks would signal the formation of a critical mass of stakeholders for reform which would allow Armenia to engage in major and quite painful reforms, in innovation, in the enterprise upgrading system and in ICT infrastructure. We will not discuss in detail the long-run agenda for change. What follows focuses on the "what" and "how" of the medium-term agenda (establishing a springboard for a knowledge economy).

Figure 6.12: Virtuous Circle of Growth and Reforms



Source: World Bank staff.

To summarize, the sequencing of the transition to a knowledge-based economy in Armenia can be conceptualized as focusing on bottom-up entry points (the immediate policy agenda), then scaling them up to ensure coordination and concerted action (the medium-term policy agenda), and then moving to major reforms (the longer-run policy agenda). The art and craft of policymaking is about sequencing the various horizons of a policy agenda in a virtuous circle of growth and reforms. A pragmatic agenda to get around the many institutional rigidities that Armenia faces is: (i) to create the momentum for change by fostering stakeholder awareness, in order (ii) to attain consensus on tackling some of the key obstacles at the national level (to enhance the demand for an institutional change); and then (iii) to move ahead with concrete, manageable bottom-up approaches that can serve as demonstration projects to move the larger agenda (Figure 6.12).

MEDIUM-TERM AGENDA: ALLEVIATION OF CRITICAL CONSTRAINTS

The arguments about the sequencing of reforms discussed in the previous section have been confirmed by experienced policy observers. For example, Dani Rodrik's paper (2004) argues that the key to growth is not getting all or most institutions right at once, but rather overcoming the chief bottleneck to raising growth by, say, 2 percentage points a year, and using the proceeds of this improvement to overcome the next bottleneck—and so on. There is a kind of 'bootstrapping reform' strategy which provides useful insight into the "how to" of reforms.

As is evident from the analysis in Chapter 1, two major immediate constraints from the perspective of knowledge-based competitiveness are the following:

- An extremely weak and fragmented innovation system: lack of linkages among the productive sector, the universities and the research institutes.
- The low quality and high prices of IT infrastructure.

From a longer-term perspective, human capital (particularly technical and managerial skills) is a major constraint.

Table 6.3 summarizes the critical constraints from the perspective of the knowledge economy, and also the relevant medium-term policy agenda (to be discussed below) for alleviating the constraints.

Table 6.3: Specific Policy Initiatives as Entry Points to Address Systemic Constraints

	Main objectives	Specific initiatives	Relevant best practices (discussed in Chapter 3)
Innovation system	Enhance linkages among productive sector, universities and science organizations	Competitive grant scheme to promote business R&D and training Seed support to venture capital fund	UK Teaching Company Scheme
Education system	Reform curriculum of basic, secondary and higher education	Technology/ design facility on the basis of major university Distant education project collaboration with Diaspora Establish National Innovation Council to bring together education, R&D organizations and industry	Competence center models (in design stage in Estonia)
ICT infrastructure	Improve quality of ICT services and reduce their costs	Institutional strengthening of public utility regulator	Liberalization policies in ICT infrastructure in some Central European countries

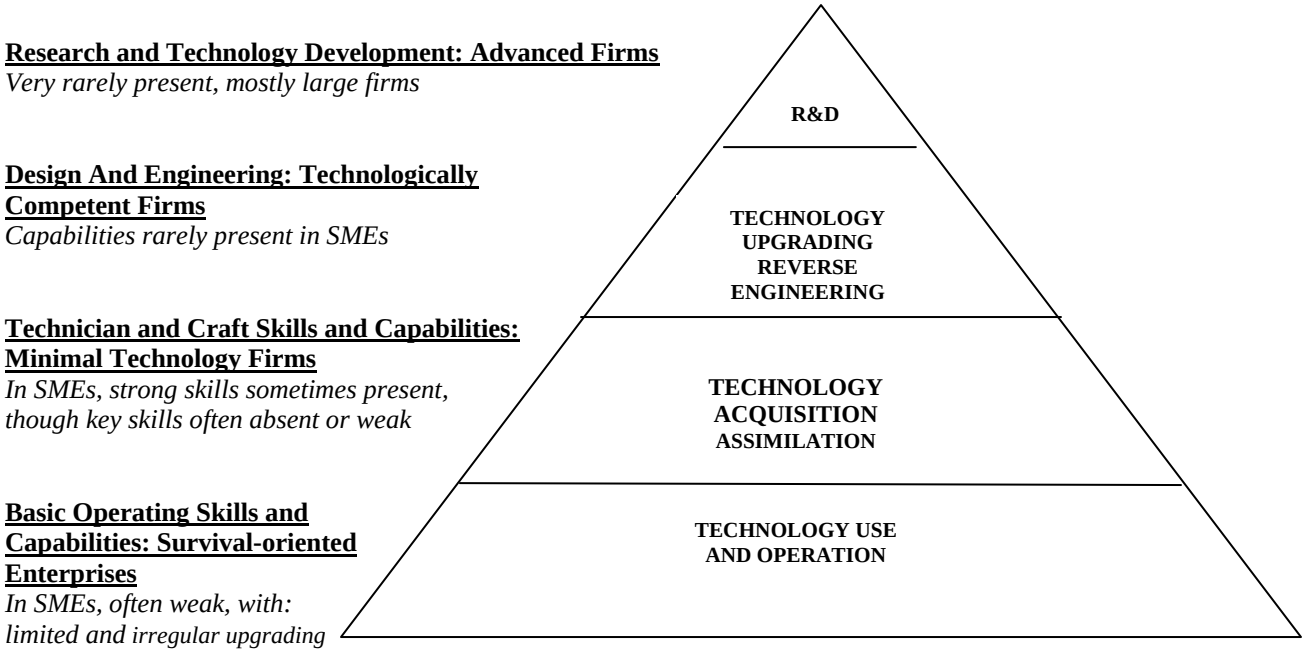
Source: Elaboration by the author.

INNOVATION SYSTEM: MAKING INNOVATION RELEVANT FOR BUSINESS

An innovation system consists of a network of organizations, rules, and procedures that affect how a country acquires, creates, disseminates, and uses knowledge. Key organizations for the creation of knowledge include universities, public and private research centers, and policy think tanks. Private firms are at the center of the innovation system. If the private sector has little demand for knowledge, the innovation system cannot be effective. Effective R&D-industry linkages are vital to transform knowledge into wealth. Therefore, networking and interactions among the different organizations, firms, and individuals are critically important. The intensity of these networks, as well as the incentives for acquiring, creating, and sharing knowledge, are influenced by the economic incentive regime in general.

The innovation system framework, as it has been applied to a variety of studies of OECD countries, relies excessively on innovation in the sense of the development of radical or incrementally new knowledge. Traditional measurements for an innovation system include indicators of expenditure on R&D, activity in high-technology sectors (biotechnology, ICT), patenting activity (number, intensity), and researchers per 10,000 population. These indicators proxy the ability to generate new knowledge. However, they are not particularly helpful in understanding how a traditional, low-tech manufacturing firm can learn to upgrade its capabilities to compete in a more knowledge-based economy. Rather, these indicators are very often just the tip of the iceberg (see Figure 6.13), which conceals a layer of firms, mostly SMEs, for which the major issue is the acquisition of basic skills in marketing, design, engineering, and other operational areas rather than technology upgrading and R&D.

Figure 6.13: The Pyramid of Learning Capabilities of Firms



Source: Adapted from P. Intarakumnerd et al./ Research Policy 31 (2002) 1445-1457.

Because of this, the traditional innovation system approach might be applicable to a very limited subset of the economy, such as firms in the export-oriented sectors. It might also be useful for setting long-term goals and objectives, in terms of creating the elements missing in the traditional approach. Table 6.4 flags a range of policy interventions – which should be considered as a menu of options, not all of them immediately relevant for Armenia.

Table 6.4: Matching Policies to Capabilities: A Range of Instruments to Support Innovation

	Policy objectives	Instruments and interventions
Survival-oriented enterprises: Competitiveness basics agenda	To build basic competitive capabilities by fostering awareness of scope and benefits of innovation	• Business advisory and support services – SME and micro-enterprise support agencies • Facilitation of access to finance (including micro-finance) • Management and skills development
Minimum technology firms: entry level innovation agenda	To foster competitiveness by introducing basic innovation skills and encouraging adoption and application of new ideas	• Support for business development, diversifying customer base • Product diversification and quality improvement • Management and skills development • Internet-based information services • Technology awareness and marketing • Support for technology adoption and adaptation projects • Cluster-based approaches to stimulating innovation
Technologically competent enterprises: mainstream innovation agenda	To support market development and entry into global value chains by fostering strategic alliances and certain in-house innovation capabilities	• Business development, exports market support • Internet-based information services • Technology transfer support • Incubators and technology parks • Linkages with academic researchers • Laboratory services and metrology services • Consultancy and technical assistance support – e.g., on commercialization, IPR, licensing, patenting • Supplier development and linkage promotion programs
Advanced enterprises: innovation leaders agenda	To facilitate moving up global value chains by upgrading in- house innovation capabilities and strategic alliances	• Support for participation in international R & D networks (e.g., EU 6th Framework Program) • Technology and other innovation-based spin-offs • University-industry collaboration • Support for commercialization • Development of vibrant venture capital industry
	Diffuse experience of innovation leaders as role models for the rest of the economy	• To encourage participation of national innovation leaders in national advisory bodies, technology foresight and cluster processes

Source: Elaboration by the Author.

Armenian policy has a narrow view of technological development, which is equated with R&D. The underlying model of technology development describes firms only as the demand side, relative to the supply side that is provided in R&D institutes and universities. Policy considers that the key to reducing the technology gap is not in the technology activities of enterprises themselves but through the expansion of intermediary institutions such as technology centers and S&T parks. The problem of technology development is reduced to the issue of the commercialization of R&D results.

Treating industry only as **demand side** is quite misleading because industrial firms not only generate the demand for industrial technology but they account for a very large part of the **supply side** as well. In fact, most of the technologies "generating" capabilities are located in the industry (i.e., in firms themselves, not in extra-mural organizations, whether S&T parks or R&D institutes). Business enterprises fund between 50 and 60 percent of the General Expenditures on Research and Development (GERD) in North America, the EU and the Nordic countries, and they perform between 60 and 70 percent of the GERD. Thus, the issue for Armenia is how to increase R&D **in** the business sector, **not outside** of it. In addition, using only R&D can be misleading as a large contribution to technology development is made by types of technical change that do not involve formally organized R&D at all.

Innovation surveys from the EU and Central European economies show that the key source of important information for innovation comes from enterprises themselves or from partners in value chains (suppliers, buyers). Infrastructure institutions are actually marginal as a direct source of information for innovation. The importance of non-R&D technology development suggests that it is inappropriate to narrow down innovation policy to just R&D policy and to bridging institutions. In fact, infrastructure institutions are much more important as sources of knowledge and skills carried by people who move among universities, R&D institutes and firms, or between firms. Information services, training, and standard services as well as problem solving and R&D in all forms of people-centered types of output are the key function of extramural technology institutes. One of the most important roles played by R&D in public technology institutes is to contribute flows of people into the technological activities of industry.

In Armenia, as in many Eastern European and CIS countries, there seems to be a dearth of measures that seek to stimulate firms to **undertake their own technology development**. Policy is focused much more on measures which support institutions in undertaking S&T activities **on behalf of industrial firms**. Within the innovation policy, there are no policy measures that support and facilitate actions **by firms themselves**.

In a nutshell, Armenia should avoid an exclusive focus on supporting technology institutions in a supply-driven approach, with support to extramural institutions rather than to firms. The balance between those aspects concerned directly with strengthening the technology development capabilities and activities of firms, and those concerned with building and strengthening various kinds of technology development and transfer institutions should be corrected. Currently, there is not a system which would support firms to move upwards in technological activities from technology use and maintenance to technology development and creation.

Mechanisms to support technology transfer institutions (S&T parks) are an important component of the policy system. However, a major emphasis in policy development should be on mechanisms that **assist and empower firms to make their own investments into technology absorption and development**. Within that **firm-centered approach** to policy, increasing emphasis has to be given to stimulating and facilitating various forms of **collective activity involving groups of firms**. These groups may be established industry associations or less formally structured groups organized around value chains, or clusters of firms in related industries.

Among instruments for innovation policy in Armenia, **grant-based mechanisms** are notably absent. These mechanisms commonly provide grants to firms which undertake particular kinds of technological activity (e.g., R&D, design, technological or managerial training, engagement of consultants, employment of qualified scientists and engineers, and many others). In most cases, the grants cover a defined proportion of the costs of the specific activity.

ICT INFRASTRUCTURE: ASSURING ENTRY OF NEW SERVICE PROVIDERS[46]

The beginning of this chapter documents a very low level of development for ICT infrastructure. Figure 6.1 shows that Armenia performs just below the average for economies of the former USSR, which is hardly satisfactory given Armenia's peculiar geographical position and aspirations to develop a competitive ICT cluster. This is mainly attributable to one single problem: the ArmenTel monopoly. As this question has been addressed in earlier chapters, this is not discussed further here.

FORMATION OF HUMAN CAPITAL: ENHANCING EDUCATION - INDUSTRY LINKAGES

Many problems in the education sector, especially in the school system, are well understood and are being addressed through existing and planned reforms. This section will focus in more detail on the education-industry linkages.

Chronic under-spending. Armenian public spending on education is 2.8 percent of GDP, well below the OECD average of 5 percent and the rate in other transition economies. Private spending is also low (less than 0.5 percent) as is education as a proportion of public spending (11 percent).

Inefficiency. A dramatic fall in the school age population since independence, plus only modest reductions in staffing levels, has resulted in staffing ratios which are low in international terms and, more important, unsustainable in the Armenian context. For example, there are only about 11 pupils for every full-time equivalent teacher. The Medium-Term Expenditure Framework (MTEF) proposes increasing these overall ratios to one teacher for every 16 students. This major rationalization is being supported by the SAC V credit and the Education Quality and Relevance (EQ&R) project.

[46] This section relies on the PPIAF presentation, "Sector Overview and Review of International Experience, Identification of Bottlenecks and Recommended Roadmap to Develop a Rural Telecommunications Strategy in Armenia" (April 2004).

Lack of relevance. There has been little reform of the curriculum, the assessment methods or the teacher training since independence. The main challenge is the transition from a teacher-centered to a student-centered learning approach. Reforms supported under the EQ&R project will be a major step toward meeting these challenges.

Equity. Enrollment in basic education continues to fall, and is now below 85 percent. The low levels of public spending have resulted in increasing levels of informal payments in "free" basic education. In higher education, expansion has been mainly in private institutions and fee paying places at public institutions. While this has increased access—though still for only 16 percent of the cohort—public spending overwhelmingly favors the rich, since state scholarships are given mainly to those who score highest on the entrance examination.

Governance and management. One of the biggest, and most difficult, challenges Armenia faces is to move away from the top-down system of management in which the Ministry of Education passes directives which are then uniformly applied to all institutions and in which the flow of information is one way and is used to control rather than empower local actors.

Tertiary education. A major stakeholder conference was held in November 2002, organized during the preparation of SAC V. The equity concerns have been mentioned.

The lack of quality assurance mechanisms (accreditation, inspection, etc.) means that students and other stakeholders cannot choose better institutions and courses, and good quality private institutions are undermined by a small number of fly-by-night operators. Investment is low or non-existent, resulting in poor quality, outdated teaching environments and an almost complete absence of international level research.

EDUCATION-INDUSTRY LINKAGES

Historically, Armenia has had a highly educated population, and educational attainment figures have remained remarkably high since independence despite the low levels of spending. However, the skills and knowledge that individuals have acquired have become increasingly obsolescent in the labor market. Much of the education would have been fact-based information learned by rote; and, even if the education were more relevant to the labor market, high levels of unemployment, under-employment and informal employment would have eroded skills and knowledge. Older adults, though they are more likely to be employed, would also have worked for longer periods in state-owned, static industries.

The story of a private company **Lycos,** is a useful illustration highlighting the main issues and options for enhancing education-industry linkages. Lycos is a fully owned subsidiary of the German-based Lycos Europe. Lycos Armenia is integrated into Lycos Europe's network of competence centers in Gutersloh, Copenhagen, Hamburg, Munich, Paris and Stockholm for the development of its core services, search, communications, communities and shopping. Lycos Armenia is in the software development business (web posting, e-mail, chat room communities, e-commerce) and provides technical support to the Lycos Europe portal. Importantly, the company works closely with two universities in Yerevan and provides grant-funding of about US$500K for a two-year bachelor program in Internet computing designed primarily by Lycos staff. A significant share of 60 to 70 percent of the lectures are also given by Lycos staff.

Throughout the program internships are also offered in the Lycos offices in Armenia and elsewhere in Europe. The top graduates of the program are usually hired by the company.

The fact that a private company establishes its own training programs and, more important, does this in collaboration with major Armenian universities, is promising. This indication of effective demand of private sector and private sector initiative is a foundation on which a coherent private-sector-led system of life-long learning can be built. The following options for expanding and accelerating the existing education-industry linkages could be considered:

- Distance learning as a pilot project (Box 6.2). The advantage of this potential distance learning project is that it would bring together the ICT and education dimensions. As Box 6.2 outlines, the Armenian Diaspora can become involved in a new and productive way. In addition, as worldwide experience of distance learning indicates, these projects are easily scaled up and expanded when successful.

- Establishment of a Skills Development Fund to encourage enterprise sector training, subject, of course, to a thorough cost-benefit and fiscal priority assessment.

Box 6.2: Distance Learning as a Potential Pilot Project to Enhance Education-Industry Linkages

Distance learning could be a low cost opportunity for Armenia to accelerate the transfer of global knowledge and drastically upgrade the quality of teaching in its universities. For a landlocked, remotely located country, the modern technology could provide the following group of primary benefits:

- Access to high caliber professors and lecturers, who would initially demonstrate how the core modern curricula should be delivered to students and therefore would greatly contribute to the training and re-raining of trainers (local professors). It is worth noting that the availability of various professional talent in the Diaspora and the existence of an established professional Diaspora network would simplify the future mobilization of potential participants and could further reduce project costs (many Diaspora members may be ready to supply such lecturing on a pro bono basis). Recent examples from Turkey and Thailand confirm the feasibility of such an approach.

- Online access to modern experimental facilities and academic libraries.

- Economies of scale – low cost dissemination/sharing of popular courses among various local universities and training centers.

As with many other collective Diaspora initiatives, the distance learning project, especially in the area of engineering, is likely to lead rather quickly to the second generation of (indirect) benefits. As experience from other countries suggests, professionals participating in advanced educational projects abroad tend to be eager to launch new business ventures with their local partners and frequently with their former students. On the parallel track, collective efforts of Diaspora activists in the area of university education has the potential to evolve gradually towards more business-oriented projects, undertaken basically by the same group of initial Diaspora sponsors, such as those associated with university business incubators.

Source: Elaboration by the author.

SUMMARY AND KEY RECOMMENDATIONS OF THE CHAPTER

Armenia enjoys various advantages that should lead to future growth that is based on innovation and the skilled use of knowledge-intensive assets: it has a core of well-educated and motivated labor, the incentive regime is in place, and there are international linkages. But local entrepreneurship has been weak, and ICT is handicapped by high telecommunications costs and low R&D spending. In addition to the reform in competition discussed earlier, the government could facilitate private sector driven centers of excellence in innovation and enterprise upgrading and in pursing reforms in education, infrastructure, telecommunications and aviation to take explicit account of the need to support ICT and innovation.

- Business advisory and support services – SME and micro-enterprise support agencies.
- Facilitation of access to finance (including micro-finance).
- Management and skills development.
- Internet-based information services.
- Support for technology adoption and adaptation projects.
- Cluster-based approaches to stimulating innovation.
- Support for participation in international R & D networks (e.g., EU 6th Framework Program).
- Encouragement of participation of national innovation leaders in national advisory bodies, technology foresight and cluster processes.

ANNEX 1.
RECENT ECONOMIC DEVELOPMENTS

BACKGROUND

Armenia, a landlocked country of 3.2 million people with few natural resources, relies on its human resource development to sustain economic growth. Following considerable economic deterioration and a drop in real output of 60 percent after the independence years of 1991-93, successful implementation of economic reforms contributed to the country's average growth of 5.5 percent per year in 1994-2000. The government liberalized trade and prices and established the initial phase of the required legal framework for a market economy, privatized most small and medium-size state-owned enterprises and substantially curtailed its intervention in the economy. The government successfully maintained macroeconomic stability and kept inflation low, and economic recovery began. The rapid growth, however, had an insignificant initial impact on poverty, largely because insufficient progress in improving the business environment and weaknesses in the rule of law and fair competition blunted the incentives for private sector development. Starting from early 2001, the Armenian government shifted its emphasis to strengthening the business environment, promoting exports and advancing private sector investment.

The government adopted several reform measures to enhance **the business environment**, including consolidating and reducing business inspections, simplifying the procedures and shortening the time for business registration, and streamlining the licensing regime. The government also strengthened its consultation mechanisms with the private sector and established a high level Business Council, chaired by the Prime Minister. It enhanced the Armenian Development Agency's capacity as the focal point for the government's efforts to promote investment and exports and to identify any remaining bottlenecks in the business environment. The government also simplified customs clearance procedures for exporters and improved the administration of the VAT refund to exporters.

ECONOMIC GROWTH

The attention given by the government to improving the **business environment and promoting investment and exports** provided the enabling conditions for economic growth to accelerate from 6 percent in 2000 to 9.6 percent in 2001 and 12.9 percent in 2002. Recent growth has been driven by a high rate of export expansion, with manufacturing exports playing an increasing role. While donors and the Armenian Diaspora financed much of the construction through grants, investment and exports accounted for 1.7 percent and 4 percent of growth, respectively, during 2001-02, a trend that has continued since then. The economy continued its strong performance in 2003, with real GDP growing by 14.0 percent but inflation flaring up to 8.6 percent in December 2003 because of higher wheat import prices.

Economic growth continued at 10.1 percent during 2004 with agriculture (14.5 percent), construction (13.4 percent), and services (12.3 percent) leading the growth**.** Following 11 years

of continuous growth, at the end of 2004 Armenia had recovered its pre-transition GDP level. Although all sectors made a positive contribution to growth in 2004, the contribution of the construction and industrial sectors has fallen, whereas that of agriculture has risen compared with 2003. **Agricultural** growth accounted for 3.1 percent of the total of 10.1 economic growth in 2004 (this sector has a share of 23 percent in GDP). The value added in both crop production and livestock breeding contributed to the growth in agricultural output. Agricultural prices continued their upward trend during 2004, with the food component of the CPI growing at about 10 percent, surpassing the annual average CPI rate of 7 percent.

The c**onstruction sector** had the second largest increase of 13.4 percent in 2004. Major sources of investment financing remain donor assistance, domestic savings and external private assistance (remittances and income transfers). The latter two sources were responsible for the largest share of housing in construction activities. **Services** sustained their average growth rate of recent years and recorded a more than 12 percent real annual increase. Retail trade and public food services were the main growing components in this sector, leading the overall growth.

The **industry sector** showed a modest growth of only 2.1 percent in 2004. The slowdown was due to a decline in the diamond processing activities, which was due to a temporary disruption in the supply of uncut diamonds from Russia. Meanwhile, the utility sub-sector (electricity, gas and water supply), which accounts for about 20 percent of total industrial production, grew by 9.9 percent, owing to the expansion of the gasification program. The mining sub-sector also showed an 8.7 percent growth. However, significant slippages in diamond processing and jewelry production led to a 0.7 percent decline in the total industrial manufacturing sub-sector, which accounts for almost 67 percent of the total industry sector. Nonetheless, newly emerging sub-sectors, including textiles, chemicals, non-metal minerals, machinery and tools have substantially expanded their production, although from low bases.

INFLATION AND EXCHANGE RATES

As a result of a tight monetary policy and the appreciation of the national currency, i**nflation** was confined to 2 percent on an annual basis (December 2004 to December 2003), and remained below the target of 3 percent in 2004. However, the pace of inflation was relatively higher in the first half of the year (4.5 percent) but was sharply reversed from July 2004 following a strong dram appreciation and intervention by the Central Bank of Armenia in the foreign exchange market. The period average inflation registered a 7 percent increase. The 2004 inflation was basically driven by price increases for food products (including alcohol and cigarettes) by 2.8 percent, while non-food prices remained at their 2003 level.

Throughout the year, the **national currency appreciated** by 14 percent against the US dollar and by 6.1 percent against the Euro. This was partly due to the worldwide weakness of the dollar and the large inflow of remittances. According to official data, remittances and factor incomes from Russia, Europe and the United States increased more than 20 percent during 2004. The real effective exchange rate (REER) vis-à-vis large trading partners (Russia, Europe, Iran, the United States) also appreciated; however, the total REER depreciated by 4 percent, reflecting the price differential in Armenia and the rest of the world. While the recent appreciation in the national currency is not expected to pose a major risk to export competitiveness, as it follows a substantial exchange rate depreciation during 2000-03 (23 percent in real effective terms) and

has happened in the context of productivity gains, monitoring the exchange rates and assessing their economic impact is among the priority areas in the government reform program. Meanwhile, continued and deepened reforms in the business environment will be required to forestall any possible negative impact on the country's export competitiveness.

EMPLOYMENT

The labor market showed signs of recovery following rapid economic growth, with official unemployment declining from 10 percent in 2003 to 9.4 percent in 2004. This was accompanied by a rise in nominal wages by 29 percent. However, to generate more jobs and to further reduce poverty, the government intends to continue the implementation of the reforms in the business environment and the consolidation of the achievements made so far. In this regard, the surveys of 300 enterprises in 2003 and 2004, based on the perceptions of the business community, highlighted a reduction in the reported time to complete the business registration process, the cost of registration, and the time required to receive a business license. The government plans to ensure fair conditions for competition and equitable treatment from the customs and tax authorities. Other priority areas include improving the lending environment of the banks to the private sector through strengthening banking supervision, improving creditor rights, clarifying the procedures for collateral registration and foreclosure, and enforcing commercial contracts.

EXTERNAL SECTOR

External trade declined from 21 percent of GDP in 2003 to 18 percent in 2004. Export performance deteriorated slightly as compared with the previous year and total **merchandise exports** decreased by 4.7 percent in dollar terms. The relatively weak performance of exports was due to the slowdown of diamond processing activities, which on average account for about 35-40 percent of total exports, while non-diamond exports continued growing more rapidly, by about 13 percent. There were some changes in the direction of Armenia's foreign trade, reflecting a decline with the diamond-trading partners. However, in general the EU and CIS still remain Armenia's largest trading partners, with 21 percent and 35 percent of shares in foreign trade turnover, respectively. The current account deficit showed improvements in 2004 and declined from 6.8 percent of GDP in 2003 to about 4.7 percent of GDP in 2004. Gross international reserves remained at about four months of imports. The country's **external debt indicators** improved in 2004, with the debt/GDP ratio declining from 39 percent in 2003 to about 33 percent in 2004. External debt service as a percentage of exports also declined from 15.6 to 10 during this period.

Over the past five years, **foreign direct investment** has financed about half of total investment. Total FDI inflows per head have been only a fraction of those in the Baltics and have been associated with privatizations (especially in telecommunications, mining and energy) and disappointingly less with greenfield investments.

FISCAL SITUATION

Fiscal consolidation continued in the early 2000s, the targets for social expenditures were attained and, because of lower than expected current expenditures, fiscal deficits were less

than expected. Fiscal policy continued to remain sound in 2004, resulting in a deficit of 1.7 percent of GDP compared with 1.5 percent in 2003 and was fully financed through external financing. The fiscal deficit in 2004 accounted for about 65 percent of its planned level as there was some improvement in government revenues with no commensurate expansion in government expenditures.

The Tax revenues GDP ratio was 14 percent in 2004, the same as in 2003, while tax collections showed an increase of 17.4 percent compared with 2003. This was mainly due to higher direct tax collection from the profit tax, simplified and presumptive taxes, and the personal income tax. Although tax revenues in 2004 performed better than planned, the tax/GDP ratio fell short of the targets in the Poverty Reduction Strategy Paper (PRSP) which was presented to the Board of IDA in November 2003, largely because of a rapid growth in non-taxed output (essentially donor financing), but also as a result of the deficiencies in the tax and customs administrations. The government's reform program gives priority to improvements in the tax and customs administrations. In tax administration, the emphasis will be on large taxpayer unit reform, the introduction of self-assessment, improvements in tax practices through reductions in arrears, more effective audits, including permitting off-site audits, increases in the time allowed for audits, and the introduction of risk–based systems for audits and VAT refund processing. With regard to customs administration, the focus of reform will be on the carrying out of self-declaration and direct trade input, the selectivity of customs control, improvements in the post-control audit functions, and a declining reliance on the use of reference prices for the valuation of imports as against transaction prices.

Government **expenditures** remained broadly in line with the targets, with the expenditures-GDP ratio about 2 percentage points lower than the 2003 level, but with some expenditure switching taking place towards the social sectors. The supplementary budget, approved in mid-2004, provided an additional expenditure of 0.5 percent of GDP, with 60 percent allocated to the repairs of school buildings and heating. The 2004 supplementary budget has been successful, with 90 percent of the allocated budget executed by the end of 2004. The government made good progress in public expenditure management systems and initiated financial reporting systems for the non-commercial organizations, incorporated some elements of social sectors program budgeting and performance indicators in the 2004 budget, adopted a strategy on internal audits and developed the economic and functional codes for budget according to the GFS 2001.

POVERTY

Poverty and inequality indicators showed some improvements, with overall poverty declining significantly from 47.0 percent in 2001 to 32.0 percent in 2003, below the PRSP anticipated targets. In the same period, extreme poverty fell from 16.2 percent to 5.5 percent. There was also a drop in income inequality in this period with the Gini coefficient falling from 0.653 in 1998/99 to 0.434 in 2003. The poverty gap and the severity of poverty have also declined significantly during this period. The remarkable economic growth in the past few years, the boom in infrastructure spending and construction financed by the Diaspora and donors, an improving labor market, an increase in remittances and the existence of a well-targeted and growing family poverty benefits program have played a crucial role in poverty reduction.

Table A1.1: Armenia: Poverty Indicators, 1999-2003

	Poverty Incidence				
	All	**Urban**	**Yerevan**	**Other Urban**	**Rural**
	Extreme poverty				
98/99	26.1%	32.1%	29.6%	34.5%	18.0%
2001	16.2%	18.4%	17.5%	19.3%	12.8%
2002	17.0%	18.8%	16.5%	21.1%	14.4%
2003	5.5%	6.2%	3.4%	9.1%	4.5%
	Overall Poverty				
98/99	56.3%	62.7%	58.7%	66.5%	47.7%
2001	47.0%	47.8%	44.5%	50.9%	45.7%
2002	49.3%	52.5%	45.4%	59.8%	44.7%
2003	32.0%	30.7%	22.0%	39.7%	33.9%

Source: Integrated Living Conditions Survey 1998/99-2003.

Poverty continues to affect a large part of the Armenian population, despite the progress achieved so far, as about one-third of the population was poor in 2003. Non-Yerevan urban areas have lagged behind, remaining the poorest part of the Armenian population in 2003, despite Yerevan's recording the sharpest decline in poverty. About 40 percent of the non-Yerevan urban areas were poor with an extreme poverty rate of 10 percent. In the rural areas, while the extreme poverty rate declined to 4.5 percent, overall poverty remained high at 33 percent.

The government recognizes that poverty reduction has been concentrated mainly in Yerevan, with less progress in rural areas and secondary cities and that poverty was reduced for all socially vulnerable groups except households with three or more children. Because of this, the government places a high priority on the development of the rural areas and improvements in the well-being of vulnerable groups. Although the recent expansion in remittances has contributed to the well-being of the Armenian people and poverty reduction, the associated high emigration may cause some potential risks to the country's sustainable economic growth which relies on its human resources.

PERFORMANCE IN 2005

The economy grew by nearly 14 percent in 2005, thereby raising the average rate for the last five years to over 12 percent. GDP per head amounted to US$1,600 in 2005.

Analyses of recent economic performance and survey results reveal that the **growth pattern** of the last years has two important characteristic features: first, poverty reduction is becoming more responsive to economic growth. The elasticity is higher, especially when the rural poverty and the agriculture sector growth performance are considered. Second, in parallel with rapid productivity gains and a substantial increase in real wages, growth is leading to a rise in the demand for labor.

Recent growth has been heavily driven by **exports.** Armenia's export performance continued to remain quite impressive, especially non-diamond exports, which grew by 37 percent rates in 2005. Metals is rapidly increasing its share, becoming the second largest item in total exports.

Overall growth has also been supported by an expansion of domestic **services. The rapid expansion in construction has been notable. Construction** was responsible for generating about half of the growth in 2005.[47] The second largest contribution to the recent growth performance was made by the **agriculture** sector where the cumulative growth over the last two years was more than 27 percent. The production chain in agro-industry is expanding and the sector is enjoying increased amounts of investments, creating productive assets in fruit, vegetables and dairy processing, wine, alcoholic and beverage products as we as poultry production, and is aimed at catching up with the increased domestic demand and expanding the export potential. The expected further improvements in the irrigation network, and hence the increase in agriculture productivity, the shift from subsistence farming and the increase in commercialization rate, the adoption of new, knowledge-based technologies, the additional investments and the export prospects may suggest an extra contribution by the agriculture sector to overall economic growth.

Nevertheless, it is unlikely that the country will maintain such high growth rates in both the construction sector and the agriculture sector for the long period of time. The developments of recent years clearly indicate that the industry sector, which to some extent has recovered from the modest turnover of 2004, is still largely dependent on the performance of the diamond-cutting sub-sector. The performance of the manufacturing industry has been quite volatile in recent years. The largest contribution to recent growth in the industry sector has comes from the mining sector, driven by an unprecedented increase in the world prices for ferromolybdenum and other related metals. All of the above leads to the conclusion that while the growth performance at double digit rates remains quite impressive, it is still generated by a narrow base, and in order to sustain the achievements it is desirable to broaden the growth base and further diversify the output.

Overall, the structure of **domestic demand** clearly indicates that the share of final consumption is consistently declining, largely on account of the decreasing share of private consumption; capital formation is increasing while the share of net exports remains almost the same. Thus, foreign savings are attracted only to finance the remaining gap in investment financing. The investment-to-GDP ratio has been gradually and continuously increasing, especially in the last three years, reaching about 25 percent in 2005 from 18.6 percent in 2000, with a steady diversification of investment.

The fiscal performance of the recent past was quite remarkable. Although direct taxes are becoming a more reliable source for the budget, the share of domestic taxes is still marginally higher than that of international trade. The largest year-on-year increase in the 2005 tax collections evidenced in personal income collection and social contribution payments, which was a positive response to the reforms implemented since the beginning of the year. The corporate tax collection also reiterated the notable outcome of 2004, mostly reflecting the administrative

[47] For the last six years the average growth rate in the construction sector amounted to more than 28 percent.

measure introduced two years ago with regard to advance payments of the profit tax, the efficiency of which still demands thorough analyses. One of the encouraging outcomes of the 2005 fiscal performance is the increased buoyancy of tax collection. The tax-to-GDP ratio has increased by 0.4 percentage points and reached 14.5 percent of GDP at the end of 2005. The potential for improving the tax administration is still quite high. The correlation between growth and the taxation of the economy needs to be improved. The construction sector, which is the fastest growing sector in the country, does not make an equally solid contribution to tax collection. Large taxpayers should remain in the focus of the tax administration.

Following to the PRSP targets, the government consistently increased **public spending** on the health, education and other social sectors. Reforms in the budget field are targeted to better aligning budget allocations with the expected outcomes to increase the social and economic impact of public spending. Domestic allocations to the **public investment** plan are growing consistently, especially those for the road and basic education sectors. Nevertheless, external financing in the form of both soft loans and grants is still the dominant source of capital investments. The expected large inflow of official transfers over the forthcoming medium-term period will substantially improve the infrastructure network and further stimulate economic growth.

In recent years it has almost become a practice to have an actual **fiscal deficit** (around 2.5 percent of GDP) below the program target. This indicates that the government should be able to take corrective measures in the course of budget execution to supplement public spending commensurate with the increased financing possibilities. The fiscal space should be expanded beyond the expected grant inflows and the scope of productive public expenditures should be increased.

The average consumer price **inflation** was negligible in 2005, moreover, deflation was recorded for most periods of the year. However, different prices showed quite diverse trends. Thus, oil and petrol prices increased quite substantially, more than 17 percent compared with December 2004, while prices for food, especially for fruits and vegetables, dramatically declined, offsetting the overall negative impact of oil prices. Industrial producer prices continued the upwards trend that emerged from 2003, substantially bypassing the CPI rates, though in 2005 the gap was diminishing. This trend reflects the input cost increases for industrial production, including the substantial real increases in unit labor cost and the cost of other inputs. Further increases in oil, as well as an expected upward adjustment in gas prices, will have an impact on the CPI, and overall socioeconomic developments will become more evident after the second half of 2006.

In **exchange rate** developments, the dram continued to appreciate in 2005, aided by a large increase in remittances, productivity growth, and high growth rates in the economy. In 2005, private transfers and factor incomes from Russia, Western Europe and the United States increased by more than 40 percent.

MEDIUM-TERM ECONOMIC OUTLOOK

Economic performance is expected to remain strong in 2005 with GDP growing by 7 percent in the first two months of the year, a trend that is expected to continue in the **medium**

term, with an annual growth of 6 percent in 2005-08. This will be based on the assumption that the government will be able to maintain its strong track record in reforms and economic management and that it will continue to attract large volumes of capital transfers and maintain foreign direct investment at current levels in relation to GDP. Because a robust private sector investment is expected to be responsible for much of the medium-term economic expansion, further improving the business climate, enhancing investor confidence, promoting exports and enhancing the accountability, integrity and transparency of the financial sector will be among the government priority areas of reforms.

The maintenance of **appropriate monetary and fiscal polices** in the medium term will ensure the containing of annual inflation at around 3 percent and the maintenance of the fiscal deficit in the 2-3 percent of GDP range. At the same time, the government aims at building capacity in the tax and customs administrations, strengthening the required infrastructure for the further development of the private sector, and creating the conditions for a widening of the beneficiaries to growth. In this respect, the government has paid special attention to social sector reforms, focusing on further rationalization and optimization in the education and health sectors, and plans to deepen its efforts in these areas. Other medium-term priorities include improving public infrastructure, especially rural roads and irrigation (these concerns are also the centerpieces of Millennium Challenge Corporation grant support), and strengthening core public sector function, which have been supported under the PRSC program. The medium-term economic outlook is likely to be affected by global and regional economic trends—especially the high price of oil and its impact not only on the Armenian economy but also on Russia, which is expected to remain a major investor and a major export market.

Table A1.2: Armenia: Macroeconomic Trends and Baseline Projections, 1999-2010

	Actual Prelim 1999	Projected 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Real GDP growth rate	3.3	6.0	9.6	13.2	14.0	10.1	13.9	8.0	7.0	6.0	6.0	6.0
Inflation (eop)	2.0	0.4	2.9	2.0	8.6	2.0	-0.2	3.0	3.0	3.0	3.0	3.0
Exports (G&S) growth rate	13.7	18.9	27.0	35.8	29.1	-4.7	15.9	9.0	9.0	9.0	9.0	9.1
Imports (G&S) growth rate	-1.9	7.2	6.4	18.9	26.5	-5.0	8.5.	7.7	7.7	7.7	7.7	7.7
As percent of GDP												
Total investment	18.4	18.6	20.0	21.0	24.3	24.0	26.0	25.0	25.7	26.5	27.3	28.0
Private investment	13.6	14.3	15.2	16.5	19.1	20.8	21.8	20.6	21.2	21.7	22.3	22.9
Public investment	4.8	4.3	4.8	4.5	5.2	3.2	4.2	4.4	4.5	4.8	5.0	5.1
Fiscal balance (cash)	-5.3	-4.9	-4.3	-2.6	-1.3	-1.8	-1.9	-2.9	-2.8	-2.6	-2.5	-2.3
Current account balance, incl. official transfers ((CA)	-16.6	-14.6	-9.5	-6.3	-6.8	-4.5	-3.8	-4.5	-4.8	--4.8	-4.7	-4.5
Foreign Direct Investment (FDI)	6.6	5.5	3.3	4.7	4.3	6.1	4.8	4.2	4.2	4.2	4.2	4.2
External debt-creating flows (CA+FDI)	-10.0	-9.1	-6.2	-1.6	-2.5	1.6	1.0	-0.3	-0.6	-0.6	-0.5	-0.3
External Public Debt	46.3	44.0	42.7	43.1	39.1	33.3	22.6	23	22	20.4	20.0	20.0
In percent												
NPV of debt /exports of G&S	144.0	119.0	108.0	96.0	80.7	77.0	67.0	58.2	54.3	52.4	49.8	47.5
NPV of debt /fiscal revenue	167.1	176.4	176.8	181.2	144.6	133.6	104.3	103.7	97.6	93.8	89.8	86.5
TDS/exports of G&S	15.8	10.7	9.7	9.8	15.6	10.0	6.5	7.2	5.7	5.8	5.2	5.1
TDS/fiscal revenue	18.4	15.8	15.8	18.5	25.7*	16.9	7.6	12.9	10.2	10.4	9.4	9.3
Total debt out'g/disbursed ($m)	855.0	840.4	877.7	1,025.0	1,097.7	1,182.9	1,099.2	1,230.1	1,235.8	1,286.8	1,371.2	1,484.2

* Includes US$63 million debt for equity swap operation with Russia.

Sources: NSS, MoFE, and Staff calculations.

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