FINAL REPORT

Armenia Competitiveness Assessment

SUBMITTED TO
USAID/Yerevan

SUBMITTED BY
Nathan Associates Inc.
J.E. Austin Associates Inc.

UNDER CONTRACT NO.
PCE-I-837-98-00016-00

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1. Introduction

Through the Management Systems International—Nathan Associates GBTI consortium, J.E. Austin Associates and Nathan Associates were requested to implement a Country Competitiveness Assessment in Armenia. This report presents the findings, analyses, and recommendations of the Country Assessment Team.

Since 1997-1998, J.E. Austin Associates (JAA) has developed and implemented a Country Competitiveness Analysis methodology for emerging and developing economies.[1] The methodology has since been implemented in more than twenty countries.

Competitiveness can be defined as sustained increases in productivity resulting in higher wages and living standards. It is also characterized by increases in export market shares. True competitiveness is not based on cheap labor, special tax exemptions, or continuous devaluation of a country's currency. Rather, it is based on generating more value through improved productivity, quality, service, and innovation. It is not merely doing things better but doing better things. It requires firms that know how to capture greater value in the marketplace not just by being more efficient at what they do and improving quality, but also by choosing where to compete and ways of innovating services and new product characteristics. Competitiveness has been shown to be a private sector-driven phenomenon, characterized by clusters of supporting and competing enterprises. Effective business strategies, effectively implemented, are the generators of competitiveness.

Objectives of the Assessment

The Assessment was carried out as an input for a new USAID activity, within its strategy for Armenia for the next five years, aimed at the growth of small and medium sized enterprises. The general objective of the Assessment is to contribute to "a process and structure for

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[1] The early methodology was created by JAA with assistance from Monitor Company of Boston, a firm associated with competitiveness expert Michael Porter of Harvard University.

productive change", providing a base of information that, "lays the groundwork for improved competitiveness of … Armenian industry clusters."[2]

More specifically, the sub-objectives of the Armenia Competitiveness Assessment are to:

1. Examine competitiveness in Armenia's context;
2. Evaluate Armenia's recent competitiveness performance;
3. Analyze constraints to competitiveness;
4. Meet with competitiveness stakeholders in Armenia;
5. Generate public-private dialogue centered on competitiveness; and
6. Provide recommendations and priorities for improving future competitiveness.

It should be immediately clarified that the objective of this exercise is ***not*** to try and pick "winners" and "losers" for Armenia. As an exercise that is limited in time and scope, it is not intended to provide a comprehensive competitiveness analysis of any particular industry, much less an in-depth analysis of the entire economy. The Competitiveness Assessment was primarily carried out between March and April 2004. It is meant to serve as a stimulus for the strategic thinking that must take place at the firm and industry level, and not as a substitute for such thinking.

An independent exercise such as this cannot substitute for the development of local capacity by firms, industry associations, policy groups, and government to analyze and constantly improve the underlying sources of Armenia's competitiveness. Such an institutionalized capacity leads to ongoing private-public dialogue on competitiveness. Unfortunately, this dialogue is not yet taking place in a collaborative, institutionalized, and ongoing way. The usefulness of this current exercise will be quite limited if it is only viewed as yet another study conducted in a much-studied country. This Armenia Competitiveness Assessment, on the other hand, will have lasting utility if it serves as a catalyst for institutionalizing such capacity for effective analysis and dialogue between the private and public sectors.

The utility of the exercise is that of providing stimulus and initial frameworks, tools and benchmarks to contribute to the process of creating and facilitating this dialogue.

Study Methodology

The purpose of the Competitiveness Assessment is not to conduct a domestic resource cost analysis (DRC). Such tools have utility in some circumstances. However, we must not confuse "competitiveness" with a race to see who can stay poorest the longest on the basis of cheaper costs. Competing on the basis of cost in commodity markets is not a very attractive competitive strategy for companies or countries. Today, more and more of the increased value

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[2] Terms of Reference for The Competitiveness Assessment.

(and profits) come from identifying and serving specialized markets, adding unique product features, adding value and service dimensions to export products, and developing complex exports that are not as easily replicable. It is generally recognized that countries now build upon their natural comparative advantages and build competitive advantage through superior economic and business strategies.

The Competitiveness Assessment was carried out in a very collaborative manner, involving a number of excellent partners. Nathan Associates was the primary USAID contractor. J.E. Austin Associates was the primary subcontractor and Technical Leader in the Competitiveness Assessment, providing the team leader and key staff. Prof. Porter's Competitiveness Diamond was used as an analytical tool to assess the competitiveness of local industry clusters. The team also drew upon recent work and tools developed by JAA and Nathan in the course of competitiveness assignments in other countries, and on tools and databases developed by other practitioners. The team conducted more than 50 in-depth interviews, and facilitated several workshops and roundtables. The team developed eight industry assessments, and used short company histories/cases to illustrate successful strategies. Numerous previous reports and databases also enriched the exercise.

Organization of the Report

The Armenia Competitiveness Assessment Report provides a very comprehensive overview of the competitiveness of Armenia's economy. It is organized as follows:

Section 2 includes the definition of competitiveness as is used in the JAA competitiveness methodology and in many practitioner circles worldwide.

Section 3 locates Armenia on a map of competitiveness by presenting information on the global ranking of Armenia in nine different factor areas including economic performance, export competitiveness and tourism, investment competitiveness, financial sector, macro environment, government regulations, science and technology, infrastructure, and human resources and workforce competitiveness. This section presents the most recent readily available data on a number of indicators as a means of understanding the competitiveness of Armenia's business and economic performance, and enabling environment.

Section 4 examines the enabling environment for competitiveness in Armenia. In this section we provide assessments of the macroeconomic, microeconomic, and institutional environments and the quality of public-private dialogue.

Section 5 summarizes industry assessments for eight industries, and discusses common issues faced by these industries. The competitiveness of each of the industries is also presented in more depth in Appendix A.

Section 6 provides a summary and conclusions, in the form of a common vision for the future of Armenian competitiveness, and priority actions to achieve that vision.

Appendix A includes industry assessments of selected sectors of the Armenian economy and Appendix B includes information on competitiveness diamonds.

2. Definition and Principles of Competitiveness

Why Competitiveness is Emerging as a Priority

Leaders around the world, whatever their political beliefs, are focusing more and more on competitiveness as a priority. There are several reasons for this:

- The 142 members of the World Trade Organization have agreed to new "rules of the game";
- National governments are moving quickly to liberalize and open their economies;
- Globalization of technology through networked computers, communication and transport is causing profound transformations;
- The sharp rise in private capital flows internationally creates new problems and opportunities; and
- There is an accumulation of models and results– from national, industry, and firm experiences – that demonstrate the importance of competitiveness and applicability of competitiveness-building approaches.

In this context, private companies, industry groups, and governments are questioning old assumptions and seeking to gain the knowledge and insight that will help them position themselves for to respond to these changes.

DEFINING COMPETITIVENESS BY WHAT IT IS NOT

The term *Competitiveness* is used by many people in ways that are often mutually exclusive. Competitiveness has often been defined in ways that are no longer valid. Competitiveness is NOT

- Abundant natural resources,
- Cheap labor,

- Constant depreciation of the currency, or
- Better government incentives or subsidies.

According to Michael Fairbanks, author of *Plowing the Sea: Nurturing Hidden Source of Growth in Developing Countries*, "An economic strategy based on agro-exports, free trade zone labor, and sun-and-sand tourism is a strategy for staying poor."[3]

Agriculture: Competitiveness is not abundant natural resources. There is a high correlation between natural resource dependency and low per-capita income. Even countries blessed with abundant natural resources, such as Venezuela, have gotten poorer over the last 20 years. This is because of the considerable price pressure on natural resource commodities (and poor decisions with respect to the use of proceeds from the sale of such commodities). There was an era when such commodities generated substantial wealth. But these are now mature industries that face relentless cost pressures.

Manufacturing: Relying on relative costs of labor is dangerous. Strategies based on labor cost advantages are not a sustainable source of competitive advantage. There is always another country, such as China, willing to provide even cheaper labor. This, in turn, creates increasingly downward pressure on wages amongst companies that compete on labor costs. Competing on the basis of labor costs is a race among countries to see who can stay poorest the longest.

Services: Seasonally-based tourism does not provide sustainable competitive advantage. Much of the world's tourist industry caters to low-value packages based on seasonal opportunities, natural beauty, or history and culture. Many countries have such resources. Tourism based on such resources is thus a highly replicable strategy that does not offer prospects for rapid growth in income of those working in this sector.

Incentives are no longer a sustainable source of competitive advantage. Many countries offer fiscal incentives, subsidies or other benefits to business. Any country can copy this strategy. Incentives also result in businesses looking to government when competitiveness requires them to focus scarce time and resources on customers and competitors. Other governments can offer more attractive incentives and engage in a bidding war for foreign investment. Some incentives will no longer be allowed under the rules of WTO and Armenia's eventual accession into the European Union will also be a factor in the use of some incentives. Businesses that rely on such incentives will always be vulnerable to policy change.

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[3] Fairbanks, Michael and Stace Lindsay. *Plowing the Sea: Nurturing the Hidden Sources of Growth in Developing Countries*. Massachusetts: Harvard Business School Press, 1997.

DEFINING COMPETITIVENESS BY WHAT IT IS

At the level of an economy, "*competitiveness*" can be defined as "*sustainable increases in productivity resulting in the improvement of the standard of living of the average citizen of a country*". Growth in productivity is, at the end of the day, delivered by the private sector through real companies competing in real industries. Similarly, competitiveness at the business level is the implementation of strategies that provide sustainable increases in businesses' productivity resulting in the generation of increasing profits and the ability to pay increasing wages.

Competitiveness and Productivity

Productivity is not simply doing things better, but doing better things. It is not just working harder and working smarter, but also choosing where to work. Another way to understand the paradox of productivity is to analyze the following two questions. If Firm A hires an employee from Firm B and doubles the salary for the same amount of work, is the employee now twice as productive? Most people would say no. But if an Armenian exporter found a Western European company to pay them double for a product currently sold to the USA, would it be more productive? The latter would show up as such in the national income statistics.

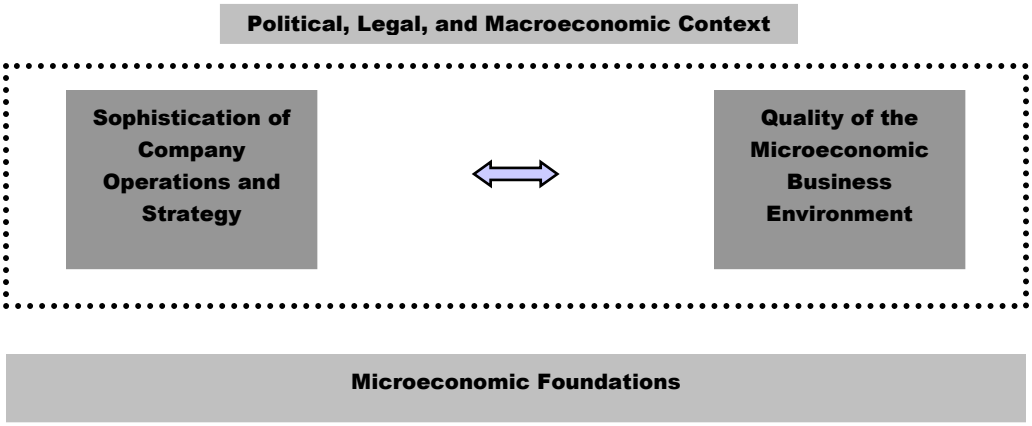
The New Competitiveness Paradigm

The competitiveness paradigm developed by Michael Porter describes the importance of the political, legal, and macroeconomic context, and also the quality of the microeconomic business environment and the sophistication of company operations and strategy. As countries develop, the quality of private sector business decisions seems to become relatively more important in achieving company, industry, and national competitiveness. But this is an area often neglected. Many countries that have engaged in difficult macroeconomic reforms have been disappointed by the slow response of private investment. The GOA has focused on the macro as well as the microenvironment of business. However, future progress may depend more heavily on business strategy and private sector leadership.

Growth and Equity: The Virtuous Cycle

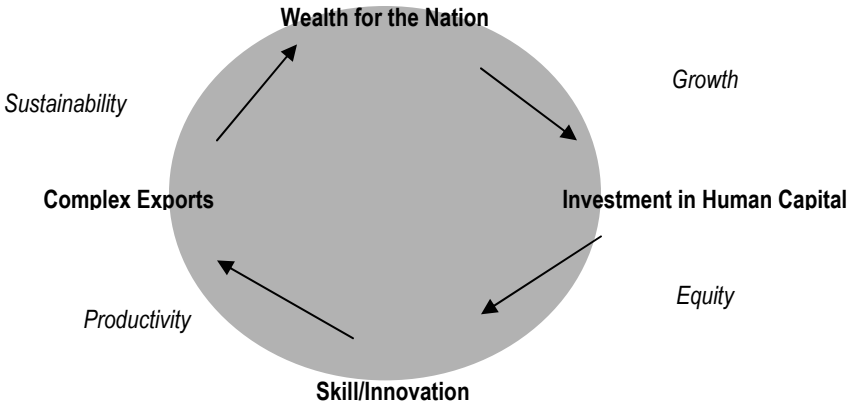
As private companies focus on more complex exports, greater wealth is generated for the nation. It also creates a dynamic in which private companies invest in human capital to create the skills and innovation that allow them to maintain the competitive edge in these complex exports. These exports depend on higher skill levels and lead to higher income levels. Poor competitive strategies based solely on cost in undifferentiated product and service areas create the opposite incentive – i.e. for lower wages, cheaper costs, and devaluation.

Figure 2-1
The New Competitiveness Paradigm



SOURCE: *Michael Porter (1988)*

Figure 2-2
Growth and Equity: The Virtuous Cycle



SOURCE: *JAA/NAI (2004)*

How to Recognize a "Competitive" Country

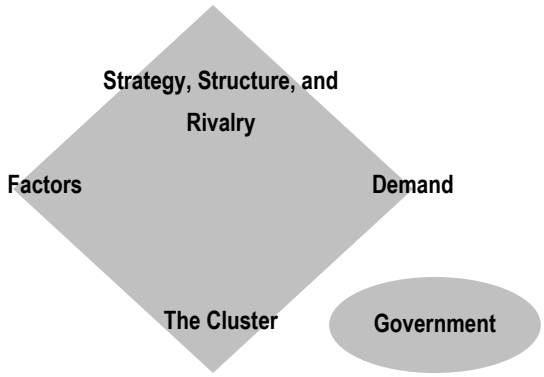
A "competitive" country is easily recognized as having progressively higher real wage levels—but driven by productivity rather than government fiat. A competitive country is characterized by increasingly strong currency levels, based on market forces and good policy rather than artificial exchange controls. Competitive countries are characterized by the ability of the average citizen to increase his/her purchasing power both domestically and internationally.

The Porter Competitiveness Diamond

The oft-cited model for competitiveness is the Porter Competitiveness Diamond developed by Michael Porter on the basis of extensive industry research. The "diamond" represents the competitive environment faced by firms. It is used by companies to develop strategy and by governments to improve the national platform for competitiveness. The elements of the diamond include:

- Demand conditions;
- Factor conditions;
- Strategy, structure, and rivalry within industries;
- The cluster of related and supporting industries; and
- The influence of government (and sometimes chance events) on the above.

Figure 2-3
The Porter Competitiveness Diamond



SOURCE: Michael Porter (1998); JAA/NAI 2004

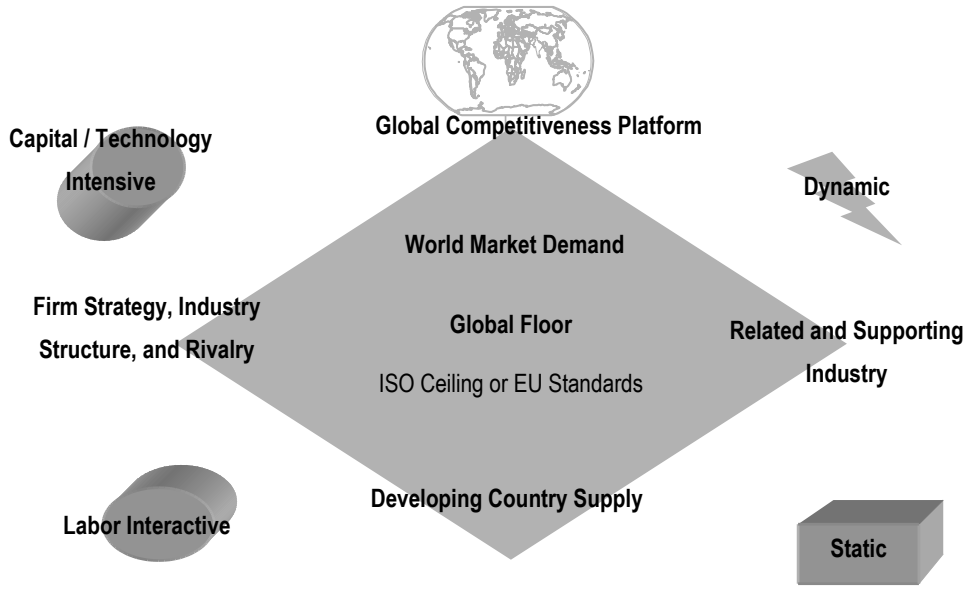
However, the key to the analysis is not in understanding the elements of the analysis, but in the interactions between them.

Extending the Competitiveness Diamond Model. Work by David Flood and others from JAA in several countries led to additional perspectives regarding the competitiveness diamond. Competitive businesses and industries are good at understanding customer needs, and innovating to continually provide more value to the customer. This occurs at the 'top' of the diamond, which in the exhibit is rotated to put Demand at the top. Through constant improvements in strategies, the best businesses are able to continually increase their productivity, hence their competitiveness.

Companies with resource-driven strategies tend to focus on factors of production, particularly costs. They compete and invest at the 'bottom' of the diamond, and continually lose position vis-à-vis customer-oriented companies. Worse, governments in search of job-creation or otherwise adopting old models of economic development, also tend to invest in the low end

of the diamond—for example, implementing policies and attracting labor-intensive investment, such as assembly operations.

Figure 2-4
The Expanded Competitiveness Diamond



SOURCE: JAA/NAI, 2004

To make sizeable gains in competitiveness, businesses and supporting government action in the microenvironment need to strive for the 'top' of the diamond. Often, however, the goal is stated as simply meeting international standards—e.g. ISO compliance, or meeting EU safety requirements. This is a false objective—as achievement will only place Armenian companies in competition with the least competitive producers. Meeting EU standards, for example would only mean that Armenian firms are competing with the companies that meet minimum EU market entry requirements—hence low cost, lesser quality producers.

KEY COMPETITIVENESS QUESTIONS

Some of they key questions raised by both the Porter and the Extended Competitiveness Diamonds include:

- How close are we to demanding consumers?
- How much competition is there in our industry, driving relentless upgrading?
- Are we building upon and moving beyond our basic factors?
- Is there a cluster of related and supporting industries being developed?
- What are the interactions among these various forces?

SEVEN OPPORTUNITIES FOR BUILDING COMPETITIVENESS[4]

Recent work applying competitiveness to developing countries highlighted a number of opportunities for achieving or improving competitiveness[5]:

1. Improving customer learning. Firms and industries that rely on intermediaries for their knowledge of customers and market trends are in a relatively weak position to adapt to change - whether they are in the canning business, the wine business, the textile business or the tourism business. Industry strategies relying on intermediaries for market knowledge involve greater risk. Businesses need direct access to sources of intelligence on markets and need ways of identifying trends among demanding consumers and clients. Industry associations can do much to help their member firms to improve their access to market intelligence. For example, hotel companies in Armenia would do well to understand that there are at least 32 different segments among European and US tourists with regard to their motive for travel. Understanding this differentiation, they could then make strategic choices regarding which type of tourist to target and attract to Armenia. This would lead to an improvement in capabilities to obtain and analyze information related to the profiles of high-income consumers, the packages they need, and the ideal marketing channels to reach them.

2. Exploring forward integration. Firms should also selectively and carefully explore opportunities for forward integration. An example may be taken from a client of JAA that is a cut flower exporter from Colombia. The firm was not content to simply forward integrate into brokerage functions in the United States. The flower exporter visited U.S. supermarkets and found that it could be far more profitable to assemble bouquets, add cellophane, print bar codes for the supermarket, and ship the flowers with dry-pack technology to the supermarket door. The supermarket saved on local labor and logistics costs while the consumer received a fresher flower. The exporter received a much higher percentage of the sales price, and the sales price was higher, reflecting the freshness.

Also of importance in the area of forward integration is the ability to guarantee reliable chains of quality supplies to meet market demands. Firms need to ensure that the chains of their supply are not only cost effective but of necessary quality to meet the demands of the customer. This is seen as being vital to the Armenian wine and canning industries, as examples.

3. Innovating. Companies often compete on a two-dimensional matrix of cost versus quality. Successful companies often invent a third dimension and define competitiveness through innovation. For example, the rubber industry in Sri Lanka, after gaining access to market trend information became aware that while they were producing rubber for tires, Sri Lanka did not have a large margin of the market for rubber tires. The industry then began to look

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[4] Reference: Michael Fairbanks, 1998, for a fuller treatment of the 7 opportunities.

into market niches for other uses of rubber products. The result was that Sri Lanka built up the market on rubber mattresses and currently is holds a large portion of market share for the production of rubber mattresses. They were successful in devising a strategy to expand production around this niche market trend.

Some companies in the IT industry in Armenia have been successful innovators of software solutions – a strategy that has been even more powerful when combined with effective customer linkages to allow the companies to learn more about customer needs.

4. Cooperating with a cluster of related firms. Competitiveness is a regional phenomenon. Clusters of competitive firms often emerge in close proximity. This is not the result of any one government policy. Competitive clusters emerge in the very different policy contexts of Japan, the USA, Germany, Sweden, Israel, India, and Italy, for example. This often involves cooperation among a supporting network of suppliers, distributors, packagers, and business service providers.

Armenia has been weak in this area due in large part to the lack of trust that remains apparent in many industries. This mistrust is due in part to many individuals believing that competitive advantage is a zero sum game; the success of one comes at the cost of another. It also has much to do with government not having fostered an environment in which businesses feel comfortable in conducting business with other members of the cluster.

5. Understanding competitive position. Many firms in developing countries suffer from a syndrome referred to by Gabriel Garcia Marquez as "100 years of solitude". For many years, state ownership, import substitution and protectionism served to isolate firms from global competitive forces. As a result, many companies in these countries lack a solid grasp of their competitive position. Much can be done to improve information and intelligence on competitive positioning. One example cited by *Monitor Company* is that of the fishmeal industry in Peru. The industry was satisfied with its ability to increase its sales and market share in this particular industry. What it did not understand is that, although the Peruvian companies were "adding value", they were doing so in a relatively unattractive segment of the broader fish industry. Meanwhile, their major competitor, Chile, took the opportunity to migrate out of fishmeal and move to more attractive segments achieving superior sales and profits in the process. In the Armenian wine industry, increasing focus by some firms on unique, higher value wines allows the producers to escape the cutthroat competition for lower-priced, mass consumption wines. Similar strategies are being implemented by firms in the canning and apparel industries, amongst others.

6. Avoiding an over-reliance on basic factors for one's competitiveness. The recent work of Michael Fairbanks highlights the importance of moving beyond basic factor advantages. For example, in tourism, the industry must not simply rely on the natural environment for seasonal tourist draws such as sand or snow, but build packages that combine other features attractive to high-income consumers in areas such as eco-tourism or culturally based tour packages. Similarly, the apparel industry needs to develop competencies that provide greater

advantages than simply low-cost labor, and the canning industry must rely on more than just high-quality primary agricultural produce.

7. Building effective private-public dialogue. Competitive companies and industries have turned away from defensiveness and paternalistic relationships with government, and are building effective private-public dialogue. Competitive countries are characterized by ongoing and institutionalized dialogue between the two sectors on issues that are vital to long term competitiveness. It has become the role of industry in many cases to encourage dialogue between government and the private sector. National Competitiveness Councils have been created in some countries to focus on the public-private dialogue for competitiveness.

Since 1997 the Armenian business environment has improved partly as a result for improved formal and informal public-private dialogue. The government regularly discusses social and economic reforms in consultative bodies with members of both the public and private sectors. Task forces are also used as dialogue building mechanisms between the public, private and labor sectors. On a regional basis, the district governors and councils have, in some cases, taken specific actions to promote improvements in recognition of business and regional needs.

Some of the dialogue that occurs is informal in nature. Public officials often meet private companies in fairs and seminars organized by ministries and state agencies. In other cases, the government is obliged by international institutions to inform private parties of economic reforms.

Despite these mechanisms, the private sector does not feel that dialogue to this point has been effective. This feeling is due partially to unclear procedures to involve interested parties in the decision-making process. Also there is evidence that the public sector has had the ability to determine the private parties it works with and does not equally represent all members of the private sector. Some public officials link this to the belief that private institutions are fragmented and unable to present a united front on issues affecting the private sector, hence the importance in cooperation among private sector members.

Effective dialogue can be crucial to competitiveness on an industry level as well. In Armenia, the private maritime shipping industry is heavily reliant on government-managed infrastructure and services. Effective dialogue and responsive public action is vital to the sustainable competitiveness of the industry.

3. Benchmarking Armenian Competitiveness

Executive Summary

Armenia's indicators in the 1990s reflected the difficult political, economic and human transitions of the period. These included the disruption of supply chains, the loss of traditional markets and difficulties in restructuring the economy from central planning to a market economy. Issues with privatization, conflicts, and closed borders have undoubtedly further hampered progress.

However, underlying the poor results of the 1990s is hope for optimism. The human resource base, strong presence of women in the workforce, and the tradition of science and technology are solid bases for future competitiveness. More recently, Armenia's strong export and investment performance, GDP growth, and performance in certain areas of policy, trade regimes and financial sector regulation provide additional basis for optimism. Given sound policies and their effective implementation and coupled with investment, Armenia could be poised for significant improvements in its competitive performance. As reform, restructuring and investment continue, Armenia's competitiveness as measured by these indicators is likely to improve.

Background

It is hard to understate the economic difficulties that Armenia faced in the 1990s, as evidenced by the Competitiveness Benchmarks presented in this report. The Government of Armenia faces the challenge of stimulating rapid economic growth, while at the same time promoting broad-based disbursements of the benefits of growth to its citizens. Little or no progress was made in the 1990s in Armenia's competitiveness because of the transition to a market-based economy, privatization, economic reforms that followed privatizations, the need for post-

earthquake recovery, clashes with neighbors, and strife in neighboring Georgia. The Russian Financial Crisis of 1998 further stifled the Armenian economy. The global economic recession, exacerbated by the events of September 11th, presented additional challenges.

It is an important goal to improve the living standards of people in a sustainable way. These improvements are a function of the competitiveness of Armenian enterprises and the competitiveness of the Armenian economy and its components. This benchmarking analysis provides a snapshot of Armenia vis-à-vis the rest of the world (for which data is available) so as to see clearly the strengths and weaknesses of the country and to measure progress in the coming years. This study presents a multi-faceted picture of the competitiveness of the Armenian economy in data the years 2002–2003 or slightly earlier and can be used as a baseline. Armenia is one of many countries that are emerging from a legacy of centralized economic planning and it is appropriate to provide benchmarks relative to other countries in similar situations as well as to highlight the top performing countries.

Definitions and Uses of This Report

Competitiveness at the national level can be defined as the ability of a country to produce products and services that meet the test of the market place, while delivering high and rising standards of living for the average person. Benchmarking is the measurement of performance relative to a particular reference group and normally relative to those who are doing the best job in a particular area of endeavor. The benchmarks also serve to measure one's own progress over time. Competitiveness Benchmarking ranks Armenia relative to the European Union countries, to some regional leaders, and to all countries of the world for which comparable data is available in areas generally regarded as relevant to competitiveness.

Why is Competitiveness Benchmarking Useful?

For the Government of Armenia, this study serves as a powerful tool to measure progress and set priorities for policy and institutional reform. The Governments of the United States, the European Union, Ireland, Singapore, and others have identified specific targets and benchmarks against which they measure future progress. Governments in transition countries have also begun to use international benchmarks to measure progress and establish development goals.

For economic faculties, business schools, technology institutes and think tanks, it provides a rich source of data. Those researching IT-readiness, export performance, investment, economic results, human capacity, infrastructure and other areas will find data that can be used to inform their research and strengthen their ability to contribute to national dialogue.

The economic press can use this publication to encourage national debate on Armenia's competitiveness. It is important that the average citizen understand what is at stake for Armenia's future. The Government of Armenia will have to mobilize popular support behind initiatives, required to improve Armenia's competitiveness in a global environment.

Competitiveness Benchmarking encourages private-public dialogue. Benchmarking encourages reflection and discussion on issues related to the speed and effectiveness of Armenia's transition to competitiveness. It focuses attention on strengths and weaknesses, improvement and deterioration. By presenting objective data, competitiveness benchmarking encourages informed and natural dialogue.

Competitiveness Benchmarking provides comprehensive data. Effective dialogue and policy reform requires the use of good data rather than anecdotal evidence. It requires the ability to understand data in the broader context of the performance of other similar countries. This study presents many sets of data so as to provide a rich mosaic of Armenia in which the true picture comes into sharper focus. By presenting it relative to the EU countries and to relevant top performers, one provides a basis for drawing reasonable conclusions. It is hoped that the Government, business associations, universities and NGOs will find this data useful for their analyses.

Methodology and Limitations of the Study

Informed by competitiveness theory and by the methodologies used by the World Economic Forum (WEF) and Harvard University, along with its own work in 100 countries over 15 years, we have selected 52 indicators related to nine competitiveness-related categories:

1. Economic Performance
2. Export Competitiveness and Tourism
3. Investment Competitiveness
4. Financial Sector
5. Macro Environment
6. Government Regulations
7. Science and Technology Competitiveness
8. Infrastructure
9. Human Resources and Workforce Competitiveness

The rankings are based entirely on secondary sources, and efforts were made to select the most internationally qualified institution for each data set.

The data were then entered into a database, ranking each country for which data were available. For each indicator, data is provided for the country along with its position relative

to all other countries of the world. For this exercise, analysis was also done for Armenia relative to the EU countries.

The following summary of the results is meant to be *descriptive* and not to propose any particular ideology or set of policy prescriptions. The authors do not intend to make judgments regarding the effectiveness or ineffectiveness of previous or current policies. Rather, it is intended to provide good descriptive data to stimulate and encourage debate on matters important to Armenia's future.

The benchmarking report has relied primarily on studies and data made available in 2003. However, much of this data was actually collected in 2001 or 2002, reflecting a time lag between reporting and publication. Armenia's situation is changing so rapidly that this data may not accurately reflect the current situation. Unfortunately, while it is possible to get more recent data for *Armenia,* this is the most recent data one can get *for all countries of the world.* We therefore include data from uniquely Armenian sources in the accompanying discussion, to provide a more up-to-date perspective.

The study allows people to evaluate Armenia vis-à-vis other relevant countries and to set goals and targets that are realistic, based on the achievements of other countries over a sustained period of time. It is hoped that the provision of this study will encourage productive dialogue leading to action that supports the improvement of Armenia's living standards in the immediate as well as long-term future.

The Summary Data Table

We present summary data below for the nine categories. The data is presented followed by the year of the data and the source from which the data was taken. Armenia's data are then presented followed by rank and total number of countries in the sample from which the data was taken. Since data are available for a different number of countries depending on the source, we also provided a percentile score for Armenia, such that a comparative ranking can be shown across data sets. For example, if Armenia ranked 50th among 150 countries in the sample, the final column would place Armenia in the 33rd percentile demonstrating that Armenia ranked in the top 33% of countries for that indicator. The full data sets are available in Appendix A, where each page presents detailed data for Armenia and other countries for which data is available.

Table 3-1
Competitiveness Benchmarks: Armenia

Sector	Year	Source	Absolute Score	Rank	Total in Sample	Percentage Rank[1]
ECONOMIC PERFORMANCE						
Gross Domestic Product (GDP) per Capita (current international $ millions)	2002	WB, WDI Online, 2004	$2,957	97	152	64
GDP Annual % Growth	2002	WB, WD I Online, 2004	12.90	3	170	2
GDP per Capita Annual % Growth	2002	WB, WDI Online, 2004	13.49	2	167	1
GINI Index	1998	WB, WDI Online, 2004	37.92	58	121	48
Overall Productivity (GDP/PPP Per Person Employed)	1998	WB, WDI, 2001	$4,944.52	58	59	98
EXPORT COMPETITIVENESS AND TOURISM						
Exports of Goods and Services (current US $ millions)	2002	WB, WDI Online, 2004	$692	65	83	78
Exports of Goods and Services (% of GDP)	2002	WB, WDI Online, 2004	29.23	45	83	54
Service Exports (BoP, current US $ millions)	2002	WB, WDI Online, 2004	..	..	57	..
Merchandise Exports (current US $ millions)	2002	WB, WDI Online, 2004	$508	134	184	73
International Tourism Receipts (current US $ millions)	2001	WB, WDI Online, 2004	..	..	102	..
Agriculture Exports (% of Merchandise Exports)	2001	WB, WDI Online, 2004	..	..	98	..
Agriculture Imports (% of Merchandise Imports)	2001	WB, WDI Online, 2004	..	..	99	..
Agriculture Value Added	2002	WB, WDI Online, 2004	$561	53	78	68
Agriculture Value Added Annual % Growth	2002	WB, WDI Online, 2004	4.40	26	85	31
Agriculture Value Added per Worker (constant 1995 US $)	2001	WB, WDI Online, 2004	$5,893	28	136	21
Value Added per Worker in Manufacturing	1995-1999	WB, WDI CD, 2003	..	..	69	..
INVESTMENT COMPETITIVENESS						
Foreign Direct Investment (FDI) net inflows (BoP, current US $ millions)	2001	WB, WDI Online, 2004	$69.9	109	166	66
FDI net inflows (% of GDP)	2001	WB, WDI Online, 2004	3.30	69	159	43
Gross Capital Formation (% of GDP) (Gross Domestic Investment)	2002	WB, WDI Online, 2004	19.80	54	86	63
Gross Capital Formation Annual % Growth	2002	WB, WDI Online, 2004	17.67	12	81	15

Sector	Year	Source	Absolute Score	Rank	Total in Sample	Percentage Rank[1]
FINANCIAL SECTOR						
Money and Quasi Money (M2) (% of GDP)	2002	WB, WDI Online, 2004	13.63	125	138	91
Domestic Credit from the Banking Sector (% of GDP)	2002	WB, WDI Online, 2004	7.26	139	150	93
Domestic Credit to the Private Sector (% of GDP)	2002	WB, WDI Online, 2004	6.94	130	150	87
Average Domestic Savings Rate (% of GDP)	1999-2002	WB, WDI Online, 2004	-4.43%	157	167	94
Central Government Debt (% of GDP)	2000	WB, WDI CD, 2003	..	..	74	..
International Country Risk Guide (ICRG)/Composite Risk Indicator	2004	The PRS Group, Inc., 2004	65.8	88.0	139	63
MACRO ENVIRONMENT						
GDP Implicit Deflator (Inflation) Annual %	2002	WB, WDI Online, 2004	2.27	54	168	32
Trade (% of GDP)	2002	WB, WDI Online, 2004	75.04	43	83	52
Import Duties (% of Tax Revenue)	2002	WB, WDI Online, 2004	..	..	57	..
Overall Budget Balance (including grants) (% of GDP)	2001	WB, WDI Online, 2004	..	..	58	..
GOVERNMENT REGULATIONS						
Corruption Perceptions Index	2003	Transparency International, 2003	3.0	78	133	59
Intellectual Property Protection	2003	WEF, GCR 2003-2004	..	..	102	..
Extent of Bureaucratic Red Tape	2003	WEF, GCR 2003-2004	..	..	102	..
Administrative Burden for Start-ups	2003	WEF, GCR 2003-2004	..	..	102	..
SCIENCE AND TECHNOLOGY COMPETITIVENESS						
High Technology Exports (current US $ millions)	2001	WB, WDI Online, 2004	..	..	79	..
High Technology Exports (% of Manufactured Exports)	2001	WB, WDI Online, 2004	..	..	80	..
Expenditures for Research and Development (R&D) (% of GDP)	1999	WB, WDI Online, 2004	..	..	48	..
Scientists and Engineers in R&D (per million)	2000	WB, WDI Online, 2004	..	..	32	..
Internet Service Provider Access Charges ($ per 30 off-peak hours)	2001	WB, WDI Online, 2004	$42.00	102	142	72
Secure Internet Servers	2001	WB, WDI Online, 2004	1	127	127	100
Internet Users	2000	WB, WDI	50,000	96	187	51

Sector	Year	Source	Absolute Score	Rank	Total in Sample	Percentage Rank[1]
		Online, 2004				
Technological Sophistication	2003	WEF, GCR 2003-2004	..	..	102	..
INFRASTRUCTURE						
Paved Roads (% of total roads)	1999	WB, WDI Online, 2004	96.20	21	166	13
Roads (total network, KM)	1999	WB, WDI Online, 2004	16,718	108	181	60
Telephone Mainlines (per 1,000 people)	2001	WB, WDI Online, 2004	140.30	86	186	46
Mobile Phones (per 1,000 people)	2001	WB, WDI Online, 2004	6.39	147	176	84
Electric Power Consumption (Kwh per capita)	2000	WB, WDI Online, 2004	1,153.92	77	124	62
HUMAN RESOURCE AND WORKFORCE COMPETITIVENESS						
Labor Force, Female (% of total labor force)	2002	WB, WDI Online, 2004	48.6	11	172	6
Illiteracy Rate, adult total (% of people age 15 and above)	2002	WB, WDI Online, 2004	1.43	17	137	12
School Enrollment, Secondary (% of gross)	2000	WB, WDI Online, 2004	73.28	71	123	58
Human Development Index	2000	UNDP, 2002	0.754	76	173	44
Human Development Index	2001	UNDP, 2003	0.749	87	175	50
Brain Drain	2003	WEF, GCR 2003-2004	..	..	102	..

NOTES:
[1] *Percentage rank indicates a rank of 1 as the highest in the group and 100 as the lowest.*
[2] "..." *indicates country data is not available for that specific indicator.*

Summary of Findings

Armenia demonstrates comparatively strong performance in the quality of its workforce and the extent and condition of its economy. On the other hand, Armenia ranks relatively low in the areas of investment competitiveness, government regulation and the financial sector. Given its human resources, Armenia can improve in the areas of science and technology as well as research and development, which are increasingly important in maintaining a competitive advantage. Unfortunately, Armenia data is not available from comparative sources on a number of the indicators. There is even less reporting on economic data prior to 1991, so it is difficult to establish certain patterns over any length of time.

Where data is available, Armenia presents a disparate competitive record. It ranks near the top in GDP growth, literacy, and percentage of paved roads, solidly in the middle for percentage of trade, exports of goods and services, and perception of corruption, but at the

very bottom for financial sector indicators. These shortcomings will hinder its overall competitive position in the future if not addressed. In brief, Armenia possesses many assets and elements of good performance, but many challenges remain to improve its competitive performance.

Economic Performance

Armenia's economic performance has been affected since independence by several unusual factors: the large diaspora, closed borders with neighbors, conflict with Azerbaijan, heavy remittance flows, injections in the form of foreign aid, grants and loans, among others. Armenia's GDP per capita (adjusted for purchasing power parity, PPP) is relatively low at US$2,957 (2002). 2003 data for PPP showed a remarkable upward increase to more than $3500[5], which is related at least in part to factors such as the large shadow economy, remittances and NGO-related assistance. The GDP growth figures for 2002 rank Armenia 3rd out of 170 countries surveyed with a per capita growth rate of 12.9%, and a corresponding GDP per capita growth rate of 13.49%. Moreover, Armenia achieved 13.9% growth in GDP in 2003[6]. This growth is mainly attributed to growth in construction, services and industry. Construction, mainly carried forward by the series of grants from Lincy Foundation, increased the GDP by 5.7 percentage points, services by 3.3 percentage points and industry by 3.1 percentage points[7].

Although phenomenal, it is important to put these numbers into perspective. The real figure of the GDP is relatively low, so even if Armenia economy continues to grow at the same pace, absolute increase in GDP per capita would still remain small. To compare, Hungary's GDP per capita grew by 3.51% and amounted to US $13,128.74 in 2002. At 14% growth in Armenia's GDP would increase GDP by US$364 per capita, while an increase of only 3.5% Hungary's GDP per capita would yield additional US$459[8].

However, an examination of the raw figures for GDP and GDP per capita over time indicate that after a transition period coinciding with the breakup of the Soviet Union, Armenia's GDP per capita has returned to pre-1991 levels and the raw GDP (in constant 1995 US$) is approaching that level.

Armenia ranked below the most other countries of the former Soviet Union in its income distribution, measured by the GINI index (1998, a data point that is already 5 years old). Given the low per capita GDP figure, a relatively high GINI index indicates that there are many people with the income well below the $2,957 mark. Indeed, according to the National

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[5] March 25, 2004 speech by the World Bank Resident Representative.
[6] Source: National Statistical Service of the Republic of Armenia.
[7] Source: Central Bank of the Republic of Armenia.
[8] Calculations based on 2002 GDP per capita figures.

Statistical Service of the Republic of Armenia, average annual salary was estimated US$690 in 2003. Nonetheless, the growth in the number of small and medium enterprises (SMES) indicates possible increase in entrepreneurial risk taking, which, in turn, could have a positive impact on income distribution. In 2002, SMEs accounted for 35% of GDP up from only 16-17% as recently as 1998[9]. Armenia's Gross External Dept per capita was quite low- US$527.5[10], which suggests a situation of relatively low lending risk.

Export Competitiveness and Tourism

In 2002, Armenia exported a total of US$692 million in goods and services. Exports as a percentage of GDP were 29.23% and exports per capita amounted to US$215. It is difficult, however, to get an accurate picture of where Armenia ranks in relation to the region and the world from the WDI indicators as there are only 83 countries reporting. Armenia's export performance has been steadily increasing in recent years, after spending most of the late 1990s hovering around $400 million, where exports were they ranged between 19-24% of GDP. An initial target for exports could be a return to 1991 levels, when Armenia had $1.2 billion in exports, comprising 41% of its GDP. According to the IMF, light manufacturing has been the driver of increased output since the late 1990s. For example, merchandise exports grew 40 percent in 2002[11] and amounted to US$508 million, 134th out of 184 countries surveyed (73rd percentile).

Although Armenia doesn't report International Tourism Receipts to the World Bank, some statistics are available from the National Statistical Service of the Republic of Armenia (NSC of RA), listing annual visitors in 2002 as 162,000 and in 2003 as 206,000[12]. Although increasing significantly, the number of annual visitors is still well below Soviet-era levels of 600,000 visitors per year.

The annual growth of agricultural value added for 2002 was 4.4%, in the top third of the 65 countries reporting. Most of the growth was attributed to increased sales of distilled alcoholic beverages (coinciding with the privatization and regeneration of the brandy industry). Other exports are preserved tomatoes, cigarettes, crustaceans, mineral water, fruit preserves and juices, wine, decaffeinated coffee, eggs, live fowl and bovine skins. According to the FAO country indicators for 2002[13], Armenia's main agricultural imports are wheat, cigarettes, and refined sugar. Since 1996, Armenia's agricultural trade balance has gone from (-) $298 million to (-) $171 million.

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[9] Source: Small and Medium Entrepreneurship Development National Center (SME DNC) of Armenia.
[10] As of September 2003 (source: National Statistical Service of the Republic of Armenia).
[11] IMF, Republic of Armenia 2002 Article IV Consultation p. 7.
[12] Armenian statistics do not break down the visitor numbers by trip purpose (i.e. business, leisure, treatment)
[13] http://faostat.fao.org/

In 2003, overall exports were US$ 678.1 million, up by 34.2% over 2002[14]. The growth was mainly due to a 35.3% increase in exports under the harmonized system category of Precious and Semi-precious Stones, Metals and Articles Thereof (which has 51.5% share of Armenian exports), mainly diamonds, and a 101.8% increase in exports in the category of Non-precious Metals and Articles Thereof (about 13.3$ of exports). 2003 imports were US$ 1,269 million, a 28.6% over 2002. The increase in imports was largely due to the corresponding 54.4% growth in imports of Precious and Semi-precious Stones, Metals and Articles Thereof (share in imports is about 26%), and also a 28.1% increase in imports under the category of Machinery, Equipment, Devices (10.4%of imports)[15] This latter figure might be positive, if it represents increased investment by business. In 2003, the trade balance deficit grew by 22.7% compared to 2002 and totaled US$ 591.4 million[16].

Investment Competitiveness

Investment indicators include gross domestic investment (GDI) and foreign direct investment (FDI) as a percentage of GDP, FDI per capita, as well as the growth rates of both GDI and FDI. Armenia's GDI grew by 17.67 percent in 2001, reaching 19.8 percent of GDP. Although the percentage of GDP represented by GDI is middling at 54th out of 86 countries, the growth rate is quite promising - 12th of 81 countries (15th percentile). Foreign direct investment did not grow as sharply—in 2001 the amount of FDI was US$69.9 million (66th percentile). In the same year FDI per capita amounted to US$21.76.[17] The corresponding share of FDI in GDP was 3.3 (43rd percentile). However, it is important to note that these figures are from 2001 and therefore do not include any investment relating to the 2001-2003 Program for State Property Privatization. In 2003 FDI increased by 8.9% over 2002 and totaled US$153.5M. The five most significant sources of FDI in 2003 were from Russia (44.6%), Canada (7.4%), USA (7.0%), Greece (6.6%), and France (6.1%).[18]

Financial Sector

Armenia experienced severe problems in the banking sector in the late 1990s. As a result, the Central Bank of Armenia intervened heavily and required commercial banks to be very conservative in lending. Currently, many commercial banks require up to 100% collateral for the loans. Commercial loans, in general, are short -term and interest rates vary from 16%-30% for loans in local currency and from 7.5% to 24% in USD. Analysis of financial sector

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[14] Source: National Statistical Service of the RA.
[15] Source: National Statistical Service of the RA.
[16] Ibid.
[17] According to RA Census in 2001, the total population was 3,213 K.
[18] Ibid.

indicators reveals that the sector is rather underdeveloped. Credit to the private sector as a percentage of GDP was 6.94 percent in 2002, placing Armenia in the 87th percentile, 130th out of 150 countries. Armenia's ranking on *Domestic credit from the banking sector as a percentage of GDP*, compared to other countries, is even lower at – its rate of 7.26 percent places Armenia 139th out of 150 or in the 93rdpercentile. The average domestic savings rate, as a percentage of GDP, is particularly low -4.43%, placing Armenia 157th out of 167 (94th percentile). Since July 2003, the Central Bank of Armenia has implemented a deposit guarantee system. All commercial banks in Armenia are required to pay 0.5% of deposit amounts to the Deposit Guarantee Fund. The objective is to increase trust in the banking system and, consequently, to attract more money from the population to provide both commercial and consumer loans. The 2002 money supply or level of liquidity, measured by money and quasi money[19] as a percentage of GDP, was 13.63. This figure put Armenia in between Sudan and the Democratic Republic of Congo. Overall, Armenia is 125th out of 138 on this indicator (91st percentile).

Macro Environment

Despite its marked growth in GDP, Armenia has experienced a very low annual percentage increase in inflation (GDP implicit inflator), 2.27%, which has remained relatively stable since 1999[20]. In 2002, trade as a percentage of GDP was 75.04%, ranking 43rd out of 83 countries.

The trade regime in Armenia is quite liberal. It ranks one (most liberal) according to the IMF Trade Restrictiveness Index[21]. Approximately one-third of imports are subject to a tariff of 10 percent and the remaining imports receive duty free admission. In 2002, the General Council approved Armenian accession to the WTO.

In 2003, the balance of payments included a current account balance of –US$148 million, a capital and financial account balance of US$152 million while net errors and omissions stood at –US$4.1 million. The current account deficit has decreased significantly since 1998 when it stood at –US$402.95 million. This decline is indicative of a strengthening of Armenia's terms of trade position due in part to a real depreciation of the Dram and an increase in tourism

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[19] Source: IMF. Money comprises transferable demand deposits of monetary authorities and deposit money banks ("M1"), other than those of the central government, and currency outside banks plus, where applicable, private sector demand deposits with the postal checking system and with the Treasury. Quasi-money comprises time, savings, and foreign currency deposits of resident sectors other than central government. Money plus quasi-money is frequently called "M2".

[20] According to data provided by Central Bank of Armenia, the level of inflation was 3.1%, 1.1%, and 4.7% in 2001, 2002, and 2003 respectively. The high level of inflation in 2003 was reportedly caused by a considerable increase in prices for "cereals" and other foodstuffs (e.g. eggs, fruits, and vegetables).

[21] Source: IMF, Republic of Armenia 2002 Article IV Consultation.

receipts. Remittances from abroad continue to be a significant portion of income, and are estimated to be $200 million per year[22].

Government Regulations

Armenia has a corruptions perception Index rating of 3.0, which puts it in the 59th percentile of the 166 countries surveyed in 2003. In 2002, the World Bank gave a grant to Armenia to develop an anti-corruption strategy. The commission, headed by Prime Minister Andranik Markarian, completed its strategy mid-year[23]. USAID is also providing funds for democracy and governance programs, to strengthen the rule of law and civic education, provide support an independent media and increase transparency in government.

According to the *Index of Economic Freedom (2004)*[24], Armenia's Index of Economic Freedom is 2.63. This index compiles variables for the various factors such as Trade Policy, Fiscal Burden, Government Intervention in the Economy, Monetary Policy, Capital Flows and Foreign Investment, Banking and Finance. The Index Scores rank from 1-1.99 Free; 2-2.99 Mostly Free; 3-3.99 Mostly Unfree; and 4-4.99 Repressed. Armenia ranks 44th out of 155 countries surveyed, with the score corresponding to the "Mostly Free" economy on the continuum. Armenia's scores on Regulation (4.0) and Informal Market (4.0) are within the "repressed" categorization.

Armenia, although it does not have a rank for Intellectual Property Protection in the Global Economic Forum *Global Competitiveness Report*, is a member of the World Intellectual Property Organization, and lists its intellectual property regime as follows:

- Law on Patents, August 1993, amended October 1999.
- Law on Trade Marks, Service Marks and Appellations of Origin, July 1997, amended March 2000.
- Law on Copyright and Related Rights, May 1996, amended December 1999.
- Law on Trade Names, September 1997, amended November 1999.
- Membership in the Paris Convention (Industrial Property, since December 1991); Berne Convention (Literary and Artistic Works, since October 2000); PCT (Patents, since December 1991); Madrid Agreement (International Registration of Marks, since December 1991); Madrid Protocol (International Registration of Marks, since October 2000); Geneva Convention (Unauthorized duplication of Phonograms, since January 2003); and the

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[22] USAID and World Bank estimate, from USAID Statement of Work "Remittances to Armenia: An Assessment of their Economic and Social Impact and Potential as a Source of Capital for Development, April 8, 2004, Page 3.
[23] Global Corruption Report, 2003. Transparency International, p. 167.
[24] 2004 Index of Economic Freedom, The Heritage Foundation and the Wall Street Journal.

Brussels Convention (Distribution of Programme-Carrying Signals Transmitted by Satellite, since December 1993).

Starting a business in Armenia remains a challenging endeavor. Ten steps must be taken to launch a business over an average period of 25 days[25]. The cost is equivalent to 8.5% of gross national income (GNI) per capita. The regional averages are ten steps to start up a business over a 48-day period, costing 21.7 percent of GNI per capita. Worldwide best practice is much more streamlined and less expensive.

Science and Technology Competitiveness

Armenia does not report on the standard indicators for science and technology competitiveness: high technology exports as a raw figure and in terms of percentage of GDP, expenditures for research and development (R&D) as a percentage of GDP, or scientists and engineers in R&D as a percentage of population and the index of technological sophistication. In 2000, Armenia recorded 50,000 Internet users, which put Armenia 96th out of 187 countries. Although Internet usage has increased since then, the telecommunications monopoly hinders the process of rapid development in the ICT sector. The share of exports of IT services and products as a percentage of GDP was 1.7% in 2003.[26] A majority of IT companies in Armenia are either subsidiaries of foreign enterprises or financed from abroad by the diaspora.

Infrastructure

Armenia's infrastructure is inconsistant. Infrastructure is normally measured by a country's capacity to provide energy, transport, and communications. Armenia ranks fairly well in road density, towards the middle in electrical capacity as measured by electricity consumption, but low in teledensity.

Armenia ranks in the top 13% of 166 countries for the percentage of paved roads in 1999. Since 2001 the Lincy foundation has allocated US$71.5 million for major road building/reconstruction and US$ 14 million to rebuild streets in Yerevan. Although the existence of paved roads is generally a good indicator for economic development, it is particularly relevant when determining the feasibility for growth in the agricultural sector—i.e. farm to market roads—and promoting economic growth broadly across the country. While the road infrastructure is considered above average, according to the World Bank country brief, Armenia's rail infrastructure is old and out of date.

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[25] Source: The World Bank Group. Snapshot of Business Environment, Armenia. See http://rru.worldbank.org/DoingBusiness/SnapshotReports/Country.aspx?regionid=10#econ-char

[26] Source: National Statistical Service of the RA.

The telecommunications infrastructure is still primarily reliant on telephone mainlines, which are relatively few compared to neighboring countries, but in line with middle income countries. In 2002, the total number of landline customers in Armenia reached 531,269, of which 269,051 were in Yerevan. As of the 1st of September 2003, the total quantity of mobile telephone subscribers was about 74,000. In 2001 the mobile phone density was 6.39 per thousand, falling in the lowest quartile of reporting countries. The telecommunication monopoly levies high prices on teleservices, and thus probably restricts the development of companies, such as Internet Service Providers, which heavily rely on telecommunications networks. The monopoly in mobile phone provision will end in July 2004. This will possibly lure new investors in the field, and it is likely that prices will decrease and that the quality will improve.

Electric power consumption per capita is 77th out of 124 in Armenia (62nd percentile). For a small country with limited economic activity, this is a rather large number, but should be viewed in context of Armenia's exports. Four of its top ten exports by value are classified as metals (including gold, ferro alloys, ferrous scrap, copper, aluminum scrap and foil, molybdenum) within harmonized system, the extraction and processing of which are heavily dependent upon energy resources.

Human Resources and Workforce Competitiveness

Armenia benefits enormously from the emphasis that was placed on literacy and education in the Soviet system. Even with its low per capita GDP, Armenia's UNDP Human Development Index rating is 0.749, ranking Armenia as 87th of 173 in 2001. The HDI is a combination of life expectancy (72.1 years), adult literacy rate (98.5%), the gross enrollment ratio for elementary, secondary and tertiary education (77%), and GDP per capita. The percentage of women in the labor force is 48.6, which puts Armenia 11th out of 172 (6th percentile). From the data it is difficult to discern the reasons for such a large percentage of women in the workplace. Is there an emphasis on workplace equality that draws women into the workplace? Or is it out of necessity due to the lack of male participation as a result of the recent war with Azerbaijan and/or the large number of men from the outlying regions (marzes) working abroad to support their families.

Conclusions

Armenia's indicators in the 1990s reflected the difficult political, economic and human transitions of the period. These included the disruption of supply chains, the loss of traditional markets and difficulties in restructuring the economy from central planning to a market economy. Issues with privatization, conflicts and closed borders have undoubtedly hampered progress.

However, underlying the poor results of the 1990s is hope for optimism. The human resource base, strong presence of women in the workforce, and the tradition of science and technology are solid bases for future competitiveness. More recently, Armenia's strong export and investment performance, and GDP growth, and performance in certain areas of policy, trade regimes and financial sector regulation point to reasons for optimism that, given sound policies and their effective implementation, and sound investment decisions, Armenia could be poised for significant improvements in its competitive performance. As reform, restructuring, and investment continue, Armenia's competitiveness as measured by these indicators is likely to improve. We recommend that Armenia economy improve collection of these and similar indicators annually, publicize their publication and emphasize the need for improvement. Inserting Armenia in the world economy will require good government strategy working in tandem with private enterprise. It is hoped that these indicators will inform policy and stimulate productive private-public dialogue.

4. Enabling Environment for Competitiveness

Macro Environment

For seventy years, Armenia enjoyed a pre-eminent position as one of the most industrialized republics of the former Soviet Union. Strong in the fields of education, science, mining and metallurgy, and in the manufacturing of chemicals, textiles, and machine tools, Armenia was performing well within the confines of the larger planned economy in which it participated.

In late 1990, the Republic of Armenia declared independence and subsequently joined the Commonwealth of Independent States (CIS). With the collapse of the central planning system and the re-definition of national boundaries, Armenia suddenly faced the prospect of transition to a market economy as a small, landlocked country in a region prone to conflict, and with fragile or disappearing markets. Its economy, heavily reliant on imports of industrial inputs, had become obsolete, and Armenia found itself isolated as conflicts with neighbors created a *de facto* economic siege.

With the establishment of the Dram as the national currency, a reform program was launched in 1994 that included privatization, foreign exchange, price and trade liberalization, plus strong fiscal controls. Armenia was the first of the former Soviet Republics to carry out land privatization. In terms of national competitiveness, Armenia's macroeconomic environment has achieved a degree of stabilization and performance over the last 10 years that appears positive, but is also structurally weak.

Real GDP growth in the period 2000-2004 has been impressive, rising from 6% to an estimated 13.9% in 2003[27][28]. GDP per capita was around $500 in 2000, and has risen to somewhere

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[27] Economist Intelligence Unit, Country Report, February 2004.
[28] According to the World Bank, Armenia achieved 7.3% growth in GDP in the first quarter of 2004. Tax revenues increased "massively" in January-February 2004.

between $933 and $1400 per capita (depending on which estimate of the population is used), close to pre-1991 levels. In the same period, inflation was low. The spike in inflation experienced in 2003 was caused by a temporary surge in food prices provoked by regional crop failures, and is unlikely to reoccur. The Dram exchange rate has been fairly stable and the export of goods has been increasing at a faster rate than imports. While Armenia's current account balance is negative, the gap does not appear to be increasing at an alarming rate.

Armenia receives one of the world's highest levels of development aid per capita. This, plus contributions from the diaspora, accounts for 50% of GDP[29].

STRUCTURE OF THE ECONOMY

Despite this positive performance, there are several indications that the structural framework for achieving sustained growth and poverty reduction are not secure. Armenia has yet to achieve the structural reforms to ensure efficient market intermediation and to secure a foundation for its economy based on market knowledge, productivity, and product diversity that will improve the standard of living for a large proportion of Armenians. Exports remain heavily focused on the Armenian diaspora.

After the break-down of the USSR and the Nagorno-Karabakh conflict with Azerbaijan, Armenia's GDP plummeted in the period 1991-1993. Armenia experienced moderate GDP growth until 2000, after which GDP performance improved greatly due to foreign direct investments in key sectors including gems and jewelry, alcoholic beverages, and mining, coupled with remittances and transfers from the diaspora.

Armenia ranks well below the rest of the former Soviet Union in income distribution, and its relatively high GINI coefficient would indicate that growth is confined to a narrow band of performing businesses and that income earning opportunities within these activities are not accessible to a large part of the population. This is corroborated by the fact that official unemployment numbers remain almost unchanged since 2001. The true incidence of unemployment is probably underestimated due to the difficulty of registering for benefits and the presence of large numbers of underemployed Armenians, many of which participate in the large shadow economy. According to the World Bank's 2001 household survey, the real rate of unemployment in Armenia was around 25%.[30] According to national definitions, 50% of households lived below the poverty line in 2003, with 15-20% in extreme poverty. [31]

These characteristics of macroeconomic performance are not uncommon in economies that are heavily reliant on a few highly concentrated industries that require only small numbers of workers and on extractive industries. A large share of Armenia's exports, almost 70% in value

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[29] AEPLAC interview4.
[30] World Bank Poverty Reduction Strategy Paper for Armenia, May 2003.
[31] Economist Intelligence Unit, Armenia Country Report, 2003.

terms, still comes from precious and semi-precious stones, base metals, and minerals. This is basically comprised of the gem-cutting and jewelry sector and extractive industries. Diamond processing and similar sectors employ relatively few people compared to the value of their exports, while profits accrue to a small number of people who may or may not invest in other productive enterprises. In the case of extractive industries, the relatively few workers are typically paid low wages, with resulting low multiplier effect.

The large share of construction in percentage contribution to GDP was made possible through large transfers by the Lincy Foundation, which made grants to construct housing and to improve roads and cultural sites that were equivalent to 3% of Armenia's GDP in 2003[32]. Construction accounted for 13.9% of GDP in 2002. With the expiration of the Lincy program in 2003, it is expected that construction will slow significantly in 2004 and possibly beyond.

Only four countries made up over 60% of Armenia's export markets in 2002, with the gems and jewelry trade and precious metals accounting for up to 51.1% of the value of exports, base metals, and minerals for another 17.2% and only 10% for prepared foodstuffs. Diamonds dominate Armenian trade, and as a single commodity have changed Armenia's trade structure - Israel has become the leading export destination in only three years, with Belgium second and Russia now a distant third.

Armenia is in fact a largely agrarian economy that has only a few modern specialized sectors generating foreign exchange earnings. These sectors are concentrated in Yerevan, and have created few employment and income generating opportunities for the rest of the country. Armenia's GDP growth should be viewed in the light of an extremely low starting point. It has been largely supported by a limited number of economic activities, remittances by the diaspora and Armenians temporarily working in Russia and other countries. As presented in later sections of this report, the economic activities contributing to growth have not secured diverse or stable export markets based on value added, quality, or product differentiation.

In 2002, Armenia exported US$692 million in goods and services comprising 29.23% of GDP, compared to 1991 levels of $1.2 billion in exports, comprising 41% of GDP. As the benchmarking study reveals, Armenia's merchandise exports in 2002 were US$508 million, putting it 134th out of 184 countries surveyed, just ahead of sub-Saharan Africa and small island economies. With the collapse of former markets which were not very demanding, and the disappearance of a trade system that required not the ability to compete but the ability to produce goods of moderate quality with little differentiation, Armenia lost most of its export capability - and in 10 years has only been able to recover about half of its 1991 level of export revenues. Other parts of the economy are performing poorly as capital equipment and human resource skills continue to deteriorate due to low levels of investment and retraining in market economy skills.

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[32] Economist Intelligence Unit, Country Report, February 2004.

MONETARY AND FISCAL POLICY

Armenia's monetary policy has been generally successful in restraining inflation through tight controls on money supply, despite the spike in consumer prices in 2003. A floating exchange rate policy allowed the Dram to appreciate relative to the dollar in the last quarter of 2003, a response to strong capital inflows, among which projects like the Lincy Foundation's large program contributed significantly. However, the US dollar was also weakening during this period, and the Dram depreciated against the Euro in the same period, allowing Armenia to remain competitive in European export destinations. In real terms exchange rates have remained sufficiently stable to permit trade and investment to operate smoothly.

In terms of fiscal policy, Armenia is targeting a relatively manageable deficit of 2.5% of GDP, and with the fall in revenues expected from a decline in external grants, expenditures in 2004 will be around 18.7% of GDP, lower than the 20.6% of GDP spent in 2003. A slight increase on social expenditures is planned, which will be offset by a larger decrease in infrastructure investments, which were funded through the Lincy foundation grants.

TAX POLICY

Tax collection stands at about 14% of GDP, and Armenia relies largely on enterprise profit taxes[33] and VAT to finance the government budget. Customs duties are low at 10% and are applied to only about 30% of imported goods. Tax collection is poor, and businesses are skilled at evading taxation. Some sectors are not taxed, for example diamond processing and grant financed construction. About 15% of total imports, selected items considered intermediate inputs and capital goods, are also exempted from VAT. These exemptions may have a distorting effect by favoring some industries over others. In other cases, the VAT disadvantages export industries that compete in markets not imposing VAT on the same sectors. For example, in Georgia pharmaceuticals are tax exempt, making Georgian medicines an attractive black market item in Armenia. However, tax exemption is a tool of Armenia's industrial policy and government (and business beneficiaries) is reluctant to eliminate exemptions.

The government continues to amend tax legislation in order to increase tax collection, recently adding an increase in excise duties, fixed payments, and presumptive taxes and introducing a new minimum profit tax based on 1% of a company's turnover. It is thought that by linking taxes to turnovers rather than profits, tax evasion can be reduced. Many restrictions on tax inspections have also been removed.

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[33] According to the World Bank, corporate tax collection was very unsatisfactory in 2003—actually down by 11% over 2002 in real terms.

The simplified tax, introduced for micro and small enterprises in 2002, replaces VAT and profit taxes to simplify accounting and reporting for small businesses. Firms pay a fixed tax on their annual revenues and do not have to report tax-deductible expenses.

Poor tax collection is largely a function of creative accounting on behalf of enterprises, a skill highly developed in post-socialist economies unaccustomed to paying taxes. The changes in tax policies are a stopgap measure and have their downsides. The minimum profit tax will impact enterprises in difficulty, such as new businesses, and may prompt companies to restrict their apparent turnover by adding shadow transactions or splitting operations into smaller units that go unnoticed, ultimately reducing their competitiveness.

PRIVATIZATION AND COMPETITION

Privatization, begun in May of 1992, remains a weak point in the process of restructuring the economy. To date, approximately 9000 enterprise units have been privatized since 1992, but the pace of privatization and the reform of publicly managed enterprises remains slow.

Land privatization broke agricultural lands into plots too small to achieve economies of scale, and the lack of alternative employment opportunities has prevented small farmers from exiting the agricultural sector. This has resulted in even lower productivity in the agricultural sector than before 1991. For example, land planted to wine grapes has fallen from a pre-independence high of 36,000 hectares to only 8,000 hectares at present.

Enterprise privatization has had mixed results. High quality transactions involving investors with management experience and good business strategies, such as the sale of the Yerevan Brandy Factory to Pernod-Ricard, contrast with transactions such as the sale of a large stake of Armentel to the Greek telecom company, OTE. The Armentel monopoly, which delivers poor services at high prices, will be dissolved in June 2004 based on a recent vote in Parliament. It remains to be seen if Armenia's backing out of its investment commitments with OTE, will have a positive impact on the performance of Armenia's IT sector and related sub-sectors. Similarly, the concession granted to an Argentine-Armenian joint venture for the development and operations of Zvartnots Airport, granting it near monopoly rights on air transport in Armenia, appears to be causing obstacles to the growth of industries that need efficient, high quality air services. These include tourism, fresh fruits and vegetables and cut flowers.

Privatizing of the mining industry has not yet progressed very far.

Exhibit 4-1

RA Parliament Adopts Law "On E-Communications" In the First Reading

December 25, 2003 RA Parliament adopted the law "On e-communications" in the first reading. David Harutiunian, RA Justice Minister, said in Parliament that the law aimed to create conditions ensuring gradual transition to competition based market. According to him, the law differentiates the functions of State and independent bodies that regulate the e-communications. He said that the tariff policy of the telecommunication sector would be regulated by the Natural Monopolies Regulating Commission.

Harutiunian noted that the law mentioned the activities of the current monopolist of Armenian telecommunications market – ArmenTel Company. In particular, he said that the law indicated the impossibility of providing exclusive rights. He also said that the law did not limit the exclusive rights of ArmenTel set in the license, as it could be evaluated as an act of nationalization. "We are just confirming that the exclusive rights are valid, unless they are suppressed by another act stipulated by the license," he emphasized.

Oct 8 2003, the Armenian Government made a decision to deprive ArmenTel CJSC of monopoly for cellular communications and international data transfer in Armenia. OTE Greek Telecommunication Company purchased 90% of ArmenTel Armenian-American telecommunication company's shares for $142.47 million via an international tender in December 1997. The rest of the shares are owned by the Armenian Government. According to the agreement signed with the Armenian Government, ArmenTel receives the monopoly in this area for 15 years. OTE assumed to invest $200 million in the Armenian telecommunications during the first five years.

Source: ARKA News Agency

Changes to Armenia's competition law give the Competition Commission greater scope to act against abuses of enterprises with a dominant market position. The Competition Commission, Armenia's anti-monopoly body, has the authority to demand that monopolies provide minimum levels of service and to regulate the prices of monopolies. It is also authorized to defend new entrants into markets previously monopolized by limiting anti-competitive behavior. The Commission, as yet largely unproven in its mandate, only acts in response to complaints, and cites a low level of applications for intervention. The State Department for State Property Management, responsible for privatization, does not consult with the Competition Commission prior to concluding transactions that may create new monopolies or sustaining old ones.

Structural reforms would benefit greatly from a more proactive approach to de-monopolization and the regulation of natural monopolies.

BANKING

Banking sector reforms supported the consolidation and strengthening of the banking sector through 2003, with more stringent banking supervision and prudential requirements and an increase in the minimal capital requirement to between USD 2 million and USD 5 million for

new banks. By 2005, all banks must meet the USD 5 million minimum capital requirements. Approximately 20 different commercial banks are operating in Armenia, while up to seven others are in the process of liquidation. Only one is a foreign Bank. A deposit insurance scheme was put in place in 2003 covering private deposits, which should help overcome a lack of confidence in the banking sector after July 2005[34].

The focus of bank regulations in Armenia is on maintaining a safe and financially sound system of banking, and more stringent regulations on capital requirements and reserve ratios have achieved this to a large degree.

The banking sector performed well in 2003, with assets rising due to strong economic performance to about 17% of GDP and an increase in deposits and profitability. However, the banking system does not function as an efficient financial intermediary in support of a competitive economy. The analysis of financial sector indicators in the benchmarking report supports our finding that the financial sector is severely underdeveloped. Credit to the private sector as a percentage of GDP, Armenia ranked in the 87th percentile, 130th out of 150 countries (2002). 139th out of 150 or in the 93rd percentile (2002), Armenia ranks even lower in terms of domestic credit from the banking sector as a percentage of GDP (7.26 percent).

High interest rates coupled with low rates on deposits create an environment where those with substantial savings would do better to make private informal loans outside the banking system or invest abroad, while banks mainly serve transaction functions and as depositories for small savers. The average domestic savings rate, as a percentage of GDP, is dismal at -4.43%, placing Armenia 157th out of 167 (94th percentile) (1999-2002).

While Armenian banking system requirements are largely in line with EU norms, banks hold themselves to much more conservative limits in lending. This is understandable, given that there is higher price volatility in an emerging market such as Armenia, more event risk, and banks are not experienced in risk management. The Central Bank cut refinancing rates four times in 2003, bringing it down from 13.5% to 7% in December. Nonetheless, interest rates on loans are still high, at over 20%, while deposit rates fell throughout 2003 finishing at around 6.5%, producing a negative real rate of return when compared to inflation rates in the third quarter. Although the deposit rate was a couple of points higher than average consumer price inflation, this does not provide much incentive for deposits beyond amounts required to make bank transactions. This situation reflects the poor quality of financial intermediation in Armenia's banking system. Training programs for bankers credit evaluation and credit risk may improve financial sector services, but ultimately unless government changes its philosophy regarding the banking sector and implements proactive policies to reduce risk and encourage lending, banks have no real incentive to lend to the community. This issue is

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[34] According to the law, which was passed recently, the maximum guaranteed amount of AMD deposits would be 2M, and I AMD equivalent deposits in other currencies. Since July 2003, commercial banks have been required to annually pay 0.5% of the amount of deposits to the Deposits Guarantee Fund (DGF).

addressed in more detail under *Financial Services* in the *Microeconomic Environment section* of this Assessment.

TRADE AND INVESTMENT COMPETITIVENESS

Armenia has a very liberal trade regime, and in 2002 was granted accession to the WTO. It ranks among the most liberal trade regimes according to the IMF trade restrictiveness index[35]. Approximately one-third of imports are subject to a tariff of 10 percent and the remaining imports receive duty free admission. Trade turnover increased in 2003, driven by the performance of key export industries, namely gems and jewelry and base metals.

The growth of new sectors of the economy, particularly gems and jewelry, and specifically diamond cutting, has resulted in a shift away from traditional trade partners which were Russia and other CIS countries. Belgium and Israel now figure prominently as export markets, although Russia is still the leading supplier of Armenian imports.

In 2003, the breakdown of the balance of payments included a current account balance of –US$148 million and a capital and financial account balance of US$152 million, while net errors and omissions stood at –US$4.1 million. Final figures for 2003 may reveal a balance of around –US$205 million. The current account deficit has decreased significantly since 1998 when it stood at –US$402.95.

Armenia is a net exporter of precious stones, metals, base metals, and some categories of prepared foodstuffs. It is a net importer of machinery and equipment and of vegetable products. Armenia's current account deficit increased in 2003 as a result of an increased trade deficit alone, as services and income balances remained about the same and current transfers increased. The Economist Intelligence Unit report of February 2004 posits that the growth in capital goods imports that widened Armenia's trade deficit in 2003 may raise the capacity of export sectors, permitting Armenia to close the gap in subsequent years.

Both gross domestic and foreign direct investment are growing at promising rates. Although final figures are not yet available for 2003, the National Statistical Service indicates that foreign direct investment in the first three quarters of 2003 rose nearly 50% over the same period in 2002. The rise is attributed to a sharp increase in FDI from Russia, including investments in the Mars machinery plant and other enterprises that were part of a debt for equity package agreement concluded between Armenia and Russia in 2002. Date from the same source shows that FDI during January-December 2003 increased by 8.9% over 2002, and totaled US$153.5M. The five largest sources of FDI in 2003 were Russia (44.6% of total), Canada (7.4%), USA (7.0%), Greece (6.6%), and France (6.1%).

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[35] Source: IMF, Republic of Armenia 2002 Article IV Consultation.

Russia is an important investor in the Armenian economy as well as an important export market. It also presents advantages as an export market because Armenian products traditionally have a good image in the former Soviet Union, and Russia has become the wholesale distribution point for many products in the CIS. Russia's economic performance will continue to have a significant impact on Armenia's trade and investment flows for some time to come.

LANDLOCKED COUNTRIES

Bearing additional costs for external trade transactions, landlocked countries typically experience slower growth overall and Armenia is no exception. High transport costs may have a considerable impact on trade and investment, and in choice of trading partners, if reasonable transit access cannot be secured. Landlocked developing countries currently pay an average of 15% of their export earnings for transportation, compared to about 7% paid by developing countries with sea access and 3 to 4% for developed countries with direct access to the sea. Improving relations with Turkey and Azerbaijan will be critical to Armenia's competitiveness.

Late in 2003, landlocked countries won agreement from a consortium of international agencies, financial institutions, and developing countries that have transit access, on securing greater access to the sea and reducing red tape involved in trade. Participants at the UN sponsored conference in Almaty, Kazakhstan established the Almaty Program of Action, which provides a framework for trade cooperation between 30 landlocked countries and 33 transit-access developing countries. Armenia was a participant in the program, and attached particular importance to regional cooperation and integration. Such a strategy could indeed help Armenia become a crossroads for trade in the region, and enable Armenia to attract increased FDI and to expand on cross-border tourism products and other services.

POLICY DIRECTIONS

Armenia is progressively moving towards harmonization with EU models and standards, implying an economic strategy of eventual integration into the EU system. While bilateral negotiations with Russia still play a major part in mid-term economic policy, Armenia, like many other CIS countries, is looking outside the FSU markets for growth opportunities. High priorities must be the resolution of the conflict with Azerbaijan over Nagorno-Karabakh, developing better relations with neighboring Turkey, and solving transportation problems with neighboring Georgia.

Micro Environment

Armenia's microeconomic environment suffers less from the post-socialist legacies affecting transition than many other countries of the former Soviet Union. This is probably a function of the fact that numbers of civil servants in Armenia are highly educated and are familiar with the principles of globalization. Government as a rule has not adopted protectionist measures to stave off inevitable market competition, thus reducing Armenia's waiting period in preparing for competition.

USAID/Armenia commissioned an SME Sector Assessment Update[36], which was completed in mid-2003, the results of which are a good starting point for examining how the microeconomic environment supports the competitiveness of Armenian businesses. According to this study, businesses felt that the degree of internal market development in Armenia posed the greatest constraint to doing business, above regulatory and enforcement issues, access to finance, and business information or skills. This largely supports the conclusion that policies and regulations are not, on the whole, barriers to competitiveness, but that Armenia needs to improve significantly in restructuring its economy to support business competitiveness.

REGULATORY ENVIRONMENT

The legal framework for business operations, including company registration, licensing, and inspections, does not pose an especially cumbersome burden on enterprises. Rather, the availability of transparent information regarding specific requirements for registering a business, or applying for a license, is simply poor and the administration of these systems is inefficient. Businesses often encounter the 'runaround' when seeking to perform simple administrative tasks or make applications. As one contractor studying the business registration procedure put it, "*the process for registering a business is quite simple, however nobody wants to tell you how to do it!*" Large businesses have "connections" or can afford to hire facilitators or expediters to perform these tasks, so the burden is greater on small enterprises whose profitability may suffer from the additional payments that need to be made to the facilitator or from informal payments required to "grease the skids" of bureaucracy.

The lack of transparency and poor implementation of basic regulations affecting businesses provides opportunities for corruption. Corruption is a pervasive factor of doing business in Armenia that greatly affects business competitiveness in many ways.

Another aspect of regulation that affects the competitiveness of the microeconomic platform is the unpredictability of the regulatory environment. The rules of the game change frequently in Armenia, as laws and regulations are frequently amended, making the business

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[36] Carried out by Apricot Plus, Yerevan.

environment unpredictable and increasing business risk. Business risk affects not the decisions of individual industries and firms, but also those of investors and creditors.

TAXATION

Armenia imposes a rather inefficient and burdensome tax system on businesses, and both the statutory and administrative aspects of taxation contribute to a poor business environment. Customs duties are set at a flat 10% and are applied to only about 30% of imports, making customs taxes relatively straightforward. Enterprise taxes and VAT are significantly more burdensome.

The government continues to amend tax legislation in order to increase tax collection, in an attempt to compensate for poor enforcement and collection rates. Tax evasion is common and many enterprises engage in creative accounting methods to reduce their tax liabilities. Tax inspectors cannot do an adequate job of auditing, partly due to lack of resources but also due to the presence of a large shadow economy where transactions easily get lost.

The simplified tax, introduced to facilitate tax payment for micro and small enterprises in 2002, replaces VAT and profit taxes to simplify accounting and reporting for small businesses. Firms pay a fixed tax on their annual revenues and do not have to report tax-deductible expenses.

Recent legislative changes added an increase in excise duties, fixed payments and presumptive taxes, and introduced a new minimum profit tax based on 1% of a company's turnover. It is thought that tax evasion can be reduced by linking taxes to turnovers rather than profits. Linking taxes to turnover has a distortionary effect, however, because it favors enterprises with high profit margins while imposing an inordinate burden on industries that typically have low margins in relation to their turnover, such as textiles. Industries with low profit margins are often those that need to make capital and technological improvements to increase productivity. Taxation of their turnover may preclude these businesses from making the investments they need to make to become more profitable and thus better contributors to revenue.

In an attempt to improve collection rates, tax authorities require businesses to pay taxes in advance, thereby restricting the development of long-term business plans. Restrictions on tax inspections have also been reduced, a move that businesses fear will lead to increased opportunities for corruption, but one that was probably inevitable given the high incidence of tax evasion.

Some of the highest performing sectors of the economy are still untaxed, which contributes to the country's poor collection rate. Other industries are exempt from VAT on inputs and capital goods. The government has also written off arrears in the energy sector, setting back its own structural reform efforts. Rather than providing a level playing field on which

industries compete on terms of productivity, the tax system serves as a tool of industrial policy and often appears to favor sectors of the economy with strong political connections. As long as this is the case, it is not surprising that enterprises continue to evade taxes.

Poor implementation mechanisms contribute to VAT-related problems, such as the difficulty enterprises face in recovering VAT paid on inputs when exporting, and problems rising in supplier-producer or producer-distributor relationships if they work on different tax bases.

There is a strong correlation between simplicity, fairness, and transparency and collection rates among all systems of taxation. Armenia's convoluted tax system contributes to both a poor business environment and low collection rates. A simplified tax system which is perceived as fair, coupled with higher penalties for tax evasion and aggressive enforcement, would do much towards improving the business environment and the productivity of enterprises, and would most likely result in vastly improved collection rates in a shorter period of time.

According to Armenian law, personal income tax and social contributions are paid by employers on behalf of their employees. Currently no other taxes (e.g. medical or insurance) are required to be paid by either employee or employer. The effective rate of taxation of both income tax and social contributions is relatively low. For example, on a gross salary of 150,000AMD the employer's share of social contribution is 19,500 and the amount deducted for income tax is 21,600, with the employee receiving a net salary of 128,400. However, because a large percentage of the population does not work for an official employer, this is neither an efficient method of tax collection nor does it convey impressions of equity and fairness to taxpayers.

CUSTOMS

Customs clearance seems to pose little difficulty for businesses that employ facilitators or expediters to perform the necessary tasks. Again, the burden is greater on small enterprises whose profitability may suffer from the additional payments made to the facilitator or informal payments required to expedite customs procedures. Corruption appears to be an issue also affecting customs. Customs procedures can be cumbersome, and rules can also be interpreted in a discretionary fashion.

Armenia does not have full representation from inspection services such as SGS or Veritas, and therefore freight forwarders are unable to offer full service to exporters.

LEGAL AND JUDICIAL ENVIRONMENT/CORRUPTION

According to the Rule of Law and Anti-Corruption Assessment[37] completed in 2002, Armenia has established many of the institutions required to establish the rule of law and to control corruption. However, these institutions do not function well as a system. The assessment concluded that weak, under-funded, and corrupt justice institutions are unable to hold broader society accountable to the rule of law. Institutions supporting accountability are underdeveloped, and are difficult to develop in the face of pervasive vested interests. The report's recommendations were to: increase transparency and accountability within legal and judicial institutions and to strengthen informed constituencies who can advocate adherence to and application of legal standards.

The same Assessment concluded that corruption was pervasive in Armenia and included bribery and theft of state property, "clientelism", political corruption, and conflict of interest.

It seems that improvements have been made in the legal and judicial system through improvements to laws, increased transparency (particularly published judicial decisions), and the creation The Economic Court of Armenia, which has jurisdiction in economic disputes and in certain bankruptcy and tax matters. However, resolution of business disputes is still a lengthy and unpredictable process, and businesses claim that decisions can still be bought. Even then, the outcome is unpredictable, since in certain cases informal payments function much like a sealed bid, with neither bidder able to predict the outcome. Court administration and case management are weak, and the selection of judges and assignment of cases to judges is also a weak point in the system. The judiciary is not as independent from the executive branch as it should be, and those with strong political connections can exert pressure to obtain favorable rulings.

TRANSPORTATION AND UTILITIES

Due to its small territory and the recent construction or refurbishment of roads supported by the Lincy Foundation, surface transportation over much of Armenia's territory is relatively easy. The cost of fuel and the monopoly position of large transporters may contribute to higher than necessary transportation costs, affecting the agribusiness sector, but the cost of internal transportation has the least impact on industry competitiveness than any other transport issue by far.[38]

Of most concern to the majority of exporting industries is the difficulty of transporting high volume, low value goods to export destinations. Armenia is doubly landlocked. It is geographically landlocked by reason of its lack of access to the sea, and politically landlocked

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[37] Performed for USAID by ARD in 2002.

[38] The sustainability of the road infrastructure will depend on Armenia's ability to maintain the refurbished assets.

by reason of unresolved conflicts with both Azerbaijan and Turkey. The two remaining overland routes out of Armenia are through Georgia and Iran. A 20ft container shipped from Armenia to Long Beach costs the exporter $3,500 US, while the same container shipped from Georgia may cost half as much. The same container costs $1700 to ship from Yerevan to Hamburg - $1100 of this cost is Yerevan to Poti. Georgia still has its own internal conflicts that hamper and sometimes prohibit the direct passage of goods to the sea; and land transport costs through Georgia are extremely high due to the necessity of unofficial payments and the presence of monopolist transport services. High, steep mountain passes prevent large container trucks from passing safely through Iran, and many trade partners are uncomfortable with goods transiting through Iran for political reasons.

Air cargo is limited to space available on passenger flights, as no cargo aircraft serve Armenia. Some charter cargo arrangements have been attempted, and these may prove feasible should sufficient quantities of high value fresh fruit, vegetables, or cut flowers be produced to make charter hire profitable. Lack of freight consolidation services and underdevelopment of the freight forwarding industry limits the range of transportation options and cost-sharing options open to businesses. Freight forwarding operations is highly oligopolistic, with one firm commanding the bulk of the traffic.

Utility tariffs for electricity, currently 25AMD (about 4.5 US cents) per KWh for households in Armenia, have increased slightly. Tariffs for water and gas are due to increase for private households, however, the state regulatory committee has ruled out increases for industrial tariffs for the time being.

Armenia would like to play a greater role in regional transport and energy corridors, but as long as borders with Azerbaijan and Turkey remain closed and current tensions are unresolved, this will not be possible. Studies suggest that reopening borders with Turkey and Azerbaijan would result in a potential reduction in transport costs of 30-50%, with total benefits of up to more than € 300 million.[39]

TELECOMMUNICATIONS

The Armentel monopoly, an issue of concern to government as well as business, has contributed to a large extent to a lack of telecommunications services, directly affecting the general populace, businesses, and the competitiveness of the IT sector specifically (and industries that depend on IT services). Telecommunications services are poor, have low coverage, and are expensive. A number of telecommunications services are simply not available in Armenia, as Armentel has failed to make promised investments to upgrade the telecommunications network, and is not offering a wide range of products.

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[39] EU Programme country information, Armenia.

However, Parliament recently voted to dissolve the Armentel monopoly and that as of the first of July 2004 owners of currently legal downlink capabilities will be able to offer uplink services as well. This should increase competition, improve services, and lower costs to firms and individuals. This will allow services that involve data transfer and outsourcing of data management operations to Armenia to develop, and will facilitate the ability of industry to more effectively serve and respond to their international customer needs.

FINANCIAL SERVICES

Financial intermediation in Armenia is extremely weak, and the lack of access to financial services negatively impacts the competitiveness of virtually all industries in Armenia. A discussion of the causes of poor financial intermediation is presented under the *Macroeconomic Environment* section of this Assessment.

High interest rates and strict collateral requirements make financing unavailable to all but a handful of companies.

Credit availability is poor, and there is a gap in credit availability from amounts over US$100,000 but under US$1 million. In other words, credit needs of between US$100,000 and US$900,000 are largely un-served by existing financial institutions. A range of small and micro-lending programs are in place, but medium and large businesses—the leaders of industry competitiveness—have little access to capital improvement and technology acquisition loans. Undertakings of this size must be self financed or financed by business partners from abroad. This gap may be partially addressed if the Izmirlyan Foundation, in cooperation with the Black Sea Trade and Development Bank goes forward with offering a new credit line for loans of US$125,000 – US$500,000, with maximum 5-year terms and interest rates of between 10-12%. However, the total credit line is only US$4 million, and a number of other lenders would have to follow suit to fill the gap. There are no venture capital or equity funds operating in Armenia.

Loan terms are short, typically under one year, and collateral requirements of as high as 100% make it extremely difficult to obtain loans. Although the state cadastre registers fixed property and there is a collateral registry, a credit rating agency was only recently established by a private company. Banks still rely on personal acquaintances and connections to make 'safe' loans, and their ability to evaluate risk is limited by the limited knowledge of financial accounting for business. A possible investor is currently looking at the possibility of establishing such an agency. The Central Bank does maintain a Credit Register, which provides some basic information to commercial banks.

Banks offer a limited range of financial products, and have not been innovative in developing products suited to the needs of businesses in Armenia. The lack of leasing services in the agricultural sector, for example, is a key impediment to increasing the productivity of

agricultural producers who cannot otherwise afford to purchase equipment and do not have sufficient collateral to get a loan.

The insurance industry is not yet well-developed. As of the end of 2003, the industry included 22 registered companies of which 19 were operating[40]. There is an association of insurance companies, which is not yet functioning effectively. There is discussion of the association assuming responsibilities related to training, qualifications, licensing, certification, etc.

STANDARDS AND EXPORT CERTIFICATION

The National Institute of Standards and Quality of Armenia operates within the Ministry of Trade and Economic Development, but is a closed joint stock company rather than a government agency. The Institute is responsible for the development and examination of national (AST) and CIS (GOST) standards and coordinates the activity of standardization technical committees in Armenia. It also maintains current standards on file for International (ISO), Interstate (GOST), European (EN), and other national standards. One of the Institutes most important functions is the dissemination of these standards, making these available to businesses within Armenia.

The Institute carries out conformity assessments, is accredited as an ISO 9000 certification body, and can certify products for export to Russia. As a member of the International Organization for Standardization (ISO) since 1997, the Institute participates in technical committees and on the Interstate Council for Standardization, Certification, and Metrology of the CIS.

Standards application in Armenia is in line with international practice, and the government of Armenia clearly recognizes the important difference between technical regulations and normative standards, a distinction not always made in transition countries.

There is one independent certification laboratory, EX-Lab, which has been certified by the Société Générale de Surveillance (SGS) for ISO certification; but the government has yet to recognize it as a third party verification body. Business speculates that the government wishes to reserve product and systems verification (and fees) for the privatized state lab.

In this respect, Armenian industries are disadvantaged by not having a third party certification body viewed as independent and impartial by importing countries, since the privatized lab operates under the auspices of a government ministry. It would be preferable for companies to have a choice of accredited certifying bodies.

Another firm, High Consult, is also talking about a possible link with SGS.

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[40] MOFE data, per ADA.

There are no certification bodies in Armenia for HACCP systems, nor are there any 'organic' certifying bodies. Access to these would be important for the agribusiness sector, as bringing in international certifiers is costly and requires that all documentation be translated into a foreign language, which is a time consuming process. Training for the development and management of ISO and HACCP systems up to the point of certification is available in Armenia, although there is not much competition among training providers and the cost of such training is still prohibitive for many enterprises.

Exporting companies have quickly become familiar with the value of receiving international certification, and there is growing demand for ISO and HACCP certifications. At least one firm has received Halal certification.

Certificates of Origin are issued by the Chambers of Commerce in each Marze.

Export certification of agricultural products by government inspectors, verifying that products meet sanitary and phytosanitary technical regulations, does not appear to pose a practical problem.

One function that the Institute does not appear to perform is information dissemination on the application of standards for product quality improvement and acceptance into international markets. In this respect, national standards bodies can contribute significantly to industry competitiveness by promoting the adoption of voluntary standards that raise the quality of products and services, and more importantly, improve their acceptance into export markets.

INTELLECTUAL PROPERTY RIGHTS

The legal framework for intellectual property protection in Armenia is well developed. Patents, trade names, trademarks, service marks, appellations of origin, and copyright and related rights are all protected under Armenian law. There is also a provision in the IP law covering integral microchip topologies. Armenia has agreements on cooperation in the field of Industrial Property Protection with the Governments of the Russian Federation, Georgia, Turkmenistan, and the Kyrgyz Republic, but industrial designs are not specifically covered in the legal framework for IP.

Armenia is a member of all the important international organizations and signatory to the significant international treaties related to intellectual property. The Intellectual Property Agency, like the Standards Institute, appears to carry out all the basic necessary functions of an intellectual property office, but falls just short of being an active contributor to industry competitiveness. Information dissemination on the application of intellectual property protection could raise the profile of Armenian products and services abroad and greatly assist in marketing and promotion of Armenian design and manufacturing capabilities, know-how,

and specialty products. One good example of this would be the application of appellations of origin to Armenian wines or food specialties such as cheeses.

The value of the protection of intellectual property is increasingly recognized by business. The Agency cites increases, from 420 trademark applications by Armenian firms in 2002 to 700 in 2003, to 400 in just the first quarter of 2004. About 20 foreign firms have registered trademarks in Armenia.

Enforcement remains a significant issue. The courts have upheld at least one high-profile case, that of Ararat Brandy. But there is widespread piracy.

MARKET AND BUSINESS INFORMATION

The accessibility of market and business information is a key factor in industry competitiveness. The ability of businesses to obtain timely and accurate information on markets, prices, and practical business information such as regulatory changes has a big impact on business planning and strategy, and ultimately on business growth. Armenia lacks these critical information services to a great extent.

While demand for market information and consulting services is low, this could be largely attributed to the fact that consulting firms offer little value to their clients in terms of market insights, innovation, or actionable strategies. Several consulting firms provide assistance in developing business plans and implementing surveys, and in producing simple analyses. These tend to be descriptive, with a heavy focus on SWOT analysis, which ultimately produces a list of factors, possibly better organized, of which the companies are already aware. Analyses tend to be focused on supply rather than demand, reinforcing a supply side mentality among businesses. Little is offered in the way of market information in export markets, such as the size of the market, market segmentation, an overview of competitors and competition analysis, and price/volume information.

Most associations and the government supported SME-DNC do little to provide businesses with market and business information. Business development service providers, with few exceptions, tend to focus on nuts and bolts services, such as developing business plans, filling out credit applications, and making incremental improvements in business processes. They rarely address the issue of whether or not there is a good market for the product or service, and whether or not the product or service can be sold profitably.

HUMAN RESOURCES DEVELOPMENT/TRAINING

Institutional issues relating to Human Resources Development and Training are discussed in the Institutional Assessment and Public-Private Dialogue section of this report.

Armenia in the FSU had a well-advanced educational and training resource, providing skills and graduates that were of high quality and in great demand. The capacities of these institutions have declined dramatically since independence. The ability of these institutions to provide the skills and capacities needed by competitive, market-focused business is extremely lacking. Businesses do not view the graduates of training or educational institutes as ready or able to contribute to their competitive success.

In response, businesses look to networks of trusted former colleagues, or train employees in-house. In-house training is certainly important and useful, but as a replacement for developing skills that could be provided within the educational system, it is a costly approach. Some larger companies have invested in more formal alternative training arrangements (in-house schools, or collaborations with universities, as examples). But as yet there is very little linkage between industry and the training providers. The schools for the most part do not know what business needs, and do not provide it. Similarly, there are very few bodies that can certify specialized skills as being of international caliber.

These are issues that are further discussed in Appendix A of this report. Businesses, perhaps through associations or cluster initiatives, will need to provide leadership to ensure that their human resources capacity needs are effectively met.

Armenia's future is undoubtedly tied to industry development that includes a significant knowledge and skills component. In the absence of skills providers and appropriate collaboration and investment, the needs of competitive business will remain unmet.

ROLE OF OLIGARCHS

No analysis of the microeconomic environment of Armenia would be complete without a discussion of the role of oligarchs in the economy. Oligarchy is defined as a form of government where most political power effectively rests with a small segment of society (typically the most powerful, whether by wealth, military strength, ruthlessness, or political influence).

Virtually all significant economic relations in both the public and private sectors in Armenia are governed, at some level, by oligarchs. Oligarchs are in fact people of influence at the highest levels of business and government that operate much as is the case for influential personages the world around. In a very small economy with poor income distribution that concentrates wealth among the few, strong traditions of clan and family business, and few safeguards against corruption, oligarchs come into their true expression of power, and their influence is much more strongly felt.

A study funded by Armenia 2020 on the role of oligarchs in the economy [41] revealed that oligarchs do in fact have considerable influence on the economy through their diverse holdings and activities. Rather than specializing in an economic activity, oligarchs may carry on many parallel activities serving the domestic economy while at the same time having interests in banking and mass media.

It is frequently said that many government policies or favors are granted to special people, and it is assumed that this is in reference to oligarchs, among which the turf of the Armenian domestic market is already clearly divided. One of the most interesting observations of the Armenia 2020 study is that as much as the government does to promote investment and industry growth, the oligarchy is able to obstruct new entries into the market that pose a threat because of their well established political and business networks. As noted in the study, "*In such an environment it would be extremely naïve [for a new entrant] to count on a "golden key" of an elementary bribe to this or that official, since the real structure of power does not coincide at all with the official one and can have regional or far reaching branches*."

What this indicates is that large enterprises and significant foreign direct investments really require the support of oligarchs to be successful. The creation of a transparent business environment and the establishment of the rule of law will depend, to a large extent, to the degree to which oligarchs can be incorporated into this system.

Shahnazaryan's study indicates that the majority of Armenian oligarchs believe it is possible to achieve a considerable improvement of the business-climate, especially if the President takes a leadership role in achieving it. It is quite possible that even oligarchs, successful as they are, tire of the complications of juggling networks of obligations and balancing risks. A major accomplishment for Armenian society would be to co-opt this tier of leadership into supporting a competitive Armenia by incorporating their skills at mobilizing policy initiatives. In other words, make stability, the rule of law, lowered business risks, and increased business opportunities beneficial for and attractive to the oligarchs by improving their skills at successfully navigating a market economy.

Institutional Assessment

Sound organizational and institutional structures, with professional capacities and focus on competitiveness issues and opportunities, are important in building competitiveness. A sound framework includes, among others:

- Business organizations and associations,
- Public-private dialogue structure,

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[41] Oligarchs in Armenia, Nelson Shahnazaryan, Armenia 2020, Yerevan, 2003.

- Government ministries and agencies,
- Educational institutions, and
- Think tanks

This section considers the quality of the structures for business analysis, joint action and advocacy (primarily associations), quality and structures for effective public private dialogue, the effectiveness of educational institutions, and the availability and quality of consultancies, think tanks, and related organizations. These are considered from the perspective of their ability to contribute to increasing Armenia's global competitiveness.

In an economy focused on achieving competitiveness, institutions are market driven and service-oriented, implementing programs and providing services that further the strategic needs of competitive business, and the enabling environment or such business. The stakeholders in Armenia's economic growth need to strive to achieve this institutional framework.

QUALITY OF PUBLIC–PRIVATE DIALOGUE

Business, government, and the public sector seem to be well aware of the need for sound dialogue and joint decision-making centered on prioritized needs for competitiveness. A number of structures and mechanisms have been established to promote dialogue in Armenia. Some of the notable structures include:

1. ***National Business Support Council, chaired by the Prime Minister.*** The Council is comprised of a small group (about 6) of government officials, and 8 representatives from business (selected by election from a group of 44 businesspeople representing the business community for 6-month terms). According to the Armenian Development Agency[42] the Council's main objective "is to provide favorable environment for investments and business in the Republic of Armenia". Others describe the focus of the Council as being to discuss and resolve issues and problems.

   The Council meets at least once per month. It has a 4-person Secretariat, located at the Armenian Development Agency. The Secretariat sets the agenda in discussion with business and government, and responsible for following up decisions.

   While clearly serving a central purpose in public sector dialogue, the Council is criticized for poor operations, a weak Secretariat, non-representative participation, and other weaknesses. The 6-month rotational nature of the business representation probably inhibits the promotion of a sustainable business agenda. The Council is a vehicle for discussing and resolving some issues, and also serves as a meeting point to relieve

[42] Information from ADA website.

pressure. It is not particularly strategic in nature, nor focused necessarily on well-informed strategic competitiveness principles and requirements.

2. ***Armenia 2020.*** Established and led by private interests, Armenia 2020 has had some success in promoting forward thinking about Armenia's economy, including some attention to competitiveness topics. It has supported a scenario planning study[43], and several competitiveness-related presentations. The scenario planning presents some excellent analysis and ideas, which have helped to frame views of Armenia's future directions for investment and growth.
3. ***Annual meeting of President with business.*** This meeting of 100+ businesspeople is a good and visible vehicle for discussion and networking. It is not strategic in nature.

Most of the public-private discussion in Armenia is focused on removing operational barriers. Larger business is reputed to have direct access to decision-makers. And indeed, many public officials are reputed to have business interests, which undoubtedly create conflicts of interest, but also probably orients attention even more towards business issues.

Government has been active in implementing new laws and regulations to improve the business climate. Government has also been active in setting out several sectoral strategies and policies, and this work has included private sector consultation.

While there is awareness of issues and exigencies of globalization and competitiveness, the tenor and agenda of public-private dialogue does not tackle competitiveness in a systematic, systemic, strategic way. Business is largely unable to provide an overarching strategic perspective, or focused market-based strategic action plan, backed up by sound analysis.

There is certainly increased awareness of competitiveness issues amongst the general business community and the wider civil society. However this awareness is not yet pervasive, nor does it mold thinking and planning on a day-to-day basis. The focus still tends to be on basic productive factors, supply-driven strategies, and so on.

USAID has contributed to the frequency and quality of public private dialogue. At the local level, USAID's Armenia Local Government Program is supporting a public-private program to establish Local Economic Development Plans for municipalities. These are 5-year strategies, established with facilitated dialogue by the Urban Institute. The plans have not been focused in any particular way on clustering or other competitiveness approaches, but in discussions with the Consultant, the planning facilitators indicated strong interest in the possibility of bringing competitiveness thinking to this initiative.

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[43] Key Levers for Productivity Improvement in Armenia, McKinsey &Company, from a presentation at the Armenia 2020 Conference, Yerevan, October 25, 2003.

BUSINESS ASSOCIATIONS

In recent years a large number of business and professional associations have been established. Only a few of these are financially sound, have significant membership, are led by sound champions, and are endowed with good service and analytic capabilities. In some cases there is fragmentation of industry associations. There is criticism that associations are often formed because of or become primarily interested in donor finding, rather than on carefully delivering on proper service delivery and strategic purpose.

The interest in forming associations and increasing networking and joint actions is a very positive development. An objective will be to focus associations on the competitiveness issues and needs of their membership, so that they provide services that are of a soundly considered strategic nature.

There are reportedly than 50 business associations (SOURCE) that are active in varying degrees in providing advocacy and business services support to their members.

The Union of Manufacturers and Businessmen of Armenia (UMBA) is a significant association. Started in 1995, it represents large and medium business. (According to its President, the association's membership represents 75-80% of Armenia's tax revenues. The association has a membership of 500+, including 100 large companies. It is a recognized forum for dialogue with government, and generally is afforded the opportunity to review and comment on all legislation that affects business. The association participates in meetings with government before legislation is discussed by the National Assembly, and supports business forums.

Armenia has some significant and reasonably effective industry associations that could form a supportive and even leadership element of a competitiveness initiative. Examples include the Union of IT Entrepreneurs (UITE, with 16 members) and the Association of Jewelers and Diamond Manufacturers of Armenia. There is also an International Armenian Jewelry Association, with 8 branches, whose Secretariat is in Antwerp.

Armenia also has an active American Chamber of Commerce and an EU Chamber of Commerce. The Armenian Chambers of Commerce system was established by legislation in 2000. This again is largely a positive step, fostering networking and joint action. The Chambers of Commerce has a national body and 11 branches in the marzes. Membership is voluntary. The branches are for the most part very weak, lacking active membership, membership fees and involvement, implementable programs, and professional staff. There is real question as to whether the CCIs are sustainable. They provide a basis for some networking and discussion. They try to serve as networking, service, and lobbying organizations. They are not yet a vehicle for strategic dialogue, analysis or action, and as they currently stand, probably offer little ability to actively contribute to competitiveness development. The National CCI is comparatively more developed.

The CCIs largely emphasize SME membership and interests. The movement is supported in part through the Micro Enterprise Development Initiative (MEDI) project and GTZ. The Organization for Security and Co-operation in Europe also supports this effort.

The income of the CCIs is primarily from certification of product country origin, force majeure certification, and price list confirmation. There is criticism that these services are not offered professionally and sometimes require improper payments.

At the SME level, there is a Union of Business Support Organizations. This is an apex organization for 8 independent associations. The Union works to address mutual problems, such as issues of taxation, access to finance, and lack of business skills.

EDUCATIONAL INSTITUTIONS

Armenia, in Soviet times, had technical and educational institutions that were highly admired. Armenian Universities were regarded as being state of the art in engineering and technical fields, and in several industrial technologies. This history is still a source of great pride in Armenia.

Armenia has several institutes of higher learning. These have in most cases declined in their capabilities and state of the art, and lack funding and modern facilities. The academic faculty in many cases are regarded as being out of date. There is little applied research being carried out.

For example, with respect to the textiles industry, the Armenia Cluster Readiness Assessment states (sic):

> During the Soviet times Armenia has a very developed educational system in this field (College of Light Industry in the State Engineering University), providing education for qualified workers and technicians. Unfortunately this education network has suffered from the industrial collapse and its recovery would be necessary to support the development of this sector. Due to weak research centers, enterprises by themselves originate concrete products and ideas.[44]

The report also states, with respect to the Food Processing Industry (sic): "In FSU many research centers were actively involved in the development of the industry. Currently those institutions restart their activities with the Armenian academy of agriculture leading the ones related to this industry."[45]

The European Commission Country Strategy Paper/National indicative Program refers to education as one of "the most fragile sectors" in Armenia…with expenditure amounting just 3% of the state budget total expenditure or 0.7% of GDP in 2000. Only 12% of this goes to

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[44] Armenia Cluster Readiness Assessment, June 2003, Page A-4.
[45] Armenia Cluster Readiness Assessment, June 2003, Page A-10.

higher education. Although the target is to double the overall figure for education in terms of share of GDP (and bring it up to 16% of the state expenditure) by 2005, this is still far from 1991 levels, when state expenditure on education amounted to 7.2% of GDP." [46]

The universities are largely regarded by business as not being in tune with business needs, not presenting graduates who are able to be hired by business. In response, a few programs have been instituted to link training institutions with business needs, through internships and funded programs. An example is a program initiated by Leda Systems, in the ICT sector.

The competitiveness of most Armenian industries will depend on continual availability of:

- Personnel with sound technical skills,
- Personnel with sound industry knowledge,
- Personnel with sound business and management training, and
- Effective innovation and research linkages between business and institutions.

In particular, if Armenia is to develop a knowledge-based economy, these institutions will need to play a full part, and be soundly in tune with business needs. Discussions with business, and the industry analyses repeatedly highlight the need for technical and university level education that produces graduates that can make useful contributions to competitive business. The industry analyses also highlight the deficit in the academic institutions in terms of their ability to serve as a resource for innovation and applied research of relevance to business.

There has been improvement in recent years, and a heightened awareness of the need to improve training, educational and research institutes. Universities are making efforts to respond to market needs, although as yet with relatively little productive collaboration with business.

Armenia has two major universities that offer degrees in IT - Yerevan State University and the State Engineering University of Armenia. A university consortium providing a Masters in IT is just getting underway.

The American University is considered as offering the best business education, with its MBA program. The University has a small intake, is very short staffed, and lacks an executive program. It started an internship program, in 2003. The Yerevan State University's Department of Economics, the Yerevan State Institute of Economics, Finance Academy, Financial Banking College, and others offer programs, related to business training. The former two used to provide programs with emphasis on the concepts of command-type of economics, which, however, have changed to "free market economy" since 1991.

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[46] Country Strategy Paper 2002-2006; National Indicative Programme 2002-2003, European Commission Armenia Country Strategy Paper.

CONSULTANCIES AND THINK TANKS

While not deeply endowed with consultancies and think tanks, especially with private research organizations, Armenia does benefit from some very good analytical bodies and centers of excellence that are attuned to the requirements of Armenian business to achieve international competitiveness. OSCE, AEPLAC and Armenia 2020 offer high-quality analysis and process capability. Consultancies such as Ameria, Apricot Plus, and Apha Plus also offer considerable professional capability. Increasingly, there are also organizations that are offering certifications and related training to international standards.

Armenia 2020, mentioned above, has sponsored and supported some good research and useful; interchange of opinion. A small number of associations (e.g. UMBA) have the capacity for analysis and effective dialogue. Some consultancies, including Alpha Plus, Apricot Plus, Ameria and others, have the capacity for good industry, business and other competitiveness-related analysis.

According to the USAID/Armenia SME Sector Assessment Update, there are fewer than 15 centers and companies that provide professional training services on a regular basis, and only 5 to 6 that provide more sophisticated and advanced training courses.[47]

Armenia Development Agency

The Armenia Development Agency (ADA) is a government agency that promotes exports and investment. The ADA restructured in 2000, removing staff, paring its focus to core functions of export promotion, investment promotion, and investor services. It follows a MIGA model of IPA operations, and consciously receives advice from an expert from CzechInvest.[48] Its COO, Padraic Murray, has an impressive background with the IDA. He is funded by USAID.

The ADA reportedly lacks funding, skills, and professional capacity. The staff is not made up of business professionals, and they are criticized for lacking customer orientation[49].

The ADA is implementing a government-mandated outreach campaign for IT, electronics and precision engineering. Fine chemicals will reportedly also be added as a focus industry.

The ADA has supported and continues to support a number of forward-looking initiatives. For example:

- National IT strategy
- Houses the Secretariat for the Business Council
- Houses the Secretariat for the IT Council (chaired by the Prime Minister)

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[47] *USAID/Armenia SME Sector Assessment Update*, Apricot Plus Ltd, July 29, 2003, page 25.
[48] (CzechInvest has been identified by MIGA as representing several IPA best practices, and was the subject of a best practices case analysis by J.E. Austin Associates, Inc. For MIGA.).
[49] Human Capacity Development Assessment, USAID, April 2003.

While not endowed with the resources and capacities to pay a complete role as an effective IPA, the ADA does attempt to provide strategic direction and key services. As a public agency focusing on private enterprise, the ADA can play a role as an advocate and policy adviser. Therefore, the ADA, if endowed with the right capacities and credibility, could play an important role in promoting competitiveness and participating in the implementation of a competitiveness initiative.

OTHER GOVERNMENT BODIES

In liberalizing the environment for business, trade and investment, and actively promoting economic growth strategies, the Government in recent years has clearly focused attention on growing the economy.

It is beyond the scope of this analysis to try to evaluate the capacities of ministries and other government organizations, other than to recognize severe capacity and motivational weaknesses. Service provision arms of the public sector are widely regarding as lacking customer orientation and requiring non-formal payments to perform. Corruption and lack of transparency is reportedly widespread, and this undermines business confidence in the administration and the competitiveness of the environment for business.

Large business interests have unequal access to decision makers, and reportedly many parliamentarians and senior government officials are said to have business interests that likely cause conflicts of interest.

It is nonetheless notable that, however imperfectly, the Government has created several bodies that will have impact on the competitive development of Armenian business. The Government as also sponsored several initiatives, seeking to put in place roadmaps and assistance for priority sectors. These bodies and initiatives include:

- Presidential commission on the EU, focusing on future EU accession
- Meeting the legal obligations of WTO membership
- Free trade with the CIS countries
- New tourism law
- Antimonopoly Commission (with uncertain responsibilities or powers)
- Intellectual Property Agency
- Intellectual Property Law
- Securities Commission (although there are as yet no functioning capital markets)
- Planned Unified Regulatory Commission (to regulate natural monopolies)
- IT Development and Support State Council of Armenia
- Small and Medium Entrepreneurship Development National Center (SME DNC)
- Armenian Tourism Development Agency (ATDA, whose role is "to promote Armenia as a tourism destination")

UNDERLYING INSTITUTIONAL ISSUES

A number of issues relating to institutional frameworks in the broadest sense are impediments to sound, competitive business operation and investment.

Chief amongst these is the pervasive corruption and lack of respect for the rule of law. Generally speaking it appears that business fears to get involved with government because of pervasive demands, or else takes advantage of opportunities for maintaining monopolies, seeking favors, and so on. There is a pervasive cynicism about the impartiality of rules and law, about enforcement, and in general about business-government relations.

One source[50] states, perhaps exaggerating, that "98% of businesses never apply in court to settle disputes – they find other means. Law is not seen as a way to enforce contracts, or as a way to protect. It takes 18 months to enforce a contract. It takes $2000 to sway the court."

The EBRD Strategy for Armenia states that "even relatively good commercial laws suffer from being poorly implemented"[51]. It cites lack of transparency in the regulatory system, although there has been improvement in recent years, and a number of relevant laws and regulations have been enacted and modified. It states that "Considerable administrative and legal barriers continue to affect business ands investments…. Measures and strategies have been adopted to address corruption, reform the judiciary, improve tax and customs collection, accelerate the privatization process, but these have had limited impact so far."[52]

There is also a problem of business awareness and access to legal and regulatory information. It is difficult for businesses to obtain documents, and to understand procedures, rights and obligations.

SUMMARY AND RECOMMENDATIONS

Armenia's overarching institutional environment is weak and in many respects inhibits competitive business growth. Its organizations and institutions are for the most part weak, and lacking in capacity.

However, much has improved in recent years, and there is attention being placed on putting in place the structures for competitiveness. There have been lots of relevant studies, and there are numerous supportive projects.

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[50] Kept confidential.
[51] EBRD Strategy for Armenia, page 13.
[52] Country Strategy Paper 2002-2006; National Indicative Programme 2002-2003, European Commission Armenia Country Strategy Paper, Page 8.

Business-government dialogue is weak and not focused on the strategic issues relating to building competitiveness. Dialogue and decisions are not based on sound industry understanding of competitive priorities.

As yet, there is no body that properly brings together government, business and other interests to focus all stakeholders on the competitiveness issues.

Some key recommendations include:

- Competitiveness strategy needs to inform and prioritize all aspects of the national dialogue on the economy.
- Competitiveness and cluster-based approaches should guide associations and increase their service impact and relevance.
- Private sector needs to have capacities to develop its opinion, obtain sound data and information, and conduct good analysis. Real data – in the form of models, cases, best practices, benchmarking - is needed to guide dialogue.
- Armenia needs credible, representative capable apex business organizations to pursue focused analysis, advocacy and dialogue related to competitiveness.
- In many respects government has been doing a lot to improve the business environment and to assist certain industries. These efforts need to continue, but need to become informed by prioritized requirements for international competitiveness.
- Armenia needs a credible, capable independent or public-private body, trusted, to focus on competitiveness. A Competitiveness Council format should be considered. Certainly, the core functions of a Competitiveness Council (e.g. providing policy advice and advice on policy implementation; sound competitiveness and policy analysis; monitoring the country's competitiveness performance; benchmarking against best practices world-wide; and providing data and information to all constituents) are needed in Armenia.
- Educational institutions need massive injections of resources and relevancy, and need to be brought into a deep and productive partnership (or customer service) relationship with business. Curriculum and research need to be informed by competitive business priorities.

5. Industry Overview

The Armenia Competitiveness Exercise team carried out assessments of selected sectors of the economy through a review of existing documents and reports, extensive interviews and discussions with public and private sector representatives, and roundtable meetings with small industry groups consisting of core businesses from selected clusters. In this section of the report we present a general discussion of common competitiveness issues that are common to many clusters as well as some industry specific observations. The more extensive industry assessments are presented in Appendix A.

The industries discussed were selected as being representative of the range Armenian industry, as including several of the more significant industries, and on the basis of industry proponents being readily accessible by, and information being readily available to the Consultants.

Common Themes

A number Armenian industry sectors and sub-sectors share common competitiveness strategy issues. Several of these are related to Armenia's transition to a market economy and a post-Soviet legacy of attitudes and business orientations. Others are peculiar to Armenia's business environment. These strategic issues are detailed below.

BUSINESSES ARE SUPPLY DRIVEN AND PRODUCTION ORIENTED

The majority of Armenian businesses are supply driven. Management orientation is still largely confined to increasing or improving current production as opposed to looking to markets and customers to determine what might be produced at a better profit. This is particularly true for management of post-privatized companies and for businesses now managed by former production engineers. With a few notable exceptions, businesses are "doing things better" instead of "doing better things".

Part of this stems from the legacy of the command economy. There is still a heavy focus on production volume and planning, with little focus on profitability and business strategy. As a result, the identification of market opportunities is often neglected, and many opportunities to add value or diversify are missed. In many cases, methods chosen for privatization simply transferred these issues to private owners who were unprepared for a market focus.

Donor programs and business service providers (BSP's) in Armenia may be reinforcing this orientation by relying heavily on SWOT analysis and traditional management consulting in their role as advisers to business. Many of the consulting businesses we visited had produced numerous reports and assessments of Armenian enterprises and industries, with most of these being donor funded. Donor projects are using the same BSP's to deliver consulting advice and services to their project clients.

SWOT analysis is a valuable tool for taking a snapshot of where a business stands, and can be useful in identifying opportunities for improvement. However, a reliance on SWOT analyses tends to focus inexperienced business management on trying to improve on their "weaknesses", address their threats, and pursue opportunities within the context of their current strengths and production orientation. Very few of the reports we reviewed contained detailed market research, and what market information they did contain was usually limited to the size and structure of the domestic market. Without an analysis of international markets, detailed information on prices, the competition, and distributions channels, it is not possible for businesses to identify new opportunities or develop innovative strategies for capitalizing on them. Finally, because the reports focus on detailed presentations of current problems and constraints without offering much analysis of market driven opportunities, business also tend to focus on their current constraints. Many of these constraints may not be an issue if the business were producing a better product or following a different business strategy.

A production focus that does not take thinking "out of the box" dissipates much of the energy and resources of businesses by diverting it away from what should be the main focus of their efforts: determining which markets they can best serve, and how to reach those markets. Most businesses ask "*How can I make this product better or overcome my current difficulty in producing it or selling it? How can I make a better profit from what I do*?" as opposed to "*Should I produce this product or offer this service? What else could I do that would be more profitable*?"

A change in attitudes and business orientations is required for Armenian businesses to become competitive. This probably requires short-term continuing education courses for managers as well as professionals within the Armenian BSP industry on the marketing and product development aspects of doing business. It also requires frequent exposure and interaction with knowledgeable "insiders" from globalized industry, who can share ideas, information and recommendations with Armenian businesspeople.

LITTLE KNOWLEDGE OF VALUE-ADDED STRATEGIES AND PRODUCT DIFFERENTIATION MODELS

Business managers in general are not very familiar with the various strategies used by international competitors to add value to their products and differentiate them. Quality certifications and classification systems, organic certifications for agricultural products, branding strategies, product support and customer service strategies, and innovative product design, packaging and marketing are not widely in use. There are certainly exceptions to the Armenian norm, and certain companies do have innovative strategies for adding value and branding in the works.

There seems to be a lack of awareness of the importance of name recognition, and of providing customers with easy ways of distinguishing the product from competitors' offerings, and associating it with a class of products from Armenia. Product choice is relatively new to Armenians, and many products in Armenia are still labeled in foreign languages that give consumers little idea of what the product contains or is made from, what it can be used for, or its supposed benefits to the consumer. Product support and customer service are also relatively new offerings of Armenian businesses. Hence, there is little general awareness among Armenians of the fact that in foreign markets, a product may have to compete against several dozen other versions of the same basic items, or of the factors that prompt consumers to choose one particular variety or brand over another. A simple example of this is readily apparent in Armenian retail outlets. In a substantial local store, one might choose from plain yogurt or yogurt with fruits, and there might be locally packaged yogurt offered side by side with an import. In a European supermarket, the yogurt selection would include plain, drinking, and beaten yogurts with a large variety of mixes (fresh and dried fruits, cereals), some artificially flavored and some with natural flavors, a wide offering of different fat content ranges, active versus inactive cultures, etc., in plastic, soft, or glass packaging, with up to a dozen brands represented.

Attracting foreign investors into Armenian industries would infuse many sectors with much needed exposure to business strategies related to adding value and differentiating products for consumers. This brings us to the next element of consideration, which is the disconnect between many business operations and their customers.

WEAK MARKET KNOWLEDGE AND CUSTOMER LEARNING, ACCESS TO MARKET INFORMATION POOR OR REMOVED FROM SOURCE

Large numbers of Armenian businesses operate with very little knowledge of their markets or customers. This situation is particularly pronounced in the agribusiness and apparel industries, which sell to wholesalers, but is also true to a certain extent in the gems and jewelry sector, for example. Coupled with a lack of true market research capabilities within businesses and BSPs, this results in businesses developing products and trying very hard to

sell and to improve marketing in an informational vacuum. One agribusiness with which we met was in the process of designing new labels for packaging, but when asked which labeling improvements were important in meeting the needs of consumers, did not know which elements of labeling were important to customers. Similarly, because most Armenian exporters sell through wholesalers and have no formalized systems for feedback, they do not know which of their products or designs sell better or why, or what the end consumer thinks of the product. This contributes both to weak product development and poor pricing.

Armenian exporters are not sure where their products are retailed, which segments of the market are buying them, which segments they could serve with higher value-added products, what the price structure of the value chain is for similar products, or what qualities the customer values and why. Market information received by businesses tends to be several steps removed from the source. For example, a business selling through a wholesale connection in Moscow might get information on which products are selling well through examining re-order volumes, but little or no information on which products sell better than others or not at all. That business would also be very unlikely to have information on consumer tastes in the market or of niches where a new product might be developed to fill un-served demand.

Customer learning is very difficult when businesses are so distanced from customers. Getting closer to the sources of demand, communicating with customers, and learning about markets does not require a producer to go into the retail business. Rather, it requires a more proactive approach to gathering market information and meeting with customers. Trade fair attendance, organized product demonstrations or taste testing, consumer surveys, visits to downstream businesses in the value and market chains, and better representational contact abroad are all possibilities for Armenian businesses.

HEAVY RELIANCE ON THE ARMENIAN DIASPORA FOR MARKETING AND DISTRIBUTION

There is no doubt that the ready business investment and marketing collaboration of businesses in the diaspora contributed to jump-starting many Armenian businesses and even industries.

However, one of the contributing factors keeping businesses in Armenia distanced from knowledge of markets and customer learning is the heavy reliance of many exporters, including those of services, on contacts with disaporans abroad - who serve as their principal and sometimes sole agent. The diaspora community abroad constitutes a ready market for Armenian made products, speaks a common language facilitating communication, and retains contacts in Armenia that facilitates identification of potential partners in geographic locations. There is also a cultural inclination to trust ethnic Armenians as business partners

because information on people and their activities is more easily accessible to the Armenia-based business community and ties exist through family and clan connections.

These are all significant advantages, but over-reliance on diasporan connections may inhibit businesses from learning about and reaching markets the much larger markets in which diasporan Armenians are not active participants. It is also risky. In one example, a well-known 'successful' exporter was selling almost 90% of his product through one diasporan contact in the US. He did not know which kinds of retail outlets his products were sold in, which market segment (type of consumer) was buying them, the retail prices charged by stores, or the major competing brands for the product. The exporter did not have contacts in other markets, and was not aware of the brand names, product lines, or distribution channels used by the leading international producers he was competing against. Should anything happen to this sole diaspora contact, the exporter would presumably not know how to sell up to 90% of his current production. This is an extreme example, but variations of this case exist in most industries among a not-inconsiderable number of businesses.

Reliance on the diaspora for markets and market access implies other risks as well. If the linkage shields the Armenian exporter from competition and pressure for innovation, the Armenian business may find that in fact the diaspora market itself has changed, and looks increasingly to globally competitive products and services for its core purchases, and to the Armenian export only as a quaint novelty. The expatriate Armenian market may be willing to purchase quantities of Armenian wine or jewelry for the moment, but as their tastes changes and perhaps become more "mainstream" in their home market, they may become less likely to purchase an Armenian product that hasn't learned more about the market and customer, and therefore hasn't sufficiently changed its quality, qualities, or image.

It is important that Armenian businesses in all industries acquire marketing and customer learning skills in order to reduce their risk and to expand their markets.

BASIC FACTORS POORLY MANAGED AND ADVANCED FACTORS NOT WELL DEVELOPED

Our investigations and discussions identified a number of excellent examples of strategies to manage and develop basic and advanced competitive factors. However, in all of the industries that we investigated, there was generally poor management of basic factors affecting businesses, and advanced factors were not well developed.

The diamond industry does not have a risk management plan for securing access to raw materials. In the tourism industry, cultural and historical attractions are not well maintained and natural attractions are increasingly spoiled with litter. In agribusiness, land usage is poorly organized.

In terms of advanced factors, in all industries there is a mismatch between human resources development and the needs of industry due to the lack of specialized training providers, although basic education in Armenia is quite good. Quality certifications are just beginning to be used by businesses, but other factor improvements are lacking, e.g. the development of in-country standards, certification bodies, packaging and labeling services, and freight consolidation and brokerage services.

Improvement of advanced factors will be necessary for Armenians to compete at international levels on a larger scale, and in markets with high quality and service expectations.

WEAK CLUSTER FORMATION AND DIALOGUE BETWEEN PARTICIPANTS NOT WELL ESTABLISHED

One contributing factor to weak factor development is the fact that cluster formation is in its infancy and there are many 'holes' in possible industry clusters where institutions and organizations have not yet been developed to serve business needs. Examples would include specialized packaging firms, training providers, certifiers, and freight forwarding services.

Association formation is well underway; however, associations cannot serve as the cluster in and of themselves. Association memberships generally cannot represent the wide range of participants that form an effective cluster. Nevertheless, some Armenian associations are trying to take on the role of convening at least a partial cluster. It is possible that associations in Armenia could take a lead role in forming clusters, convening a wider range of interests to develop better industry strategies and to form critical cluster bodies. However, in some industries a pre-requisite for this would be a change in attitudes about competition and cooperation. Besides, most associations in Armenia are still unfocused and under-capacitated.

Government agencies, with some exceptions, lack a clear understanding of their roles in supporting economic growth and competitiveness. This is covered in more detail under the Institutional Assessment section, where we review the performance of institutions that are most likely to contribute to or detract from industry competitiveness. A more generalized awareness must be developed among public institutions and agencies that, in competitive economies, government is not merely a regulator but also a supporter and promoter of business. Government agencies created to promote industry must also understand that they work for businesses, as opposed to determining strategies and directing businesses.

Information Technology[53]

In Armenia, Information Technology, or IT, includes embedded systems and semiconductor design, custom software development, software development outsourcing, multimedia, and Internet applications. Back-office (e.g. payments processing) and front office (call-center) services are generally not possible to implement due to communications difficulties. As IT is a knowledge export, Armenians see it as an important industry in this landlocked country that faces high transport costs.

The IT sector has enjoyed a relatively high rate of growth in recent years, which is forecasted to continue over the next few years. FDI is increasing, and Armenia now exports IT products and services to more than 20 countries including the US, Europe, and Russia. The best prospects for growth in the IT industry would appear to be customized applications development and embedded software, followed by software support and implementation, business process outsourcing, and business applications.

The sector is composed of approximately 120 registered companies, although only half may be active.[54] The larger firms tend to be foreign-owned or managed. The IT industry is able to compete by paying very low nominal wages compared to IT sectors in competing countries. IT represents one of the most productive sectors of the Armenian economy

Basic higher education in IT is considered to be good, but advanced training at the university level has not been able to keep up with technological advances, while their plant and equipment are rapidly becoming dated. A contributing factor to the mismatch between higher education in IT and the needs of industry is the two-year obligatory military service requirement for all males; students who choose to do military service after secondary school find it difficult to gain admission to universities, whereas those who attend university first find that by the time the two years of service have passed, their training is largely obsolete.

Most companies must conduct "on the job training" for their new employees. One innovative approach being taken by two international joint-venture firms[55] is to assist in the establishment of IT centers at two of the country's universities. The firms will have a great deal of input into the curriculum, and will keep the centers up to date current trends. Still, business management and marketing skills were almost absent.

There is a fair degree of brain drain occurring in the IT sector. As technicians reach their potential and gain international professional certification, they often immigrate to other countries paying higher wages.

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[53] At times referred to as Information and Communications Technology or ICT.
[54] Interview with Bagrat Yengibaryan, Director of the Enterprise Incubator Foundation, 3/31/04.
[55] Armenian subsidiaries of LEDA Systems (US) and LYCOS (Germany).

Communications services are poor and costly, affecting the ability of IT firms to offer clients a full range of services or product support, or to develop front-office and back office services, which usually require timely and reliable uplinks.

Most Armenian firms rely on the Armenian diaspora as their main marketing and distribution partners, for outsourced contracts and for market information. The strategy of most local firms is to offer a reliable, high quality product to the consumer, marketing through connections with members of the Armenian diaspora members. The industry generally recognizes the importance of demonstrating reliability and capability, and the value of certifications in achieving this image.

IT companies recognize the importance of subcontracting, and of teaming up to implement larger contracts. (There is, as yet, little teaming to market and win contracts.) Normally, companies are subcontracted to perform a one-time service. Their ability to add additional value, or to subcontract for additional services, is limited. Networking and the eventual consolidation of the smaller firms in the sector will most likely be an outcome of companies pursuing larger contracts.

The IT would benefit from sound certifying bodies and more widespread certification of skills. The cluster could benefit from the establishment of some type of organization in Armenia that would serve as a clearinghouse for certifications, both international and local. Industry can also organize to collaborate with universities to close the gap between what an institution of higher learning teaches and what is needed by industry, or to strengthen private training centers.

The IT sector in Armenia has always benefited from the support of government. The IT Development Support Council, chaired by the Prime Minister, was formed as bridge between the private sector and the government. Additionally, in 2001, the GOA in close collaboration with the World Bank and USAID, developed the ICT Master Strategy and the ICT development and implementation plan in order to establish Armenia as a regional ICT hub. The Master Strategy is aimed at, "the creation of an industry that promotes the wide use and application of information technology by Armenian citizens, businesses, and government to improve the quality of life and advance every facet of the Armenian society including homes, businesses, schools, and the community." The benefits of the Master Plan and its process are as yet uncertain[56].

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[56] ICT Master Strategy for the Republic of Armenia, page 2.

Tourism

Tourism in Armenia in Soviet times was considered a "booming" industry with upwards of 600,000 leisure tourists arriving yearly. This compares to less than 50,000 in 1999[57] and 150,000 in 2003. Of this, it is estimated that business travelers accounted for 47 percent and leisure travelers accounted for 38 percent.[58]. The Armenian diaspora forms the most significant group of tourist arrivals. 21% of all tourist arrivals come from the United States, 12% from Russia, 9% from France, and the remainder from other EU and CIS countries. The Ministry of Trade and Economic Development estimates that that there are 100 specialized companies in the tourism industry, a significant increase from the fewer than 15 in 1997.[59] The CIS countries provided the bulk of Armenian tourists in Soviet times. These tourists were, and probably still are, less demanding than tourists from other countries.

Armenia has more than 700 sites that industry refers to as potential tourist attractions, but the vast majority are undeveloped, difficult to access, and often repetitive. The repetitive nature of attractions is particularly true of churches and monasteries, which might only be interesting in great numbers as part of religious or pilgrimage tours. Many sites, both natural and historical, tend to be poorly maintained. Litter and graffiti are abundant and affects even rare architectural and historical treasures. Only a few historical attractions of antiquity have been excavated or rehabilitated. Attractions rarely feature nearby services or other attractions, fill out itineraries, or encourage tourist spending. Service standards vary widely.

Stunning natural vistas are present throughout Armenia, many featuring the snowcapped Caucasus Mountains. A few festivals have been developed but are not well promoted, which may be a result of their timing during peak season when most accommodations are fully booked. The Tourist Information Center in Yerevan offers some brochures for tourists and a display of Armenian crafts, but little proactive marketing of domestic travel opportunities. Armenia's peak seasons (+100 percent occupancy) are in May and October, with the high season falling between these months and a low season (15 percent occupancy) the rest of the year.

There is a strong debate as to the role of the Ministry of Trade and Economic Development in the tourism industry, and especially that of the ATDA. Relations with the private sector appear to be better in the case of the former than with the latter. The tourism department of the Ministry is charged with plotting the government's overall strategy as it relates to tourism, as well as performing a regulatory role in the industry. (It grants hotels their stars, or "pomegranates", based on quality, for example.) The ATDA on the other hand, is supposed to limit its actions to marketing and promotion.

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[57] Gordon Adams, "Tourism Development in Armenia", December 2000.
[58] Apricot Plus, "USAID/Armenia, SME Sector Assessment Update, Final Report", July 29, 2003.
[59] Ibid.

The Armenian Tourism Development Agency, (ATDA) a quasi-governmental body, is responsible for marketing and promoting Armenia as a travel destination. It was to have been a quasi-government/private sector organization with representatives from both sides to promote tourism to Armenia. However, private sector representation on the board of ATDA never became a reality. The ATDA accomplished much with IESC support—Armenian participation in travel fairs and conventions, a familiarization trip for outbound operators and travel journalists, and the opening of a tourist information center in central Yerevan, among other activities. However, the ATDA has never developed a strategy or operational plan with private sector ownership, and is a controversial institution that is felt to represent neither the priorities of the private sector or the interests of government. With the end of USAID funding support in early 2004, ATDA must now become responsive to the needs of both the private sector and of other key government institutions or rely on its centrally funded budget of somewhere around $35,000 to carry out independent activities. This amount of funding is inadequate for a proactive marketing and promotion agency.

The industry has some experienced guides, but companies find it difficult to find new staff with good skills. Vocational training for various skills in the tourism sector such as guiding, hospitality services, and other practical skills is absent. Longer-term training preparing students for careers in tourism, suffers from minimal contact with the private sector and curricula that are not geared to the practical realities of operating a tourism business.

Tourism development in Armenia will not be easy. Industry will need to differentiate Armenia as a travel destination, expand beyond the diaspora market, improve the quality of product (including attractions, services, and the quality of the experience). Industry should also explore the possibility of regional tourism. Unique history, culture, religion, and archeology are the main themes presented by tour agencies, against a backdrop of beautiful scenery and hospitable people, but with the exception of Armenia's claim to being the first Christian nation, these attractions are offered by nearly all competing destinations in the region. As one tour operator remarked, having these assets, even if they are better than competitor's offerings, is not enough to attract clients. The product has to be totally different. Armenian tour companies have come to the realization that a destination marketing strategy that focuses on differentiation and branding Armenia as an innovative tourism product must be developed if there is to be further growth in the industry. There is also some interest in promoting regional tourism, especially once borders are opened and functional.

Armenia's location in the center of the Southern Caucuses makes it ideal as a potential regional hub for Trans-Caucasus types of tours, but difficult border crossing issues must be resolved and strong partnerships forged with ground operators in neighboring countries. For a Trans-Caucasus tour to be attractive, it would have to feature at least three countries, probably Georgia, Armenia, and Turkey. There are also resources in Armenia that are assets for developing niche market tourism: agri-tourism is a possibility, along with soft adventure

and cultural discovery tours that might be focused around festivals or cultural attractions that serve as highlights of the product but not as the basis for the product.

There is inconsistent contact between the tour operators and their potential clients abroad and within the Armenian tourism industry there is little knowledge of niche markets and how to exploit them. Likewise, travel operators have little knowledge of the types of experiences that are attractive to their potential clients. Customer learning is poorly developed, largely due to the fact that the majority of tour operators do not maintain extensive networks of contacts within the international travel trade, and their representation at travel fairs is limited to ITB in Berlin and WTM in London. It is often said of these two fairs, by most of the travel trade, that they are "must attend" events where destinations exhibit to see and be seen, but that little business actually takes place at these fairs. They are, in effect, the social events of the year for the travel trade.

Networking with tour operators in Armenia's main markets and at trade shows should be a priority. Tour companies should attend a wider range of travel fairs in different geographic markets, with an emphasis on those that feature specialty niche markets (e.g. agri-tourism, soft adventure, religious tours) in order to meet potential partners in the outbound travel trade.

Due to a lack of detailed visitor information there is little customer learning which could be used to develop a tourism strategy that targets the actions industry should carry out to attract more visitors and increase length of stay and expenditures. Targeted product development and marketing, as well as service improvement, would benefit greatly from a conducting an annual visitor survey to learn more about customers and benchmark performance in several key areas. Industry should also inform customers through increased contacts with the travel press and inviting travel writers, journalists, and documentary filmmakers to Armenia. Developing Armenian promotion through the diaspora to reach customers beyond the diaspora might be feasible.

The lack of consistent coordination and communications between tour operators, hotels, government bodies and attractions (e.g. performance centers in Yerevan, festival organizers) is clearly detrimental to the ability of Armenia to provide high quality tourism products that are rich with a variety of experience and to deliver good service. Armenian tourism must be able to convene a wider group of participants to participate in the implementation of an overall strategy if tourism is to be a growth industry.

A high priority is the formation a tourism cluster that addresses their common interests and allows for more coordinated communications and planning between tour operators and their related and supporting firms: hotels, guest houses, restaurants and their suppliers, marketing and promotion companies etc., associations, agencies, attractions, airlines, handicraft providers, and educators. This cluster should include a well-functioning and service-focused ATDA, the Ministry of Trade and Economic Development, and other government bodies that

administer national parks, historical sites, and the national ballet and orchestra. Within industry, there needs to be a better understanding of the role of associations, and of organizations such as the ATDA. Their role in a competitive cluster is to support businesses in the industry, rather than direct them. All organizations need to agree with and contribute to a competitiveness vision. A quality rating system, or a system of standards or certifications should also be further developed and refined by the cluster.

Gems and Jewelry

The gem and jewelry sector is a traditional part of Armenia's economy. Several large companies and numerous small and medium ones, up to 35-40 active firms in all, engage in both gem processing, mainly diamond-cutting, and jewelry making. A few large factories with modern equipment dominate the diamond cutting industry, in contrast with the jewelry industry, in which many small and medium players are also involved. The industry is highly reliant on raw material imports, with most of the diamonds that form the keystone of the industry coming from Russia and Israel. The sector employs 4,000 to 5,000 workers, about half in diamond processing and half in the jewelry sub-sector.

Total exports have experienced strong growth over the past several years. In 2002, exports of diamonds and jewelry accounted for 51 percent of all exports. In an attempt to maintain this growth the GOA approved a three-year development program in December 2003 to increase the number of diamond processing plants by 50.[60] This growth will depend on Armenia's ability to secure adequate supplies of reasonably priced raw diamonds.

Nominal labor productivity (NLP) for this sector is second only to the IT sector. Jewelry and diamonds holds the potential of being one of the economy's highest productivity sectors. Larger companies produce primarily for wholesale market while SMEs in the jewelry industry are producing quality custom-made items for a niche market. The sector receives consideration from the government in the form of VAT exoneration on imports, exports, and even local sales.

The sector is represented by three associations, the Association of Jewelers and Diamond Manufactures of Armenia (AJDMA) and the Armenia Jewelers' Association (AJA) domestically, and the Armenian International Jewelers' Association (AIJA) based in Antwerp, with branches on the west and east coasts of the USA in Europe, the Middle East, and Armenia."[61]

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[60] Ibid, the Economist Intelligence Unit.
[61] Op. Cit.

With the exception of the Yerevan Jewelry Plant, which operates its own diamond cutting school, there are no schools of diamond cutting in Armenia. Apprenticeships are more common, and companies provide on the job training. There is no certification program or agency that certifies either diamond cutters or jewelers, or their products.

Cut diamonds are primarily exported to diaspora wholesalers in Antwerp or Moscow. High-end jewelry producers sell to buyers in Europe and in the US. Participation in trade shows is important. An estimated 80 percent of all business deals in the jewelry trade are done through trade shows, although the Internet is taking on a greater and greater role. Low-end producers of jewelry receive low returns due to quality constraints and their inability to make guarantees of product authenticity or quality to customers. There is some higher end jewelry outsourcing from firms in Europe to firms in Armenia.

The principal strategy for diamond processing firms is to continue to seek clients, to produce increasingly high quality diamonds that the international market demands. This translates into concentrating on the larger stones. Management of large companies tends to be production-oriented rather than market oriented, perhaps a natural correlation when most of industry interfaces with wholesalers and little customer learning is taking place. Designs and consumer preferences are passed on to the cutters through their wholesalers

As an industry, a crucial element of the strategy is to ensure a supply of diamonds. Armenian producers have been able to diversify their sourcing to some extent, receiving gems from Belgium and Israel, in addition to their Russian quota.

Jewelers face problems of product differentiation, market identification, and quality control. There are about six jewelry companies that are professionally managed and have their market contacts in Europe. There are many smaller, less well-managed enterprises. Many new entrants attempt to copy traditional pieces and often fail in their techniques, in turn affecting the reputation of legitimate producers.

Gems and Jewelry is certainly an industry where formation of an industry cluster and the implementation of a very few clearly defined market oriented strategies could make a considerable difference in industry competitiveness and sustainability. Cluster-based initiatives might include a branding and identification strategy for Armenian gems and jewelry, establishment of one or two certification bodies in Armenia which would certify gem and jewelry quality and the skills of cutters and jewelers, and a marketing strategy which would allow Armenian producers to reach consumers directly through retail outlets.

Differentiating and creating customer demand for Armenian-cut diamonds through identification and branding initiatives that highlight the quality of the diamonds and the cutting would be possible through identification of diamonds using the GemPrint technology or similar, combined with a certificate of authenticity which would support an "Armenian" brand and new owner registration. A new owner registration system that allows consumers to

register their gems (and simultaneously fill out a questionnaire) with an Armenian organization serving all companies would provide Armenian jewelers with direct feedback from consumers along with information on who the customers are, where they are buying their jewelry, and what influenced their purchase choices. This kind of initiative could increase the demand for both cut diamonds and jewelry containing diamonds and other precious stones by increasing consumer recognition, buyer confidence, and customer feedback.

In the gems and jewelry industry, buyer confidence is directly correlated to profit margins, as stones and jewelry containing mounted stones or precious metals never sell at full retail value if the consumer is not sure of their authenticity, no matter how good the design is. Certification of the quality of stones, mounted and un-mounted, and of the purity of precious metals (platinum, gold, silver) would improve buyer confidence and add value. Likewise, Armenian firms are likely to secure more production contracts from high-end branded jewelry makers if Armenian firms had certified professionals cutting and grading stones and making jewelry. Certification bodies are probably most important for gem quality, and at the very least Armenian industry should strive to attract an internationally recognized body to undertake certification in Armenia prior to export, and to train more certifiers in Armenia.

Moving up the value chain requires that firms in gems and jewelry have access to retail channels of distribution, as customer learning and profitability are both impacted by selling through wholesalers. Given the closely-knit, cartel-like structure of international industry, particularly in the diamond business, this will not be easy. However, there are examples of successful entry strategies into the jewelry retail business from other countries that should be examined for feasibility. Diamond processors and jewelers who produce high quality products need to have access to retail market outlets or boutique retailers. The high-end, well educated consumer does buy unset stones when shopping for significant purchases, so diamond processors should not neglect retail marketing as the stones themselves could contribute significantly to the image of Armenian industry by bringing the brand to the attention of the world's most demanding consumers.

Industry should also continue to make marketing contacts at trade shows and invest in attending trade fairs, stressing quality, and picking up information as to trends and styles. The creation of an "Armenian" image appropriately branded with an easily recognized symbol (e.g. pomegranate) used in all marketing materials and carried over onto quality certificates and even imprinted on jewelry, is an especially important marketing initiative, since product differentiation in gems and jewelry is rarely purely designed based.

While no true cluster currently exists, both gems and jewelry could benefit from cooperation in the initiatives mentioned above and in the sharing of capital and human resource development investments. Formation of a cluster should allow for better industry communication and cooperation with precision engineering and even with the IT sector in the area of automated management systems. Industry should seek to form or attract

organizations missing from the cluster, particularly a certification body for gem quality, and cooperate on organizing trade specific training systems whereby highly qualified cutters and jewelers could obtain a certification. This could take the form of a private institute for vocational training or a more formalized system of apprenticeship that leads to eventual certification.

Agricultural Processing

The Competitiveness assessment team looked generally at the agroprocessing industry, with particular attention on the canning and juice subsector, and brandy and wines. The detailed assessments in Appendix A include separate diamond analyses for these subsectors. In the cases of canning/juices and brandy, the Assessment team used individual cases to illustrate competitive strategies and issues.

Agribusiness is exceedingly diverse, and several other subsectors could form into sub-clusters on a product basis (e.g. dairy, aquaculture, cut flowers). They are included in the more general discussion, although not always specifically singled out.

Agro-processing is the third largest contributor to GDP behind agriculture itself and construction. The sector's real labor productivity is 50 percent above the national average, but still poor by international standards. Exports are primarily to the CIS countries, where they enter duty free, and to the US and Europe. Shipments are mainly through Georgia, either to the port at Poti or by rail to Moscow. Export costs are high, including transportation, informal taxes and facilitation payments. Export sales are normally made to wholesalers with diaspora connections.

Agricultural products include grain crops, vegetables, and fruits. The latter two are mainly exported in processed form; vegetables are most often canned, while the fruits are processed into juices, jellies, jams, compotes, leathers, and fruit fillers. The unavailability of locally-manufactured proper quality screw top jars and high quality packaging and labeling is a constraint to adding value.

While the majority of firms is production-oriented and has little knowledge of markets and value-adding strategies, some firms are on a sound strategic footing, are increasing sales and profits, and are potentially future cluster leaders.

The supply of high quality raw materials to processors can be a problem. The concept of forward contracting with producers is not widespread although some processors are actively offering forward contracts to farmers or are vertically integrated, producing their own inputs. Contract enforcement needs to be improved and better internal markets developed for raw materials. Agricultural land is also highly fragmented, and small plot sizes contribute to poor economies of scale on the production side. Properly sized farm machinery is not typically

available in rural areas, so agriculture remains largely a labor intensive sector characterized by low yields and poor incomes, discouraging many land owners from farming.

Armenia also needs third party certifying bodies that can undertake product testing to normative standards and certify companies for ISO-9000 and HACCP compliance.

Armenian produce has a reputation domestically and within the CIS for being tasteful and free of chemical fertilizers and pesticides. Farm labor is inexpensive. Armenia's favorable climate for horticultural production and for early-season fruits and vegetables in Southern Armenia also gives it a basic factor advantage as a horticultural producer. However there is little land available for expansion of agricultural production.

In terms of advanced factors, Armenian industry is characterized by good technical skills. USDA and the ASME Project (implemented by DAI) have made significant contributions in this respect. However, with some exceptions, firms possess poor management and marketing skills, and there is little value addition to products even compared to firms in other Armenian industries. There are few branding strategies in place, and companies do not make use of appellations of origin or distinctive packaging to increase brand appeal or of organic certifications or product testing to bolster product claims.

Export sales are made primarily to the Armenian specialty product market within the diaspora and to CIS markets (often through diaspora intermediaries), or to other wholesale markets through diaspora connections. There is potential for market expansion beyond these markets if quality is maintained, by accessing better distribution channels and increasing customer knowledge of the Armenian product. This would require significant improvements to demand pull marketing, brand recognition, customer learning, and information on both domestic and export markets and distribution channels for various product classes.

While several of the leading firms in this industry have sound individual strategies, there is no coordinated industry strategy for addressing factor improvement or accessing markets. There are no associations in the sector, let alone a cluster. Nevertheless, the sector is ripe for the cluster approach; farmers, collection points, rural to market transporters, processors, makers of packaging material, transporters of processed products, marketers, and more, could link up with processors with benefits to all. Simple actions of cooperation between core businesses, such as consolidation of cargo shipments, could make a considerable impact on the bottom line of businesses. Likewise, better communications between industry and institutions of higher learning could increase the number of graduates that can be of use to the sector, particularly in the areas of agricultural products marketing and product development.

Industry should emphasize high quality, specialty food products and Armenian specialties. Developing consumer recognition of Armenian product quality can be achieved through a strategy that leverages recognition from some key products that already enjoy excellent

reputations internationally, particularly within the CIS: Armenian brandy, apricots and other fruits, and some regional specialty items including cheeses and cured meats (basturma).

Food and beverage processors could benefit greatly from participation in trade fairs to learn more about international markets and product development opportunities, in preparation for expanding beyond Armenian diaspora markets and traditional CIS markets. Opportunities for innovation exist in packaging and presentation, increasing the number of items in existing product lines, and developing strategic marketing initiatives.

Special mention must be made of the brandy and wine sub-sectors, which have particular constraints and opportunities. Access to high quality grapes is the greatest limiting factor to expansion of both industries, as is the threat of phylloxera, a disease that attacks the roots of grapes and eventually kills the entire vine, and which decimated the wine industries of France, Italy, Spain, and Portugal in the 1860s. One phylloxera resistant grape variety, by the name of Beta, was discovered in the 1880s in northern New York State and the practice of grafting the wood of a desirable variety of grape onto Beta rootstock began. Today, virtually all domesticated grapes in the world, with the exception of certain pockets including the Ararat valley are produced on Beta rootstock. Phylloxera has been discovered in northern Armenia and it is only a matter of time before it spreads to Ararat where 90 percent of the Armenian grapes are grown. YBC appears to be the only firm preparing for this inevitability by importing Beta rootstocks which, when multiplied, can be grafted to the locally preferred and heirloom varietals to protect the vines.

The brandy industry is dominated by the Yerevan Brandy Company (YBC), which was privatized in 1998 and is now a subsidiary of the French beverage company Pernod/Ricard. The company produces 55 percent of the brandy exported from Armenia. Quality control is very strict. Their principal markets are Russia (80 percent), other CIS countries, and the US. According to the YBC, its brandies have a 90 percent brand recognition in Russia. Expand beyond the Russian, CIS, and diaspora markets. YBC's market-based strategy is to consolidate demand in Russia and CIS countries, continue to distinguish itself as the highest quality brandy in markets that prefer this slightly sweeter variety of brandy, to upgrade its image as a premium product, and spread brand recognition beyond Russia through a marketing strategy based on sales in duty free outlets. As a hedge against bad crop years the company also maintains a strategic reserve of four million liters of un-aged, distilled spirits, which can be diverted at any time to fill in production gaps.

Other brandy producers in Armenia are often accused of their products with YBC 'look-alike' labels. Rather, they must begin to emulate YBC's strict quality control and high product standards, and develop their own strategies for achieving brand recognition and market penetration. Despite the high level of mistrust among the few players in this industry, improving industry quality and profitability would benefit greatly from the formation of a cluster, possibly linked with wine producers that would address such basic issues as rootstock protection from phylloxera.

The Armenian wine industry had its ups and downs during the Soviet era, and land reforms after independence reduce the number of hectares devoted to growing grapes from 36,000 to 8,000.[62] 80 percent of Armenia's wine exports go to CIS countries and 20 percent to the US and Europe. Armenians of the diaspora most likely account for the demand in the latter 20 percent. There is little brand recognition and little quality demand in the CIS countries.

Armenian wines are generally not of high quality, both for a series of technical reasons and because local demand is not very discerning. Competing on cost is not an option, as the relative cost structures of wine production in places like Chile and California are very competitive. Armenia's only hope in developing its wine industry is a complete overhaul from top to bottom. It is estimated that it will take 10 to 15 years for the industry to change and become internationally competitive[63], and would involve completely changing farmers' attitudes including new varieties. The approximately 30 wineries would have to learn new hygienic procedures and invest in new equipment. Sources of proper wine yeast would also have to be obtained and used properly.

Precision Engineering[64] and Electronics[65]

Similar to electronics and IT, the Armenian precision engineering sector was one of the most technologically advanced sectors of the economy during Soviet times. The sector manufactured equipment for production processes throughout the Soviet Union. The sector benefited from large military and aerospace contracts and was also a significant exporter. This not only employed large numbers of people, but it attracted strong backing for the development of precision engineering talent and expertise, principally in the universities and research institutes.

Both production and employment peaked in the mid 1980s. At that time the precision engineering sector made up 30 percent of Armenia's industrial production. But the industry was not designed to survive in a market-based, cost sensitive economy. By 2003, this output had dropped to the point where the sector only had a 1.3 percent share of industrial production, 0.3 percent of GDP and approximately 2.4 percent of employment. The sector received little investment, or technical or technological upgrading. It also suffered from high transport costs.

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[62] Interview with Avag Harutyunyan, President of the Armenian Association of Winemakers, grower, wine producer, and professor of winemaking.
[63] Ibid.
[64] Much of the information presented here is from one document, America, "Armenian Precision Engineering Sector: SWOT Analysis", Armenian Development Agency, World Bank, 2003.
[65] Much of the information presented here is from one document, America, "Armenian Electronics Sector: SWOT Analysis", Armenian Development Agency, World Bank, 2003.

As of 2003 there were 32 precision machinery enterprises registered with the government, several of which operate at a reduced capacity.

Like the precision engineering sector, the electronics sector was also among the most technologically highly developed sectors of the economy during Soviet times. The former Yerevan Polytechnic Institute (now the State Engineering University of Armenia), the Yerevan State University and other research institutes were heavily supported as both providers of highly qualified technicians and as think tanks for electronics research and development.

With the end of the Soviet Union and of large, guaranteed government contracts the industry virtually collapsed. By 2001, the sector's share of GDP had dropped to 0.26 percent and to 1.0 percent of industrial production. This translated into approximately 70 electronics companies producing roughly 15 different lines of electronic equipment.

In 2001 the export of electronics products was 13 million US$, which comprised 3.8 % of total exports."[66] The industry is finding it increasingly difficult to compete on either price or quality grounds.

Some equipment and electronics producers have nevertheless established themselves and succeed in exporting equipment – there is little demand in Armenia. These successful firms typically were started after independence, do not carry the burden of overly large, old facilities, and take advantage from the industry knowledge of a few key individuals.

The Competitiveness Assessment uses the example of Ani Electronics (formerly Hologram) as a firm that has successfully implemented a market-oriented strategy. The company produces thermostats – in the late 1980s it was a producer of heavy equipment, but switched to lighter products because of the need to find a product that could be transported by air, avoiding the high land transport costs. Ani targeted the Russian market, because the principals knew the Russian network, had links with Russian specialists, and recognized that there were few Russian producers. They emphasized quality, and were able to offer a product that was much less expensive than Western thermostats.

The company developed it reputation, and opened a representative office in Moscow in 1995. However, cheap products from China (with Chinese thermostats) flooded the Russian market in 1996-1997, and many of Ani's Russian customers went out of business. Within a few years, however, new producers started production in Russia. Ani had the reputation and contacts, and its business grew.

Ani now produces 10 kinds of thermostats. It is competing successfully in Russia, even selling to Western European firms that manufacture in Russia (e.g. a French subsidiary of Electrolux). Ani's first goal is to be strong in the Russian market, and then to sell elsewhere in Europe. The

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[66] Armenia Development Agency, no title, no author, no date.

company believes it meets international quality standards, and doesn't fear quality-based competition. It is ISO certified, through Global Certification Limited, a U.K. firm. It benefited in the early 1990s from an IESC specialist in international standards.

There are no precise numbers available with respect to successful equipment manufacturers in Armenia – but at least half a dozen were recounted in various types of equipment manufacturing. There is also a small industry (about 6 firms) that manufactures diamond cutting tools and machinery. There seems to be minimal networking amongst these firms.

If this sector is to be revived, it must be able to compete globally as there is little Armenian market, and no guaranteed CIS market. With sound strategies and careful management, it appears that some Armenian equipment manufacturers are succeeding. There may be synergies and collaborations that will be useful to this group of businesses, including joint procurement, and improved education and training of students that could be hired by the manufacturers.

This is an industry that can grow, perhaps slowly initially, through sound cost/quality choices in light of good knowledge of the decision-points of target market segments. Businesses will need to invest in understanding the niches and competitive forces. Strong networking amongst knowledgeable industry insiders will undoubtedly help, as initial contacts will be based on reputation and trust. The industry will need to also work with skills providers to ensure a supply of well trained (to state-of-the art caliber) technical personnel, with good management skills. Representation at targeted trade shows will help the businesses to understand the competition and the customers, and to promote the Armenian industry and products.

Apparel

Armenia's apparel industry is composed of at least four apparel (including shoes) sub-sectors: 'cut and sew' clothing, knitwear, carpets, and shoes. In Soviet times the sector in Armenia was a major supplier of garments and textiles to the Soviet Union. Employing 115,000 people, the industry accounted for 25-30% of the country's work force during the 1980s. By 2002 it had declined to less than 1%[67]. By 2003 the total number of employees was not more than 2,300. Of the 130 registered apparel firms only about 50 are operational. Five of these are large companies and 45 are SMEs.

As of 2002 the industry was still one of the more labor-intensive sectors in the economy. Ninety percent of the employees are women. "The industry is operating at 38.3% of capacity

[67] Armine Tadevosyan and Karen Isahakyan, "Apparel and Textile Industry in Armenia," IESC, June 2003.

for those manufacturers who are still in business and represents about 0.3% of 2002 GDP."[68] On the other hand, in the same year production of textiles and garments increased by 7.1 percent and to 5.65 percent of total exports. This increase was due to outsourcing contracts from principally the US and Russia.[69]

The sector depends almost totally on imported raw materials, which comprises an estimated 60 percent of production costs. Transportation costs are estimated to comprise another 8-12 percent of costs. Between 90 and 95 percent of total production is exported.

The sector suffers from high fixed cost burden, resulting from the overly large plant infrastructure inherited from pre-independence. There has been virtually no investment in upgrading plant or technology, and the industry thus appears to be using privatized assets that inevitably become outdated and run down. A number of smaller-scale producers have emerged, however, some of these reportedly of good quality and are developing own brands and models for the Russian market.

The Armenian industry lacks a solid, developed market. It depends on outsourced contracts, and so production fluctuates with the availability of orders. Because of the sector's dependence on outsourced orders, the market for Armenian apparel suffers from fluctuations from year to year.

Armenia's principal trading partners in terms of apparel are the US and Russia. Armenia still benefits from special treatment at the borders of CIS countries and is exempt from import duties in those countries. Armenia also benefits from a liberal quota for imports into the US until 2005, when it will have to compete with all of the world's textile producers on an equal footing.

The diaspora retains interest in the Armenian industry, and is the source of some of the contracts. There is at least one diaspora investment being discussed to transfer production from China to Armenia, and another to produce transfer production of lingerie for Russia from Canada.

Thus, the industry continues to receive orders, largely on the basis of low-cost labor, and "available quotas". The industry lacks competitive advantages for future success, especially in light of what is expected to be increased cost competition from big producers such as China and Bangladesh. It lacks world-class design capability, and is not linked to high-value markets with a full-service capability.

Individual investors will need to demonstrate ability to implement innovative, higher-value strategies if the industry is to survive in any form. It would therefore appear that any survival

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[68] Ibid.
[69] Apricot Plus, "USAID/Armenia SME Sector Assessment Update, Final Report, July 29, 2003.

or growth in this industry in the medium to long term will depend on companies' abilities to identify defensible niches of high value – possibly unique design or highly customized production. Businesses will need to invest in customer learning – customer requirements and niches, communication with customers, distribution chains, etc. – and in responding to customer and industry needs. The industry will also need to take steps to ensure that the crucial design and technical skills are continuously available.

6. Creating a Common Vision for the Future

This section provides the conclusion of the report based on the information presented in the previous sections. It describes the next steps for Armenians to improve the competitiveness of its industries and the economy. This section also provides a brief discussion of the most important points for competitiveness-focused discussion among cluster stakeholders and between the public and private sector.

Steps to Improve Competitiveness

1. Shifting from Production-focused to Market-focused Strategies

A key conclusion of this exercise is that Armenia is not yet sufficiently focused on market-driven strategies. While there are many excellent examples of firms with strong customer focus, the bulk of Armenian businesses, and the driving attitudes of most stakeholders, has not yet made this leap. Armenia is only slowly and patchily moving from production-oriented, basic factor-driven competitiveness strategies to more complex, value added strategies that are driven by a thorough understanding of more demanding customer needs and preferences. This is a theme repeated in industry after industry. In the old type of business, Armenian enterprises neither sought nor received important information from ultimate users with respect to their needs. Armenian producers did not know what value-added design, quality or service represented value to the consumer, and did not know which consumers would pay more for special packages of goods and services. Armenian producers, therefore, typically did not implement market- or customer-oriented strategies.

Today, even exports tend to be through intermediaries who either define product/services that they contract to buy (e.g. gems, apparel, IT services) or who act as an agent to sell a product without providing the types of feedback that will allow the industry to upgrade (e.g. wine to the diaspora, contract jewelry to wholesalers or large chains). Tourism is oriented towards bringing a "captive" customer from the diaspora to the standard list of poorly

maintained or developed historic or cultural sites. Food production (even if the product is very tasty) is largely unspecialized.

The government's programs to attract investment carry a mixed message. While there is awareness of the importance of adding value and increasing productivity, the priority is to generate jobs. Thus, most foreign investment in Armenia has been of the type that builds upon Armenia's low cost labor and ability to produce reasonable quality – i.e., strategies that within certain quality bounds are essentially low-cost based and commodity focused.

In the global market, Armenians have been slow to awaken to the potential value of their talent, work and products, and to recognize that they can offer value to specific categories of customers. Armenian businesses must recognize that customers will pay more for such desirable product features and services. And businesses must know that they have to understand and communicate with the customer to develop strategic insights about customer needs. Armenian businesses are also beginning to recognize that they must communicate with the customer to inform the customer about their new products and services. It is no longer just the technician, engineer and production manager that create value for the enterprise, but also the strategist, designer and marketing specialist.

Many Armenian firms naturally look to the CIS markets as destinations for their exports – they have networks and stronger comfort levels in these markets, and sometimes reputations that can be built upon. But these firms are discovering that they not only must compete in these export markets against domestic products and services, but also against those from all over the world. Many firms are proud that they are selling also to the EU and North America, but they have their entree through the diaspora, which are both intermediary and consumer. In either case, business should learn to appeal to a larger global market, and must do so unless they believe that the diaspora will forever protect and nourish them.

Not content to continue exporting low value-added products to their previous CIS markets, many businesses in Armenia are now focusing on adding value to their products and marketing them to customers who are willing to pay higher prices for quality or service. Thus, for example, elements of the apparel industry are attempting to develop designs and brands that will appeal to the CIS consumer. Elements of the brandy industry are presenting an increasingly premium product to a market that is already receptive. The gem and jewelry industry is discussing ways to encourage customers to see special value in products from Armenia, exerting "demand-pull" influence on intermediaries.

The Armenian business environment, with the help of government, also needs to become more supportive of such globally competitive strategies. Many successes have been achieved, but many more reforms in policies and attitudes are necessary to enable Armenia to compete in the global marketplace. Government and business need to understand how the regulations and services, that provide a framework or platform for business operation, impact the ability of business to select and implement competitive strategies. The regulations and services need

to themselves be competitive, in comparison to those in other countries. Armenia needs to be aware of how the enabling environment compares, and needs to be focused and active in improving business' operating environment.

2. Appeal to a non-diaspora, Global Market

There is no doubt that the willingness of the diaspora to do business in and with Armenia, and the continued interest of the diaspora in Armenian products, has been a strong factor in the country's recent economic growth and the emergence or reemergence of several industries. Everything possible should be done to continue to wisely nurture and benefit from this network.

Businesses must ask, however, whether the diaspora customers and intermediaries provide the type of market knowledge and value added opportunities that Armenian business will need to increase its competitiveness over time. Several risk scenarios are plausible:

- That the diaspora intermediary "shields" the Armenian exporter from the competition and learning about the global marketplace, and that the Armenian business thus never learns to become truly competitive.
- That tastes change within the international community of Armenian descent and that over time the consumer community becomes less interested in Armenian products. In such case, Armenian products will need to compete on their differentiated, mainstream competitive qualities, rather than the fact that they are Armenian.
- That over time, networks loosen and diaspora intermediaries see interesting value in lower-priced products and services from other countries, and that over time they become less committed to products and services of Armenian origin.

These are threats over the medium-to-long term. Armenian business must target markets outside of the diaspora network, learning to compete effectively on their own competitive qualities. In achieving this broader competitiveness, Armenian businesses are also more likely to retain the commitment of the diaspora customer and business partner.

4. More Sophisticated Company Strategies and Capabilities

Some Armenian businesses and industries are beginning to focus on the need to create very specific yet multi-faceted strategies in order to access market potential. This transition has been a difficult one. In order for Armenian businesses and industries to develop competitive advantage, a concerted effort is necessary to craft more sophisticated strategies built on knowledge of customer requirements and market demands.

This is particularly imperative given physical and service limitations within which industry currently operates—high cost and inefficient land transport, non-responsive, high-cost and

inefficient air transport, high cost and inefficient telecommunications, and closed borders with neighbors. These limit the choice of strategic options.

Every business has all the opportunity to implement competitive strategies that imagination and the nature of the business environment will permit. Good strategy will include learning about the market and customer, and finding ways to provide information to the customer. Good strategy will obtain and organize inputs in a manner that meets the strategic objectives. And the company with good strategy will gather and work effectively with a sound cluster in order to meet the company's strategic needs.

To understand strategic opportunities, businesses and industry groups need to examine the strategies of firms in other countries. This can be accomplished by establishing alliances, by visiting other companies, through trade fairs, and through a process known as "*strategic benchmarking*".

The Competitiveness Assessment team met with several Armenian companies that are well advanced in implementing more sophisticated company strategies and capabilities. Often, these strategies involve assuring supply (e.g. diamonds, milk) of quality inputs while finding ways to understand market segments, and to inform them, meet their product and quality needs, and provide good service (Ararat brandy, Ani thermostats). In some cases, even relatively unsophisticated strategies of producing on a contract basis or selling to intermediaries (e.g. exported software, cut gems) can be viewed as at least an entry point towards understanding and getting closer to the "desirable" customer.

On the other hand, most firms and industries have not yet made this leap, or even taken steps towards it. The tourism industry, for example, may offer friendly and knowledgeable service, but the industry has not yet done much to target specific niches and ensure that the service and other requirements of these tourists are well-met in ways that encourage them to spend money in Armenia.

4. Industry Leadership and Cooperation

Industry associations and other industry leaders can play a role to assist member companies in getting access to information and in fostering appropriate dialogue. To be effective, this will require a common vision and a coherent industry strategy. Industry associations and leadership can do much to promote competitiveness. But it will require investment in better analytical and support capabilities.

Individual companies can be successful, given effective leadership and sound strategy. Industry competitiveness requires attention to policy reform, strategy setting and association building; it also requires many members of the industry to cooperate. Also, the history of mistrust within many industries would need to be addressed to enable effective cooperation

among members. From this clustering comes the ability to present common positions to government and outside enterprises on issues affecting the industry as a whole.

5. Effective Public-private Dialogue

JAA has kept a catalogue of effective and ineffective approaches to dialogue between the private and public sectors from its 450+ projects in more than 100 countries. Ineffective dialogue is characterized, for example, by individual companies approaching government with ad-hoc complaints involving problems at the operational level. Effective dialogue is characterized by industry-wide approaches with a comprehensive vision at the strategy level. Ineffective dialogue focuses on concessions rather than co-responsibility. Ineffective dialogue produces "laundry lists" of undifferentiated complaints based on anecdotal evidence. Effective dialogue, however, approaches the government with a few key priorities based on good data, sound analysis, concrete proposals and estimates of the costs and benefits of implementation. Ineffective dialogue is characterized by business, labor and government being on opposite sides of the table. Effective dialogue is characterized by a realization that they are on the same side of the table and facing competitors "out there" and not amongst each other. Ineffective dialogue is characterized by industry strategies and action plans being put in place without full competitiveness information and commitment.

One way to promote effective national and regional dialogue regarding competitiveness is through the creation of a National Competitiveness Council.[70] The Council, which is typically composed of representatives from the public, private, academic and labor sectors, works together to analyze internal and external obstacles to the development of national competitiveness and to present plans on how to resolve such obstacles. The Council works independently of any one sector to provide objective views on the state of competitiveness within a country. This Council can provide a catalyst for genuine dialogue between stakeholders of the competitiveness process. It can also provide a base for regionally centered groups in order to promote a stronger voice in the dialogue process. Currently there is no overarching competitiveness thrust, or unbiased, credible organization in Armenia to focus the nation on the competitiveness objective.

Armenia may be ready for such a Council, or that may wait. But the typical core functions of such a Council are vital for Armenia:

- Providing policy advice and advice on policy implementation;
- Sound competitiveness and policy analysis;
- Monitoring the country's competitiveness performance;
- Benchmarking against best practices worldwide; and

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[70] A brief on successful competitiveness and productivity councils in the United States, Ireland, Singapore, Hong Kong, and Malaysia is provided on the Bulgaria Competitiveness Initiative website http://www.competitiveness.bg/.

- Providing data and information to all constituents, including media.

6. Investment in Knowledge and Skills

Armenians are justifiably proud of their basic skills and their history of advanced technological skills and education. Armenia, in the old Soviet Union, was preeminent in technology, technical education, science, and more. Unfortunately, that was in the past.

The Assessment Team was repeatedly told of an educational and training system that has declined in quality, that is out of touch with the needs of business, and that is no longer state-of-the art. Quite simply, and of course with some exceptions, Armenia's educators and skills providers do not prepare their students for productive employment within competitive industry.

And yet, Armenia's competitiveness will depend in large part on the knowledge base of its economy. Given the location constraints of the economy that make it difficult for Armenia to compete on the basis of low cost products and services, a focus of Armenia's business needs to be on value added and knowledge content (which weighs nothing). A constant theme in this section of the report is that businesses need to learn about customers and markets, identify specialized needs that customers are willing to pay more for, and be able to meet these needs. In the global economy, these needs are increasingly based on technology, service and innovation.

Thus far, few industries have done much to bridge this disconnect between business and the education and training institutions, or to do much as a group to meet their need for skilled personnel. Individual companies have in some cases implemented programs. But thus far, there has been no concerted action to reestablish and ensure Armenia's knowledge and skills base, nor to make it relevant to the competitive needs of business.

Surely this is a priority, and a very practical, focused emphasis on improving skills and education is a priority for public-private partnership.

Can Armenia Accelerate Its Competitiveness?

The Government of Armenia can certainly contribute to accelerating the emerging competitiveness of Armenia. Greater emphasis, however, must be placed on encouraging the private sector to play its role properly. In the end, the country's "competitiveness" will depend on thousands of companies understanding the true sources of their competitiveness and designing and implementing better strategies and operations. The GOA can encourage this process by its openness to institutionalizing the dialogue process and by acting on initial high-priority areas, e.g. to improve the legal and regulatory framework, or improving education and training. Industry groups that move to create a strategic plan, gather market information, and understand the competitive position of their industry will most likely find

willing collaborators, provided they themselves demonstrate financial commitment and ownership of the process.

Two Views of Competitiveness

Dialogue is influenced by perceptions regarding competitiveness. One view sees competitiveness as going after a "fixed pie", or is simply selling "its product" to a contract buyer or another intermediary. This is often the perception among those competing in mature markets for basic commodities, or even for more advanced or high value products (e.g. gems, undifferentiated jewelry, apparel, processed food, low-quality wine, standard tourism packages) that are sold as undifferentiated commodities. It is also the view of those who must compete for the limited capacity to provide incentives. Another view holds that competitiveness involves a "growing pie". It is associated with an ultimately unlimited potential to provide new products and services and create as well as receive value. The latter view drives human progress and creates the basis for rapid increases in standards of living. The former view sees little benefit from cooperation whereas the latter view thrives on it.

Summary and Recommendations

Opportunities for building competitiveness exist at the company, industry, regional, and national levels—all are appropriate loci for actions designed to increase competitiveness. But individual companies' success and productivity growth are the true measures of a national competitiveness process. Companies that develop competitive advantage contribute to the national competitiveness process. Ultimately, individual firms wield the power to change the way the economy looks and to increase national competitiveness.

The future competitiveness of Armenia will depend on a number of factors. It will primarily depend on the quality of private sector strategies and industry leadership—industry choosing to "do the right things well", which implies strategies to learn what those "right things" are. It will also require more effective private-public dialogue that leads to needed action. It will also require better access to market intelligence, competitive positioning and technology. And most important to industries specifically, the future of Armenian competitiveness relies on the ability of industry members to cooperate, perhaps as clusters, and press forward to develop and implement successful strategies, and to promote effective dialogue with the public, academic and labor sectors.

Twelve Immediate Actions to Encourage Armenian Competitiveness

Business and government, and other economic partners, can take immediate actions towards improving Armenia's competitiveness. These actions should include:

1. Focus on Competitive Industry Strategies and Clusters

A competitiveness initiative should encourage industry groups in general and specifically, and provide them with assistance to develop globally competitive strategies. They need to develop sound relationships with organizations to establish effective clusters.

The Armenia Competitiveness Assessment explored the possibilities (and windows of opportunity) for of facilitating industries to develop better strategies, and the team is convinced that there are some excellent entry points. Much useful preliminary work has been done by the Armenia Agribusiness SME Market Development Project and Armenia Local Government Program (as examples), and by the already substantial amount of studies already carried out under a variety of sponsorships. But much more needs to be done, and this is a high priority.

Many tools will be used in helping industries to improve their strategies. Among them, Competitiveness Positioning and Value Chain analysis will be very prominent. Strategic Gap Analysis will be a crucial process to assess current strategies, identify strategic opportunities, and understand the gap between them. As input to the Gap Analysis, industries are helped to benchmark globally competitive strategies—to identify and understand the strategies of competitive businesses in similar industries, and to compare Armenian strategies to these leaders.

The output of the strategic gap analysis is a specific action plan that is implemented in concert by the cluster, and innumerable firm-level strategic improvements.

2. Improve Public-Private Dialogue: Dialogue for Action

The knowledge and sophistication in stakeholders' awareness of globalization and competitiveness issues has increased markedly in recent years. This is a good base to start with. Armenia needs to emphasize an awareness campaign on the opportunities, imperatives and requirements for achieving competitiveness. Effective public-private dialogue should center on industry priorities and on implementing the common vision of competitiveness.

Better public private dialogue requires appropriate frequency and venues, and effective presentation of viewpoints. Business needs to develop the ability to properly research, analyze and present its issues and recommendations.

The competitiveness perspective needs to inform public-private dialogue and debate. This dialogue should consider and demonstrate the impact of changes in the business environment on business competitiveness, and consideration of the impacts of specific legislative changes. Discussion should also concern the competitiveness impact of the privatization process.

3. Establish a National Competitiveness Council or similar guiding vehicle

Armenia needs a highly credible, public-private entity to focus attention on Armenia's competitiveness performance and on the requirements to build competitiveness. Other countries have established a National Competitiveness Council or similar organization to provide this focus and capability. Councils in countries such as Ireland, Singapore, Malaysia and Croatia can provide models. The Council will focus national consensus on competitiveness-building actions, identify competitiveness priorities, provide advice, and monitor improvement in competitiveness. As in other countries, the Council would also sponsor an annual National Competitiveness Report.

The National Competitiveness Council would develop long range strategy recommendations for promoting the competitiveness of Armenia's business and trade policy, promoting increased productivity, and institutionalizing public-private dialogue at a national level. The National Competitiveness Council would channel dialogue with business into a national body to provide one stance on the economic development of the country, not fragmented into different forms with many individual organizations.

The Council would be a non-partisan body, composed of leaders from the public, private, academic and labor sectors. The Council would be independent of any one sector, and strive to provide objective views on the state of competitiveness within the country.

This Council can provide a catalyst for genuine dialogue between stakeholders of the competitiveness process.

4. Benchmark Public Services and the Business Environment

If the business environment and services available to Armenian business are not at least as good as those of the global leaders, in terms of cost, timeliness and effectiveness, then Armenian business will be handicapped. Armenia must recognize the level of performance of the global leaders in such services, and should regularly benchmark Armenian performance against the world leaders. The benchmarking should be very specific in nature and linked to the needs of sound industry competitiveness strategies—time and cost for customs throughput, time and cost to set up a business, time and cost of communications, and so on.

The benchmarking should contribute to public-private discussion, and commitment to actions for improvement.

5. Participate in the Global Competitiveness Report

Dialogue and decision-making needs to be continually updated with comparative information about the competitiveness of Armenia's economy. The competitiveness benchmarking provided through this Competitiveness assessment is an initial step in providing unbiased information for participants in the national dialogue. Armenian stakeholders need to have constant and ready access to updated information. Participation in the Global Competitiveness Report will meet some of this need.

The GCR provides comparative information on national competitiveness performance, and is updated annually. It is not only the source of good information as the underpinning of dialogue, but participation also tends to place a country on the world's "map" of competitiveness, provides considerable skills transfer, and raises the profile of competitiveness issues in a country.

The GCR lacks specificity in terms of specific industries or even specific elements of the enabling environment, but it is nonetheless a very good element of the "tool chest" for building competitiveness.

6. Encourage Competitiveness in the Marzes

Regional competitiveness initiatives need to be put in place to support the national initiative. These initiatives should focus on improving local industry competitiveness and cluster participation. The initiatives should also encourage effective local business-government dialogue, to take decisions that will encourage competitiveness on a local level. The importance of this local-level initiative is that much of Armenia's industry is decentralized and that production outside of Yerevan is part of the value and market chains of many clusters, and therefore must support the clusters' competitiveness. The local economic development planning process being supported by USAID (the Armenia Local Government Program) could be an initial vehicle to begin this process.

7. Train Armenians to Facilitate Strategies and Cluster Development

Development of competitive strategies and competitive clusters by the industry constituents is central to sustainable competitive performance. Armenians should develop the ability to facilitate competitive strategy; benchmark strategies and services; and encourage effective dialogue. The action plan should therefore provide Armenians with these skills, where they are lacking, through skills transfer and through implementation by Armenian organizations.

8. Help Associations to Provide Better Services to Their Members

Association development in Armenia is still at a relatively early stage. Few Armenian industry associations are able to provide services of the nature and quality required by their membership. They are often fragmented, and respond to parochial interests that are not

representative of the larger constituency. They are, for the most part, not focused on the specifics of helping their industry to become competitive.

Industry associations should be useful actors in the process of building industry competitiveness. The competitiveness initiative should help associations to build their capacities to play a more effective role.

9. Promote Competitive Investment

Countries such as Ireland, Scotland and several Asian countries have grown and increased their competitiveness by attracting competitive foreign investment – e.g. investment with high value added or knowledge content. The Czech Republic and Poland are examples of countries that are now replicating these successes. Industry clusters, government and the investment agency should collaborate in identifying priority investments for Armenia; improving the environment for competitive investment; and actively targeting desired investors.

10. Help Industries to Prepare for Inevitable Change

Globalization in general, and perhaps eventual accession to the EU in particular, will impose enormous change and challenges on Armenian business. The markets of some of Armenia's trading partners, especially Russia, are becoming increasingly competitive in a global context. Armenia wants to be able to enter the European market as a producer of high quality goods and services that capture premium prices. It does not want to enter the market in competition with the low cost, low quality providers.

Thus, Armenian business needs to be able to adopt and achieve high performance standards. A consistent program to achieve and promote these standards is important. This includes making information available to the customer and stringent environmental protection. Quality certification, grading, branding and similar actions can help business to improve its competitiveness.

11. Build Armenia's Knowledge Base

Deep commitment to reestablishing a resource of skills providers, educators, and research organizations that is in tune with business' competitive strategies and needs, and with global state-of-the art and trends, is imperative. Close planning and working linkages between industry and these academic and training institutions must be established. This will require firm government commitment as well as a realistic tripartite planning and implementation task force that includes business, government, and the educational/training institutions. Sound certification programs and bodies, meeting international standards, must also be put in place.

12. Target Business-Oriented Programs on Competitiveness

Government and international agencies will put many programs in place to assist business. Such programs need to be designed and implemented with focus on competitiveness and competitive strategy. Sponsoring agencies should incorporate competitiveness concepts in the programs. Programs need to provide credible resources, be targeted on the needs of competitive business, and be demand-driven. A national competitiveness vision, with widespread buy in by business and government, will provide a beacon and framework for sound programming with development partners.

Bibliography

The 2003 E-readiness Rankings: A White Paper from the Economist Intelligence Unit, The Economist Intelligence Unit and IBM, 2003.

Armenia Assessment SME Sector Update, Apricot Plus Consulting, Ltd., (final report), Yerevan, Armenia, July 29, 2003.

Armenia Cluster Readiness Assessment Report, Alec Hansen, Mill Valley, California, June 2003.

"Armenia Confronting Poverty Issues," Municipal and Social Services Division, County Department IV, Europe and Central Asia Region; Document of World Bank; June 1996.

"Armenia IT Sector: International Benchmarking," World Bank Armenian Development Agency; Yerevan, Armenia, 2003.

Armenia Labor Market Evaluation and Strategy Assessment: Promoting Job in Armenia: Which Labor-Oriented Policy Approaches are Worth Pursuing?, Global Workforce in Transition, Education Development Center, Washington, DC, April 25, 2003.

Armenian Customs Legislation and Its Impact on the Business Climate: selected EU Approximation Benchmarks and Policy Implications, Dunlap, Arthur, Dadayan, Petros, Sargssian, Tigran, Sekarev, Alexei and Stepanyan, Lucine, AEPLAC Working Paper No. 12, Armenian-European Policy and Legal Advice Centre, Yerevan, Republic of Armenia, December 2002.

"Armenian Development Agency Export Development Strategy," World Bank Learning and Innovation Loan (LIL), Foreign Investment and Export Facilitation, and The Armenian Development Agency; September 2003.

"Armenian Development Agency Export Development Strategy," World Bank Learning and Innovation Loan (LIL), Foreign Investment and Export Facilitation, and The Armenian Development Agency; September 2003.

"Armenian Development Agency Investment Promotion Strategy" (2nd draft), World Bank Learning and Innovation Loan (LIL), Foreign Investment and Export Facilitation, and the Armenian Development Agency; September 2003.

Armenian Development Agency, Sector Information, www.businessarmenia.com.

"Armenian Electronics Sector: SWOT Analysis," World Bank Armenian Development Agency; Yerevan, Armenia, 2003.

Armenian Electronics Sector: SWOT Analysis, Credit No. 3633-0AM, Armenian Development Agency and the World Bank, Yerevan, Republic of Armenia, 2003.

"Armenian Electronics Sector: SWOT Analysis," World Bank Armenian Development Agency; Yerevan, Armenia, 2003.

Armenian ICT Master Strategy Supplement 2003-2004.

"Armenian IT Sector: International Benchmarking," World Bank Armenian Development Agency; Yerevan, Armenian, 2003.

Armenian Precision Engineering Sector: SWOT Analysis, Credit No. 3633-0AM, Armenian Development Agency, Yeravan, Armenia, 2003.

"Armenian Precision Engineering: SWOT Analysis," World Bank Armenian Development Agency; Yerevan, 2003.

"Armenia: Perspectives of Modernization In the Light of Corruption and Public Administration," INDEM Fund Team: G. Satarov (team leader), M. Krasnov, M. Levin, B. Rimski; Armenia 2020. 2003.

Armenia: Rule of Law/Anti-Corruption Assessment, ARD, Inc, Burlington, Vermont, December 2002.

Armenia's Economic Development In the European Perspective: Selected Indicators and Policy Implications, Sekarev, Alexei (ed.), Hovhanisyan, Sevak, Iskandaryan, Ashot, Masbaum, Maik, Petrosyan, Alexander and Tereshchatova, Kristina, AEPLAC Working Paper No. 10, Armenian-European Policy and Legal Advice Centre, Yerevan, Republic of Armenia, July 2002.

Armenia – Snapshot of Business Climate.

"Armenia's Software Advantage", Andonian, Andre, Chalabyan, Avetik, Gurdjian, Pierre, The McKinsey Quarterly, Number 1, 2004.

Apparel and Textile Industry in Armenia: Sector Overview, International Executive Service Corps – Armenia (IESC), Yerevan, Armenia, June 2003.

Aramco World, volume 51, no. 1, Houston, Texas.

Concept for Small and Medium Entrepreneurship Development Policy and Strategy in Armenia.

The Concept Paper: Sustainable Economic Development Policy for Armenia, The Ministry of Trade and Economic Development of the Republic of Armenia, Yerevan, Armenia, 2003.

Country Commercial Guide for Armenia FY2004, Embassy of the United States of America, Yerevan, December 2003.

Country Report: Armenia, The Economist Intelligence Unit, United Kingdom, August 2003.

Country Report: Armenia, The Economist Intelligence Unit, United Kingdom, February 2004.

Country Strategy Paper 2002-2006, National Indicative Programme 2002-2003, Republic of Armenia, December 27, 2001.

Economic Development Strategy for the City of Ararat 2004 to 2006, The Urban Institute, 2004.

"Education in Armenia: Present and Perspectives, " Boris Nahapetyan; Armenian 2020; 2003.

Effective Enforcement of Competition Law in Armenia – Year I, McArdle, Joe and Hovhannisian, Lusine, No. 9, Armenian-European Policy and Legal Advice Centre, Yerevan, Republic of Armenia, June 2002.

Export Development Strategy (2nd draft), Armenian Development Agency, Yerevan, Armenia, 2003.

Final Program Report for Armenia, Cooperative Agreement #111-A-00-99-00040-00, International Executive Service Corps., Yerevan, Armenia, February 2004.

Human Capacity Development Assessment, Bureau for Economic Growth, Agriculture and Trade, Office of Education, Participation Training Team, United States Agency for International Development, April 2003.

Human Development Report 2003: The Human Development Index for Armenia: An Update.

ICT Industry Research 2002, Robert Brown, Arman Valesyan, and Aram Ghazaryan, Yerevan, Armenia, November 11, 2002.

Information and Communication Technology Industry: A Master Strategy for Armenia 2003-2004 Supplement, (no publisher/author; no date).

Investment Incentives, Armenia.

ISA Armenia: Market of Personal Computers in Armenia, Embassy of the United States of America, Yerevan, August 2003.

Key Levers for Productivity Improvement in Armenia: An Armenia 2020 presentation, McKinsey & Company.

"Master Strategy for Armenia 2003- 2004 Supplement: Information and Communication Technology Industry."

"Private Sector Program," USAID/Armenia Strategic Plan 2004-2008.

The Results of Socio-Economic Development of the Republic of Armenia for 2002.

"The Role and Potential for Public-Private Cooperation in Armenia;" Richard Beilock and David Gregorian; Presented at Armenia "2020" Conference; Athens, Greece, May 2003.

Small Business Lending Program Representative Office in Armenia (slide presentation), The Eurasia Foundation.

The Stakes of the Opening of the Turkish Armenian Border, Turkish-Armenian Business Development Council, Mikado Pint House Istanbul, Turkey, 2003.

Succeeding in Highly Competitive Global Economics: A Cluster-Based Approach, J.E. Austin Associates, Inc., Arlington, Virginia, February 2, 2004.

"SWOT Extended Information SWOT."

"Silicon Armenian Factsheet." The Silicon Team. www.siliconarmenia.com.

Strategy for Armenia, The European Bank for Reconstruction and Development, Yerevan, Armenia, November 25, 2003.

Tourism Development in Armenia: Proposals to USAID, Gordon Adams, Yerevan, Armenia, December 2000.

"Trends in Local Government Tax Collection in 2000-2003," Drampian, Arthur, Memo to Fred Van Antwerp on March 25, 2004.

Yerevan Office Newsletter, No. 2, Academy for Educational Development, Yerevan, Republic of Armenia, November-December 2-3.

Appendix A. Industry Assessments

The following assessments of selected sectors of the Armenian economy provide insights into the competitiveness and competitiveness perspectives of Armenia's industries. These assessments are intended to present competitiveness "snapshots" of the industries, with indications of possible opportunities and directions for building competitiveness.

The industries discussed were selected as being representative of the range of Armenian industry, including several of the more significant industries, and on the basis of industry proponents being readily accessible by, and information being readily available to the consultants. The data presented represents a synthesis of information from two main sources: printed reports, web sites, and publications, and personal in-depth interviews with key informants belonging to the respective sectors.

Apparel

The industry is composed of at least four apparel sub-sectors: 'cut and sew' clothing, knitwear, carpets, and shoes. In Soviet times the sector in Armenia was, "the major supplier of garments and textiles with the largest number of jobs, employing 115,000 people, accounted for 25-30% of the country's work force during the 1980s and has declined to less than 1% in 2002."[71] By 2003 the total number of employees was not more than 2,300. Of the 130 registered apparel firms only about 50 are operational. Five of these are large companies and 45 are SMEs. About 75 percent of companies have been privatized since independence.

As of 2002 the industry was still one of the more labor-intensive sectors in the economy. Ninety percent of the employees are women. "The industry is operating at 38.3% of capacity for those manufacturers who are still in business and represents about 0.3% of 2002 GDP."[72] On the other hand, in the same year production of textiles and garments increased by 7.1 percent and to 5.65 percent of total exports. This increase was due to outsourcing contracts principally from the United States and Russia.[73]

The sector depends almost totally on imported raw materials, which comprises an estimated 60 percent of production costs. These are imported mainly from Greece and Russia. Transportation costs are estimated to comprise another 8-12 percent of costs. Between 90 and 95 percent of total production is exported, leaving an estimated 5 to 10 percent for the local market, mostly for military and other government uniforms.

The sector suffers from high fixed cost burden, resulting from the overly large plant infrastructure inherited from pre-independence. There has been virtually no investment in upgrading plant or technology, and the industry thus appears to be using privatized assets that inevitably become outdated and run down. A number of smaller-scale producers have emerged; however, some of these are reportedly of good quality and are developing their own brands and models for the Russian market.

Some elements of the apparel sub-sector would like to target the high end, high quality segment of the market since the industry cannot compete with countries like China and Turkey on cost alone. Handwork, using outdated technology, prevails in the industry. According to one observer, however, "By 1991 production equipment was not only generally obsolete and inefficient by international standards but most of the equipment did not have the

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[71] Armine Tadevosyan and Karen Isahakyan, "Apparel and Textile Industry in Armenia," IESC, June 2003.
[72] Ibid.
[73] Apricot Plus, "USAID/Armenia SME Sector Assessment Update, Final Report, July 29, 2003.

flexibility for adapting to continuing styling changes and relatively short runs which are characteristics of world class apparel production."[74]

The Armenian industry lacks a solid, developed market. It depends on outsourced contracts, and so production fluctuates with the availability of orders.

Because of the sector's dependence on outsourced orders, the market for Armenian apparel suffers from fluctuations from year to year. The impact of this is somewhat lessened by stockpiles of unsold merchandise which are sold by various means at reduced cost during periods of high demand.

Armenia's principal trading partners in terms of apparel are the US and Russia. Armenia still benefits from special treatment at the borders of CIS countries and is exempt from import duties in those countries. Armenia also benefits from a liberal quota for imports into the US until 2005, when it will have to compete with all of the world's textile producers on an equal footing.

The diaspora retains interest in the Armenian industry, and is the source of some of the contracts. There is at least one diaspora investment being discussed to transfer production from China to Armenia, and another to produce transfer production of lingerie for Russia from Canada.

Thus, the industry continues to receive orders, largely on the basis of low-cost labor, and "available quotas". It is sad that individual orders—such as a reported contract to provide uniforms to a New York Police Department, are touted as nuggets of hope and capability.

But the industry lacks competitive advantages for future success, especially in light of what is expected to be increased cost competition from big producers such as China and Bangladesh. It lacks world-class design capability, and is not linked to high-value markets with a full-service capability. It would therefore appear that any survival or growth in this industry in the medium to long terms will depend on entrepreneur's ability to identify defensible niches of high value; but there is little indication of this taking place. IESC has assisted in improving design, layouts and operations, and there is some degree of industry knowledge and skills left from Soviet times. Individual investors will need to demonstrate ability to implement innovative strategies if the industry is to survive.

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[74] Tadevosyan and Ishakyan, Op cit.

Food Processing

Agro-processing is the third largest contributor to GDP behind agriculture itself and construction.[75] The sector's real labor productivity is 50 percent above the national average but still only 17 percent of US sector productivity.[76] The McKinsey report ranks food processing as one of the sectors with growth potential based on real productivity growth and sector employment growth.

Exports are primarily to the CIS countries, where they enter duty free, and to the US and Europe. Shipments are mainly through Georgia, either to the port at Poti or by rail to Moscow. The need to transit Georgia can raise transport costs substantially due to many informal taxes and facilitation payments. Export sales are normally made to wholesalers outside the country with Armenian diaspora connections. These connections range from relatives to diaspora Armenians met at trade shows to networks in Moscow and elsewhere.

Armenia was a major exporter of agricultural and agri-processed products to the Soviet Union, and retains a reputation for taste and quality in the CIS. Overseas Armenians undoubtedly retain nostalgia for good Armenian products.

Agricultural products include grain crops, vegetables, and fruits. The latter two are mainly exported in processed form; vegetables are most often canned, while the fruits are processed into jellies, jams, compotes, leathers, and fruit fillers, which make up the majority of the produce packed in cans and jars. The lack of availability of proper quality screw top jars and the need to import them from Europe raises costs for this type of processor/exporter. With the exception of fruit fillers, little follow-on processing is performed. The products are exported in retail packaging with consumer labeling, "ready to be put on the shelf."

Processed exports include numerous other products: juices, cut flowers, farmed fish, dried fruits and more.

Many companies are pursuing and exploring the standards and certifications that they will need to export to the EU, U.S. and other locations with a reputation for quality and safety. Several firms are ISO certified, and at least a handful is actively investigating or pursuing HACCP certification.

The National Institute of Standards and Quality of Armenia operates within the Ministry of Trade and Economic Development, but is a closed joint stock company. The Institute is accredited as an ISO 9000 certification body, and can certify products for export to Russia. It carries out conformity assessments in this respect.

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[75] McKinsey & Company, "Key Levers for Productivity Improvement in Armenia", October 2003, p.4.
[76] Ibid, p. 10.

There is only one truly private laboratory in the country with the capacity to test to ISO-9000 and HACCP standards. However, the government has so far not given it its approval, or the required backing for the laboratory's results to be considered legally binding.

There are several firms in the food processing industry that appear to implement sound, coherent business strategies that are strongly competitive in nature. These might be models for any future cluster "champions".[77]

There is a small, but growing, dairy processing industry that produces butter and cheeses, and processes goats' milk into cheeses. The USDA has been supporting the dairy sub-sector for several years. According to USDA, pasteurization has solved many of the industry's problems, especially for goat cheese which [78] Ashtarak Kat, the largest dairy processor in Armenia, is ISO certified and is in the process of becoming HACCP certified, has a strategy offering high quality, of educating the retailer and the customer, and has an impressive system of production contracts (with extension services), supply management and testing that effectively guarantees supply and manages quality.[79]

The local poultry industry is in strong competition with imported eggs and frozen chicken. The local industry is recuperating after a cataclysmic decline in the mid 1990s. However, because the country's is small and the agricultural land has other, higher value uses, the grains used in poultry feed must all be imported. The high cost of inputs makes poultry production less competitive, except for small-scale, free range production for home consumption.

The tanning industry is dependent on both local and imported hides. One large company remaining from Soviet times, and 12 smaller ones, comprise the industry. Eighty percent of the cowhides and 95 percent of the sheepskins are exported. Turkey used to be the principal market for Armenian hides. However, in recent years it has shifted to Pakistan, Ukraine, and Italy.

The cut flower industry is made up of about 20 producers, 4-5 of which export to Moscow. The industry is primarily located in the Ararat Valley, near the Yerevan airport, from which they can ship directly to Moscow. The industry is known for its carnations.

The industry reportedly has its eye on selling to Holland, but volumes are insufficient for the moment (10 ha, providing 3 deliveries of 150,000 flowers per week would get a seat on the Amsterdam auction). There is currently a 1.5 ha greenhouse under construction—a recent attempt to build and operate a 3 ha greenhouse did not succeed. The industry does no consolidation for shipping.

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[77] Astarak Kat, SIS Natural, and Artashes, for example.
[78] Interview with Jeffery Engles, Director USDA/Armenia, 30 March 2004.
[79] Interview with Ashtarak Kat, March 30, 2004

Transport cost from Yerevan to Europe is relatively low, about 45% lower than from Israel[80]

The supply of high quality fruits and vegetables to canneries and other types of processors can be a problem. The concept of forward contracting with farmers is not widespread although there are some notable examples[81] of processors offering forward contracts to farmers, growing their own inputs, or both. Since contracts are difficult to enforce in Armenia, at least one firm has begun providing seed and advance payments to farmers to keep them loyal.

One important constraint to Armenia's agricultural sector, and therefore to processors, is the fragmentation of land ownership, an unfortunate result of land privatization soon after independence. This land reform granted 1.5 hectares to each rural dweller. This not only makes land tilling difficult, but also precludes many types of economies of scale. Additionally, not everyone who received land wants or has the resources to farm, and many parcels lay idle. Land can be purchased and a few processors have purchased several contiguous parcels in order to further guarantee the supply of raw material.[82]

The land fragmentation problem is further exacerbated by an almost total lack of properly sized farm machinery available in rural areas. This means that agriculture remains largely a labor-intensive sector. Recent attempts have been made to stimulate leasing companies to lease two-wheeled and small four-wheeled tractors in certain parts of the country.[83]

The quality or ability to customized glass containers (jars for juice or preserves, for example) manufactured in Armenia is not satisfactory for quality or image-conscious processors. These processors import their jars and bottles, at considerable expense. Because of the shortage or gap, 3 proposals are reportedly being discussed for investments to manufacture higher quality jars and bottles.

It would be difficult, as well as inappropriate, to present one Competitiveness Diamond for the diversity of sub-industries within the food processing sector. We have therefore selected three sub-industries for additional focus, presenting than in a manner that contributes to the understanding of the competitiveness of Armenia's food processing industries. The sub-sectors presented include food processing in general (with the example of SIS Natural discussed), the Yerevan Brandy Company, and the wine industry.

A Story from the Food Processing Industry

The canning industry is a significant subsector of the food processing industry. It includes foods such as jellies, jams, compotes, leathers, fruit fillers, pastes, canned fruits and vegetables

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[80] AEPLAC interview, March 26, 2004.
[81] Gamma and the Yerevan Brandy Company, discussed below, are two such companies.
[82] Ibid.
[83] Interview with Gary Kilmore, COP, USAID ASME Project, 2/4/04.

and juices, which make up the majority of the produce packed in cans and jars. There are 4 big canners in Armenia, and several less significant ones.

THE STORY OF SIS NATURAL[84]

SIS Natural started up in 2000, producing natural juices. The founder and President of the company, knowledgeable about local fruit, had worked for a wholesale market, where he saw imports of natural juices form abroad. He engaged knowledgeable specialists who he knew from old Soviet plants, bought old equipment from closed plants, and even made some of his own equipment. After 2 years of difficulty in finding markets, he began to export to the U.S., Russia, Georgia and Turkmenistan.

The president of SIS Natural cites high quality as his most important marketing factor. With increased incomes over the last 3 years, Armenians can now afford to purchase high quality juices, which are a discretionary item.

The company has several minitrucks that distribute product to shops. Salesmen/distributors make decisions as to sales. The company questions (and conducts formal surveys of) shopkeepers about products that have sold, and additional inventory needed. The company advertises extensively to consumers.

SIS Natural conducts everyday testing at its own laboratory facilities. It has a contract with Ex-Lab for more sophisticated testing—ExLab is the only laboratory with international ISO certification.

SIS Natural is starting an ISO certification process. The president views this as important for exports, but says that no one cares about this in Armenia. DAI is helping SIS Natural with the certification process.

SIS Natural buys from producers that bring their produce to the factory and also sends trucks to buy from farmers. The company has purchase agreements with farmers, but the prices are decided at the last moment. It provides inputs such as seed. For inputs not grown in Armenia, SIS buys from Israel, Greece and other countries.

SIS Natural produces about 25 varieties of juice – pomegranate, orange and rosehip are the biggest sellers. The company has dropped some varieties that did not sell well.

The president is critical of the quality of locally-made bottles, but cites price pressure as requiring him to continue to purchase locally.

The company's U.S. exports are through the diaspora network – friends recommended the contact. He has not yet found a good distributor for Russia, and is thinking of organizing a

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[84] The information was obtained primarily from an interview with SIS Natural on March 30, 2004.

distribution operation in St. Petersburg and Moscow. The president has business partners in Georgia (old friends) and Turkmenistan.

SIS Natural participated in World Food 2003 (assisted by USDA), and found is to be useful for sales. It is planning to return in 2004.

The president's goal is to develop his Moscow and St. Petersburg market by 2008. He recognizes that SIS Natural has no particular image or reputation in the Russian market. He wants to share his outlets with other Armenian producers, selling their products under the SIS Natural brand.

The following "Opportunities" table and Diamond are more generalized illustrations of the fruit and vegetable processing industry.

Table A-1
Looking Forward: Food Processing

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Differentiate products as high quality, specialty food products and quality Armenian, emphasizing knowledge of Armenian quality and reputation. Use quality packaging, labeling, etc. to present quality image and brand recognition. Back the quality image with internationally recognized certifications. Establish an Armenian standard of quality.
2. Customer Learning	*Opportunity:* Participate in trade fairs to learn more about international markets, distribution networks and product development opportunities. Learn about non-diaspora channels and segments, to expand sales to non-diaspora markets. . Find ways to inform the buyers and customers about product characteristics and Armenian quality.
3. Innovation	*Opportunity:* Improve Packaging and presentation. Test and develop new recipes to cater to customer tastes. Seek new distribution networks.
4. Human Capital Formation	*Opportunity:* Most workers only need on the job training. The universities should, however, be able to turn out several qualified food technologists per year; the industry should collaborate in establishing these capabilities. .
5. Cluster Cooperation	*Opportunity:* Develop sound, respected processor-farmer relationships (supply, provision of inputs). Collaborate with other producers to share shipment and distribution costs, develop standards, jointly market Armenian produce and quality. Develop effective distribution or partnership alliances in export markets.
6. Forward Integration	*Opportunity:* Backward integration into production may assure supply. Forward integration into distribution and sales may enhance marketing and sales. Integration through sound strategic or joint venture relationships may provide market access, finance, and technical capabilities.
7. Strategies and Attitudes	*Opportunity:* Invest in high quality and the testing, certifications and other arrangements that will guarantee the quality. Find the means to understand market chains, and to develop customer or intermediary appreciation and demand for Armenian products.

Gems and Jewelry

INDUSTRY BACKGROUND AND PERFORMANCE

This sector has been important since Soviet times as is evidenced by the existence of several large companies that date from that period. Most have modernized their plant and equipment to international standards. The Yerevan Jewelry Plant was one of the most significant jewelry factories in the Soviet Union, when Armenia was one of a few centers that supplied the entire Soviet Union.

All diamonds, whether for jewelry or industrial purposes, are traditionally imported from Russia and Belgium, although imports from Israel have been increasing rapidly. While Armenia has modest amounts of gold, it currently imports most of this raw material from Germany, Luxembourg, and Poland. Its principal countries of export are cut diamonds to Belgium and Israel, jewelry to Russia and Germany, gold to Great Britain, and precious metal scrap to Germany[85]. This sector demonstrates some levels of integration since it both provides inputs to other sectors (e.g., industrial diamonds), as well as demanding outputs from other sectors (e.g., diamond faceting and polishing equipment).

While there are over 50 firms registered with the government, there are only about 35-40 that are actually functioning. It is also estimated that there approximately 1,000 individual jewelers operating in the sector. Some of the plants are quite large and most of these date to the Soviet period. After independence, employees were allowed to purchase shares in all of the firms privatized. The sector employs 4,000 to 5,000 workers, about half of which work in the diamond processing sub-sector, with the other half working in the jewelry sub-sector.

Total exports of gems and semi-precious metals have experienced strong growth over the past several years. For example, in 1998 the country exported US$ 53.1 million in diamonds and jewelry. This increased to US$99.9 by 1999, and to US$ 259.2 million by 2002[86]. Exports were expected to increase by over 31 percent between 2002 and 2003 when all of the data is accounted for.[87] While cut diamonds represent approximately 80 percent of this and jewelry 20 percent, the same type of strong growth has been the case in all subsectors. In 2002, exports of diamonds and jewelry accounted for 51 percent of all Armenian exports, and is one of the few sectors with a positive trade balance.[88]

In an attempt to continue this growth the GOA approved a three-year development program in December 2003 to increase the number of diamond processing plants by 50.[89]

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[85] Alec Hansen, "Armenia Cluster Readiness Assessment Report", World Bank, June 2003.
[86] Ibid.
[87] The Economist Intelligence Unit, "Country Report, Armenia" February 2004.
[88] Apricot Plus LTD, "USAID/Armenia, SME Sector Assessment Update, Final Report", July 2003.
[89] Ibid, the Economist Intelligence Unit.

Growth, however, will be limited to the amount of raw diamonds that Armenia can import. Before 2002, Armenia could import as many diamonds as it had the capacity to process from Russia. In 1999, this reached a high of 30,000 carats for jewelry cutting and 1,000,000 carats for industrial purposes. However for the period 2002 to 2007 Armenia and Russia, by mutual agreement (Russia has entered into a similar system with many of the CIS countries.), have entered into an annual quota system that limits the number of carats that can be imported from Russia to 400,000 with an increase to 450,000 by 2007.[90] As a result, Russian diamonds have become more expensive and Armenia has been increasing its diamond purchases from Israel and Belgium instead, and diaspora investors have in some cases established a connection with DeBeers. The quota does not appear to have affected the industry. Establishing alternative sourcing arrangements will be vital to the security and growth of the industry.

Nominal labor productivity (NLP) for this sector is second only to the IT sector. Its Real labor productivity, as a percentage of US sector productivity, while not as distinguished as NLP, is still above the national average at 17.9 percent.[91] The same report, using "bubble analysis" measures real productivity growth potential against sector employment growth potential and finds that jewelry and diamonds holds the potential of being one of the economy's highest productivity sectors.

Nevertheless, while macro figures for the sector are quite impressive, they might not tell the entire story, especially when it comes to small and medium players, the vast majority of whom are no doubt in the jewelry sub-sector. According to the Apricot study, "The firms selected for our study shared pessimistic views regarding the growth opportunities for SMEs operating in the sector. Their sales volumes are decreasing and companies are shrinking." Also, from that same study, "Currently, the SMEs in the jewelry industry are doing custom-made items for (a) small niche of clients that are concerned with high quality." The growth in the current industry is represented by the large, volume cutters and manufacturers, with strong vertical or outsourcing relationships, while there has been comparatively little specialized, entrepreneurial investment by smaller producers.

The value added in the diamond cutting industry is estimated by the GoA to be about 10-12%, although some studies and sources suggest lower rates. Jewelry manufacture has higher value added.

Foreign investors have been a major force in the Armenian industry, as well as investors with strong ties to some major retail chains and to some brands of excellent quality. Lev Leviev, an Israeli investor, is seen as the originator of the huge growth of the industry, having purchased the Yerevan Jewelry Plant in 2000. The Frank Mueller Watch Company operates in Armenia, and an Armenian American joint venture is selling to Walmart and Zellers. Most of the

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[90] Armenia Development Agency, no title, no date.
[91] McKinsey & Company, "Key Levers for Productivity Improvement in Armenia", October 2003.

investment and international sales relationships have some involvement with or linkage to the diaspora. (The Armenian community in Lebanon is reputed to have maintained the Armenian tradition of jewelry manufacture; this community is now centered near Los Angeles.) There are about 10 large-to-medium cutting companies in Armenia, and 6 or 7 important jewelers.

The sector receives consideration from the government in the form of VAT exoneration on imports, exports, and even local sales.

Armenia is signatory to the "Kimberly Process", which is an attempt by 55 nations to quell the trade in "blood diamonds" used to finance several civil wars and other uprisings, principally in Africa.

The sector is represented in Armenia by two associations, the Association of Jewelers and Diamond Manufacturers of Armenia (AJDMA) and the Armenia Jewelers' Association (AJA). The AJA has received some training and assistance with trade shows. The AJDMA is a more significant association representing the major industry producers. An IESC-funded project was to have set up a marketing contact office in the US for the gem and jewelry sector, but this never came to fruition.

Not a local association, but one which cannot be left out in a discussion of the Armenian gems and jewelry sector, is the Armenian International Jewelers' Association (AIJA) based in Antwerp. This organization's aim is "to bring Armenian jewelers together to develop the country's jewelry industry" – i.e. to provide exposure for Armenian/diaspora jewelers. It has 8 branches—on the west and east coasts of the U.S., in Europe, the Middle East, and Armenia."[92]

FACTOR CONDITIONS

Diamond cutters and jewelry makers in many respects operate in two largely different spheres, receive their raw materials from different sources, use different technologies, and sell to different markets.

Basic

No diamonds are found in Armenia—all are imported.

The diamond-cutting sector receives its raw material from Russia, Israel, or Belgium. The diamond quota imposed on the CIS countries by Russia caused initial concern among the diamond cutters of Armenia. However, it was quickly learned that they could be sourced from other countries, often at a lower price than from Russia. Nonetheless, the long term

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[92] Op. Cit.

growth and security of the Armenian cutting industry depends on maintaining and increasing Armenia's desirability in the international trade as a place to cut gems.

Armenians tend to specialize in the larger jewelry diamonds leaving the smaller stones to cutters in India.

The industry produces compact products of high value, and therefore is not restricted by transport costs and constraints.

Advanced

Armenians are reputed by the industry to have good cutting skills. Armenia has a tradition of jewelry production, and a history of significant (if not high quality) production during Soviet times. Labor is becoming more skilled, as people look increasingly to the industry for possible employment, and as companies train more staff. Some industry experts and managers have returned to Armenia from abroad.

With the exception of the Yerevan Jewelry Plant, which operates its own diamond cutting school, there are no other schools for diamond cutting in Armenia. Rather people apprentice themselves to a company, and the company provides on the job training.

There is no certification capability in Armenia for diamond cutters or jewelers, or their products.

DEMAND CONDITIONS

The cut diamond market for Armenia is bound by tradition and trust, much of it going to Armenian diaspora wholesalers in Antwerp, Israel or Moscow.

High-end jewelry producers have their buyers in Europe and in the US. Nevertheless, participation in trade shows is extremely important. An estimated 80 percent of all business deals in the jewelry trade is done through trade shows, although the Internet is taking on a greater and greater role. There is high-end jewelry outsourcing from well-known brands (e.g. Frank Mueller). Lower end producers of jewelry receive low returns due to quality constraints and the lack of a way to assure potential customers that the product is really what it claims to be.

Aside from the diaspora connection, the industry does not have strong impetus to come to Armenia for its cutting or manufacture—Armenia lacks a wide, strong international reputation, and customers or downstream industry intermediaries do not recognize particularly desirable reasons to produce or invest in Armenia—other than acceptable quality, connections and low cost.

FIRM STRATEGY, STRUCTURE, AND RIVALRY

Diamond processing firms produce good international quality at low cost. Armenia concentrates on the medium and larger sized stones. The companies have significant levels of investment in sophisticated, modern equipment.

A few large factories with modern equipment dominate the diamond cutting industry. This is in contrast with the jewelry industry, which has its large players, but where many small and medium players are also involved.

The gem and jewelry industry subsectors recognize a need to maintain and improve quality, and therefore are interested in ways to upgrade skills and provide certifications. This is related to the goal of capturing higher values in the international marketplace, as well as to securing Armenia's place in the international industry.

Initially dependent on the Russian quota, the Armenian diamond industry has diversified its supply. However, in the absence of unique capabilities or distinguishing characteristics or image that is desired in the market place, the ongoing strength of the industry will be somewhat fragile, depending on geographic security, access to gems, and continued cost advantage.

Thus, the industry recognizes that there will be advantage in increasing the desirability of the Armenian products in the marketplace – a "demand-pull" objective. Reputation for quality, special characteristics, desirability in the eyes of the final customer and similar characteristics will help to ensure the industry's future.

On the other hand, management of many of the large companies is said to be production-oriented and not market-oriented, coming from a Soviet background or selling to an intermediary rather than to an ultimate customer. Selling "is easy", since it is, most likely, done through a wholesaler of Armenian decent in Antwerp or elsewhere, and most likely at a prearranged per carat price. Designs and consumer preferences are passed on to the cutters through their wholesalers.

The jewelers, as well as the gem cutters, face the challenges of product differentiation, market identification, and quality control. Six to seven professionally managed jewelry companies have market contacts in Europe. There are many that do not have such arrangements. Many new entrants attempt to copy traditional pieces and often fail in their techniques. This drags down the reputation of legitimate producers.

One option discussed with the industry is the use of GemPrint technology. The GemPrint technology is not currently used, but could perhaps be used to increase the demand for both cut diamonds and jewelry containing diamonds and other precious stones and therefore their value. The use of GemPrinting insures buyer confidence at all levels by making it impossible for another stone being substituted for the real one.

INDUSTRY CLUSTER AND COOPERATION

The gems and jewelry industry has demonstrated an ability to share information and collaborate to pursue important objectives. The membership of AJDMA has been meeting regularly since 1998. There is collaboration on organizing an annual trade show.

There are some useful linkages amongst subsectors in Armenia. About six Armenian manufacturers produce equipment for the diamond industry. The diamond industry itself provides diamonds to the watch and jewelry sub-sectors.

The industry recognizes the need to collaborate to increase quality. The AJDMA cites the need for an Armenian certification capability – for product as well as for higher level technical and management qualifications. Some form of linkage with the Gem Institute of America (headed, as it happens, by an individual of Armenian descent) or the corresponding Belgian Institute is discussed as being desirable.

ROLE OF GOVERNMENT

The GOA is currently working on a law for the diamond processing and jewelry sector. It has exempted the imports, exports, and local sales of gems and jewelry from VAT.

Table A-2
Looking Forward: Diamonds

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Increase differentiation and image in the marketplace and trade through actions to increase quality, perception of low risk (e.g. GemPrint), investments in skills, certifications and technology. Set Armenian cut diamonds apart from the rest through identification and branding initiatives that highlight the quality of the diamonds and the cutting. Develop market awareness of the Armenian product.
2. Customer Learning	*Opportunity:* Invest in understanding possible basis for demand-pull market strategies founded on customer preferences. Inform the, marketplace of the unique qualities of the Armenian industry and product, responding to customer values. Continue to emphasize industry and trade fairs as a means to learn about trends, designs, industry linkages, networking.
3. Innovation	*Opportunity:* GemPrinting and tracking of diamonds as well as the stones on fine jewelry may offer opportunity to increase customer confidence in the Armenian stone, and provide information about customers.
4. Human Capital Formation	*Opportunity:* Implement training and certifications programs that upgrade skills, professionalize the workforce, and enhance Armenia's image. Technical, business and management, and other skills will be important.
5. Cluster Cooperation	*Opportunity:* Many initiatives re quality, supply, market knowledge, certifications, etc. will require and benefit from joint action, and will provide widely shared results. Encourage industry agreement on particular initiatives and investments. Expand industry networking and linkage with suppliers and with distributors/clusters. Expand sales and contacts beyond the diaspora network.
6. Forward Integration	*Opportunity:* Deepen linkages and joint investments with suppliers, distributors, higher-quality brands, etc. Expand linkages beyond the diaspora connections. Use joint ventures and other means of forward integration to learn more about customer trends and preferences.

7. Strategies and Attitudes	*Opportunity:* Secure supply through wider buying relationships and demand-pull strategies. Increase investment in the industry, and support this through training and certification initiatives. Increase the visibility and desirability of Armenian gems in the marketplace, through investments in quality, etc.

Table A-3
Looking Forward: Jewelry

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Move the industry from a low/medium-end supplier or manufacturer of traditional designs to a higher value, design and service led basis. Collaborate with initiatives in the diamond cutting industry to distinguish and differentiate the Armenian image and product.
2. Customer Learning	*Opportunity:* Deepen understanding of buying requirements and distribution chains for increasingly high value brands and outlets. Invest in increasing customer knowledge about the Armenian capabilities and products. Learn about customer tastes and trends for product design. Use trade fairs as a means to learn about industry requirements, trends, tastes.
3. Innovation	*Opportunity:* Collaborate with diamond industry initiatives of joint value 0 e.g. possible use of GemPrinting. Build quality design capability.
4. Human Capital Formation	*Opportunity:* Implement training and certifications programs that upgrade skills, professionalize the workforce, and enhance Armenia's image. Technical, business, marketing and management, design and other skills will be important.
5. Cluster Cooperation	*Opportunity:* Many initiatives re quality, supply, market knowledge, certifications design, etc .will require and benefit from joint action, and will provide widely shared results. Encourage industry agreement on initiatives.
6. Forward Integration	*Opportunity:* Establish more robust forward linkages with higher-value brands and retailers/distributors. Seek joint ventures and other relationships based on quality and design capability.
7. Strategies and Attitudes	*Opportunity:* Emphasize improvements in quality and design, linking these improving capabilities with market segments that will value the improved Armenian capabilities. Expand industry and customer knowledge of Armenian product and service.

Information Technology[93]

INDUSTRY BACKGROUND AND PERFORMANCE

In Armenia, Information Technology, or IT, can be defined as including embedded systems and semiconductor design and testing, custom software development (e.g., for financial institutions and hospitals), software development outsourcing, multimedia design, web page design and development, Internet applications and business solutions. More specifically, and quoting from the, World Bank funded, "Guide to the Armenian Information Technology Companies",[94] this has led to expertise in the development of, "management information systems (MIS), accounting and financial applications, industrial automation solutions, security and encryption, educational software development, artificial intelligence, computer aided design (CAD), and system integration." Some computer assembly is also carried out, but this is a relatively small segment of the sector aimed principally at the limited local market, and within that, custom designed, purpose-specific computers.

The IT sector has enjoyed a relatively high rate of growth in recent years, and this is forecasted to continue over the next few years. While many, widely different numbers are given for the growth rate of the sector, for the purposes of this assessment we will use the conservative, yet optimistic, rate of 15 percent annual growth used by the World Bank's Enterprise Incubator Foundation[95] and the Ministry of Trade and Economic Development[96].

Growth in Armenia's IT sector is evidenced by two trends: the level of Foreign Direct Investment (FDI), which is increasing, and level of exports that the country is experiencing, which is also increasing. Armenia now exports IT products and services to more than 20 countries, including the US, Europe, and Russia. Inroads are also being made into the Middle East market as well.

The McKinsey Report uses "bubble analysis" to isolate subsectors of the IT sector to determine those with the greatest growth potential.[97] On a first priority basis, customized applications development and embedded software received the highest ranking. Second priority targets include software support and implementation, business process outsourcing, vertical business applications and cross industry business applications.

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[93] At times referred to as Information and Communications Technology or ICT.
[94] Enterprise Incubator Foundation, "The Guide to the Armenian Information Technology Companies", March 2004.
[95] Op cit., page 15.
[96] Ministry of Trade and Economic Development of the Republic of Armenia, "The Sphere of Information Technology" web site, April 2004.
[97] Op cit., pps.17 and 18.

The sector is composed of approximately 120 registered IT companies—although the Ministry of Trade and Economic Development claims 200. Local firms account for approximately 70 percent of these figures. . It is believed that there are approximately 60 firms in full operation at this time (April 2004).[98] It is estimated that the informal IT sector contributed just over 50 percent more than the formal sector to GDP in 2001 GDP. The larger firms tend to be foreign-owned or managed. The number of jobs in the sector varied between 3,500 and 5,000 in 2003. In the same year, the IT sector generated almost US$ 50.0 million in revenue, which was approximately 2 percent of GDP. Foreign firms export approximately 95 percent of their production, while smaller, local firms export approximately 60 percent of their products or services. While paid less compared to IT workers in surrounding and competing countries, IT workers in Armenia are some of the highest paid workers in the country.

In terms of nominal labor productivity for 2001, Armenia's IT sector is almost eight times more productive than the economy-wide average, whereas in terms of real labor productivity the IT sector approximates the Armenian national average.[99] When this real productivity growth potential is grafted against the sector employment growth potential, the IT sector represents one of the most productive sectors in the economy.[100]

A recent study found that Armenia's IT sector ranked first out of six sectors studied in terms of impact on the economy, cluster structure, and level of readiness.[101]

The industry suffers from insufficiencies in the availability of well-trained graduates who can be engaged directly from universities and technical schools. The educational system for IT is not geared towards meeting the needs of business. Yet industry needs close linkage between the services of an institution of higher learning the needs of the industry. At least two joint venture companies have started "laboratories" in two universities. This model could be reinforced and is also what might become part of an industry strategy.

There is positive collaboration and interaction amongst firms in the industry, although not yet of a "cluster" nature. There is some subcontracting amongst firms, and a more established set of linkages might be advantageous. Sound networking and common industry standards would be useful in fostering collaboration.

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[98] Interview with Bagrat Yengibaryan, Director of the Enterprise Incubator Foundation, 3/31/04.
[99] McKinsey & Company, "Key Levers for Productivity Improvement in Armenia," page 10, October 26, 2003.
[100] Ibid, page 12.
[101] Alec Hansen, "Armenia Cluster Readiness Assessment Report", June 2003.

FACTOR CONDITIONS

Basic

The IT sector benefits from the comparatively low wages in Armenia. Armenian IT workers are some of the lowest paid in the world. It is estimated by the Enterprise Incubator Foundation that an average Armenian IT professional earns US$2,400 to US$6,000 annually. This compares to US$ 6,000 to US$ 30,000 in Russia, US$12,000 to US$ 20,000 in India, and US$ 55,000 to $65,000 in the US.[102]

Advanced

Armenia has been a center for information technology since Soviet times, as demonstrated by the number of university-level and other educational facilities providing curricula in various IT topics, as well as the existing levels of plant and equipment. However, IT is a rapidly changing and developing sector worldwide and Armenian educational institutions involved in this sector have not been able to keep up with technological advances, while existing plant and equipment are rapidly becoming dated.

Most observers of Armenia's IT sector begin their description of it with "Armenia possesses a well trained workforce". Just what does a "well trained workforce" really mean? In discussions with many industry constituents, including members of the Board of Directors of the Union of Information Technology Enterprises, references were frequently made to the fact that the training being received by university and technology students is not appropriate to the needs of industry, is often out of date, and does provide graduates with the skills and familiarity with innovative industry trends that employers need.

A contributing factor to the mismatch between higher education in IT and the needs of industry is the two-year obligatory military service requirement for all males, either between graduation from secondary school and university, or as soon as university training is complete. Students who choose to do military service after secondary school find it difficult to gain admission to universities, whereas those who attend university first find that by the time the two years of service have passed, their training is largely obsolete.

These issues raise the cost of doing business for most companies who must engage in some form of "on the job training" for their new employees.

An innovative approach taken by two international joint-venture firms[103]is to assist in the establishment of IT centers at two of the country's universities. These centers, once established, will provide for greater interface between the educational community and the private sector. The firms will have a great deal of input into the curriculum, and will keep the

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[102] Op cit., page 23.
[103] Armenian subsidiaries of LEDA Systems (US) and LYCOS (Germany).

centers up to date current trends. Employment after graduation will not be guaranteed, however, it will be more easily obtained.

One issue raised by virtually all sectors, but for the IT sector in particular, was that while the technical skills required for a firm to operate were accessible either through education, on the job experience, or both, critical business management and marketing skills were severely lacking. There is a worrisome level of brain drain occurring in the IT sector. As technicians reach their potential and gain international professional certification, they often immigrate to other countries paying higher wages.

The Armenian IT sector benefits from the fact that it is not dependent on transport costs. Even manufactured products are of low weight. Thus, the industry is not inhibited by the problems and costs of land transport. Exports are typically by air or, best, by satellite – both of these vehicles have their difficulties in Armenia, however.

One of the major difficulties faced by the IT industry in Armenia is the lack of world-class communications infrastructure and service. The Armentel Communications monopoly, which is a Greek/Armenian joint venture begun in 1999, was given monopoly rights for a 15-year period in exchange for updating and maintaining the country's telecommunications infrastructure and systems. Scheduled to run until 2014, Armentel's monopoly has not resolved, and has perhaps contributed to, poor quality service, a low level of infrastructure development, and high costs.

Since IT competitiveness is highly dependent on connectivity, high quality, reliable signals, and high speed access, development of communications dependent products and services has been almost absent. This tends to disadvantage companies in that they cannot offer clients a full range of services or product support. While the monopoly allows other parties to operate satellite dishes, they are only allowed to download data, with uplink transmissions being illegal. Nevertheless, the GOA recognizes the impact of the Armentel monopoly on IT and other related sectors such as financial services, as well as on the general business climate and the economy in general, and recently passed a law in Parliament calling for dissolution of the monopoly by the end of June 2004.

DEMAND CONDITIONS

While Armenia's domestic market for computers and IT applications is small, the country's well-educated population is demanding IT services whenever they can afford them. There is a growing market for business solutions and for applications adapted to the local requirements.

Most Armenian firms rely on the Armenian diaspora as their main marketing and distribution partners, and for market information. The strategy appears to be both widespread and is felt to be effective. Several owners of businesses expressed that "trust" was an important factor in business transactions. Armenians simply trust other Armenians. Armenian connections also

form an important part of a firm's strategy in seeking markets and market intelligence. Of interest is the fact that this practice is size neutral. Whether it is a "mom and pop" service provider or the foreign subsidiary of a large international firm, there is almost always an "Armenian Connection".

Thus, the typical Armenian IT export is through outsourcing arrangements or through foreign firms (most often with an Armenian connection) that are vertically integrated through operations in Armenia.

Armenian firms typically have little direct contact with international customers, operating instead through the outsourcing intermediaries. Outside of the diaspora, the Armenian industry has little reputation or image.

FIRM STRATEGY, STRUCTURE, AND RIVALRY

There is open and vigorous competition in the IT sector in Armenia.

Growth in the domestic market leads the export market by a recognizable 5 percent.[104] The local market is, however, less than 5 percent of the entire IT sector. Generally, the sector is considered to be segmented, with the larger joint ventures exporting their entire production, and the smaller, local firms that provide local IT services as well as contract work for export.

The strategy of most local firms that export services and products is to offer a reliable, high quality product to the consumer through marketing connections with Armenian diaspora members. As with other outsourcing models, the challenge for a growing industry that seeks to become globally competitive in quality and service is to increase its direct knowledge and contact with customers, to develop the customer's understanding of their capabilities, and to learn directly from the customer. Outsourcing arrangements are ultimately based on quality thresholds and low cost.

The importance of certifications to international standards is widely recognized within the industry. This will become an important promotional tool as the industry works to become recognized as a respected element of the global industry.

INDUSTRY CLUSTER AND COOPERATION

While little cluster formation has taken place in the Armenian IT sector, two associations are functioning - the *Union of Information Technology Enterprises* and the *Armenian Information Technology Association.* There appears to be a considerable degree of willingness to cooperate

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[104] Calculated from data presented in, U.S. Embassy Yerevan, "ISA Armenia: Market of Personal Computers in Armenia," August 2003.

between firms, both to solve common problems and to improve Armenia's competitive position.

While calls for the dissolution of the Armentel monopoly came from many sectors and segments of society, those that came from the IT sector were the loudest heard. This demonstrates, at least at one level, that industry has achieved some degree of coordinated communication with the public sector.

A useful focus for industry collaboration could be to strengthen Armenia's abilities to provide international certifications for personnel. Whether through independent institutions or service providers, industry associations, or an organization that serves as "clearinghouse" for certifications, a respected and quality system would facilitate the emergence of highly reputed and capable expertise, and the ability of the industry to market itself abroad.

The technical universities are open to change, but require guidance. The "computer centers" being established by two joint venture firms is an example of value chain collaboration, and therefore incipient "cluster" formation.

ROLE OF GOVERNMENT

The IT sector in Armenia has always benefited from the interest and support of government. This was affirmed in December 2000, with the government's declaring the development of information and communications technology (ICT) as one of the priorities for the Armenian economy. Furthermore, this was followed by the creation of the IT Development Support Council whose Chair is the Prime Minister. This was formed as an intended bridge between the IT private sector and the government, according to the Enterprise Incubator Foundation.[105]

Additionally, in 2001, the GOA, in close collaboration with the World Bank and USAID, developed the ICT Master Strategy and the ICT development and implementation plan in order to establish Armenia as a regional ICT hub. The Master Strategy is aimed at, "the creation of an industry that promotes the wide use and application of information technology by Armenian citizens, businesses, and government to improve the quality of life and advance every facet of the Armenian society including homes, businesses, schools, and the community." It is not clear whether the strategy has widespread "buy-in" from the industry as a guide to implementation.

The government also backed up its commitment to the IT sector by passing a law with the participation of the private sector.

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[105] Op. cit., page 21.

To underscore government's commitment to the sector, the GOA is attempting to embrace all forms of IT that are relevant to its own efficient functioning. As such, in 2002, Armenia became the second country in the world to offer visas via the Internet. The GOA has also made great strides in automating, through IT, its tax and customs services.

Table A-4
Looking Forward: Information Technology

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Improve the quality of services provided and become specialized, with more significant service component. Attract greater levels of foreign joint venture outsourcing, of increasing complexity and value added.
2. Customer Learning	*Opportunity:* Attend trade shows to acquire greater knowledge of market trends and opportunities. Take advantage of the Enterprise Incubator Foundation's new offices in the US, Canada, and Germany. Attempt to move beyond the diaspora populations as the industry's international network and intermediaries – expand the client base. Increase direct service interaction with customers.
3. Innovation	*Opportunity:* Place the industry increasingly on the "cutting edge" of technological innovation through joint ventures, between and among firms and universities and technical institutes. This will require significant upgrading of training and research capabilities, and of market knowledge.
4. Human Capital Formation	*Opportunity:* Create greater linkages between the private sector and institutions of higher learning that offer courses in the field of information technology. Build upon the examples of LEDA Systems and Lycos in developing IT learning centers within the educational institutions. Develop a formal system of work/study programs between educational facilities and IT private sector firms. Create/link up with certifying agencies with respected reputations. Continue to encourage government to improve IT educational institutions.
5. Cluster Cooperation	*Opportunity:* Build upon the present associations of IT service providers. Identify and implement initiatives targeted on innovation, certification, Armenia's market reach and service reputation, etc.
6. Forward Integration	*Opportunity:* Promote the use of joint ventures and networks with foreign investment to improve access to markets, technological transfer, and local incomes. Special emphasis should be given to forward integration. Expand backward and forward in the value chain when ever possible. This will further promote GOA support as well as linkages to potential markets. Use forward integration as a means to get "closer" to the customer.
7. Strategies and Attitudes	*Opportunity:* Increase quality and service as the underpinnings of strategy, with actions to expand the client base beyond the diaspora network. Continue to develop and implement elements of the IT industry's Master Strategy, especially the portion of it that deals with making Armenia a regional hub for IT activities. Consider a GOA/IT sector initiative to establish an investment fund and promotional strategy to attract and channel funding into the sector.[106] Continue to push for the dissolution of the Armentel monopoly. Once this is achieved, press for greater Internet connectivity and scope throughout the country.

[106] From the McKinsey Quarterly, 2004, number 1.

Precision Engineering[107] and Electronics[108]

Similar to electronics and IT, the Armenian precision engineering sector was one of the most technologically advanced sectors of the economy during Soviet times. The sector manufactured equipment for production processes throughout the Soviet Union. The sector benefited from large military and aerospace contracts and was also a significant exporter. This not only employed large numbers of people, but it attracted strong backing for the development of precision engineering talent and expertise, principally in the universities and research institutes.

Both production and employment peaked in the mid 1980s. At that time the precision engineering sector made up 30 percent of Armenia's industrial production. By 2003, this output had dropped to the point where the sector only had a 1.3 percent share of industrial production, 0.3 percent of GDP and approximately 2.4 percent of employment. The sector received little investment, or technical or technological upgrading. It also suffered from high transport costs. Many of the precision engineering plants were located outside of the main centers, in an attempt to industrialize the country.

As of 2003 there were 32 precision machinery enterprises registered with the government. However, some do not operate full time, and others do so at very reduced capacity.

The industry was not designed to survive in a market-based, cost sensitive economy, rather it was designed to generate employment and achieve high production targets. Even management decisions were made in Moscow, and marketing was never an issue. As such, when the Soviet Union collapsed and the large contracts ended, the precision engineering industry in Armenia collapsed with it.

On the positive side, the CAGR for the period 1998 to 2002 increased by 2.2 percent.

Imports of precision machinery have greatly surpassed exports, at least over the 1997-2002 period. Nevertheless, the country does export some precision equipment, but there can be great volatility from year to year based on demand. Some of the exports, however, are used or warehoused equipment and do not necessarily represent new production.

Like the precision engineering sector, the electronics sector was also among the most technologically highly developed sectors of the economy during Soviet times. "Before 1991, Armenia was a key developer, producer, and supplier of almost 30 percent of high-tech computers and other electronic equipment and parts for the Soviet defense and space

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[107] Much of the information presented here is from one document, America, "Armenian Precision Engineering Sector: SWOT Analysis", Armenian Development Agency, World Bank, 2003.

[108] Much of the information presented here is from one document, America, "Armenian Electronics Sector: SWOT Analysis", Armenian Development Agency, World Bank, 2003.

systems."[109] The former Yerevan Polytechnic Institute, the Yerevan State University, and other research institutes were heavily supported as both providers of highly qualified technicians and as think tanks for electronics research and development.

With the end of the Soviet Union and the end of large, guaranteed government contracts the industry virtually collapsed. "…many of these organizations (electronics firms) are on the verge of collapse, their links with clients and suppliers in the former Soviet states cut off, and their expensive equipment idle and rapidly aging."[110]

Of the electronics companies operating in Armenia approximately 75 percent have been privatized, while 25 percent are still owned by the state. By 2001, the sector's share of GDP had dropped to 0.26 percent and to 1.0 percent of industrial production. This translated into approximately 70 electronics companies producing roughly 15 different lines of electronic equipment, from telecommunications equipment to electronic lamps to office and accounting machines. This number of lines is greatly reduced since Soviet times. These 70 firms employed 5,600 in 2000, but the number dropped to 3,100 in 2001, which might indicate an attempt to raise labor productivity since the actual amount of production year to year remained virtually the same. For the years 1997 to 2001 the Cumulative Annual Growth Rate declined by 5.3 percent.

In 2001 the export of electronics products was 13 million US$, which comprised 3.8 % of total exports."[111] The industry is finding it increasingly difficult to compete on either price or quality grounds.

Some equipment and electronics producers have nevertheless established themselves and succeed in exporting equipment—there is little demand in Armenia. These successful firms typically were started after independence, do not carry the burden of overly large, old facilities, and take advantage of the industry knowledge of a few key individuals.

Ani Electronics (formerly Hologram) is one such firm. The company produces thermostats and bottled water. The company was started in 1987, as a producer of heavy equipment, but switched to lighter products (thermostats) because of the need to find a product that could be transported by air, avoiding the high land transport costs. The company targeted the Russian market, because the principals knew the Russian network, had links with Russian specialists, and recognized that there were few Russian producers. It emphasized quality, and was able to offer a product that was much less expensive than Western thermostats.

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[109] Embassy of the USA/Yerevan, "Country Commercial Guide, Armenia, December 2003.
[110] Ibid.
[111] Armenia Development Agency, no title, no author, no date.

The company developed it reputation, and opened a representative office in Moscow in 1995. However, cheap products from China (with Chinese thermostats) flooded the Russian market in 1996-1997, and many of Ani's Russian customers went out of business.

Ani's response was to wait—it was able to ride out the decline because of income from its water business. Within a few years, new producers started production in Russia. Ani had the reputation and contacts, and its business grew.

Ani now produces 10 kinds of thermostats. It is competing successfully in Russia, even selling to Western European firms that manufacture in Russia (e.g. a French subsidiary of Electrolux). Ani's first goal is to be strong in the Russian market, and then to sell elsewhere in Europe. The company believes it meets international quality standards, and doesn't fear quality-based competition. It is ISO certified, through Global Certification Limited, a U.K. firm. It benefited in the early 1990s from an IESC specialist in international standards.

In 2003 Ani benefited from an EBRD program to support Armenian producers in finding new markets n Europe, and will participate in a 2004 Hanover exhibition.

There are no precise numbers available with respect to successful equipment manufacturers in Armenia—but at least half a dozen were recounted in various types of equipment manufacturing. There is also a small industry (about 6 firms) that manufactures diamond cutting tools and machinery. There seems to be minimal networking amongst these firms.

If this sector is to be revived, it must be able to compete globally; there is little Armenian market, and no guaranteed CIS market. With sound strategies and careful management, it appears that some Armenian equipment manufacturers are succeeding. There may be synergies and collaborations that will be useful to this group of businesses, including joint procurement, and improved education and training of students that could be hired by the manufacturers.

Meanwhile, the principal of Ani knows "the steps that he has to take to grow—slow, careful".

Tourism

INDUSTRY BACKGROUND AND PERFORMANCE

Tourism in Armenia in Soviet times was considered a "booming" industry with upwards of 600,000 leisure tourists arriving yearly. This compares to less than 50,000 in 1999[112] and 150,000 in 2003. It is estimated that business travelers accounted for 47 percent of the 2003 figures, and leisure travelers accounted for 38 percent.[113]. (It is not known how these figures were obtained since neither the Immigration Service, nor any other branch of government or the private sector disaggregates arrivals this way.) While the number of "tourist" arrivals[114] has increased in recent years, it was not possible to ascertain if this is due simply to better counting, the inclusion of business travelers in the tourist group (based on the World Tourism Organization (WTO) definition of a tourist), or real growth in arrivals.

The eight million people of the Armenian diaspora form the most significant group of tourist arrivals returning to their friends and families, searching for their roots, or merely seeing where their ancestors came from. According to ATDA data, in 2001 the largest group of tourists came from the US with 21 percent, Russia with 12 percent, and France with 9 percent. The remainder came from a disperse number of EU, CIS, and regional country travelers.

Armenia has more than 700 sites that tourists could potentially visit, but the vast majority are undeveloped, accessible by only the most adventuresome, while others are repetitive. (Churches and monasteries are particularly evident in this last group.) The vast majority of the sites tend to be poorly maintained, only a few have been excavated or rehabilitated, and only a few have adjacent services or other attractions to serve the tourist and encourage him/her leave more money in the country.

The country also has picturesque natural vistas with the ever present, snowcapped Caucasus Mountains always in the background. Yearly festivals and events tend to be advertised locally. Brochures are available at the ATDA Tourism Center. There is a high season (+100 percent occupancy) from May to October and a low season (15 percent occupancy) the rest of the year.

A sub-ministry within the Ministry of Trade and Economic Development is responsible for the regulation and oversight of the sector, while the Armenian Tourism Development Agency

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[112] Gordon Adams, "Tourism Development in Armenia", December 2000.
[113] Apricot Plus, "USAID/Armenia, SME Sector Assessment Update, Final Report", July 29, 2003.
[114] The World Tourism Organization (WTO) definition of a tourist is anyone who spends a night in a place, city, or country that is not his/her official residence. Leisure tourists are the principal group under consideration in this section, and are the main target of the tourism sector. Unfortunately, national level data does not distinguish between all foreign arrivals and legitimate "tourists".

(ATDA), a quasi-governmental body, has a mission to market and promote Armenia as a travel destination. The Agency received a great deal of support from the USAID-funded, International Executive Service Corps (IESC) between 2000 and 2003 when funding was discontinued. This has left the ATDA with a US$ 35,000 annual government funded budget, insufficient for any meaningful type of marketing and promotion.

Data on tourist arrivals is sparse, questionable, and not effectively disaggregated. Information on purpose of travel, country of origin, member of the diaspora, average amount spent per day, etc., simply is not available.

Tourism development in Armenia will not be easy. Armenia does have its diaspora to partially support the sector, but that is a limited market and is relatively low-value thus far, as the majority of people of Armenian heritage returning to Armenia do not spend much on lodging or package tours. For other types of tourists there are many other, better-advertised, better-presented destinations. Simply put, Armenia has little reputation outside of the diaspora and little to distinguish itself unless a lot of investment is made. Quoting from the report of one of the IESC consultants written four years ago, "Although in the past Armenia has been very successful in tourism, the industry is now devastated. In essence the industry has to start again. The country still has a skeleton of a tourism industry, but much of the environment has been spoiled, visitor attractions have not been maintained, accommodation has deteriorated, and service standards vary widely."

FACTOR CONDITIONS

Basic

Armenia does have sites and attractions to offer niche market tourists. The country and its people have a unique history and culture. The people also have a reputation of being friendly and hospitable.

Armenia's location in the center of the Southern Caucuses potentially makes it ideal as a regional hub in visiting surrounding countries. However, in the short run the country's location, with difficult border crossings on all sides, and limited and relatively high cost air connections to Europe are not assets.

Advanced

The Lincy Foundation has assisted the tourism industry, particularly through the renovation and modernization of several museums and the improvement of roads that pass tourist sites.

According to the Ministry of Trade and Economic Development web site, tourism sector related education takes place in "about 10 educational institutions" and names four of them.[115] Nevertheless, industry representatives cited the poor quality of graduates as one of their principal problems. The Tourism Institute operated by the Russian Academy is offering a degree program in tourism based on a curriculum used within the CIS and developed by the Russian Academy. Directorship at the school is energetic and forward looking but curriculum is not highly developed and some internal structural arrangements promote less than ideal training. For example, students from Armenia were sent to Egypt on internship programs to study customer service and destination management, although Egypt does both poorly. While much emphasis is placed on learning Armenian history and about attractions, little is placed on logistics, marketing, customer service, or business management. Students are not well versed in what constitutes Armenia's competition or what kind of experience international travelers seek.

The country does have some experienced guides. Particular-in depth knowledge in some areas, e.g. wildlife, attraction development, destination management, and guiding skills for adventure travel and outdoor sports focused trips is lacking.

Attractions are not improved or maintained, and there are inadequate lodging facilities outside of the capital city.

DEMAND CONDITIONS

The fact that tourism arrivals, however counted, have been increasing over the past five years is evidence of an industry that is slowly, but all the same, growing. While there are no official statistics, it is estimated that a significant portion of these tourists are Armenian "heritage", or simply family visitors. The diaspora market might have specific likes and dislikes and must be catered to as such. Other tourists may seek a different kind of experience.

There is inconsistent contact between the tour operators and their potential clients abroad, and within the Armenian tourism industry there is little knowledge of niche markets and how to exploit them. Likewise, travel operators have little knowledge of the types of experiences that are attractive to their potential clients.

The CIS countries provided the bulk of Armenian tourists in Soviet times. These tourists were, and probably still are, less demanding than tourists from other countries.

Due to a lack of tourism information there is no knowledge as to return visitors, diaspora visitors, or other niche market groups that could be targets of marketing. Likewise, there is no information on the spending habits of the various groups of tourists.

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[115] Ministry web site, www.minted.am/en/tourism.html

FIRM STRATEGY, STRUCTURE, AND RIVALRY

The Ministry of Trade and Economic Development claims that there are 100 specialized companies in the tourism industry, a significant number since there were fewer than 15 in 1997.[116] With few barriers to entry and a relatively high unemployment rate, it is fairly easy for one or more, individuals to begin to offer tourism services, at least as guides and tour operators. Indeed, several of the better-known travel agencies that were interviewed expressed interest in government instituting a qualifications-based registration process so as to "weed out" the small, inexperienced, and often poor quality tour operators in the country.

The readily accessible diaspora market is an essential part of any tour operator's strategy in Armenia. Beyond that history, culture, religion, and archeology are the main themes presented by tour agencies. One tour operator added that, it is not good enough to be better, but that the product has to be totally different. There is also some interest in promoting regional tourism, especially once borders are opened and functional.

Objectively, Armenia is not presented as a unique, differentiated product to the international market for outbound tourism. A proper strategy would be to give Armenia an appeal outside of the diaspora market, to develop attractions where visitors are willing to spend money, and which they are will to "spread the word" about when they return home. It would also include the need to develop products and services that are appropriate to Armenia's resources, but that cater to niche segments in the provision of a high quality travel destination. Networking with tour operators in Armenia's main markets and at trade shows should be a priority.

INDUSTRY CLUSTER AND COOPERATION

In terms of cooperation, many attempts have been made to form tourism related associations, including under the leadership of the ATDA. None have worked effectively in the past, but a new one is about to be formed. The team interviewed a large number of representatives in the tourism sector and found many to be outspoken, yet eager to learn, professionals who should be able to form a tourism cluster that addresses their common interests and allows for more coordinated communications and planning between tour operators and their related and supporting firms (hotels, restaurants, marketing and promotion companies etc.), associations, agencies, and attractions.

One of IESC's legacies is that it brought several of Armenia's more forward looking travel agencies together, at least during trade shows. As one tour operator expressed, "Before we used to exhibit our stands separately, now since IESC's help, we still exhibit separately, but under an "Armenian" banner.

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[116] Ibid.

Nevertheless, there is no concerted industry strategy to project Armenia as a unique, differentiated travel destination. Nor is their much effort put into niche market segments, especially at the higher end quality travel experience. What target marketing that does exist is not consistent.

The local Chambers of Commerce in the marzes are mandated to support economic development. Since they are funded through the collection of "source and origin" fees, some have funds. These could be located and matched with potential tourist destinations in each contributing marze.

THE ROLE OF GOVERNMENT

The GOA has had a stated policy of support to the tourism industry since 1998. An e-visa system and exoneration of the tourism industry from the 20 percent value added tax (VAT) on imports are demonstrations of this. There is a tourism law currently in review by the parliament.

There is a strong debate as to the role of the Ministry of Trade and Economic Development in the tourism industry, and especially that of the ATDA. Relations with the private sector appear to be better in the case of the former than with the latter. The Tourism Department of the Ministry is charged with plotting the government's overall strategy as it relates to tourism, as well as doing some quality control in the industry. (It grants hotels their stars, or "pomegranates", based on quality, for example.) The ATDA on the other hand, is supposed to limit its actions to marketing and promotion.

Shortly after IESC began to work on tourism issues in 2001, the ATDA was formed (For various reasons, however, it did not begin to function until February 2003.). It was to have been a quasi-government/private sector organization with representatives from both sides to promote tourism to Armenia. However, private sector representation on the Board of ATDA never became a reality. While much was accomplished with IESC support, both technical and financial—the participation in travel fairs and conventions, conducting "fam" tours for travel operators and writers, the opening of a tourist information bureau in central Yerevan, among others— ATDA has never developed a strategy or operational plan with private sector ownership. The activities carried out with IESC support were readily accepted by tour operators as long as these covered their costs of participating in travel fairs or running farm trips. Other initiatives have been criticized as poor uses of funding, or as having been planned and implemented without input from the private sector. IESC's support ended in early 2004, and ATDA must now rely on a budget of somewhere around $35,000. This is not enough to even partially cover the financial needs of a proactive marketing and promotion agency.

One of the appropriate functions of the ATDA would be to collect data on tourist arrivals that is disaggregated. For example, business travelers, leisure/sightseeing tourists, country of origin, and members of the Armenian diaspora, would a good place to start.

Table A-5
Looking Forward: Tourism

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Differentiate Armenia as a unique travel destination, with targeted quality improvement over time to appeal to target-visitor priorities. Expand beyond the diaspora market. Explore the possibility of regional tourism.
2. Customer Learning	Understand and respond to the needs of specific market segments. Obtain information about current visitor characteristics, feedback, expenditure patterns. Understand decision-making of potential visitors. Begin to examine non-diaspora niches to which Armenia can cater.
3. Innovation	*Opportunity:* Specialize in and perfect specialized tours for niche market travelers, e.g. historical, religious, birds, butterflies, and buildings, to name a few. Increase the number of maintained attractions and services. Organize and publicize special events.
4. Human Capital Formation	*Opportunity:* Work with government to influence the curriculum taught at the various centers of learning. The private sector might even attempt to establish one, or more, special centers for the training of guides, waiters, etc., similar to what is beginning to happen with the IT sector. Well-planned, practical certification is needed for tour operators, hotels, restaurants, etc. Sound training for certifications should be offered.
5. Cluster Cooperation	*Opportunity:* Improve representation of the tourism industry, including improved dialogue between the private sector and government. Develop organizations/mechanism for the industry to discuss and implement joint initiatives such as training, certifications, marketing, promotion. If ATDA is to operate effectively, it needs to be properly resourced and to effectively link with the private businesses in the sector, with effective governance mechanisms; otherwise, alternative marketing and promotional mechanisms need to be instituted.
6. Forward Integration	*Opportunity:* Network with US and European tour operators and specialty tour organizers to get Armenia tourism products in their catalogs and on their websites. Work with investors and authorities to improve local attractions.
7. Strategies and Attitudes	*Opportunity:* Identify appropriate competitive strategies for Armenia's tourism industry. Improve on quality and reputation. Identify and cater to niche markets of tourists whose interests match the attractions in Armenia. Demonstrate and convince potential tourists that Armenia is a differentiated and unique travel destination. Reinforce this message with a publicity campaign. Identify opportunities to encourage diaspora visitors to spend more in-country. Inform the diaspora tourists about good attractions and about Armenia as a good place to visit for non-diaspora visitors. Interest and educate non-diaspora visitors about Armenia's attractions. Understand and respond to the needs of specific market segments.

Wine and Brandy

WINES

The Armenian wine industry had its ups and downs during the Soviet era changing its production levels and varieties according to orders from Moscow. Before independence the country had 36,000 hectares of grapes, now it has 8,000.[117] (Much of this is the result of the land reform, which took place soon after independence. Rural inhabitants were each given 1.5-hectare plots. However, many have been given over to uses other than agriculture or have simply been left abandoned.)

Armenia has five ecological zones where grapes can be grown. Nevertheless, 90 percent are grown in the Ararat valley. By 1996, grape growers had begun to plant selected varieties in new areas, especially white grape varieties that are used in brandy. The result of this is that now twice as much brandy is being sold and the producers have been able to target higher quality end of the wine market. Aside from the local market, 80 percent of Armenia's wine is sold to CIS countries and 20 percent to the US and Europe. Armenians of the diaspora most likely account for the demand in the latter 20 percent. Holidays and special occasions are said to be the times of greatest demand. Also, there is little brand recognition and little quality demand in the CIS countries.

It must be said, that Armenian wines are generally not of high quality for a series of technical considerations mentioned below. Yet the industry is faced with producing for non-discerning, low-end market, or somehow creating an image for a select few wineries. Possible competition with other wine, also produced in the Caucuses needs to be explored.

In an attempt to maintain their heirloom varieties, farmers have been reluctant to plant phylloxera resistant grape rootstocks. Also, these heirloom varieties were selected many years ago (it is said that Noah planted the first grape vine in Armenia) when selections were limited and taste was not as important as yield and disease resistance. Added to this is the fact that the grape fermentation process is done with natural yeasts found in the air, which can result in unpredictably off flavors, including vinegar, and the result is an industry based on low, or questionable quality bulk products. Otherwise, the technologies of pruning and trellising appear to be up to modern standards.

Nevertheless, given the relative cost structures of wine production in places like Chile and California, Armenia cannot compete even for the low-end segment. Armenia's only hope in developing its wine industry is a complete overhaul from top to bottom. It is estimated that in

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[117] Interview with Avag Harutyunyan, President of the Armenian Association of Winemakers, grower, wine producer, and professor of winemaking.

order to change and become internationally competitive, this process would take 10 to 15 years[118], and would involve completely changing farmers' attitudes including new varieties. Likewise, the approximately 30 processors of grapes into wine would have to learn new hygienic procedures and invest in new equipment. Sources of proper wine yeast would also have to be obtained and used properly.

The USDA has been assisting wine producers with marketing (labeling) and grants for equipment since 1998. This assistance has also included technical problem identification, husbandry, and integrated pest management.

The USDA also helped the Armenian Association of Winemakers (AAW) to form in 1997. It has had a high of eighty members. The USDA support included digital mapping of potential grape areas, and assistance in the preparation of a law covering grape production, and standards for wine. The institutional capacity of the AAW is not known.

Table A-6
Looking Forward: Wine Sub-Sector

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Move beyond the Russia, CIS and diaspora markets. In the long run this will take a complete restructuring of the grape and wine making industries. This will include land size, technologies used, varieties, processing and aging. Other than that, the industry must differentiate a few of the better wines need to be selected and then touted through advertising campaigns.
2. Customer Learning	*Opportunity:* Create brand recognition in a few of the better vineyards and wineries. Due to the use of natural yeasts the same grapes can produce very different quality wines from one year to the next. Therefore year on year marketing must be assumed.
3. Innovation	*Opportunity:* Demand for the wine from Armenian heirloom grapes will always have its limited market and profitable producers and wineries of this variety should continue what they are doing. Nevertheless, the future lies with imported rootstock and grafted imported or heirloom varieties. So far as the vineries are concerned, they will have to adapt to sterilized conditions using appropriate wine yeasts
4. Human Capital Formation	*Opportunity:* Winemaking is a skill taught in at least one of the Universities in Yerevan. It is, however, out of step with modern winemaking. This would be dealing with farmers and academics that do not have a tradition of working together. An alternative educational institution, or department within an existing one, with accreditation, would help the situation.
5. Cluster Cooperation	*Opportunity:* Some investment in formalizing the relationship between farmers and winemakers is already taking place. Relationships with wholesalers and retailers are unsure.
6. Forward Integration	*Opportunity:* Selected wine producers should attend trade show to see how their product is sold and to make direct marketing contacts.
7. Strategies and Attitudes	*Opportunity:* Keep producing for the current market while attempting to differentiate selected vintages for intense marketing campaign.

[118] Ibid.

BRANDY

The brandy industry is dominated by the Yerevan Brandy Company (YBC), which was privatized in 1998 and is now a subsidiary of the French beverage company Pernod/Ricard. It produces 18 different types of brandy but will be reducing this number in order to concentrate on the more popular types. Quality control is very strict. The company produces 55 percent of the brandy exported from Armenia. Great Valley is their principal competitor, although there appears to be a lot of competition from imitators and label falsifiers. Their principal markets are Russia (80 percent), other CIS countries, and the US. According to the YBC, its brandies have a 90 percent brand recognition in Russia. People in Russia and the CIS countries often prefer it because it is what they are familiar with. The Armenians in the diaspora consume it on special holidays. Growing beyond both of these markets will be the challenge.

From a pre-independence high of 3.7 million liters sold, the number dipped to1.9 million liters in the mid 1990s, but has been gaining ground. It is expected that 4.0 million liters will be sold in 2004. One relatively high cost is that of bottles which must be imported from Italy.

The core brand name produced is "Ararat Valley". A few years ago a competitor tried to use the same brand name. The YBC went to court against the competitor and won. The competitor now sells his product under the name of "Great Valley".

Access to high quality grapes is the greatest limiting factor to expansion of the firm. Land in the Ararat valley that is appropriate for grapes is becoming scarce. Fine brandy requires a limited number of while grape varieties. In order to overcome this problem the firm has: started to plant grapes outside the Ararat valley, or encourage farmers to do so; and, contract farming with selected growers. The firm has between 2,500 and 3,000 farmers contracted for five to ten years to produce particular varieties of grapes. The firm is obligated to purchase all production from these farmers that meet the firm's quality standards. The farmers, on the other hand, are not obligated to sell to YBC. The firm also prepays farmers by making a deposit into farmer owned credit card accounts that have been provided by the firm. The weather is always a factor in agriculture—last season a frost damaged 70 percent of the harvest and killed 30 percent of the vines.

Another innovative element of the firm's strategy is to be ready when a disease called phylloxera reaches the Ararat valley. This disease, which is carried by an aphid like fly that attacks the roots of grapes and eventually kills the entire vine, decimated the wine industries of France, Italy, Spain, and Portugal in the 1860s. One, phylloxera resistant grape variety, by the name of Beta, was discovered in the 1880s in northern New York State and the practice of grafting the wood of a desirable variety of grape onto Beta rootstock began. Today, virtually all domesticated grapes in the world, with the exception of certain pockets, the Ararat valley being one of them, are produced on Beta rootstock. Nevertheless, phylloxera has been discovered in northern Armenia and it is only a matter of when it will arrive in Ararat where

90 percent of the country's grapes are grown. As a precautionary measure, YBC has imported and is storing a sufficient number of Beta rootstocks which, when multiplied, will be able to be grafted to the locally preferred varieties. This will be mentioned again in the wine section where it is an even greater threat because no one is doing anything about it.

Also, as a hedge against one, or more, bad crop years the company maintains a strategic reserve of four million liters of unaged, distilled spirits, which can be diverted at any time to fill in production gaps.

Table A-7
Looking Forward: Yerevan Brandy Company

Opportunity	Method
1. Competitive Positioning	*Opportunity:* Consolidate demand in Russia and CIS countries. Continue to distinguish itself as the highest quality. Be mindful of pricing. Make it competitive with some of the most well known international brands.
2. Customer Learning	*Opportunity:* Spread brand recognition beyond Russia.
3. Innovation	*Opportunity:* Fine bottles and labeling.
4. Human Capital Formation	*Opportunity:* Not an issue with this company. Staff are trained from within.
5. Cluster Cooperation	*Opportunity:* Strong linkages to farmers, use their own distributors or ones met at trade shows.
6. Forward Integration	*Opportunity:* Could get closer to their customers through opening offices in US and Europe. Attending more trade shows.
7. Strategies and Attitudes	*Opportunity:* Expand beyond the Russian, CIS, and diaspora markets. Continue to stress brand recognition.

Appendix B. Competitiveness Diamonds

Figure B-1. Apparel Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Largely seeks production contracts based on price competition or Diaspora connections
- Some use of local quota for foreign producers
+ Smaller producers attempting to design and brand

Factor Conditions

Basic (medium)

- High land transport costs
- No local production of inputs; landlocked country requires 2-way transport
- Oversized, outdated plant and equipment

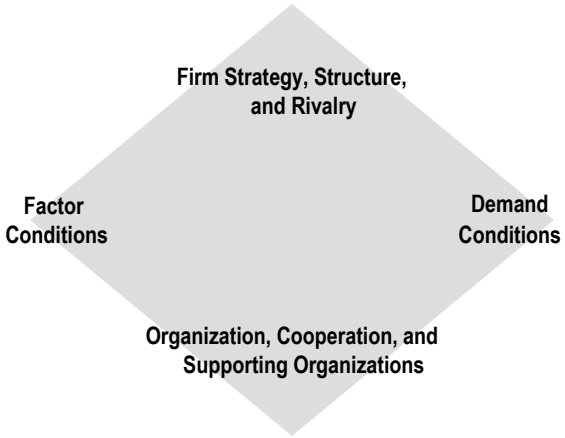
+/- Some skills and networks remaining from pre-independence

+ Available quota, at least until 2005
+ Some smaller, more efficient plants
+ Available, low-cost labor

Advanced (low/medium)

- Lack of investment in modern plant and technology

+ Some design and branding capability.



Demand Conditions (low/medium)

- Some domestic demand

+/- Important CIS market, especially Russia; but open competition from other producer countries

+ Market requires quality, but is very cost conscious
+ Diaspora provides some contract opportunities

Organization, Cooperation, and Supporting Organizations *(low)*

- Few functioning linkages within the industry
- Absence of effective service from/linkage with skills providers

Role of Government *(low)*

- ADA is interested in promoting the sector

Figure B-2. Food Processing Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Export strategy is geared to the Armenian Diaspora market and distribution networks
- Few branding strategies in place, and companies do not make use of appellations of origin to increase brand appeal
- Organic certifications are not actively sought to bolster product claims
+ Several companies have sound, relatively sophisticated strategies based on quality

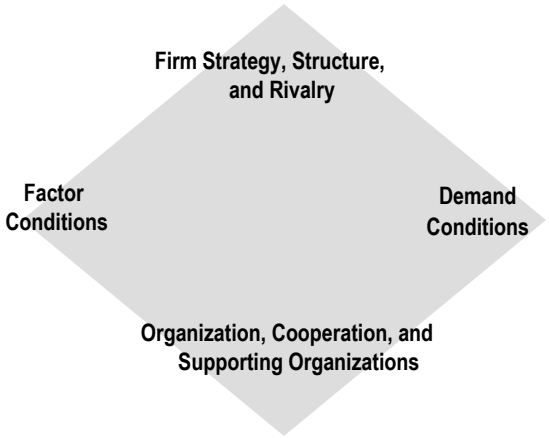
Factor Conditions

Basic (high)

- Little land area for expansion of agricultural production
+ Reputation for tasteful produce free from the use of chemical fertilizers. Strong reputation within the CIS for good quality.
+ Inexpensive farm and factory labor
+ Favorable climate for horticultural production and for early-season fruits and vegetables in Southern Armenia.

Advanced (low/medium)

- Lacking management or marketing skills
- Products are of low value added
- Lack of high quality local jars and bottles
- High transportation costs, especially through Georgia
- Lack of mechanized farm equipment
- Inefficient use of agricultural land - small plot size
- Lack of a certified laboratory for ISO and HACCP certification
+/- Increasing, but still rare use of ISO and HACCP certifications
+/- Good technical skills
+ Several firms manage the cold chain effectively



Demand Conditions (medium)

- Little demand pull marketing.
- Limited brand recognition.
- Little knowledge of international distribution chains
+/- Dependence on the Diaspora market and old contacts in the CIS markets.
+ CIS market recognizes Armenian produce as being of good quality
+ The Diaspora represents an interested specialty markets.
+ CIS represents a large potential for market

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- Few effective associations in the sector.
- Little, or no, consolidation of cargo shipments.
- Little contact between industry and the institutions of higher learning to produce graduates that can be of use to the sector.
- No accredited certifying capability (ExLab is qualified, however)
+ Linkages starting to form – e.g. collection points, rural to market transporters, processors, makers of packaging material, transporters of processed products, marketers, Individual firms have solid linkages with suppliers and distributors

Role of Government *(high)*

o Government controls or regulations do not seem to be a part of any obvious problem

+ Like all exporters, the food-processing sector is exempt from VAT on imported and exported items

Figure B-3. Jewelry Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Little image building or differentiation for Armenian producers

+ Some jewelry producers have developed production relationships and alliances with distinguished wholesalers and retailers.

+ Trade show attendance has been critical for jewelers for both market contacts and keeping up to date with trends and styles.

Factor Conditions

Basic (medium)

- Few indigenous raw materials, heavy reliance on imported raw materials

+ Transport costs and issues are not a barrier.

+ Low-cost labor

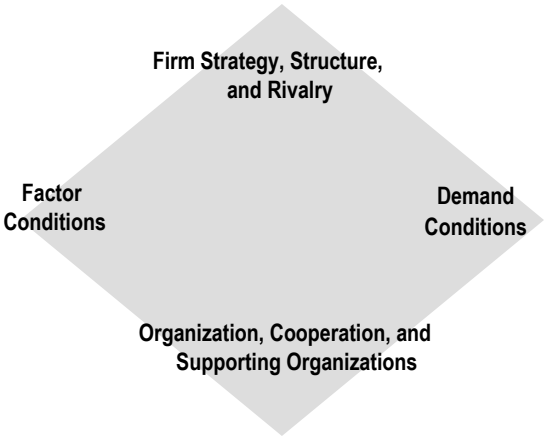
Advanced (medium/high)

- Little formal training available to supply the industry

- There is no internationally recognized skills or professional certification capability

- Local design capability is not highly advanced

+/- Strong history of jewelry production, with remaining skills and reputation



Demand Conditions (low/medium)

- Few linkages with retail, little knowledge of consumer tastes and trends in design

- Significant Diaspora presence in the international industry facilitates interest in Armenian production.

- No significant reputation for quality, reputation, or design)

+ There is a large potential market, for contract production of jewelry for large distributors/ retailers.

Organization, Cooperation, and Supporting Organizations *(medium/high)*

- Little collaboration thus far within the jewelry industry, although there are three associations

- Little cooperation thus far to establish and promote quality and skills standards

Role of Government *(high)*

+ The GOA supports the development of the sector.

+ It is currently writing a new gems and jewelry law.

+ The sector has been exempted from all forms of VAT.

Figure B-4. Diamond Cutting Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Largely an industry based on contract cutting, with little downstream contact or awareness
- Management in the diamond processing industry is production oriented rather than market oriented
- Little product differentiation or customer awareness of the Armenian product

+/- Large factories dominate the diamond processing industry

+ Current strategy in the diamond processing industry is to aim at the top quality, larger stones

Factor Conditions

Basic (medium)

- Armenia does not have diamonds, must import raw materials

+ Transport costs and issues are not a barrier

+ Low-cost labor

Advanced (low/medium)

- Little formal training available to supply the industry
- There is no professional certification capability

+ Companies have invested in in-house training and apprenticeships.

+ Armenian has very good, skilled cutters, quality of cutting is high

+ Armenia has a substantial Russian quota for diamonds, has established other sources

Demand Conditions (low/medium)

- Few direct linkages with retail sales, or with customers
- Little knowledge of value factors for the customers (e.g. security, image)

-/+ Strong Diaspora presence in international markets provide interest and basis for investment in Armenian production.

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- No useful collaboration with technical or training institutions. Solutions are on an individual company basis
- No industry-wide vision yet established

+ Demonstrated ability to meet, share information, undertake joint initiatives

+ Some linkages between diamond processors and the precision engineering and jewelry industries

+ Some local production of cutting equipment

Role of Government *(medium/high)*

+ The GOA supports the development of the sector

+ It is currently writing a new gems and jewelry law

+ The sector has been exempted from all forms of VAT

Figure B-5. Information Technology Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Little direct contact with customers or markets.
- Little direct service provision to customers.
- Product/service range has been restricted by the communications monopoly

+Firm strategies are based on quality and low cost.

Factor Conditions

Basic (medium)

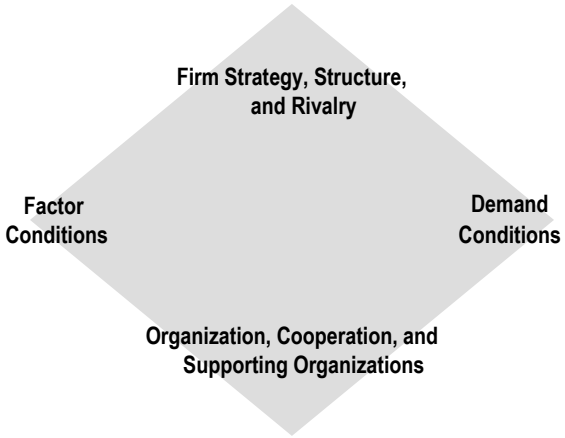
+ Relatively low wage rates.
+ Immunity to landlocked situation
+ Relatively few raw material import requirements.
+ Sound basic literacy and skills.

Advanced (low/medium)

- Universities and technical schools are not providing the skills required by business.

-/+ Armentel monopoly is a costly burden, however, this monopoly will soon end.

+ Relatively well trained workforce.
+ Some actions have been taken to improve training.



Demand Conditions (medium/high)

+/- Heavy reliance on Diaspora connections for marketing and customer learning .

+Recent increased FDI years in the form of vertical integration.

+Fast growing international demand for IT services.

+Growing, but small local demand for IT services.

+ Diaspora network remains interested in outsourcing and investment, and is well-connected in international markets

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- Training providers have insufficient capacity and focus on industry needs.
- Lack of certifying capability in-country.

+ Two active associations already support the sector.
+ Firms have shown that they can cooperate and work together, including subcontracting.

Role of Government *(medium/high)*

+Extremely supportive from the highest levels of government.

+A pioneer itself in the application of computers and the Internet, e.g., e-government, e-visas, etc.

Figure B-6. Ani Electronics Diamond

Firm Strategy, Structure, and Rivalry (medium)

+ Emphasize quality, with appropriate certifications

+ Established a local presence to provide marketing and service closer to the customer

+ Learning to compete globally in a "friendly Market"

+ Looking for opportunities to expand to other European markets

Factor Conditions

Basic (medium)

-/o High land transport costs; reasonable air transport costs

+ Good basic skills

Advanced (low/medium)

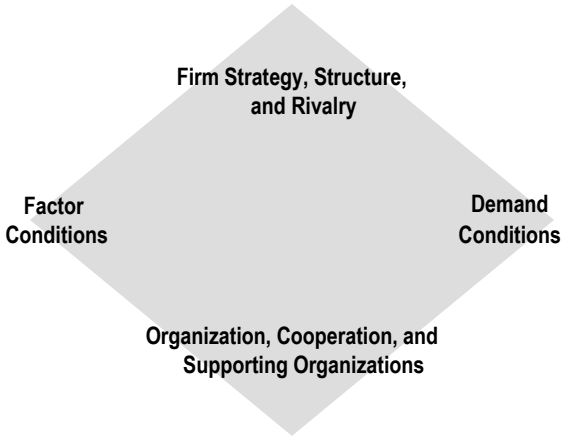
- Lack of investment in modern plant and technology

- Much diminished educational and technical training

+/- Legacy of technological excellence, much diminished

+ Good network of specialists within the CIS

+ Sound, careful management



Demand Conditions (medium/high)

- Virtually no domestic demand

+/- Provides a component for manufacturers; competition is componentry from other sources, and ready built imported equipment

+ Important CIS market, especially Russia

+ Market requires quality, but is cost conscious

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- Few, if any linkages within the industry

- Poor collaboration/service from skills providers and technological institutes

+ Support from donor partners

Figure B-7. Tourism Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Many players in the market compete by offering low prices, quality suffers from price pressures
- Little forward integration – only a few companies are directly represented in key markets
- Virtually no market targeting outside of the diaspora
+ Some participation at trade shows and efforts to sell Armenia as a destination

Factor Conditions

Basic (medium/high)

+ Interesting culture, history, and hospitality traditions

+/- Many natural and historical attractions

+/- Location: future - a regional hub; present - blockades and regional instability

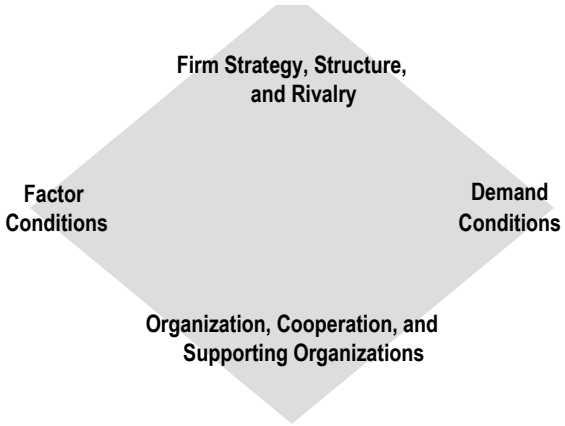
Advanced (low/medium)

+ Partial refurbishment of tourist attractions, road construction

- Few attractions have been developed and maintained
- Students not prepared for careers in tourism; little contact between industry and educational facilities
- Inadequate lodging facilities outside of Yerevan

+/- No quality rating system (classification of tour operators, guides, and hotels); new tourism law will partially address this

+/- Experienced guides available but more expertise needed for niche markets



Demand Conditions (low)

- Little customer learning outside the diaspora market
- Inconsistent contact between Armenian tour operators and potential clients abroad
- Little market research conducted by or available to tour operators
- Armenia is largely unknown as a desirable tourist destination outside of the diaspora
- The numbers of tourists interested in specialized or unique experiences is large and rising

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- Discord between ATDA and private sector, unclear roles
- Little collaborative linkage between training providers the industry
+ Some pooling of resources at trade shows and efforts to sell Armenia as a destination

Role of Government *(medium/high)*

+Openly supportive for many years

+Removed the sector from paying VAT on imported goods

+Instituted e-visas for tourists

Figure B-8. Yerevan Brandy Company Diamond

Firm Strategy, Structure, and Rivalry (medium/high)

+/- YBC provides skilled labor through on the job training.

+/- Several competitors; some of them low-quality imitations

+ Increasing differentiation, emphasis on premium quality

+ Integrated strategy: sources raw materials, while distributing its own product to wholesalers

+ Maintains strong quality control

+ Beginning to make use of Pernod/Ricard distribution network

Factor Conditions

Basic (medium)

- Increases in production limited by availability of quality grapes

+/- Good supply of raw materials

+Product recognized for quality and tradition

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Advanced (medium/high)

- Unable to use the "cognac" name outside of the CIS

+ Sound, forward thinking, strategic management

+ YBC actively ensures access to grape supplies through contracts and investment in productivity

Demand Conditions (high)

+ 90% brand recognition in Russia (main market)

+ 55 % of export market.

+ Armenian and Soviet diasporas recognize and value product

+ Investigating new markets

Organization, Cooperation, and Supporting Organizations *(low)*

- Little interest in collaboration or associations thus far, despite YBC attempts to interest the industry.

- Little basis for cluster linkage.

Role of Government *(medium)*

+ Provides stable and secure environment to carry out its business

+/- Little action to limit brand imitation; although YBC's trademark has been upheld

Figure B-9. Wine Industry Diamond

Firm Strategy, Structure, and Rivalry (low/medium)

- Bulk of production is low quality, low cost wine

+/- Some investment in developing knowledge, promotion and presentation of finer wines, primarily for knowledgeable domestic and diaspora markets

+ Increased numbers and investment in wineries

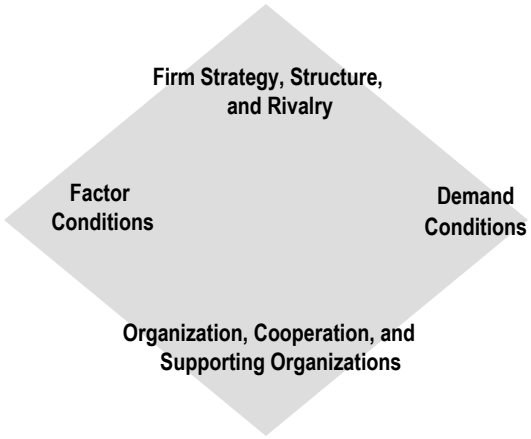
Factor Conditions

Basic (high)

+ Centuries old tradition of winemaking
+ Heirloom grape production provides for specialized niche market
+ Proper climatic conditions in most years

Advanced (low)

- Small land size precludes use of machinery in most cases, some consolidation of land possible.
- Traditional technologies for grape growing and fermenting result in unpredictable quality
- Root stock susceptible to phylloxera
- No domestic production of wine bottles, imported bottles costly



Demand Conditions (medium)

- Strong competition form other international, low quality producers

+ Long-term CIS market for inexpensive wine

+ The Armenian diaspora demand for Armenian wines consumed for holidays and special occasions

Organization, Cooperation, and Supporting Organizations *(low/medium)*

- Little indication of linkage or interrelationships amongst firms

- Limited formal, technical training opportunity

+ Existing industry association

Role of Government *(medium/high)*

o Government controls or regulations neutral.

+ Food-processing sector is exempt from VAT on imported and exported items

Appendix C. People Met

1. Arusyak Vardanyan, Program Specialist, AED
2. Anush Yedigaryan, Armenia Country Director, AED
3. Anahit Yernjakyan, Senior Program Specialist, AED
4. Tigran Jrbashyan, Armenian Director, AEPLAC
5. Kenneth Munther, European Director, AEPLAC
6. Armen Yeghiazaryan, Economic Team Leader, AEPLAC
7. Alexandr Poghosyan, Managing Director, Alfa Plus
8. Gagik Sahakyan, AMERICA
9. Elen Ghazaryan, Executive Director, American Chamber of Commerce in Armenia (AmCham)
10. Timothy Papworth, President, AmCham
11. Aram Tarakhchyan, President, Apricot Plus
12. Armenuhi Khachatryan, Director, Arias Catering
13. Thomas J. Samuelian, Managing Attorney, Arlex International, Ltd.
14. Purusottam Sen, Associate Dean, School of Business and Management, American University of Armenia
15. Fred Harris, Marketing Director, Armenia Agribusiness SME Market Development Project, DAI
16. Gary Kilmer, Chief of Party, Armenia Agribusiness SME Market Development Project, DAI
17. Ruzan Melyan, Business Service and Policy Adviser, Armenia Agribusiness SME Market Development Project, DAI
18. Tatevik Melikyan, Business Service and Policy Adviser, Armenia Agribusiness SME Market Development Project, DAI
19. Robert Minasyan, Rector, Armenian Institute of Tourism

20. Arthur Gyulnazaryan, Managing Director, Armenian Jewelry and Diamond Manufacturers Association (Meeting of about a dozen members of the Association)
21. Alex Sardar, Deputy Director, Armenian Legislative Strengthening Program (ALSP)
22. Zara Chatinyan, Resident Adviser, Armenia Local Government Program, The Urban Institute
23. Arthur Drampian, Senior Resident Adviser, Armenia Local Government Program, The Urban Institute
24. Fred Van Antwerp, Chief of Party, Armenia Local Government Program, The Urban Institute
25. Angela Sax, Deputy Executive Director, Armenian Tourism Development Agency (ATDA)
26. Anahit Shahvrdyan, Tourism Manager, Armenia Travel + M Co, Ltd.
27. John Sax, Arminco
28. Anna Zakaryan, Marketing Director, Ashtarak Kat
29. Avag Harutyunyan, Association of Wine Producers
30. Gasparyan Artashes, President, Atashes Ltd.
31. Arkady Sahakyan, President, Avarayr Tour Company
32. Martin Guilfoyle, Senior Consultant, Bearing Point
33. Aram Hovsepyan, Chief of Commercial and Special Fund Loans Division, "Converse" Bank
34. Bagrat Yengibaryan, Director, Enterprise Incubator Foundation (EIF)
35. Arsen Khachatryan, Executive Director, Elita Ltd.
36. Tigran Aghabekyan, National Director, EU Business Advisory Service (BAS)
37. Zakar Boyajyan, Country Director, The Eurasia Foundation Small Business Loan Program
38. Nick D. Gilmour, CEO, HSBC Bank Armenia
39. Hrach Gaspar, Jewelry Consultant
40. Vahe Hovhannisyan, Marketing Director, Gamma Ltd.
41. Ripsime Dekhtsunyan, Glaxo Pharmaceuticals
42. Armen Azizyan, Head, Intellectual Property Agency
43. Andranik Khachikyan, Intellectual Property Agency
44. Lena Majarian, Country Representative, International Executive Service Corps (IESC)
45. Karen Manukyan, International Financial Corporation (IFC)
46. David Khachiyan, Director of Tourism Department, Levon Travel

47. Aram Hajian, Executive Director, Made in Armenia Direct
48. Gagik Sahakyan, Management Advisory Service
49. Chrysanthos Miliaras, Chief of Party, Micro Enterprise Development Initiative (MEDI)
50. Glenn Surabian, Senior Business Development Adviser, MEDI
51. David Avetyan, Deputy Minister, Ministry of Finance and Economy of the Republic of Armenia (RA)
52. Tigran Davtyan, Deputy Minister, MTED
53. Ara Petrosyan, Deputy Minister, Ministry of Trade and Economic Development (MTED)
54. Gagik Vardanyan, Deputy Minister, MTED
55. Artur Zakaryan, Tourism Department Head, Ministry of Trade and Economic Development
56. Jeanette Kloetzer, Organization for Security and Cooperation in Europe (OSCE)
57. Nellie Malkhasyan, General Manager, Princess Maneh
58. Götz Borchardt, Senior Adviser, ProSME, GTZ
59. Jonathan Stark, President, "Resolution Consultants" Ltd.
60. Armen Hakobyan, President, SIS Natural
61. Hrayr Aramyan, Commissioner, SCPEC
62. Pheliks Pirumyan, Chairmen, State Commission for the Protection of Economic Competition of the RA (SCPEC)
63. Stepan Aslanyan, President, Smart Systems
64. Rshtun Martirosyan, SME DNC
65. Hovhannes Avoyan, President (UITE and Lycos-Europe); meeting of 6 people at UITE
66. Arman Valesyan, Executive Director, Union of Information Technology Enterprises (UITE)
67. Arsen Ghazaryan, President, Union of Manufacturers and Businessmen of Armenia
68. Diana Avetyan, Program Management Specialist, USAID
69. Dr. Michael Blackman, Deputy Director, Office of Economic Restructuring and Energy, USAID
70. Thomas R. Morris, Director, Office of Economic Restructuring and Energy, USAID
71. Karen Grigoryan, Economist, The World Bank
72. Serge Der-Sahguian, Sales and Marketing Director, Yerevan Brandy Company