Competitiveness Enhancement and
Enterprise Development (CEED)

MOLDOVA ECONOMIC SECTOR ANALYSIS: FINAL REPORT

March 29, 2010

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SECTION I

Executive Summary

Moldova is at a crossroads geographically, politically, and economically. Positioned between Western Europe and the CIS, Moldova has the advantage of geographical proximity to both stable but demanding western markets and growing but risky eastern markets. This position could be an advantage but will require a clear strategy and cooperation among sector actors and policy-makers. On the eve of a power shift away from the Communist party toward democracy and the west, political stability has been a challenge but presents numerous opportunities for Moldova. The new democratic government is eager to improve Moldova's position in the global economy by creating a friendlier environment for business. Finally, in the wake of the global financial crisis, the country has suffered tremendously. What has emerged though are businesses and sectors that have survived, restructured, improved, and are now focusing on the market demands.

This report identifies several competitive sectors of the economy that have potential to lead to sustainable economic growth for Moldova. Three sectors have been chosen for detailed analysis because of either (a) their notable growth during the past eight years (2000-2008) or (b) they have been singled out by economic experts in Moldova as having significant growth potential in the coming years. Additional consideration was given to sectors viewed as strategic or priorities by the Government of Moldova (GOM) with funded support programs in place. The three sectors already supported by the Competitiveness Enhancement and Enterprise Development Project were also included in this analysis.

Sectors were selected for analysis based on a three-step approach combining quantitative and qualitative methods. A pool of sectors was selected based on export and sales performance over the last eight years. The final selection of the top three sectors was based on qualitative factors such as prevalence of SMEs in the sector, gender makeup of workforce, and regional presence, as well as employment levels, and sales growth. A detailed analysis of the resulting three sectors, and the three CEED-supported sectors, was conducted and is contained in the annexes attached to this report. The results of our analysis were that in addition to wine, textiles and apparel (T&A), and information and communication technology (ICT); footwear, construction materials, and furniture are sectors that show the most potential for contributing to transformational growth in the economy. Like the CEED-supported sectors, these sectors build on Moldova's strong, skilled labor force, and have the potential to be high value-added industries. There is a significant opportunity for niche subsectors to be developed within these sectors, such as for the development of green construction materials, certified furniture for socially conscious European consumers or unique decorative tiles.

Textiles and apparel. Long-term prospects for the sector are good as the world economy and demand in the sector recovers. The T&A sector is one of the strongest in Moldova but it still has tremendous growth potential. Support through CEED has contributed to increasing sales in the sector by 10 percent; however, potential for further growth through higher-value-added services exists. Most of the 17,200 jobs in the sector are rural-based and taken by young women.

Wine. While wine is a struggling sector right now, it is still an important sector in Moldova that enjoys the continued support of the government and a strong sector value chain. The number of people, particularly in rural areas, that the wine sector supports is also a significant factor in considering continued support for the sector.

Information and Communication Technology is a rapidly growing sector and one that could have major contributions to the economy in terms of exports, employment, and contributions to the national budget. Furthermore, as an enabling sector for the development of most other sectors of the economy, ICT (IT in particular), will be a critical sector to develop as an enabler of Moldova's economic growth. This fact has been recognized by the current government, which has publically announced that ICT is a priority sector for development in the medium-term, including broadband infrastructure development.

Construction materials. While still small, the construction materials sector has been expanding at rapid rates. It is a sector that is built on the existence of raw materials in Moldova. While 80 percent of the sector is oriented to the domestic market, the sector also claims a healthy export market driven by the availability of raw materials used for construction materials. Despite the severe downturn in the real estate market, the construction sector in Moldova is still quite active and the market for home repairs and renovations has remained strong signaling that there is still a vibrant market for the sector. Furthermore, there is significant opportunity for developing new niche subsectors such as environmentally friendly building materials.

Furniture. The impressive growth of furniture in the past and the significant unmet domestic demand are strong indicators that furniture is a rising sector in Moldova. Given the nascent stage of the value chain and support mechanisms for the sector though, there is significant opportunity for support of the sector and great potential for it to be a significant player in Moldova's economy. Like the construction materials sector, there is opportunity in the furniture sector to develop high value niche markets such as certified wood products and decorative tiles.

Footwear. While the footwear sector remains small, it has grown at a healthy 13 percent and could be an attractive sector for support because of its growth potential and contribution to cross-cutting factors such as SME development and Transnistrian integration. There is significant opportunity for import replacement if the Moldovan footwear sector can market itself effectively and capture the domestic market. It should also be noted that the footwear sector can become more harmonized with the textile and apparel sector, and opportunities to develop synergies between or among sectors is often beneficial to all players.

While each sector faces unique challenges to competing in the world market, there are also several cross-cutting challenges faced by Moldovan enterprises. In particular, Moldovan businesses have been hindered from being competitive in international and domestic markets by concentrating on a few risky markets, such as Russia and the CIS, where traditional market linkages exist. Failure to meet market-demanded quality standards and poor regional infrastructure have also made Moldovan products uncompetitive. Combined with a poor regulatory environment that forces business to undergo excessive regulation, a tax regime that seriously disrupts cash flow and overtaxes exporting industries, and a fiscal policy that makes Moldovan products uncompetitive abroad because of a strong currency, are all issues that will need to be addressed by the new government in order for Moldovan businesses to contribute toward building a strong national economy. Access to credit and banks' ability and willingness to develop market-demanded financial products are areas that also cannot be ignored and must be supported by the government and donors. Finally, social and political issues, such as the integration of Moldova and the autonomous region of Transnistria, are also essential factors to consider when supporting widespread economic development.

At the same time Moldova struggles under the weight of the economic downturn and an ever-changing political environment that raises the uncertainties of doing business, the country is also poised to realize its potential. Structural transformation of the economy will be vital to future growth; as will the new government's promises to create a regulatory environment friendly to business and investment. Reducing government involvement in regulating the private sector through permitting and certifications, stimulating

lending to businesses, and investing in infrastructure improvements are all major steps to creating the necessary environment for the private sector to flourish. In turn the private sector will need to capitalize on these opportunities through reforms of their own. Specifically, they should: diversify their markets, not forgetting the domestic market; meet market-demanded quality standards and certification requirements; create efficiencies through sector-level cooperation; develop effective dialogue with government to promote necessary changes; and seek new and innovative mechanism for financing. With donor and private and public sector support of these priorities, Moldova can capitalize on its natural advantages to move its economy to the next level.

SECTION II

Introduction

The Competitiveness Enhancement and Enterprise Development (CEED) Project is a five-year USAID-sponsored project that seeks to enhance the competitiveness of Moldovan private sector enterprises within the global market with an emphasis on 1) textile and apparel, 2) information and communications technology, and 3) winemaking. CEED accomplishes this by helping to stimulate rapid enterprise sales growth by upgrading enterprises' marketing and sales skills; enhancing productivity by introducing new technologies; and by improving access to financing and investment. CEED also works to establish a business environment that stimulates sustainable economic growth leading to productive sector clusters. The ultimate goals are to develop new and better paying jobs for Moldovans and to increase revenues, investment, and financing in target sectors.

The objectives of this report are to analyze the three sectors in which CEED has been operating: textile and apparel, information and communications technology, and winemaking, as well as analyze other sectors of the economy that have potential to lead to sustainable economic growth for Moldova. Three additional sectors have been chosen for further analysis because of either their notable growth during the past 3-5 years (2005-2009) or they have been singled out by economic experts in Moldova as having significant growth potential in the coming years. Additional consideration was given to sectors that are viewed as strategic or priority sectors by the Government of Moldova (GOM) with funded support programs in place. While all six sectors are foundational to the current Moldovan economy, they are also promising to lead economic growth and transformation into the near future with the ultimate aim that these sectors will be able to generate increased revenues (i.e. exports or domestic sales) and profitability for local private enterprises, enhance employment opportunities for local citizens (i.e. a stable or increasing number of jobs, raising wages, and/or better quality jobs), and increased public sector (tax) revenues for the national budget.

This report identifies several competitive sectors of the economy employing competitiveness principles as well as value chain analysis best practices. The report details why and how the sectors were chosen and presents detailed analyses of the three CEED-supported sectors, and three additional sectors that were chosen based on this analysis. Findings are summarized and full sector assessments are presented in annexes attached to this document. Findings will be presented to USAID and, once accepted, to the government and other stakeholders in a public forum.

A. Review of Economic Trends

Moldova was showing impressive economic growth from 2000 through 2008, with average GDP growth rates of 5 percent and foreign direct investment of 11.4 percent[1]. However, with an economy largely driven by consumption as a result of relatively high remittances from abroad comprising up to 30 percent of GDP, the global financial crisis had an immediate and devastating impact on Moldova. In the first three quarters of 2009, Moldova saw a 7.7 percent drop in the GDP; a 24.2 percent drop in exports, and a 42.5 percent drop in foreign direct investment[2]. Credit, which was difficult to access before the crisis, became even more inaccessible because banks immediately tightened their lending requirements as a risk-reduction measure. This more conservative lending approach continues to hamper growth and investment

[1] "Rethink Moldova," Government of Moldova report for the Consultative Group Meeting in Brussels. March 24, 2010.
[2] Report, "100 Days of Government's Activities," delivered by Moldova Prime Minister Vlad Filat. January 4th, 2010.

in Moldova's businesses. Furthermore, the strong Lei caused Moldovan exports to be relatively more expensive abroad and domestically, further reducing competitiveness of Moldovan products.

The composition of Moldova's exports underwent significant structural changes from 2000 to 2008. The most important change was that agricultural products for export and domestic consumption decreased significantly. Another important shift was that Russia and other CIS countries were no longer the main trading partners for Moldova, having been eclipsed by European Union (EU) countries[3]. This shift is partially the result of the fact that several Central and Eastern European countries have joined the EU (thus causing a change in the allocation of the statistics from "Central and Eastern European countries" to the "EU countries"). However, another more significant and positive reason for the change was that more of Moldova's exports went to core EU countries over the past decade thereby diversifying its export base.

The shift to EU markets and other underlying structural changes in Moldova's economy, such as the decline in agriculture and increases in foreign investment, indicate that Moldova will need to capitalize on these changes to continue successfully competing in world markets. Despite export growth, the trade balance for the country remains negative at 32.5 percent in 2008, although it has been steadily decreasing from 2001 levels of 63.4 percent. The current economic situation is poised for improvement. According to the International Monetary Fund's assessment in January of 2010, growth is projected to reach 1.5 percent in 2010 and increases in external and domestic demand bolstered by improvements in the business environment are expected. Over the medium-term, the economy is expected to return to pre-crisis growth of five percent while inflation remains low and stable. Investment and exports are rebounding and remittances are gradually recovering to their 2008 levels[4].

B. Government and Donor Priorities

In its first 100 days of office, the new government made strides to spark economic growth by stimulating public and private investments and by reducing administrative and fiscal burdens on businesses. Reforms included reducing the number of licenses required for entrepreneurial activity, removal of some barriers to the export of wine, particularly bulk wine, and the resumption of negotiations for an Association Agreement with the European Union, which could lead to a comprehensive free trade agreement with the EU, benefiting primarily industrial and agricultural products.

Economic priorities set by the government for the medium-term include a focus on using ICT solutions to stimulate economic growth in all sectors, supporting e-governance, deregulation of the telecom sector, and investing in fiber-optic IT infrastructure. Other priorities include SME development through matching grant schemes to promote investment while access to credit is still lacking, and rural development to protect the social structure in rural areas and prevent a further flood of emigration that is preventing business growth in rural areas. These priorities have been established at the national level but are pending discussions at the Consultative Group meeting in Brussels and have not yet been finalized or translated into sector-level strategies by the ministries.

Donors are also coming together to promote economic growth through the enhancement of competitiveness of export-oriented industries and the promotion of high value agriculture and rural development. In addition to USAID-funded competitiveness activities, the World Bank recently launched the second phase of its Competitiveness Enhancement Project to improve the business environment and support the quality of standard testing and quality improvement services available to enterprises. In

[3] According to the "Foreign Trade of Moldova 2001-2008" statistical yearbook, in 2006, exports to the European Union were 51 percent and exports to the CIS were 40 percent and that rate has remained steady since then.

[4] "Republic of Moldova: Request for a Three-Year Arrangement Under the Extended Credit Facility and Request for an Extended Arrangement," International Monetary Fund. January 15, 2010.

addition, rural development will likely be a focus of a new Swedish International Development Cooperation Agency (SIDA) project. The EU also plans to give around €50 million in support of high-value agriculture and SME support and has identified access to finance and business support services as priorities. Significantly, the Moldovan government signed a $262 million compact with the U.S. Millennium Challenge Corporation (MCC) to upgrade critical irrigation and road infrastructure in support of high value agriculture. This in conjunction with a joint EU, European Bank for Reconstruction and Development (EBRD), and European Investment Bank (EIB) funding for a second phase of the Road Rehabilitation Project, will have an effect throughout the value chain, enabling businesses in all sectors of the economy.

SECTION III

Sector Selection

The methodology we used to select sectors of focus for this report drew from competitiveness and value chain methodologies. The goal of the selection process was to identify three sectors with the most potential to be competitive in Moldova and the region. We used measures such as current and past sales performance, share of exports in the economy, and employment. We also used a number of qualitative factors such as sector maturity and enabling environment, feasibility of USAID support to the sector and geographical and gender diversity in selecting sectors for further analysis. While we used quantitative analysis in our selection process, judgment and qualitative factors were also weighted in contributing to the final selection. The resulting selection process was not based upon novel data collection and a resulting econometric or statistical analysis. Rather, our approach drew from facts and opinions of industry experts and publicly available studies and data, which were compiled, reviewed, refined, analyzed, and are presented herein.

This analysis was undertaken only for non-agricultural production sectors using data from the Moldova National Bureau of Statistics and the United Nations Commodity Trade Statistics Database. Agricultural products, with the exception of wine, which is already being supported through the CEED project, were not included in this analysis because support for this sector will be done through the upcoming Agricultural Competitiveness and Enterprise Development Project. Furthermore, because there is not enough reliable data available for service sectors in Moldova, those were not analyzed to the same extent as non-service sectors. CEED already works in one of the most competitive service sectors in the country, ICT, and other service sectors such as tourism, were determined not to be viable at this time because of the extremely low development of this sector. The analysis was limited to existing sectors of Moldova's economy, not potential sectors for development per the scope of the study.

In conducting our analysis, growth in exports was weighted more heavily than growth of domestic market share because the Moldovan economy is relatively small compared to that of its neighbors and large-scale growth of the economy is unlikely to happen through domestic sales alone. Therefore, while strong domestic demand was considered in our analysis, we did not choose sectors that lacked strong export potential.

A. Ranking of Sectors

In order to select three sectors to study and recommend for further analysis (in addition to the three CEED-supported sectors of wine, textiles and apparel, and ICT) we undertook a three-step approach. Our first step was to identify the pool of potentially leading sectors of the economy. For this first analysis, we used national statistics to rank 59 eligible sectors[5] in the following four categories:

1. Importance, defined as sector share of Moldovan exports in 2008.

2. Recent performance, defined as export growth rate in 2008 compared to 2007.

3. Historical performance, defined as export growth rate in 2008 compared to 2000.

[5] Non-agriculture sectors (except wine) were reviewed at the Harmonized System (HS) 2-digit sector disaggregation level.

4. Resilience of growth, defined by the ratio between the standard deviation of the average annual growth rates between 2001 and 2008 and the average annual growth rates for the same period (variation coefficient).

The rankings for each of the four categories were added together to form an overall score for each sector. Categorization in the HS system sometimes disaggregates sectors that we believe to be a single sector. Therefore, we combined certain categories into a single sector (detailed below), leaving us with nine sectors for our qualitative analysis. While we would have done a full analysis of the three CEED-supported sectors regardless of their rankings, both wine and textiles and apparel ranked in the top nine sectors. ICT, unfortunately, is not included in national-level statistics. The results of this analysis appear in the table below, and the full rankings for all 59 sectors appears in an annex to this report.

Exhibit 1. Scores of Top Sectors of Moldovan Economy

Commodity Code	Commodity Description	rank by share in non-agricultural exports, 6	rank by rate of growth 2008/2000,% 2	rank by rate of growth 2008/2007,% 2	rank by Variation coefficient	total score	Rank
H1-85	Electrical, electronic equipment	3	17	5	20	45	1
H1-73	Articles of iron or steel	13	12	13	9	47	2
H1-94	Furniture, lighting, signs, prefabricated buildings	8	19	17	11	55	3
H1-25	Salt, sulphur, earth, stone, plaster, lime and cement	5	8	32	17	62	4
H1-64	Footwear, gaiters and the like, parts thereof	9	20	30	4	63	5
H1-83	Miscellaneous articles of base metal	24	9	12	24	69	6
H1-39	Plastics and articles thereof	14	10	40	6	70	7
H1-57	Carpets and other textile floor	11	26	29	5	71	8
H1-90	Optical, photo, technical, medical, etc apparatus	12	24	26	14	76	9
H1-42	Articles of leather, animal gut, harness, travel goods	15	38	22	2	77	10
H1-22	Beverages, spirits and vinegar	1	50	16	10	77	11
H1-61	Articles of apparel, accessories, knit or crochet	4	34	37	3	78	12
H1-72	Iron and steel	6	3	19	52	80	13
H1-60	Knitted or crocheted fabric	36	14	3	29	82	14
H1-62	Articles of apparel, accessories, not knit or crochet	2	45	39	1	87	15

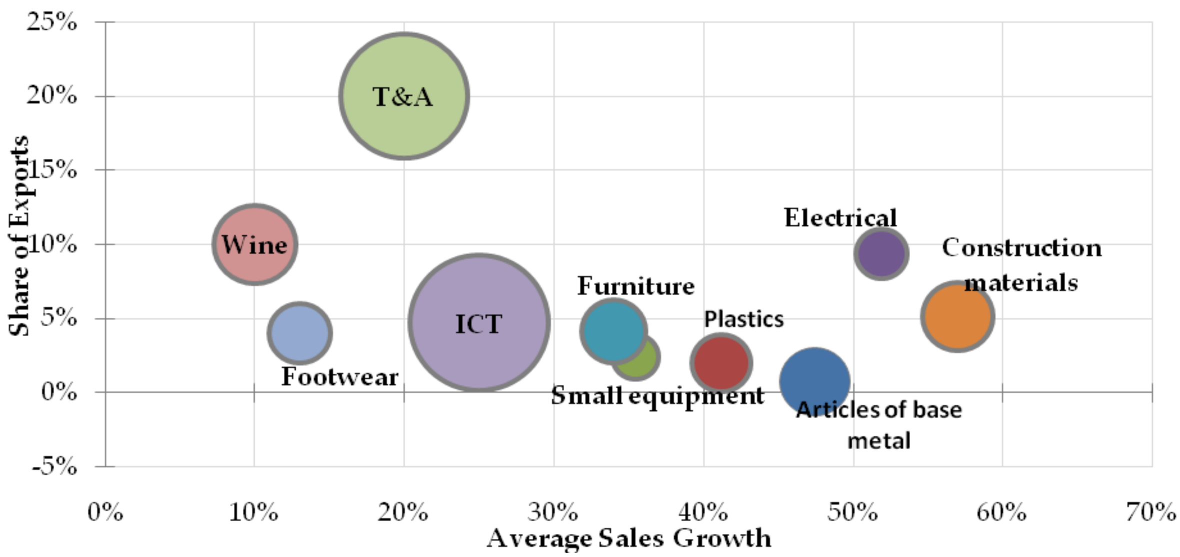
The sectors chosen for analysis at this stage were electrical/electronic equipment; furniture; footwear; construction materials; articles of base metal; plastics; and small equipment, meters, and instruments.

In the second-step of our analysis, the highest-scoring sectors (see chart above) were put through a further analysis of employment levels, sales growth, and qualitative factors such as prevalence of SMEs in the sector, gender makeup of workforce, and regional presence. The results of this qualitative analysis appear in the section below: *Justification of Selected Sectors*. The results of the second step of analysis indicated that Moldova's furniture; footwear; and construction materials[6] industries had the most potential to lead to

[6] Construction materials is not classified as such according to the HS 1992 system. For this analysis, we reviewed several sectors and subsectors that make up the construction materials sector, including H1-73: articles of iron and steel; H1-25: salt, sulphur, earth, stone, plaster, lime, and cement; H1-72: iron and steel, as well as others.

growth in the economy. Results of the quantitative analysis at this stage are graphically represented in the chart below. While this chart does not take deciding qualitative factors into account, it shows the performance of second-round of sectors relative to each other. In this chart, the horizontal axis represents average sales growth, while the vertical axis represents the sector's share of exports. The size of each bubble represents the employment level of the sector.

Exhibit 2. 2008 Sales, Export, and Employment Performance



We completed the third and final step of our analysis of the top three new sectors, as well as wine, textiles and apparel, and ICT, by conducting a thorough study of each sector. Highlights of the results of that study are contained in Section IV, Sector Summaries, and full reports are contained in annexes to this report.

B. Justification of Selected Sectors

The following section will briefly discuss the unique factors that lead us to choose footwear, furniture, and construction materials as the three sectors to highlight in this report. We will briefly discuss the reasons why other leading sectors were not chosen, as well as the relative strengths of continuing support to the three CEED-supported sectors of wine, textiles and apparel, and information and communications technology.

Textiles and Apparel. A leading sector in the country, the textile and apparel sector contributes 20 percent to Moldova's exports, having increased 370 percent over the last decade. The T&A sector also contributes 2 percent to national gross domestic product, and sales growth has averaged 20 percent over the last eight years. Furthermore, employment in the sector has increased 70 percent since 2000, representing 17 percent of the country's industrial employees, 17,200 in all. Most of these jobs are rural-based and taken by young women, who make up 85-95 percent of all T&A workers.

The number of companies in this sector has increased three-fold since 2000 for a total of 165 and companies are distributed throughout all regions in the country, including Transnistria. While demand has decreased in these markets during the economic downturn, long-term prospects for the sector are good as the world economy recovers. The T&A sector is already one of the strongest in Moldova but it still has

tremendous growth potential. Support through CEED has contributed to increasing sales in the sector by 10 percent; however, potential for further growth through higher-value-added services exists.

Wine. Wine has a historic and important place in the Moldovan economy as a leading supplier of wine to the former USSR. While the sector was hard hit when Russia banned Moldovan wines in 2006, it has remained one of the most important earners of currency for the country, representing 10 percent share of exports and 2.3 percent to the gross domestic product. The sector directly employs 7,000 people in about 200 registered companies and represents an important source of income for 50,000 rural grape-growing farmers. The major markets for wine are CIS countries to where 77 percent of wine is exported, mainly comprised of Russia, Belarus, and Ukraine. Exports of wine have averaged about $200 million, and since the ban, export sales have increased at a moderate rate of about 10 percent since 2007.

While wine is a struggling sector right now, it is still an important sector in Moldova that enjoys the continued support of the government and a strong sector value chain. The number of people, particularly in rural areas, that the wine sector supports is also a significant factor in continuing support for the sector. While 2009 showed a further decrease in the wine sector, major wineries are undergoing a painful restructuring process to develop products that are more suitable for western markets.

Information and Communication Technology. Country data indicates that ICT sector is already a major pillar of the Moldovan economy, with the IT sector being one of the most dynamically developing sub-sectors. The IT sector has shown a ten-fold increase in growth over the last five years, and jobs in the subsector have increased by an average of 68 percent a year, for a total of 7,000 employees in 2007. The ICT sector employs around 20,500 employees. The ICT sector's share of GDP is 9.5 percent, dominated by telecom and equipment wholesale services. While the IT subsector contributes less than one percent to GDP, it has grown almost 10 percent in the last year. Official data is not available for service industries, including the ICT sector; however, exports in 2008 were estimated to be $26.3 million. There were a total of 519 IT companies in Moldova, although a large part of the sector operates in the shadow economy as unregistered independent contractors. All but a few of these enterprises are small or medium in size.

While official data is somewhat lacking in this sector, unofficial numbers and anecdotal evidence suggests that it is a rapidly growing sector and one that could have major contributions to the economy both in terms of exports, employment, and contributions to the national budget. Furthermore, as an enabling sector for the development of most other sectors of the Moldovan economy, ICT, and IT in particular, will be a critical sector to develop as an enabler of Moldova's economic growth. This fact has been recognized by the current government, which has publically announced that ICT is a priority sector for development in the medium-term, including broadband infrastructure development.

Construction materials (salt, sulfur, earth, stone, plaster, lime, and cement[7]). The construction materials sector was one of the most dynamic industries registering around $305.3 million in 2008, and accounting for almost 5 percent of GDP, which doubled in the last five years. Comprising 5.12 percent of exports and averaging growth of 57 percent, construction materials is a booming sector. The sector is a major employer, officially employing 5,210 employees in about 380 enterprises, dominated by small and medium enterprises.

While still small, the construction materials sector has been expanding at rapid rates. It is a sector that is built on the existence of raw materials in Moldova. While 80 percent of the sector is oriented to the domestic market, the sector also claims a healthy export market driven by the availability of raw materials

[7] There are no disaggregated data for construction materials, but because the above-named materials are the primary components of construction materials we will use this to analyze the sector. It should be noted though that other sectors such as articles of base metals and glass are also significant contributors to the construction materials sector.

used for construction materials. Despite the severe downturn in the real estate market, the construction sector in Moldova is still quite active, and the market for home repairs and renovations has remained strong, signaling that there is still a vibrant market for the sector. Furthermore, there is significant opportunity for developing new niche subsectors, such as environmentally friendly building materials.

Furniture. While a relatively small sector as a share of Moldovan exports, furniture contributes a healthy 4.14 percent, and export growth has averaged a stellar 70 percent per year over the last six years, registering 66.7 percent growth in 2008. The furniture sector's role in GDP formation has made marked progress from .63 percent to 1.17 percent. Sales for the furniture sector have also shown strong growth of more than 67 percent per year with total sales registering approximately $65 million per year. The sector is a strong employer also, with more than 4,000 people working in the sector with a presence in rural areas. National statistics list 379 furniture manufacturing companies, most of which are micro and small enterprises. Several furniture companies are located in Transnistria.

Furniture products have a relative diversity in their markets, exporting both on the Western and Eastern markets. A massive increase in imports of 380 percent over the last few years[8] also signals that there is significant unmet domestic demand for furniture.

The impressive growth of furniture in the past and the significant unmet domestic demand are strong indicators that the furniture sector is a rising sector in Moldova. Given the nascent stage of the value chain and support mechanisms for the sector though, there is significant opportunity for USAID support of the sector, and great potential for the sector to be a significant player in Moldova's economy. Like the construction materials sector, there is opportunity in the furniture sector to develop high-value-added niche markets such as certified wood products, and decorative tiles.

Footwear. While the footwear sector is relatively small, representing only 0.3 percent of national gross domestic product, the sector's share of exports rose from little more than 1.9 percent in 2003 to more than 4 percent in 2008. Also, the average annual rate of sales growth in the footwear sector was a strong 13 percent from 2000 to 2008 despite the downturn in the world economy. The footwear sector as a whole employs on average nearly 4,000 Moldovans, constituting roughly 2.6 percent of industrial sector jobs. The employment numbers could be estimated at approximately 5,000 if other related services, such as repair shops employees, are included. Growth has been both in the export of "Cut Make and Trim" (CMT) footwear, as well as domestic sales. The sector has strong market linkages with the EU, with 78.5 percent of footwear products destined for that market.

With 60 registered footwear companies and a large number of employees and enterprises operating in the grey economy, this sector has a strong impact on SME development through their collaboration with larger producers. In addition, several of the strongest, most technically advanced footwear companies in the sector are based in Transnistria.

While the footwear sector remains small, it could be an attractive sector for USAID support because of its growth potential and its contribution to cross-cutting factors such as development of SMEs and Transnistrian integration. There is significant opportunity for import-replacement if the Moldovan footwear sector can market itself effectively and capture the domestic market. It should also be noted that the footwear sector can become more harmonized with the textile and apparel sector, and opportunities to develop synergies between or among sectors is often beneficial to all players.

[8] From 2004 to 2007, the last year that data is available.

C. Sectors Not Selected

Electrical, electronic equipment. With strong recent performance in 2008, the electrical equipment sector emerged as the third largest share of Moldova's non-agricultural exports. Ninety percent of the exports of electrical and electronic equipment in 2008 were of insulated wire and cable, optical fiber cable[9], which is a major component of the ICT sector, a sector recommended for support. The analysis conducted indicated that much of the growth of this sector is related to a single Transnistria-based company and that there are five major producers in the entire sector. Given the limited number of firms involved with the sector and the predominance of one product in the sector, it was not selected.

Articles of base metal. While not a significant share of exports (0.72 percent of total non-agricultural), the sector has shown impressive long-term performance (22 fold increase from 2000 to 2008) and recent performance (73 percent increase for 2008/2007). The sector is made up of various products such as locks, metal mountings and fittings, stoppers, caps, lids, and packing items. Although this sector showed strong growth potential, we determined it would not be a viable sector for USAID support because of the environmental risks in the sector including a variety of chemicals used in the production of their final products. This sector is also not a top employer or contributor to exports compared to other sectors. Since some of the component parts resulting from this sector are also used in the construction materials sector, spillover support for this sector could result from support to the construction materials sector.

Plastics. This sector has shown healthy long-term and recent sales performance of about 40 percent from 2000 to 2008. It contributes 2 percent of Moldova's non-agricultural exports selling products such as plastic stoppers, lids, caps and other closures (27 percent); plastic carboys, bottles and flasks (18.5 percent of the sector in 2008); tubes and pipes of polypropylene (11 percent); and ion exchangers and fittings (5 percent). The long-term growth profile of this sector is uncertain given the commodity-like nature of plastics, meaning that price is the determining factor since there is no qualitative differentiation across the market. This limits prospects for large-scale market penetration given Moldova's small size. This sector is also not a major generator of employment or a significant contributor to national exports; therefore we did not select it for further analysis. Furthermore, the potential for negative environmental impact in this sector also make it an unlikely candidate for USAID assistance.

Small equipment, meters, and instruments. This diverse sector had a total volume of exports in 2008 amounting to $28.5 million, dominated by the production of meters for electricity supply, production and calibrating, which accounts for almost 60 percent of total exports of the sector. In addition, there were 5 other branches/products whose exports exceeded $1 million, including measuring or checking equipment; parts and accessories for navigational instruments; parts and accessories for measuring; checking equipment; navigational instruments and appliances; and automatic regulating/controlling equipment. This sector also ranked well overall when compared to all sectors reviewed; however, it was not as strong as furniture, footwear, and construction materials.

[9] Under the manufacturing sub-sector 3130 insulated wire and cable.

SECTION IV

Sector Summaries

Below are short sector summaries for three CEED-supported sectors as well as for the three selected sectors of furniture, footwear, and construction materials. These summaries give an overview of the sector, trends, and constraining factors.

A. Textile and Apparel Sector

T&A Sector Performance in 2008

- 1.95 percent of Moldova's GDP
- 17, 200 employees
- 19.7 percent of exports
- 20 percent average sales growth

Overall performance. The textile and apparel (T&A) sector of Moldova is one of the oldest branches of the national economy and continues to remain of critical importance because it is based on one of the most important resources available in Moldova, a strong and competent labor force. It is a sector with long-standing traditions in exporting a wide range of products. It is the country's top export and one of the most profitable and viable industries in the economy. The USAID/CEED project has been engaged in the T&A sector since 2005, and as the project moves into the fifth and final year, we have identified continued opportunities for work in this sector.

Demand conditions and end markets. Moldova's apparel sector is mostly based on (cut and make) C&M services, which make the apparel companies highly dependent on foreign demand and the orders of their foreign clients. One of the key advantages for Moldova is its proximity to European markets, which allows C&M orders to be filled in four to five days, as compared to China, which requires four to six weeks. Many foreign clients express demand for other higher-value-added business schemes such as FOB (full package) or Private Label, but not all apparel companies are ready to undertake these schemes yet, so these potential markets identify other sources to accommodate their needs. Moldova's main export markets are the EU for apparel C&M services and CIS countries for Own Label products. Out of the total value of textile and apparel products, the CIS market represented only 9.8 percent in 2007 and was mainly textiles (Own Label products) while the EU market for C&M services represented 90.2 percent and the main clients are Italy, Germany, and Belgium. Although the sector remains C&M based, the CEED project has been successful in moving several textile and apparel companies to higher-value-added FOB, private, and Own Label product schemes.

Sector maturity. The textile and apparel sector is on the verge of radical transformation since the crisis has reduced demand by more than 30 percent. If the sector does not restructure, it will not be able to meet the demands of the regional and global economy. Over the last five to seven years, certain support industries were created and are slowly developing, such as embroidery service providers, distributors of accessories, equipment and gadgets, and spare parts, and academic facilities for labor force training. However, these are only in the initial phases of development and are not fully conforming with or contributing to the growth of the apparel sector. There is currently no real cooperation between these service providers and apparel companies. The educational field does not cooperate closely with the apparel sector and generally speaking, the capacity of industries and support bodies is rather low. In order to compete in the future, service providers and support sectors will need to align more closely with the needs to the sector and market conditions.

Future challenges and conclusions. Although the demand for C&M services is currently strong, foreign clients are always seeking lower costs and greater value. CEED has helped apparel companies increase efficiencies to production lines to maintain competitive prices for the sector while preparing companies to

move to higher value production schemes. Companies will have to continually increase these efficiencies to keep prices competitive in the C&M scheme. This will come from adopting new technologies, increasing productivity, and continuing to invest in the product.

Moldova is well positioned to offer higher-value-added services in the apparel sector given its strong foundation in C&M and the introduction of Own Label pilots and production enhancements by the CEED project. However, to move pilots to a critical mass, the Moldovan apparel sector will have to make significant strides in upgrading their product concept and design skills, sourcing raw materials and developing brand management and marketing skills. To do this, supporting institutions and regulations will be an important enabler of the sector, including development of a sector association.

B. Wine Sector

Overall performance. Despite its recent shocks, the Moldovan wine sector remains among the major exporting industries, a top earner of currency for the country, and is one of the major employers of rural populations. The sector accounts for around 2.3 percent of GDP (2007 data), around 10 percent of all exports from Moldova (2008 data), is a source of income for around 50,000 grape growing farmers, and directly employs 7,100 people, or 7 percent of agricultural food processing industry labor force. In 2009 wine production decreased by 22.7 percent compared to 2008, which supports the widespread opinion that even if exports to Russia resumed as they did in November of 2007 following the ban in March 2006, the hopes for a quick market recovery have faded among the winemakers. In addition to a loss of market, the ban resulted in approximately 320 million liters of unsellable wine stock at the end of 2009 and $105 million (as of January 1, 2010) of wine sector debts to the banks. The crisis affected the number of operating companies, which decreased to around 50 from a high of 120 in 2006. Despite the crisis though, Moldovan wineries are still exporting, and some producers have begun the slow, painful process of reorienting their products to new markets. The process will take time though, as new vine stock matures, and new market linkages are formed. If the wine sector is going to recover, support in this process will be critical.

Wine Sector Performance in 2008

- 2.3 percent of Moldova's GDP
- 10 percent share of Moldovan exports
- 7,100 directly employed, 50,000 indirectly employed
- 10 percent average sales growth

Demand conditions and end markets. The structure of Moldovan wine exports is slowly changing and the markets become more diverse, with about 77 percent of the exports going to CIS countries compared to 90 percent in 2005. Russia remains the most important market for Moldovan wines; however, that spot was supplanted by Ukraine in 2009. Belarus remains the most *stable* market for Moldova bulk wines, and a new lifting of bulk wine restrictions by the new government in Moldova gives promise to that market. CEED has promoted sales to Eastern European markets, especially to Poland and the Czech Republic, but also to Germany. Sales to these markets are on the rise demonstrating that the sector is producing wines more appropriate for target markets in terms of style. The proximity to Western European countries, Russia, and Belarus allow for lower transportation costs, so the sector could have an advantage over New World rivals such as Chile, Argentina, South Africa, and Australia. Southeast Asia and India are also new, growing markets where Moldovan wine could have a lot of potential. The domestic market is not a main market because of the predominant preference for homemade wine and a lack of clear strategy of the government to promote the domestic market for wine over the domestic market for other alcohols. A few advanced Moldovan wineries have started producing dry premium wines appropriate for western markets with CEED assistance. However, expanding this practice to less-progressive wineries will be essential to capturing new markets and market segments and for the viability of the Moldovan wine sector.

Sector maturity. Given its long history of exporting, Moldova's wine sector is relatively mature with established links to main export markets and an established value chain. While lacking in sophistication, there are three educational institutions that offer degrees in oenology. A poor institutional and regulatory environment has been the major barrier to growth in the sector. The new government recently removed restrictions on the export of bulk wines, improving conditions for the mainstay of the sector and offering some relief to the crisis. Although progress has been made in collective promotion at the winery level through CEED assistance—an example being the Moldova Wine Guild—the country still lacks a consistent approach to wine sector promotion and branding. This particularly concerns the generic country promotion for which the government and sector lack the strategy, consistency, and financial resources.

Sector challenges and conclusions. While the Moldovan wine sector faces immense challenges in recovering from the global economic crisis and Russia's 2006 ban on Moldovan wine, the sector still has opportunity for success. Although painful, Moldovan wine producers will need to dramatically restructure the sector to move to less risky western and Asian markets, starting from the types and quality of grapes produced, to major upgrades in marketing and sales at the sector level. This includes developing a country-level marketing strategy. Streamlining the regulatory framework for wine and revisiting domestic taxes for wine are important for supporting the sector, particularly for small wine producers trying to enter the market. Debt restructuring and unsellable wine stocks resulting from the ban will also need to be addressed by the sector. The Moldovan wine sector is at a crossroads this year, and without further support, there is little chance for the survival of a strong wine sector.

C. ICT Sector

Overall performance. The ICT sector in Moldova has been one of the most productive and fastest growing industries over the past several years. The contribution of ICT to the country's GDP was approximately 9.5 percent for 2008 (compared to 7.5 percent for 2004), which amounts to $580 million, putting the sector on par with agriculture. ICT is an important employer in the country with the number of people employed at 20,500, a number that is expected to grow to 40,000[10] in a few years. It is also one of the highest paying industries, as jobs in ICT pay on par with those in the financial sector, which have historically been among the best paying jobs in Moldova.

ICT Sector Performance in 2008

- 9.5 percent of Moldova's GDP
- 5 percent share of Moldovan exports
- 20,500 people directly employed
- 25 percent average sales growth

IT Subsector Performance in 2008

- 0.76 percent of Moldova's GDP
- 1 percent share of Moldovan exports
- 6,600 people directly employed
- 78 percent average sales growth

Although communications is one of the largest by output in the ICT sector, which is made up of communications, hardware, and IT services, it is driven entirely by domestic demand and technological progress. Therefore, its role is to act as an *enabler* of the IT subsector and the entire economy rather than as a productive industry. Additionally, hardware in Moldova consists mostly of trade of imported equipment for domestic consumption thus having little scale for large and fast growth; this leaves software development as the productive subsector with enormous growth potential. We have identified the IT subsector as the highest potential subsector for further development. IT has recorded ten-fold growth in exports during the last five years, from $2.6 million to $26.3 million. The critical importance and driving nature of IT for the rest of the economy has been recognized by government and industry experts as has the fact that IT is an important engine for economic growth. These trends are noticeable in Moldova, however, the pace of development of ICT and the degree to which it has been embraced by the non-ICT industries varies and is lower than elsewhere in the region. Additionally, the sector tends to

[10] Moldova Telecommunications Sector Diagnostic Note, World Bank, August 2008.

attract the younger generation with the average age of IT professionals in Moldova estimated at 26 years, which is an important factor in social stability, encouraging future generations to stay in Moldova.

Demand conditions and end markets. The transport and telecommunications sector is the main consumer of software (for which it spent $6 million in 2007) and is also the only sector spending more for software than for hardware. The financial sector is the main consumer of IT equipment with $5.7 million spent in 2007. The public administration and public services sectors are the main customers for the design and development of the information systems ($2.7 million). With estimated official exports of $26.3 million, it is clear that exports are a strong driver of the sector and will be an important factor in its competitiveness. While there are some cases of Moldovan IT firms developing and exporting proprietary products, the major strength for Moldova could be in hosting nearshore and offshore operations of foreign IT companies. This could be driven by Moldova's relatively inexpensive and skilled labor, its time zone, its language skills, and its western cultural similarities. Signals that demand for nearshore and offshore activities in the region are quickly increasing mean that Moldova should capitalize on assets in this sector. In general, financial, telecom and government sectors are the key clients. Moldovan software development services in such areas as e-government, business process integration, integrated solutions for the financial sector, and web programming could be capitalized on for these markets.

Sector maturity. The IT sector is non-homogenous and somewhat fragmented, in terms of both products and players. As a relatively nascent sector, it mostly consists of small enterprises and a large number of independent contractors, which may or may be not formally registered as legal entities. Most IT companies are micro-, small or medium-sized enterprises, and there are less than a dozen large IT companies; most are subsidiaries of foreign firms in the software development subsector. There are some signs of cooperation between domestic IT companies observed recently in the form of cooperation on public tenders, indicating that companies are maturing and becoming more specialized. The newly created Moldovan ICT Association, which is one of the most vibrant associations in the country, is another sign that firms are making crucial steps toward efficiency-enhancing cooperation. Furthermore, the recent embrace of industry quality standards such as IT Mark and CMMI are signals that the sector is aligning its processes to international standards.

There are two main supporting industries for a competitive IT sector: education and infrastructure. Education has benefited from the rapidly growing number of young talented people; the number of graduates in IT specialties has doubled in the past five years. However, as the market grows and competition becomes more fierce, the sector must move to a higher stage of development, which will require large numbers of highly trained IT specialists. Infrastructure, mainly Internet and mobile telephony, has grown more than 10 times since 2004. However, it is worrying that broadband connections still have an extremely low penetration rate.

Future challenges and conclusions. According to the ICT Policy White Book drafted by the ICT association, in five years, the ICT sector will be the main driver behind Moldova's economic growth, augmenting labor productivity and enhancing international competitiveness through the wider use of the ICT products and services across economy and society. Because of its high potential for development we have selected IT as the subsector of focus for further development. It will be driven by the enabling factors of rapidly increased mobile and widespread broadband penetration and the supporting factors of an effective regulatory framework and a skilled and competitive workforce. To facilitate growth in the sector, policy-level needs include implementing an efficient and transparent government procurement system, and improvement in the fiscal environment for the ICT sector. As well, further investments in strategic actions such as education and R&D are needed to actively stimulate sustainable ICT growth in the country. To achieve an effective and transparent dialogue with the government, a cohesive and

focused ICT sector will have to ensure that changes introduced at the government level are matched by the desired response from the ICT sector companies.

The sector will need to capitalize on offshore activities to make Moldova the offshore location of choice for IT services. This requires strong and consistent country positioning. Continuously increasing the quantity and quality of graduates from IT faculties whose skills are aligned with market needs will be a major priority. Investment in industry quality will be required for attracting offshore operations, and R&D will be necessary for moving toward high-value-added products. Government spending in this sector should encourage the use of local businesses.

D. Construction Materials Sector

Construction Materials Sector Performance in 2008

- 5 percent of Moldova's GDP
- 5 percent share of Moldovan exports
- 5,000 people directly employed
- 57 percent average sales growth

Overall performance. The construction materials sector developed swiftly over the past several years, making it one of the most dynamic growth industries in the country. The sector is divided into two major segments: raw materials and processed materials, and Moldova is rich in raw materials, such as gypsum, stone, and sand, needed for such products as bricks, plaster, and cement. The production of cement, lime, and plaster and products made of these materials represent more than 90 percent of construction materials in Moldova. The total volume of sales of construction materials in 2008 constituted around $305.3 million, accounting for almost 5 percent of GDP, having doubled since 2003. This remarkable development has been fueled by local raw materials and rising domestic real estate demand. Despite the downturn, the sector has remained viable as construction and home renovations continue despite the crisis. The sector employs just more than 5,000, primarily men, at about 380 companies. Empirical evidence shows that the majority of new companies in the sector are small.

Demand conditions and end markets. While 80 percent of the construction materials sector is oriented to the domestic market, Moldova is a net exporter of construction materials. The exports of construction materials are highly concentrated, 80 percent of which is gypsum, on regional markets such as Russia, Ukraine, and Romania. The availability of raw materials, proximity of markets and similar standards make Moldovan products competitive in neighboring markets. While the financial crisis dramatically affected some construction markets, the most affected companies were extraction companies, while companies producing finishing materials used for current repairs, e.g. plaster, which accounts for much of the Moldovan sector, remained relatively stable. Most imports for construction materials are complementary, meaning that there is no need for import-substitution since Moldova is capitalizing on available raw materials. For the medium and long-term, real estate development in Moldova will likely be a growth sector as it is one of the last countries in Eastern Europe or the former Soviet Union to develop commercial and residential real estate on a large scale. Most existing real estate is old and depreciated and needs capital renovation, which will stimulate demand for construction materials on the domestic market. Furthermore, following the economic recovery of 2010 it can be reasonably expected that the government will increase its spending on fixed capital investments and infrastructure projects, which will in turn increase demand for construction materials.

Sector maturity. The construction materials sector developed rapidly in recent years in conjunction with the construction boom in Moldova and the region, largely fueled by remittances from abroad. The value chain for the sector is, by definition, a relatively short one since these products usually form a part of more complex value chains created within real estate development projects. Cooperation between firms is almost non-existent. The most successful exporters**,** such as Lafarge (cement) or Knauf (plaster products), are part of bigger multinational companies, and thus they are in a different position from the domestic

companies that are trying to export. Progress is being made however, with the recent formation of the Association of Building Materials Producers, which mostly serves as an umbrella for dialogue with the public authorities to discuss common concerns and promote common interests. The association is still in the infancy of its development and support will be needed to make it a viable industry association.

Future challenges and conclusions. The most significant challenge moving forward for the construction sector will be to survive and grow despite the economic downturn by diversifying the product base to include alternative and higher-value products, and by continually improving quality standards and efficiencies to access new markets. In anticipation of future depletion of raw materials, Moldova will need to diversify its product base and market segments, upgrade technology and technological know-how, and develop marketing and sales skills. There is significant opportunity for developing new niche subsectors within the construction materials sector, particularly in the area of green building materials, which are in high demand in Europe and have future demand potential in the CIS. Ecological and legal concerns surrounding extraction must be considered when developing the sector, as sources are depleted and environmental degradation must be minimized. High transport costs continue to be a major challenge for the construction materials sector, making them less competitive, however, upcoming road infrastructure spending by donors and governments could provide needed improvements to facilitate transport efficiencies and contribute to the market for construction materials. Future donor and government infrastructure projects should make efforts to support domestic producers.

E. Furniture Sector

Furniture Sector Performance in 2008

- 1.17 percent of Moldova's GDP
- 4 percent share of Moldovan exports
- 4,400 people directly employed
- 34 percent average sales growth

Overall performance. Furniture manufacturing is one of the most dynamic and rapidly growing sectors in Moldova, with its growth rate outpacing GDP growth. As of 2008, the sector's sales performance amounted to about $67 million, having increased more than four times during the past five years. Likewise, exports have grown significantly from only $3.4 million in 2001 to $35.2 million in 2007. Given that Moldova is not a producer of raw materials for furniture, the vast majority of component parts and raw materials are imported. The furniture sector employs about 4,400 people, who are employed in 379 firms, mostly small and medium enterprises. Rapid growth in the sector has been a result of a fast growing decade in real estate development in Moldova and the region. While the sector has slowed since the crisis, it is still growing and demand for furniture will continue as real estate recovers, tastes evolve, and migration to urban areas continues.

Demand conditions and end markets. Moldova manufactures a wide range of furniture products including upholstered, office, bedroom, and kitchen furniture. About half of locally manufactured furniture is custom-built and the rest is mass produced. Destination markets for Moldovan furniture products are diverse, with the CIS accounting for nearly 60 percent (Russia and Ukraine), and the EU for about 35 percent (Romania, Slovakia, Belgium and Italy). The two top products for export are upholstered seats and wooden bedroom furniture. Price and proximity to market are the two main competitive advantages. The volume of imported furniture consistently exceeds exported furniture by approximately two times, with 2007 seeing imports of about $66 million. These data suggests that there is significant unmet domestic market demand particularly in the low- to medium-priced segment, as well as for custom-made furniture. Future opportunities to develop products in niche subsectors could provide significantly more value-added. Some examples include traditional, decorative furniture, and furniture using certified wood for high-end European markets. The latter could capitalize on nearby sources of raw material from certified forests in Southeast Europe.

Sector maturity. The furniture sector in Moldova has a long history, and after coming through the transition after the collapse of the Soviet Union, the sector is now in a stage of active renewal. The number of companies in the sector has tripled in the past five years to meet the growing demand of the market, although the number has stabilized in the last year. Competition is fierce, so it could be expected that some of these companies will go out of business. Since most furniture companies are located around Chisinau and in district centers, they have ease of access to labor markets, and to necessary infrastructure and support services. The furniture value chain is relatively well-developed and organized, although weaknesses still exist in business sophistication, labor skills, and technology. Many companies entered the market during the housing boom with low investment and do not produce the quality products that will be demanded in the future. There is virtually no government support of the sector, and while there is some cooperation through the Association of Furniture Manufacturers and Federation of Designers, it is still very weak. Strengthening these institutions will be an important step as most furniture companies are small and cooperation will be necessary for the companies to operate efficiently and competitively in international and domestic markets.

Future challenges and conclusions. While the collapse of the real estate market has some negative implications for the furniture sector, there are still significant opportunities for domestic market growth through import substitution. Currently, domestic manufacturers cannot offer their clients a full range of products in the high-quality segment where there is demand, but they can begin moving toward this goal given up-to-date technological and technical strengths. Likewise, improving design capacities for low- to medium-priced furniture could “convince” a large segment of price-driven consumers to buy domestic products. Nevertheless, growth of exports will be key for continuous improvement of the sector, given the small size of the domestic market that will require continuous gains in efficiency and quality. Seeking foreign investment in the sector through joint ventures, and taking advantage of the free economic zones for items that are re-exported are also ways to promote sector competitiveness. As the sector matures, developing niche subsectors could be a source of significant value for Moldovan furniture producers.

F. Footwear Sector

Footwear Sector Performance in 2008

- 0.3 percent of Moldova’s GDP
- 4 percent share of Moldovan exports
- 4000 people directly employed
- 13 percent average sales growth

Overall performance. While still small, the footwear sector has registered exceptional growth over the last five years, doubling its sales. It now represents approximately 0.8 percent of total Moldovan industrial production. The volume of footwear exports from Moldova and Transnistria increased 3.2 times from 2003 to 2008, and represents four percent of all exports from Moldova. While the Moldovan footwear sector in mostly represented by CMT services for Europe, domestic market growth has also contributed to its recent performance. The footwear sector encourages SME collaboration with larger producers. Larger producers can afford to invest in high-efficiency machines but remain eager to work with smaller manufacturers who can respond to large orders quickly. This has established collaborative relationships between large and small companies and has facilitated knowledge transfer to those smaller companies and eliminates the overhead costs that keep many micro-producers uncompetitive. The sector employs around 4,000 people. A number of strong footwear companies are located in Transnistria, and support to the sector aligns with national and donor goals of integration with the autonomous republic.

Demand conditions and end markets. The footwear market is primarily oriented to CMT services to Europe with final products going to Russia and CIS countries. In 2008, about 45 percent of Moldovan shoe exports were shipped to Romania and 26.5 percent to Italy. Meanwhile, CIS countries held roughly 21.5 percent of the Moldovan market with Germany trailing at 6.2 percent. The main European countries from which Moldova imported were Romania, Italy, Slovakia, Germany, Spain, and Poland, which held

more than 50 percent of the total shoe imports for that year. While the last six years have seen a stable growth tendency in exports, the domestic market has been largely neglected, except for the very low end markets whose consumer decisions are based more on price than preference. To capture medium and medium-high-end domestic and international markets, Moldovan shoe-makers will have to make significant upgrades to orient themselves to design services, marketing, and sales.

Sector maturity. The footwear sector in Moldova and Transnistria is relatively immature. While there are several strong lead firms in the sector, they are still oriented toward low value-added CMT products. Due to the fact that all materials and accessories are imported from abroad, the footwear value chain in Moldova is practically nonexistent. Moldovan manufacturers have strong processing and production links in the value chain but need to develop capacity on either end of the chain to become more competitive and stabilize the sector. Managers of Moldovan footwear companies have asserted that there are good working relationships among the various companies. Due to the different technologies used (cemented and direct injection) and different markets targeted (domestic, CMT), companies sometimes are able to collaborate and support each other. Two years ago, the Patronage Association of the Light Industry was established. Unfortunately, the association is not functioning and maintains only a nominal presence. Generally speaking, the capacity of industries and support bodies is rather low, and this is seen as an area of opportunity moving forward. Close and mutually beneficial collaboration among sub-industries would contribute to stronger Moldovan branding through more competitive pricing structures and workforce development.

Future challenges and conclusions. One overarching impediment for companies that provide CMT services and those involved in Own Label designs is VAT for imported raw materials and accessories. The companies that work on the Own Label model need to pay VAT and managers indicate that applying for and receiving VAT reimbursement is a lengthy process. Exemption of VAT for imported equipment is permitted only for companies located in rural areas, and for the sector to remain competitive, such regulatory impediments will have to be reconciled. As previously noted, footwear presents a unique opportunity for development given its growth; and it is also low risk. Given the CEED project's work in the T&A sector and the potential seen in this sector, it seems likely that the shared production and design models could be replicated and developed in the footwear sector, generating a full-spectrum Moldovan brand.

SECTION V

Cross-Cutting Areas to Consider

While each sector faces unique challenges to competing in the world market, there are also several cross-cutting challenges faced by Moldovan enterprises. Social and political issues, such as the integration of Moldova and the autonomous region of Transnistria are also essential factors to consider when supporting widespread economic development. The section below details several cross-cutting factors that pose significant barriers or opportunities for successful growth for the Moldovan economy.

A. International Markets/Trade Environment

Global demand conditions. As a small country in the crossroads between east and west, Moldova plays a unique role in the region, and has a unique geographic and language balance that has not been fully capitalized on. Moldova's share in any product on the world market is less than one percent; specifically .05 percent for construction materials, .04 percent for footwear, .05 percent for apparel, .004 percent for furniture, and .6 percent for wine. This is a reflection of Moldova's small size and the similarity of its natural resource base with its neighbors. Indeed, Moldova's comparative advantage has been its relatively cheap and skilled labor force, a factor contributing to the mass emigration of Moldovans to Italy, Greece, and Russia. Capitalizing on market links from the Soviet Union and preferential trade agreements from the EU, Moldovan products also are oriented mainly to Russia and the CIS, although there are also strong markets for certain products in Romania and Italy. In fact, since 2006, the EU is the largest destination for Moldovan products. When we look at the overall trade structure, the EU dominates as the top export destination for Moldovan products. However, the CIS continues to be the primary market for a number of Moldovan products such as wine, construction materials, and furniture.

It is risky for Moldova to be highly dependent on these markets, for instance the sudden blockade to the Russian market for Moldovan wine and fresh produce in 2006 caused a near total collapse of these industries, and highlights that market diversification must be continually enhanced to maintain and grow stable markets for Moldovan products.

Domestic demand has largely been ignored, and as a result, the country has been flooded by cheap imports from Turkey, Ukraine, and China from which industries will now need to gain back market share. The country does not have a clear strategy for protecting domestic producers. As emigration and remittances continue though, the domestic market is and will continue to be a strong one.

Quality and standards improvement. For all markets, domestic included, quality standards are crucial in maintaining competiveness. Consumers demand for higher quality and minimum standard thresholds has become a crucial element facilitating transactions and trade. As seen by the Russian ban and the decrease in access to Romanian markets after that country acceded to the EU, the ability to comply with the standards in overseas markets is a major factor in even accessing those markets. Moreover, enterprises need to pursue standards that are specific to both the sector and the target markets. Through USAID/CEED assistance, IT enterprises in Moldova have achieved Capability Maturity Model Integration (CMMI) and ITMark quality standards that have aligned them with international business practices. There is an effort underway to establish an IT excellence center, and a feasibility study has been done for an IT innovation center through CEED assistance. Moldova needs to make great strides, not only in adopting the necessary international standards, but developing the testing, inspection, and certification necessary to verify those standards.

International transit. While Moldova suffers from a poor transit infrastructure and high transportation costs, a more serious problem is the transit of Moldovan goods through neighboring countries where chaotic systems of visas, permits, and duties abound. In-country airline monopolies have resulted in hugely expensive air cargo prices, discouraging air shipment of goods abroad. Despite a free transit provision included in the FTAs, Moldovan transit companies are not able to regularly obtain the required permits necessary to transit through countries, and visa requirements for Moldovan drivers are stringent, causing long delays and massive inefficiencies in getting Moldovan goods to market.

B. Regulatory Framework

Long-term enterprise and cluster level stability and growth will be ensured only when the private industry can make its business decisions unhindered by external costs and burdens of detrimental governmental regulations and interference. Excessive regulation can also discourage foreign direct investment and the resulting transfer of technological knowledge to Moldova, especially of processes and procedures, which would raise quality. In 2010, Moldova leaped 14 points in the World Bank Doing Business Indicators, particularly in the areas of registering property and taxes. However, the country still lags significantly behind three quarters of other Eastern Europe and Central Asia countries and has regressed in important areas such as enforcing contracts and protecting investors. Overall, Moldova has concentrated on streamlining procedures for starting a business, but paid less attention to creating a conducive environment for running a business through fiscal policy, tax incentives, and manageable regulation. As Moldova's new but unstable government takes power, the country is eagerly waiting to see if the reforms promised will be actualized. Nevertheless, it will be the role of the private sector to provide a strong and unified voice in demanding change.

Fiscal policy. The appreciation of the leu against the euro began in the spring of 2008 when the Moldovan government made the decision to combat inflation with a target to keep it under 10 percent. They addressed the inflation problem through the National Bank of Moldova (NBM) using two tools: They increased the reserve requirements of the banks and began to purchase lei by issuing NBM Certificates, i.e. adopted a policy of monetary sterilization. These decisions reduced the money supply and caused the appreciation of the local currency. As a result Moldovan products became less competitive on both international and domestic markets. Imports flooded the domestic market and Moldovan companies lost market share abroad in many sectors. The appreciation also resulted in losses on foreign contracts signed in euros or dollars. This had serious impacts on CEED-supported wine and apparel firms whose contracts with foreign customers were in those currencies. The problem was particularly acute for apparel companies whose standard-minute prices in euros are determined up front based on a factory's capacity and the anticipated orders. Wages on the other hand are fixed in lei. Most garment factories operate with a thin profit margin and the appreciation of the leu reduced their margins to close to zero. While an upcoming IMF program for 2010 intends to address fiscal policy issues as a way to stimulate growth, significant progress has yet to be made.

VAT regime. Companies in all sectors cited the slow process of VAT reimbursement as a major constraint to their efficiency and competitiveness. This is particularly true for exporting companies that claim large VAT reimbursements on a regular basis, disrupting their cash flow. Furthermore, since many of Moldova's industries rely on imports of raw materials which are taxed, the VAT structure is still in need of major reform to provide necessary incentives for business growth, especially for small and medium enterprises. While VAT payments have been removed for the import of production equipment, VAT payments for raw materials continue to be a problem. CEED and the Association of Light Industries have lobbied the government for improved VAT payment/reimbursements and recommendations are currently being considered.

Regulation and permitting. Moldova still maintains a number of permits and procedures that are burdensome to businesses in terms of costs and time. The number of steps for businesses operation procedures range from 5 to as many as 31. For example, wine producers must undergo certifications for their equipment, laboratories, warehouses, and label design, and technical instructions for each wine must be approved by Moldova Vin. Producers also must report weekly to Moldova Vin during the harvest season. This excessive regulation has created huge financial and administrative burdens on wineries and has also prevented small wineries from entering the market. The new government has promised to implement a number of business-friendly mechanisms in accordance with World Bank recommendations. Reforms include improvements in business registration and liquidation; the promotion of and the use of electronic tax reporting; the enforcing of a one-stop shop policy to streamline relations between companies and government; a significant reduction of the number of categories of goods subject to mandatory compliance certification and licensing requirements and other types of authorizations imposed on business activities; and the elimination of duplicate information requirements imposed by public agencies[11]. These regulatory reforms are the basis for improving the business environment, and maintaining and enforcing them will be key for improving the operating environment for Moldovan businesses.

Customs barriers. Despite some improvements in customs over the past several years, Moldovan businesses still face cumbersome and costly customs regulations that impede their ability to trade internationally. Regulations are not transparent and frequently change while there are long delays required to inspect and clear goods. Risk management practices are not implemented in selecting goods to inspect, and customs valuation procedures, required by the WTO, are inconsistently applied. Transnistrian firms, importing goods (including inputs) through Moldova are further taxed both at the Moldovan border and the Transnistrian border. Furthermore, if Transnistrian firms import Moldovan-produced goods, they are required to pay a 100 percent import duty, which hurts both Moldovan firms selling to the republic, and Transnistrian firms[12]. As a result, producers of final products find it more difficult to compete with foreign producers in the domestic market since they will be paying more than the world price for their inputs.

C. Access to Finance

Access to finance continues to be a large barrier to the growth of Moldovan businesses. The high interest rates from the growth period have not come down significantly since the global financial crisis and Moldovan financial institutions have further tightened loan requirements as a risk-prevention measure. Poor, incompatible financial records kept by borrowers cannot be evaluated by lenders and present a significant barrier to accessing loans, particularly for small businesses and rural customers. The result is that, together with a depressed economy, there is significant unmet demand for credit.

A limited range of financial products, which are not appropriate for many businesses, has also exacerbated the problem and made finance a barrier to competitiveness, trade, and job creation. Banks are experimenting with new products such as factoring and leasing, and through USAID/CEED initiatives, several have adopted purchase order financing as a way to offer short-term working-capital loans to businesses without the necessary collateral. Other products that could be considered include loans for intangible assets, such as implementing quality management systems. There is limited knowledge of venture capital and equity funds as well, which could be appropriate for Moldovan businesses. Loan guarantee funds from foreign donors, such as the USAID/DCA agreement exist but are limited, although the EU is considering assistance in this area. These products are not widespread however, and continued innovation and more appropriate levels of risk need to happen in the financial sector. The structure of the

[11] "Rethink Moldova," Government of Moldova report for the Consultative Group Meeting in Brussels. March 24, 2010.
[12] Based on interviews with Transnistrian business owners, including CEED-supported enterprises.

banking sector provides inadequate support to international trade, and hampers the development of the market institutions needed to forge effective value chains, in particular those involving small and medium-sized enterprises. To improve the situation for businesses, banks will need to improve the evaluation of borrower's credit-worthiness, focusing on the borrower's cash flow rather than collateral, for which there are enormous requirements. Strengthening the financial sector and introducing new financial products and services will be critical for continuing to build competitiveness in the Moldovan economy.

D. Transnistria

Regular policy sanctions between Moldova and the breakaway province of Transnistria are imposed as the winds of the political environment change. The people and business communities, which are relatively integrated, are the main ones who suffer the consequences of these actions. Barriers such as the 100 percent excise duty on Moldovan-produced products being imported into Transnistria significantly reduce competitiveness for businesses on both side of the Dniester. While integration is beyond the scope of U.S. assistance in country, inclusion of Transnistria in development activities supports U.S. goals for stability in the region.

Of the sectors that have been highlighted in this report, the textile and apparel, footwear, construction materials, and furniture sectors all have a presence in Transnistria. The textile and apparel and footwear industries are supported by strong firms in the autonomous republic, and several apparel companies have already benefitted from CEED assistance and shown great success and leadership in the sector. Continuing to support strong businesses in the region will align with the new Agribusiness Competitiveness and Enterprise Development project by USAID, which will also support small and medium enterprise development in Transnistria. Assisting sector development on both sides of the Dniester is an important step in expanding development of the sector and promoting private sector integration between the two regions.

SECTION VI

Conclusions

1. Footwear, construction materials, and furniture could be promising sectors to develop further. Taking into account export share, growth and stability, we believe that footwear, construction materials, and furniture are promising sectors for development to further drive economic growth in Moldova, along with the wine, textiles and apparel, and ICT sectors already supported by the CEED project..

2. Market diversification must be continually enhanced to maintain and grow stable external markets for Moldovan products. Moldova's share in any product on the world market is less than one percent, specifically 0.05 percent for construction materials, 0.04 percent for footwear, 0.05 percent for apparel, 0.004 percent for furniture, and 0.6 percent for wine. This is a reflection of its small size and the lack of scalability. Although the EU and other markets are increasingly important, the development strategy for sectors that are oriented to the CIS market such as wine and construction materials and furniture should focus on making those sectors ready for the European Union and other markets.

3. The domestic market is significant for some sectors and import substitution could help reduce Moldova's negative balance of payments. Certain industries such as furniture and construction materials have natural tendencies to serve the domestic market and should be developed that way. Other industries also have opportunities to increase domestic market share. Focus should be in helping these companies (and even companies that are oriented to export markets) compete with imported products.

4. Meeting market-required standards and pursuing quality improvements will be critical to accessing new markets. Pursuing technical knowledge transfers, developing soft skills in the workforce, and pursuing market-oriented quality improvements and standards compliance for products will allow Moldovan producers to pursue diverse markets and remain competitive. Pursuing high-value-added markets will be vitally important for Moldova as a small economy without the ability to meet large quantity demands.

5. Cooperation at the sector level can enhance efficiencies and lead to more competitive sectors. While some industries have associations, they are not regularly fulfilling their intended purpose or facilitating cooperation. Further cooperation in marketing, knowledge transfer, and lobbying for sector-specific policy reform are all needed.

6. The regulatory framework should be improved to facilitate the environment for running a business. Businesses need to develop a common voice for a universal reform agenda to enhance public and private dialogue. Efforts should be made to develop a business-friendly administrative environment, a monetary policy, tax incentives for businesses, and consistent application of customs valuation for exporting firms.

7. Continued support to financial institutions to develop more sophisticated and enterprise-friendly lending products with potential consideration being given to non-bank financial institutions as needed. Borrower-friendly products such as leasing, factoring, loans for intangible costs such as implementing quality management systems, and use of loan guarantees by foreign donors should be pursued.

8. Continuing to encourage inclusive development of enterprises on both sides of the Dniester will lead to stronger sector development in the textile and apparel, footwear, construction materials, and furniture sectors and support U.S. and Moldovan goals of integration.

9. Textile and apparel sector should move to higher value-added products. Developing Full Package, Private Label, and Own Label products will require upgrades to technology as well as developing design, marketing, and sales skills. Sector-level cooperation and strategy will be essential.

10. Wine sector will need to produce higher -quality products to access new markets. Technology transfer, country-level marketing, and financing will be key considerations to reach this goal.

11. Promote Moldova as the destination of choice for IT services and products. Steps for promotion include streamlining regulatory procedures, investing in quality standards, and stimulating investment through government programs.

12. The construction materials sector should diversify its product base to include alternative and higher-value products and continually improving quality standards and efficiency in order to access new markets.

13. The furniture sector has room to capture more of the domestic market. Investment in upgrading technology and design skills to produce higher-quality, modern furniture designs and legitimizing clandestine furniture producers are essential.

14. The footwear sector should capitalize on synergies with the textile and apparel sector and move toward Full Package, Private Label, and Own Label products. Development of design, marketing, and sales skills will be key.

Supplement 1: Trade Data

Commodity Code	Commodity Description	rank by share in non-agricultural exports, 6	rank by rate of growth 2008/2000,%2	rank by rate of growth 2008/2007,%2	rank by Variation coefficient	total score	Rank
H1-85	Electrical, electronic equipment	3	17	5	20	45	1
H1-73	Articles of iron or steel	13	12	13	9	47	2
H1-94	Furniture, lighting, signs, prefabricated buildings	8	19	17	11	55	3
H1-25	Salt, sulphur, earth, stone, plaster, lime and cement	5	8	32	17	62	4
H1-64	Footwear, gaiters and the like, parts thereof	9	20	30	4	63	5
H1-83	Miscellaneous articles of base metal	24	9	12	24	69	6
H1-39	Plastics and articles thereof	14	10	40	6	70	7
H1-57	Carpets and other textile floor coverings	11	26	29	5	71	8
H1-90	Optical, photo, technical, medical, etc apparatus	12	24	26	14	76	9
H1-42	Articles of leather, animal gut, harness, travel goods	15	38	22	2	77	10
H1-22	Beverages, spirits and vinegar	1	50	16	10	77	11
H1-61	Articles of apparel, accessories, knit or crochet	4	34	37	3	78	12
H1-72	Iron and steel	6	3	19	52	80	13
H1-60	Knitted or crocheted fabric	36	14	3	29	82	14
H1-62	Articles of apparel, accessories, not knit or crochet	2	45	39	1	87	15
H1-34	Soaps, lubricants, waxes, candles, modelling pastes	26	7	1	54	88	16
H1-30	Pharmaceutical products	16	30	36	16	98	17
H1-84	Nuclear reactors, boilers, machinery, etc	7	44	42	8	101	18
H1-40	Rubber and articles thereof	19	13	24	45	101	19
H1-44	Wood and articles of wood, wood charcoal	28	31	23	21	103	20
H1-55	Manmade staple fibres	27	23	7	46	103	21
H1-70	Glass and glassware	10	42	41	12	105	22
H1-49	Printed books, newspapers, pictures etc	33	32	28	13	106	23
H1-87	Vehicles other than railway, tramway	18	39	49	7	113	24
H1-48	Paper & paperboard, articles of pulp, pape	20	21	55	18	114	25
H1-63	Other made textile articles, sets, worn clotl	30	35	11	38	114	26
H1-91	Clocks and watches and parts thereof	48	2	10	57	117	27
H1-69	Ceramic products	25	5	44	44	118	28
H1-95	Toys, games, sports requisites	29	6	52	32	119	29
H1-28	Inorganic chemicals, precious metal compo	55	25	6	34	120	30
H1-86	Railway, tramway locomotives, rolling stocl	38	49	9	25	121	31
H1-96	Miscellaneous manufactured articles	35	28	27	35	125	32
H1-65	Headgear and parts thereof	47	16	15	47	125	33
H1-33	Essential oils, perfumes, cosmetics, toileter	23	43	46	19	131	34
H1-43	Furskins and artificial fur, manufactures the	44	29	20	39	132	35
H1-32	Tanning, dyeing extracts, tannins, derivs,pi	46	57	8	23	134	36
H1-54	Manmade filaments	37	33	38	26	134	37
H1-68	Stone, plaster, cement, asbestos, mica, etc	32	41	47	15	135	38
H1-88	Aircraft, spacecraft, and parts thereof	41	47	4	43	135	39
H1-82	Tools, implements, cutlery, etc of base met	34	11	54	40	139	40
H1-53	Vegetable textile fibres nes, paper yarn, wo	56	18	14	51	139	41
H1-58	Special woven or tufted fabric, lace, tapest	50	37	31	22	140	42
H1-38	Miscellaneous chemical products	39	46	25	30	140	43
H1-45	Cork and articles of cork	42	15	35	49	141	44
H1-74	Copper and articles thereof	21	22	45	53	141	45
H1-47	Pulp of wood, fibrous cellulosic material, w	45	48	21	28	142	46
H1-76	Aluminium and articles thereof	17	40	56	33	146	47
H1-41	Raw hides and skins (other than furskins) a	22	51	43	31	147	48
H1-71	Pearls, precious stones, metals, coins, etc	53	53	2	42	150	49
H1-52	Cotton	43	52	18	41	154	50
H1-56	Wadding, felt, nonwovens, yarns, twine, co	51	36	33	36	156	51
H1-27	Mineral fuels, oils, distillation products, etc	31	27	50	56	164	52
H1-31	Fertilizers	54	4	48	58	164	53
H1-29	Organic chemicals	49	56	34	27	166	54
H1-35	Albuminoids, modified starches, glues, enzy	57	1	57	59	174	55
H1-51	Wool, animal hair, horsehair yarn and fabri	40	54	53	37	184	56
H1-59	Impregnated, coated or laminated textile fa	52	55	51	50	208	57
H1-78	Lead and articles thereof	59	59	59	48	225	58
H1-66	Umbrellas, walking-sticks, seat-sticks, whip	58	58	58	55	229	59

Source: Comtrade

ANNEX A

Textile and Apparel Sector Assessment

The textile and apparel (T&A) sector of the republic of Moldova is one of the oldest branches of the national economy, and continues to remain of critical importance because it is based on one of the most important resources available in Moldova, a strong and competent labor force. It is an industry with long-standing traditions in exporting a wide range of products, being today among the top national export, and one of the most profitable and viable industries in Moldova's economy. The USAID|CEED project has been engaged in the T&A sector since 2005, and as we move into the fifth and final year of the project, we have identified continued opportunities for work in this sector.

The T&A industry is among the few sectors located throughout Moldova, thereby contributing to the economic development of all regions in the country. Over the last 8 years, the number of companies in the T&A industry has increased approximately three-fold, from only 54 companies in 2000 to over 165 companies in 2008. This is the only industrial sector where companies are distributed throughout all regions in the country. There are 44 companies in the northern part of the country, 44 companies in the central region, 83 companies in the southern region, 13 companies in UTA Găgăuzia, and another 13 companies in Transnistria. In many regions of the country, the industry has been able to use excess labor from the declining agriculture sector, thereby contributing to the social and economic stability of areas that otherwise may suffer deep decline. The geographic spread of this sector also contributes to national-level goals of integration between Moldova and its autonomous regions, Transnistria and Găgăuzia.

The industry is a major and important national employer, particularly of women from rural areas. From 2000 to 2009, the number of Moldovans employed in the T&A sector grew from 9,900 to 17,200, representing an increase of more than 70 percent. Currently the number of employees in the T&A sector constitutes more than 17 percent of all industrial employees. Most of these jobs are rural-based and taken by young women, who make up 85-95 percent of all T&A workers. This constituency is particularly important for Moldova as it represents employment replacement from the declining agricultural sector, and discourages emigration of the Moldovan workforce to neighboring countries.

The T&A industry is a major exporter and contributor to country's economic prospects. The industry is largely oriented towards export, and is the number one exporting industry in Moldova, making the sector particularly attractive and high-potential. By 2008, the volume of textile products exported had increased to $314 million, a figure representing 3.7 times the amount exported in 2000; this figure amounts to about 20 percent of the country's overall exports. T&A is the only branch of industry in Moldova with a positive commercial balance, and it has maintained this position for the last eight years. To describe this numerically, the export of textile and apparel goods in 2008 amounted to $314 million, while the amount of imports represented only $285 million.

In the pages that follow, we provide background information and data on the sector including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova's strengths, weaknesses, opportunities, and threats in the T&A industry. This analysis has helped determine that the T&A sector continues to be an important and high-potential industry in Moldova, and has identified opportunities for enhancing its competitiveness. Please reference the following list of topics to help navigate through the information provided:

SWOT Analysis

Moldova is well-positioned for higher value-added services in the apparel sector given its strong foundation in C&M and the introduction of Own Label pilots and business plans by the CEED project. The following strengths were identified during the preparation of this assessment:

- *Proximity to the European markets and low costs.* The proximity of Moldova to the major European markets keeps Moldova a production location of choice as prices and costs in neighboring countries rise. Its location has contributed to its constant growth over the past several years. The T&A industry has recorded a consistent record of growth since 2000, significantly over-performing the overall Moldovan economy. In 2008, for the first time in the decade, annual growth in T&A rose by only 1 percent with sales to Europe decreasing by 5 percent. This was due in large part to the global recession, although these figures reflect the overall stability of the sector.

- *Flexibility and short delivery time.* Approximately 95 percent of all apparel companies in Moldova are small or medium-sized, and as such, most are able to handle smaller production volumes, which guarantee flexibility. Due to its proximity to the EU, Moldovan manufacturers can ensure short delivery times to European markets, making it a preferred location for manufacturing fashionable and shorter-run garment styles, which need to be ordered and produced quickly. On average, an order from European clients can be filled and delivered in one to two weeks compared with the one to two months it can take to receive the same goods from China.

- *High quality of textile goods, sewing services, and competitive prices.* Moldovan wool rugs are known for high quality standards and competitive pricing. For instance, the producers of rugs work in design studios with well-trained and competent designers who follow fashion trends in rug design, and develop rug collections that are exhibited and sold annually at the international exhibition, DOMOTEX, in Hannover. Currently, Moldovan wool rug manufacturers export their products to many European countries, as well as to the U.S. and Japan. Moldova has a skilled labor pool that is available at competitive prices. The price-per-minute in the apparel industry in Moldova is 1.6-1.8 less than in other countries in Central Europe, the Baltic States, Ukraine, and Belorussia. Most Moldovan companies now understand the need to provide quality products,

which has been the main reason that many companies have gained loyal clients and are continually increasing their exports.

- *Skill sets and familiarity with European brands and markets.* Moldovan manufacturers have been working for many years with renowned foreign brands from Italy, Germany, the Netherlands, the UK, France, and Belgium, which demonstrates the manufacturers' ability to work with varied quality and quantity market demands. Through their work with foreign clients, Moldovan apparel companies have acquired the high level of skills needed to remain competitive in European markets through observation and diligence rather than expensive training programs.

Despite Moldova's advantages in this industry, we have identified through a SWOT analysis threats and risks that will help form an approach to enhanced competitiveness, as well as opportunities to continue positive trends and explore new options.

- *High dependence on orders from foreign clients.* The T&A industry has significantly expanded over the past five to eight years as a result of the migration of C&M operations to more advantageous locations like North-Eastern Europe, the Balkans, South-Eastern Europe, Romania, and Moldova. This phenomenon has resulted in the biggest share of Moldovan apparel companies, over 90 percent, being involved solely in C&M services for foreign clients. While demand for such services in the EU has been feeding the growth of this industry in Moldova, C&M services are; however, one of the lowest value-added operations in garment manufacturing. Moldova's competitive advantage is not secure, and foreign clients will not remain loyal to Moldovan apparel companies if lower prices in neighboring countries become available.

- *C&M or Cut, Make and Trim (CMT) provides the lowest value-added and limits the input in innovations.* Because most Moldovan apparel companies are specialized solely in C&M operations, they currently participate in only the following components of the overall value chain: customs clearance at point of raw material import, reception and storage of fabrics and accessories, cut, make and/or trim services, finishing, packaging, storage of finished goods, and customs clearance at point of export. These components of the value chain require low-skilled work and provide as little as 8 percent of the value of the final price. The low value-added does not encourage investment in new and more advanced equipment and technologies, nor does it lead many Moldova companies to engage in research and development.

- *Lack of knowledge and skills in the creation of new products.* Moldovan apparel companies are engaged primarily in providing C&M or CMT services, which gives their foreign clients the authority to create the product concepts according to the season fashion trends and supply the apparel company with technical documentation of the style. The apparel company simply executes the order and delivers it to the client under the agreed terms, and employees do not have the opportunity to develop skills in product design or development.

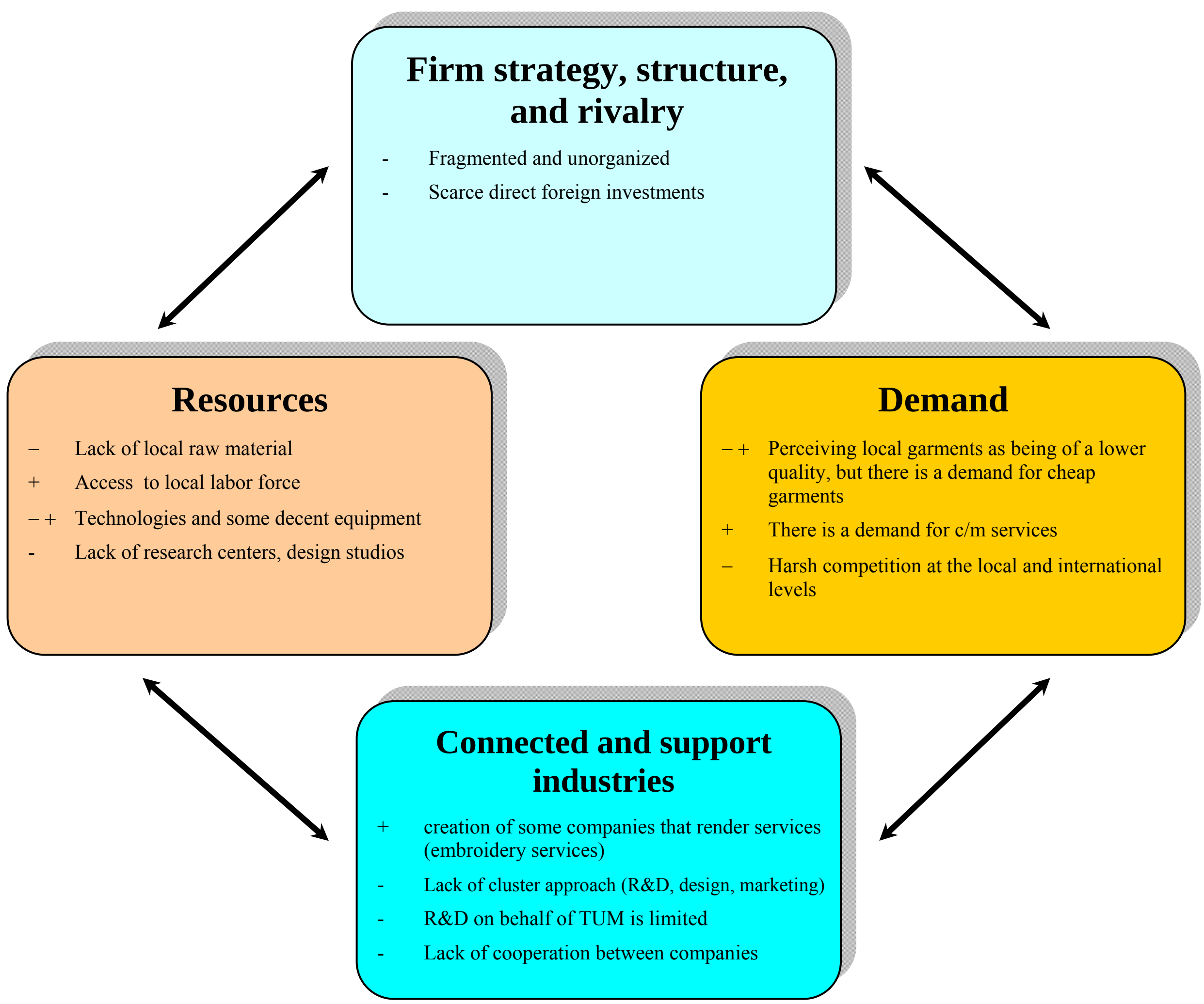
- *Lack of purchasing, marketing, sales and merchandising skills.* Total involvement of apparel companies in C&M and/or CMT production has prevented strong understanding of some critical business skills including developing supplier relationships. Additionally, the VAT system as applied to imported raw material does not stimulate Moldovan companies to implement other business schemes (such as FOB or Private Label), which would provide high value-added. Lack of skills and qualified staff in the field of marketing and sales does not facilitate a more aggressive implementation of companies' own brands. Moreover, there is no domestic wholesale chain that provides Own Label apparel companies the ability to manage their distribution channels.

- *Low integration of the IT system in the apparel sector.* Pattern design handling — grading, plotting, and laying, as well as fabric handling and cutting — are increasingly computerized. Moldovan companies have not integrated newer technology into the production process to the degree needed for enhanced competitiveness in the medium- or long-term. Only a few companies apply computerized pattern handling and automatic cutting, and in these cases dated machines and processes are being used.

- *Lack of institutional support at the industry level (such as competence centers, technological centers, design centers).* Moldova does not have institutions or fashion houses that could provide support to the local producers, especially those who have recently launched their own brands.

- *Previous assessments have shown that the apparel industry over the last years registered high performance results.* However, it remains heavily engaged in the value chain phases that provide it with a very low value-added and make it very dependent on foreign orders. In order to have an overall perspective of this industry and to identify the strong and weak links in the value chain, a diamond Porter's analysis was carried out (see Exhibit A-1 below).

Exhibit A-1. The Diamond of the Apparel Industry
Source: Systemized by CEED T&A Advisor



Given the comparative advantages of Moldova's geographic location, which affords the Moldovan T&A sector flexibility in delivery time and proximity to target European markets, as well as the nation's competitively priced workforce and familiarity with European clients' needs, the following opportunities for the sector were identified:

- *Develop different schemes of cooperation with foreign clients that would provide higher added value.* Calculations have shown that upgrading to a full product work model (FOB) would require MDL 1.2 million in capital for a medium-sized company, leading to approximately MDL 2.5 million additional profit or 1.3 times more than profits resulting from the C&M model. First steps have been taken by some companies to upgrade from low value C&M to higher value-added work models; however, this is at an incipient level for the industry and a critical mass needs to be reached to propel the industry forward. Through the establishment of MEP Sourcing Moldova, which helps apparel companies create an appropriate product concept, and MEP Belgium, which attracts European clients, Moldova's participation at Interselection Paris presented important steps towards moving to higher value-added work models between Moldovan companies and European clients.

- *Own Label launch: apparel firms producing their Own Labels (brands) are the future of the Moldovan apparel industry, and represent the highest value of the manufacturing chain.* Currently, with the support of CEED, there are approximately 20 apparel companies—including 4 from Transnistria—that are producing clothes under their own labels. Most of these companies are specialized in providing C&M services for foreign clients; however, they have all expanded and diversified by creating their own lines. These companies have been successful at selling these brands on domestic and Russian markets. These successes must be built upon and expanded to a critical mass.

- *The industry can remain in C&M, where most of the companies are today, for the medium term, since Moldova's prices are still competitive.* The country can continue to take advantage of the buyers re-locating away from Romania and Bulgaria to cheaper locations. However, companies must continuously increase productivity in order to face the price pressure, given continuously growing cost of labor and electricity in the country.

The final component of our analysis resulted in the identification of two main threats that will need to be considered and addressed.

- *Losing foreign clients.* Due to the fact that C&M services are very risky, Moldovan apparel companies are in the position to lose foreign clients when the global economy suffers. It is for this reason that developing more sophisticated and higher-value work models is essential for stabilizing the sector and providing longer-term sustainability.

- *Additional costs for Moldovan companies will decrease their interest of staying in business.* Currently there are more strict requirements regarding the ethics and other types of certification in accordance with the clients' needs. These requirements will increase export barriers and may lead to additional costs for the Moldova exporting companies.

Proceeding from this analysis, there can be proposed a series of next steps to improve the competitiveness of the T&A sector in Moldova, details of which may be found in the final section of this annex.

Sector Structure

The T&A industry in Moldova is understood as a two-pronged sector, constituted by the parallel textile and apparel industries. The textile industry is generally understood to cover fiber production, spinning, weaving, dyeing, and fabric finishing. The apparel industry buys fabrics—or yarns in the case of knitwear—then manufacturers and sells ready-made garments. Typically, textiles and apparel are separate parts of the value chain, with the exception of knitwear, where often, but not always, the same company knits the material and produces the readymade garments as well. While the two sub-industries are closely related to one another, the growth potential, business/production models, and constraints are somewhat unique to each.

The textile industry of Moldova is represented mainly by the rug industry. With few exceptions, Moldova does not produce any textile materials such as yarns or fabrics, although there are a few textile mills in Transnistria. As a result, almost all yarns and fabrics for the local garment industry are imported. The carpet manufacturers are primarily export-oriented, the two major ones being Floare-Carpet and Moldabela (with affiliated yarn manufacturer Covoare-Ungheni).

The apparel (garment) industry of Moldova is also largely export-oriented, being specialized in Cut and Make (C&M) services,[1] with over 90 percent of companies working under these terms. While demand for such services in the EU has been feeding the growth of this industry in Moldova, C&M services are the lowest value-added operation within the garment manufacturing cycle, and Moldova can preserve its competitive advantages only in the short-run. The industry has significantly expanded over the past three to five years as a result of the migration of C&M services to more advantageous locations in North-Eastern Europe, the Balkans, South-Eastern Europe, Romania, and most recently in Moldova. The CEED project has worked to establish C&M services in Moldova successfully, and has laid the foundations to consider more value-added services and opportunities in the sector including sourcing of materials, branding, design concepts, and continued and more independent participation in regional exhibitions. Through CEED-sponsored pilots in Own Label production, we have seen the potential to maximize the C&M services Moldova is currently providing by incorporating value-added services that will provide longer-term profitability and sustainability for the sector.

Until 1990, Moldovan apparel factories manufactured under an Own Label model and these textiles and apparel were sold domestically and within the former-Soviet Union area. During that era, Moldovan companies manufactured a large product mix from a variety of fabrics, for women, men, and children.

Due to profound transformations in the domestic and international arena after the 1990s, major changes occurred that significantly impacted the operation of apparel companies, the product mix, and the geographical export markets. As a result, the majority of Moldovan apparel companies are engaged in C&M services or the outward processing trade. For European partners, this type of cooperation with Moldova was advantageous in terms of cost and location, compared to Asia and other Eastern European countries. This caused a dramatic upsurge of these services by Moldovan companies, and almost exclusive positioning of Moldovan apparel for C&M services.

Today, the main products in the T&A industry are the following:

[1] Manufacturing on C&M terms (also called LOHN) includes processing services, usually limited to the cut and sew state of apparel manufacturing, rendered by a Moldovan manufacturer to a foreign buyer, typically from EU under the EU's Outward Processing Traffic (OPT) arrangement. OPT includes the duty-free importation of all materials and inputs and the imposition of duty only on the value-added portion upon re-export to the EU.

- *C&M services* for manufacturing fabric and knitwear garments, primarily for European clients. The key markets are Germany, Italy, Belgium, UK, Netherlands, and most recently Romania. There are attempts from manufacturers to move to higher value-added services – CMT, FOB and even Private Label – however these are only at their embryonic stage and much remains to be done. The sourcing concepts used in apparel sourcing are often defined as showed in the box at right.

- Some *ready-made fabric and knitwear garments*, manufactured under Own Label production, are sold on the domestic market. There are efforts to penetrate the Russian market with Own Label products.

Apparel Sourcing

C&M
The manufacturer sells cutting and manufacturing services only and all materials imported for processing as well as ready made goods to be exported are owned by the customer.

CMT
The same as CM except the manufacturer buys some of the accessories like sewing thread, buttons, etc.

Full-Package (Full Price, FOB)
The manufacturer buys all materials according to the customer's specifications and invoices the full value of the product at delivery.

Private Label
The manufacturer designs collections independently or jointly with the customer. The full-value products are delivered under customer's trademark.

Own label
The manufacturer designs own collections and sells them under his own brand

- *Wool rugs,* which is the main textile product of Moldova, are focused on export markets. The majority (78 percent) is sold to European countries, approximately 20 percent are sold domestically, and a small portion (2 percent) is sold on other markets, such as U.S. and Japan.

- Some *cotton fabric* are produced in Transnistria by one main company, Tirotex. Part of Tirotex's fabrics are used for the company's apparel production needs, and the other portion is sold in the local market.

Main Categories of Industry Players

The T&A industry of Moldova is composed of many independent players, which can be categorized as follows:

- *Apparel companies that work in C&M.* This category of apparel producers is the most common. They currently represent more than 90 percent of all apparel companies in the country. These companies only maintain processing and finishing equipment for C&M services for foreign clients, mostly from Europe (Germany, Italy, Belgium, France, the UK, and the Netherlands). These companies produce a large range of garments including fashionable/branded menswear, women wear, children's clothes, underwear, home wear, and uniforms, from different types of fabrics. With C&M services, foreign clients supply the apparel company with fabric, accessories, and technical documentation of the style, and the apparel company executes the order and delivers it to the client in the agreed terms. Apparel companies that work in knitwear also receive from the client the yarn, accessories, and technical documentation, and perform knitting services of knitwear products. These companies are distributed throughout the whole republic, but it is felt that there is a geographic concentration in the following urban areas:

    - Chisinau and its vicinity –central zone of the country – 53.3 percent
    - Balti and its vicinity –northern zone– 29.3 percent
    - Cahul and its vicinity–southern zone – 8.7 percent,

- Comrat and its vicinity –UTA Gagauzia -8.7 percent

Until 2007, the exports of C&M services had grown steadily at approximately 20-30 percent per year. In 2008, under the influence of world recession, the volume of C&M services went down by14.9 percent from 2007. The reduction of apparel industry output volume in Moldova was more accelerated than the reduction of sales volume of apparel products on the European market, which represented only a 5-7 percent loss. These data tell us how transient and vulnerable the C&M work scheme is for local producers. In order to preserve its commercial margins, European clients immediately shifted their orders to markets where the costs were cheaper than in Moldova.

- *Apparel companies that work based on Own Label.* There are not many apparel companies that work based on Own Label in Moldova. The share of these companies in the total number of national apparel companies constitutes approximately 8 percent. These Own Label companies are usually new and were built in the second half of the 1990s or in first half of the 2000s. Some of these companies combine C&M services for foreign clients with Own Label production, resulting in a hybrid production model that contains approximately 90 percent CM services and 10 percent design services. In the case of Own Label production, the apparel company develops a style, the technical documentation, supplies raw materials, and produces and sells under own label. Currently there are approximately 20 Own Label companies registered in the republic that sell apparel and knitwear products. These companies sell their products only in Moldova via company stores or distributors. The weak part of these companies is the lack of skills and knowledge in the field of marketing and sales, but we see strong opportunity to develop this capacity and promote the Moldovan brand in regional markets.

- *Textile companies – rug producers.* There are two dominant rug producers, one specializing only in the production of wool rugs and the other specializing only in wool and synthetic fiber rugs. The main wool supplier for Moldovan rug production is New Zealand, although the costs of locally sourced wool are cheaper than imported wool, and this affects the overall costs of wool yarn and rugs. Only 10-15 percent out of the total volume of supplied wool is bought locally, and synthetic fibers are imported that produce the synthetic yarn from which rugs are spun. Reducing the volume of imports and replacing these materials with local wool would reduce overall costs, and could help develop the textile cluster. One factory has an integrated mill and the other factory buys yarn from the sister mill. Both companies are engaged in the whole value chain. They sell their products in company stores and via independently identified distributors.

- *Textile companies – mills producers.* Tirotex, located in Transnistria, which produces cotton canvas. The main cotton supplier for this company is Uzbekistan, and the company guides the whole value chain for textile production: mill, yarn spin, yarn dye, fabric woven, and print. Part of the fabric is sold to apparel companies or to the retail market, while a portion is used for its own manufacturing of bed clothing, pillow cases, drapery, etc., which are exported in small quantities and also sold on the local market.

Sector Performance (2005-2008)

Box A-2. T&A Industry Performance in 2008

- 1.95 percent of Moldova's GDP
- 17 percent of industry's employees (2007)
- 19.7 percent of exports
- 5.4 percent of industrial output

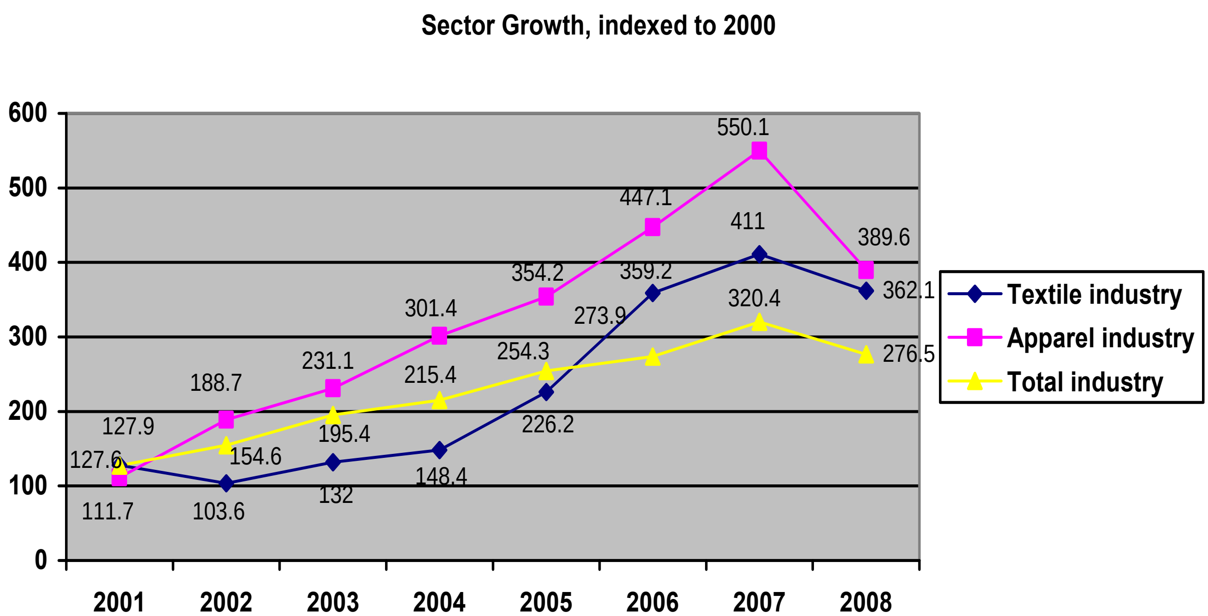
The T&A industry has recorded continuous growth since 2000, significantly outperforming Moldova's overall industry development. The T&A sector's contribution to total industrial production grew from roughly 4 to 5.4 percent from 2003 to 2007. The T&A sector also contributes significantly to Moldovan exports. T&A exports rose from approximately 16 percent in 2003 to over 20 percent in 2008, with apparel products constituting the majority of T&A

exports. During this same timeframe, due to CEED project assistance provided to apparel companies to launch new brands, the sales in the local market increased approximately by 10 percent.

Demand Conditions and End Markets

The T&A industry registered a growth in production volume from MDL 326.3 million to MDL 1,566 million between 2001 and 2008, which represents an increase of 4.8 times the annual growth. This growth accounted for approximately 6 percent of the total industry figures, and was mostly the result of an increase in the apparel industry's capacity for production volume. The increased demand for manufacturing garment services is understood to be a result of regional market perceptions of Moldovan C&M services as a source of inexpensive, high-quality labor, in conjunction with the relatively low incoming branch costs associated with launching new companies. Additionally, Romania's and Bulgaria's accession into the EU in 2007 has resulted in Moldova inheriting many of these countries' C&M orders and clients.

Exhbit A-2. T&A Industry Growth in Current Prices, 2001-2008



Source: National Bureau of Statistics data

Exports

The T&A industry is largely oriented towards exporting, and this sector contributes significantly to total Moldovan exports, being today the leading exporting industry. Exports have shown a stable growth tendency, as demonstrated in Exhibit A-3 below.

Exhibit A-3. T&A Exports, 2000-2008

Source: National Bureau of Statistics of the Rep. of Moldova

This chart demonstrates that by 2008 the volume of textile exports increased to USD $314 million or (3.7 times the figures from 2000), and reached a share of approximately 20 percent of the overall country's exports. T&A is the only Moldovan economic branch with a positive commercial balance. As previously noted, the export of textile products in 2008 represented $314 million, while textile imports represented only $285.4 million, and this positive balance was maintained for the past eight years.

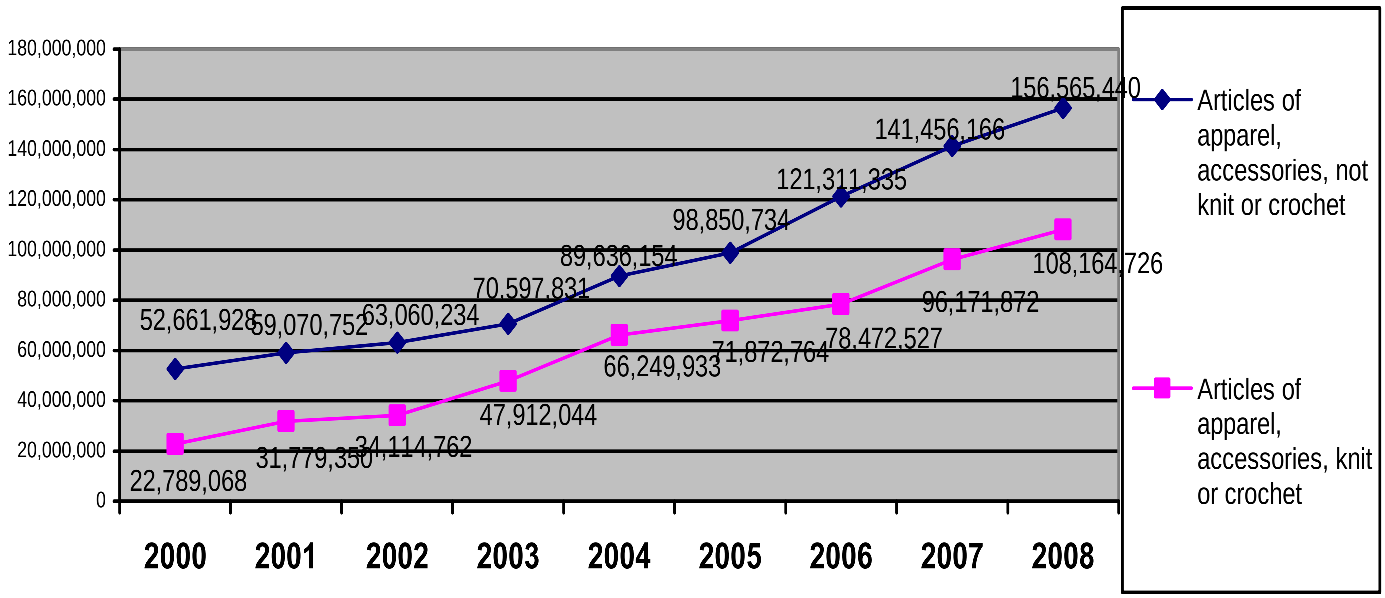
Exhibit A-4. Dynamics of the Export and Import of Textiles and Textile Products

Source: National Bureau of Statistics of the Rep. of Moldova

Export Products

Apparel products are typically classified into two major groups: (i) ready-made apparel from woven fabric (i.e. articles of apparel, accessories, with the exception of knit or crochet fabrics), or (ii) knitted apparel (i.e. articles of apparel, accessories, knit or crochet). As shown in the diagram below, exports of apparel products are dominated by ready-made apparel from woven fabric, constituting about 60 percent of all exports, while knitted apparel accounts for the remaining 40 percent. Correspondingly, approximately three-quarters of Moldovan manufacturers specialize in sewing clothing from fabric, while the remaining are companies specialized in knitwear. It must be underlined that predominance of fabric-focused companies is largely due to the fact that it is easier to set up a factory for sewing fabric apparel (as opposed to knitwear), both in terms of technological processes and technical endowment.

Exhibit A-5. Exports of Apparel by Types of Products, 2000-2008, USD



Source: Comtrade, 2-digit disaggregation level

In terms of apparel exports, Moldova generally specializes in fashionable garments, which are considered more perishable goods (thus require quick time to market) and require more sophisticated manufacturing. Moldovan sewing companies work with all types of fabrics: heavy, light, wool, synthetics, and natural, although there are varying certain degrees of specialization required both for types of fabrics and types of products based on the technological processes in place.

Exhibit A-6 below presents the top ten exported products (4-digit code) in 2007 and the weight of each in total exported apparel in 2007 and 2000, respectively. There are three main categories of products which Moldova exports:

- *Knitwear.* Exports of these products has grown, having increased from 18 percent in 2000 to 33 percent in 2008. This is due to the emergence of new and expansion of existing factories specializing in knitwear. A few factories have emerged with foreign capital and Italian investment, such as Steaua Reds and Laboratorio Tessile Mol, and Finessa. Likewise, Tricon has been transformed by a joint venture with an Austrian partner that has invested particularly in the

knitted wear product line. Today, Tricon can manufacture wool products with a high level of finesse. All these factories manufacture for renowned and upscale brands such as Trussardi and Dolce Gabana.

- *Menswear.* These are amongst the most sophisticated garments, as they involve a specific technological process, specifically with regard to shaping the jacket. There are only a few factories in the country that specialize in menswear. The main producer, Ionel, was developed on an Italian technology model, and is well-renowned in Moldova, and there are two smaller manufacturers, one in Soldanesti and another in Durlesti. Export of menswear has slightly decreased, which is due to shrinking of sales of these factories.

- *Women's wear.* These products are easier to manufacture, with less sophisticated technological process, and do not require many special machines. The majority of Moldovan companies specialize namely in these types of products. Their total exports have remained about the same, totaling 22 percent in 2000 and only reduced to 20 percent in 2007. It should be noted that weight in exports has decreased for more sophisticated women wear such as suits and jackets (21 percent in 2000 versus 15 percent in 2007), and has increased for blouses and shirts.

Exhibit A-6. Top 10 Exported Apparel Commodities, 2007 versus 2000

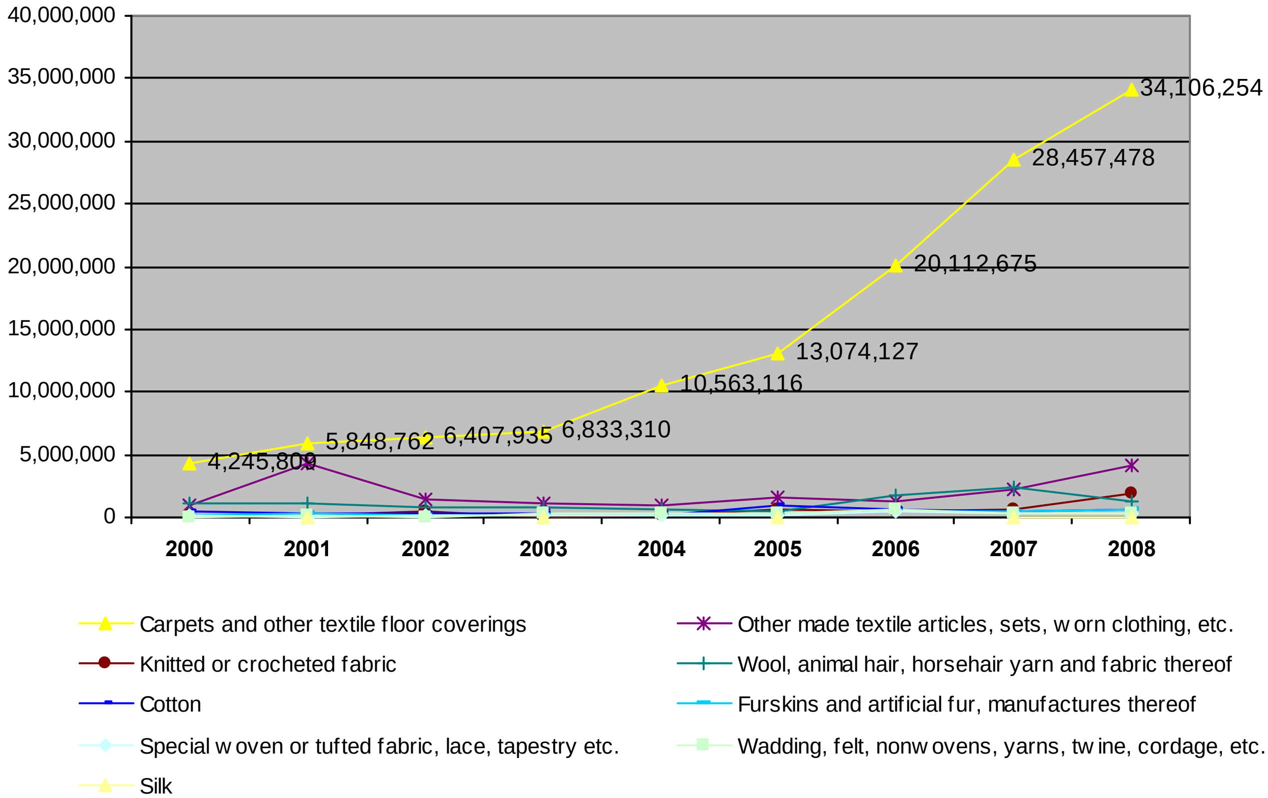
Commodity Description	2007	% of total, 2007	% of total, 2000
Men's or boys' suits, jackets, trousers, etc., not knit	37,079,446	16	18
Womens, girls' suits, jackets, dresses, skirts, etc., woven	34,620,492	15	21
T-shirts, singlets and other vests, knit or crochet*	31,291,709	13	7
Women's or girls' overcoats, capes, windjackets, etc., woven	22,931,083	10	13
Jerseys, pullovers, cardigans, etc., knit or crochet*	17,930,262	8	6
Women's, girls' blouses & shirts, knit or crochet*	17,224,622	7	1
Mens, boys' overcoats, capes, windjackets etc., woven	12,896,832	5	10
Women's or girls' blouses, shirts and shirt-blouses	12,103,675	5	1
Women's or girls' suits, dresses, skirts, etc., knit or crochet*	10,969,522	5	4
Track suits, ski suits, and swimwear; other garments	8,345,743	4	6

* Knitted wear went up from 18% in 2000 to 33% in 2007

Source: Comtrade

In terms of textiles, it must be noted that the exports of carpets has significantly increased, outweighing all other types of textiles, due mostly to profitable foreign investment in the enterprise. As compared to 57 percent in 2000, in 2008 the share of carpets in total textile exports had reached 71 percent. This increase is attributed to growing market positions of the two carpet factories - joint venture Moldabella and Floare Carpet. Both factories have managed to adjust carpet designs to match different consumer tastes, from markets in Australia and the U.S. to markets in the EU and Russia. It must be underlined that wool-made carpets are dominant in this product category, and continue to be more competitive than acrylic rugs. Additionally, Moldova typically exports rugs rather than wall-to-wall floor covering.

Exhibit A-7. Exports of Textile by Types of Products, 2000-2008, USD



Source: Comtrade, 2-digit disaggregation level

Exhibit A-8. Export structure, 2000, USD

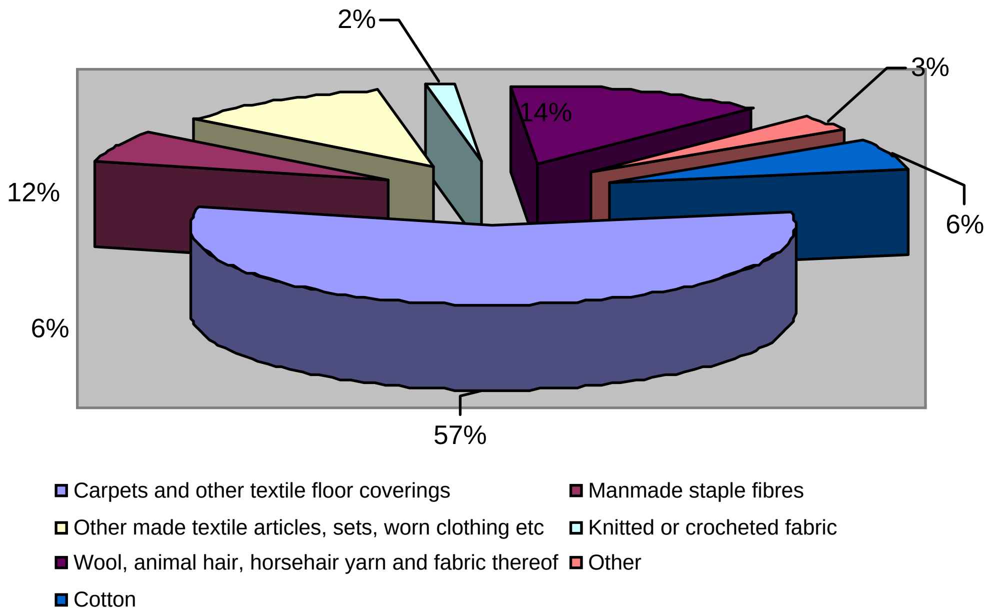
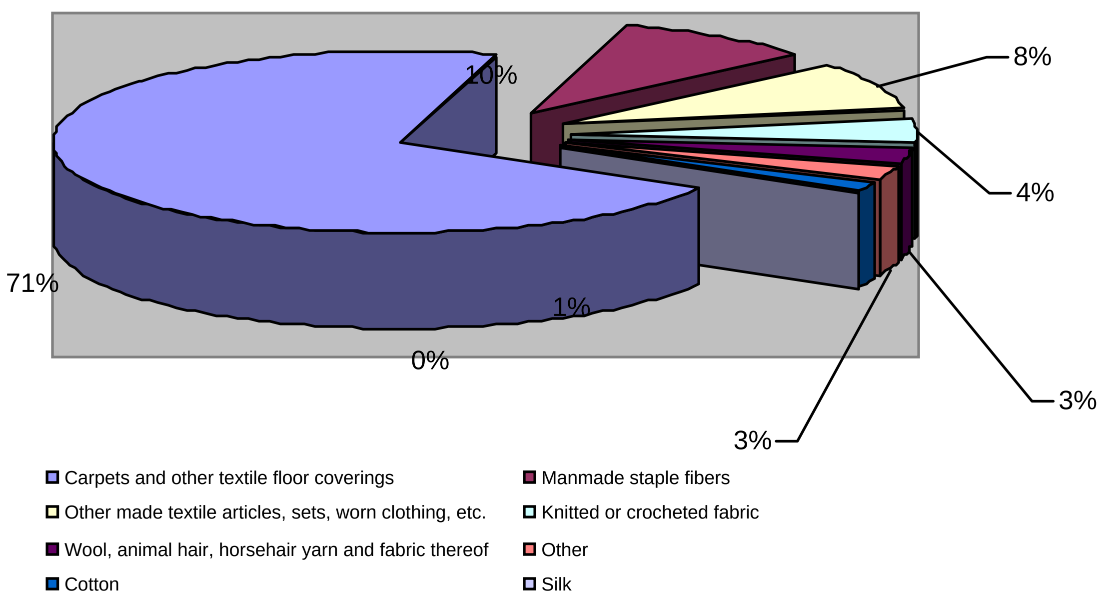


Exhibit A-9. Export structure, 2008, USD



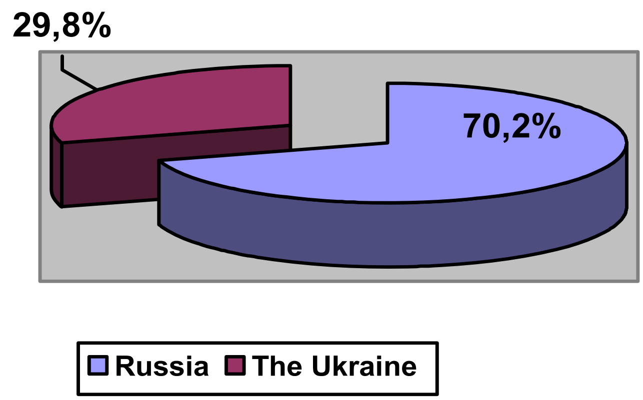
Other includes: Furskins and artificial fur, manufactures thereof, Special woven or tufted fabric, lace, tapestry etc., Wadding, felt, nonwovens, yarns, twine, cordage, etc.

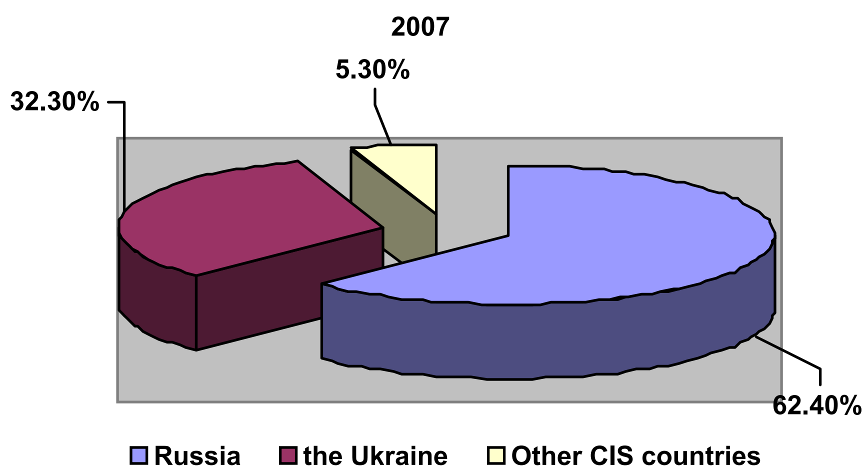
Source: Comtrade

Regional Markets

Moldova's main export markets are EU and CIS countries. Out of the total value of textile and apparel products, the CIS market represented only 9.8 percent in 2007, while the EU market represented 90.2 percent. Within the CIS market, the main client of Moldovan manufacturers is Russia with a share of 62.4 percent, and Ukraine with a share of 32.3 percent. This breakdown is represented graphically below.

Exhibit A-10. The Structure of T&A Products Export to CIS in 2007

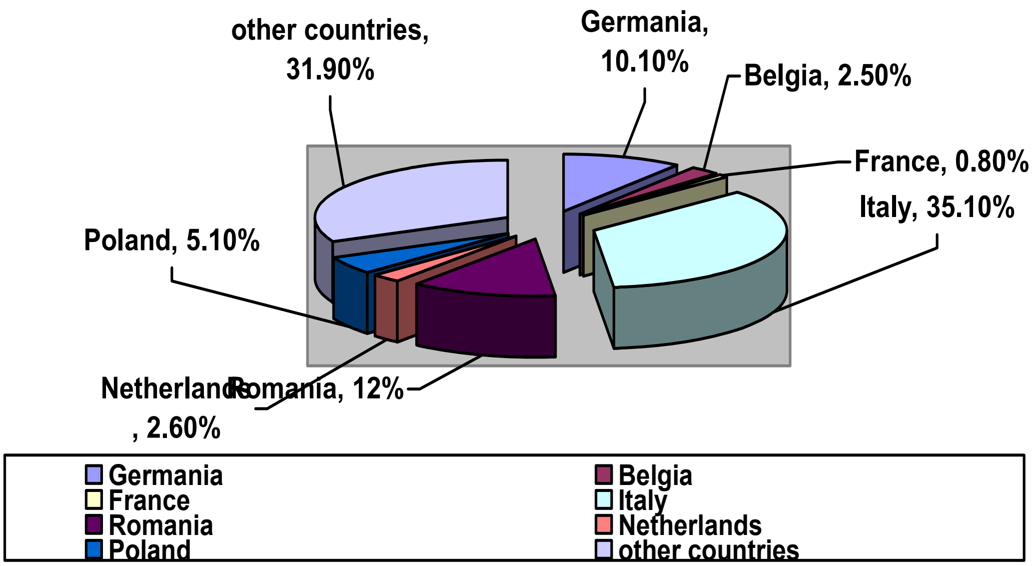




Source: National Bureau of Statistics of the Rep. of Moldova

The main European importers of textile and apparel products are Italy, Germany, Romania, Poland, Belgium, and France. In 2007, the structure of exports from Moldova to Europe may be found below:

Exhibit A-11. The Structure of the T&A Products Exports to Europe in 2007



Source: National Bureau of Statistics of the Rep. of Moldova

The data in Exhibit A-11 shows that more than one-third of Moldova textile and textile products exports are sold to Italy. The second largest recipient of Moldovan textile exports is Romania with a 12 percent share, followed by Germany with a roughly 10 percent share.

Moldovan services are typically sold through middle-men, or to the wholesalers or their regional representatives in Romania, Bulgaria and other nearby countries. Currently, EU retail trade is concentrated in specialized distribution networks that are combined with the services of independent businessmen, although this concentration varies from country to country. Distribution channels between EU member states are very different. Germany is dominated by independent retailers, while in the UK there exist a high concentration of specialized distribution networks. In southern countries such as Portugal, Italy, and Spain, independent detailers who buy from producers and wholesalers and have a bigger market share are dominant, while France is dominated by the sales through the network of hyper – super markets.

Currently, Moldova's apparel industry is mostly based on C&M services, which make the apparel companies highly dependent on the foreign demand and the orders of their foreign clients. Many foreign clients express a demand for other business schemes such as FOB (full package) or Private Label, but the apparel companies are not ready to undertake these schemes yet, so these potential markets identify other sources that are better-equipped to accommodate their needs. Although the demand for C&M services is currently strong, foreign clients are always seeking lower costs and greater value; as soon as the costs in Moldova become less competitive in contrast to the costs of other countries, these clients will immediately move their orders to a different location. We see the expansion of higher value-added services, while maintaining competitive prices, as a critical step in propelling Moldova profitably and stably into these European markets.

Another issue to be taken into consideration is the impact of the world recession. The negative effects of this crisis started in 2008 when the purchase power of European consumers went down. Moldovan

companies are often lacking a proactive position in attracting new clients. Many of the local companies do not have Web sites to help attract clients. Virtually no companies participate at exhibitions to attract new clients, tending to follow a passive rather than a proactive approach to self-marketing. The CEED project has supported meaningful and successful participation of various T&A companies in regional exhibitions, but encouraging these companies to self-promote and independently engage in the exhibitions is a critical next step.

Domestic Market

On the local market there is a growing demand for ready-made textile products and garments. While in 2008 non-food products sales on the local market registered a growth of 25.6 percent compared to 2007, the volume of T&A sales registered a more significant growth of over 50 percent. The local apparel market can be divided into two categories: fashion wear and inexpensive, ordinary wear. With respect to domestic garments, the Moldovan market demands fashion products, but this is entirely covered through the import of European brands. The demand for ordinary garments is covered by cheap goods imported from Turkey and China.

Currently there are approximately 30 local garment producers that sell under their own label on the local market. Most of these producers offer average-quality products to compete with imported goods from China and Turkey, but remain slightly more expensive than their foreign competitors. Most of these local apparel companies are not able to offer fashion wear because they (i) lack a well-developed business model with design concepts that closely follow trends and seasonal demands, (ii) lack the capital to produce the quality or quantity demanded by the market, (iii) have not identified or established relationships with suppliers, and (iv) cannot anticipate what is needed for future seasons in enough time to invest in the proper resources or present competitive design concepts.

In order to compete with other moderate-quality goods imported from Turkey and China, local producers often sell their Moldovan wares alongside the inexpensive imported goods. As a result, local goods are automatically perceived as goods of lower quality, and looking to growing the domestic market will require an adjustment of consumer perception of Moldovan products. The most successful local producers sell their garments in company stores or boutiques from malls. However, due to inadequate skills and insufficient knowledge in the field of marketing and sales, these domestic brands can rarely compete with foreign brands, and are either sold alongside without great success or aren't competitive enough to continue being marketed. Because local garments are perceived as lower-quality goods, it is important to launch new and trendy trademarks to replace comparable European brands and establish a Moldovan apparel brand.

Currently with the support of the USAID-financed CEED project, great strides have been made in launching and developing Own Label production of apparel companies on the local market. The first Own Label companies (Ravetti, My Revival, TG Collection, Madzerini, Bombonici, Lenicris etc.) were successfully launched on the local market under the CEED project. With the support of the project for Each label was developed with the support of the project to fit a corporate style in accordance with the segment of the target market of each company. Companies were trained in the development of product concepts, taking into account fashion trends, and the project also provided training in the development and marketing and sales strategies, as well as in the field of industrial merchandising. Thus, the first local trademarks mentioned above are now able to compete equally with the imported brands on the similar segments of the market.

With respect to the demand for rugs on the local market, especially for wool rugs, this market is cornered by local companies who have virtually no international competition. Moreover, the dominant wool rug producers have identified their clients well and divided the target market logically: one company offers

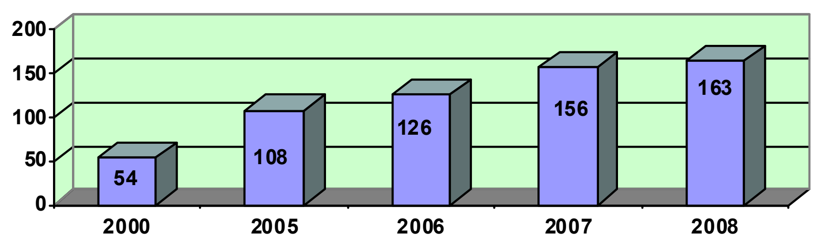
mostly modern designs, while the other offers mostly classical designs. In the synthetic fiber rug market, these rugs are produced only by Moldabela, which competes with imported Turkish rugs of a lower quality.

Company Structures, Rivalries, Linkages, and Relationships

Over the last eight years, the number of companies in the T&A industry has tripled, from only 54 companies in 2000 to over 163 companies in 2008 (See Exhibit A-12 below). Companies working on C&M scheme represent approximately 85-90 percent of all companies, and include the main majority of newly-created companies. Their business depends exclusively on the client who is placing orders.

It is worth noting that CEED's assistance has contributed to an important awareness on the part of many Moldovan apparel companies that working on a C&M scheme is a rather transient activity because C&M production is permanently oriented towards geographic areas and countries where the labor force is relatively cheap. As a result, many of these companies have started to produce garments under their own label, which they sell on the local market.

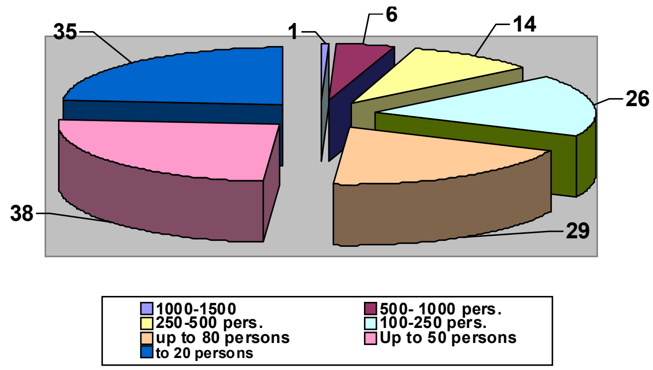
Exhibit A-12. Textile/Apparel Manufacturers Trend, Number of Companies, 2000-2008



Source: Information systematized by CEED's advisor

Most T&A companies are small or medium-sized, and all are privately owned. Only a few companies are large with employees counting over 500 persons (see Exhibit A-13 below). Small and medium-sized companies are rather flexible and well-adjusted to the major changes in the foreign orders. These foreign orders are smaller (from tens to hundreds of pieces per order) and contain a large variety of styles (from 10 to 22 varieties). These companies are also working on shortened delivery terms, in most of the cases no longer than one week, to accommodate their clients.

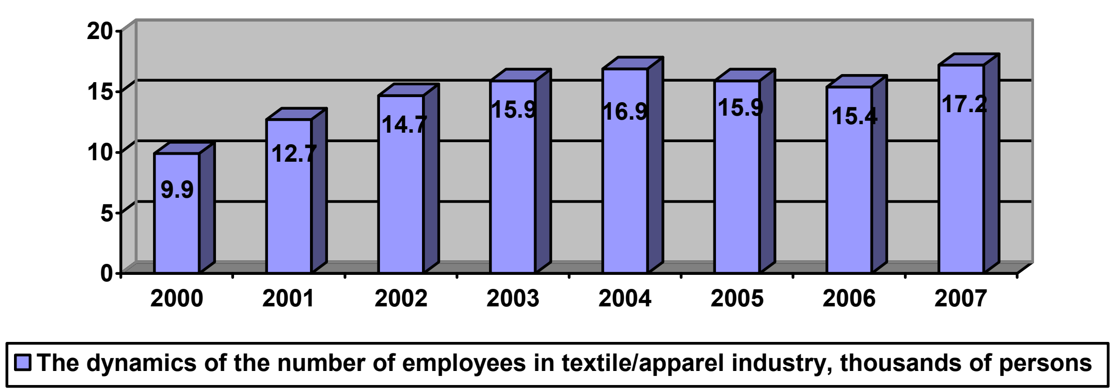
Exhibit A-13. The Structure of Apparel Industry Companies from Rep. of Moldova in Terms of Number of Employees in 2008



Source: Information systematized by CEED's advisor

In terms of employment, in recent years the T&A sector as a whole has employed on average nearly 16,000 productive employees, constituting roughly 17 percent of all industrial sector jobs. The textile/apparel industry is an industry with increased labor. The rhythm of growth in the T&A sector (at nearly 70 percent between 2000 and 2007) was more accelerated than the rhythm of growth of the whole industry that only experienced a growth of 3 percent in employment. Most of these jobs are rural-based and occupied by young women who make up 85-95 percent of the T&A workforce. Few other employment opportunities outside of agriculture are available to them, and so employment in this sector encourages an important constituency to remain in the Moldovan workforce rather than emigrate for employment.

Exhibit A-14. Number of Employees in T&A Industry by Year (2000-2007)



Source: National Bureau of Statistics of the Rep. of Moldova

Challenges and Opportunities

As part of the SWOT analysis that informed our proposal to continue work in the T&A sector, we identified various challenges that Moldova faces in the sector, as well as opportunities for development. We will discuss environmental factors, supporting or emerging industries of relevance, and development of the T&A value chain in the pages that follow.

Business Environment

Although the T&A industry registered such spectacular growth through 2007, the economic-financial crisis that started in 2007 negatively affected the activity of companies in this sector. The production volume in 2008 in the textile industry decreased by 8.8 percent in comparison to the previous year, and the apparel industry was down 29.2 percent. This decrease in production volume was the result of two major factors: (i) the decrease of the volume of sales of textiles and orders for garments from European clients, and (ii) the devaluation of the European currency (by approximately 20 percent) in comparison to the national currency. The decrease of the volume of sales in conjunction with the growth of the minimum wage level (which is state-dictated) and increase in costs for different types of energy significantly impacted the finances of these companies. In 2008, most of large and small companies became unprofitable, and medium-sized companies reduced their profitability dramatically.

Policy

Moldova adopted the strategy of industrial development and the strategy for export promotion. In 2007 with CEED's support there was developed and adopted the Program for the development of light industry until 2015, stipulating concrete steps of implementing the strategy for the development of industry, but although the Ministry of Industry underwent through structural restructuring no efforts for implementing the strategy are yet to be taken.

The Moldovan Government should recognize that the customs procedures are complicated and not consistent in different parts of Moldova. The current procedures increase direct and indirect costs making Moldovan producers less attractive. Furthermore, they do not encourage the industry to upgrade to CMT, Full-Package or Private Label, as the manufacturers would face further complications in clearing customs and would need additional financing due to slow repayment of VAT. Drawback of both duty and VAT in Full-Package exports is applied by many competing countries, but in Moldovan drawback applies to VAT only. Streamlining of customs procedures with international assistance is highly recommended.

Supporting Markets/Industries and Value Chain Collaboration

Over the last five to seven years, certain support industries were created and are slowly developing, such as: embroidery service providers, distributors of accessories, equipment and gadgets, and spare parts, and academic facilities for labor force training. However, these are only in the initial phases of development and are not fully conforming with or contributing to the growth of the apparel sector. There is currently no real cooperation between these service providers and apparel companies. The educational field does not cooperate closely with the apparel industry. Generally speaking, the capacity of industries and support bodies is rather low, and this is seen as an area of opportunity moving forward. Close and mutually beneficial collaboration among sub-industries would contribute to stronger Moldovan branding through more competitive pricing structures and workforce development. Since most companies operate on C&M basis today there does not exist any cooperation between apparel companies in any single field. There is no cooperation between companies working under own label, rather they treat each other as competitors. There is no cooperation either between textile companies.

The labor force market and the capital market are underdeveloped and T&A companies essentially do not make use of these markets. The lending terms that the banks offer are very severe and the interest rates are very high, which is not conducive to emerging small or medium-sized T&A businesses. The market of consultancy services exists and is continuously developing, but the companies are not ready financially to purchase and pay for these services. Assistance from foreign donors is more than welcome in this field, and could prove incredibly useful in matching labor and technical services with producers. Based on the

current situation, it has been concluded that the foundation for an organic cluster exists, but a clear vision and industry and government support to promote cluster development isn't strong.

T&A cluster. The textile industry is represented mainly by a few large rug manufacturers; while the main players of the apparel industry cluster are the clothing manufacturers, primarily small and medium-sized. Based on the value chain analysis, the T&A cluster includes several support industries: *Suppliers of inputs* (importers/distributors of fabric, equipment, accessories, and other inputs; providers of embroidery services; packaging producers; suppliers of the wool and yarn); *Public sectors regulators* (The Ministry of Economy)*; Research, development and education* (Technical University of Moldova, Technological College, Vocational schools); *External logistics* (transportation companies); *Trade* (brokers, commercial agents, retail chains). There are two sector Associations, which are also supporting the cluster, however, these are weak: the Association of Light Industry APIUS and the Association of sheep growers. Other *support industries include* Agency for Intellectual Property AGEPI, design and publishing agencies, territorial chambers of commerce, insurance companies, commercial banks, leasing companies, etc.

Estimative data shows that this cluster involves approximately - *565 legal entities* (including 150 apparel companies and 235 sheep growers) that employ approx *18,900 employees* (of which 14,300 involved in apparel/textile industry and 700 sheep growers).

Detailed Recommended Actions: Private and Public Sectors and Donors

Following the SWOT analysis and detailed research on the textile and apparel sector, an array of opportunities and potential directions for development have been identified. This section will briefly describe some areas that the public and private sectors, the Government, and any future donors may consider for building on Moldova's advantages in the sector and prior donor work, securing the sector in the face of potential threats, and enhancing the competitiveness of the sector regionally and domestically.

The carried out assessment demonstrates that the cluster model is significant for competitiveness enhancement. Clusters can be created according to different principles. There are premises in Moldova to create clusters in the apparel industry according to the geographic principle (territorial), which would likely result in clusters develop in Chişinău, Balti, Cahul, and in Comrat. These urban centers and their neighboring areas contain a high concentration of T&A companies. These cities would attract and employ people from urban and rural regions of the country. Additionally, these urban centers already support organizations such as broken companies for processing customs documents, professional schools to train the labor force, andtrade and industry chambers (territorial). These urban areas are also home to many supporting industries that render services for apparel companies, such as embroidery services, official distributors of equipment, spare parts, transport organizations, bagging producers, and distributors of accessories.

Streamlining tax and customs clearing procedures is a potential opportunity on the governmental level to facilitate more efficient and inexpensive trade with foreign markets.

The further utilization and development of the Association of Light Industry is a potential strategy for encouraging dialogue between the private sector and the Government. Various technical schools, particularly in Chisinau and Balti, help prepare specialists for work in the knitwear and apparel industries, and the Association of Designers in Moldovan could be integrated into the apparel cluster as well.

Generally, movement towards FOB (full package), Private Label, and Own Label models is seen as a strategic shift towards higher value-added services for the sector. This shift would improve the innovation and design capacity of Moldovan companies, would ensure greater control over the process and end product for the producers, and encourage stronger marketing and promotional skills and schemes.

Specifically, proactive participation at international and regional trade shows, exhibitions, and fairs is seen as a viable option for companies already sponsored by donors like the CEED project and looking to replicate best practices and take a more proactive approach to the skills they've developed.

ANNEX B

Footwear Sector Assessment

The footwear sector in Moldova is represented by approximately 60 companies. Footwear companies either follow an organized industrial production model or a non-organized production model, the latter of which is constituted by smaller or individually owned companies that sell in unstructured markets. Of the organized production companies, eight main producers are located in Moldova and five in Transnistria, a division which demonstrates opportunity for integrating the autonomous region into Moldovan industry and strengthening the industry for both. The smaller manufacturers constituting the non-organized sector number approximately 47 and produce and sell on an informal and/or patent-based system through small workshops.

The footwear sector in Moldova and Transnistria has a production capacity of approximately 7 million pairs per year based on the opinion of industry players. The Moldovan industry is currently operating at 50 to 60 percent of its capacity due to the decline in demand for contract manufacturing (CMT) services in EU caused by world economic crisis. That said, the footwear sector showed production potential prior to the crisis, and has the general capacity to employ the local workforce, contribute to the domestic market, and establish relationships with foreign clients. The nature of the footwear market also encourages a wide variety of products, including shoes for men, women, and children, and working footwear, home slippers, and uppers components. This variety gives Moldova the opportunity to diversify production and identify niche markets.

Over the last 5 years, the footwear sector has registered growth in production from MDL 82.4 million in 2003 to MDL 176.4 million in 2008, which represents an increase of more than twofold. This 2008 figure represented approximately 0.8 percent of the total Moldovan industry. It is believed that an increase of CMT export services, which requires the use of readily available equipment, coupled with inexpensive manpower for operation, are responsible for the increase in production. An additional contributing factor may have been the growth of production for the domestic market, production data for which are available only for companies placed in the right part of Moldova. The footwear sector also encourages SME collaboration with larger producers. While newer technology requires higher up-front costs, larger producers can afford to invest in these high-efficiency machines and are eager to work with smaller manufacturers, thereby establishing collaborative relationships and eliminating the overhead costs that keep many micro-producers uncompetitive.

The volume of footwear product exports from Moldova and Transnistria increased in 2008 to $47.6 million or 3.2 times the figures from 2003. Out of the total export value to the EU markets (Romania, Italy, Germany), the footwear market represented 78.5 percent in 2008, while the export shares to the CIS countries (Russia, Ukraine, and Belorussia) market represented 21.5 percent.

The number of Moldovans employed in the sector is approximately 3,500-4,000 people; when combined with other related services such repair shop employees, the total number could be roughly 5,000 employees.

It should be noted that the footwear sector can become more harmonized with the textile & apparel (T&A) sector, and opportunities to develop synergies between or among sectors is often beneficial to all players. While the footwear sector has not registered significant growth in the past few years, the sector is considered to be very low-risk, which means that improvements to the production process could encourage growth, but the basic foundation for the sector will always ensure its place in Moldova’s total

industry. The relationship that footwear could develop with the apparel industry, which is one of Moldova's most profitable and fastest-growing, in terms of production models and export demand, can help the footwear industry incorporate successful models and develop existing client relationships that the CEED project in particular has contributed in T&A.

In the pages that follow, we provide background information and data on the sector including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova's strengths, weaknesses, opportunities, and threats in the footwear sector. This analysis has helped determine that the footwear sector could be an important and high-potential industry in Moldova in the next few years, and has identified opportunities for enhancing its competitiveness. Footwear was selected out of a handful of promising industries through careful analysis of its growth potential. Please reference the following list of topics to help navigate through the information provided:

SWOT Analysis

Through a SWOT analysis, we were able to conclude that the footwear industry in Moldova has serious growth potential and definite advantages to be capitalized on as the region emerges from the economic crisis. While footwear wasn't ranked as highly in past performance in terms of growth, it is a very low-risk industry with potential synergies with the T&A sector that could help duplicate successful models and encourage a unified Moldovan brand. The list that follows describes some of the sector's unique strengths:

- *Management and owner commitment to develop business.* Interviews with managers of leading Moldovan shoemaking companies indicated a strong commitment to further business growth in the industry.

- *Good opportunity for SME development.* There are opportunities for collaboration between large companies and SMEs. Export of CMT services by leaders generates demand for contract manufacturing at the domestic market, which involves producers with lower capital, less expensive labor, and limited technologies. Rather than discount these smaller manufacturers, such SME collaboration would help integrate and organize the sector and maintain or increase employment opportunities.

- *Good production capacities.* Moldovan footwear industry leaders have technologically organized capacities. All four companies in Transnistria are technologically advanced.

- *Industrial footwear producers are able to deliver better quality than imported shoes for the mid-market segment.* The high quality of services provided can be demonstrated by the increase in quantity of foreign clients' CMT orders; 45 percent of Moldovan shoes were exported to Germany in 2008, which is 4.2 times more than it exported in 2003.

- *Strong potential for profitability.* The price of footwear in the middle market is competitive and makes sales profitable for Moldovan producers. Profitability depends on the services provided. Discussions with local companies indicated that CMT production is less profitable, sometimes with only 3-5 percent profitability, whereas their own brand products are more profitable. These companies indicated that profitability of Own Label shoes varied depending on the target market segment and type of product. Selling model shoes to the premium market segment can achieve 20-25 percent profitability, while casual shoes in the medium segment produce 5-10 profitability, and the low-end market achieves less than 2-3 percent profitability. It should be noted that the market is also seasonally skewed; winter shoes have the highest profitability of 20-25 percent, while summer models have less than 5 percent. This situation is caused by lower competition in the winter season footwear segment due to fewer imports of winter shoes to Moldova. European companies are oriented more to the summer models that are, in turn, imported in larger quantities.

- *Access to sources of raw materials and cutting-edge technologies in the industry, and institutional workforce development.* During the last 10 years in Moldova, certain support services were developed, such as distributors of raw material, different additional accessories, and of simple equipment and spare parts, as well as the establishment of educational institutions for labor force development.

- *Proximity to the European market and low transport costs.* Moldova's geographic location encourages relationships with the European markets because of comparatively lower transportation costs, quicker delivery times, and more current appreciation of fashion trends and market demand.

These advantages should encourage further development of Moldova's footwear production, while taking into account the specific challenges the nation faces in maintaining and growing its competitiveness. Issues facing the sector are described as follows:

- *Poorly developed retail chains in Moldova.* There are no distributors or middlemen in this sector, and only a weak market structure. The distribution system is very simple and is usually composed of retail outlets owned by or aligned with the footwear producer or the importer. Manufacturers usually have their own boutiques in shopping centers or specialized stores, and sell directly to the customers. There are many small, individual manufacturers who produce and sell into a non-organized market, but this informal structure isn't particularly profitable, efficient, or sustainable.

- *Lack of clear product positioning and promotion.* Most of the Moldovan companies from organized markets provide contract manufacturing services or CMT, and have not pursued development of their own brand. Skills in promotion and market positioning are limited sector-wide as a result. Companies in Moldova are not currently involved in any branding activities and marketing, and rely mostly on in-store promotion. Similarly, Moldovan importers aren't structuring their purchases on solid market information, and instead rely on basic determinants like price and trends, which do not necessarily ensure quality goods or contribute to long-standing client relationships.

- *Lack of strong design and footwear construction capabilities. Lack of knowledge in marketing.* Over the past 18 years of CMT manufacturing, most producers have managed to develop well-organized and technologically advanced production, but they have not developed design, modeling, or marketing capacity. In interviews with Moldovan shoe makers, many mentioned a shortage of skills in the industry, including design and construction skills, but also marketing and branding.

- *Lack of raw material and components.* All raw materials and accessories are imported. The main suppliers are Ukraine, Russia, and Turkey for leather, Ukraine and Poland for soles, and Turkey, Italy, Ukraine, and Poland for accessories. Moldova only offers processing. Most small companies import designs and patterns since they have no institutional design capacity or qualified technicians to prepare patterns for leather cutting. As a result, the client has complete control over what is produced and Moldovans aren't developing creative or promotional skills in the industry that would increase both their income and upward employment mobility.

- *High cost of raw material.* The producers can't negotiate good prices because the quantities of imported materials and components are small. The total price for the buyer is also increased by transportation costs and affected by the currency exchange rate.

- *Weak relationships through supply chain.* There are components of the supply chain in place, but strong, long-term relationships are not developed. The Association in Light Industry is not effective.

Given the comparative advantages of Moldova's geographic location, which affords the Moldovan footer sector flexibility in delivery time and proximity to target European markets, as well as the nation's competitively priced workforce and familiarity with European clients' needs, the following opportunities for the sector were identified:

- *Moldovan market is large enough to absorb a share of domestic footwear production.* The size of the Moldovan shoe market according to different assessments varies between 2.6-4.0 million pairs per year. With the development of their own collections for the Moldovan market, big industrial producers expect to take over significant market shares from importers.

- *Footwear producers have not made serious efforts to sell in the past.* The competitive advantage of industrial Moldovan footwear manufacturers in the domestic market is the quality and technical skills that are well aligned with mid-level market segment. Before 2009, big industrial players ignored the domestic market this demand was satisfied by imports, which accounted for approximately 65 percent of the industry, and domestic production by small shoe makers, which accounted for roughly 35 percent of the market. Moldovan industrial footwear manufacturers could target the mid-level segment of the domestic market currently cornered by importers.

- *Prices at the domestic market are high enough to cover the costs of production.* The prices of the mid-level footwear would cover and exceed the costs of production so manufacturers would be profitable in the domestic market.

- *Demand for CMT will recover in 2010.* No boom is expected in the mid-level segment in 2010 but companies envision recovery of the demand damaged by the economic crisis. It is projected that contract manufacturing will develop in currently idle capacities (50-60 percent of CMT providers were idle at end of 2009, which equates to almost 1.5 million pairs per

year) even quicker than Own Label production. While this development would encourage growth of the more established CMT industry, it would not necessarily encourage the producers to adapt new technologies or transition toward branding and marketing. This opportunity is also dependent on how EU producers and target markets recover from the crisis.

- *Development of marketing skills.* Incorporating marketing and branding strategies, as well as design concepts, into the industry is considered realistic because of the availability of technical assistance delivered by donor projects, and the new skills transferred to local experts by international specialists.

- *Export of own collections.* At the moment, it is considered feasible to pursue design concepts and Own Label models for a few select companies who have established connections with the importers and distributors in Russia. Transnistrian producers like Tighina and Floare are very well-positioned because of their relationship with Russian shareholders. However, the export and domestic markets for Moldovan wares as a result of the economic crisis, as well as the limited resources of Moldovan companies to invest in newer technology or more trained employees, suggests that significant growth in neither production nor exports can be expected for two to three more years.

The final component of our analysis resulted in the identification of the main threats that will need to be considered and addressed.

- *Significant share of smuggling of imported footwear.* Some measures have been already taken to prevent this, but it will take time to eliminate the problem. Producers and sellers of smuggled products don't pay taxes, which lowers costs, and disadvantages legitimate businesses, making them less competitive regionally and domestically.

- *Emigration of labor force*. A national trend of the target workforce of Moldova emigrating to other countries in the region poses a threat to all industries. Not only does emigration reduce the strength of the workforce, it may also result in the relocation of training and skills developed domestically to other countries, thereby doubling Moldova's losses.

- *Worsening of economic situation in Moldova*. The global financial crisis has had dramatic effects on all economies, including Moldova's, the effects of which are often counteracted by a national reduction of discretionary spending on the part of consumers.

Sector Structure

The footwear sector developed through three phases since it was established in Moldova in the 1940s, and this evolution reflects the complicated economic relationship between CMT models and Own Label production for shoe manufacturers. As in the T&A sector, the CMT model provides more immediate stability in the market, but involves more elementary systems and skills, while advancing to Own Label production develops local capacity, ensures more control over production and marketing, but requires greater start-up costs and investment. Because CMT production makes the producer more reactive and susceptible to the client's demands and the regional economic conditions, it is not sustainable and the sector in Moldova has fluctuated greatly in reaction to these conditions. There is an opportunity for both T&A and footwear to develop Own Label production and harmonize their branding to target European markets.

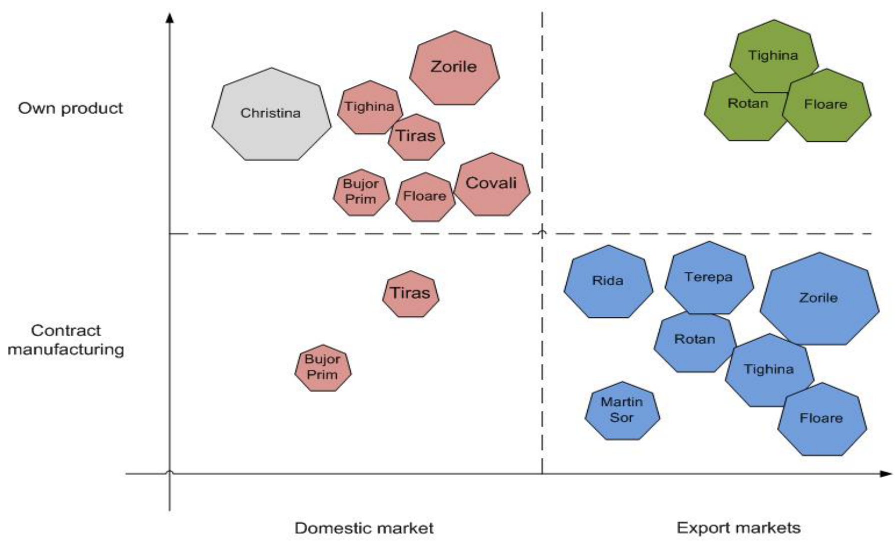
The three main footwear companies today — Zorile, Floare, and Tighina — were built on Soviet technologies and were successfully producing domestically designed models prior to the early 1990s. Zorile was the biggest manufacturer, producing 13 million pairs of shoes each year and employing 7,000 people before the collapse of the centralized Soviet system. Following the dissolution of the USSR, Moldovan footwear manufacturers saw a drastic and costly decline in demand in the domestic market, as well as limited access to its tradition markets and high inflation, which eliminated working capital for many companies and encouraged the growth of and ultimately reliance on CMT services. With limited capital, companies were forced to pursue less expensive operations and Own Label design development and more sophisticated technology declined. Foreign investment also declined as foreign imports increased and dominated the domestic market.

Since 2009, the Moldovan footwear industry started to diversify its production trying to balance CMT orders with comparable domestic or export sales of their own products. Zorile, Tiras, Rotan, and also Tighina and Floare, are developing domestic markets or export sales trying to achieve 50/50 balance between CMT and own production. Chances to implement these plans are high, and if implemented well, the industry will slowly move from pure contract manufacturing services to a design and brand focus within the next three to five years.

Main Categories of Industry Players

Most of the Moldovan companies operating in the organized segment provide contract manufacturing services or CMT. CMT production is the biggest segment of the Moldovan shoe making industry with respect to number of pairs produced. Industry leaders, including Zorile and Rotan, allocated more than 90 percent of their production to CMT prior to 2009. In 2008 and 2009, demand for the export of CMT services from Moldova declined, partly as the result of Moldova's leading client, German manufacturer Rieker, abandoning Moldova after its failure to privatize Zorile.

Exhibit B-1. Positioning of Footwear Companies in Moldova and Transnistria



Source: CEED, 2009

Exhibit B-1, above, depicts the tendency of footwear companies to either focus Own Label shoes on domestic markets or CMT footwear to export markets. Of the 60 footwear manufacturers spread across Moldova, through CMT manufacturing only six Moldovan producers could be positioned for mid- to high-level manufacturing quality, capable of delivering reliable quality and quantity to its EU clients.

These companies are Zorile, Rotan, Tighina, Floare, Rida, and Terripa. The greatest challenge facing these companies is targeting the appropriate markets with successful Moldovan branding and marketing campaigns.

There is almost no exporting of ready footwear from Moldova under brand names of Moldovan manufacturers. The only company that is successfully pursuing this route is Rotan, which exports working and special footwear to Russia through a partnership with its EU customer. Rotan is also working on export development for its branded shoes to Russia, seeking to introduce mid-quality special footwear into the Russian market. This goal of introducing high-quality shoes the mid-market market segment is also shared by Floare and Tighina, two companies that also export to Russia. All leading Moldovan exporters have strong production models but are weak in design and branding, which limits their ability to penetrate high-end market segments.

The domestic market, neglected by the leading international industry players, seemed attractive to some Moldovan companies. Christina developed its production specifically for domestic sales, and has become a market leader. Covali is another company focused on the domestic market. In 2009, Zorile and Tiras started to pay more attention to the domestic market facing problem of CMT services export. Until 2009, Moldovan shoemakers targeted solely the low- to mid-end of the market because of consumer perceptions of the quality and design of their wares. They have mainly targeted the rural population whose consumer decisions are based more on price than preference. The urban middle class consumers prefer to buy higher quality Turkish shoes. Tighina and Zorile, whose production capacity made it possible for them to appeal to the middle market segment, had almost no presence in the domestic market by the middle of 2009. Zorile only recently began development of its collection and retail, and currently has limited range of models.

From the product perspective, Moldovan manufacturers produce mainly men shoes using cemented technology and direct injection. Producers that work for the domestic market have a broader range of styles, while CMT services suppliers are more specialized in response to their clients’ needs. Exhibit B-2 below details the technologies used by the leading companies in Moldova and Transnistria and the main shoe products.

Exhibit B-2. Products and Technologies of Moldovan and Transnistrian Footwear Manufacturers, 2009

Company	Technology	Main products
Moldova		
Zorile	Cemented	Model and casual shoes for men, women, children
Rotan	Direct Injection	Special and working footwear, casual men shoes
Christina	Cemented	Model and casual shoes for men, women, children
Tiras	Cemented	Model and casual shoes for men
Covali	Cemented	Model and casual shoes for men
Bujor Prim	Cemented	Model and casual shoes for men
Romanita	Cemented	Home slippers, casual men shoes
Transnistria		
Floare	Direct Injection, Cemented	Model and casual shoes for men, women, children and casual shoes
Tighina	Direct Injection	Casual shoes for men
Rida	Direct Injection	Special and working footwear
Terri-Pa	Direct Injection	Special and working footwear
Donastr	Direct Injection	Model and casual shoes for men

As previously noted, the footwear industry in Moldova is understood to be composed of two main segments: the organized industrial production companies and the non-organized production companies. In 2003, 45 shoemaking manufacturers were in operation in Moldova, and this figure had increased to 60 in 2008.

The Moldovan industry leader in the organized market is Zorile S.A. Zorile is responsible for almost 70 percent of all industrial production capacity in Moldova, mostly due to its strong organizational structure, competitive technological capacity, production facilities, and equipment. Other competitive companies include Rotan and Christina. Martin Sor S.R.L. is Italian company specialized in production of uppers which are later exported as components. Martin Sor S.R.L. is an Italian company located in Moldova, taking advantage of the relatively inexpensive labor and also placing orders directly with Moldovan companies.

Exhibit B-3. Characteristics of the Industrial Footwear Organized Manufacturers in Moldova and Transnistria, 2009

Company	Capacity (pairs)	Number of employees	Expected turnover in 2009 (USD)	Main business
Moldova				
Zorile S.A.	2,000,000	800	6,000,000	CMT, branded for domestic market
Rotan S.A.	250,000	150	700,000	CMT, branded for export to Russia
Christina S.R.L.	200,000	200	8,000,000	Branded for domestic market
Tiras S.R.L*.	190,000	50	700,000	CMT, branded for domestic market
Martin Sor S.R.L*.	350,000	250	500,000	CMT
Kovali S.R.L*.	250,000	100	500,000	Branded for domestic market
Bujor Prim S.R.L*.	100,000	50	200,000	Branded for domestic market
Romanita S.A.	100,000	50	90,000	Branded for domestic market
Transnistria				
Floare S.A.	1,800,000	470	11,000,000	CMT, branded for export to Russia
Tighina S.A.	350,000	300	6,000,000	CMT, branded for export to Russia
Rida*	350,000	200	500,000	CMT
Terri-Pa S.R.L. *	900,000	300	9,000,000	CMT
Danastr S.A. *	700,000	450	10,000,000	CMT

*Based on assessments of indirect data and third party opinions

Source: CEED, 2009

The non-organized segment is more difficult to measure due to its high mobility and mixed and informal nature of business. This segment is represented largely by small individual manufacturers or groups of 5-10 people that manufacture for the non-organized market or even produce false brands for fashion boutiques in Chisinau. They also work on a variety of production, trade, and business models, often using imports of small quantities of shoes and replicating the most popular styles. Employment in this segment shifts seasonally to other activities when demand declines. These models do not encourage concept design or developed workforce capacity, and the companies are often too small to be profitable and do not have the resources to begin developing their own collections or broadening their scopes. As a result, these micro-manufacturers either merge into small conglomerates or disappear.

In Transnistria, all four leading companies are technologically advanced. Rida and Terri-Pa were established by German investors in the mid 1990s and were later sold to a Czech manufacturer. Tighina and Floare are privatized by Russian footwear distributors and have been well-equipped and sustainable since the Soviet era.

The company Gabini from Orhei should be treated separately. Gabini had advanced technologies and successfully produced CMT services, exporting high-quality casual shoes to Russia and also supplying them to the domestic market. In 2008, the company closed its operations in Moldova because of political reasons.

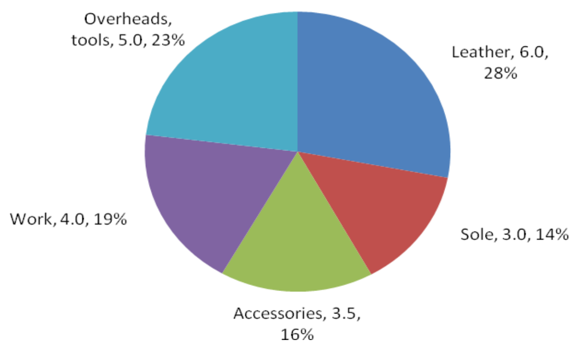
Due to the fact that all materials and accessories are imported from abroad, the footwear value chain in Moldova is practically nonexistent. Moldovan manufacturers are strong in the processing and production links in the value chain, but need to develop capacity on either end of the chain in order to become more competitive and stabilize the industry. The main materials suppliers are Ukraine, Russia, and Turkey for leather; Ukraine and Poland for soles; and Turkey, Italy, Ukraine, and Poland for accessories. Additional challenges with this process are VAT recovery for exporters of ready footwear. Smaller companies import the designs and patterns rather than develop their own collections or develop the skills of and employ qualified Moldovan technicians to prepare patterns for leather cutting.

Manufacturers usually have their own boutiques in shopping centers selling directly to the customers. This model is functioning, but does not encourage a more developed national or international marketing scheme. On the domestic market, distribution of footwear adds 100 percent to the manufacturers’ costs. The final price is comprised of all manufacturing costs, as well as the regional margin, which includes transportation, rented space, payment of sales employees, specific packaging, and so on. The average price of men shoes in retail is $35-45 at the low- and mid-level market segment, compared to the manufacturers’ price of only $17-21.

In interviews, Moldovan shoemakers mentioned a shortage of skills in the industry, primarily design and construction skills but also marketing and branding. Smaller companies usually copy designs or buy styles and technical documentation for their production (cutting patterns) in Ukraine. With regard to the manufacturing labor force, companies mentioned that they are able to find employees for well-paying orders, but should demand increase significantly, employers would need to quickly train a good number of employees to meet the demand.

Average costs of production in Moldova vary within the range of $17-24 for typical men shoes. In the premium segment, these costs could be USD $23-32 (which is 1.5 times higher) due to more expensive leather, soles, and accessories. Raw materials and accessories account for the majority of the costs. According to the opinion of key industry players, added value in the forms of labor, profit, local consumption of electricity, etc., varies between 30 percent and 40 percent. In the CMT segment, the price per minute for Moldovan services varies between USD $0.08-0.14. The level of salaries in the industry varies between MDL 2,500-4,000 per month.

Exhibit B-4. Typical Cost Structure ($) for Production of Men Shoes in Moldova, 2009



Source: CEED, 2009

Sector Performance (2003-2008)

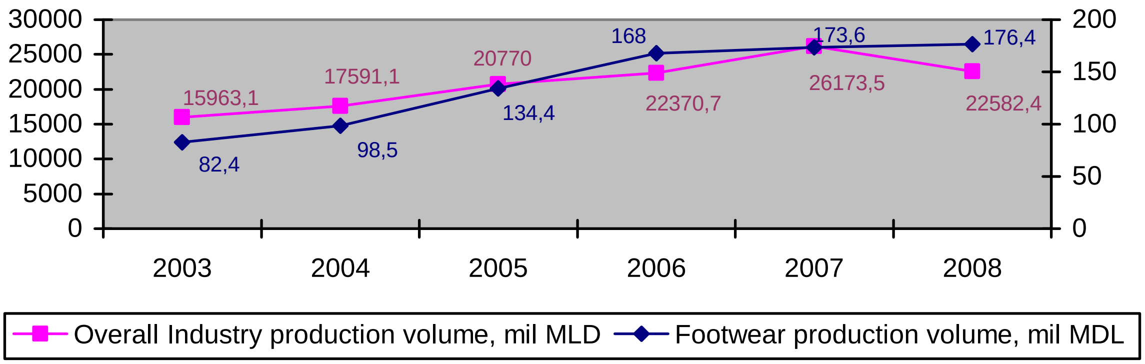
Footwear Industry Performance in 2008

0.3 percent of Moldova's GDP
2.6 percent of industry's employees
3.0 percent of total exports
0.8 percent of industrial output

During the last six years, the footwear sector has increased its volume of production from MDL 82.54 mil in 2003 to MDL 176.40 mil in 2008, which is more than doubling its production. The footwear sector during this time increased its contribution to total industrial production from roughly 0.5 to 0.8 percent. Footwear exports rose from little more than 1.9 percent in 2003 to over 3 percent in 2008. The footwear sector as a whole employs on average nearly 2,000 productive Moldovans, constituting roughly 2.6 percent of all industrial sector jobs.

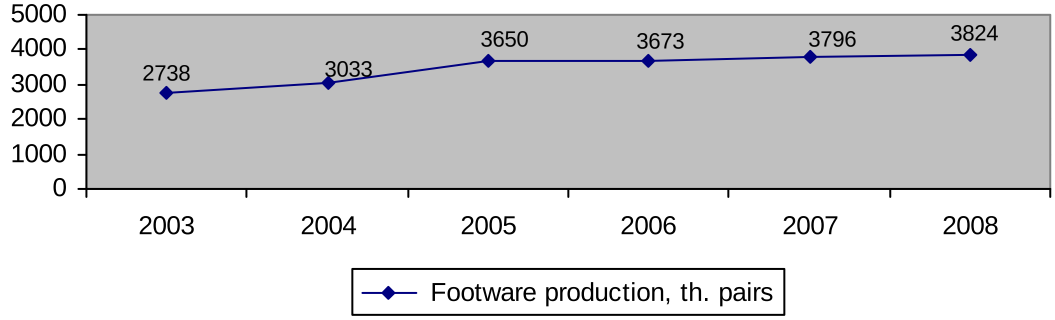
This sales growth is mostly credited to the increase in the number of pairs of shoes between 2003 and 2008, increasing from 2,738 pairs in 2003 to 3,824 pairs in 2008. Exhibit B-5 below details this increase. This production volume increase is caused by an increase in the export of CMT services, which make use of the readily available equipment and inexpensive workforce that already exists in Moldova, as well by the growth of production for domestic market.

Exhibit B-5. Overall Industry Production Volume and Footwear Production Volume in Current Prices, 2003-2008



Source: National Bureau of Statistics of the Rep. of Moldova

Exhibit B-6. Footwear Production, Thousands of Pairs



Source: National Bureau of Statistics of the Rep. of Moldova

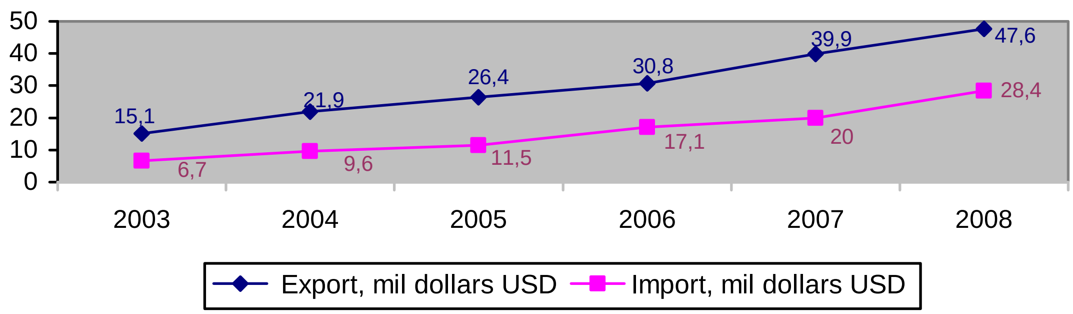
Demand Conditions and End Markets

The footwear market is primarily oriented to CMT services to Europe and final products to Russia and CIS countries, which is consistent with the makeup of exports. In 2008, about 45 percent of Moldovan shoe exports were exported to Romania, 26.5 percent were sold to Italy, and CIS countries held roughly 21.5 percent of the Moldovan market, followed by Germany with 6.2 percent. The main European countries from which Moldovan imported were Romania, Italy, Slovakia, Germany, Spain, and Poland, which held more than 50 percent of the total shoe imports in this year. While the last six years have seen a stable growth tendency in exports, the domestic market has been largely neglected, except for the very low-end markets whose consumer decisions are based more on price than preference. To capture medium, medium-high end domestic and international markets which offer higher value-added, Moldovan shoe-makers will have to make significant upgrades to orient themselves to design services, marketing and sales.

Exports

All large and average-sized footwear companies are oriented towards export of CMT services to EU countries or final products to Russia and CIS countries. The last six years have seen a stable growth tendency in exports, as shown in Exhibit B-7 below.

Exhibit B-7. Value of Export and Import of Footwear Products

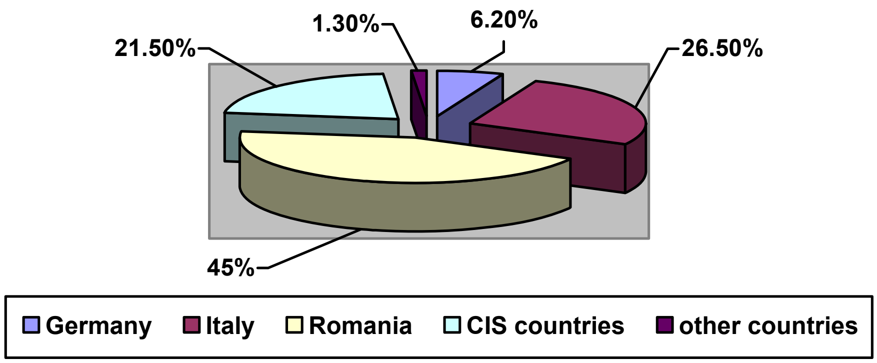


Source: National Bureau of Statistics of the Rep. of Moldova

The volume of footwear products exported increased in 2008 to $47.6 million, which is a 3.2 times increase from 2003 figures, while imports in the same period achieved $28.4 million, which represents a 4.2 times increase than 2003 figures. It is worth noting that the positive balance was maintained through the five-year period. Out of the total value of footwear exports, the CIS market accounted for 21.5 percent

of Moldovan exports in 2008, while the EU market accounted for 78.5 percent of Moldovan exports. Moldova's main clients in the CIS countries are Russia and Ukraine, with a total of 32.3 percent, and Belorussia.

Exhibit B-8. The Structure of the Export of Footwear Products in 2008



Source: National Bureau of Statistics of the Rep. of Moldova

In 2008, about 45 percent of Moldovan shoe exports were distributed to Romania, 26.5 percent were sold to Italy, and CIS countries held roughly 21.5 percent of the Moldovan market, followed by Germany with 6.2 percent. The main European countries from which Moldovan imported were Romania, Italy, Slovakia, Germany, Spain, and Poland, which held more than 50 percent of the total shoe imports in this year.

Contract Manufacturing (CMT)

The highest demand for contract manufacturing comes to Moldova from EU footwear makers. There are approximately 1.2 billion pairs of shoes sold in the EU markets per year, production for most of which is handled abroad. In spite of the fact that Own Label footwear production in the EU has declined as Chinese and Indian imports have increased, there will be still a significant volume of footwear produced by EU companies and a continued and substantial need for CMT services. In 2010, Moldovan footwear manufacturers expect recovery of the demand for CMT, and a rebound in the Moldovan industry. That said, according to the opinion of Moldovan companies, there is currently no real expectation of huge foreign investments coming to the Moldovan shoe sector. One exception is Zorile, which was privatized by the American Investment Fund NCH in 2009.

The lack of labor force in the country makes Ukraine and other neighboring countries more attractive for EU producers to set factories and/or invest in. However, there will always be smaller European manufacturers in seeking smaller production volumes and who will place orders in Moldova trying to benefit from relatively cheap labor and close distance to the EU market. Moldovan companies expect CMT to remain a significant share of their production for the next five years. From the companies interviewed, Tiras was the only one who plans to reallocate most of its capacities and resources towards Own Label shoe production. Other manufacturers, especially Zorile, expect to reduce the share of CMT in their volume of production to 50 percent within the next 5 years.

Moldovan companies do not currently promote their CMT services, which puts them at a huge disadvantage. Most of these companies use buyer-to-buyer marketing so the initiative to contact the Moldovan producer comes from the EU manufacturer; as a result, these European companies end up with

greater control over the end product and production process. This type of business keeps the producer idle in regards to marketing and promotion.

In the field of contract manufacturing, Moldovan companies have limited capacity to impact market development. They will continue to passively wait for the orders to come and if so will increase their production to meet the demand. Therefore Moldovan footwear sector remains fully dependant on the macroeconomic conditions in the EU, Northern Africa, India and Asia where the main production centers are located.

Domestic Market

The Moldovan footwear market by different assessments varies within the range of 2.6-4.0 million pairs of shoes per year. In terms of worth, the Moldovan domestic market is considered to be valued at €80-120 million. There isn't a reliable assessment of the market size due to the significant "grey" segment (that is caused by informal imports due to some corrupted customs officers/smuggling and due to the fact that a number of small shoemakers are not registered as entrepreneurs/companies) and there is much variation in opinions of key market players. That said, the Moldovan footwear market is relatively stable. Geographically, most of the market is concentrated in Chisinau, the capitol city with a population of 800,000 (25 percent of the country's total population). However demand in Chisinau is even higher as people from rural areas prefer to come to the capitol for shopping.

Moldovan industrial footwear manufacturers generally ignored domestic market considering it to be a small market with poor consumers. As a result, according to different assessment, up to 65 percent of the footwear market in Moldova has been controlled by Turkish, Chinese, and Ukrainian imports. The remaining market is non-aggressively managed by small local producers whose share is unlikely to increase unless measures are taken to improve the processes, upgrade technologies, and develop marketing strategies. In the segment of female footwear in particular the imported share is even higher, reaching 95 percent. Additionally, while Moldovan producers are making approximately 1 million pairs per year, 30 percent of this production volume is the share of a single company, Cristina, who emerged in 2009 as the only serious player in the domestic market. Gaining ground on European and Chinese importers, targeting the female footwear segment of the market, and encouraging more Moldovan companies to contribute to the overall share of footwear production are all seen as opportunities for this industry to become more competitive, employ and keep more Moldovans in-country, and contribute to the over-all Moldovan branding strategy alongside textiles and apparel.

Moldovan suppliers mainly target the low-market segment, which is associated with relatively cheap and low-quality products, inexpensive labor, and readily available technologies. Most of these suppliers serve the needs of the rural population, who are shown to be more price-sensitive in consumer decisions than the urban middle class who can afford to base their consumer decisions more on preference.

Exhibit B-9. Shoe Retail in Moldova and Market Segmentation for Men's Shoes, 2009

Segment	Brands	Prices (MDL)	Retail outlets	Comments
Premium	Ecco Salamander Geox Pocolinos Adidas Puma	1,300-2,500	Specialized stores Boutiques in the shopping malls	No Moldovan suppliers are present
Medium	Number of "Italian" brands (Bugatti, Mario Bruni, etc.);	700-1,100	Boutiques in the shopping malls	No Moldovan suppliers

	Good quality Turkish suppliers			
Upper low-end segment	Cristina Zorile Tighina Turkish suppliers like Brooman, Dukati, or Etor	400-700	Specialized stores (Cristina, Zorile) “Zorile shoe market” Boutiques in Unic store	Mainly covered by Moldovan brands
Lower low-end segment	Covalli Tiras Merson Hincu Other names	300-400	“Zorile shoe market” Kiosks in Unic store Non-organized market	Mainly covered by Moldovan brandless shoes

Source: CEED, 2009

Both Moldovan exporters and importers are not currently engaged in any branding activities or marketing. The distribution system is very simple and is usually based around retail outlets owned or aligned with the footwear producer or the importer. There are no distributors or middlemen in the value chain, which limits the potential for rural producers to move their goods into urban markets or export to neighboring countries. While this simplifies the market and no extra charges are added by any intermediaries, this market structure also requires the producer to have working capital, since the products need to be sold in retail before the producer gets paid and the average product turnover is usually in excess of 180 days. According to the opinion of leading companies, $2 million of working capital is needed to sustain a production program in retail of 100,000 shoes per year.

Due to the fact that Moldovan industrial producers like Zorile, Rotan, or Tighina have not been working seriously in the domestic market, it remains cornered by imported products even at the mid-level segment and upper low-end segment. These market segments show the most potential for Moldovan products to penetrate and gain ground, but thus far no leading producers have targeted this niche. Most Moldovan suppliers have not been able to enter this pretty attractive niche due to the poor design or bad construction of the products. Cristina has been the only successful company when targeting the upper low-end market. Due to their improvements in quality and technology, and also due to the broad style range and their development of Own Label design, Cristina managed to become a brand in this market segment and lead the domestic market in Moldovan companies with 300,000 pairs sold per year (approximately 10 percent of the market).

Industrial footwear producers like Zorile, Tighina, or Rotan, currently have limited style range to offer, no promotion, bad price differentiation — except for Zorile, which has positioned itself in a lower price segment, selling for MDL 440-600, but offering better quality than its counterparts who set the price slightly lower at the level of MDL 400-450 but offer lower quality footwear) — and have not targeted appropriate retail outlets to sell the quality of products they offer at competitive prices.

The domestic Moldovan market has sufficient capacity of at least 2.6 million pairs per year to absorb the production of Moldovan manufacturers. Zorile, as an example, currently produces 1 million pairs per year but has the capacity to produce 2 million; domestic sales could cover at least 25 percent of its total capacity with only having 20 percent of the domestic market share. Smaller companies like Tiras or Rotan could reach even higher percentage of capacity coverage through domestic sales given the quality and volume demanded by this market.

It is clear that there is no chance for Moldovan companies in premium segments where global brands dominate. However, Moldovan industrial footwear manufacturers could target the mid-level segment of

the domestic market currently cornered by imported shoes and take over the importers’ share in. Currently none of these companies are competing for consumers in this mid-level segment, but this is seen as a realistic opportunity for many local manufacturers. Moldovan industrial footwear producers have the ability to produce very good quality shoes, but they will need to develop design collections of footwear, position and promote them to target market segments, and sell them in high-profile retail chains in main shopping malls like the importers do. The prices of mid-level footwear make the sales profitable for Moldovan producers.

Of the companies interviewed, Zorile, Floare, Tighina, and Tiras are those most serious about developing domestic sales. Rotan could allocate some of its production to the market reaching synergy with its export shipments, but the owners prefer to keep interest in the CMT or other form of Lohn production because the technology used for footwear manufacturing from beginning to end (final product) is very expensive for the company to launch given the very small local market.

Company Structures, Rivalries, Linkages, and Relationships

The Moldovan footwear industry is completely private and all the companies are managed by owners or have strategic shareholders. By property structure companies could be divided into the following groups:

- Companies managed by the owner (Rotan, Tiras, Cristina, Covali, Bujor Prim)
- Companies with a financial investor (Zorile)
- Companies with a strategic investor (Floare, Tighina, Martin Sor, Rida, Terrypa, Donastr)

Managers of Moldovan industrial footwear companies have asserted that there are good working relationships among the various companies. Due to the different technologies used (cemented and direct injection) and different markets targeted (domestic, CMT), companies sometimes help each other in different issues rather than feel competitive. Sharing best practices, replicating successful models, and identifying niche markets uniquely promising to each company will help ensure the success of many rather than the success of only a few.

Nevertheless, these companies do compete to attract skilled labor. All companies have mentioned that fluctuation is at a high level and employee retention is often low. If one company increases salaries or offers additional benefits, workers flow to this company. Larger companies like Zorile and Floare have their own system of qualification for junior workers, but they said that some workers, having received training and becoming qualified, move to Russia, Ukraine, or Romania. Managers said that it is time to change legislation in order to ensure workers stay with the company for a certain period of time after training.

Competition on the level of the smaller manufacturers is more market-based than for the larger manufacturers who compete mostly for skilled employees. The smaller, unorganized producers sell shoe products on the domestic market at bazaars. The competition is caused by the fact that their wares do not vary, they offer fewer products and varieties, and their design concepts, rather than being locally developed, are all copied from shared external sources.

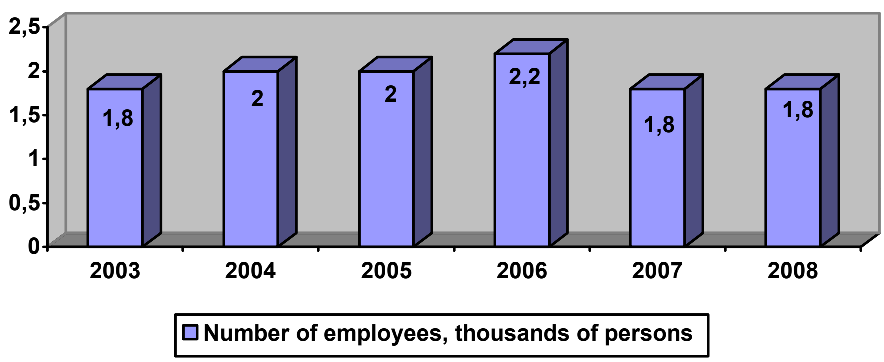
There are good practices in existence for collaboration among large, medium, and small companies. The export of CMT services by the leaders generates demand for contract manufacturing at the domestic market, which allows smaller producers with less advanced technologies and less skilled labor to contribute to domestic production. Industry leaders like Zorile, Martin Sor, and Rotan, place orders to smaller companies like Tiras or Bujor Prim. The larger producers are then working towards Own Label design development and marketing, and outsourcing the CMT services that smaller Moldovan companies are eager to offer. While these smaller companies lack the technology to produce directly for European

clients, their CMT services complement what larger Moldovan companies offer in terms of technology and labor skills.

The footwear industry saw modest employment growth from 2003-2006 due to a stable and consistent expansion of CMT services. Since the decline in 2008 of demand for CMT in the EU, fewer companies were maintaining their previous production levels and they required fewer employees. In 2008, there were approximately 1,800 people employed in the organized segment of the footwear sector.

During the meetings with sector players, we found that the overall number of people employed in this sector, including micro- and small companies, is approximately 3,000 people.

Exhibit B-10. Footwear Sector Employment, 2003-2008



Source: National Bureau of Statistics of the Rep. of Moldova

Challenges and Opportunities

As part of the SWOT analysis that informed our proposal to pursue work in the footwear sector, we identified various challenges that Moldova faces in the sector, as well as opportunities for development. As previously noted, footwear presents a unique opportunity for development given its relatively low growth rate history but similarly low risk. Given the CEED project's work in the T&A sector and the potential seen in this industry, it seems likely that the shared production and design models could be replicated and developed in the footwear sector, generating a full-spectrum Moldovan brand.

Analyzing the activities of the selected footwear companies, a benchmarking study identified the competitive strengths of the Moldovan footwear industry. This assessment shows those areas which need to be strengthened to enable the industry to become a player in the regional and international value chain. The factors are assessed across the courtiers the main international players. The scores are out of 10.

Exhibit B-11. Comparative Analysis of the Key Success Factors for Footwear Sector Versus International Players

Key success factors	Italy	Spain	Turkey	Romania	Vietnam	Egypt	Moldova*
Product innovation	9	7	5	3	4	5	3
Differentiated products	9	7	5	3	6	4	3
Developed components industry	10	8	7	3	7	5	0
Supply of leather	9	9	7	3	6	6	0
Low cost leather	5	5	7	5	6	8	4
Flexible manufacturing	8	8	8	7	5	8	4
Low labor rates	3	3	5	4	4	6	5
High productivity	8	8	6	6	7	4	5

Marketing skills	9	8	6	5	6	4	3
International trade agreements	3	3	6	6	6	8	7
Institutional support	8	8	8	5	7	6	3
Well managed supply chain	8	8	7	7	7	5	4
Close relationships trough supply chain	8	8	6	6	6	5	3
Senior management/owner commitment	9	9	7	8	8	4	8
Technical knowledge	9	9	7	7	7	6	6
Excellent communications	7	7	6	6	7	5	4
Excellent promotional materials	8	8	6	6	7	5	2
Sophisticated financial control	9	9	7	7	7	5	7
Favorable currency exchange rates	3	3	7	7	8	8	6
Total score	142	135	123	104	121	107	77

Source: Developed based on the Study done by the Egypt-Industrial Modernization Centre, STEM-VCR s.r.l.
** Expert opinion of the CEED consultants, verified in discussions with industry managers.*

Business Environment

Discussions with managers indicated that they do not have insurmountable legal issues or constraints, especially the companies that work primarily in CMT services. There are constraints, however, which reduce the efficiency and cost containment for these companies. One overarching impediment for both companies that provide CMT services and those involved in Own Label designs is VAT for imported raw materials and accessories. The companies that work on the Own Label model need to pay VAT, and all managers indicated that VAT reimbursement was a lengthy process. Exemption of VAT for imported equipment is permitted only for companies located in rural areas.

The World Bank survey “Ease of Doing Business” ranks the Republic of Moldova 94 out of 183 economies. The estimated data show relatively positive results, including (i) lowered costs of establishing a business in Moldova; (ii) improved communication services; (iii) streamlined legal framework; and (iv) a more conducive investment climate. However, the efficiency of the capital market and the quality of corporate management and social responsibility remains low.

Moldova achieved some success in the field of labor relations by decreasing commercial barriers and local competition. Unfortunately, however, it’s still lagging behind as far as corruption is concerned, although significant anti-corruption efforts have been taken at the government and state levels.

Moldova adopted the strategy of industrial development and the strategy for export promotion. There is a special program for light industry development, part of which specifically addresses the footwear industry entitled the “Program for the development of light industry until 2015.” This normative document stipulates the objectives, tasks, and action plan for the industry development. CEED supported the development of the document, but regrettably a lot of needed activities were omitted by the Ministry of Finance, and those which remain are currently still nominal. Advancement of this program is seen as an opportunity for the sector in the coming years.

Support Markets/Industries and Value Chain Cooperation

During the last 10 years in Moldova, certain support industries were created and are slowly developing, such as: embroidery service providers, distributors of accessories, equipment and gadgets, and spare parts, and academic facilities for labor force training. However, these are only in the initial phases of development and are not fully conforming with or contributing to the growth of the footwear sector. There is currently no real cooperation between these service providers and shoemaking companies. Two

years ago, the companies which operate in the light industry established the Patronage Association of the Light Industry. Unfortunately, the association is not functioning and maintains only a nominal presence.

Generally speaking, the capacity of industries and support bodies is rather low, and this is seen as an area of opportunity moving forward. Close and mutually beneficial collaboration among sub-industries would contribute to stronger Moldovan branding through more competitive pricing structures and workforce development. Because the labor force market and the financial market are underdeveloped, the light industry companies basically do not use these markets. Lending terms the banks are offering are very severe and interest rates are very high. While the market of consultancy services exists and is continuously developing, companies are not ready financially to purchase and pay for these services. Assistance from foreign donors is more than welcome in this field.

Detailed Recommended Actions

Given the close correlations, similar business principles, and shared markets between the footwear and textile & apparel sectors, many recommendations for one sector correspond to recommendations in the other. The competitive advantage of industrial Moldovan footwear manufacturers in the domestic market is the quality produced and technical level capacity which allows the efficient and profitable production of shoes in the mid-market segment. To better maximize its potential, the sector can look to expanding beyond CMT production and developing its marketing and branding capacity in order to reach new markets, establish a Moldovan brand, and become more profitable in more sophisticated markets.

Restructuring of the footwear sector to expand services and develop capacity might incorporate the following approaches:

- Development of “in-house” design and shoe construction skills or creation partnerships with the design suppliers
- Development of proper retail chain including outlets in the main shopping malls where middle class buys
- Development of marketing skills which will help companies to understand needs of the targeted user and be able to create lines of products to respond to these needs

Successful footwear companies interacting in the various components of the supply chain of the future (design, manufacturing, materials and components, sourcing, marketing and distribution) must have a global vision of the industry and develop a competitive marketing strategy. In order to be in line with international business, it will be critical that Moldovan companies consider the following management principles:

- Have a good understanding of the market competitors and agents
- Maintain a sound knowledge of consumer and fashion trends
- Be able to monitor the drives of the change (i.e., environmental legislation, materials, etc.)
- Strive for continuous development towards product comfort and durability
- Incorporate information technology into the manufacturing operations
- Be successful in promoting market alliances in the supply chain
- Engage staff with vision and entrepreneurial skills through training
- Introduce modern management practices

ANNEX C

Wine Sector Assessment

Moldova has a long-standing cultural and economic tradition in grape growing and winemaking. Grapes have been cultivated for centuries on this land, and winemaking has become an indispensable part of Moldova's culture. The modern structure of the industry was shaped in the years following WWII when Soviet authorities decided to plant Vitis Vinifera grape varietals, which are considered of European origin. By the mid-1970s, large portions of agricultural land, mostly in the southern and central parts of the country, were cultivated with wine grape vineyards. Parallel to these land investments in vineyards, this time period also saw large wine-producing facilities being built, making Moldova one of the leading suppliers of wines for the former USSR. Most of the industry had changed ownership by the mid-1990s, and the new owners of the wineries began investing in modern equipment and technology. By the early 2000s, a new phenomenon of replacing the old vineyards emerged. Unfortunately, this progress only lasted until 2006 when the industry was hard-hit by the Russian crisis.

Currently, and despite its recent shocks, the wine industry in Moldova is one of the most important earners of currency for the country and one of the major contributors to the consolidated state budget. Also, the industry is considered an important driver for social development in rural areas as it affects the livelihoods of thousands of small grape growers. To emphasize its importance we must mention that the wine industry:

- accounts for around 2.3 percent of the GDP (2007 figures);
- accounts for around 10 percent of all exports from Moldova (2008 figures);
- is a source of income for approximately 50,000 grape growing farmers;
- directly employs 7.5 percent of people who are working in the agricultural food processing industry (more than 7,000 people);
- occupies more than 6.2 percent of all agricultural under vineyards.

In 2009, wine production decreased by 22.7 percent from the previous year, which supports the widespread opinion that even if exports to Russia resumed November 2007 figures, the hopes for a quick market recovery are unrealistic. In addition to a loss of market growth, the ban resulted in 320 million liters of unsellable wine stock at the end of 2009, and USD 105 million (as of January 1, 2010) of wine sector debts to the banks. The crisis affected the number of operating companies, which decreased to around 50 from a high of 120 in 2006.

The structure of Moldovan wine exports is slowly changing and the market has become more diverse, with about 77 percent of the exports traveling to CIS countries compared to 90 percent in 2005. Russia remains the most important market for Moldovan wines, however, which supplanted Ukraine in 2009. Byelorussia remains the most *stable* market for Moldova bulk wines. Sales to Eastern European markets are on the rise, especially to Poland and the Czech Republic, but also to Germany, demonstrating that the industry is producing wines more appropriate for Western consumers in terms of quality and style.

When considering sectors for continued or new donor support, the wine industry was identified as a unique and critical industry for targeted resources. Unlike other sectors identified through our analysis, the wine sector not only suffered from the effects of the global economic crisis, but it was also crippled by the Russian export ban. Despite these drastic setbacks, however, the wine industry's historical and cultural significance, unique national spread across all urban and particularly rural areas, its significant

contribution to national employment, and its positioning within other stable and/or growing industries like the hospitality sector, make the wine industry's recovery of particular importance.

In the pages that follow, we provide background information and data on the sector including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova's strengths, weaknesses, opportunities, and threats in the wine industry. This analysis has helped determine that the wine sector continues to be an important and high-potential industry in Moldova, and has identified opportunities for its recovery and ultimately for its revived competitiveness.

To help navigate through this annex, please reference the following list of topics:

SWOT Analysis

A SWOT analysis was conducted to determine how viable the recovery and future profitability of the wine sector was in light of current conditions. The following strengths were identified during the preparation of this assessment:

- *Rich wine-making history and unique microclimate for growing grapes.* Grapes have been grown and made into wine in the area for thousands of years, which is not surprising considering its proximity to the Black Sea and the Danube Delta, and the fact that Moldova shares the same latitudes as the best wine-growing regions of France. Annual sunshine hours are 2100 to 2500, precipitation ranges from 350 to 700 mm per year, and altitudes are 100 to 300 meters above sea level; these figures indicate strong conditions for viticulture production.

- *Close geographical location to main markets (Russia, Ukraine, Byelorussia, the EU).* Moldova borders viable importers in the EU and CIS. Additionally, Moldova's proximity to Western European countries, Russia, and Byelorussia, allow for lower transportation costs, giving the industry an advantage over other potential wine rivals such as Chile, Argentina, South Africa, and Australia.

- *Larger wineries have modern and accredited facilities.* The top exporters of wine have purchased modern stainless steel processing, storage, and bottling equipment, which allows them to assure a certain level of quality.

- *Several internationally awarded wines.* Moldovan wineries have won awards at international wine contests such as Mundus Vini, Chardonnay du Monde, the International Wine Challenge, and Mondial du Bruxelles.

This analysis also identified areas where the wine industry has not maximized its capacity or reached its full potential. These weaknesses, now identified, serve as examples of specific opportunities that future work in this sector can pursue.

- *Absence of a national, well-planned wine-making strategy and absence of local wine promotion bodies.* The Government plans for the industry adopted in early 2000 are now irrelevant, especially after the 2006 Russian ban. A new industry strategy is needed, in-line with market realities and conducive to industry development. There have been efforts by USAID|CEED and other donors to mobilize expertise and guide strategic thinking for the industry, however, a formally adopted country strategy has not been executed, in part due to the rigidity of the former Government.

- *Weak knowledge and expertise on alternative markets, such as EU, in comparison to Russia.* Although sales to the EU are improving, most Moldovan wineries have been ineffective in establishing or expanding stable relationships with Western wine traders. This lack of success is caused by several factors, including inappropriate wine styles for target markets, low foreign awareness of the Moldovan wine heritage, and weak market knowledge.

- *Lack of a consistent approach to or financial means for country and sector promotion.* Selling wine means selling the country. Although progress has been made in collective promotion at the winery level—an example being the Moldova Wine Guild—the country still lacks a consistent approach to wine industry promotion and branding. This particularly concerns the generic country promotion for which the government and industry lack the strategy, consistency, and financial resources.

- *The Russian ban and global financial crisis have weakened the industry and the effects are still being felt.* The stocks of unsold wines designated for the Russian market, which numbered 320 million liters by the end of 2009, in addition to financial debts of USD 105 million (as of January 1, 2010) and the inability of many wineries to adjust their strategy and find new markets, are all factors that have negatively affected industry recovery. These setbacks continuously require structural changes within companies and across the industry, which is challenging and contributes to general discontinuity.

Taking into account the industry's strengths and weaknesses, our analysis has identified a variety of directions that future work could take to revive this important sector.

- *Older vineyards and relative low usage of chemicals can stimulate the production of cleaner wines.* In Moldovan vineyards, the vines tend to be older than in other wine growing areas. Also, the application of less water and fewer pesticides and fertilizers, which are too expensive for most small grape-growers, can be an advantage for producing cleaner wines.

- *Booming markets in South Eastern Asia and India*. These markets are growing faster than other markets in the Western hemisphere, and their potential is becoming more significant. Also, the wine culture is not very developed in many of these countries, which could be a real opportunity for Moldovan wines.

- *Closer relations with EU and easier penetration into this market.* The bilateral Moldovan-European agreement facilitating wine trade should be enlarged to more include quotas, since the current level of annual quotas are typically consumed by mid autumn. Also, the Moldovan government could apply for more aid funds aimed at facilitating trade with EU countries.

- *Increased demand in the EU for organic production.* The healthy, organic lifestyle is becoming more and more popular in Europe, and Moldovan wine producers should benefit from this. The profit margin for organic products is higher than for regular ones, and wine producers should take this fact into account and target resources and market accordingly.

- *Emergence of small-scale winemakers in Moldova.* The recently established Association of Small Winemakers, joining together five small wine producers including Equinox and Et Cetera, signals a new wave in the industry. However, due to regulations that are generally favorable to larger producers and discriminatory towards small producers, the association will need to insist on any changes that support the emergence of the small wineries.

- *Build on achieved success in improved wine quality and style.* Implementation of western winemaking practices has generated promising results for beneficiary wineries. These efforts need to involve a critical mass of wineries in order to raise the overall quality of Moldovan wines and the image of the country as a reliable producer of wines.

Looking ahead, we have also identified potential threats or constraints to progress, which were factored into the recommendations we make later in this document. We understand that where opportunity exists for progress, threats exist that need to be anticipated and managed.

- *Fierce competition in the EU from local producers as well as from wine countries such as Australia, Chile, and South Africa, which entered the EU market before Moldova.* The penetration of EU markets by Moldovan wineries is more difficult and requires at times more financial resources than are currently available. This fact places Moldovan wine producers in a difficult position compared to other competitors who have benefited from advantages that many early EU-entrants enjoyed.

- *Worldwide over-production of wine.* The over-production of wines globally currently accounts for around 25 percent of the world wine production. Consequently, this amount of wine puts a drives up wine prices worldwide.

- *The world economic crisis.* The crisis affected the wine consumption in many countries, including Moldova’s main clients, Russia, Ukraine, Byelorussia, whose consumption of Moldovan wine is responsible for a majority of Moldovan exports. It is estimated that demand for wines will drop by 10-15 percent in these countries in 2010, especially affecting imported wines.

Sector Structure

Moldovan wineries produce a wide range of products that could be disaggregated into two big categories: intermediary and end products. Intermediary products are identified as follows:

- *Fresh or crushed grapes (pulp) for wine production.* Grapes are sold by farmers to processing wineries or are exported to neighboring countries, usually over the border. The problem with exporting fresh grapes is their perishability. If kept for more than 4-5 hours, grapes oxidize and become unsuitable for processing. Therefore, wineries often crush the grapes and sulfites to increase their shelf life.

- *Bulk wine.* Bulk wines could be used for production of regular wine, as raw material for sparkling wines, or could be distilled for spirits. Bulk wine exports represent 25 percent of all exports. The bulk wines are sold both domestically and for export. The leading purchasers of bulk wines domestically are the big bottlers that do not have their own processing units, or wineries specialized in collection wines such as Cricova and Milestii Mici. The biggest purchasers of bulk wines abroad are the Byelorussians and the Ukrainians. Most of the bulk wines sold from Moldova are used as raw material for producing sparkling wines using traditional methods, or for producing sweetened wines to be sold in the respective markets. Until recently, the export of bulk wines to Byelorussia was regulated by the Moldovan government, but now the barriers have been removed. Currently the bulk wines from Moldova are least competitive pricewise compared to similar wines from Spain, Argentina, or southern France.

- *Bulk spirits.* The export markets for bulk spirits opened recently as a result of amending the wine law. The amendment eliminated the ban on exports of wine distillates. The domestic market for wine distillates is underdeveloped as well due to fiscal barriers. Given the new legislation, efficient and increased production of wine distillates could be developed to respond to greater export demand, and this could stimulate domestic demand.

The end products could be identified as:

- *Bottled still wines*. There are three classifications assigned to still wines based on their basic defining qualities. Bottled still wines could be categorized in accordance with their alcohol percentage as regular wines and fortified wines, and in accordance with their sugar content as dry, semi-dry, semi-sweet, and dessert. Also, the wines could be categorized in accordance with their ageing as: table wines that are not aged at all, aged wines that are aged in oak barrels for at least three months for white wines or at least six months for red wines, and collection (reserve) wines aged in bottles. Bottled wines constitute the largest category of all wine exports from Moldova. Around 95 percent of all still wine produced in Moldova is exported abroad. The export structure of bottled wine is disaggregated by of sweetened and dessert wines accounting for 75 percent of exports, and the remaining 25 percent consisting of dry table, aged, and collection wines. The majority of still bottled wines from Moldova are sold in lower and medium-low price segments in almost all export markets, where they are perceived as cheap wines aimed at mass consumers.

- *Bottled sparkling wines.* The sparkling wines could be categorized in accordance with the methodology of their production as: classical sparkling wines (also known as Champenoise method) and traditional sparkling wines (also known as tank method). The sparkling wines are assignment the following classifications: extra brut (extra dry), brut (dry), semi-dry, and

semi-sweet. The main markets for exporting sparkling wines are the Russian market and the CIS countries. These wines are exported in small quantities to Western countries as well. Moldovan sparkling wine is sold in the medium-price segment and is more expensive than comparable local products.

- *Spirits*. The main markets for exporting spirits are the Russian market and the CIS countries. as well as selling to the domestic market. Moldovan spirits are sold in the medium-price segment and are very popular in these countries.

Moldova's Main Wine Grapes

Whites

- Aligoté, 23 percent
- Rkatsiteli, 15 percent
- Sauvignon Blanc, 9 percent
- Feteasca Alba, 7 percent
- Chardonnay, 4 percent
- Rhine Riesling, 3 percent
- Traminer, 2 percent

Reds

- Merlot, 9 percent
- Cabernet Sauvignon, 8 percent
- Pinot Noir, 7 percent

The Moldovan wine industry is still a decentralized industry, being composed of many independent players, including the following main constituents:

- *Grape growers.* Growers represent individual private farmers, farmer cooperatives, and agricultural companies. Farmers make up the largest category of all grape producers accounting for around 50,000 people. Some farmers are gathered into farming cooperatives, which take responsibility for producing and selling the grapes. Most of the cooperatives are specialized not just in grapes, producing a whole range of agricultural products such as wheat, corn, apples, etc. Agricultural companies are similar to cooperatives in terms of product portfolio. The difference is the land ownership; most agricultural firms rent land from farmers. Cooperatives are processing the land of the members.

- *Wine processors.* This category of wine producers is the most common. These companies only have processing and storage equipment, following the Soviet model of producing wine. They currently represent more than 50 percent of all the wine producers and can be found in any major village in the Southern and Central part of Moldova. About 1/3 of these wine processors are not operating due to financial problems. Their main outlet markets are outside of Moldova. The export of wines in bulk has decreased dramatically compared to three years ago.

- *Wine bottlers.* There are not so many wine bottlers that buy bulk wine for bottling and do not produce their own wines. The bottlers represent approximately 15 percent of all wine enterprise in Moldova. These are usually new companies that were built in the second half on 90s or in first half of 00s. Sometimes the bottlers are renting processing units during the harvesting seasons for producing their own wines.

- *Vertically integrated companies.* Most of the industry leaders have integrated all the production processes from grape growing to bottling. They purchased agricultural land and planted new vineyards with clones of European varietals. In some cases, the vineyards are leased for a long period of time. Some of the vineyards belonging to the same producers are spread into different viticulture zones, such as the Southern zone, which is specific for red varietals, and the Central zone, which is specific for white varietals. This diversification allows the wineries to expand their range of wines. The grapes are processed by their own processing units, which are located in close proximity to the vineyards. Later, the bulk wine is shipped to a central location plant for storage, treatment, and bottling. These plants are located closer to railroad access to accommodate grapes' perishability. Most of the wines

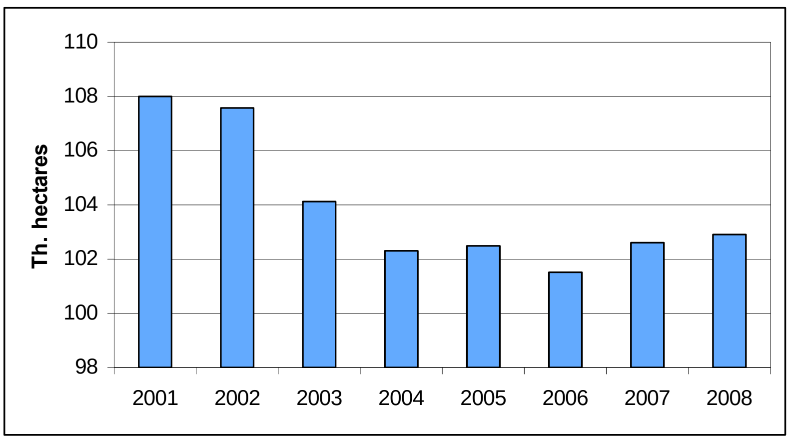
produced by these companies are exported. Their production capacity before the 2006 ban was considerable, exporting 10-15 million bottles per year, mostly to Russia. Most of these wine companies have their own trademarks, and some producers are involved in commercialization of bulk wine as well.

Grape Varietals and Vineyard Area

Moldova currently maintains approximately 103,000 hectares of vineyards that yield grapes, out of which roughly 85 percent (about 87,000 ha) represent grapes for producing wines, and the remaining 25 percent (16,000 ha) being table grapes. About 95 percent of this area is planted to Vitis Vinifera varieties of Western European, Caucasian, or indigenous origin, with roughly 60 percent planted to white varieties, mainly concentrated in the central part of the country, and 35 percent to red varieties, mainly in the south. About 5 percent is planted to local, wild Vitis Labrusca varieties like Isabella, Noah, and Lidia.

Exhibit C-1 shows the evolution of vineyard surface area from 2001 to 2008. According to these data, the surface decreased by roughly 5 percent. The smallest area under vineyards was in 2006, right after the Russian ban was imposed. Since then, the decline has stabilized due to new plantings exceeding the uprooted old ones. The two consecutive years 2007 and 2008 show a relative increase. This fact could be interpreted as a result of the Government program of viticulture rehabilitation.

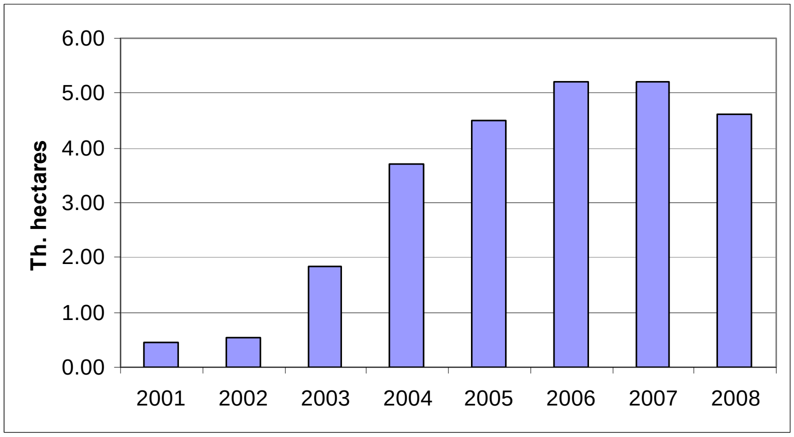
Exhibit C-1. Commercial Vineyards Yielding Grapes, 2000-2008, Thousand Hectares



Source: Moldova Vin

The area of new planted vineyards grew constantly since 2003, when the Government program for viticulture rehabilitation was put into force. Nevertheless the structure of new vineyards is different. If in 2003-2006 most (around 90 percent) of the planted vineyards were of wine varietals, then in 2007-2008 the wine grapes accounted for about 50-60 percent. This is a direct consequence of the Russian ban, as the wine grapes became less demanded on the market.

Exhibit C-2. New Vineyards Planted, 2001-2008 in Thousand Hectares



Source: Moldova Vin

Main Categories of Industry Players

As previously introduced, the wine industry in Moldova is composed of four categories, or links in the value chain: grape producers, wine processors, wine bottlers, and full cycle vertically integrated companies. To best understand how the industry is structured, these four categories are described in greater detail in the paragraphs that follow.

Grape producers. According to statistical data provided by the State Agency Moldova Vin, about 96 percent of all vineyards are in private use. There are three main types of legal private organizations that produce grapes for sale: private farmer households and farmer cooperatives, agricultural companies (limited liability companies, and joint stock companies) and grape processors (wineries). The ownership structure is given in Exhibit C-3.

Exhibit C-3. Vineyard Ownership Structure

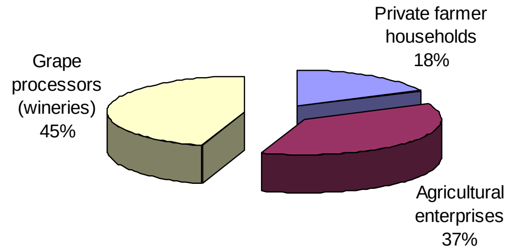
Ownership	Percent of vineyards
Private farmer households and cooperatives	40 percent
Agricultural enterprises (LLCs and JSCs)	36 percent
Grape processors (wineries)	24 percent

Source: State Agency Moldova Vin

Around 40 percent of grapes available on the market are produced by small, private grape producers with less than one hectare. This is very unfortunate, since they are not able to apply modern agricultural practices, which leads to small yields per hectare and low quality of the grapes. Nevertheless, the average areas are continuously increasing as some farmers consolidate their vineyards through purchasing or planting.

The leaders of new vineyard plantings are the grape processors, which planted around 45 percent of all new vineyards (see Exhibit C-4), but the situation is in flux due to the financial problems caused by the Russian ban and the economic crisis.

Exhibit C-4 Structure of New Vineyards



Source: State Agency Moldova Vin

Vineyard management is a complex process that requires a lot of skills and knowledge. Winemakers say that the quality of the wine depends very much on grapes (90 percent) and very little on processing technology (10 percent), which is encouraging given that new equipment costs money and capital since 2006 has been limited.

Wine processors. Most of the wine processors (around 95 percent) are private companies, and LLCs and JSCs predominate. Also, some processing units are in collective ownership, and belong to farmer cooperatives. These are medium-sized companies that employ around 100 people in total, excluding the seasonal workers. Typical operations include grape processing, wine production, and wine storage. Some processors own vineyards and produce their own grapes. In the old times, most of the wineries in Moldova were producing wines locally and shipping them to Russia and other parts of the Soviet Union in railroad carriage. The model was inherited from those times and is currently applied by around 45 bulk wine producers. Moldovan wine producers are very famous for producing white wines as raw material for sparkling wines.

Contracting with Farmers and Cooperatives

In the past, this was the common practice for obtaining grapes but guaranteed only a certain degree of fruit quality. The wineries usually offered credit by advancing inputs such as fuel, fertilizers, and chemicals. Most of the wineries also provide agronomic services, such as crop protection and vineyard management advice. Despite the efforts made during the last three to four years and despite the availability of the agricultural extension services, the level of agricultural skills is still insufficient to guarantee requisite grape quality for the wine producers.

Given the size of cooperative grape farms, decision-making isn't usually centralized and this has made collective agreements difficult and collective progress stunted, particularly in equipment upgrades. It has been noticed that companies that were able to receive one or a few majority shareholders were able to overcome the management deficiencies, and upgrade their facilities.

The degree of rivalry/cooperation among bulk wine producers depends very much upon the degree of state regulations policy of the trade with bulk wines. Until recently the state had a tendency to restrict the export of wine in bulk through imposing barriers, which greatly affected free trade to main clients such as Russia and Byelorussia. The wineries were forced to sell their wines through one single export window, which was run by a local bulk producer. Respectively, since the window had a limited operational capacity, they were forced to fight for their right to export. Now these barriers have been shifted and the wineries are free to export their wines directly, which increases their ability to choose their own partner without any intermediary. As a consequence the market became freer and the degree of cooperation increased.

Wine bottlers. All wine bottlers are private companies and most of them are LLCs with a small number of shareholders, some of them with foreign capital. As a general rule, these are relatively new companies

that emerged in late 1990s early 2000s and are built by early exporters of Moldovan wines to Russia. The total number of employees does not exceed 50 people. As in the case of the wine processing companies, most of the employees are vocational workers. Typical operations include wine storage and bottling. These wineries are buying wines on the side and are bottling it for export. Sometimes these wineries are selling bulk, low-end sweet wines for export, especially to Byelorussia, Russia, and Ukraine. These are less risky operations since they do not invest their money in long term assets and can use short financing from the banks.

Since they have few shareholders, the decision making process is very quick. The wineries can adapt quickly to new market conditions and make all necessary changes to their business model in accordance with market demand. These companies usually work on short money and are not willing to invest in long term assets such as vineyards or costly equipment. The cooperation between such companies is low and rivalry high; as a rule, they are trying to sell their wines at the lowest price possible and ship large quantities of wine over the border.

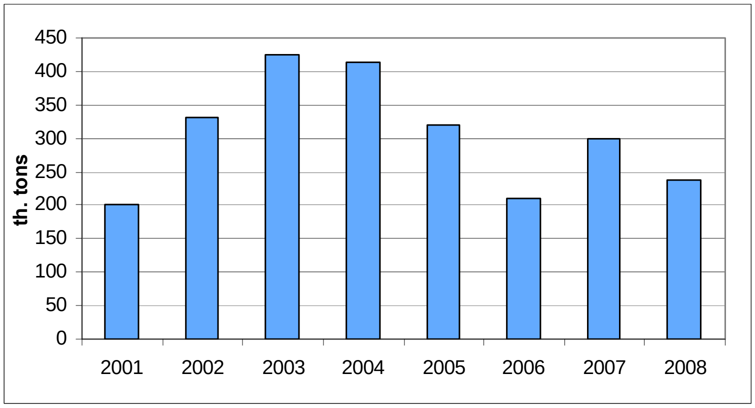
Full cycle vertically integrated companies. The fully integrated companies have emerged either as the result of the privatization of old state bulk wine producers, or were built from scratch more recently. Among them are companies with foreign capital, especially from Russia. These companies are the largest of all. Since they conduct vineyard operations, most of these companies employ 150-200 people. Also, they use a lot of seasonal workers. In many cases these wineries represent the sole source of employment in the village where the winery is located. Typical operations include: grape growing and processing, wine production and storage, wine bottling and ageing. Vertical integration allows these companies to control the quality of the final product through all the processes, which is very important in case of Moldova. This is a risky endeavor, however, and these companies are tying up their financial resources in long-term assets such as vineyards. Most vineyards went through a deep upgrading process, where new technologies and equipment were put in place covering most areas of grape processing, wine production and storage, and bottling. As a result of such investments, the wineries are able to produce wines that meet with international standards.

The strategic decision making process is very simple and quick, since the number of owners is small. The degree of rivalry is high because they are competing for the same markets. Nevertheless, a group of wineries have formed a marketing association called the Moldova Wine Guild. This is an indication that the mentality is changing and that cooperation is accepted in order to promote the image of Moldova and its wines abroad.

Sector Performance

Wine production depends upon two major factors: weather conditions and evolution of wine demand. During the period 2001-2008 the industry faced two big declines in the volume of the grapes crushed in 2001 (200 thousand tons) and in 2006 (210 thousand tons). While the 2001 drop in volume can be explained by poor weather conditions, the 2006 decrease is a direct consequence of the Russian ban.

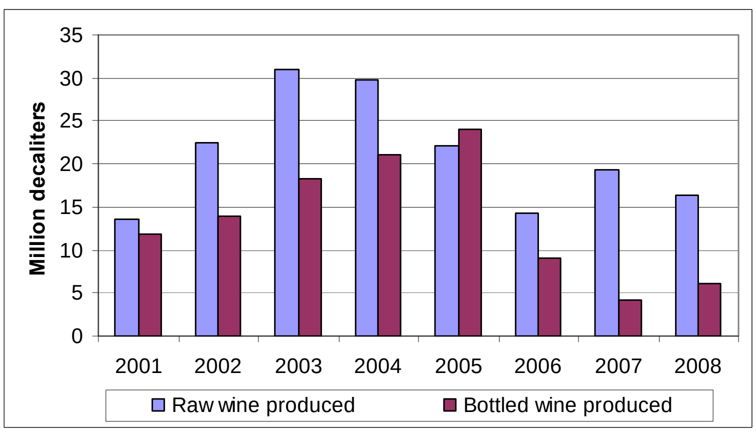
Exhibit C-5. Grapes Crushed for Wine Production, 2001-2008, Thousand Tons



Source: Moldova Vin

The productions of the raw wines followed the same trends as the volume of crashed grapes. Nevertheless, the raw wine production generally exceeded the production of bottled wines during the reported period. In 2007, the stocks of raw wine exceeded by more than four times the production of bottled wine, and in 2008 by more than two times. This is an indication that the industry is producing not for the market, but for the warehouse. Currently there are around 26 million decaliters of wine sitting in the tanks, which piled up since the 2006 Russian ban.

Exhibit C-6. Raw and Bottled Wine Production, 2001-2008



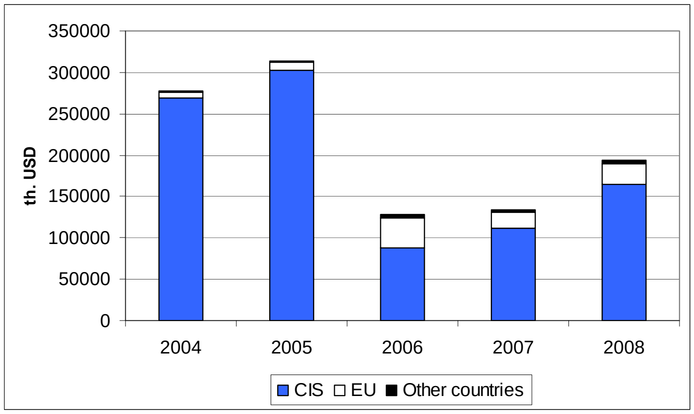
Source: Moldova Vin

The Moldovan wine industry is export-driven. It sells around 95 percent of all its wines and spirits abroad. The export history can be divided into two periods, the pre-Russian ban period that lasted until March 26, 2006, and the post-ban period, which continues today. The period 2004-2005 showed a very positive trend, the sales figures reaching around $310 million by the end of 2005. It was one of the biggest sales figures ever achieved by Moldovan wine producers. But in 2006 the sales dropped dramatically by 59 percent as a direct result of the ban (see Exhibit C-7).

In 2007 the sales continued to be very depressed, with a minimal and slow increase only 5 percent. Only in 2008 did sales escalate more significantly, by 44 percent compared to previous year. As a result, the wine inventories have piled up significantly in 2006-2008. According to industry experts, now the wine inventories total approximately 240 million liters, out of which 100 million liters represent the old wines

(more than two years old) that have a low commercial value and are very difficult to sell. Consequently, the sales in 2009 will be affected by stocks of wines produced in 2008 and earlier.

Exhibit C-7. Moldovan Wine Exports by Groups of Countries 2004-2008



Note. The 2006 figures do not include exports to Russia
Source: Moldova Vin

The leader of sales in 2008 was the Bostavan group of wineries with 6.114 million liters. It is worth noting that four of the five industry leaders were members of the Moldova Wine Guild: Bostavan Group, DK Intertrade, Lion Gri, and Acorex. All of the top 10 wineries got their authorization to sell in Russia in 2007, and according to export statistics all of them exported significant quantities of wines to the Russian market in 2008, which could explain their leader position. In contrast, in 2006 the leader position was kept by the wineries that managed to increase sales to Ukraine, Byelorussia, and Romania, which were considered very important at that time.

In March 2009, the CEED project conducted interviews with several of the most active wineries in Moldova, which revealed that the profitability margin has decreased from 30-35 percent 5 years ago to 5-10 percent today and many wineries are currently operating at break-even points or below. The profitability margin decreased as a result of many changes that occurred since 2006, including the introduction of viticulture tax and authenticity stamps, increased certification costs, increased interest rates, and changes in payment conditions for suppliers of ancillary materials. There are other indirect costs that have emerged lately such as the appreciation of MDL against USD and Euro and more costly loans. Consequently the profit margin has been eroded to its current values. Looking forward, it will be critical that the industry considers and anticipates external factors that are out of their control, and try to manage the factors—like lobbying for debt restructuring and the elimination of burdensome taxes, targeting and catering to realistic markets, and prioritizing and pursuing necessary equipment upgrade—they are able to affect.

Cost Structure

To better understand the cost constraints along the value chain, please find below an exhibit detailing production and indirect costs for the processing of an individual bottle of medium-level wine.

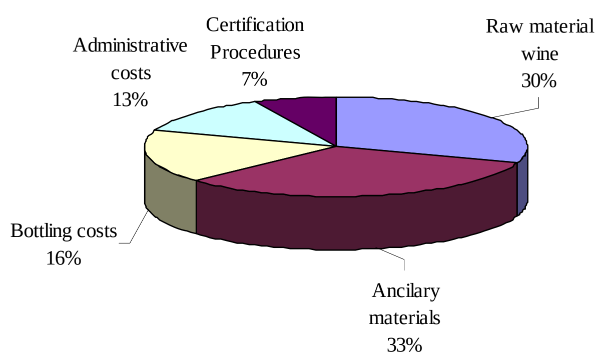
Exhibit C-8. Price Calculation for a Bottle of Medium Quality Semi-Dry Wine

	Expense item	USD	%
Production costs	Grapes	0.15	11%
	Processing	0.20	15%
	Raw material wine	**0.35**	**26%**
	Bottle	0.15	11%
	Cork	0.08	6%
	Capsule	0.02	2%
	Label	0.08	6%
	Carton	0.05	4%
	Ancillary materials	**0.38**	**29%**
	Bottling costs	0.20	47%
	Administrative costs	0.15	11%
	Profitability	0.16	15%
	Cost of wine EXW Moldova	**1.24**	**94%**
Certification procedures in Moldova	Trade mark	0.02	2%
	Viticulture rehabilitation tax	0.03	2%
	Certification Moldova Vin	0.03	2%
	Certification Procedures	**0.08**	**6%**
	Price of product EXW Moldova	**1.32**	**100%**

Source: Information provided by wineries

As Exhibit C-9 below shows, the largest share of production costs for producing a bottle of wine are the raw materials (30 percent) and the ancillary materials (33 percent).

Exhibit C-9. Cost Structure for Producing a Bottle of Medium Quality Semi-Dry Wine



Source: Information provided by wineries

This disaggregation indicates opportunities for reducing or eliminating burdensome costs along the value chain, including the possibility of lobbying for reduced certification procedures, or reevaluating which products are imported or produced locally.

Demand Conditions and End Markets

As previously discussed, the wine sector has suffered particular misfortunes in the past few years as a result of the Russian ban. While a variety of Moldovan industries have seen setbacks due to economic instability, the wine industry suffered considerably when it lost its largest export. As a result, the sector is now at a critical juncture to consider new markets, pursue streamlined transportation logistics to target

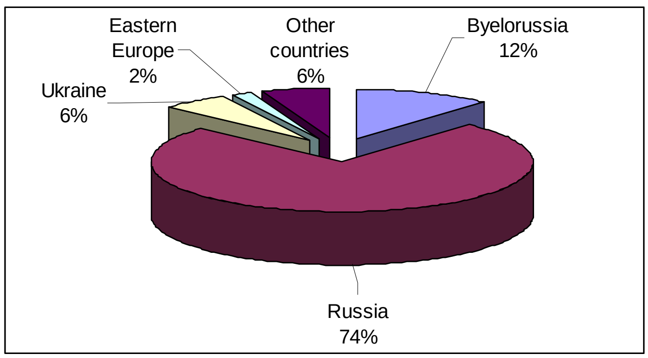
these new markets, better tailor marketing and promotional activities, and reestablish the Moldovan brand in regional markets.

Exports

The Moldovan wine industry is entirely export-oriented, rendering it both susceptive to the regional and global economic realities, but also making the industry profitable and high-potential. Moldova's a small country with free trade so industries relying too heavily on the domestic market can't see the growth potential of industries like winemaking whose horizons are broader and export-driven.

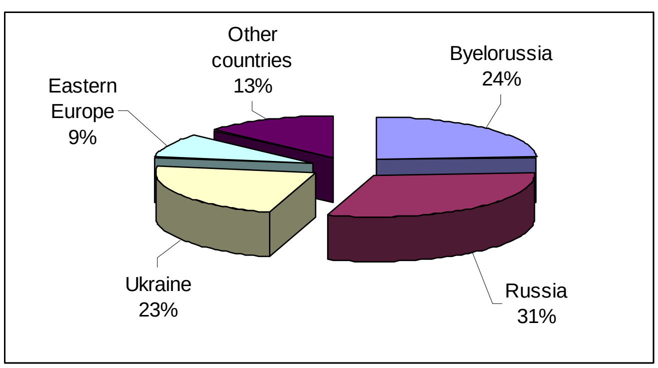
The structure of Moldovan wine exports has changed significantly since 2006. In 2004-2005, exports to CIS countries accounted for roughly 95 percent of all exports, while by 2006 the CIS countries accounted for only 68 percent of all exports. Concurrently, the EU market grew to 29 percent in 2006 compared to only 2 percent in 2005. Following the ban, by 2008 most of the exports were spread between Russia (31 percent), Byelorussia (24 percent), and Ukraine (23 percent). The Eastern European countries accounted for roughly 9 percent.

Exhibit C-10. Export Destinations by Country in 2005



Source: Customs Department

Exhibit C-11. Export Destinations by Country in 2008

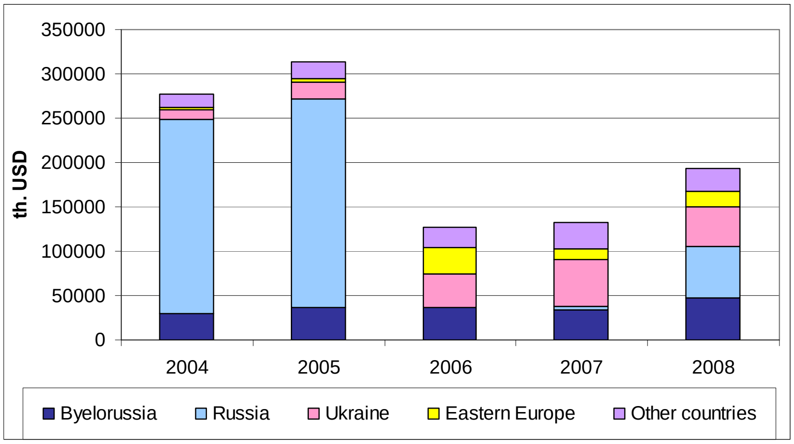


Source: Customs Department

The exports dynamic is shown in Exhibit C-12 on the following page and are described briefly. The volume of wines exported to EU increased in 2006 by 2.6 times compared to 2005. In 2007 the exports to EU countries decreased by 49 percent mostly because Romania stopped importing Moldovan wines after it acceded to the EU. In 2007-2008, the trend reverted to the pre-ban period where CIS represented around 83 percent of all exports. In 2006-2007, the exports to Ukraine increased significantly, their share

reaching almost 40 percent of all wine exports. This significant increase could be explained by the fact that Ukrainian consumer patterns resemble to the Russian ones and the country is located in the close proximity of Moldova. The Byelorussian share increased slightly over the time from 10 percent to 24 percent now. Eastern European countries such as Poland and Romania increased their share in the total export of wines from Moldova in the period 2006-2008 to around 9 percent from 2 percent in 2005.

Exhibit C-12. Moldovan Wine Exports by Main Markets, Thousand USD



Source: Customs Department

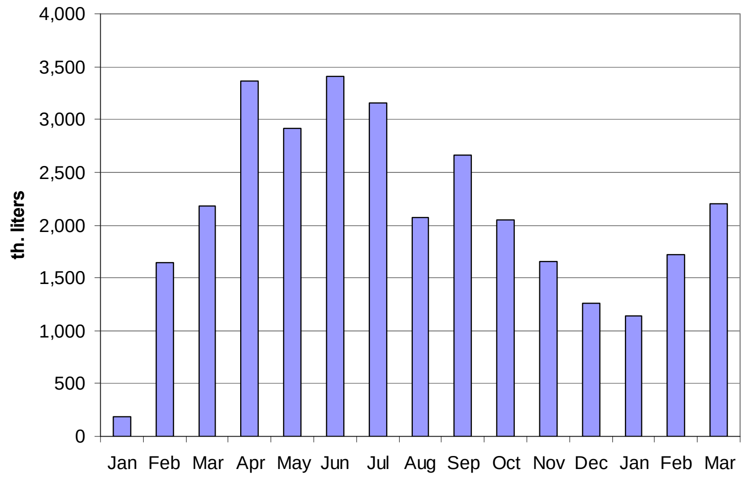
According to 2008 export data, the top ten wine exporters accounted for 73 percent of all wines exported from Moldova compared to 68 percent in 2006. This figure remained relationship steady, which suggests that despite the Russian ban and economic crisis, the leading Moldovan exporters maintain fairly stable business operations.

Regional Markets

Russia. The Russian wine market re-opened to Moldovan wine producers in November 2007 and up to now, 29 wine companies received the authorization to export their wines in Russia. In 2008, exports to Russia reached USD 58.892 million or 26.524 million liters, which was only 25 percent of the total exports to this country in 2005.

Increases in sales since early 2009 may be explained by the fact that recently most Moldovan wineries adopted more secure payment conditions, such as a combination of 50 percent prepayment and letters of credits or bank guaranties. We see the improved payment conditions as a proven and effective stimulus for sales, and as such could foresee such opportunities in the future to enhance the competitiveness of this sector through financials advice to and support of the wineries.

Exhibit C-13 Monthly Exports of Moldovan Wines to Russia 2008-2009



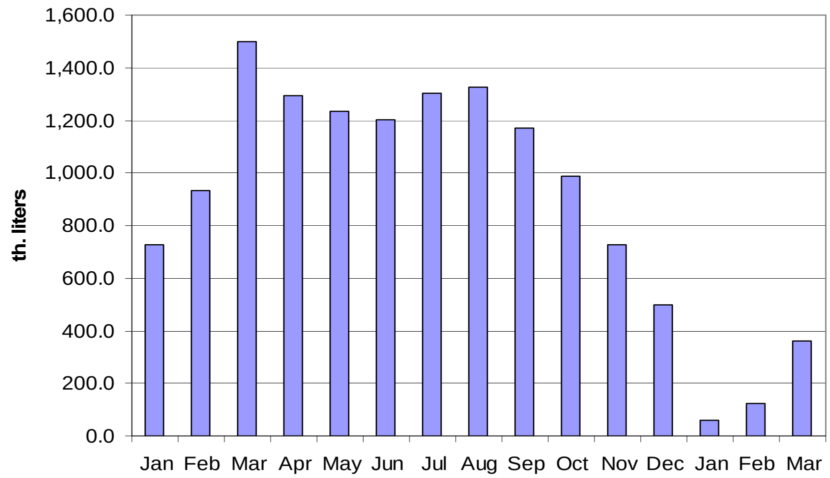
Source: Moldova Customs Department

The biggest portion of wine exported from Moldova to Russia is semi-sweet or sweetened, accounting for 75 percent of all wine exports to Russia. Around 20 percent of these exports are dry table wines, and only 5 percent represent high-quality premium wines, which reflects the general consumer perception that Moldovan wines are inexpensive and low quality. There is an opportunity here, and generally, to consider consumer perceptions of Moldova and its wine heritage, and through careful advertising, increase sales through higher-value products.

The public advertising of alcoholic beverages is prohibited in Russia. As a result, importers and distributors advertise their wines through specialized press such as wine magazines or over the Internet. Also, promotional advertisement is very common in supermarkets, consisting of wine tastings and special price offers. Wine producers usually agree to allocate marketing funds for such promotions, and Moldovan producers are adequately engaged in promotions to the Russian market. As previously proposed, adjusting consumer perceptions of the quality of Moldovan wine through more targeted advertising is an opportunity in the next few years.

Other CIS countries. Of the CIS countries, most Moldovan wine is sold to Ukraine and Byelorussia. Both countries import bottled wines as well as bulk wines. In the previous two years, Ukraine was ranked first and served as life support for Moldovan wine producers after the ban. In 2008 exports to Ukraine reached USD 43.88 million or 12.91 million liters a significant increase (138 percent) since 2005.

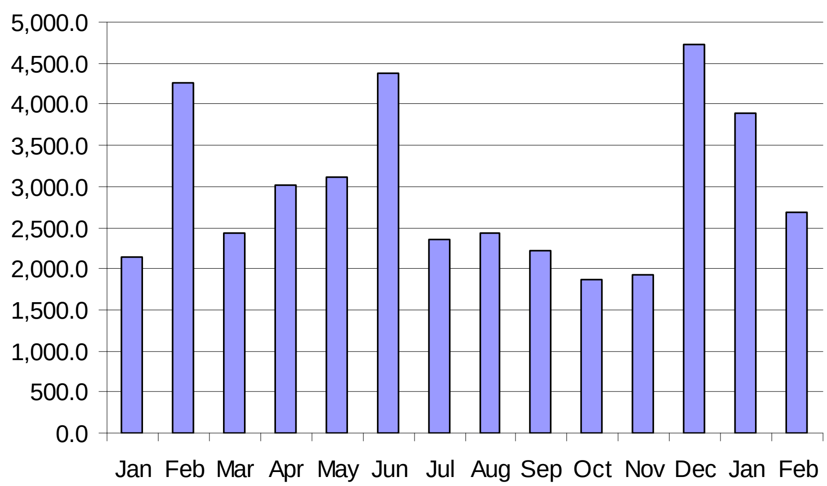
Exhibit C-14. Monthly Exports of Moldovan Wines to Ukraine 2008-2009



Source: Moldova Customs Department

In 2008 exports of bulk wines to Byelorussia reached USD 28.911 million or 34.833 million liters, a 10 percent increased since 2007.

Exhibit C-15. Monthly Exports of Moldovan Bulk Wines to Byelorussia 2008-2009



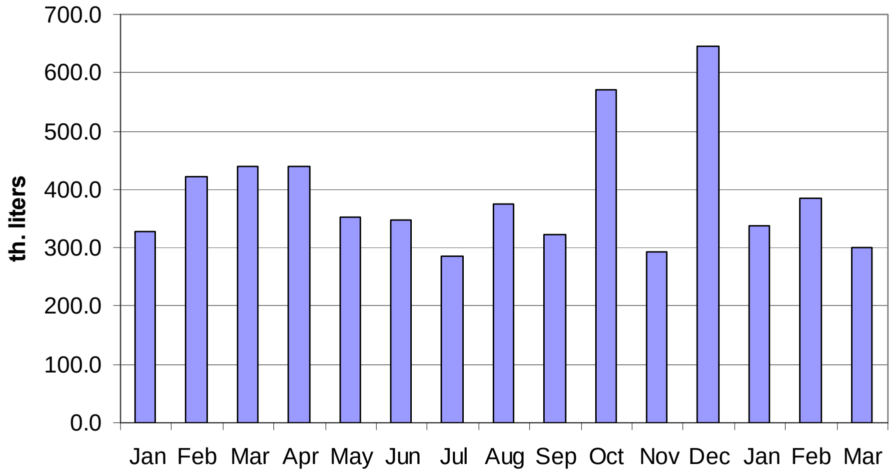
Source: Moldova Customs Department

The Ukrainian market structure very much resembles the Russian one. Moldovan wines are sold in almost all type of retail chains starting with supermarkets and ending up with small neighborhood stores. Also, some premium wines from Moldova could be found in upscale restaurants in Kiev and Odessa. The market structure in Byelorussia differs from the wine in Ukraine, since the Byelorussian economy is more centralized. Moldova exports mostly sweetened wine to these two countries, which accounts for about 75 percent of total exports, and with the same disaggregation of 20 percent table dry wines to around 5 percent premium wines. This again demonstrates an opportunity to showcase Moldovan wine heritage and increase the profit made on comparable production volumes. Wine is not heavily advertized in Ukraine or Byelorussia. Distributors use the point of sales to advertize their products or stimulate sales. Identifying

specific advertising schemes in various end markets is an important objective to ensure Moldovan branding is reaching its audiences.

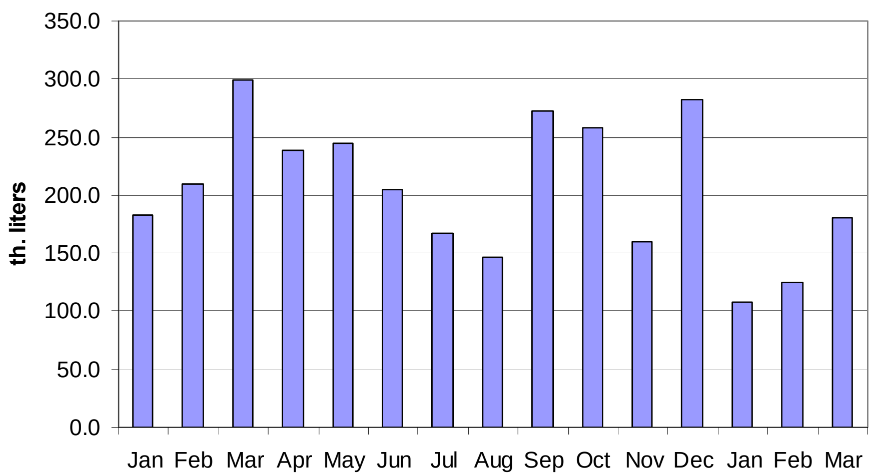
European countries. The main destinations of Moldovan wines in Europe are the neighboring countries, including Poland, the Czech Republic, and Romania. In 2008, exports of bulk wines to Poland, Romania, and the Czech Republic reached USD 18.109 million or 14.768 million liters, a 42 percent increase since 2007. Though these countries are affected by the financial crisis, they generally remain more stable than the CIS countries, and as such are more reliable clients for Moldovan winemakers. Please find monthly export reports for these regional markets in the following exhibits.

Exhibit C-16. Monthly Exports of Moldovan Wines to Poland 2008-2009



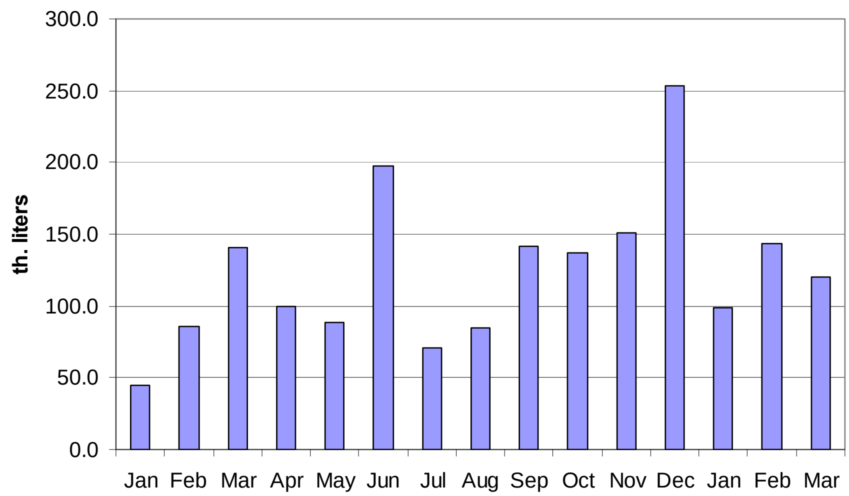
Source: Moldova Customs Department

Exhibit C-17. Monthly Exports of Moldovan Wines to Romania 2008-2009



Source: Moldova Customs Department

Exhibit C-18. Monthly Exports of Moldovan Wines to Czech Republic 2008-2009 by Volume



Source: Moldova Customs Department

The distribution systems in these three countries are similar. The markets are dominated by big supermarket chains such as Metro, Carrefour, Lidl, etc. Smaller shops are still common, but they started to lose ground in front of the chains. Moldovan wines are distributed by big distributors such as Domain Menda in Poland, which covers the whole country, or by smaller companies, which cover only small regions, such as in Romania. The same types of sweetened wines are popular in these countries, and they represent around 70 percent of all exports. Most of the wines are sold in the lower-price segments, where they compete with cheap wines from Bulgaria and Macedonia.

In all three countries the advertising of wines is not restricted. The main promotion activities take place at the point of sales. Also, in these countries the wine press is quite developed. For instance, in Czech Republic and in Poland there are several influential wine magazines, where Moldovan wines have been featured in the past. These advertising avenues can be further exploited, and the Moldovan brand even more prominently featured.

Domestic Market

Based on data provided by Moldova Vin, the estimated annual sales of table wines in Moldova in 2008 totaled roughly 3 million bottles, out of which around 90 percent were consumed in the capital city Chisinau.

In 2008, the average consumption of bottled wines in Chisinau accounted 4.0 liter per capita. In other towns (excepting Balti) the wine consumption of bottled wine is less than 1 liter per capita. For comparison, the consumption of homemade wine in Moldova is estimated at around 30 liters per capita. In villages the bottled wine is almost not sold in stores. There are two main causes for differences in the consumption of bottled wines versus homemade wines. First of all, the winemaking traditions are deeply rooted in villages. Even in big cities like Chisinau and Balti, there are many people who make they own wine and store it in basements in garages. Second, the income difference between rural and urban areas is huge. According to official statistics, the average income per household in Chisinau is 1.8 times higher than in the rest of the country.

Additionally, even in Chisinau the wine consumption is inferior to per capita wine consumption in other European wine countries. This is due mainly to the less developed culture of wine drinking among city

dwellers. In effect, those in Moldova who can afford to purchase premium Moldovan wines are less active in the wine culture and less inclined to choose wine over other spirits. According to expert data, only around 5 percent of the urban population has some wine drinking experience. Given the relative wealth of urban consumers, pursuit of more targeted marketing campaigns in Chisinau and other cities could stimulate the domestic market.

The domestic market is dominated by semi-dry and dessert wines, which represent more than 70 percent of all sales. Wine distribution in Chisinau is mainly conducted through distribution companies such as Romatim, Vladlina, and Octopus, etc. Taking into consideration the fact that domestic sales represent not more than 10 percent of overall sales, many wine companies don’t use their own sale force. Instead they sell to distribution companies, which distribute to retail stores, restaurants, bars, and hotels. There are several exceptions such as Chateau Vartely and Cazaiac, which organized their own distribution. Several wineries, such as Cricova, Milestii Mici, Aroma, Vismos, and Vinuri Ialoveni have their own stores. The distribution of wine in the domestic and international hospitality industry, as previously suggested, offers the industry a cultural presence in countries to which these wineries are exporting, affecting consumer perceptions and helping to define Moldovan heritage.

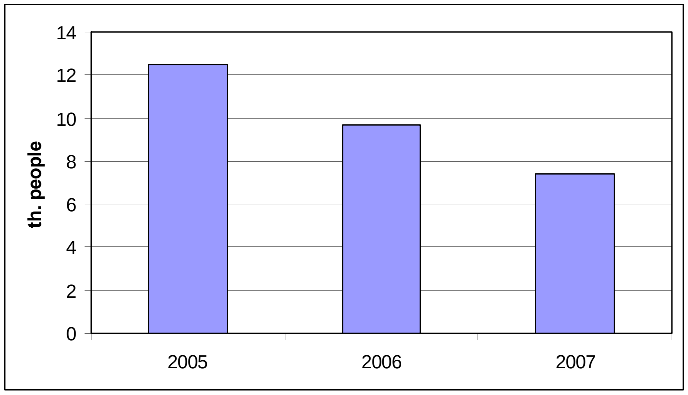
Currently, wine promotion in the domestic market is handled by the wineries, rather than undertaken by the distributors. Wineries use visual advertising as well as promotional techniques. A special way to promote wines, which is becoming popular lately, is public relations. Visual advertising includes street billboards, and in-store advertising. Public relation advertising includes sponsoring articles in the local press (ex. success stories about winery or wines), giving press conferences with the occasions of special events (ex. winning wine contests, entering new markets, etc.), and participating in local wine fairs and exhibitions. The most active companies in promoting their products on the domestic market are Purcari Vin, Bostavan, and Chateau Vartely.

Company Structures, Rivalries, Linkages, and Relationships

There are over 200 companies registered in the wine industry, although only roughly 70 are fully operating. As previously described, the industry is commonly divided into four workforce components: grape producers, wine processors, wine bottlers, and full cycle vertically integrated companies. Linkages among industry players can either grow vertically or horizontally, although in Moldova vertical growth is more common because this structure is based on wineries controlling the supply of raw materials. Horizontal linkages are less common due to limited markets and increasing rivalry among the industry players.

In terms of employment, according to the official statistics, the labor figures in the wine industry (without viticulture) show a decrease since 2005 (see Exhibit C-19). This is a direct consequence of the deep crisis that the industry is going through following the Russian ban.It is expected that the jobs in the wine industry in 2009-2010 will account for only half the jobs in 2005.

Exhibit C-19. Wine Industry Employment



Source: State Department of Statistics

Given the wine industry's presence in all regions of the country, it is critical that the sector be revamped to encourage sales growth and increase employment. In many rural areas, entire villages and regions are employed by the local winery, and the local economy may depend entirely on its operation.

Challenges and Opportunities

As part of the SWOT analysis that informed our proposal to continue work in the wine sector, we identified various challenges that Moldova faces in the sector, as well as opportunities for development. We will discuss the investment and business environment, policy and legislation, supporting or emerging industries of relevance, and development of the wine sector value chain in the pages that follow.

Business Environment

Foreign investment. The investment climate in Moldova provides low incentives for domestic and foreign investors. Despite some progress, the overall business environment in Moldova remains challenging. Composite investment climate indicators rank Moldova low in regional scoring, and suggest that regulatory and tax administration constraints are major impediments to private sector-led economic growth. The prohibition on foreign ownership over agricultural land represents a major constraint in attracting foreign investment. It is currently considered in Moldova to be critical for a winery to be vertically integrated, in order to better control quality and the supply base through its own vineyards. There are a few approaches to overcome this barrier to foreign ownership of agricultural land, one of which is long-term leasing. However, some investors consider these approaches too risky and prefer other more secure investment opportunities.

Even being short on capital, Moldovan wine producers are reluctant to accept foreign investment and give up control over their companies. They prefer loans to investment, as they are unwilling to share the future profits. There have been rare cases when wine producers have gone public and offered shares in company stock for sale at the stock exchange in Moldova. Some wineries are still owned by the state and will not be privatized, while private joint ventures are better capitalized and disinclined to sell stocks.

Financing. The banking sector in Moldova is quite developed with 15 commercial banks currently operating and the continuing emergence of foreign banks in Moldova will no doubt expand the range of banking products and services. Moldovan commercial banks provide a large variety of financial products, which are able to service most needs of the wine sector. However, there is a shortage of long-term resources, which limits structuring of lending products for new vineyard planting; new vineyards require six to ten years to recoup investment. Banks tend to lend their own resources for a maximum of 60

months, while banks obtain funds for longer-term lending from international financial organizations such as the World Bank and EBRD. These funds help compensate for the deficit of long-term commercial financing but are insufficient to cover the sector's longer-term financing needs. Donor funds include credit lines channeled through local commercial banks available for new vineyard planting. Government intervention to subsidize planting of new vineyards is addressing commercial financing limitations.

Policy

According to local and international experts, the wine sector in Moldova is overregulated by a multitude of administrative authorities. The Moldovan legal and regulatory system, inherited from the Soviet Union, lacks transparency and is bureaucratic in comparison with Old World and New World wine-producing countries. There have been endeavors to adjust some regulations to international practices, particularly alignment with the EU, but they were done discretely and there has been no consolidation or generalization of these modifications in order to avoid internal contradictions. In particular, legislation and other normative documentation are not keyed to the current market or flexible enough to respond to market changes.

The Many Layers of the Framework

Moldova has a multitude of overlapping laws, regulations, standards, rules, and instructions. In some cases, they are contradictory or obsolete.

- Laws
- Government Decisions
- State Agency Moldova-Vin Orders
- Technical Regulation (1)
- Standards (14, became voluntary January 2007)
- Technical Standards (100)
- General Rules (5)
- Technical Instructions (20)
- Technological Instructions (4000+)

In general, there are a number of critical factors related to the constraints of and opportunities for the legal and regulatory framework:

- Licensing and certification procedures do not comply with the national effort to reform and improve the business environment
- The wine business is overtaxed by the Government
- The participation of the private sector in decision-making is limited
- Even though the legal framework is restrictive, final products do not respect the principles of consumer protection and do not comply with standards of importing countries
- The legal system does not ensure free competition and imposes disincentives on small and medium-sized wineries

Supporting Markets/Industries and Value Chain Cooperation

A variety of service providers are established along the wine value chain, with various constraints to be addressed and successful models to be supported.

Agriculture extension services. Most small-scale producers acquired their vineyards as a result of privatization of collective farms that included vineyards, and as a result, most have limited training or experience in viticulture. Currently, the available extension service providers are thinly stretched, and so extension services represent a weak link in the viticulture/wine value chain. Organizations active to various degrees in providing viticulture training and materials in approximate order of importance are: National Agency for Rural Development (ACSA), Agroinform, Moldova-Vin, Ministry of Agriculture and Food Industry, and National Institute of Wine and Vines. Development of extension service providers, as well as a focus on capacity-building to help farms and wineries operate sustainably without constant support, should be a priority in the coming years.

Wine equipment suppliers. The whole range of winemaking equipment is currently available in Moldova from either local producers or imported from abroad. It must be underlined that most foreign equipment

suppliers to the wine sector have installment sales programs, which allow the local wineries to defer payment of purchased equipment for up to two or three years. This allows the wine producers to finance smaller investment needs, and the interest rates are sometimes lower than those on the domestic market. This link in the value chain seems to be operating fairly well, and should be supported.

Winemaking consulting services. The winemaking consulting services are usually provided by the same companies that supply inputs. Also, the National Wine Institute provides consultancy, especially for wines that are produced as DOC wines. The consulting services cover the whole winemaking process from vineyard to bottle.

Transportation and logistics services. There are many companies that provide services for transporting wines, both to the Eastern and Western markets. Almost all transportation and logistics companies are local, and as a result of decentralized production information, and inconsistent and typically low shipment volumes, transportation of goods can be costly and time-consuming.

Marketing and branding services. Complex marketing services have not been developed yet in Moldova. There are a few market research or branding companies that are specialized in wine. When discussing marketing most winery managers only consider advertising. This market is well developed and some wine producers hire advertising firms to produce advertising materials for television, radio, outdoor advertising, and other media.

Cluster development. Being a mono-product, the main players of the Wine cluster are the wineries, whether producing, bottling and/or selling [primarily exporting] wine. Although about 125 by number, the wine producers are quite concentrated, with top ten wine exporters accounting for over 70 percent of all exported wines. The stronger wineries also are vertically integrated, having the entire cycle from grape production to trade and distribution of wines. The supporting industries is composed of the following players: *Raw material input* (wine producers and exporters (wineries), grape growers); *Auxiliary materials and equipment input suppliers* (vine seedlings, bottles, cardboard, labels, corks, capsules, yeasts, enzymes, consumables, filters, bentonite, fuel, electricity, gas, etc.); *Public sectors regulators* (The Ministry of Agriculture and Food processing, the Center for Verification of the Quality of Raw Materials and Wine Products, different state services (i.e. Sanitary-Epidemiologic state services, MIEPO); *Research, development and education* (the National Institute for Wine and Vine, Technical University of Moldova and State Agrarian University, the College for Viticulture and Winemaking, Vocational schools); *Transportation, Logistics and Trade* (transporters, commercial agents, brokers, retail chains), *Associations* (Winemakers Union, Moldova Wine Guild, Association of Small Wine Producers); O*thers service providers* (banks, leasing and insurance companies, transportation companies, marketing companies (advertising and market research companies, design agencies), legal service providers, financial consulting and audit, travel agencies (the Wine Route), etc.

The direct Wine cluster involved party consists from about *400 legal entities* (including about 125 wine making companies and 230 agriculture firms) that engage approximately *49,000-5,0000* employees (including 7,100 employees in wine companies and about 85,000 people involved in grape production).

Detailed Recommended Actions

Moldova must make urgent decisions and take corresponding actions to revitalize the wine sector. There is a role for the government and one for the private sector, and perhaps most importantly, this work must be driven by the commercial realities that wine producers are facing today. These recommendations are strategic and overarching, as well as spanning short- and long-term action plans.

- *Wine strategy development*. A need for a sector strategy is paramount as the situation worsens due to a lack of clear solutions in the industry for overcoming the current problems. The strategy will address the most important problems that the sector is facing right now starting from viticulture and ending with wine marketing and promotion. It must serve as a base for reviewing the current viticulture and winemaking legal base.

- *Wine promotion and marketing*. There is a need to continue assisting the wineries in their most important markets to get a better exposure for Moldovan wines and publicize Moldova as a wine producing country. It is recommended that these activities be better organized.

- *Technology transfer and quality improvement.* The quality issues are the main barrier to achieving a higher degree of market diversification. Therefore the assistance provided by donor organizations with the aim to stimulate the technology transfer should continue. We recommend that winemaking assistance is raised at a state level as a high priority for Moldova Vin.

- *Utilization of USAID DCA guaranty facilities, including Portable and Loan guaranties.* Under current conditions, the USAID guarantee facilities can be one of the solutions (a kind of rescue) that will help banks to attract resources from outside, as well as to increase access to financing of Moldovan wine companies that currently have difficulties in receiving loans from commercial banks. Using portable guarantee, Moldovan commercial banks can attract credit resources from foreign banks and financial institutions (other than international financial institutions not accepted by USAID guarantee program), as well as local credit resources (in the form of deposits, preferably long term, from individuals and legal entities). The attracted resources could be used totally or partially for further lending to Moldovan wine companies. The loan guaranty could be used for one or two of the most trusted wine companies to increase their access to outside financing: (i) to receive loans from the identified lender, typically from abroad, to restructure current finance, i.e. restructuring current debts, and re-finance it with cheaper and longer-term finance; (ii) attract some foreign investors. The guaranteed amount could be USD $2-3 million. Further evaluation meetings also will be needed.

- *Cancel or postpone the viticulture rehabilitation tax and authenticity stamp tax.* These taxes put a strain on the cash flow, especially now when the access to credit is very limited and companies have to face the reimbursement of historic loans.

- *Stimulate the promotion of Moldovan wines abroad.* Moldova Vin should develop a promotion strategy for Moldovan wine in cooperation with the private sector and with the professional organization. Also, Moldova Vin should be responsible for backing the strategy with financial resources and for implementing it.

- *Reduce the certification costs and authorize more private laboratories to provide such services.* This a very hot subject since the certifications conditions changed and the costs increased in the last 4 years. Moreover, the Russian sanitary authorities do not recognize the Moldovan certificates and the wineries are forced to certify their products again in Russia. In the opinion of the wine producers, a competition between the certification laboratories will decrease the certification prices and will reduce the lead time for certification.

- *Streamlined standards*. The Government should review and streamline standards, technical standards, general rules, and technical instructions, and move towards developing higher-level technical regulations, e.g. an updated winemakers’ code of standards. The more than 4,000 technological instructions are unnecessary and should be voluntary according to the WTO

Technical Barriers to Trade Agreement. Technological instructions should be used only when needed—for the Russian and CIS markets. In the long term, Moldova should focus on negotiating with the CIS countries to abandon these instructions and adopt the approach taken by other countries exporting to Russia (France, Bulgaria, Australia, etc.)

- *Attract FDI*. The Government needs to develop an environment that will attract foreign investment to the wine sector. Moldova should move towards more relaxed laws governing foreign investment, including the ownership of agricultural land.

- *Extension services*. Extensive improvements are needed in extension training and viticulture and winemaking at the college and university level with a focus on updating the curriculum and equipment based on international best practices.

- *Overall wine quality*. There are many impediments to achieving a stable quality of wine. Wine producers need to change their approach and become customer-focused and make wines that the market and the end consumer desire. Some possible opportunities include:

    - Wineries investing in their vineyards to achieve a stable quality of the fruit.
    - For outsourced fruit production, wine producers should expand incentive payment schemes for growers that reward quality.
    - Priority equipment upgrades are vital for some wineries, which require additional refrigeration capacities to facilitate temperature-controlled fermentation.

ANNEX D

Construction Materials Sector Assessment

Over the last years, the construction sector and the real estate and building materials subsectors in particular registered remarkable and dynamic development. This development was mostly demand-driven, stimulating increased competitiveness, but discouraging efficiency- or innovation-based competitiveness. The construction materials sector developed as a complementary branch to the real estate sector. Therefore, its development during the last years was determined mostly by the housing boom,[1] paving the way for a constantly increasing demand for building materials.

In 2008, the industry generated approximately USD $305 million, accounting for almost 5 percent of the GDP, having doubled since 2003 from only 2.6 percent. This remarkable development has been fueled by local raw materials and rising domestic real estate demand.

Given the expanding domestic market, and difficulties in large distance transportation of building materials, this sector evolved over the past few years as one that is domestically oriented. Eighty percent of production is consumed locally**.** This sector’s overarching relationship between real estate and the demand for construction materials uniquely qualifies it as one in which domestic demand, more so than export demand, affords it growth potential. Additionally, the structure of imports suggests that imported products, with the exception of cement and plaster, are more complementary than competitive with those produced locally. Moldova’s natural resources have allowed local companies to remain competitive in the production of unprocessed building materials, while imported materials are either processed products (in the last stages of their value chain) or are used as component parts for further processing. Moldova mainly imports raw materials from Ukraine and Russia.

Exports of building materials are highly concentrated, originating from the availability of raw materials. Moldova exports three main products: gypsum (80 percent of total exports), cement (12 percent), and plaster (4 percent). Roughly 80-85 percent of these materials are exported to three main destinations: Ukraine, Russian Federation, and Romania, due mainly to geographical proximity, as well as a common application of SM and GOST standards. During the past few years, Moldova’s trade balance in building materials reversed so that today, the country is a net exporter of building materials.

The burgeoning domestic demand supported by a regional construction boom led to the increases in the number of companies in the sector, the production volume, number of employees, and investment inflows. The increase in the number of employees in this sector, set against the backdrop of the economy’s general decreasing trend, revealed the attractiveness of building materials sector for investors, as well as for the potential employees. Although there are no data available regarding the migration of employees from one sector to another, the conducted interviews and field evidence showed a migration phenomenon from the agricultural sector to the construction materials sector. The number of companies in the industry has virtually doubled since 2003, with around 380 companies considered to be in the industry in 2008. Empirical evidence shows that the majority of new companies in the industry are small companies with average annual sales of $1 million, and roughly 80 percent of these companies are specialized in the production of concrete, cement, and plaster products. The building material industry

[1] The housing boom in Moldova started in 2005 when the prices for new apartments increased by almost 30 percent (from 400 USD up to 400 EUR-450 EUR). Given the increased demand, the average prices for construction works rose in 2005 by 23.3 percent y-o-y, which was twice higher than the CPI index. Since 2005 up to 2008 (the most dynamic sector evolution), the average prices for construction works rose on average by 20 percent-21 percent annually, exceeding the CPI index. The housing boom was massively fueled by the remittances sent by Moldovan labor migrants working abroad.

employs about 5,000 people, having recorded moderate growth (10 percent on average) over the past five years. It tends to employ mostly men with wages above the country average.

Based on the current model, the competitiveness of local producers falls at the intersection of the availability of Moldova’s natural resources and its human capital. Since the Soviet era, Moldova’s reserves of non-metal mineral resources have offered the industry a stable supply of essential raw materials for processed construction materials. Unfortunately, according to the State Agency for Geology of Moldova, excavations in the last years have not resulted in the discovery of any new sources, so the current supply model is not sustainable and will need to be adjusted to keep the nation competitive and the sector profitable. Due to extensive emigration and an elementary mismatch between the current educational system and the labor market, the workforce has also evolved into a constraint rather than an advantage for the development of the construction materials sector. Human capital affects both the workforce within the sector as well as the domestic demand for new or repaired public housing, which renders emigration particularly hard-hitting in this sector. The global financial crisis and associated decline in remittances sent from abroad, as well as negative consumer projections of housing prices as a result of the crisis, stunted the real estate sector, which in turn led to the fall in demand for construction materials. Extraction companies were hardest hit by the crisis, while the least affected were companies producing finishing materials for construction repairs.

Currently, both natural resources and workforce conditions are met, but adjustments to both will prove essential for a more competitive, innovative, and sustainable construction materials model to be developed in Moldova.

In the pages that follow, we provide background information and data on the sector, including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova’s strengths, weaknesses, opportunities, and threats in the construction materials industry. This analysis has helped determine that the construction materials sector is at a critical juncture, requiring targeted resources, in order to sustain its current competitiveness and reach its full potential. Please reference the following list of topics to help navigate through the information provided:

SWOT Analysis
Sector Structure
- Main Categories of Industry Players

Sector Performance
Demand Conditions and End Markets
- Exports and Imports

Company Structures, Rivalries, Linkages, and Relationships
Challenges and Opportunities
- Natural Resources
- Business Environment
- Policy and Certifications
- Supporting Markets/Industries and Value Chain Cooperation

Detailed Recommended Actions

SWOT Analysis

Moldova is well positioned for enhanced competitiveness in this sector, due to the sustainability of its domestic market, its fundamental role in the development of the real estate sector, and the complementary

dynamic between its imports and exports. The following strengths were identified during the preparation of this assessment:

- *Endowment with natural resources*. Moldova is rich in non-metal mineral resources, affording building materials (sand, stone, gypsum) and materials to be processed further (cement, plaster products).

- *Young and growing real estate development in the country*. For the medium term and long term, real estate development in Moldova will likely be a growth industry as it is one of the last countries in Eastern Europe or the former Soviet Union to develop commercial and residential real estate on a large scale. Most existing real estate is old and depreciated and needs capital renovation, which will stimulate demand for construction materials.

- *Relatively cheap and moderately qualified labor force*. Due to the seasonal nature of the construction industry, Moldovans will migrate to other countries, mostly Russia, and adopt good practices and develop their capacity. These workers often return to Moldova trained. Additionally, many workers come to Chisinau and other urban centers where the majority of construction projects are concentrated, and provide relatively inexpensive labor.

- *Compatibility of SM and GOST standards*. Compatibility with these standards offers easier access to the CIS market, whose close proximity also keeps transportation costs down and encourages stable and long-term relationships with neighboring countries.

Despite these advantages, Moldova's construction materials industry suffers from various constraints, which, now identified, can be targeted with the resources needed to make the sector more competitive.

- *Lack of fair competition among companies and large informal economy*. Illegal importation of various materials gives an unfair advantage to cheaper smuggled goods and disadvantages fair and transparent Moldovan producers.

- *Cumbersome access to credits*. Three main constraints in banking have been identified: banks are hesitant to finance construction projects; banks offer unsophisticated and rigid lending products and financing practices; and there is an underdeveloped real estate mortgage lending model.

- *Most businesses do not have ISO or other certifications*. Despite some standards and certifications allowing Moldova to access CIS countries, many Moldovan producers have not yet met the standards needed to work with the European market.

- *High transportation costs and poor transport infrastructure*. High transportation costs make building materials considerably more expensive in some parts of Moldova and exports less competitive than they otherwise might be. In 2008, railway costs grew almost threefold, forcing a majority of companies to switch to automobile transport. However, road transport is also quite expensive, due in large part to the poor state of the road network. Transportation costs add roughly 20-25 percent to the price of building materials sold in resource-poor Gagauzia in the south of Moldova.

- *Lack of practical skills of graduates*. The Technical University and VET schools offer sufficient specialists; however, practical skills are inadequate. Businesses try to tackle this issue via a Sectoral Committee on Construction, focusing on improving the quality of professional training

and modernization of curricula, but this training can be further developed to reach more of the workforce.

- *Industry upgrade is slow and weak*. Companies state that fixed capital is depreciated by 70-80 percent and this makes technological improvement very problematic. Transfer of technological know-how is slow, and many companies cannot keep up with the changing real estate construction technology. For instance, due to changes in the patterns of house construction, the old plants producing (ferro) concrete saw the demand for their products sink. Development is mostly factor-driven rather than efficiency-driven.

The SWOT analysis identified a major opportunity for the construction materials sectors in light of its inherent strengths and weaknesses.

- *The economic recovery expected in 2010 will lead to recovery of demand in the real estate sector, both in Moldova and abroad, and boost demand for building materials.* It has been determined that much of the sector's growth hinges on the nation's and region's recovery from the economic crisis. The real estate sector, and the materials production which supports it, will always be an important and stable industry for Moldova, so innovations and increasing profitability are the focus of the next few years. Following the economic recovery of 2010 it can be reasonably expected that the government will increase its spending on fixed capital investments and infrastructural projects, which will increase the demand for building materials.

Finally, the analysis identified the following threats to the sector, which will help shape the approach donors and the private and public sectors will develop to support this industry in the years to come.

- *In the long term, natural resources for the building materials sector will become a constraint due to their shortage.* According to the State Agency for Geology, new sources of raw material were not found during the past year, which may signal a future shortage of natural resources, particularly the highly exploited gypsum.

- *Massive emigration as well as crisis-motivated labor shedding can lead to losses in qualified human resources.* Encouraging qualified labor to remain in Moldova will continue to be important in terms of targeting resources at vocational training, as well as stabilizing employment within the industry.

- *Lack of proper dialogue between the companies in the sector and corresponding ministries.* A lack of coordinated efforts in this sector and others is a detriment to targeting resources, establishing national-level priorities, developing legislation, and so on.

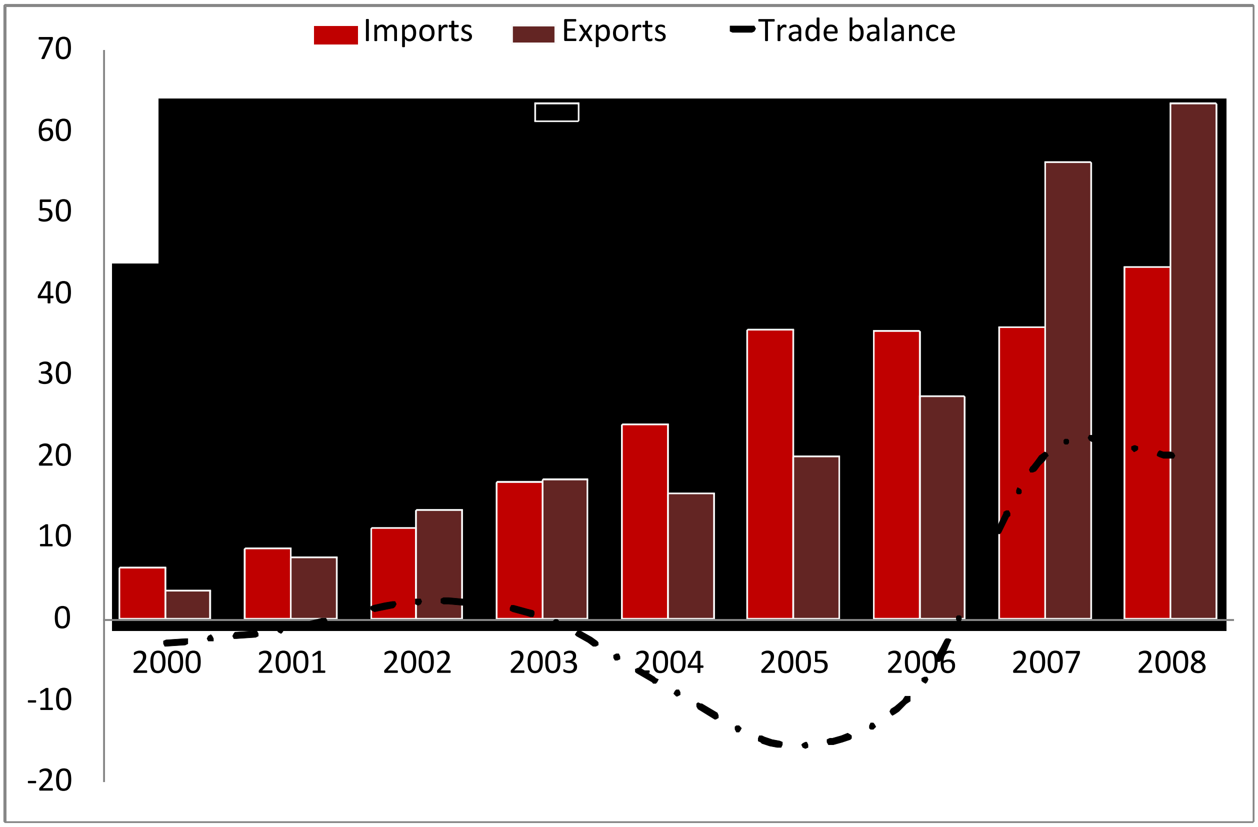
Sector Structure

The construction materials market is divided into two major segments: raw materials and processed materials. Typically, most raw construction materials are produced in Moldova, while the processed materials form the biggest share of imported construction materials. The production of cement, lime, and plaster, as well as products made of these materials, contributes the largest share in total sales volume of building materials in Moldova.

The value chain for building materials is relatively short, as these industrial products usually form a part of some more complex value chains created within real estate development projects. For example, for the production of plaster products, processors require gypsum, which is extracted locally; and glue, which is

imported, rendering a complex value chain at the sourcing of raw materials. Extending this value chain past processing, plaster products are part of various value chains contributing to real estate development projects or domestic infrastructure rehabilitation projects.

Exhibit D-1: Evolution of the Imports, Exports, and Trade Balance with Building Materials, mil. USD



Source: National Bureau of Statistics

The most attractive sub-sectors of the industry are the production of cement, lime, and plaster, which form the main export category of building materials. In 2008, these three materials accounted for 92.3 percent of the total sales of building materials. The main factors contributing to their competitiveness are related to:

- Products' specificities, including high value-added and use of relatively simple technology for production
- Increasing demand in the market
- Logistical aspects: the transport of these materials is less difficult and expensive

The above mentioned factors have established the cement, lime and plaster production branches as the main pillars of the construction materials sector of the Republic of Moldova.

Main Categories of Industry Players

The main industry players are typically divided between raw materials producers and manufacturers of processed building materials.

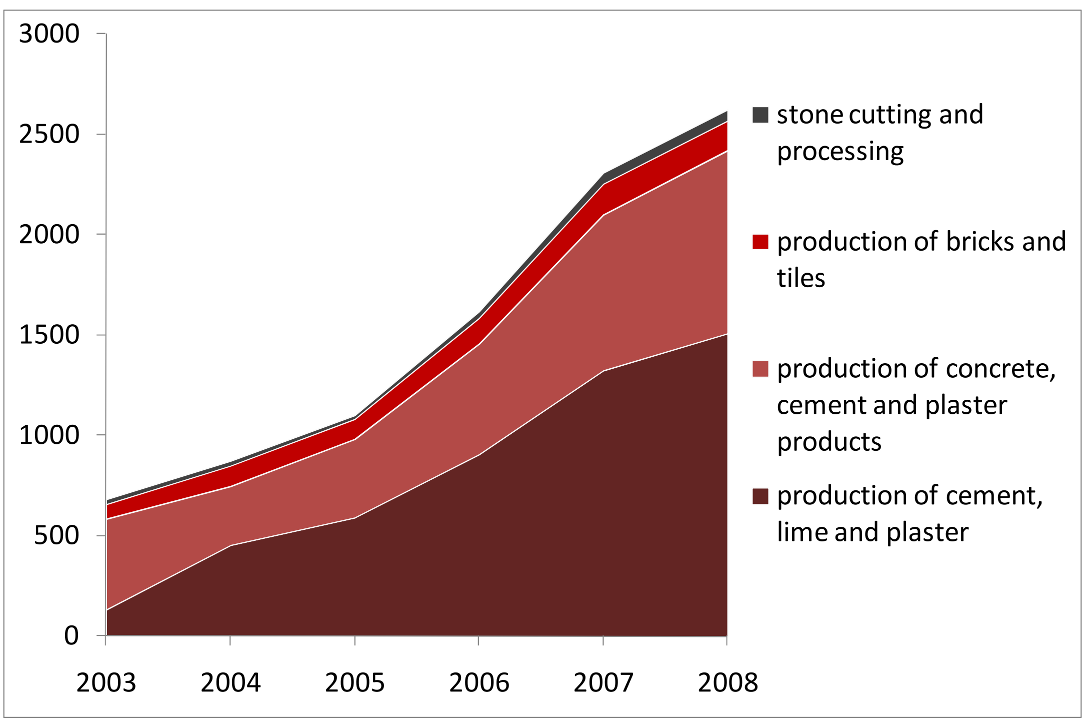
- Raw materials producers are mostly extraction companies using mines discovered during Soviet times. These production companies were often established during the Soviet era and privatized during the boom of the late 1990s. They are almost exclusively domestic-market-oriented, whereby the main clients are producers of processed building materials, such as cement producers, or construction companies.
- Processed building materials producers are quite diverse, varying from big cement producer Lafarge to small- and medium-sized brick and plaster producers. The flagmen of the sector are large companies with extensive foreign capital ownership like Lafarge and Knauf, as well as rapidly developing start-ups like Supraten and Ovtebliz. Additionally, there are rapidly developing privatized companies like the Macon company, which constitute a portion of the processed materials producers. The vast majority (roughly 80 percent) of these companies are on the domestic market.

Sector Performance (2003-2008)

The building materials sector registered an impressive development over the last years, being one of the most dynamically growing industries. The total volume of sales of building materials in 2008 constituted around USD 305.3 mil., accounting for almost 5 percent of GDP, which doubled since 2003 when its share was only 2.6 percent.

Exhibit D-2 illustrates the sales volume of the main components of the construction materials sector during its golden years (2003-2007). As graphically shown, the production of bricks and tiles increased by 2.3 times; exports grew by 8.8 times; the production of cement, lime, and plaster and products made of these materials increased by 4.1 times; and the exports by 2.9 times. This remarkable development was made possible by the availability of domestic raw materials and the increased demand for real estate during the same period of time.

Exhibit D-2: Sales Volume of Main Building Materials, 2003-2008, mil. MDL

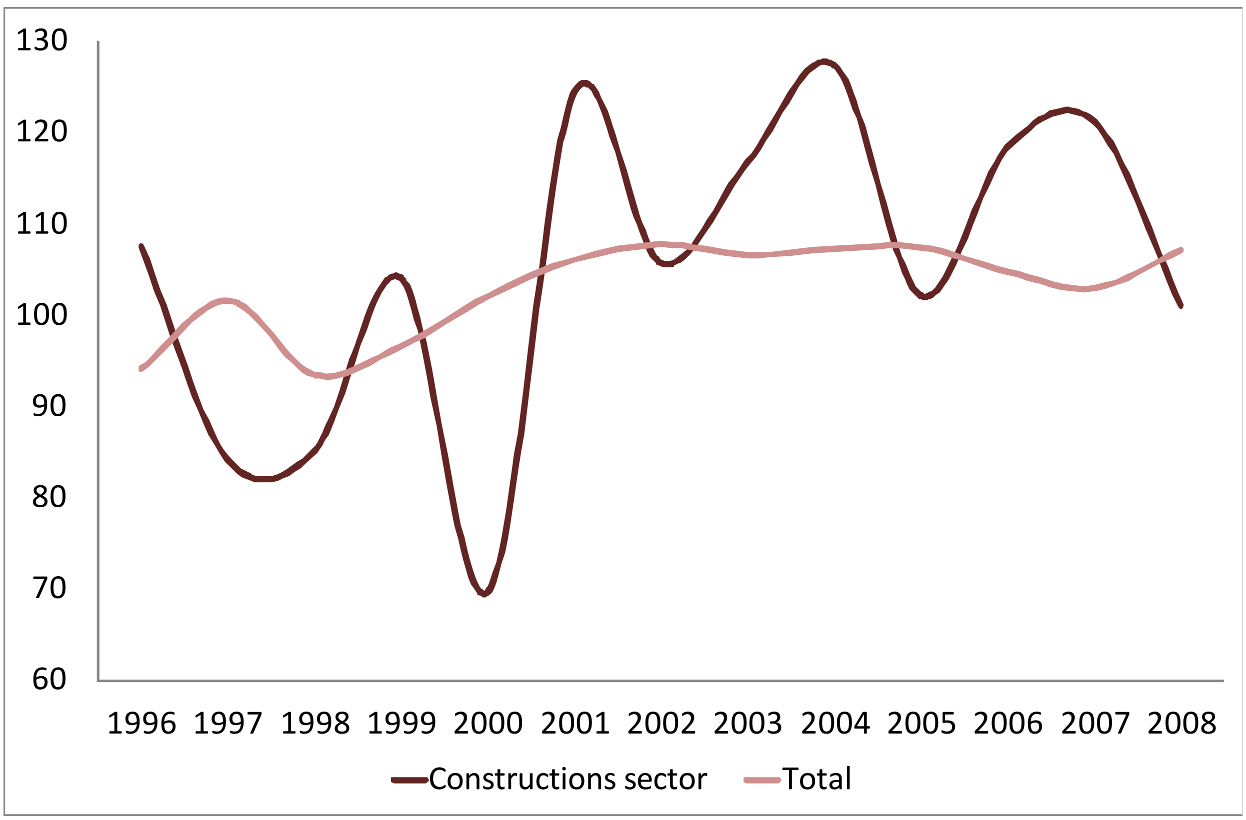


Source: National Bureau of Statistics and author calculations

The real estate boom, as well as its bust, had a similar fundamental role in the evolution of the construction materials market. Thus, the production of cement, lime, and plaster increased by almost 3.5 times in real terms from 2003 to 2004 as a series of estate development projects were launched in that period.

The market of building materials has always been complementary to the primary real estate market, which ensures the biggest share of demand for these products. Therefore, the remarkable development of the real estate market after the economic recovery following the regional crisis of 1998-1999 had a decisive impact on the building materials sector. The gross value added (GVA) created in the overall construction sector started to grow since 2001, and until 2008 its growth rate almost permanently exceeded the growth rate of the total GVA (seen in Exhibit D-3 below). As a result, the share of GVA registered in the construction sector in terms of total GVA almost doubled during the same period of time, increasing from 3.1 percent in 2000 to 6.1 percent in 2008. In this way, the construction industry developed much more dynamically than other sectors of the economy, and in spite of the global economic crisis. It fueled the production of construction materials — especially of cement, lime, and plaster and the products made of these materials, which constitute the largest share of total production and exports. The close interdependence between the real estate and construction materials sectors is confirmed by the growth in share of volume of sales as part of the total GDP between 2003 and 2008 (seen in Exhibit D-4).

Exhibit D-3: Annual Real Growth Rate of Total GVA and GVA Registered in the Constructions Rector, percent

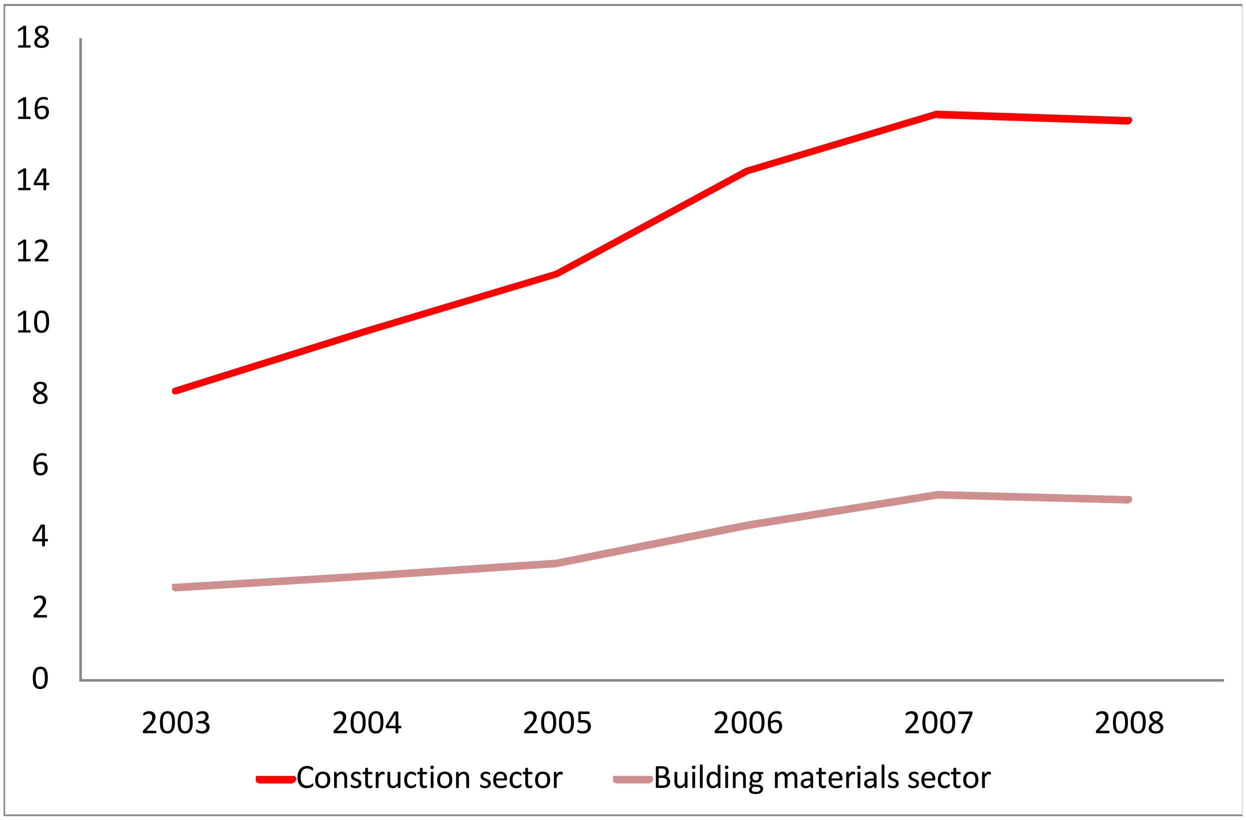


Source: National Bureau of Statistics

Despite the sector's relative resilience to the economic crisis, the recession did have a dramatic impact on the real estate market, which resulted in a major decline in the production of building materials. As a result of the decrease in demand for these products, their sales steeply declined in the last quarter of 2008. The most noticeable drops were registered in sales of cement (2 times), bricks (1.6 times), ratchel (1.5

times), sand (2 times), and ferro-concrete (2 times), etc.[2] The volume of construction works at the end of the first semester of 2009 had decreased by 36.3 percent, while the GVA in this sector decreased by 26.5 percent. Besides the supply-side shock, which affected the real estate sector, the demand-side shock was revealed by the 20-23 percent drop in prices for apartments.

Exhibit D-4: Evolution of Volume of Sales in Construction and Building Materials Sectors as Share of GDP, percent

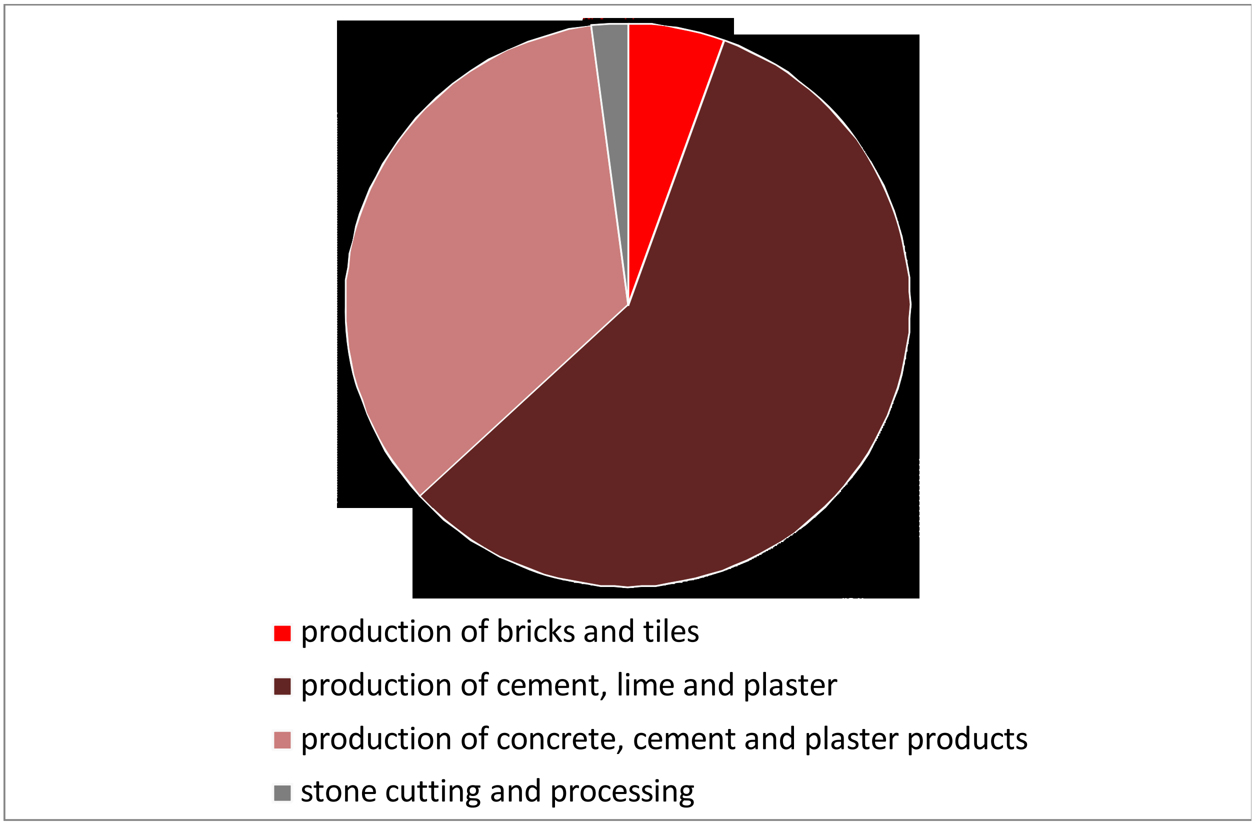


Source: National Bureau of Statistics

Total sales volume of building materials at the end of 2008 amounted to MDL 3172.40 million (USD $305.3 million), or a more than fourfold increase since 2003. The main pillars of the building materials industry are the production of cement, lime, and plaster and products made from these components, which in 2008 accounted for 92.3 percent of total sales of building materials (seen in Exhibit D-5). These types of products developed quite dynamically over the last years, due to demand in real estate development and rehabilitation. The same factor increased the production and sales of bricks and tiles, as well. Besides the increasing demand for construction materials over the last years, a distinct factor determining the development of this sector is the availability of local raw materials.

[2] According to the Ministry of Constructions and Regional Development

Exhibit D-5: Sales Volume Structure According to the Main Building Materials, percent



Source: National Bureau of Statistics

As shown by the Herfindahl-Hirschman Index,[3] the imports of building materials are moderately concentrated (HHI = 0,138). In the end, 64 percent of all imports are composed of the following four product categories:

- Articles of asbestos-cement & cellulose fiber cement (27.9 percent)
- Pebbles, gravels, aggregates and macadam (13.3 percent)
- Asphalt, bitumen, coal tar pitch, etc articles (12.0 percent)
- Articles of plaster or plaster based compositions (10.7 percent)

Most of these products originate from Ukraine and Russia, which are Moldova's main trading partners generally, and in the building materials sector, specifically.

[3] The Herfindahl-Hirschman Index is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each country/product category competing in the market and then summing the resulting numbers.

Exhibit D-6: Imports of the Main Building Materials According to Their Values and Countries of Origin

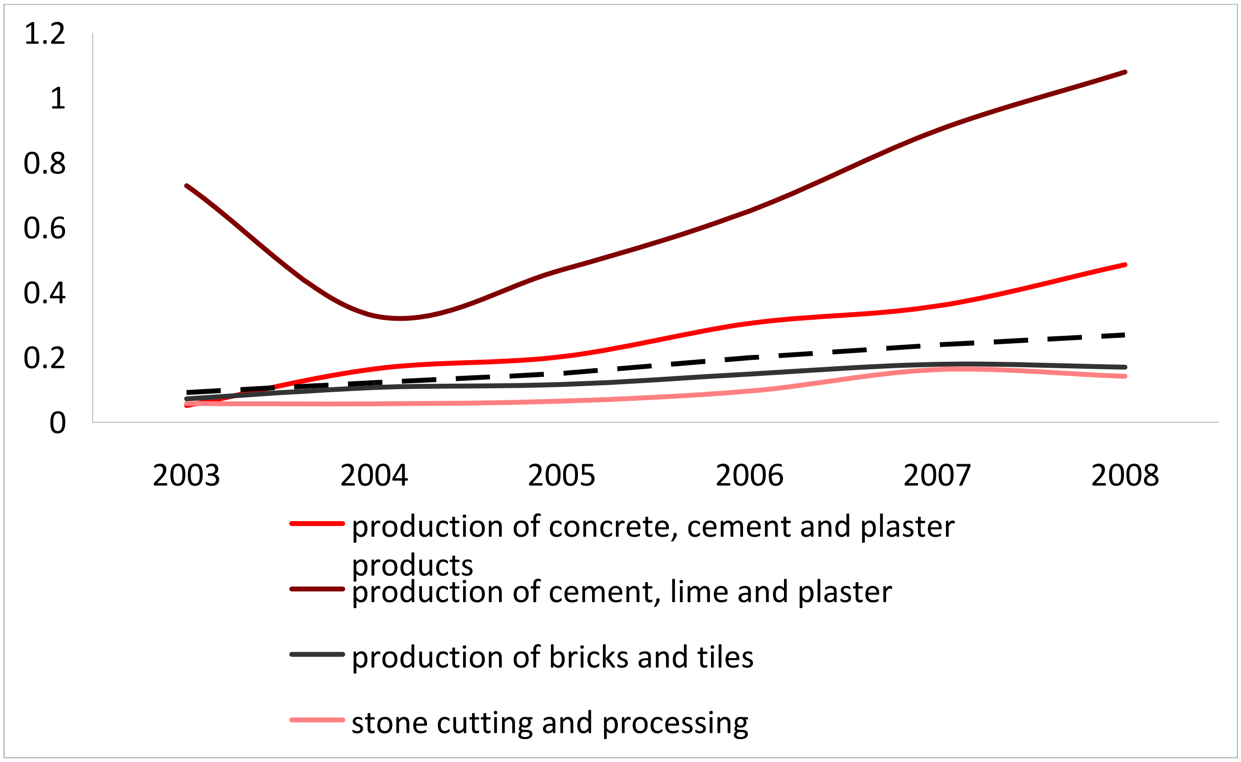
	Articles of asbestos-cement & cellulose fibre cement, EUR	percent	Pebbles, gravels, aggregates and macadam, EUR	percent	Asphalt, bitumen, coal tar pitch, etc articles, EUR	percent	Articles of plaster or plaster based compositions, EUR	percent
Ukraine	6352046	63.57	3,591,085	75.67			3,368,544	87.63
Russian Federation	3551934	35.55			3380789	78.54		
Romania			542.666	11,44				
Turkey			205.990	4,34				
Germany			210.510	4,44				
Italy					444896	10,33		
Belarus					108834	2,53		
Poland							426.013	11,08

Source: UN COMTRADE

Except for cement and plaster products, most imports of building materials are complementary to those produced domestically. They are typically composed of processed building materials or component ingredients included in the value chain of materials, and are further used in the production process.

Labor productivity. The total annual volume of sales per employee is an indicator used as a proxy to determine labor productivity. This figure constituted MDL 608.9 thousand MDL (USD $58.6 thousand), in 2008, and increased in real terms by 10.8 percent during the period 2003-2008 (seen in Exhibit D-7). The companies producing “concrete, cement, and plaster” and “products made of these materials” have the highest productivity (sales per employee increased by 19.0 percent and 36.1 percent, respectively), while those involved in “stone cutting and processing” and “production of bricks and tiles” have the lowest productivity (sales per employee decreased by 7.6 percent and 17.3 percent, respectively). The defining factors are the value added and the demand for these products. Over the last years, the gap between the volumes of sales per employee accumulated in those companies producing “cement, lime and plaster” and all other companies increased. Perhaps this is best explained both by rising demand and prices as well as faster modernization in the respective industries.

Exhibit D-7: Labor Productivity, Annual Sales Volume per Employee, mil. MDL



Source: National Bureau of Statistics

Demand Conditions and End Markets

With roughly 80 percent of all Moldovan production of construction materials consumed locally, this sector is defined as domestically-oriented, and one in which higher value-added enterprise for the domestic market will be as important to development and profitability of the sector as export growth. This industry is also unique due to Moldova's possession of raw materials, which makes the sector more sustainable and involved in more links of the value chain. In the beginning of 2008, there was a deficit of cement on the local markets due to a rise in exports; however, now in the aftermath of the crisis, the available quantities are more than sufficient to satisfy the domestic market needs. This sector can be developed to meet and exceed the domestic demand for housing development and rehabilitation.

Exports and Imports

The construction boom during the last years in Ukraine, Russia, and Romania is the main factor that fueled the external demand for Moldovan construction materials. Two major reasons explain such a high concentration of exports in the mentioned countries. The first factor is geographical proximity, which is particularly significant due to the technical difficulties related to transportation of building materials (especially raw) and the condition of road and railway infrastructure. The second factor involves the certification of exported products. Exports to Ukraine or Russia are comparatively easier to manage because Moldovan standards (SM) correspond to their GOST standards. Exports to the EU countries often require ISO certification, which most Moldovan producers have not yet acquired.

The Herfindahl Hirschman Index demonstrates that exports of building materials are highly concentrated (HHI=0.672). There are three main categories of exported construction materials, which traditionally account for roughly 97 percent of total exports, as follows:

- Gypsum, anhydride, gypsum plaster (80.9 percent)
- Cement (12.7 percent)
- Articles of plaster or plaster based compositions (4.5 percent). (Exhibit D-9)[4]

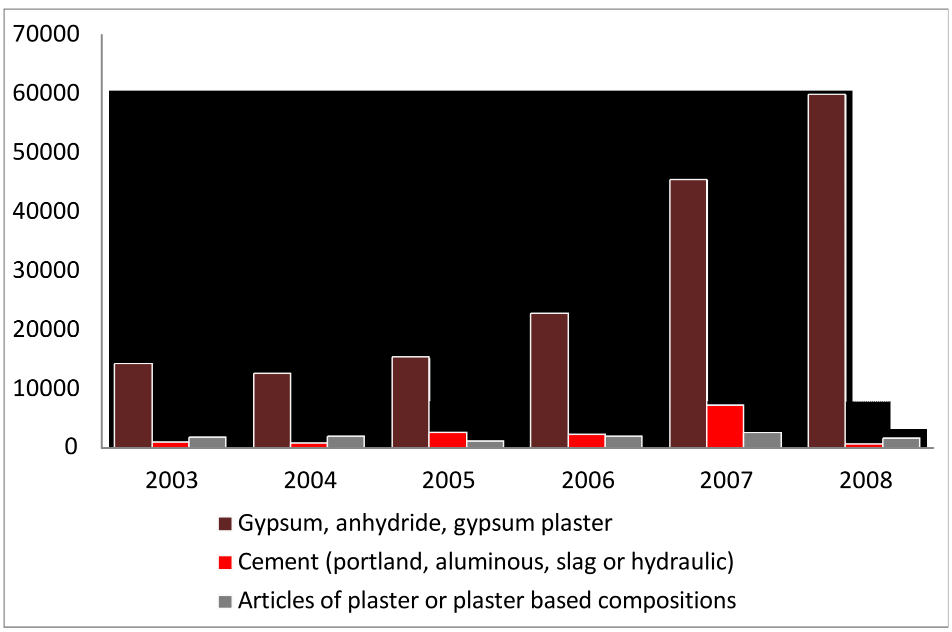
Thus, between 80 and 85 percent of all types of building materials are exported to three main destinations: Ukraine, Russian Federation, and Romania.

Exhibit D-8: Exports of the Main Building Materials According to Their Volumes and Countries of Origin

	Gypsum, anhydride, gypsum plaster, EUR	Percent	Cement (portland, aluminous, slag, or hydraulic), EUR	Percent	Articles of plaster or plaster-based compositions, EUR	Percent
Ukraine	56,097,166	43.46	10,056,921	73.79	5,754,960	46.99
Russian Federation	33,415,502	25.89	2,017,947	14.81	5,633,065	46.00
Romania	20,722,335	16.05	1,336,693	9.81	420,057	3.43
Belarus	6,971,227	5.40	95,170	0.70	418,179	3.41
Bulgaria	6,598,926	5.11	52,299	0.38		
Kazakhstan	4,735,768	3.67	58,392	0.43		
Poland	372,499	0.29				

Exhibit D-9 outlines the total industry exports by product, and the growth pattern over the last eight years is fairly stable and reflects the relative share of each product type in relation to one another.

Exhibit D-9: Total Building Materials Industry Exports, 2000-2008



Source: National Bureau of Statistics

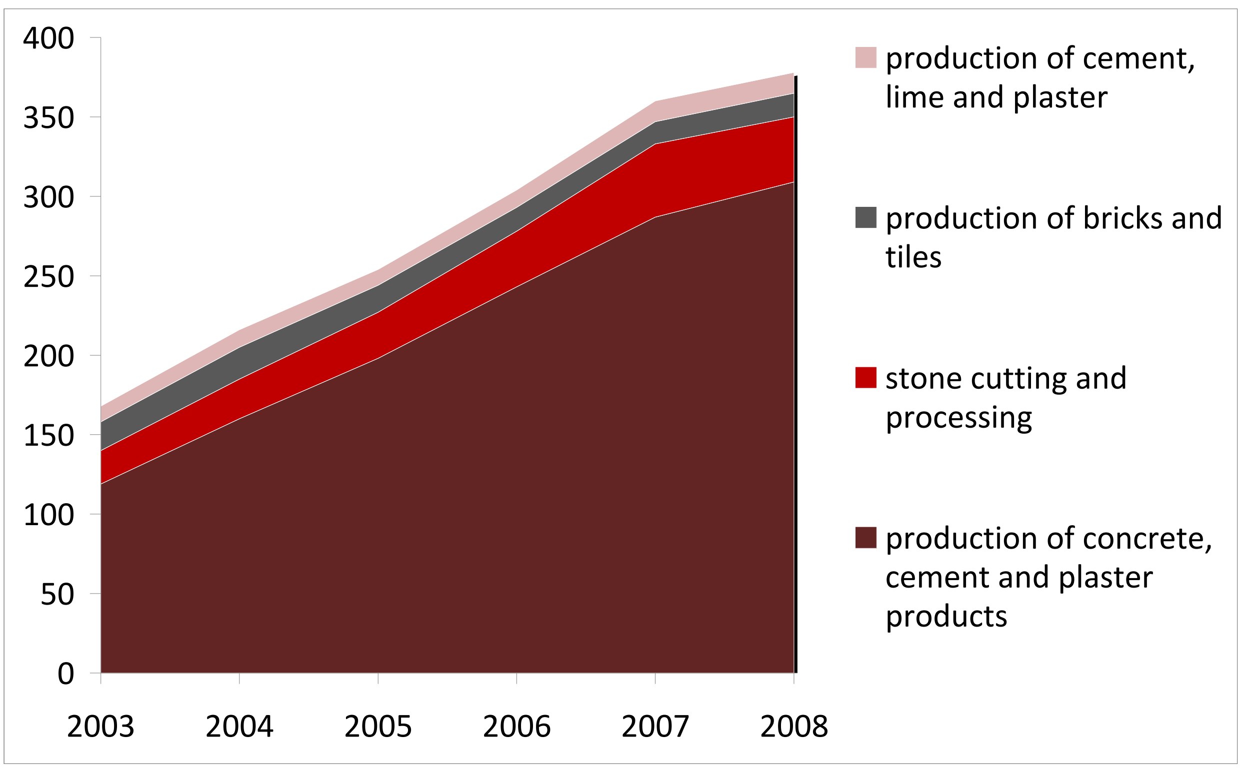
[4] Source: UN COMTRADE, 4 digits disaggregation.

The dynamic development of the construction sector, which led to the starting up of around 60 real estate development projects during the period of 2005-2006, led to a substantial increase in imports of building materials. As a result, the trade balance with these products switched during that period from surplus to deficit. However, since 2007, due to the impressive increase in exports of cement, anhydride, and gypsum products, the trade balance became again positive (seen in Exhibit D-9). Hence, the Republic of Moldova nowadays is a net exporter of building materials. However, since approximately 80 percent of overall production of building materials is consumed locally, we can define this sector as domestically oriented.

Company Structures, Rivalries, Linkages, and Relationships

Over the last years, the development of the real estate and construction materials sector went hand in hand and was accompanied by the increase in the number of companies working in this sector. Exhibit D-10 reveals the increasing number of companies actively operating in the construction materials sector, which amounted to 378 companies in 2008—an increase from 168 in 2003. Most of them are specialized in the production of concrete, cement, and plaster products. The share of these companies increased from 70.8 percent in 2003 up to 81.7 percent in 2008 among all the companies working in the building materials sector. This percentage was determined by the increasing domestic demand (sales volume) and foreign demand (exports) during the last years, as well as due to the production factor abundance and relatively high productivity in this branch. Roughly, the companies may be divided into privatized companies, which are usually larger like Macon and Lafarge; and start-ups, which are typically smaller like Ovtebliz.

Exhibit D-10: Number of companies, 2003-2008

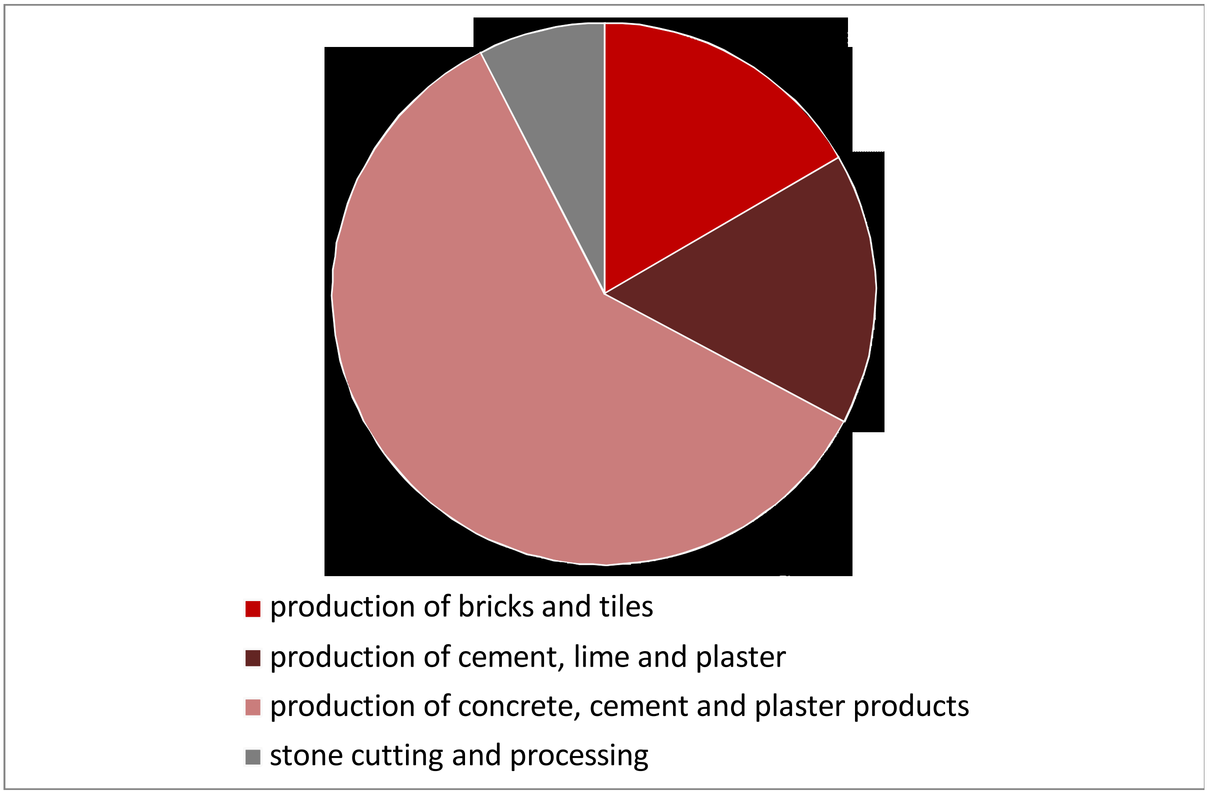


Source: National Bureau of Statistics

As of 2008, the number of employees in the construction materials sector constituted 5,210 persons. Most of these employees are working for companies producing concrete, cement, and plaster products (59.7 percent); followed by those producing bricks and tiles (16.6 percent); and lastly, those producing

unprocessed cement, lime, and plaster (16.2 percent). The share of employees in stone cutting and processing companies is 7.5 percent (seen in Exhibit D-11). It is clear that this distribution was conditioned by the investments flow into this sector, which stimulated distinct types of activities. Thus, large companies like Lafarge (cement factory), Macon (bricks factory), Knauf (gypsum and plaster products and others) stimulated the employment in the respective subsectors of the construction materials sector.

Exhibit D-11: Structure of employees activating in the main sub-sectors of building materials industry, percent



Source: National Bureau of Statistics

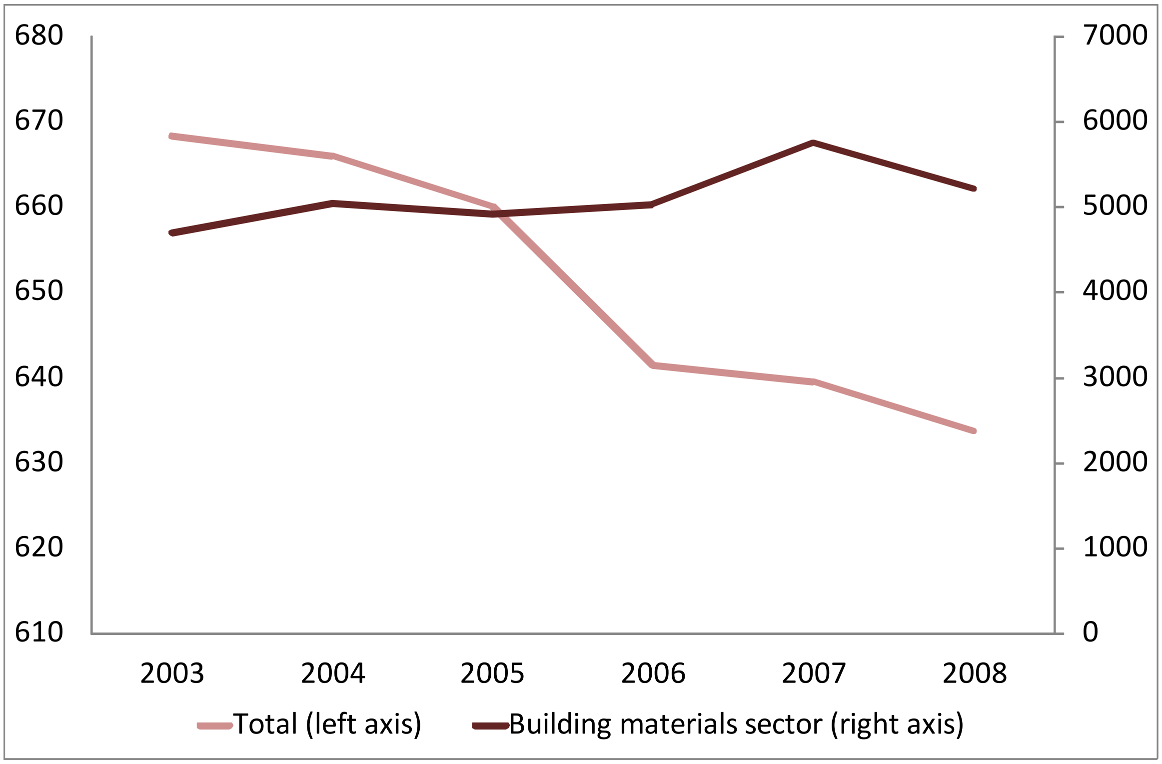
During the period 2003-2008, figures reflecting employment in the construction materials sector increased by 10.8 percent, while the total number of employees in the economy decreased by 5.2 percent (from 668.3 thousand people down to 633.7 thousand people). However, this increase was not observed in all building materials subsectors, as follows:

Decreasing employment trend	**Increasing employment trend**
Production of bricks and tiles (-17.3 percent)	Production of cement, lime, and plaster (+19.0 percent)
Stone cutting and processing (-7.6 percent)	Production of concrete, cement, and plaster products (+36.1 percent)

As shown above, the number of employees working in the production of “brick and tiles” and “stone cutting and processing” decreased over the same period of time by 17.3 percent and 7.6 percent, respectively. At the same time, those employees working in the production of “cement, lime, and plaster” and “products made of these materials” enjoyed the strongest expansion of employment through this period, with increases of 36.1 percent and 19 percent, respectively. Better market environment strongly

contributed to this development, which in turn led to higher investment in these industries. Exhibit D-12 shows the increase in the number of employees in the main sub-sectors of the building materials industry, while the overall number of employees in the economy constantly decreased during the period of 2000-2008.

Exhibit D-12: Employment trend, 2000-2008, thousand employees



Source: National Bureau of Statistics

It is obvious that the real estate sector, as well as the construction materials sector, employ mostly males. The share of female employees in the total number of employees in this sector constituted only 14.2 percent in 2008. Moreover, since 2000, when this share was 18.6 percent, it followed a constant decreasing trend.

The wage level in the real estate sector has been traditionally above the average wage level in the economy. Thus, in 2008, the average nominal monthly salary per employee in this sector constituted MDL 3,468.90, while the economy's average was MDL 2,529.70. At the same time, the share between average wage in the construction sector and the average wage in the economy increased from 132.3 percent in 2000 up to 143.7 percent in 2007, and decreased in 2008 to 137.1 percent. Thus, this ratio increased during the golden ages of this sector, while in 2008, due to the first signals of recession, it decreased.

Company Structures, Rivalries, Linkages, and Relationships

The main actors both on the domestic and foreign markets are Knauf and Supraten (mostly plaster products, but also paint), Lafarge (cement), and Macon (brick). It should be mentioned that the number of local producers of plaster products is growing steadily. Representatives of the main distribution chains mentioned that currently around 10 producers of plaster products are competing on the market.

Start-ups and small companies will find it easier to enter the domestic plaster and brick market than the cement market. This logistical ease explains the high dynamism of firm creation here and probably shows better perspective for sector development in the future. The processed products are also significantly aided by the fact that high transportation costs (for distances exceeding 100 km) practically prohibit raw building materials exports as well as ferro concrete. This limits the export potential to cement, gypsum, articles made of plaster, and other processed building materials.

The economic crisis has dramatically affected the sector, although the construction materials sector is cushioned to some extent by the fact that these materials are required not only for construction of the new houses, but also for renovation of existing houses. But on aggregate, the demand from the construction sector drove down the production of the building materials. For example, if in the beginning of 2008, there could be observed a deficit of cement on the local markets (due to the rise in exports), now in the aftermath of the crisis, the available quantities are more than sufficient to satisfy the domestic market needs.

According to an interview with the chair of the Association of the Building Materials' Producers, despite the relative stability of this sector, many companies are on the brink of bankruptcy and the number of employees has been considerably slashed. Also due to changes in the patterns of house construction, the old plants producing (ferro) concrete saw the demand for their products sink. These enterprises need urgent changes in their production processes; however, they hardly can afford it due to the lack of capital.

Challenges and Opportunities

As part of the SWOT analysis that informed our proposal to pursue work in the construction materials sector, we identified various challenges that Moldova faces in the sector, as well as opportunities for development. We will discuss environmental factors like natural resources, the business environment, policy, and supporting or emerging industries of relevance in the pages that follow.

Natural Resources

The territory of the Republic of Moldova is rich in non-metal mineral resources and an important share of them are used as building materials (sand, stone, gypsum, etc.), as well as processed building materials (cement, plaster products, etc). These deposits are mostly situated in the north (Briceni) and northeast (Ribnita, Camenca) of Moldova. The bounty of these reserves has served as a fundamental factor ensuring the competitiveness of construction companies and the development of this sector as a whole. The majority of these reserves were discovered and established during Soviet times. Nonetheless, in the long-term, the availability of local natural resources may become a constraint for the development of the construction sector. According to the State Agency for Geology of Moldova, there were no new sources of natural resources identified. If the situation does not change in the near future, the sector will face a shortage of local natural resources for the production of building materials.

Business Environment

Although nowadays the high cost of crediting resources is a constraint for most construction companies, during the last years it served as one of the factors contributing to construction sector development. Between 2000 until 2008, the amount of credits increased more than seven times in real terms, while the share of credits given to this sector increased from 8.8 percent in 2000 up to 14.7 percent in 2008. The situation with access to capital worsened considerably in the wake of the crisis. The current interest rate paid is 25 percent, which is unaffordable for most companies. The credit facility provided by the National Bank via commercial banks offered just partial relief.

Policy and Certifications

The main applicable law is Law #721, "On quality of building materials" (02/02/1996). Due to Moldova's location in the seismic risk zone, all materials are subject to mandatory certification. The whole production circle is certified, starting with the inputs, following with production process, and ending with the final product. The sector has benefited from these mandatory certifications, as they have secured reliable export relationships with CIS countries whose import and trade policies require the certifications. Exporting companies have begun to implement the quality system ISO 9000, which is duly required on the European markets. This development is early and much progress can be made to ensure ISO certification and encourage trade with the EU countries. For exports on the CIS markets, the GOST (corresponding within SM) are accepted. For the European certifications, Moldovan companies usually apply for assistance from the foreign certification companies, mostly from Romania, such as SRAC. Some domestic companies such as Lafarge are pushing ahead with adapting European standards; however, not all companies in all areas are able to follow suit.

One of the most serious problems for the extraction companies is the terms for use of agricultural land. It is very difficult to subtract the land from the agricultural circuit, thus owners of the mines are forced to pay high taxes in order to explore the underground of the land or to work unofficially. Such a situation creates distortions in matters of competition, as companies working officially and paying all the taxes have to compete with those working illegally.

Additionally, cooperation with the Ministry of Construction and Regional Development should be streamlined. Previously, an agreement between the ministry and the Federation of Constructors, Road Workers, and Building Materials Producers was elaborated; however, it was never signed. The dialogue remains problematic. The decisions at the ministry level are not coordinated or discussed with the companies' representatives. There have been instances when companies had to legally attack the decisions taken by the ministry.

General and national political instability is another factor that exercises negative influence over the sector. The companies have big hopes that the new government will change the ways the authorities communicate about and dialogue with businesses.

Supporting Markets/Industries and Value Chain Cooperation

Most of the supporting services, such as consultancies, are absent, according to conversations had with the companies. Some efforts to revive the old capacities under state agency Incercom are underway. However, they are just at the beginning. Nonetheless, the center for consulting and innovation affiliated with Incercom already provides informational support on a normative base for the companies as well as seminars aimed at promotion and dissemination of the new products and technologies (both domestic and abroad).

Incercom is also the main responsible actor for quality certification of the building materials for local markets. However, there are also some private actors; mostly laboratories in the field that help ensure competition in this area. At the same time, only Incercom provides the full circle laboratory testing and certification organization, which is needed to put the product on the market.

Transport services are extremely important from the cost point of view. Last year railway costs grew almost threefold, and the majority of companies switched to auto transport. However, road transport is also quite expensive, partly because of the poor condition of the road networks. For example, transportation costs add roughly 20-25 percent to the price of construction materials sold in resource-poor Gagauzia in the south of Moldova.

The joint promotional activities on the external markets are almost non-existent. The most successful exporters, such as Lafarge (cement) or Knauf (plaster products), are parts of the bigger multinational companies, and thus they are in the different position from the domestic companies that have to start exporting activities “from scratch.”

The companies, however, are united into the Association of the Building Materials Producers, which mostly serves as an umbrella for dialogue with the public authorities in order to discuss common concerns and promote common interests. This activity is, however, at the very beginning, and more opening on behalf of the government is needed for this initiative to bear fruit.

Detailed Recommended Actions

Following the SWOT analysis and detailed research on the construction materials sector, an array of opportunities and potential directions for development have been identified. This section will briefly describe some areas that the public and private sectors, the Government, and any future donors may consider for building on Moldova’s advantages in the sector, securing the sector in the face of potential threats, and enhancing the competitiveness of the sector regionally and domestically.

One major constraint identified during this analysis was the high costs of transportation, which limits the ability for the Moldovan industry from efficiently and competitively targeting distant markets. Ensuring transparent price-setting mechanisms for railway transportation and pursuing the rehabilitation of the road networks may help Moldova reach foreign markets and maintain competitive prices.

An overarching challenge facing this industry is the global economic crisis. A tri-partite task-force (public authorities, banks, companies) could be established to examine and put forward a reasonable and sound blueprint for rescheduling credits accumulated by the most important and efficient companies from the construction and building materials sectors. Public authorities and the donor community could work to promote awareness of the sector in Moldova, as well as internally encourage the adoption of European management practices and quality standards in the sector.

Improved communication among key players was identified as an opportunity to streamline processes, leverage resources, encourage new ideas and players, and identify Moldovan solutions to Moldovan problems in this sector. Public authorities along with members of the business community could set up a consultation committee that would allow for comprehensive dialogue focused on regulations, the adoption of European standards, joint promotional activities, and so on. The donor community may like to support some activities of this committee. Through MIEPO, the Government could focus attention on the foreign markets, as well as consider more proactive participation of the Moldovan companies in various international and regional expositions and forums.

A low level of buyer-to-buyer (B2B) relations between local producers and foreign customers was identified during this analysis. The development of factoring schemes for financing the exports of construction materials could potentially offer commercial credits for foreign customers, thereby building long-term relationships and helping to secure a stable position within the foreign markets.

The development of a program aimed at stimulating the import of know-how and best practices could diversify the production and exports of building material and could increase their value added. The import of know-how into this sector could be stimulated by the Government through fiscal and regulatory mechanisms.

ANNEX E

Furniture Sector Assessment

Furniture manufacturing is one of the most dynamic and rapidly growing private sectors in the country, with a growth rate that exceeds the GDP one from 0.63 percent to 1.17 percent over the past four years. As of 2007, furniture industry sales[1] constituted roughly USD $66 million (MDL 730 million), having increased more than four times during the prior five years. Industrial output of furniture manufacturing averages USD $28 million (MDL 310 million). Likewise, the sector's share in the processing industry increased from 4 percent to 10 percent, or 2.5 times. This escalation is the result of a fast-growing decade in real estate development, both in Moldova and regionally, because these two markets are closely connected.

Experts estimate that the turnover of Moldovan furniture market is roughly USD $90 million per year, two-thirds of which is imported. The market grows steadily each year at a rate of approximately 15-20 percent. Exports have grown extremely dynamically, from only USD $3.4 million in 2001 to USD $35.2 million in 2007, or at a growth rate of 10 times. From 2001 to 2003, this growth was fairly slow, but 2004 marked an enormous spike in sector exports; from this year on, the branch virtually doubled its export amount annually. Between 2004 and 2008, the branch increased its export volume by more than 10 times annually. Average annual growth starting from 2004 represented 65-80 percent. The average export growth indicators are 3.6 times greater than export growth indicators of other branches for the same time period. Markets are quite diversified, with CIS accounting for nearly 60 percent (Russia and Ukraine), and EU countries accounting for about 35 percent (Romania, Slovakia, Belgium, and Italy).

Moldova manufacturers a wide diversity of furniture products, including upholstered, office, bedroom, kitchen, and given the country's stable import relationships and its growth capacity, it is understood that Moldova has the potential to produce any furniture pieces demanded by the regional or domestic market. Approximately half of all locally manufactured furniture is custom built, and the rest is series furniture. Virtually all raw material and accessories are imported. The country is importing furniture more intensively than it manufactures or exports. The import growth rate is on average 1.4 times higher than the export growth rate. The volume of imported furniture is consistently exceeding the exported one by approximately two times, which in 2007 constituted approximately USD $66 million. While these import and export conditions do not currently place Moldova in a competitiveness position, the growing domestic demand for furniture suggests that import substitution with Moldovan-made rather than imported furniture is a key opportunity for growth. This opportunity is particularly important for the growth of the sector given Moldova's lack of natural resources; imports of wood and materials will continue to be Moldova's only viable option, so supplying domestic demand must counteract the costs and resources of importing materials in order to grow the industry.

The furniture sector currently employs about 4,400 people, with presence in many district centers. There is a high grey share of this industry, which means real employment figures might be higher. The average company employs around 12 people, which indicates that micro-companies and small companies are dominating the sector, and many of these have emerged in the past few years. As of 2008, there were roughly 380 registered furniture firms, of which estimates indicated less than 10 percent were large. The number of companies has tripled in the past five years; however, there is already a considerable slow down of new entrants, indicating that the industry has reached stability in the constitution of its domestic players.

[1] Performance counts for sales of Moldovan furniture companies, and includes both output and trade.

In the pages that follow, we provide background information and data on the sector, including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova's strengths, weaknesses, opportunities, and threats in the furniture industry. This analysis has helped determine that the furniture sector will be an important and high-potential industry in Moldova, and has identified opportunities for enhancing its competitiveness. As with the construction materials sector, the furniture sector enjoys a correlative relationship with the real estate sector, and as such, its growth also has the potential to harmonize with and contribute to the growth of other critical sectors in the country. Please reference the following list of topics to help navigate through the information provided:

SWOT Analysis

A SWOT analysis was conducted to determine how viable the furniture sector will be based on the strengths, weaknesses, identified opportunities, and potential threats associate with the sector. This analysis has confirmed that the furniture sector has serious potential for being competitive in both the regional and domestic markets. The following strengths were identified during the preparation of this assessment:

- *Demand for furniture in the domestic market.* Although slowed down by the economic crisis, demand in the domestic market is growing for furniture, particularly as real estate recovers. Moldovan products have a strong position on the domestic market in the cheap to medium segment, as well as for custom-made furniture.
- *Moldova remains competitive for certain export products.* Moldova remains competitive particularly in upholstered furniture (which is a traditional segment) and bedroom furniture (including wooden). Price and proximity to market are the two main competitive advantages.
- *The sector is sufficiently profitable.* Expert data suggests that profitability varies stably between 15 to 30 percent.

Aside from these identified strengths, our analysis uncovered a variety of weaknesses in the sector, which must be addressed when approaching future opportunities and protecting the sector from potential threats.

- *All raw materials and accessories are imported.* The country does not have its own wood resources; all wood for the furniture and construction industry is imported. All furniture manufacturing equipment is being imported as well.

- *There is lack of coordination for sector development.* The sector is developing chaotically rather than deliberately; there is currently no clear public or private strategy for building on existing growth.

- *The sector is facing sizeable clandestine production and illegal import*. Corrupt importation and production creates unfair competition for players.

- *The export geography is not stable*. Many markets have proven viable only in the short term or are unstable, such as markets in Austria, Spain, France, and England, indicating that Moldovan product competitiveness is volatile and needs to better target its products to longer-term markets.

- *A limited number of companies are currently able to export.* Most furniture companies in Moldova will need to raise export standards in terms of quality, quantity, technology, and capacity, in order to better compete in regional markets.

- *Quality and design features are still lacking in the sector.* There is a lack of developed design skills and modern technical equipment needed to produce highly-demanded modern furniture designs.

Through synthesizing the sector's advantages and weaknesses, this analysis identified the following opportunities for development and enhanced competitiveness.

- *Substitution of imported products with domestically manufactured furniture.* It is estimated that more than two-thirds of the domestic market is comprised of imported furniture. Currently, the domestic manufacturers cannot offer the client the high quality and diversity of products these regional markets demand, but could cater to this demand if given up-to-date technological and technical endowment. Likewise, strengthening of design capacities in the segment of cheap to medium furniture could convince a large segment of price-driven consumers to buy domestic products.
- *Moldova can expand its share on the foreign markets.* Growth of exports is critical for sustainable growth of the industry, given the small size of the domestic market.

When considering opportunities in this sector, analysts balanced prospects with potential external and internal threats to the industry.

- *Adapting to changes in legislation and trade regimes in the countries to which Moldovan furniture is exported*. Moldovan furniture manufacturers are not kept up-to-date about changes to trade and legislation regimes in countries where they're sending goods, which can negatively impact their profitability and render competing countries more competitive, particularly with respect to raw materials and accessories.
- *Global recession has reduced general demand in the world and local furniture markets*. All industries have been affected by the economic crisis, and this general reduction in demand for furniture, as well as the recession's impacts on the raw material production, limits the potential for Moldova's industrial growth in this market segment.

Sector Structure

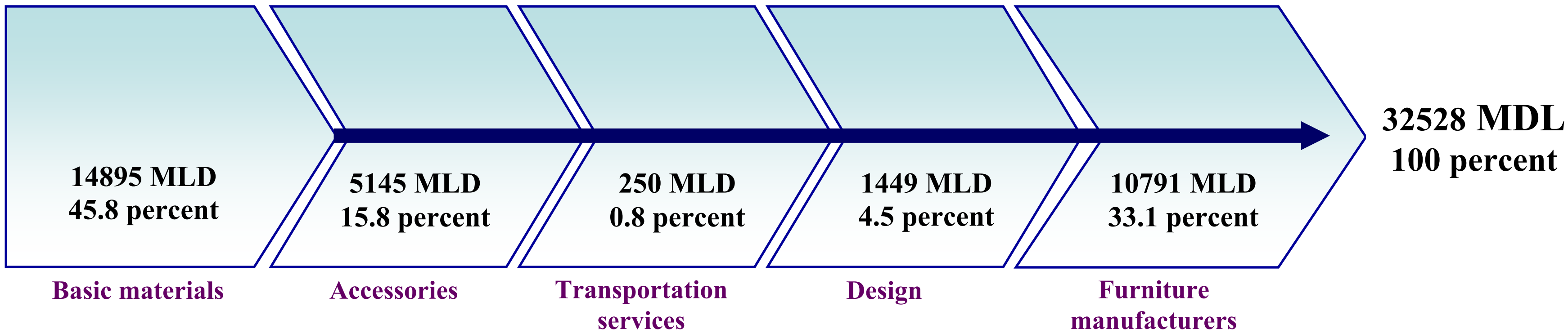
Furniture is manufactured through different manufacturing schemes, depending on the type of furniture and the type of company. Furniture is manufactured from chipboard, fiberboard, medium-density

fireboard, laminated plastic, wood, metal, plastic, and other raw materials, which are imported from countries within the region. The corporate structure in this sector varies greatly. Companies may base their work solely on individual orders, or could also manufacture popular mass products. Companies may carry out the whole production process, but may also delegate parts of the process to other companies. As a result, the structure of the industry is flexible and can accommodate a variety of corporate sizes, structures, export and import balances, and clients, which sets the furniture industry apart from other sectors where a specific raw material is used to process one specific product.

The sector is divided almost evenly between custom-built furniture products and products manufactured for the population to be sold individually through a trade chain. The management structure of most companies is very simplified, and as a rule, most companies work directly with the client. There is virtually no marketing or advertising, and distribution and promotional activity is absent as well, which helps to reduce costs.

As demonstrated by Exhibit E-1 on the following page, more than 60 percent of furniture costs are accounted for by the suppliers of main raw materials and accessories. If we take into account that the manufacturer's value share including utilities (electricity, water, etc.), the real input of the furniture manufacturers into the creation of the furniture's value is not that great. In order to expand the added value share created by the local manufacturers, the country must develop the capacity for manufacturing of raw materials and accessories.

Exhibit E-1. Furniture Value Chain and Cost Structure – Sample of Custom-Built Kitchen



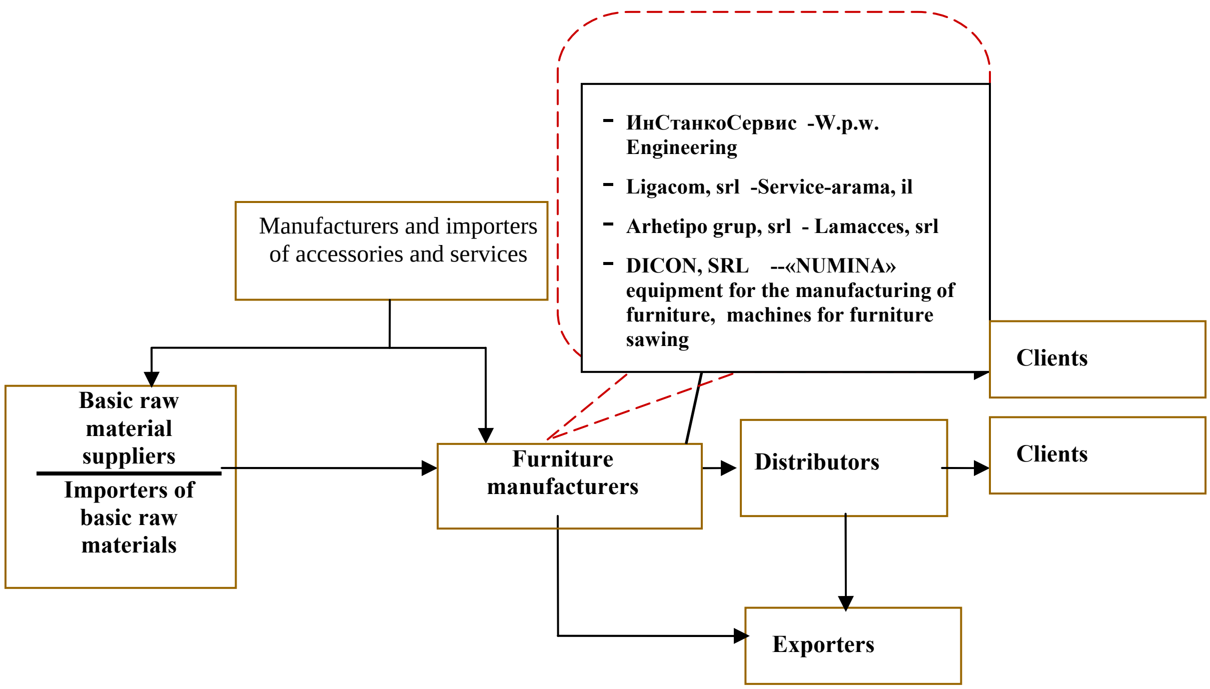
The cost structure of the furniture sector is partially characterized by the value chain. It should be noted, however, that the abovementioned value chain only describes the cost structure for companies that work directly with the client, and which, as a result, do not have costs for promotions and marketing. For a large company oriented toward the export of products and sales via a chain of stores, the following cost disaggregation is representative:

- Material and semi-products' costs – 32 percent
- Furniture manufacturers cost - 30 percent
- Wholesale sellers' cost – 15 percent
- Retail sellers' cost – 23 percent

Main Categories of Industry Players

The structure of the furniture manufacturing sector is shown in the diagram below.

Exhibit E-2. Furniture Manufacturing Sector Structure



The main players in the Moldovan furniture market include large and small manufacturers, clandestine manufacturers, importers of both cheap and expensive furniture, importers and suppliers of accessories, furniture halls, and a chain of specialized stores.

The number of players on the furniture market varies from source to source. In the 2008 statistical year-book, 379 furniture manufacturing companies are listed. However, in accordance with the principles of compiling the statistical yearbook, only those companies that offer statistical data to the regional statistics bodies, and whose number of employees is greater than 20, may be counted towards the total participation in the sector. As a result, these data offer a very different perspective on the size of the sector, since most local companies employ fewer than 20 people, but are still majorly contributing to the industry.

Additionally, in accordance with Moldovan legislation about entrepreneurial activity, there are companies (mostly patent holders and small, individual companies) who are not obligated to report, or only report very generally, on their statistical data. Such companies and their production are not being considered in the official statistics of the furniture sector. As regarding the number of clandestine manufacturers, according to the experts these are beyond all calculation since it's fairly easy to start such production. In accordance with official statistics about 70 percent of the furniture manufacturers are concentrated in Chisinau.

The number of furniture halls is not taken into account separately in official statistics but all big manufacturers and furniture importers have their own furniture halls. There are also chains of stores for selling furniture. Virtually all clothes markets in Chisinau have separate segments where buyers can buy furniture. As a rule, these offshoots of clothing stores are often most responsible for clandestine manufacturing and illegally imported furniture.

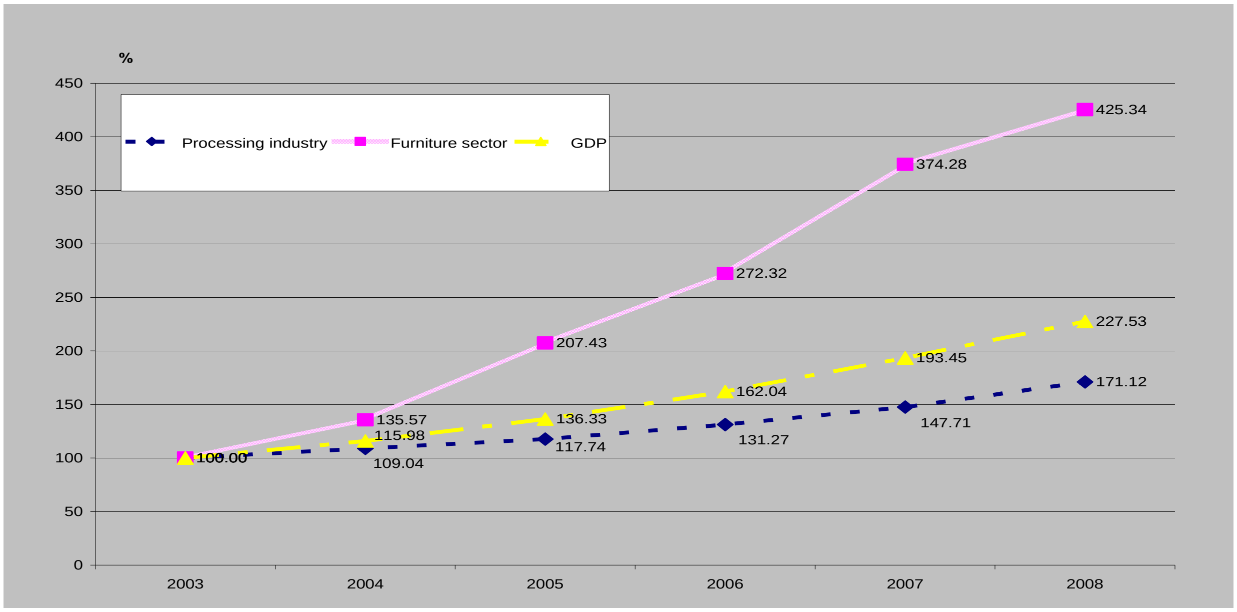
Given the specifications for including companies in the annual statistical yearbook, whereby only companies who employee 20 or more employees are counted, only 21 furniture manufacturers represent the sector, although in reality hundreds of companies display their commercials through various Web sites. Thus, an accurate distribution of the furniture manufacturers by category (courtesy of the KOMPASS directory) is detailed as follows:

- Home furniture- 390 companies
- Cottage, garden, parking, open space furniture - 37 companies
- Furniture and removable furniture for hotels, motels, restaurants, cafes, cafeterias, bars – 59 companies
- Furniture for schools, dormitories, movie theaters, theaters, sport areas and cultural buildings - 46 companies
- Furniture for hospitals and other medical institutions - 8 companies
- Office furniture and design studios - 183 companies
- Furniture for banks, libraries, museums, archives, conference rooms - 23 companies
- Industrial and laboratory furniture and stands - 16 companies
- Furniture, equipment and supplies for stores, department stores, supermarkets, exhibitions - 37 companies
- Frames and furniture accessories for industrial goods -1 company
- Cane, bamboo and rustic furniture - 17 companies
- Leisure furniture and components - 74 companies

Sector Performance (2005-2008)

Furniture manufacturing represents one of the fastest-growing and steadiest branches of real sector development in Moldova. The furniture sector's contribution to GDP growth from 2003 through 2008 represented 127.5 percent, while the growth of production in the general processing industry totaled only 71.1 percent or 55 percent of the GDP growth. As a result, the development of the furniture manufacturing industry looks very attractive. The growth of furniture manufacturing for the given period represented an astounding 425 percent**.**

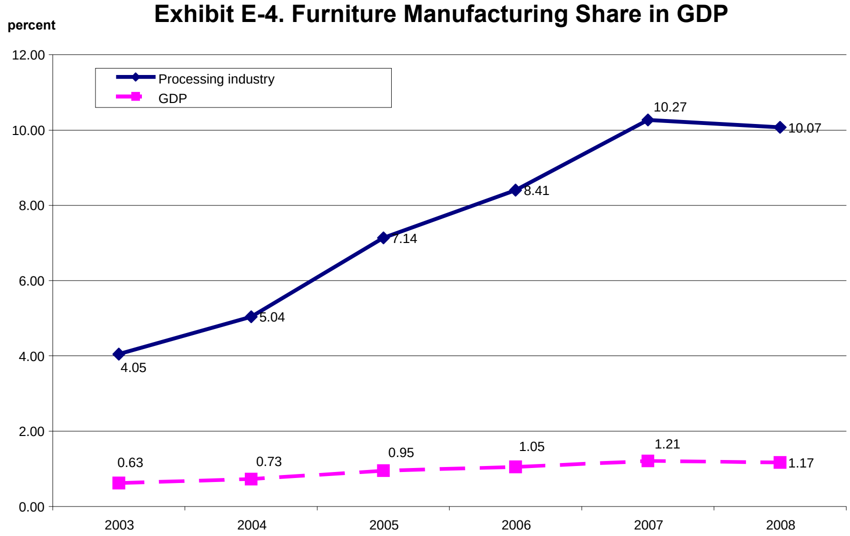
Exhibit E-3. Growth Trends, percent, 2003=100, in current prices



Source: National Bureau of Statistics data

As a result of such intensive development, this branch has drawn greater attention and demonstrated greater potential for future growth. Its share in the GDP in 2003 was 0.63 percent, and in 2008 it was already 1.17 percent, which represents an increase of 1.9 times. The share of the furniture industry in the processing industry within the given period increased from 4.05 percent to 10.07 percent, or 2.5 times (seen in Exhibit E-4.

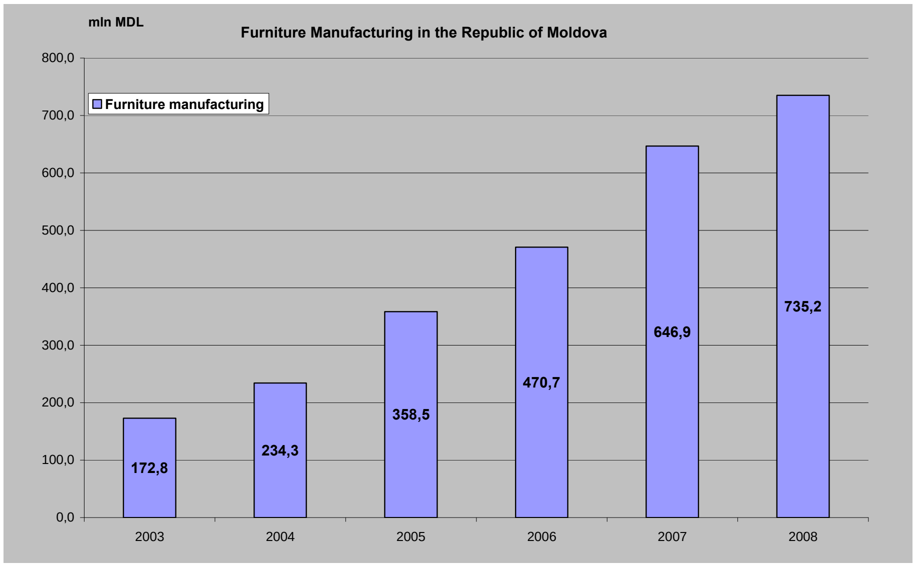
Exhibit E-4. Furniture Manufacturing Share in GDP



Source: National Bureau of Statistics data

Furniture manufacturing from 2003 to 2008 is shown in Exhibit E-5 below.

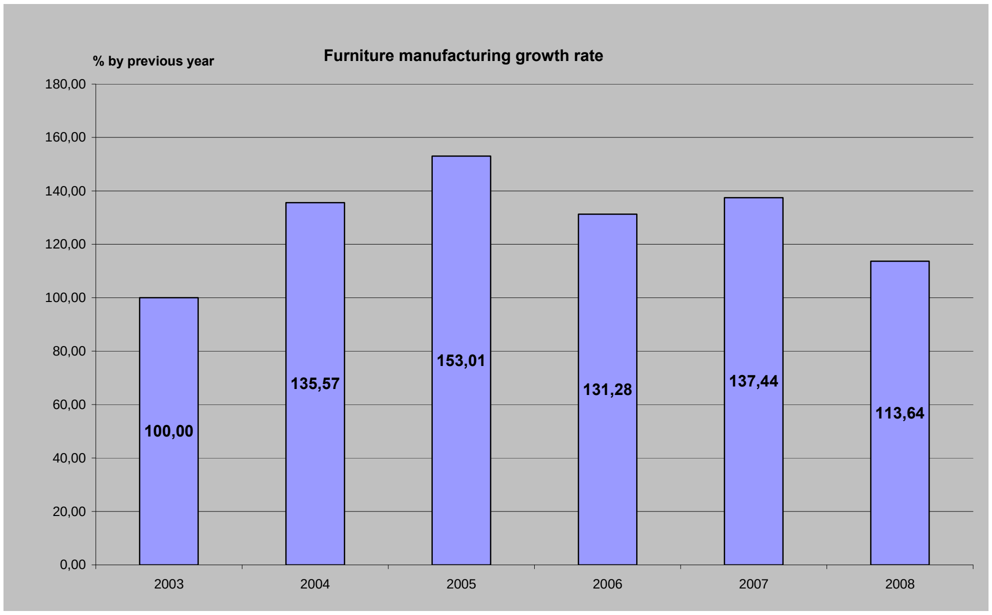
Exhibit E-5. Furniture Manufacturing in the Republic of Moldova



Source: National Bureau of Statistics data

We can see from the chart that furniture manufacturing increased from MDL 172.8 million to MDL 735.2 in this five-year span. The average annual growth of the furniture manufacturing represented MDL 112 million. The lowest growth rate for the furniture sector was registered in 2004 and represented 62 million MDL. By 2007, the sector registered its greatest growth at MDL 176.2 million. The percentage growth rate of furniture manufacturing is shown in Exhibit E-6.

Exhibit E-6. Furniture Manufacturing Growth Rate

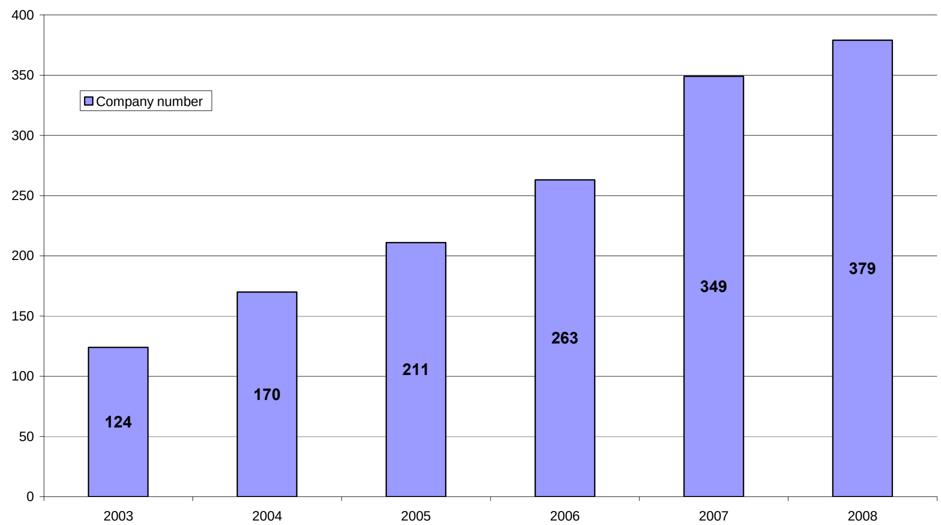


Source: National Bureau of Statistics data

As represented in these two charts, the most significant growth between two years was registered between 2004 and 2005, and represented a growth of 153 percent. The most insignificant growth was in 2008, at a rate of only 13.8 percent, which likely corresponds with the global economic crisis.

Determining the growth of the furniture manufacturing sector was based on two factors: an increase in the number of companies manufacturing furniture, and an increase in the furniture manufacturing output by one company.

Exhibit E-7. Company Number in Furniture Industry of Moldova



Source: National Bureau of Statistics data

The number of companies increased from 124 in 2003 to 379 in 2008. The maximum number of companies was in 2007, when 86 companies entered the branch. The most insignificant growth in the number of companies was in 2008, when only 30 new companies entered the branch. This shows a decrease of attractiveness for the investors and business as a result of the global economic crisis.

The average output by one representative company within the given period also registered a stable growth trend. Average output from 1.4 million MDL increased to 1.9 million MDL or 1.4 times. Average indicators showed maximum increase in 2005 and represented 23 percent, and these figures demonstrate that the companies made significant efforts to increase output in response to market demand.

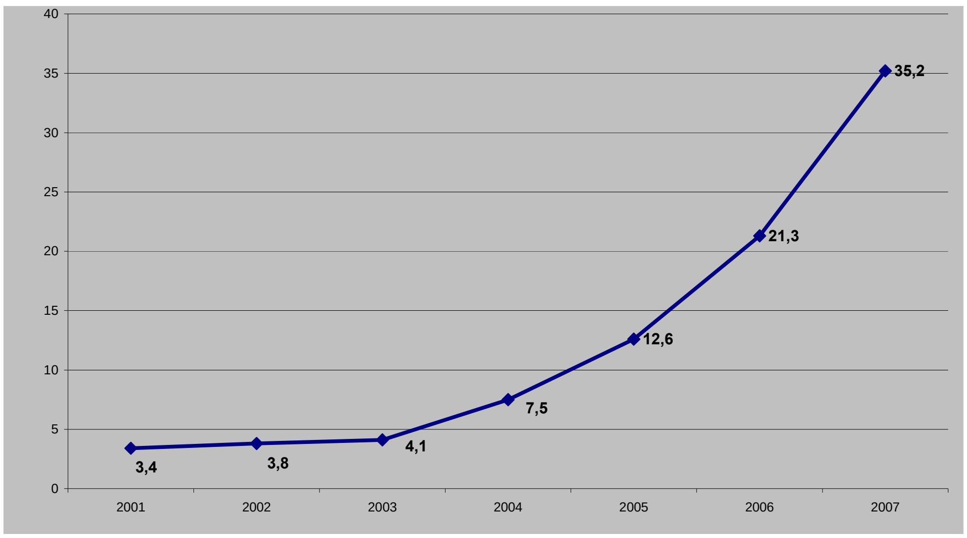
Demand Conditions and End Markets

The furniture manufacturing sector is distinguished by the stable relationships it has developed with strong regional markets in the EU and CIS countries, its high potential for import substitution to develop sourcing of materials, and estimates of record market growth in the years to come at a predicted rate of 15-20 percent annually. The furniture manufacturing industry enjoys a correlation with other related industries like the construction materials sector and the real estate sector. Identifying and pursuing synergies among these industries through shared best practices, targeted markets, developed technologies, and import substitution is likely to strengthen all of these sectors and harmonize their production models.

Exports

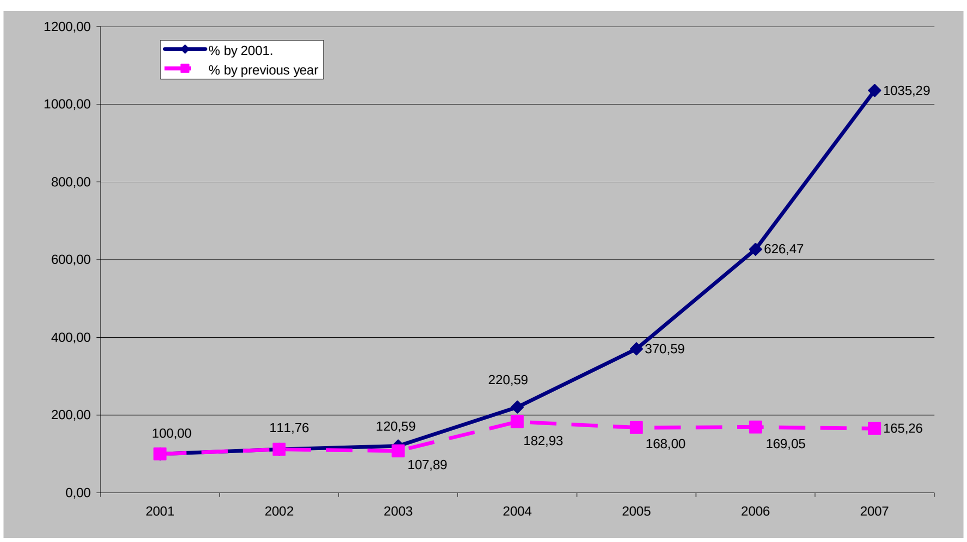
One of the most important competitiveness characteristics of any economy's sector, including the furniture industry, is the volume of its exports. Export activity is particularly critical for Moldova when taking into account that the local market is fairly small. Exports of furniture industry products are developing very dynamically. From 2001 to 2007, the export of furniture products increased from USD $3.4 million to USD $35.2 million. From 2001 to 2003, this growth was fairly slow, but 2004 marked an enormous spike in sector exports; from this year on, the branch virtually doubled its export amount annually (seen in Exhibit E-8). Between 2004 and 2008, the branch increased its export volume by more than 10 times annually. Average annual growth starting from 2004 represented 65-80 percent (seen in Exhibit E-9). The average export growth indicators are 3.6 times greater than export growth indicators of other branches for the same time period.

Exhibit E-8. Furniture Exports



Source: National Bureau of Statistics data

Exhibit E-9. Furniture Export Growth Dynamics, percent



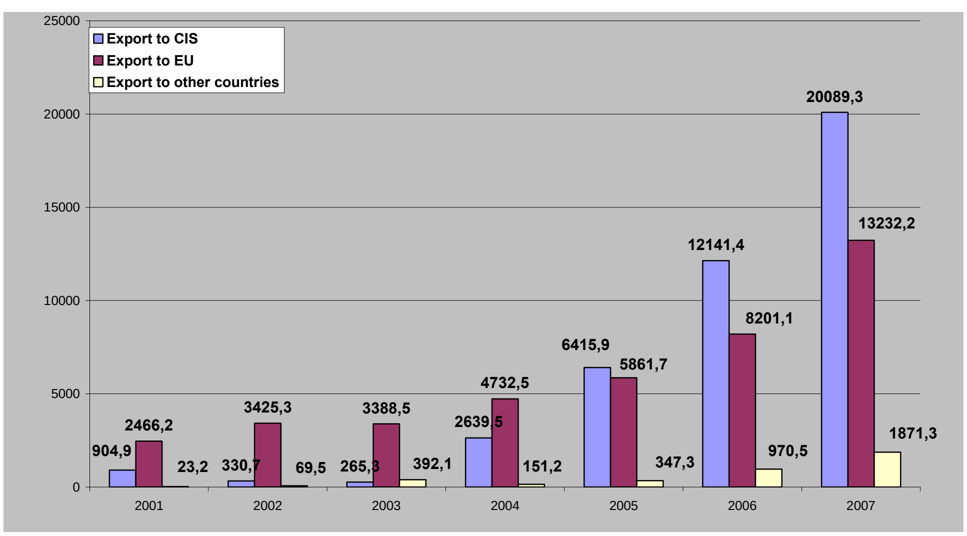
Source: National Bureau of Statistics data

The growth of furniture industry products occurred in all markets, including CIS countries, EU countries, and other identified countries. This export spread demonstrates that the quality of furniture manufactured in Moldova is quite high, and clients are satisfied with the products they receive enough to continue the trade relationships. Furniture branch products find their market segments both on the Western and Eastern markets. Furniture sales in the EU went up from USD $2.5 million to USD $13.2 million, while the increase in furniture exports to CIS countries was even greater. Furniture sales rose from USD $0.9 million to USD $20.1 million from 2001 to 2007. As a consequence, there was a shift in the export orientation. In 2001, exports to the EU countries exceeded exports to the CIS countries by 2.7 times, while by 2007 exports to the CIS market exceeded exports to the EU by 1.5 times. It is worth qualifying these figures with respect to peculiarities and shifts within the EU and CIS markets themselves. The export to EU market was steadily increasing. Starting in 2004, exports to the EU countries started to increase, fueled by growing exports mostly to Romania, followed by Italy, Germany, and Slovakia. CIS countries started growing continuously at a fairly high rate, mainly in Russia and Ukraine. In 2004, the sales in CIS amounted to USD $2.6 million in comparison to USD $0.26 million in 2001. During one year the sales increased by 10 times, due entirely to growth in Russian exports. In the subsequent years, exports to the CIS market doubled annually.

Exports to the “other countries” group was developing quite well during this time period. This group contains all countries that are not members of the EU or CIS. Exports to these countries increased steadily from USD $23,000 in 2001 to USD $1.9 million in 2007.

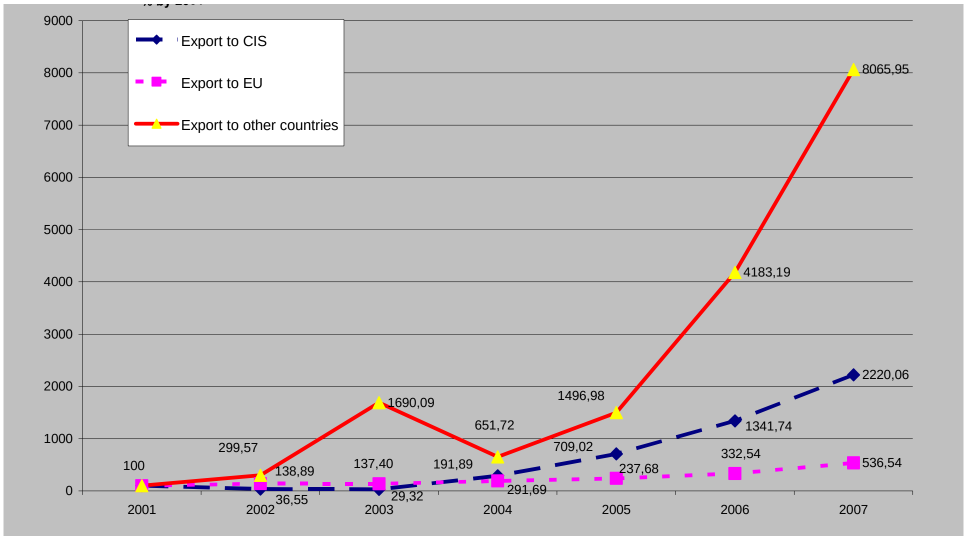
The comparison of export development rates in these three directions is shown in Exhibits E-10 and E-11. From the chart data we can see that the export rate development was the highest in the “other countries” segment. The growth of exports from 2001-2007 represented an astounding 8,066 percent, i.e., it increased 81 times, followed by exports to CIS countries, which increased 22 times and led in volume of sales during this seven-year span. The export growth rate development to EU countries was lower, but also dynamic. Within the given period it increased 5.4 times. As a result, it held the second place in the volume of sales.

Exhibit E-10. Furniture Exports by Country Groups, USD thousands



Source: National Bureau of Statistics data

Exhibit E-11. Export Dynamics Growth by Country Group, percent by 2001

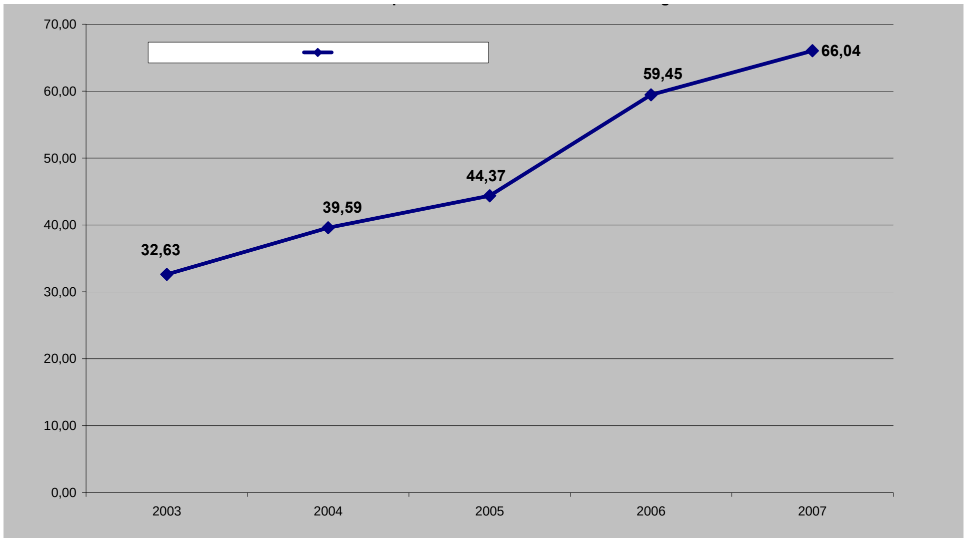


Source: National Bureau of Statistics data

The export structure in the given three directions is shown in Exhibit E-11. The exports to the EU in 2001 dominated, representing 72 percent of the total furniture export. The export share to CIS represented only 27 percent and 1 percent was the share of "other countries." The way the export growth rate was developing led to a dramatic change. The export share to the EU market decreased 2 times, the share increased by 2 times to the CIS market, and by 5 times to the "other countries" market.

Another significant peculiarity of the branch competitiveness is the share of exported products from general production volume (seen in Exhibit E-12).

Exhibit E-12. Export Share in Furniture Manufacturing, percent



Source: National Bureau of Statistics data

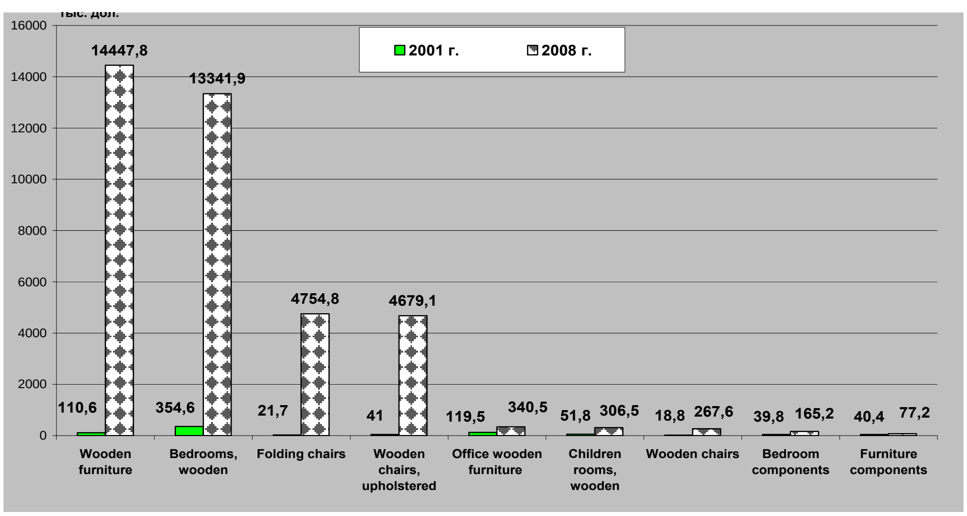
From 2003 to 2007, the share of exported furniture out of total manufactured volume showed a stable growth trend. While in 2003 the export share represented 32.6 percent of the manufactured furniture, by 2007 this share represented double, or 66 percent. This trend demonstrates that the export of furniture is

increasing at a higher rate in comparison to total whole production volume. Making this conclusion, we must not forget about the reality of re-exports, although this aspect would not interfere with the statistical data presented. In any case, the export growth is a solid incentive for the branch development and increase of the production volume.

Russia is still the main market for the export of Moldovan furniture and this is true not just for the CIS but for the whole export of Moldovan furniture. Export volume to Russia can be compared to the whole export to EU, with Russia valued at USD 13.3 million and the rest of the market valued at USD 13.2 million. Ukraine is second in terms of the size of Moldovan furniture export, but it exceeds Russia in export growth. The size of Russian and Ukrainian furniture markets is huge according to the experts and Moldovan furniture can find its place there. It is forecasted that the furniture market in Russia will be USD $12 billion in 2010. The capacity of the Ukrainian furniture market is estimated to be worth USD $1 billion. One huge step in the promotion of Moldovan export to EU occurred in 2005 when Moldova became a member of the European Furniture Manufacturers Federation, which is comprised of 28 countries, and urged Moldova into the regional community and markets. All of these data show that Moldovan furniture exports have a growing, regionally convenient, and profitable market to further explore in the years to come. Some main ways to promote local furniture to these markets is for Moldovan manufacturers to participate at specialized exhibitions in Russia and Ukraine, get contacts with the wholesale furniture operators in these countries, and cooperate with MIEPO and the Moldovan society of furniture manufacturers.

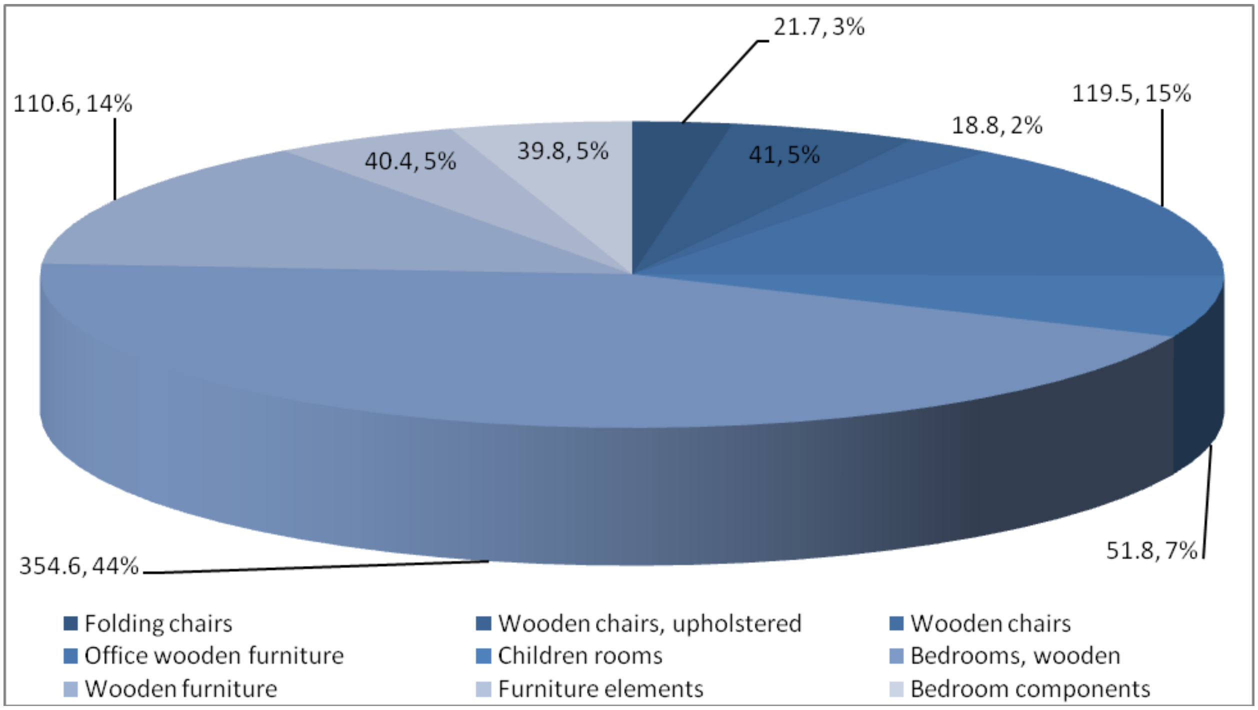
Product mix of exported and imported products. Within the given period, four groups of furniture products proved most competitive on the foreign markets, namely wooden furniture, wooden bedroom suites, folding chairs, and wooden upholstered chairs. The export of such product groups increased correspondingly 131 times, 38 times, 219 times and 114 times within the given period. These four groups of products represented 87 percent of total exports in 2008, were competitive in both the CIS and EU markets. It is worth noting that these four products are mostly manufactured by larger companies, which suggests that developing conglomerates of smaller producers may provide the technologies, resources, and workforce needed to be most competitive in this industry.

Exhibit E-13. Export dynamics of the main four types of furniture products



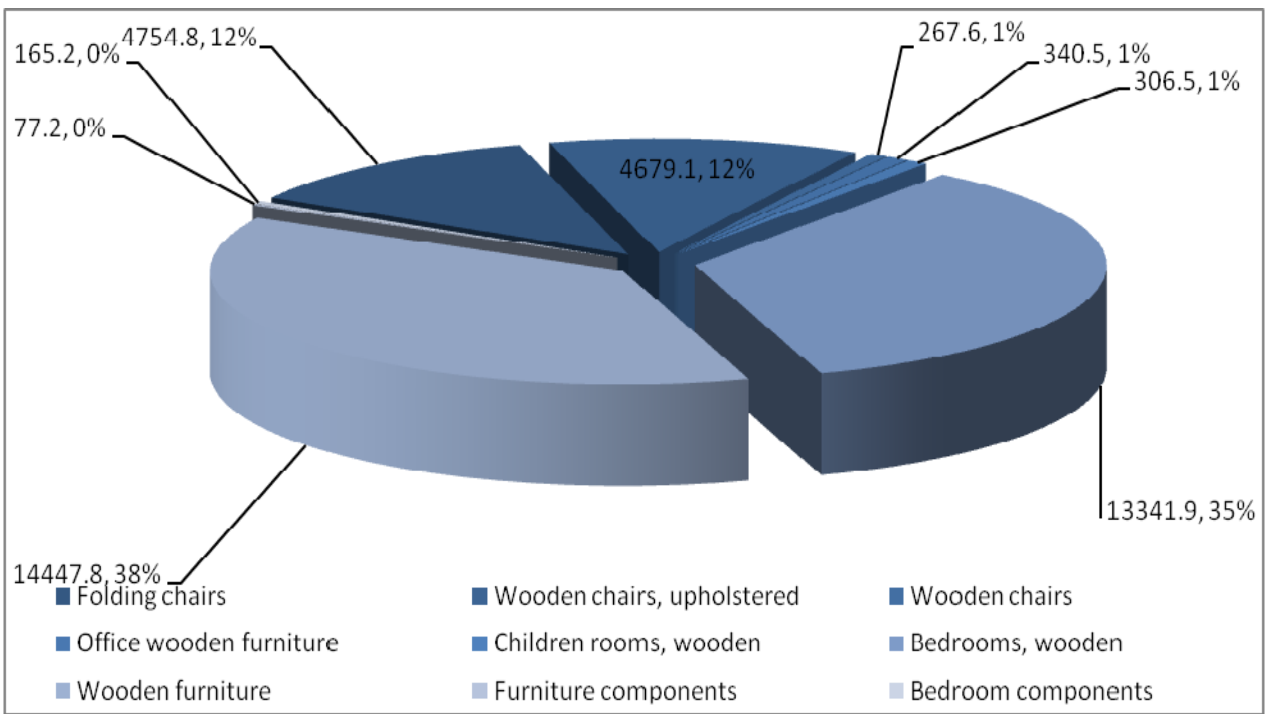
Source: National Bureau of Statistics data

Exhibit E-14. Export structure by product types in 2001



Source: National Bureau of Statistics data

Exhibit E-15. Export structure in 2008

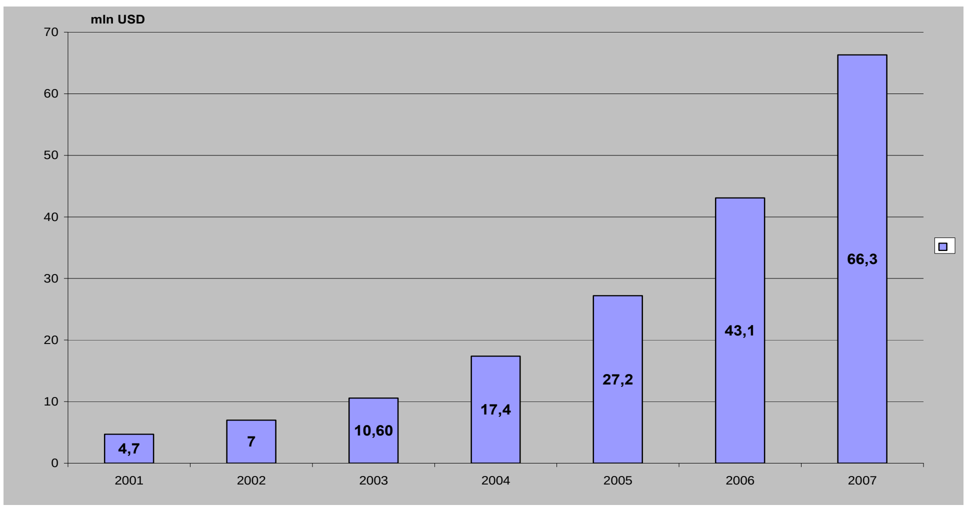


Source: National Bureau of Statistics data

Imports

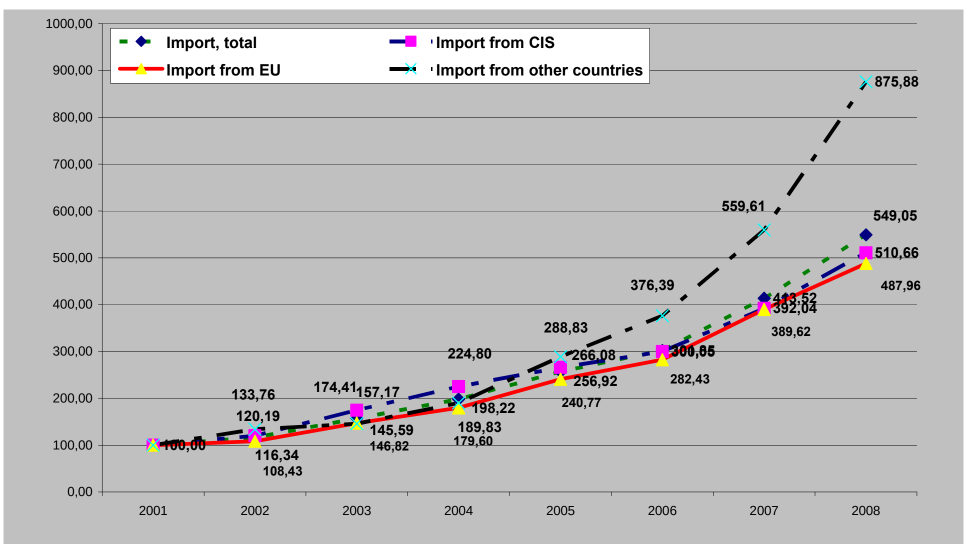
An important factor affecting the branch development for exports has been corresponding import shares from these markets. The products imported are not covered by the local production sector, and as such, efforts made to enhance the competitiveness of this sector will likely look not only to export growth but to import substitution in order to make use of Moldova's available resources and concentrate furniture production in the local sector. The substitution of the imported products by the products of the local manufacturer is a great reserve to increase production volumes of the given country's economy real sector. The import of furniture to Moldova is characterized by data shown in Exhibits E-16 and E-17. Exhibit E-16 shows that the volume of imported furniture increased steadily from USD $4.7 million in 2001 to USD $66.3 million in 2007. During these six years, the import of furniture increased by 14 times. The import of furniture exceeds the indicators of import growth for the whole republic by 2.6 times.

Exhibit E-16. Furniture imports to the Republic of Moldova



Source: National Bureau of Statistics data

Exhibit E-17. Import dynamics of the Republic of Moldova, percent

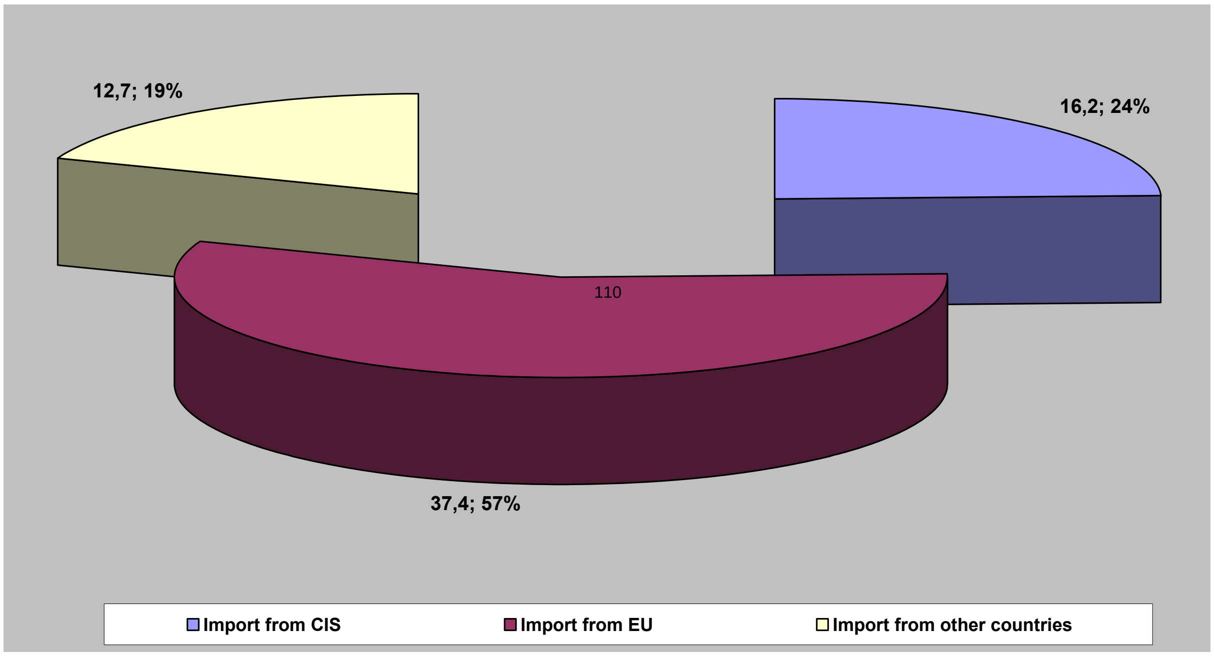


Source: National Bureau of Statistics data

These charts show a significant demand for furniture that is not met by current levels of Moldovan production. Currently, local manufacturers cannot offer the client the whole range of high-quality furniture products that Moldova's target markets demand. Increases from 2001 to 2007 in furniture imports to Moldova occurred due to increases in imports from EU countries (from MDL 3.7 million to MDL 37.4 million), CIS countries (from MDL 0.7 to MDL 16.2 million), and "other countries" (from MDL 0.3 million to MDL 12.7 million).

If we consider the furniture import growth rate, the highest growth rate is shown by "other" countries, which increased by 42 times within a six-year period. The imports of furniture from CIS countries increased by 23 times, while the import growth rate for the EU countries was the lowest, having only increased by 10 times. As a result the import structure has also changed dramatically. In 2001, 79 percent of all furniture was imported from EU countries. By 2007, the EU share in furniture imports lowered to 57 percent; however, EU is still the main furniture supplier to Moldova (seen in Exhibit E-18).

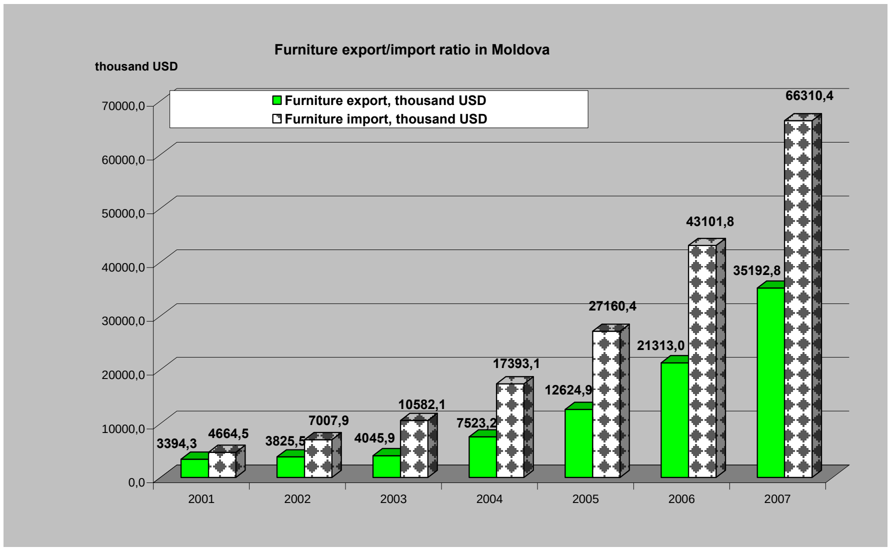
Exhibit E-18. Furniture import structure in 2007



Source: National Bureau of Statistics data

Comparing the import growth rate of furniture from EU, CIS, and "other countries," and the growth rate of the total imports to Moldova from the same regions, we can conclude that the import of furniture was higher than the overall import from all regions. Comparison of exports and imports of furniture to Moldova shows that the country is importing furniture more intensively than local manufacturers are exporting. The volume of imported furniture is consistently exceeding the volume of exported furniture by approximately 2 times. The import growth rate is on average 1.5 times higher than the export growth rate (seen in Exhibits E-19 and E-20 on the following page). While this situation is generally negative for the country's economy, it shows strong potential for furniture industry development.

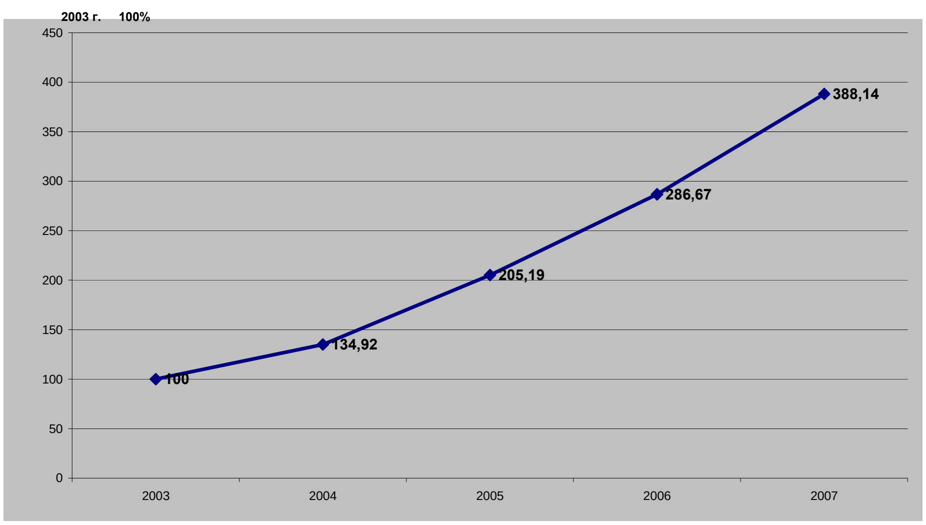
Exhibit E-19. Furniture Export/Import Ratio in Moldova



Source: National Bureau of Statistics data

The local furniture market has been developing at a high rate speed in the past few years. While in 2003 the total sales of furniture in Moldova amounted to MDL 264 million, the volume of sales nearly quadrupled to MDL 1.074 billion by 2006.

Exhibit E-20. Furniture Export/Import Ratio in Moldova, 2003= 100%



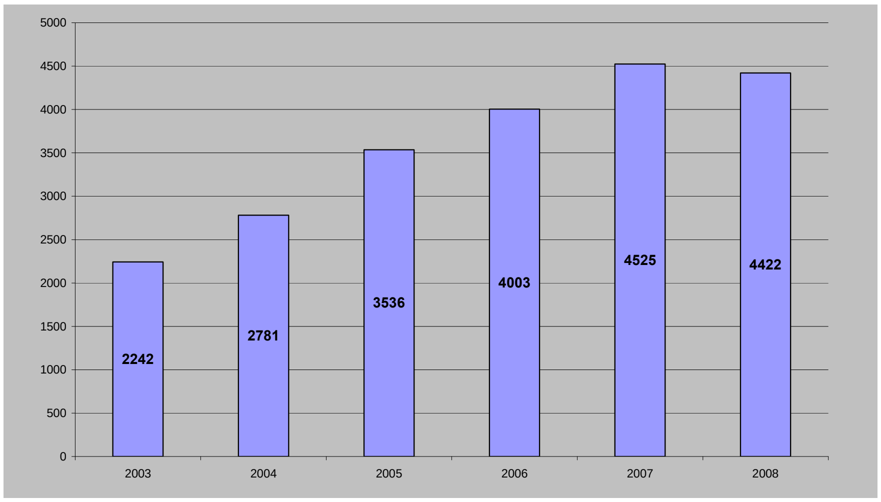
Source: National Bureau of Statistics data

Company Structures, Rivalries, Linkages, and Relationships

Given the company distribution of the sector, whereby a vast majority of operating companies are small and employee fewer than 20 people, there is an opportunity in the industry to encourage the formation of medium-sized companies by bringing together the resources and workforce of smaller manufacturers. From 2003 to 2008 the staff number of the furniture sector increased from 2,242 to 4,422 people. Staff numbers grew steadily up until 2007, where the total number employed leveled off. Staff numbers increased on average by 20-25 percent each year. While the number of people employed in the sector has increased significantly since 2003, the number of companies active in the industry remains relatively

high. The growth of general staff numbers was accompanied by a decrease in the average staff numbers per individual company. The average staff numbers of one company went down from 18 to 12 people, or by 36 percent, during this four-year span. Shared resources, best practices, target markets, as well as the greater potential for higher value-added services, are all reasons that the sector may consider conglomerates of smaller businesses in the next few years.

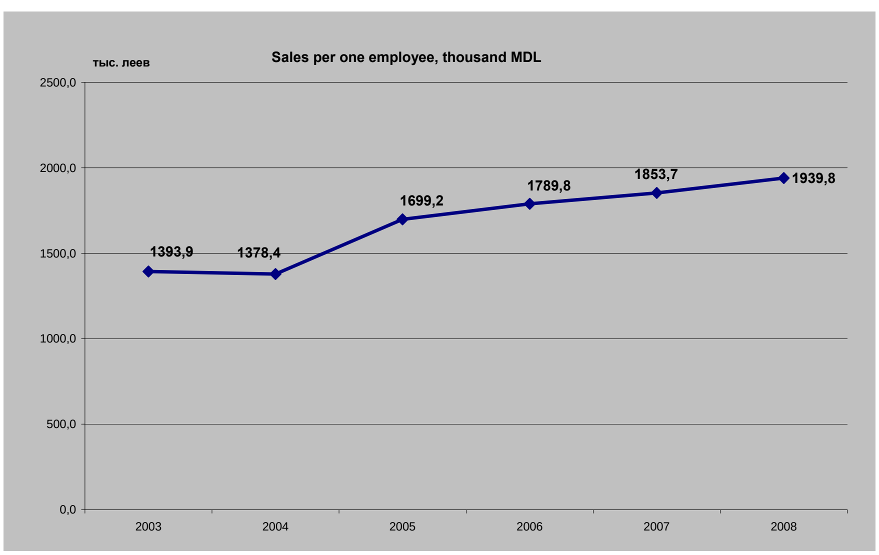
Exhibit E-21. Staff Number in Furniture Sector in the Republic of Moldova



Source: National Bureau of Statistics data

Decreases in the average number of staff per individual company occurred as a result of the higher rate increase of the number of companies in the sector. Additionally, this trend demonstrates that smaller companies were successfully entering the sector at a high rate. Small business has many positive sides, but doesn't lack negative ones. It is very complicated to implement modern, high performance equipment and technologies in small companies, since it is very expensive and small-sized companies can't afford them. One of the important indicators of the sector's staff efficiency is the sales volume indicator per employee. This indicator increased from 1.3 million MDL to 1.94 MDL or by 1.4 times.

Exhibit E-22. Staff number in furniture sector of the Republic of Moldova



Source: National Bureau of Statistics data

Experts confirm that the branch is growing and that one of the sector's most sophisticated aspects is the availability of highly skilled specialists. One part of the given problem is the flow-out of highly skilled specialists to clandestine production. Clandestine production offers better wages and less intensive work. Another direction for the flow-out of labor force is towards foreign countries where well-paid temporary work is relatively easy to find. There is also a notable absence of systems for training production workers, with the exception of training engineers, which is developed through the Technical University of Moldova.

There are virtually no large manufacturers of raw materials and accessories in the country. Because larger companies are able to carry out a more complete furniture production cycle, they typically have greater capacity for producing higher value-added products, while the smaller companies are most reliant on the custom-built model. There is currently little interaction among the large and small players in the industry, and essentially no vertically integrated companies in the full sense of the word. As with the textile & apparel and footwear sectors, much opportunity exists for increasing the value added by Moldovan manufacturers beyond the simple cut-and-make (CM) or custom-built operations.

Challenges and Opportunities

The furniture manufacturing sector holds many opportunities for growing businesses, employing Moldovans, contributing to the over-all GDP, and responding to both growing regional and domestic demand. Not only do regional countries offer a manageable demand in terms of quantity, Moldova is positioned to consider higher-quality products through increased employee efficiency, grouping smaller companies into medium-sized companies for sharing resources, and respond to the correlated demand in the real estate sector as new homes are built or rehabilitated and the market looks domestically for high-quality and affordable home furnishing.

Some positive factors affecting furniture market development include the erection of new buildings, growing interest for spacious houses and apartments, internal migration of the population, increase in the number of marriages (resulting in more household units), and an increase in consumer loans. The Moldovan market is expected to continue its annual growth rate of 15-20 percent, partly because the country's inhabitants are seeking higher-quality home furnishings; experts have concluded that Moldova are prepared to pay MDL 7,000 or more for new furniture, and the local industry can develop its capacity to meet this demand.

Local furniture manufacturers say that in order to survive in the circumstances of growing competition from abroad the development strategies require first of all the enhancement of product competitiveness through quality enhancement and expansion of the product mix offered on the market.

Most plants from the country are oriented toward manufacturing furniture objects targeting three price segments: premium class furniture, standard or ecological furniture, and economy-class furniture. Most clients offer the furniture manufacturers a great deal of innovative ideas, methods of execution, designs, and color palettes. However, a considerable portion of import furniture falls in the higher-quality segment of the market, and includes the fashionable furniture made/produced based on the use of modern technologies and individual design. Currently, the Moldovan manufacturers aren't able to meet this demand, although more intensive design school curriculum among other efforts could improve the innovation and quality of Moldovan products, and help the local market better meet the local demand. As a result, two main priorities for the sector include introduction and application of new technologies, as well as the incorporation of more modern designs in furniture production, which will encourage import substitution and build the national economy.

Policy

In 2005, the Moldovan Association of Furniture Manufacturers joined the European Furniture Manufacturers' Federation. One of the activity directions of the federation is to grant assistance in the promotion of Moldovan furniture on the European markets.

For a while in Moldova, the idea of creating a specialized agency for insuring and guaranteeing export loans (MEGICA) was discussed. The main objective of MEGICA creation was to offer guarantees to the exporters and banks that money will be returned in case foreign partners do not observe contractual obligations in export operations. This is particularly important in case of unpredictable events such as expropriation of goods, moratoriums for payments, defaults, government intervention in transactions, or foreign currency inconvertibility.

There is currently no government body who specifically governs decisions or laws involving the furniture manufacturing sector. The emergence of such a governmental body could help ensure efficiency in the sector and contribute to a vertically integrated model. This body could also develop legislation to eradicate illegal importation.

Detailed Recommended Actions

Following the SWOT analysis and detailed research on the furniture manufacturing sector, an array of opportunities and potential directions for development have been identified. This section will briefly describe some areas that the public and private sectors, the Government, and any future donors may consider for building on Moldova's advantages in the sector, securing the sector in the face of potential threats, and enhancing the competitiveness of the sector regionally and domestically.

Reestablishment of the Ministry of Industry or a comparable body of state authority is seen as a potential instigator for developing a targeted sector strategy, creating premises and mechanisms for implementation, solving intergovernmental issues for the promotion of furniture sector production, and developing the mechanism for stimulating exports. Timely tracking of relevant legislation in countries that hold target markets would ensure streamlined processes and would improve the reaction time of Moldovan producers in accommodating any new laws or policies.

Working with clandestine production and illegal importation is seen as a critical next step for the sector, although transference of underground marketing to the legal markets is seen as a more viable option than attempting to shut down operations. It's possible to help transfer resources to the legal marketing through legalizing certain imports, simplifying export procedures, and simplifying the VAT refund mechanism, which can severely delay reimbursement and discourage legal processes.

Developing a cluster approach to the furniture sector has been identified as an option for stimulating the sector domestically and regionally. A cluster may include the following types of companies and organizations:

- supply of main material
- supply of auxiliary material
- supply of accessories
- main material manufacturing
- manufacturing of accessories
- manufacturing of auxiliary material
- furniture manufacturing
- finance and insurance

- training of specialists (worker specialties and high-skilled specialists)
- consulting

Since the main bulk of sector’s companies are small ones with little resources to participate at tradeshows, purchase new technologies and equipment, enhance staff’s skill level, promote their products both on the local market and particularly foreign market, the donor sector in particular has an opportunity to leverage resources and cost-share with these small companies in order to develop their capacity.

ANNEX F

Information & Communication Technology (ICT) Sector Assessment

The Information and Communication Technology (ICT) sector is relatively new, but dynamically developing globally. The Information Technology (IT) sector is a component of the larger ICT industry, and is widely recognized as the driving force of ICT for the rest of the economy in Moldova. The IT industry is an important engine of economic growth, and many governments are taking measures to stimulate sector output as a means of accelerating economic recovery.[1] These trends are noticeable in Moldova, as well; however, the development pace of ICT and the degree to which it has been embraced by the non-ICT industries varies and is lower than in the rest of the region. On the other hand, the development of a systematic approach and Moldova's commitment to driving ICT forward generates a huge development potential for this industry. Some specific data on the sector follows:

- IT exports have recorded 10 times growth during the past 5 years
- IT industry has a favorable trade balance as of 2008, with exports exceeding imports nearly by double
- IT industry has recorded vigorous employment growth, being the most rapidly growing sub-sector in ICT, with IT jobs having increased by 68 percent from 2007 to 2005. As of 2007, IT industry employed nearly 7,000 people. It must be noted that it is estimated that ICT direct and indirect employment, i.e. in ICT and non-ICT industries, constitutes around 40,000 people, which ranks ICT as one of the major employers in this country
- IT workers are nearly twice as productive as the average worker per economy

The ICT sector in the Republic of Moldova has been one of the nation's most productive and fastest-growing industries over the past several years. The contribution of the ICT sector to the country's GDP was approximately 9.5 percent for 2008 (compared to 7.5 percent in 2004), which amounts to USD $580 million and puts it on par with agriculture. There has been a systematic growth of export services, increasing from USD $19.6 million in 2004 to USD $115.9 million in 2008.

According to the Organization for Economic Cooperation and Development (OECD) definition, the ICT sector includes information technology, electronic communications, manufacture, and trade of IT equipment. Although communications is one of the largest by output—its contribution to GDP was 5.76 percent in 2007 out of ICT's 9.5 percent—the industry is driven almost entirely by domestic demand and technological progress. Therefore, it acts as an *enabler* of the ICT industry and entire economy, rather than as a productive industry. The government's dominance in telecommunication is creating an uneven playing field and keeping prices high. Hardware manufacturing is focused on measuring tools and TV/radio devices,[2] and there seems to be limited potential for growth, given that it is investment intensive and/or dependent on labor costs, which are rising in Moldova. These data contributed to the conclusion that the communications component of ICT was a broader and less productive focus than the more manageable and driven IT component.

[1] Resilience amid turmoil. Benchmarking IT industry competitiveness 2009, Economist Intelligence Unit
[2] Based on number of companies in 2007; ATIC calculations based on Moldova NACE edition 2005 and statistical information from the NBS

IT is the fastest-growing industry from Moldova's ICT sector, having recorded tenfold expansion in exports during the past five years, growing from USD $2.6 million in 2002 to USD $26.3 million in 2007. The expertise of the Moldovan software companies is in areas such as e-government, business process integration, ERP-solutions for the financial sector, and Web programming. The Moldovan IT industry has few large firms being dominated by small companies and independent contractors, with the latter mostly operating in the shadow. Those that are large typically employ more than 100 people and are typically subsidiaries of foreign companies. According to available statistics, the number of enterprises is growing relatively fast — there were 519 companies active in 2007, compared with 376 companies in 2003, which represents a growth rate of 38 percent.

The Moldovan ICT sector employs about 20,500 people, representing 2.7 percent of the total labor force. Some reports suggest that the total number of ICT specialists employed throughout the economy may rise to as many as 40 thousand people[4] in a few years. It is also one of the highest-paying industries. Jobs in ICT pay on par with those in the financial sector, which have historically been among the best-paying jobs in Moldova. It is important to note that IT industry employment averaged 6,600 people as of 2007, having grown by nearly 70 percent since 2003. Additionally, the industry tends to attract the younger generation with the average age of IT professionals in Moldova estimated at 26 years.

In the pages that follow, we provide background information and data on the sector including sector importance, recent performance, historical performance, and growth potential. A SWOT analysis was conducted to determine the potential of this sector moving forward, including Moldova's strengths, weaknesses, opportunities, and threats in the ICT industry. This analysis has helped determine that the ICT sector continues to be an important and high-potential industry in Moldova, and has identified opportunities for enhancing its competitiveness. Please reference the following list of topics to help navigate through the information provided:

SWOT Analysis
Sector Structure
- Main Categories of Industry Players

Sector Performance
- Demand Conditions and End Markets
    - Exports and Imports

Company Structures, Rivalries, Linkages, and Relationships
Challenges and Opportunities
- Business Environment
- Supporting Markets/Industries and Value Chain Cooperation

Detailed Recommended Actions

SWOT Analysis

A SWOT analysis was conducted as a means for determining the viability of the sector moving forward, including specific strengths and weaknesses that would shape the opportunities for the industry. Finally, potential threats were identified to help guide the approaches for future work in the sector. Through these four variables, it was determined that the ICT sector, and the IT subsector in particular, continue to be incredibly viable in Moldova, particularly in light of their high potential globally. The following items were identified as particular strengths in the Moldovan IT sector.

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[3] ATIC calculations based on statistical information from the NBS.
[4] Moldova Telecommunications Sector Diagnostic Note, World Bank, August 2008

- *The new Government is supportive of the ICT industry, demonstrating an understanding of its growing importance and catalytic role for the entire economy.* The first ICT sector strategy is underway. There are existing strategies including an Information Development, electronic communications, and an e-Moldova strategy.

- *Moldova has a good geographic location and adequate linguistic capabilities.* These characteristics make the country able to serve multiple markets, most importantly the EU countries, and become a destination of choice for offshoring and nearshoring IT (and BPO) services.

- *Availability of educated and competitive labor force.* Moldova has a large and growing pool of highly skilled and well educated professionals with creative thinking skills and flexible mindsets. Most young people speak multiple languages, typically Russian and Romanian and at least one other European language. Although wages are rising, they remain lower than those found elsewhere in Eastern Europe. These qualities give Moldovan IT firms the ability to service the full cycle of software development in a competitive position vis-à-vis neighboring countries.

- *Growing number of graduates from IT-related disciplines.* While most of the EU countries are experiencing a deficit of enrollment to mathematical and IT faculties, Moldova's number of graduates from ICT-related disciplines is growing, having doubled in the past five years.

- *There is a strong industry association in Moldova.* The Association of Private ICT Companies, which demonstrates sector maturity, willingness to develop efficiently, and readiness to jointly contribute to the achievement of the common goals, has been established and is well positioned for further development.

This analysis also helped to identify weaknesses in the Moldovan sector that must be considered when understanding this industry in the national and global contexts.

- *Weak local technology infrastructure restricts business growth.* This weakness is most apparent in Moldova's lack of high quality or affordable communication services and appropriate and affordable office spaces, as well as high transportation costs.

- *Unfavorable administrative environment.* While software companies are subject to some fiscal exceptions, the generally unfavorable administration system and complex fiscal environment raise the costs of doing business in the ICT sector, thus generating competitive disadvantages for Moldovan companies.

- *The shadow market is present in several ICT sectors, including trade and IT.* This shadow market creates an uneven playing field, limits company growth, and affects the competitiveness of the entire industry. Many independent contractors are in the shadow economy, partly due to a complex regulatory structure.

- *Lack of strong positioning of Moldova's ICT industry in the international arena.* Moldovan ICT does not have strong or unique positioning in the global ICT industry, including for software development outsourcing, offshoring, and electronic infrastructure investment.

- *The quality of graduates from IT-related disciplines is not up to the needs of the business community.* Although the fundamentals of IT education are getting stronger, the education system is not fulfilling the needs for practical and soft skills, which makes the pool of appropriately trained graduates smaller, and imposes additional (re)training costs on the parts of the businesses.

The quality of the specialists suffers because of the outdated educational methods, poorly defined curriculum, weak business/university partnerships, and shortage of skilled teaching staff.

- *Moldova's small size might be a barrier to becoming a regional hub in IT.* The small IT market with constraints to the IT labor force makes Moldova not suitable for very large offshore development centers, but rather high value-added work, i.e. understanding and delivering beyond the technical requirements. Moldova must understand this limitation, and strive to take this into account when developing and positioning the sector.

The following opportunities were identified for this high-potential sector.

- *Moldovan ICT sector has potential to be a major force in the national economy.* With a GDP share of 9.5 percent and with services exports growing 5.5 times between 2004 and 2008, the Moldovan ICT sector can be a major driver for increased competitiveness of the economy. ICT provides opportunities for building competitive economy and increasing the effectiveness of the public sector. The development of the ICT sector is a precondition for the overall modernization of society, and for bridging its rural-urban development divide. The ICT sector is the key factor for the economy to move from being based on traditional sectors to a knowledge-based economy.

- *The government can increase its IT-related spending and grow the market, including for domestic companies.* With proper government policy, much of this market can go to the Moldovan IT firms, in addition to the international vendors, thus strengthening their positions and growing their business.

- *The country is attractive for foreign investment, and IT offshoring by international firms can be increased.* There are foreign subsidiaries of British (Endava), French (Pentalog), and U.S. (Allied Testing, Tacit Knowledge, Alfa Soft) companies; all of these emerged after 2005, signaling a more active flow of foreign investment in the IT industry. However, this has not reached a critical point and there is much that needs to be done, including on the part of the government, to proactively attract investment.

- *Moldovan IT companies can grow their initial exports through aggressive marketing, including at the country level.* Marketing and promotion is seen as a limited skill set in a handful of Moldovan sectors, and due to the fact that price, location, culture, and language remain competitive advantages, marketing should be targeted as an important focus for promoting the sector. Considerable efforts in country positioning and defining a group sales strategy should be undertaken to maximize visibility and success. Moldovan IT companies can also serve as a bridge for EU partners interested in the CIS market, helping to transcend the profound cultural difference.

- *Continuous growth of the regional market gives Moldova easy access to partners.* Moldova firms may be able to take advantage of the successes of its neighbors, and further expand its market presence and share in these markets through nearshoring. Subcontracting to more advanced neighbors that are experiencing a shortage of labor, for example with firms in Romania, is also an opportunity.

A final and important consideration when analyzing the viability of a sector and determining approaches to future work is identifying potential threats that the sector faces. One main threat was identified as challenge to the IT sector in Moldova.

- The inability of the government to fund a more aggressive e-governance program and/or the incapacity of domestic firms to qualify for and service these acquisitions.

Sector Structure

IT is an industry that is part of the larger ICT sector. ICT sector definitions used by Moldovan government do not convey the real composition of the ICT sector, which is much more complex and much richer than generally believed. The current classification in Moldova includes in ICT industry two main subsectors: information technology and electronic communications.[5] As per the OECD,[6] the broad definition of ICT includes all industries that produce goods and services for the information society, and includes many manufacturing and services industries. Many countries in the EU and worldwide are reorganizing the ICT industry according to this broader definition, allowing for an integrated approach. A typical definition of ICT as per the OECD is provided in the text box to the right. ICT includes three major groups of industries: communications, hardware (trade and manufacturing) and IT services.

The IT industry is defined as including any software and other computer-related services, typically software development and consultancy, data processing, as well as networking and administration services.

In EU countries the **ICT sector** is seen as part of the broader **Information sector** (which includes also the **content sector**). The ICT sector is composed of all industries that produce goods and services for the information society and includes many manufacturing and services industries. A "typical" definition of the ICT sector based on the NACE rev.1 would include the following industries:

Manufacturing:

3000 – Office, accounting and computing machinery; 3130 – Insulated wire and cable; 3210 –Electronic valves and tubes and other electronic components; 3220 – Television and radio transmitters and apparatus for line telephony and line telegraphy; 3230 – Television and radio receivers, sound or video recording or reproducing, apparatus and associated goods; 3320 – Instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process equipment; 3330 – Industrial process equipment.

Services:

5143 - Wholesale of electrical house-hold appliances and radio and television goods, 5164 Wholesale of office machinery and equipment, 5165 Wholesale of other machinery for use in industry, trade and navigation; 6420 – Telecommunications; 7123 – Renting of office machinery and equipment (including computers); 72 – Computer and related activities.

These industries can be more specifically subdivided in equipment manufacture industry, equipment wholesale trade (and in some countries retail trade as well), ICT consultancy services, and telecommunication. Most of the problems in defining the ICT arise when it comes to the manufacture and wholesale subsectors. It has to be mentioned that in most European countries ICT manufacture and wholesale sub-sector includes not only "classical" ICT products (computers, laptops, printers etc.) but also the household appliances and industrial electronic equipment (such as TV and radio sets, players, different industrial controllers, measuring equipment etc.). The latter are becoming more and more digitalised i.e. by their technological content are rapidly converging to "classical" ICT product. Main part of the value-added they incorporate is by no means ICT product. However, some of the OECD countries include in the wholesales only the core ICT products.

Being a productive industry, according to the Moldovan statistics, IT is the fastest growing industry from the ICT sector, having recorded a 10 times growth in export during the past 5 years, from USD $2.6 million in 2002 to USD $26.3 million in 2007. When selecting competitive industries, we have given priority to export-oriented sectors, and within the ICT sector, IT is the sole sub-sector with promising export potential.

Although communications is one of the largest by output, its contribution to GDP was only 5.76 percent in 2007 out of ICT's 9.51 percent, and this industry is driven entirely by domestic demand and technological progress. Therefore, its role is to act as an *enabler* of the ICT industry and entire economy, rather than as a stand-alone productive industry.

[5] Draft National Strategy for ICT Development 2010-2012, p. 2
[6] OECD-2007, approved in 2009 by the Statistical Direction of United National as an alternative structure

Hardware in Moldova consists mostly of the trade of imported equipment for domestic consumption, thus being of little scale for large and fast growth. The wholesale market has been challenged with corruption and illegal imports, and is undergoing significant transformations because it lost in 2010 its biggest player, Nippon Technology, with a market share of roughly 40 percent. The company was charged with illegal imports and trade of mobile phones and computer equipment in February 2010[7], and as a result, its offices were closed, storehouses sealed, and its director arrested.

Hardware manufacturing in Moldova has historically been connected strongly with the Soviet military endowment; however, currently this industry is quite insignificant, focused on measuring tools and TV/radio devices.[8] There is limited potential for growth, given that it is investment intensive and/or dependent on labor costs — which in Moldova are rising.

Exhibit F-1. ICT Sector Structure

Sub-Sector	Characteristic
Information technology [software]	• Productive industry • High value added • Aggressive growth rates • Export oriented
Telecom services	• Is an enabler, rather than a productive industry • Driven by domestic demand • Involve large infrastructural investments
Wholesale hardware/software	• Trade industry, almost entirely focused on imports and re-sale
Manufacture hardware	• Insignificant size • Low value added • Limited potential and scalability • Many business models are labor-force driven, the costs of which are raising in Moldova and thus reducing the competitive advantage

Main Categories of Industry Players

The ICT cluster is complex and diverse, as is the industry itself, associating different types of players. The main players are the *communication companies* (fix/mobile telephony, internet service providers), communication being the backbone of the ICT sector; *software development [IT] companies*, which are the fastest growing segment and are export oriented; *hardware manufacturers*, predominated by manufacturing of TV/radio receivers, video recording, measurement, testing and control devices; *and hardware/software traders*, operating on the domestic market. The cluster is supported by the *public sectors regulators*, the principal one being Ministry of Information Technology and Communication, National Agency for Electronic Communications and Information Technology (ANRTI), Registru, Molddata, Agency for Intellectual Property Protection. *Education* is the other main supporting industry of the ICT cluster, which is the prerequisite for successful development of ICT. Moldova has seven major educational institutions with ICT related faculties: Technical University from Moldova, State University from Moldova, Free International University from Moldova, Academy of Economic Science, and three colleges; some companies, such as Endava, DNT Association, Intexnauca, operate training centers, which offer trainings for professionals. *Research and development* is a major supporting industry, which however is quite weak, being represented by several institutes of the Academy of Science, such as

[7] Logos Press Newspaper #6 (838) / 19 February 2010 – The Death of Nippon (www.logos.press.md)
[8] Based on number of companies in 2007; ATIC calculations based on Moldova NACE edition 2005 and statistical information from the NBS

Agency for Innovation and Technological Transfer. There are also sector *associations* which sustain development of the industry, the most vibrant one being the recently established *National Association of Private ICT Companies*, but also there is an Association of Informaticians. *Other support industries* include office space holders, consulting companies (e.g. accounting, HR), finance.

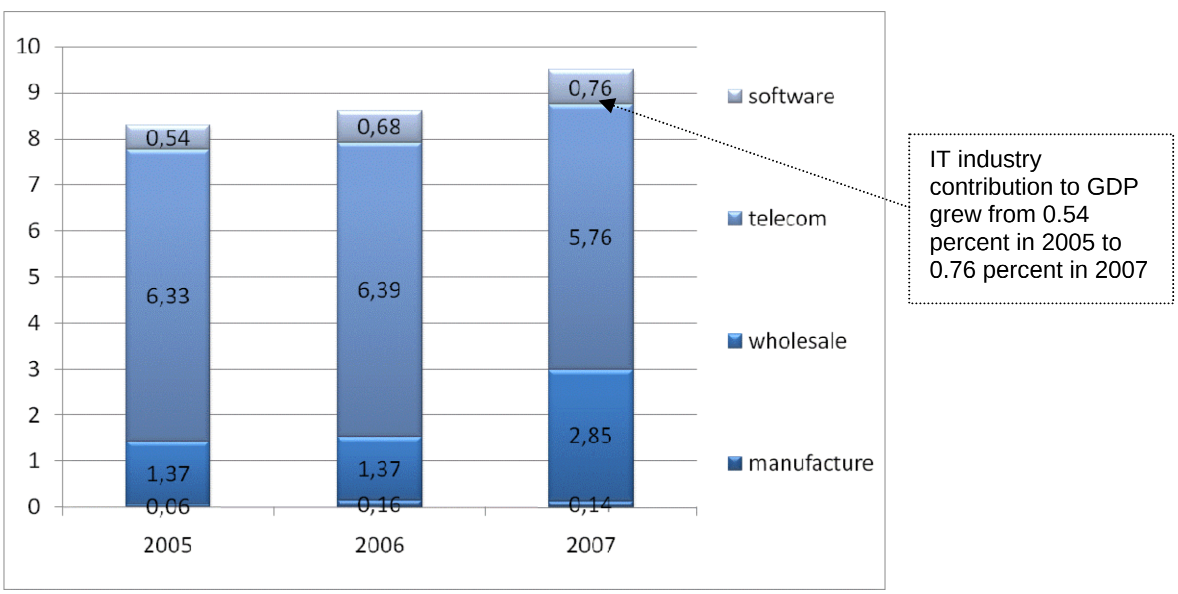
Based on CEED estimates ICT cluster consists of around *1,300 legal entities*, including about 1,200 companies as main players, which directly and indirectly engage approximately *42,000-43,000* employees.

It must be noted that ICT industry touches upon and is the driver of other economic sectors and is the enabler of overall country development. All economic sectors are highly dependent on ICT technologies, such as software support, hardware support, [tele]communications and call centers. All other economic players come in direct contact, either as beneficiary or client, with information and communication technology.

Sector Performance

According to ATIC estimates from the National Bureau of Statistics, the ICT sector's share in total GDP has grown from an estimated 6.5 percent to 7.5 percent between 2002 and 2004[9]. These growth trends continued to 8.3 percent in 2005 and then to 9.5 percent in 2007 (see Chart 1). This growth indicates that in the long term, the ICT sector has grown faster than the economy as a whole, and may have exerted a positive impact on labor productivity in some sectors such as banking and public administration. Nevertheless, looking at the disaggregated ICT sector, it is clear that the telecom services development have recorded a slowing down, while the IT industry (software) has stepped up its growth.

Exhibit F-2. Share of the ICT Sub-sectors in Moldova's GDP and Total Contribution of ICT in GDP



Source: ATIC calculations based on NBS data,
referenced in the Policy White Book „ICT Sector in Moldova", 2009

[9] While comparisons with earlier period are difficult due to changes in the NACE in 2005, these are estimates based on the national statistical accounts.

Analyzing the IT industry and its contribution to GDP, it must be remarked a growing significance of this industry. Although still small, the IT industry (referenced to as software in Exhibit F-2) contribution to GDP grew from 0.54 percent in 2005 to 0.76 percent in 2007, driven by growth in exports of software services by domestic companies. Moreover, the share of IT, i.e. software production industry, in total ICT value-added has rapidly increased in the last years, from 6.6 percent in 2005 to 8.0 percent in 2007 (and the estimate for 2008 is 8.5 percent), in contrast to a decreasing share of the telecom services. "However, some estimates are probably conservative, especially because of the large unobserved activities both in software production and hardware wholesales sub-sectors. There are no official estimates regarding the share of unobserved activities, but according to some ATIC members, in the software sub-sector the unobserved sales may represent about 30 percent of the official market."[10]

The IT industry is very much open to the global economy and depends both on imports and exports regimes. Moldova has reached a favorable trade balance in IT services. Sales abroad of computer-related and information services have grown more than 10 times in only 6 years, from USD $1.2 million in 2003 up to USD $14.3 million in 2007, and USD $26.3 million in 2008 (seen in Exhibit F-3). It must be considered that a significant part of exports are not reflected in the balance of payments, due to large unobserved economic activities in software development. At the same time, imports of computer and information services have expanded from USD $2.7 million to USD $15.9 million in 2008.

We believe that the sudden growth of almost three times in 2007, USD $15.7 million, compared to USD $5.9 million in 2006, is largely the movement toward legal software, due to anti-pirate awareness and an information campaign launched by Microsoft jointly with Business Software Alliance (BSA).

As seen in the table below, the typical trade balance (i.e. exports versus imports) in the IT industry was negative between 2003 and 2004, i.e., imports have been higher than exports. For the first time, this balance became positive in 2006 at USD $2.1 million; in 2007 the balance was negative again, with exports of IT services growing considerably, but imports catching up (largely due to BSA anti-pirate efforts); and finally in 2008, the balance was positive, with exports exceeding imports by a significant USD $10.4 million.

Exhibit F-3. Value of Exports and Imports of IT, USD million

Item	2003	2004	2005	2006	2007	2008
Exports						
Computer and information services	1.2	2.6	3.6	8.0	14.3	26.3
Import						
Computer and information services	2.7	6.1	4.4	5.9	15.7	15.9
Trade balance						
Computer and information services	-1.5	-3.5	-0.8	2.1	-1.4	10.4

Note: * - includes postal services as well

Source: Comtrade and National Bank of Moldova;
referenced in the Policy White Book „ICT Sector in Moldova," 2009

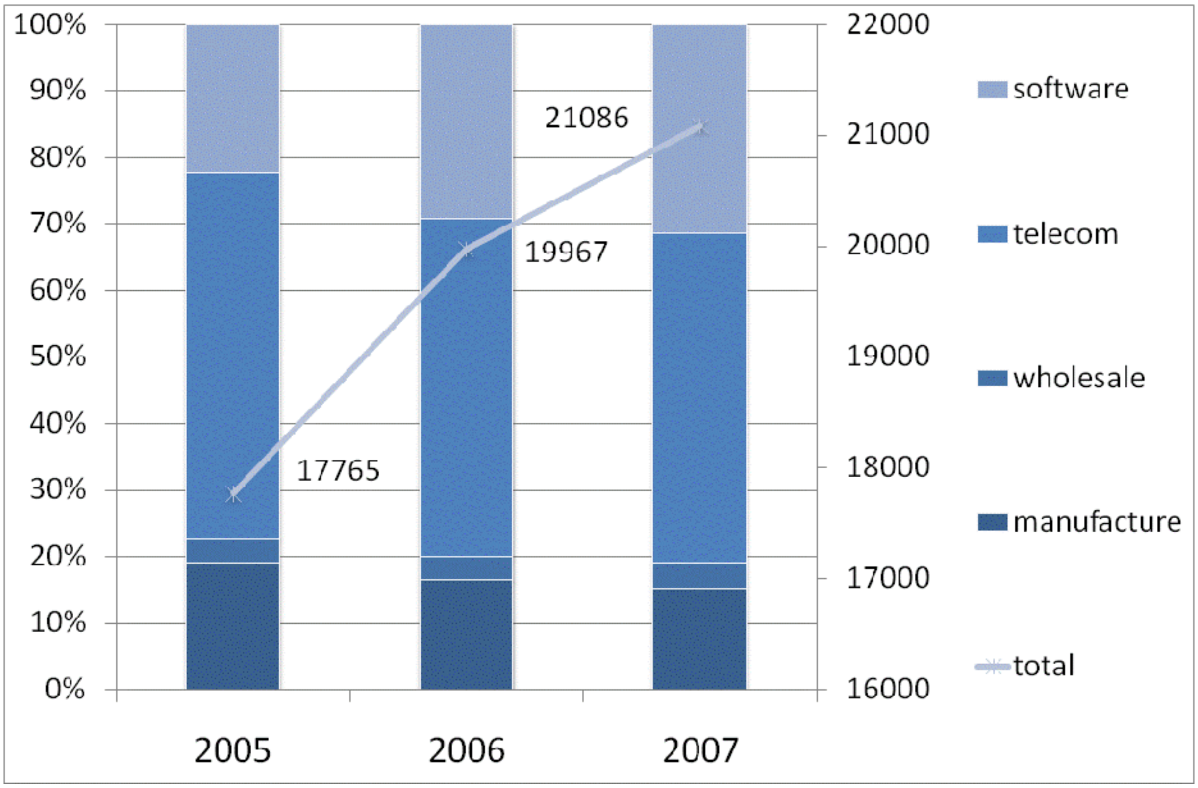
In order to maintain a positive trade balance it is important to maintain an equal, and increased, growth of IT services exports. Software imports are not substitutable and have a large potential to expand, as currently almost 90 percent of the software is illegally used in Moldova.

[10] Policy White Book „ICT Sector in Moldova," 2009

Moldovan ICT sector employs about 20,500 people, which represent 2.7 percent of the total labor force reported to the statistical office by Moldovan companies. It has to be mentioned that this figure includes only ICT specialists working in the companies with ICT as main sector as activity, but a big number of ICT people are working in ICT departments of the companies in other sectors (banking and finance, education, energy sector, public administration). Some other reports suggest that the total number of active ICT specialists may rise to 40 thousand people.[11] These employment figures alone demonstrate the significance of this sector in terms of its spread across sectors, incorporation of critical age groups, and ability to employ many more people with its growth trends.

As indicated in Exhibit F-4 below, the IT industry is the most rapidly growing in terms of employed in the ICT sector, the number of reported jobs growing 68 percent, from 3,960 people in 2005 to 6,650 people in 2007.

Exhibit F-4. Distribution of the employed by types of ICT activities and total number of employees



Source: ATIC calculations based on NBS data;
referenced in the Policy White Book „ICT Sector in Moldova," 2009

With respect to employment in IT, it is important to note that the sector tends to attract a younger generation; the average age of IT professionals in Moldova is 26 years. Official statistics put the average income at close to $400 per month. Additionally the larger IT players on the market pay twice the average IT wages. These data mean that jobs in IT pay on par with those in the financial sector, which have historically been among the highest paid jobs in Moldova.

[11] Moldova Telecommunications Sector Diagnostic Note, World Bank, August 2008

Exhibit F-5. Wage and productivity in IT industry, 2005-2007, percent of average per economy

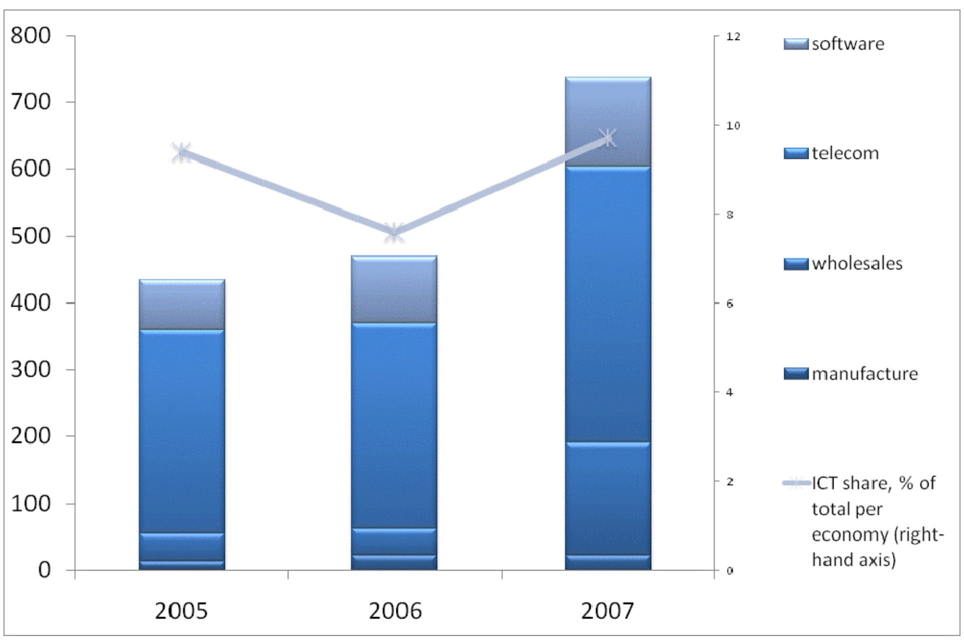
	2005	2006	2007
Monthly wages	169	155	158
Labor productivity	216	176	172

Source: ATIC calculations based on data from NBS; referenced in the Policy White Book „ICT Sector in Moldova," 2009

In comparison to other economic sectors in Moldova, the IT sector is the most efficient in using the labor force (Exhibit F-5). Based on the statistical data for 2007, one IT worker has created MDL 61.2 thousand value-added per worker, as compared with MDL 35.6 thousand per the economy in general. This figure means that IT workers are nearly two times more productive than the average worker per the economy. Undoubtedly, there are reserves for growth in productivity that can be achieved by company excellence and improvement of education.

The IT industry, as part of the ICT sector in general, is an important contributor to the public budget in Moldova and its share has only grown in the last decade. Between the years 2005 and 2007, between 7.6 percent and 9.7 percent of the total VAT paid to the state budget came from the ICT sector. In 2007, the total VAT amount paid by the sector equalled MDL 737.7 million, with MDL 23 million coming from the manufacture sub-sector, MDL 167.8 million from wholesales, MDL 413.3 million from telecommunications, and MDL 133.5 million from the software sub-sector correspondingly (Chart 3).

Exhibit F-6. VAT Paid by ICT Sector, million MDL and percent



Source: ATIC calculations based on NBS data; referenced in the Policy White Book „ICT Sector in Moldova," 2009

ICT companies are also important contributors to the social and medical insurance funds, with more than MDL 240 million paid in 2007 (about 4.3 percent of total revenues of the social and medical insurance funds). This figure represents a 50 percent growth rate compared to figures from 2005. Roughly 7.7

percent of the total ICT sector's social and medical insurance payments come from the hardware sub-sector, 66 percent from telecommunications, and 26 percent from the software companies.

Exhibit F-7. Share of ICT Sub-Sectors, percent of total ICT sector payments to social and medical insurance

	2005	2006	2007
Software	17.4	23.2	25.4

Source: ATIC calculations based on NBS data;
referenced in the Policy White Book „ICT Sector in Moldova," 2009

These figures demonstrate in numbers the profound impact the IT sector has had on the Moldovan economy in the past five years alone. The most important figures, however, are those demonstrating the growth potential of this sector, and the opportunities that face the sector moving forward as a result of its recent performance.

Demand Conditions and End Markets

The transport and telecommunications sector is the main consumer of software (for which it spent USD 6 million in 2007) and is also the only sector spending more for software than for hardware. The financial sector is the main consumer of IT equipment with 5.7 million USD spent in 2007. The public administration and public services sectors are the main customers for design and development of the information systems (USD 2.7 million). With estimated official exports of USD 26.3 million, it is clear that exports are a strong driver of the sector, and will be an important factor in its competitiveness. While there are some cases of Moldovan IT firms developing and exporting proprietary products, the major strength for Moldova could be in hosting nearshore and offshore operations of foreign IT companies. This could be driven by Moldova's relatively inexpensive and skilled labor, time zone, language skills, and western cultural similarities. Signals that demand for nearshore and offshore activities in the region are quickly increasing mean that Moldova should capitalize on assets in this sector. In general, financial, telecom and government sectors are the key clients. Moldovan software development services in such areas as e-government, Business Process Integration, integrated solutions for the financial sector, and web programming could be capitalized on for these markets.

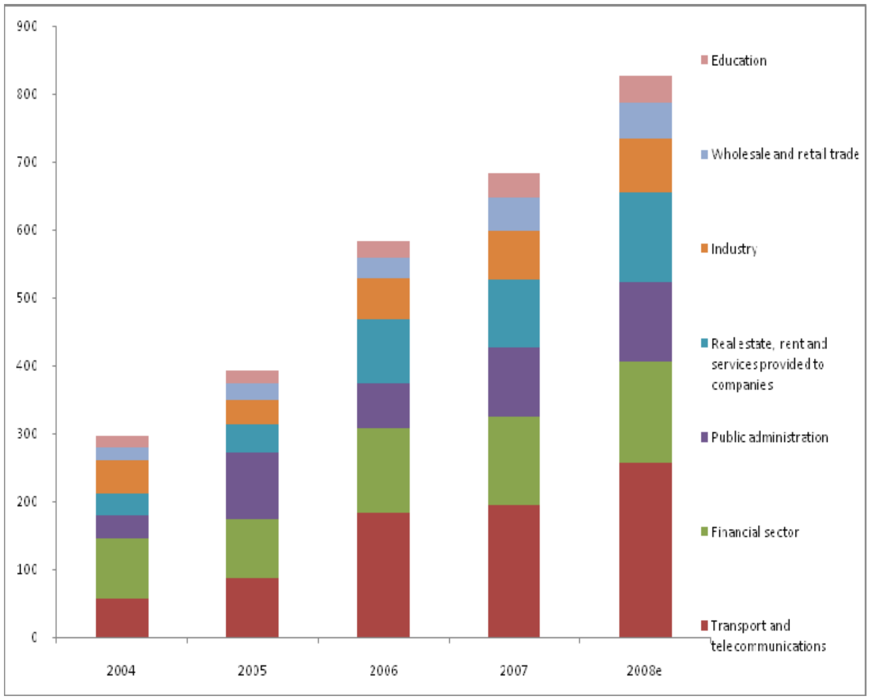
Exports and Imports

It is difficult to get a clear-cut and comprehensive picture of the domestic ICT products market because the statistical data necessary for market analysis are quite scarce. According to the NBS information, the expenditures of the Moldovan legal entities for IT and related equipment have grown from MDL 306.1 million in 2004 (USD $24.8 million) up to MDL 715.7 million in 2007 (USD $59.0 million), as shown in Chart 5. Based on our preliminary estimates, in 2008 the figure rose to MDL 866.7 million (USD $83.4 million).

The total IT expenditures of the legal entities include four broad areas of expenditures: IT equipment (about 50 percent of the total per economy), software purchasing (about 22 percent), design and development of the information systems (5 percent) and other expenditures (23 percent). Therefore, we may conclude that the current market for IT services ranges in the area of USD $30-40 million per year (40-50 percent of the legal entities expenditures associated with non-equipment purchases, which is the consumer of IT services). Transport and telecommunication industry is the main consumer of software, for which it spent USD $6 million in 2007, and is also the only sector spending more for software than for hardware (seen in chart below). The financial sector is the main consumer of IT equipment with USD $5.7 million spent in 2007. The public administration and public services sectors are the main customers for design and development of the information systems (USD $2.7 million). It is expected that

government spending in ICT will increase as ambitions and budgets for e-governance grow. In particular, the government is negotiating a loan from the World Bank for a unified e-services data center, which will consolidate and implement the e-services functions.

Exhibit F-8. IT Related Expenditures* of the Legal Entities in Moldova, million MDL, by main economic sectors



Source: ATIC calculations based on NBS data;
referenced in the Policy White Book „ICT Sector in Moldova," 2009

It is much more difficult to evaluate the IT-related expenditures in the households sector, but it is clear that households spend mainly for hardware and are using mostly pirated programs. There are early signals that piracy rates started to go down, however, very modestly. The fifth annual study of Business Software Alliance (BSA) on PC software piracy identified that losses caused by software piracy in Moldova declined from 96 percent in 2006 to 92 percent in 2007, and constituted hypothetically approximately USD $43 million[12]. Reduction of piracy rates by only 1 percent leads to an increase of IT sales of at least MDL 4.4 million[13]. Estimates show a tremendous growth of households' endowment with computers from 2003-2008, with the total number of computers in the households sector being presently 6-7 times higher than in the economic sector (Chart 6). Current ratio of 25 computers to 100 households seems to be higher than in the CIS (estimates 14 computers per 100 households in 2007) and lower than in CEE countries (estimates 40)[14]. In terms of endowment with computers, Moldova is catching up with the CEE countries.

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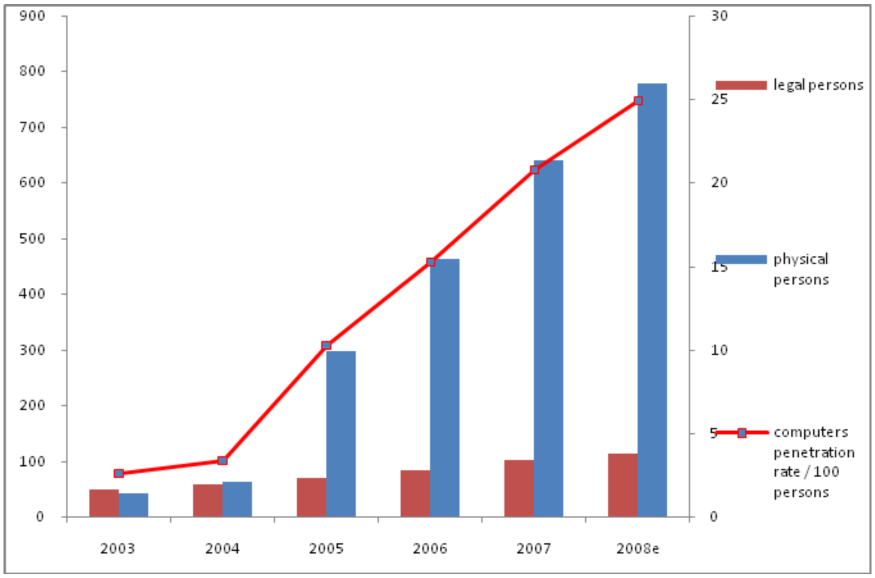
[12] Draft Strategy for ICT Sector Development 2010-2012, p. 7
[13] *idem*
[14] ITU, "Measuring Information Society: the ICT Development Index", 2008.

Exhibit F-9. Computers penetration rate per 100 inhabitants and estimates of the number of computers used by legal persons and physical persons, thousands



Source: ATIC calculations based on NBS data;
referenced in the Policy White Book „ICT Sector in Moldova," 2009

Gartner's Top 30 -2008
Americas: Argentina, Brazil, Canada, Chile, Costa Rica, Mexico, Uruguay
Asia Pacific: Australia, China, India, Malaysia, New Zealand, Pakistan, The Philippines, Singapore, Sri Lanka, Vietnam
EMEA: Czech Republic, Hungary, Ireland, Israel, Northern Ireland, Poland, Romania, Russia, Slovakia, South Africa, Spain, Turkey, Ukraine

Source: gartner.com

In terms of IT services offered for the domestic market, the clear majority of ready software is imported. There are only a few examples when domestic companies developed ready [off-the-shelf] software products. One is Ritlabs, which developed The Bat e-mail software, which is not sold only in Moldova, but also internationally. Another example is Dekart with data encryption software Privat Disc application. Both companies' sell sophisticated data encryption software serves as a niche product and is bought mainly by professional users in the Western market.

Moldova as an offshore IT location. The international market for IT services has been growing, and will continue to do so in the nearest future. A study by consultancy McKinsey & Company estimated that about 11 percent of 1.46 billion service jobs globally could be performed remotely. McKinsey estimates that only 15 percent of the USD $450 billion offshoring market has been realized, leaving huge potential for growth worldwide[15]. Gartner has identified the top 30 countries from three different regions — the Americas, Asia Pacific and EMEA (Europe, Middle East and Africa) — that were hot spots for the world's largest buyers of offshore services in 2008.

Further on, Moldova's location in South-Eastern Europe positions the country to take advantage of the nearshoring IT services. "The countries of Central Europe are now recognized as the backbone of offshore sourcing activity in the wider CEE region. By it is also true that the costs associated with conducting business in Central Europe are rising. The trend of moving Western European operations to

[15] Moldova: Telecommunications Sector Diagnostic Note, Aug 2008, World Bank

nearshore locations in CE is such that the capital cities of Budapest, Prague and Warsaw are approaching a state of congestion. As a result, interest is increasing in locations to the south and east"[16]. This outsourcing is driven by cost considerations, as well as by the deficit of skills in Western Europe. "Empirica and IDC EMEA Government Insights anticipate that the EU labor market may face an excess demand of 384,000 ICT practitioners1 by 2015. Accordingly the e-skills gap, or unfilled vacancies, will amount to between 1.7 percent and 13 percent of the existing occupations by 2015."[17] This again indicates that the EU will be looking to other locations to fill in the gap of IT services.

There are signals that Moldova has started to become an offshore IT location since 2005 with more foreign companies having placed their offices in Moldova. Moldova is well-placed to attract a substantial portion of new offshoring business located in CEE, and by starting to take advantage of this re-location, Moldova could become a nearshore location for several EU companies. For instance, Pentalog (a French company) has recently set up operations in Moldova. However, this phenomenon is quite limited, did not reach a critical mass, and must be built upon. The key advantages to nearshoring in Moldova by European clients would be a shared time zone, culture affinity, language skills, compatibility of attitudes and values, and as a result, greater potential for successful teamwork and collaboration. For custom application development, the "soft factors" play a major role, such as culture, mentality, business and working relationship; therefore, Moldova has these comparative advantages to India, Egypt, or even countries like, Armenia. Of course, Moldova is competing with nearby Romania and Bulgaria, and the cost is not significantly differentiating Moldova today from these competitors. Although there is a need to collect and present systematic and representative information on cost structure (perhaps as part of a country positioning effort), interviews with companies have revealed that Moldova's labor costs are catching up with those in Romania, and likewise infrastructure costs (such as office space).

The small IT market with constraints to the IT labor force does not make Moldova suitable for very large offshore development centers, but rather high-added value work, i.e. understanding and delivering beyond the technical requirements. Moldova is typically engaged in custom application development for foreign clients, from consultancy to software application development, quality assurance and testing, but also business process outsourcing (such as web design, CRM, and call centers). In general, financial, telecom, and government sectors are the key serviced foreign [and domestic] clients. The expertise of the Moldovan software development services is in such areas as e-government, Business Process Integration, ERP-solutions for financial sector, telecommunications, and Web programming.

The foreign companies operating in Moldova are the largest of the country's IT companies, averaging 50 to 200 employees; however, this is still below-the-radar of typical international attention. This was also acknowledged by Moldovan companies who attended the Gartner Outsourcing Summit (UK, London), in June 2009, an endeavor supported by the USAID|CEED project. The profile of one of the largest IT firms in Moldova is shown for illustrative purposes in text box below.

[16] IDC 2007

[17] E-skills monitor 2009, by Empirica and IDC, http://www.eskills-monitor.eu (website)

Company Profile:
Endava – one of the largest IT firms in Moldova

endava

About the Company

Endava is a well-established IT Services company, with over 500 staff operating from headquarters in London and offices in the UK (London,Oxford), US (New York), Romania (Bucharest, Cluj and Iasi) and Moldova (Chisinau).

We design, implement and manage business-critical systems and digital services for some of the world's leading organisations.

Endava has developed a strong operational base in Eastern Europe having a regional coordination centre in Bucharest and 4 development and support centres located in the most important university cities in Romania and Moldova.

Endava is one of the largest IT companies in Moldova having over 230 employees. The strength of the Endava brand in Moldova and the challenging environment within our organisation enables us to attract the very best IT professionals and most talented IT graduates. Our delivery centre in Moldova is Microsoft Gold Certified Partner and Oracle Partner, and is also the first company in the region to achieve ISO27001 and ISO9001 certifications awarded by British Standard Institution.

In your zone

Our business model is based on strong industry-specific expertise, an agile 'blended' delivery model and a strategic pan-European presence which enables us to access a large pool of IT talent in Eastern Europe.

We have a strong track record in delivering IT services and business solutions in the following sectors:

- Financial Services
- Telecommunications
- Media, Sports & Entertainment
- Professional Services
- Online services

We are able to support our customers throughout the IT lifecycle by offering a competitive range of services, alongside a set of engagement models and a valuable Nearshore proposition, that enables them to address their business challenges flexibly and cost effectively.

TEAM

TEAM (The Endava Adaptive Model) is our unified approach to delivering projects for both local and distributed engagements and has been derived from decades of IT services experience, industry best practice and thought leadership.

We indentify and adapt the delivery process so that it meets our customers' business need, while aiming to understand how we can work the same way as our customers.

Endava provides customers with onsite and offsite teams to enhance and supplement their existing IT resources and expertise. This is a long-term, strategic commitment which enables our customers to 'flex' resources – applying the most appropriate skills at the right time for the right cost – reducing project risk and budget over-runs.

Source: Draft Moldova ICT Export Catalogue, sponsored by USAID CEED and EU SEPIA

Other IT exports. Moldova also derives a natural advantage of servicing the CIS market given the common Russian language speaking space and cultural affinity from the Soviet times. Interviews with companies indicate that a few are servicing clients in Ukraine, Russia, Kazakhstan, Azerbaijan, and Georgia, either through outsourcing agreements or direct contracts with the end clients. These are typically Moldovan-owned IT companies (e.g. Deeplace, F-Line Technologies).

Company Structures, Rivalries, Linkages, and Relationships

IT is a non-homogenous and somewhat fragmented sector in terms of both products and players. It consists of many small IT enterprises operating using a variety of business models, and a large number of independent contractors, which may or may be not formally registered as legal entities. The statistics

regarding the number of IT firms operating in the industry is mixed. For instance, according to statistical data of companies which indicated software and other computer-related services as their main area of activity, 519 companies were active in 2007, as compared with 376 companies in 2005, i.e. a growth of 38 percent. Of these, only 197 firms have declared that software development and consultancy is their core activity. Data from the National Agency for ICT Regulation (ANRCETI), indicate that in 2007 417 companies had a license for informatics services[18]. However, anecdotal evidence suggests that the "real" operating IT firms are fewer.

Most of the IT companies are micro-, small- or medium-sized enterprises, employing on average 10-20 people, or even as low as 5-8 employees. There are only a few large (by Moldovan standards) IT companies, employing over 100 people, the largest being Endava, Pentalog, and Allied Testing, which are all subsidiaries of foreign firms and are rendering software development services for foreign clients.

Exhibit F-10. ICT Companies

4-digit code in Moldovan NACE	Description	No. of companies*	
		2005	2007
	Software and other computer-related services		
7133	Renting of office equipment and computers	1	1
7210	Computing systems consultancy	33	58
7220	Software development and consultancy in computers and related areas	116	197
7230	Data processing	33	43
7240	Database related activities	37	43
7250	Maintenance and repair of office equipment and computers	70	88
7260	Other computer-related activities	86	89
	Total software and other computer-related services	*376*	*519*

*Note: * = companies which have indicated the corresponding code as their main area of activity*

In general, the IT industry is the sector where the number and volume of unreported economic activities is among the highest per entire economy. As interviews with software and hardware companies have shown, the unobserved market may account for one-third of the official one. Most of the independent contractors or free-lancers are selling their services internationally, while payments are often received in form of work remittances, making it difficult to evaluate the total amount of exported IT services. IT companies can be grouped in three major categories by the nature of their product/service, as follows:

- System integrators. These integrators typically operate on the domestic market, such as DAAC System, S&T, and Accent Electronic.
- Developers of IT products and services. These can be entirely export-oriented (such as Endava, Allied Testing, Pentalog), operating domestically (such as UnisimSoft, Deeplace, with the largest share being in support of accounting software, such as 1C), or focused on both export and domestic market (such as Q-Systems, Net Info, or F-Line Technologies).
- Developers of proprietary products. These developers, such as Ritlabs and Dekart, are not common.

[18] Draft National Strategy for ICT Development 2010-2012

Investment and multinationals. The largest companies are in the export-oriented group, and this is also where most of the foreign investment in IT occurs, wherein large players (more than 100 employees) are subsidiaries of foreign companies. There are foreign subsidiaries of British (Endava), French (Pentalog) and U.S. (Allied Testing, Tacit Knowledge, Alfa Soft) companies. There are a few cases of partnership with Russian companies, for instance F-Line Technologies, which is a joint venture with a Russian company and servicing mainly the CIS market. During the past few years, there has been a more active flow of foreign investment in the IT industry, as most of the foreign subsidiaries have emerged after 2005. However, this has not reached a critical point and there is much that needs to be done, including on the part of the government, to proactively attract investment.

Some multinationals (MNCs) are getting a foothold in Moldova. Microsoft has developed a permanent presence through an office subordinated under Romania. As its sales grew and met the anticipated objectives, Microsoft started to reach out to development initiatives. It is in the process of signing a collaboration agreement with the government in the area of education at the initial stage, in particular the Ministry of Education, with other commitments to follow. Likewise, there is a collaboration agreement in education underway with Cisco, to facilitate introduction of IT Essentials courses in curriculum of educational institutions. In meetings with CEED, HP has declared its initiative to set up and grow a formal and permanent representation in Moldova numbering up to 40 people. These are positive first steps; however, the government needs to learn how to transform collaboration with MNCs in the benefit of the industry, such as stimulating their cooperation with the domestic companies, as well as encouraging placement by the MNCs of R&D and BPO functions in Moldova.

Cooperation. There are some signs of cooperation between domestic IT companies observed recently even it is not usually a part of local business culture. For instance, companies started cooperation for public tenders (i.e. joint offers) as they are maturing and become more specialized; hence, to offer the level of expertise requested they consider cooperation as a creating value movement. The Moldovan Association of Private ICT Companies (ICT Association) is a recently established non-governmental association, the mission of which is to advance the competitiveness of the ICT sector and promote the ICT as a core enabler for the national economic development. The USAID|CEED project played a catalytic role in the formation of the ICT Association and continues to support it as it seeks a way forward. By creating the association, the ICT sector demonstrates its maturity, willingness to develop efficiently, and readiness to jointly contribute to the achievement of the common goals.

The association currently includes 25 members, which are ICT companies from different industries, such as mobile operator (Moldcel), software developers (Deeplace, F-Line Technologies, Allied Testing, Endava), hardware wholesalers/retailers (MCS, Matrix), and a few Internet Service Providers (ISP). The Association has developed an active plan, setting as priorities interventions in three areas: education, trade, and business environment. It has developed, with USAID|CEED support, an ICT Sector Policy White Book, which formulates for the first time the private sector position and view regarding ICT sector development and serves as a map for further activities.

Challenges and Opportunities

As part of the SWOT analysis that informed our proposal to continue work in the T&A sector, we identified various challenges that Moldova faces in the sector, as well as opportunities for development. We will discuss the main indicators of sector performance, the labor and electronic communications regulations, and fiscal and trade climate, with respect to continued work in this sector.

Gartner uses 10 criteria for choosing a potential offshore or nearshore location for IT or business process outsourcing services. The 10 criterion include language, government support, labor pool, infrastructure, educational system, cost, political and economic environment, cultural compatibility, global and legal

maturity, and data and intellectual property security and privacy[19]. The traditional underlying factors, which provide Moldova with a competitive advantage in offshoring, including nearshoring for European Union, are the following:

- Creative mindset and close to European mentality, including values and cultures compatible with those of European clients. Likewise, for Russia and CIS, common history and mentality have made these countries a natural market.

- Cost of labor. Although this is a gradually disappearing advantage (as salaries in Moldova continue to rise and get closer to those of its competitors, e.g. Romania, Bulgaria, Russia, Ukraine), this advantage was at the origins of the industry and is still present to a certain extent.

- Location and time zone, which also places Moldova in an advantageous position for nearshoring for the EU.

The international approach to IT competitiveness is already developed and Moldova should find its place in the international market, as well as create conditions to increase competitiveness of the IT industry internally. According to Economist Intelligence Unit[20], the most important variables to ensure long-term IT industry competitiveness is sustained attention to the factors in the industry environment that enable IT firms to compete effectively. These include the quality of the local technology infrastructure, the availability and quality of IT talent, the innovation environment, the legal regime and the overall business environment, as well as the government's technology policy itself – all central pillars of the IT industry competitiveness index.

Exhibit F-11. Main Indicators for IT Development and Weight, by degree of importance

Indicator/factor	Weight
Category 1. Overall business environment	10 percent
Category 2. IT infrastructure	20 percent
Category 3. Human capital	20 percent
Category 4. Legal environment	10 percent
Category 5. R&D environment	25 percent
Category 6. Support for IT Industry development	15 percent
	100 percent

Source: Resilience amid turmoil. Benchmarking IT industry competitiveness 2009, Economist Intelligence Unit

Currently there is no independent assessment of Moldovan IT competitiveness and Moldova is not covered by Economist Intelligence Unit ranking. However, from our understanding of the situation and based on the conclusions listed in the ICT Policy White Book, it is clear that improvements are expected in all categories with following order of priorities:

- *Priority 1. Human capital.* Moldova needs to address and raise the quality of the graduates to be in line with the market needs, and reduce the time and costs of making a fresh graduate productive for the employer. In addition, increase in the quantity of employees might be needed as the IT sector grows, and a systematic barometer of demand and supply of IT labor must be in place.

[19] http://www.globalservicesmedia.com/Content/general200712283493.asp
[20] Resilience amid turmoil. Benchmarking IT industry competitiveness 2009, Economist Intelligence Unit

- *Priority 2. R&D environment.* Moldova is being exposed to R&D in the communications area, given its small size and ability to implement and test technologies quickly. For instance, France Telecom group launched HD Voice in Moldova in late 2009 before implementing HD voice in Belgium and UK, which, being a precursor of 4G, may put Moldova shortly in an advanced technological position. However, information technology R&D is virtually non-existent; the linkages between multinationals (e.g. Microsoft, Cisco) and local firms driving innovation are not in place. There is no strong innovation infrastructure to promote and stimulate commercial and industrial innovations. The Academy of Science has a specialized Agency of Innovation and Technological Transfer, which has a virtual IT incubator, but the initiative is not vibrant and backward links with the business community are poor. The government has set on its agenda the fostering of industrial parks. "Through European Union technical assistance, a group of experts carried-out a feasibility study on the creation of industrial parks in the Republic of Moldova. The study revealed five potential locations for industrial parks and estimated the necessary investment at €73 million. One area of focus in the Industrial Parks program could be to focus on Information Technology (IT) and Information Technology Enabled Services (ITES) to harness Moldova's growing potential to become a service centre for the EU and CIS countries. Such "IT parks" could host specialized business incubators, ICT skills development facilities, and offer world-class facilities to global or regional IT/ITES firms to attract them to locate there. This will attract investments, develop the local IT/ITES industries, and facilitate venture capital and inward investment while opening the doors to increased service exports."[21]

- *Priority 3. IT infrastructure*. There is limited availability of approximately equipped office space at competitive prices to deploy large teams, high costs of airfare, and barriers to obtain visas for certain countries (e.g. India).

- *Priority 4. Legal environment and overall business environment.* The piracy rates are still high. IP legislation and its enforcements needs to be tightened and brought in line with European practices.

- *Priority 5. Support for IT industry development*. The e-governance strategy is now being updated, and resources are being sought to support its implementation. Government IT costs are quite low, and are not a major driver of sector development; but should be expected to increase in the future. Access to short-term investment finance of businesses is limited.

Business Environment

Labor regulation. There is not a corporate culture developed, and relations between employees and employers are weak and frequently antagonistic. There is high fluctuation of human resources in the sector, with informal working arrangements frequently substituting for more formal contractual agreements. The labor regulatory framework is very complex, and companies have difficulties firing redundant personnel because of rigid provisions regarding contractual framework. The official register of occupations in ICT is not relevant to the market reality. Many occupations within ICT companies do not exist either in official registers or in universities curricula.

Electronic communications regulations. The legal framework of the telecommunication activities has improved as well after adopting a new law on electronic communications in 2008. Another positive change is that the National Regulatory Agency has recently started a dialogue on improving regulation of the telecommunication sector in order to develop the market. The Ministry of Information Development

[21] Rethink Moldova

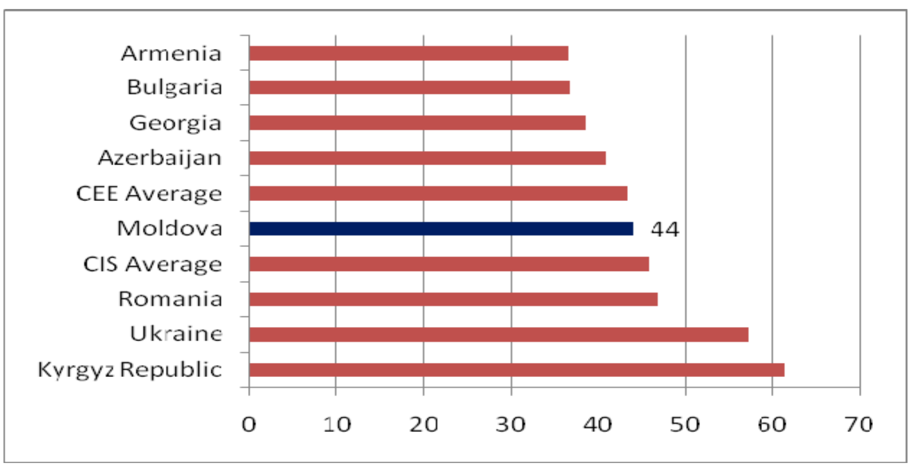
has created a working group for further development of the Strategy for Development of the ICT sector, and has included representatives of the businesses and civil society. Despite the positive trends in the ICT regulation environment, the telecom regulator ANRTI has not performed direct market interventions in order to lower the price levels, to regulate the monopolies, or to increase the sector competitiveness.

Fiscal and trade climate. In 2005, a general reform of the business regulatory framework was begun in Moldova. This reform has positively affected the Moldovan ICT sector in general. Because of the sophistication of the software industry, it is impossible to highly regulate it and the Moldovan government has a clear understanding in this regard. In the last two years, the administrative burden on the software companies has lessened. With CEED support, general licensing for the provision of IT services has been abolished and presently only the license for cryptography and information security is compulsory.

In Moldova the tax burden is not high as compared with other countries (Exhibit F-12). Software companies do not pay the general social contribution tax of 23 percent of the wage bill, but instead they pay 23 percent of a fixed base calculated as two average forecast wages. As average wages in the software sector are higher than on average per economy, this creates some advantages for the software companies' employees and makes the sector attractive for young specialists. Also, the revenues of the employees of the software companies are subject to income tax exemption for five consecutive years. Before January 1, 2008, the software development companies were subject to income tax exemption for a five-year period upon submitting an application to the tax authorities. This exemption served as development stimulus for some software making companies. Import tariffs for the ICT related goods are very low in global comparison, which serves as positive condition for further development of the sector. However, ICT companies understand that long-term tax incentives may have negative rather than positive impact on their competitiveness.

Despite relatively low tax rates, the fiscal administration framework in Moldova is quite complex, giving rise to high administrative costs for tax accounting and reporting. For the companies exporting goods and services, securing VAT reimbursement is a difficult and lengthy endeavor. VAT reimbursement became even more difficult under the current global financial crisis.[22]

Exhibit F-12. Total Tax Rates in Transition Countries



Note: Total tax rate is a combination of profit tax (percent of profits) labor tax and contribution (percent of profits) and other taxes (percent of profits);

Source: World Economic Forum and INSEAD

[22] ICT Sector White Book

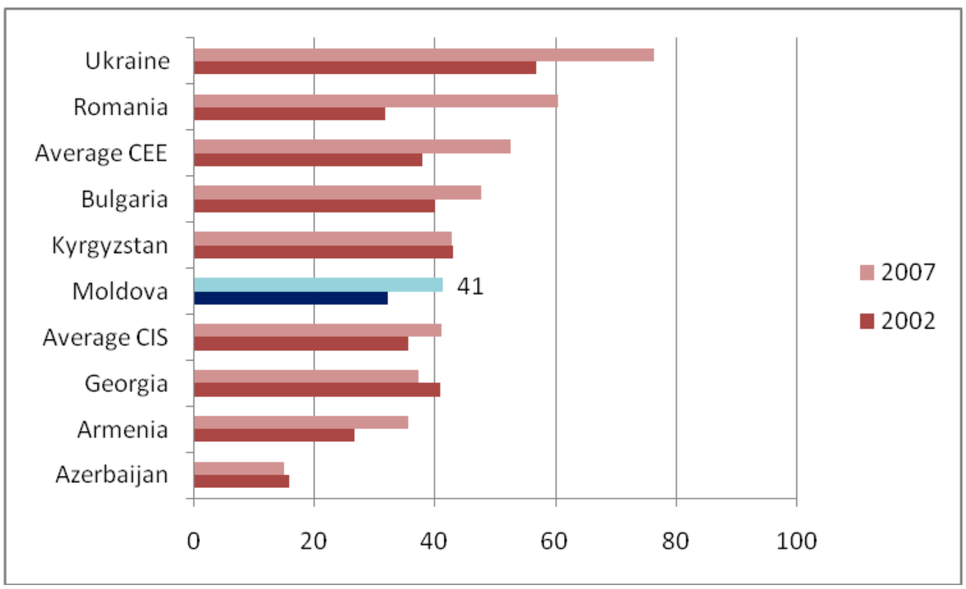
Supporting Markets/Industries and Value Chain Cooperation

There are two main supporting industries for a competitive IT industry. Education, which is the prerequisite for a successful development of IT and availability of skills, should remain the long-term objective for the country. The second supporting industry of particular interest is infrastructure, in particular telecommunications, which is becoming increasingly essential, including for the domestic market development and facilitation of IT role as economic enabler, as more IT services and applications are delivered over the internet.

These two industries have emerged from scratch and benefited of the rapidly growing number of young talents. However, as the market is growing and competition has become fiercer, so the sector has to move toward a qualitatively new stage of development based on greater numbers of highly trained IT specialists.

The availability of a sufficiently large number of educated professionals is one of the prerequisites for the successful ICT sector development. Looking at the tertiary enrolment ratio (41 percent[23]), Moldova takes an average position among the CIS countries but shows a slow growth as compared with CEE countries (seen in Exhibit F-13). While comparing Moldova to its closest neighbours and competitors on a regional level (Ukraine, Romania, and Bulgaria), there is a clear issue for IT companies in scale coming from the number of specialists available.

Exhibit F-13. Gross Tertiary Enrollment Rate



Source: ITU "Measuring Information Society: the ICT Development Index," 2008

There is strong growth in the supply of ICT specialists from the part of high and professional education institutions over the past five years. Currently, Moldova produces annually on average 1,500 graduates in the ICT field, having significantly increased the number of graduates in the past years and giving rising to this industry. In 2003, a total number of 770 persons graduated in ITC-related fields in universities, while in 2007 the number of young specialists climbed up to 1,540 people, and this number (or approximately)

[23] ITU, "Measuring Information Society: the ICT Development Index", 2008.

has been maintained since then. Taking into account the relative size of the ICT labor market, this number would seem to be quite reasonable; however, the main challenge lies in the quality of the graduates.

There is a clear problem of mismatched skills skets and overall quality of the graduates. According to a skills gap study by USAID|CEED, employers claim that graduates skills are not up to market needs. There are several reasons for the poor set of skills young ITC specialists. In most of cases curricula is outdated and market-irrelevant. Secondly, teaching staff is normally not involved in practical activity in the industry that results in imbalance between theoretical background and hands-on expertise of the students. In fact, institutions of professional and vocational education are almost absent when it comes to supply of technical specialists for the ICT sectors. Developing the capacity of educational institutions, and specifically upgrading curricula, are seen as opportunities to better ensure the quality of training in addition to the numbers of graduates.

Detailed Recommended Actions

Development of the IT sector is likely and has the potential to significantly accelerate in the future, as Moldova embraces and speeds up technology. According to strategic documents prepared by the Government and industry players, in five years the ICT sector could be the main driver behind the Moldova's economic growth, augmenting labour productivity and enhancing international competitiveness, including through wider use of ICT products and services across the economy and society. We have identified IT sector, as the <u>productive</u> sub-sector within the ICT industry, with the highest growth potential and need for business development support.

When examining current trends and sector developments, several recommended priority areas of action stand out as foretelling positive changes to the IT industry that will both broaden and deepen its impact on the Moldovan economy. The sector's development will be driven by the enabling factors of rapidly increased mobile and widespread broadband penetration and the supporting factors of effective regulatory framework and appropriately skilled and competitive human resources.

- *Define the Moldova ICT Sector Development Vision and Position Moldova as Destination of Choice for IT Services and Products.* Build awareness of Moldova on the international arena. Considerable efforts in country branding and positioning, as well as defining a group sales strategy, followed by consistent implementation of marketing efforts, should be undertaken to maximize visibility and success. Promote IT offshoring by international firms, including nearshoring for EU clients, through aggressive country promotion.

- *Eliminate barriers for sector growth.* Find balanced solutions for the existing challenges to develop a conducive ICT environment in the country and eliminate barriers for IT sector growth, including improvement of administrative and fiscal environment for the ICT industry (including targeted measures to encourage independent contractors to formalize and grow companies), effective and transparent state procurement, protected and guaranteed IP.

- *Strengthen education***.** Continuous efforts should be made for education and human resource development to keep up with ongoing demands and growth of the ICT industry, including systematic measurement and monitoring of the labor market (demand and supply), modernization of university curricula in ICT in cooperation with the private sector, increased public and private human capital investment, improve attractiveness of ICT related professions and education, promoting lifelong learning, and e-learning, creation of strategic alliances with world recognized Universities and excellence centers, and introduction of international vendor-based curriculums in schools, as means to acquire practical cutting-edge knowledge and skills.

- *Promote industry excellence, quality and innovation***.** Encourage industry to invest in company excellence and quality, through process improvement, embracing industry-relevant quality standards (such as ISO, CMMI, IT Mark). Establish innovation infrastructure to promote and stimulate commercial and industrial innovation, such as Innovation Centers by MNCs (Microsoft, Cisco and HP), incubators, and technology parks.

- *Stimulate sustainable growth of the domestic ICT market.* Stimulate and accelerate e-commerce, which can be a driver of overall technological and economic development; development of affordable and widely used e-payment services are a critical factor, including of mobile financial services that are not existent in Moldova. Increase Government IT spending, implement and accelerate e-government services; however, Government must make sure that these increased spending are inclusive of and benefit the domestic ICT companies (in addition to the MNCs and foreign suppliers). Government should attract MNCs in Moldova, not only as suppliers and traders, but also with expanded presence in development aspects, such as education and training.