

Meeting the New Competition in the  
Enlarged European Union - Can IT  
Exporters Provide a Model of Adjustment  
for Central European Companies?

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**Meeting the new competition in the enlarged European Union – Can IT  
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**Abstract**

The success of the upcoming fifth enlargement of the European Union will to a large degree depend on how effectively locally owned businesses adjust to the challenges of the new competition resulting from full integration. The paper first assesses the overall level of preparedness of locally owned companies in the Central European (CE) countries to join the EU in May 2004 as compared to the advantages enjoyed by EU-15 firms. While the overall level of preparedness of CE companies is low, some firms in high-tech sectors such as IT have developed more advanced internationalization strategies, giving them a better position to survive in the new environment. The second half of the paper presents the results of a survey of the competitiveness of IT exporting companies from the CE region. The paper concludes that a number of the companies from the IT sector are pursuing aggressive strategies of internationalization and product differentiation that could become a model for many Central European companies to emulate.

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**Keywords: Central Europe, EU enlargement, competitiveness, IT exports, preparedness for EU accession**

### **A note on methodology**

For the first section related to comparisons of competitive advantages of EU-15 firms over locally owned accession country businesses, a variety of secondary sources were used, including articles and reports published in Central Europe as well as the EU. The case study of IT exporters is based on primary data gathering. Between July and November 2000, structured interviews were conducted with CEOs of Central European IT companies from Poland, the Czech Republic, Hungary, Romania and Bulgaria. As there are no databases of such companies, they were identified through incremental research: web sites, IT-selected business associations, export institutes and annual company rankings in technology magazines. From those lists, IT companies were selected that exported to Western Europe and the United States. The dataset gathered included 22 companies. In the Spring of 2003, follow-up website research was performed to verify that the companies were still in existence and also to add new organizations to the list. As a result of this follow-up research, a ranking of Central European IT exporters was developed which is attached in the form of an appendix (Appendix 1).

## **Meeting the new competition in the enlarged European Union – Can IT exporters provide a model of adjustment for Central European companies?**

### **1. The fifth EU enlargement is likely to prove the most challenging so far**

Unlike the previous enlargements, the present fifth enlargement, which incorporates eight Central European states plus Cyprus and Malta, is by far the most ambitious, controversial and difficult, especially compared to the highly successful incorporation of the Iberian states. It is also occurring at a more difficult time during an economic slowdown and political flux in Europe.

Most of the countries to join in May of 2004 are emerging from decades of mismanagement under a communist command economy. The fifth enlargement is a *historic reunification* of the Eastern and Western halves of European family yet in many respects it is a bittersweet moment rather than one of pure joy. After the experience of German reunification and its cost, the appetite in Europe for a generous welcome to the newcomers from the East is gone.

The Fifth Enlargement is especially difficult due to the huge *wealth gap* between the existing and new members. It may take more than one generation for the Central Europeans to catch up to the economic level of the rest of the EU. Although political support for membership in the accession countries is considerable, it is uneven and could wane if membership fails to bring tangible benefits. Moreover, on the Western side, this enlargement is the work of political and business elites – support among the general population of Western Europe is not very sturdy.

The fifth enlargement nevertheless is a huge opportunity to expand the demographic base of the EU and reinvigorate an aging continent, opening up new markets and enhancing the political and economic potential of Europe.

The ultimate success of the EU's Eastern expansion will depend on how well the newcomers and existing members adjust to each other. The Central European governments have made considerable efforts to make necessary changes in legislation and macroeconomic policies. It appears, however, that the local private sectors (not to mention what remains of state-owned companies) in the accession states are woefully unprepared for the new competition resulting from enlargement. This important issue has received less attention than it deserves.

This paper first assesses the overall level of preparedness of local private companies for competition following EU membership. The case of recently created IT exporting companies from the region is discussed next in the context of competitive adjustment. The behavior of IT exporters from the region shows both the weaknesses and the strengths of the approaches taken by the more advanced high-tech companies in Central Europe to succeed in European and global markets.

## **2. The new competition – a shock for local Central European companies**

Full integration should provide opportunities for Central Europe firms to expand into the EU market but EU competitors are even more likely to enter the Central European markets. There is likely to be an increase in the number of *new entrants* into the new Central Europe segments of the EU market – and the new entrants will be more

competitive than the local Central European firms. Also, a wave of substitute products from the core EU are expected to flood Central European markets.

A recent survey of the Association of European Chambers of Commerce and Industry concluded that, “the alarming fact is that many firms have not even started preparing for operating in the EU.”(note I) The survey found that Central European firms have only begun the process of preparing for EU accession:

**Figure 1: Assessment of Preparedness for EU Accession**

| <b>Preparedness</b> | <b>Country</b> | <b>% of firms that have started preparing</b> |
|---------------------|----------------|---|
| Most Prepared       | Czech Republic | 76%   |
|                     | Slovenia       | 64%   |
|                     | Slovakia       | 61%   |
| Least Prepared      | Poland         | 43%   |
|                     | Hungary        | 40%   |

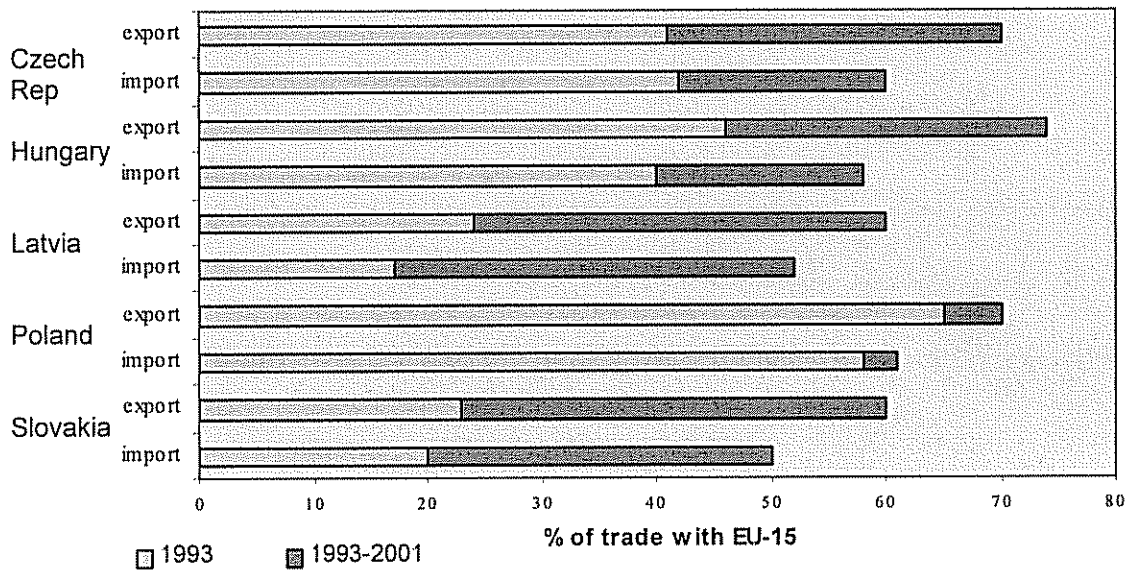
*Source: (See note I')*

Only a small minority of companies (for example, only 5% in the case of Hungary) fully conforms to EU laws and regulations on quality, certifications, environmental standards, etc. Most firms in Eastern Europe would have problems satisfying the *acquis communautaire*, especially in standards of *Product Certification and Emissions Monitoring*.



The Central European economies have generally increased their trade integration with the European Union. Poland has been the leader in trade integration – but other countries have caught up and most accession countries today do 60-70% of their trade with the EU:

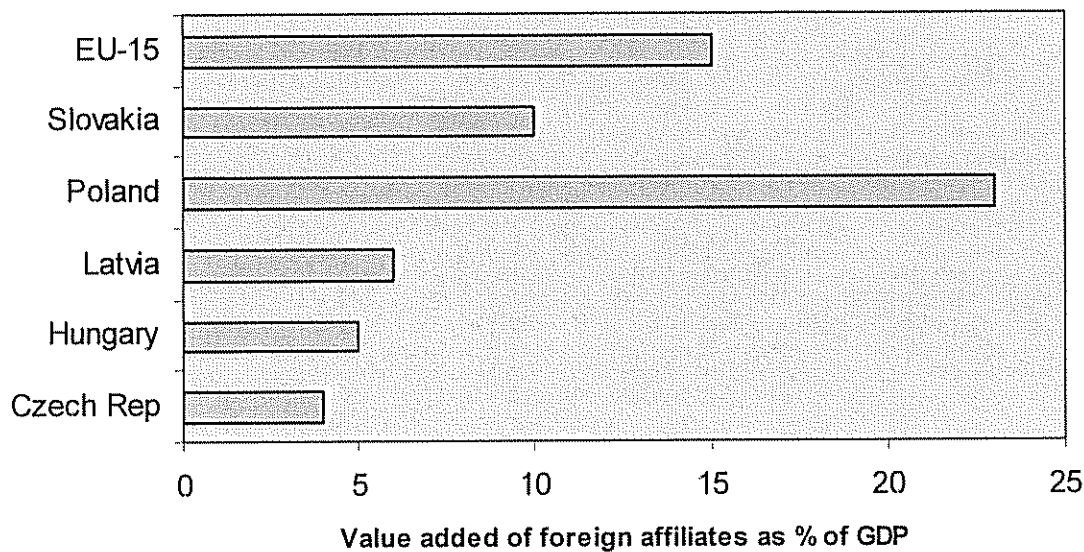
Figure 2 Changing patterns of trade integration



Source: Eurostat

While the economies of Central European states are quite internationalized in terms of trade, in most of these countries, the contribution of foreign affiliates to GDP was below the average for the EU-15. The exception has been Poland. According to UNCTAD, estimates for 1999 were as in Figure 3:

**Figure 3** Influence of foreign affiliates

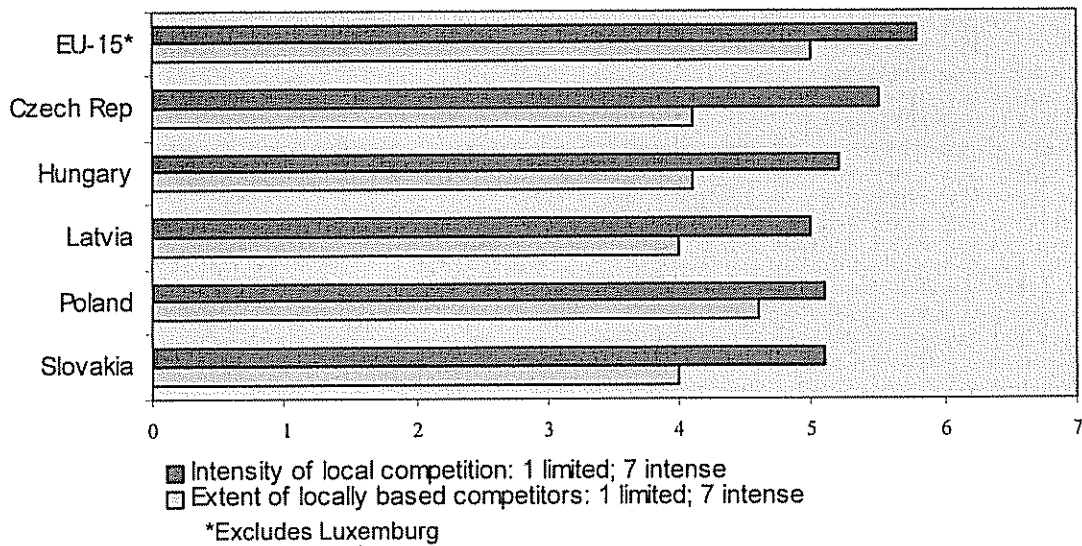


*Source UNCTAD, Estimates 1999*

Although local companies account for a clear majority of employment and value added – the importance of foreign affiliates with their superior competitiveness is expected to continue to increase after integration.

Competitive conditions in the transition economies have changed dramatically in the last decade as a result of opening up to trade, privatization and FDI. Nevertheless, according to the World Economic Forum, in 2001 and 2002 the intensity of local competition in Central European accession states was still less than in the EU- 15, with local buyers being less demanding. Thus, despite many improvements, local firms must brace for more competition to come.

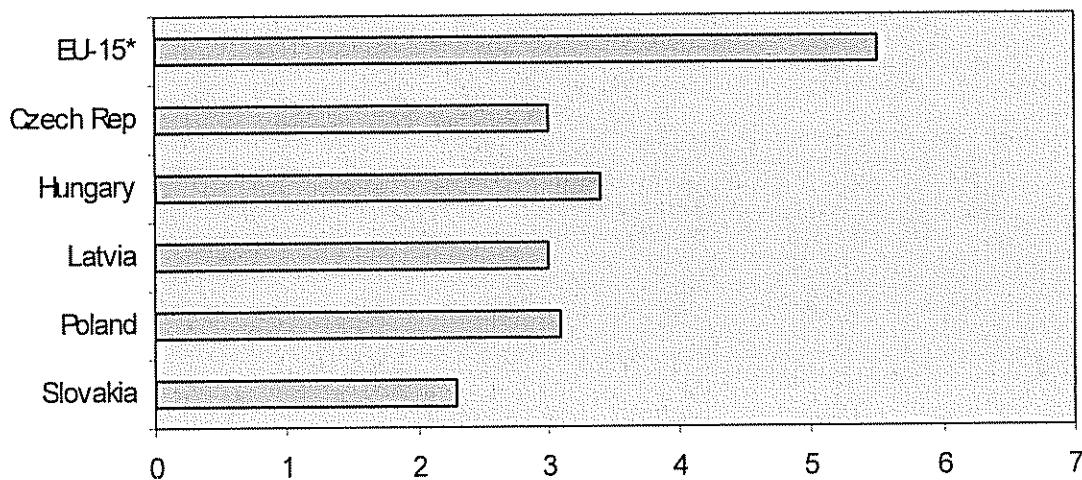
**Figure 4** Intensity of local competition and extent of locally based competitors



Source: *The Global Competitiveness Report 2001-2002, World Economic Forum*

Local companies in accession states still rely excessively on low-cost labor or natural resources for their competitive advantage. This is shown very clearly in the Global Competitiveness Report (see Figure 5): EU-15 companies rely significantly more on unique products and processes for competitive advantage.

**Figure 5** Nature of competitive advantage



\*Excludes Luxemburg

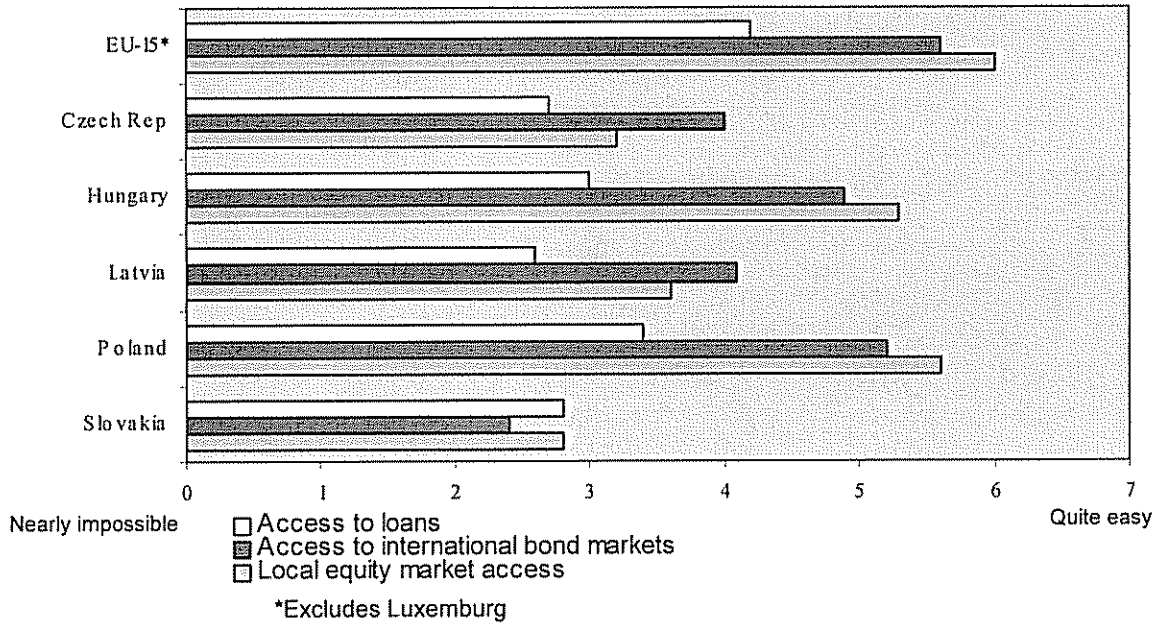
Source: *The Global Competitiveness Report 2001-2002, World Economic Forum*

This reliance of Central European companies on low cost but relatively skilled labor may not be sustainable in the future as labor costs are rising fast especially in Poland. In countries further to the east, wage rates are five to six times cheaper.

Access to new materials and inputs affect local and foreign firms alike. It is possible that *energy* prices may increase after accession, especially electricity. Cost of other inputs will depend on policies such as CAP reform. Overall access to lower cost inputs will not be an advantage that Central European companies can rely upon.

Access to finance has been improving fast in the accession countries, but is still below EU-15 standards (Figure 6).

**Figure 6** Ease of access to finance



Source: *The Global Competitiveness Report 2001-2002, World Economic Forum*

Access to finance will likely continue to be easier for established EU companies due to their size, reputation and established banking relationships. than for their local competitors in Central Europe

With the strong traditions in mathematics and engineering in countries like Poland and the Czech Republic and well trained cadres of scientists and engineers, the most advanced countries of Central Europe would appear to be reasonably well positioned for the knowledge economy. However, with the exception of Hungary, the share of high-tech exports as a percentage of manufactured exports is below 10% in all of the accession countries (Figure 7).<sup>ii</sup>

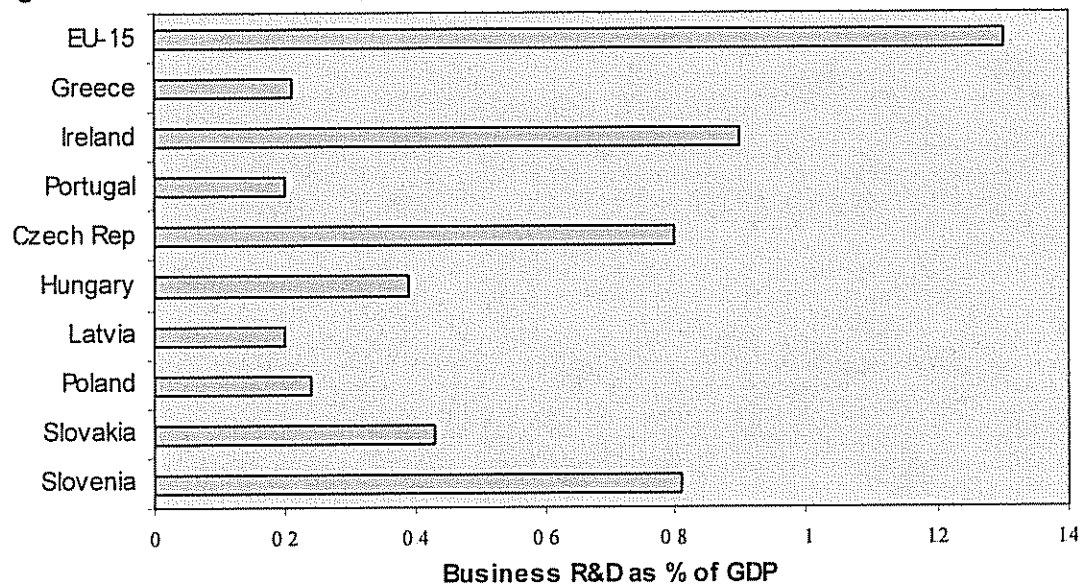
**Figure 7** High-tech exports for Eastern Europe and Finland

|  | <b>Fin-<br/>Land</b> | <b>Bulga-<br/>Ria</b> | <b>Czech<br/>Rep.</b> | <b>Hun-<br/>Gary</b> | <b>Po-<br/>Land</b> | <b>Roma-<br/>Nia</b> | <b>Slova-<br/>Kia</b> |
|--|----------------------|-----------------------|-----------------------|----------------------|---------------------|----------------------|-----------------------|
| High Technology exports as % of manufactured exports | 24                   | 4                     | 9                     | 23                   | 3                   | 4                    | 5                     |

*Source: World Bank Knowledge Assessment Methodology*

Perhaps more worryingly, business R&D expenditures as a percentage of R&D in accession countries are well below the average for the EU-15 (Figure 8). As a consequence, few local businesses develop their own technology and therefore become dependent on technology imports and transfers.

**Figure 8** Business R&D expenditure



*Source: European Commission, The European Innovation Scoreboard 2002*

Full integration with the EU will accelerate the process of internationalization of the Central European economies with bigger and stronger EU suppliers and buyers likely to displace local firms. To cope with this, local firms will need to adopt strategies of accelerating their internationalization. Unfortunately, the evidence thus far suggests that most Central European firms rely on passive forms of internationalization. Research from Poland provides a good example of this process.

During the years 1990-2000, the value of Polish exports, measured in constant prices, increased by 127%, but the corresponding value for imports grew by 426%. The share of Poland in world exports increased during the same period from 0.4% to 0.5% but the share in world imports grew from 0.3% to 0.7%. The value of exports per capita increased from 376 USD in 1990 to 820 USD in the year 2000. For imports, the increase was from 250 USD to 1268 USD [GUS]. Such value of exports per capita places Poland somewhat below the world average but for imports this value greatly exceeds the world average.

In this context it is interesting to compare the Polish data with those for the Czech Republic and Hungary. In 1999, the value of imports per capita in those countries was 2803 USD and 2782 respectively. For exports, per capita the corresponding values were 2612 USD and 2484 USD. They indicate that in the Czech Republic as in Hungary there was a surplus of imports over exports. At the same time, the value of exports per capita was 3 times higher in the Czech Republic than in Poland and 3.5 times higher in Hungary than in Poland. Imports per capita were 2.4 times higher in the Czech Republic than in Poland and 2.3 times higher in Hungary. Altogether,

Poland demonstrated a clear asymmetry in its trade balance, which was negative and rose from \$2,482 million USD in 1993 to \$13,168 million USD in the year 2000 (according to data from the National Bank of Poland).

The observed gap between passive and active internationalization is even more acute in the field of FDI. Again, passive internationalization dominates: the stock of FDI in Poland far exceeds FDI undertaken by Polish firms. The cumulative value of incoming FDI for Poland at the end of the year 2000 was equal to \$40,757 million USD whereas the stock of outward Polish FDI was estimated at approximately \$1,200 million USD at the end of 1999 [Durka, 2001, p.161].

A market asymmetry occurred also in license exchange and other forms of technology and know-how transfer. There were 1,524 foreign innovations and patents registered in Poland in 2000 and only 110 Polish innovations and patents registered outside the country in 1998. In the year 2000, there were 238 active foreign licenses and only 7 active Polish licenses sold abroad. The net balance in Poland's technology and know-how transfer was thus drastically negative and equal to -1,886.9 million PLN (revenues equal 103.4 million PLN, expenditures equal 1,990.3 million PLN).

Further evidence of the feasibility of Polish firms moving ahead in their internationalization beyond exporting on the EU market is presented by a survey conducted in the year 2000 on a group of 280 firms [Gorynia (ed.), 2002, p. 135]. One of the questions concerned the possibility of expansion into the EU market in a form other than exporting (through joint-ventures, FDI, license agreements, franchises and strategic alliances). The results (see Figure 9) indicate that the



preferred form of internationalization remains exporting. The more advanced forms have drawn little interest from the respondents.

**Figure 9** Polish firm attitudes towards entering the EU market (number of firms responding)

| Firm attitudes                              | Joint venture in the EU | FDI | Licensing | Franchising | Strategic alliances in the EU |
|---|-------------------------|-----|-----------|-------------|-------------------------------|
| 1 We did not consider this matter           | 43                      | 52  | 53        | 55          | 30                            |
| 2 We did give this issue some consideration | 14                      | 3   | 5         | 3           | 24                            |
| 3 We are in the course of making a decision | 3                       | 2   | 1         | 0           | 2                             |
| 4 We have made a decision to enter          | 0                       | 0   | 0         | 1           | 2                             |
| 5 We are currently expanding in the EU      | 1                       | 0   | 0         | 0           | 6                             |
| Total number of firms                       | 61                      | 57  | 59        | 59          | 64                            |

Source: Gonynia 2003

Continued reliance on exports alone will not be sufficient, however. Local companies should not expect more market access. Formal accession to the EU in May 2004 is unlikely to provide significant additional export opportunities for local firms in the candidate countries. Trade between the candidate countries and the EU has already been extensively liberalized and few legal and regulatory barriers to trade with the EU remain in place.

### **3. Local Central European firms will need to change their strategies away from cost minimization and reliance on local markets**

If local Central European firms are to survive the new competition after enlargement, then they will have to make often difficult and painful choices and adjustments involving moving away from a reliance on cost minimization and on selling in local markets. Alternative strategies will require product and service differentiation and/or international expansion into new markets. For a number of local Central European firms, a strategy based on selling a differentiated product/service to a specific, well targeted segment of the local market may be sufficient as long as the segment is sufficiently large and profitable.

A *market expansion strategy* would involve competing on the basis of the low-cost position in existing products/ services but in new geographical markets in addition to existing (domestic) markets. For example, the Polish oil and gas company, PKN Orlen, recently bought 494 petrol service stations in Germany from BP with the aim of expanding its distribution business and, thereby, spreading and reducing its costs.

An *innovation led strategy* depends on investment in product and/or process innovation geared to developing a differentiated product that can be sold across a wide geographical market. Only a few local firms in Central Europe have adopted this strategy.

Those firms that fail to adopt successful strategies of survival will be eliminated from the market.

Enlargement is likely to raise the average size of Central European firms. One of the reasons is the relationship between size and internationalization. Intensive restructuring, consolidation and concentration of Central European firms should be taking place as a result of integration.

One of the imperatives will be to reach output assuring minimum economies of scale. Therefore, consolidation including strategic alliances, mergers and acquisitions should be expected. The perspective of operating in a much larger market will pressure firms to allocate more funds to marketing, distribution, research and development, training and management/skills improvement. Firms unable to grow and expand will be forced into specialized product strategies in *small* niche markets, some of which will be in neglected or unprofitable segments.

#### **4. A survey of Central European IT exporters and their competitiveness**

The broad generalizations regarding the competitiveness of CE businesses pertain to a wide cross-section of industries. Less attention has been given to new high-tech sectors such as IT services. Although relatively small, this sector is present in the EU accession states and has been showing signs of international expansion. In the next section, the results of a survey of Central European IT exporting companies from the accession states Poland, Hungary and the Czech Republic, as well as from Bulgaria and Romania (which are not included in the current EU expansion).

IT exporting companies are chosen for the survey because in many ways they may represent a model of aggressive adjustments to international competition. The most dramatic pattern of their behavior is the choice to expand as quickly as possible

beyond their local domestic markets and in many cases to develop unique product/service niches.

Although the survey is by no means representative of the entire IT sector, it provides some insights into the developments occurring in this sector in Central European countries and has relevance for the discussion of strategic adjustments to post-accession competition.

Between the months of July and November 2001, structured interviews were conducted with representatives of export-oriented Central European IT companies. As there is no exhaustive list of such companies, potential respondents were located through incremental research. The main source of information were websites of IT-related business associations, export institutes, and annual rankings in technology magazines such as the Polish Computerworld. From these lists, those IT companies were selected that appeared to export to either Western Europe or the U.S.

Telephone interviews were conducted with managers of these companies. Most managers preferred to answer the questions in writing. In these cases, the team members sent the questionnaire via e-mail.

The advantage of the search strategy employed was that companies interested in international visibility were identified. Therefore, with a few exceptions, the respondents are at the forefront of the export-oriented IT industry in Central Europe. The drawback of this strategy was a small sample size, as companies were difficult to locate, and then quite reluctant to respond either by pleading little time or by expressing concerns about confidentiality. The Bulgarian sample is the largest, since unlike in the other cases, the research contractor was in Bulgaria.

The dataset gathered contains 22 observations: nine from Bulgaria, four from the Czech Republic, two from Hungary, five from Poland, and two from Romania. Among these, two companies - one Polish, one Hungarian – turned out to provide services to neither the U.S. nor Western Europe.

Collapsing the country data into a regional data set allowed for the discernment of trends that are not visible when looking at the smaller country data sets. The reason for this is that the different Central European economies exhibit structural similarities, such as proximity to Western Europe, communist legacy of state involvement in the economy, and weak reputation. Because of these characteristics, companies across the region face similar constraints. Also, even though the number of observations is small, the research approach allowed for interviews with the most prominent and thus most internationally oriented firms in the sector. Obstacles experienced by these companies are likely to constrain the progress of less competitive firms as well.

Companies that are export oriented are competing in a more demanding international marketplace. They need to perform at higher levels of quality than domestic firms.

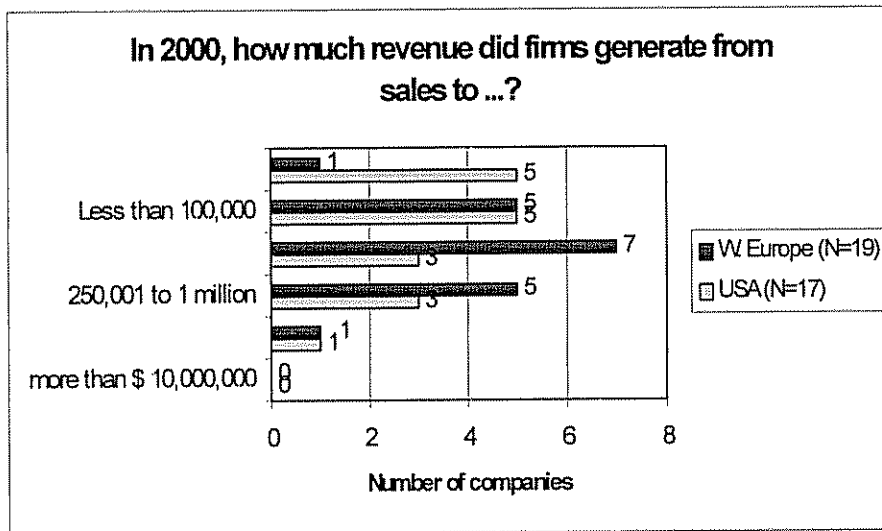
The sample data reveals that these efforts are in their early stages.. In spite of seeking only those firms that have at least some export experience in software products or services, the median number of years of selling outside the country was 3.5 years, and the median years selling to the US were even less at two years.

Only four of the sample firms had US sales offices (19%) and these have been in place for but a short time—a few years (Figure 10).

**Figure 10 Export activity of sampled firms. Years of activity abroad frequency count. N=20**

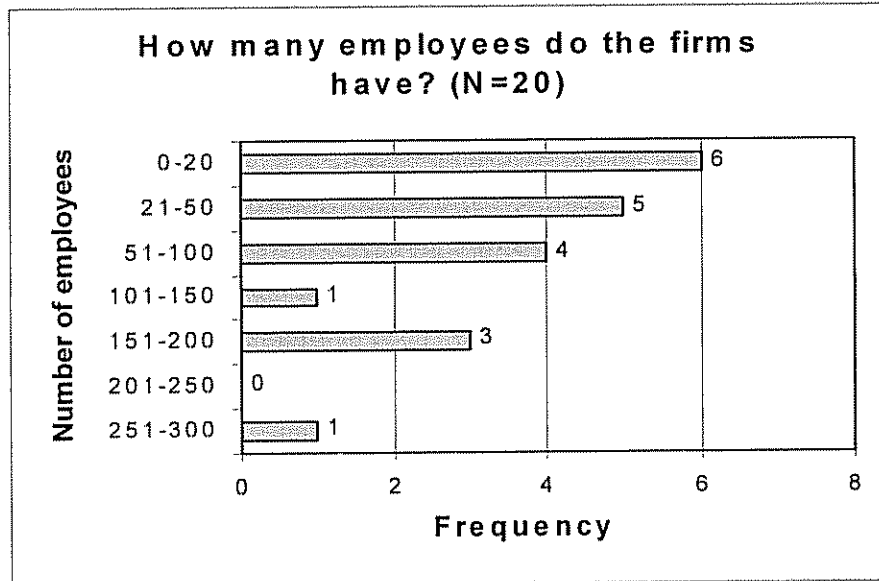
| <b>Years</b>       | <b>Firms selling outside country</b> | <b>Firms selling in the U.S.</b> | <b>Firms with U.S. sales office</b> |
|--------------------|--------------------------------------|----------------------------------|-------------------------------------|
| <b>0</b>           | 0                                    | 5                                | 16                                  |
| <b>Less than 1</b> | 1                                    | 1                                | 0                                   |
| <b>1</b>           | 2                                    | 1                                | 2                                   |
| <b>2</b>           | 2                                    | 5                                | 1                                   |
| <b>3</b>           | 5                                    | 3                                | 1                                   |
| <b>4</b>           | 2                                    | 0                                | 0                                   |
| <b>5</b>           | 3                                    | 2                                | 0                                   |
| <b>6</b>           | 1                                    | 1                                | 0                                   |
| <b>7</b>           | 0                                    | 1                                | 0                                   |
| <b>8</b>           | 1                                    | 0                                | 0                                   |
| <b>9</b>           | 1                                    | 0                                | 0                                   |
| <b>10</b>          | 1                                    | 0                                | 0                                   |
| <b>11</b>          | 1                                    | 1                                | 0                                   |
| <b>Median</b>      | 3 -4                                 | 2                                | 0                                   |

The magnitude of the region's firms' activities abroad is small. Only one firm is exporting more than one million dollars per year in software products or services to the U.S., another firm is exporting this much to Western Europe. This is an industry that is young – across all these nations. However, given the small size of the firms, exports are a significant portion of their activities.



**Figure 11 Revenue generated from sales to Western Europe and the U.S.**

One of the implications is that many of the firms are small: They are small not just in terms of revenues, but in terms of employees as well: 55% of the sample firms had fifty employees or less (Figure 12).



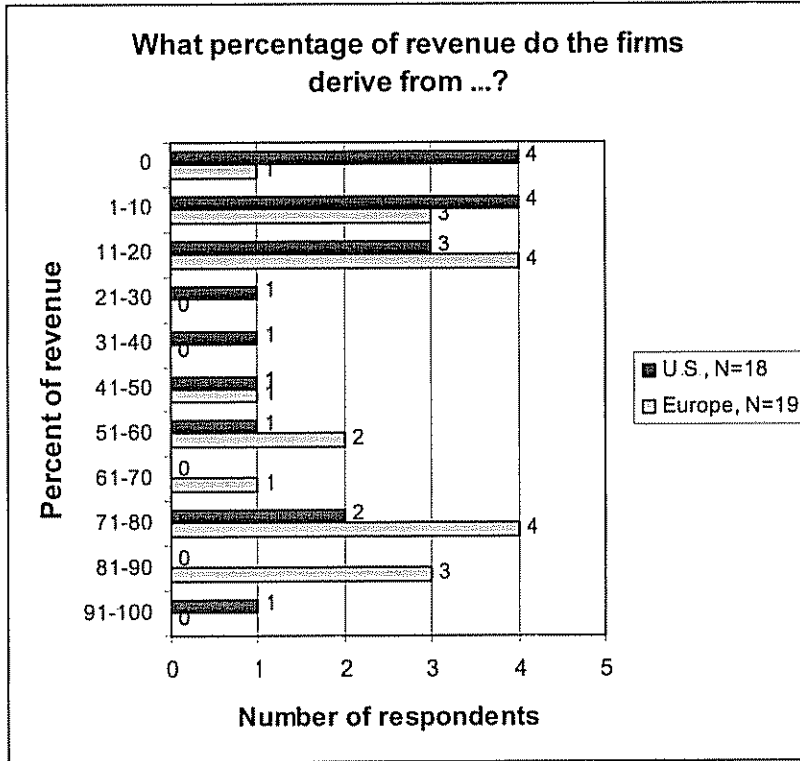
**Figure 12 Firm size measured by number of employees**

The firms are making inroads into the global technology landscape. Many have well regarded customers abroad. These include North American government agencies as well as global blue chip firms from the US and Europe. Numerous other smaller firms were also noted.

There is a noticeable emphasis on business ties with Western Europe over the US. Out of 20 respondents, 15 are selling their services to the U.S., but 19 are selling to Western Europe, a 27 % difference. A larger share of the firms' revenues comes from Western Europe over the US. The modal category is \$100,000 to \$250,000 of exports per year to Western Europe, with 7 of 19 companies located in that category. For the U.S., the mode spreads over the "no revenue" and "less than 100,000" categories, with each having 5 observations.

Figure 13 summarizes the percent of revenues derived from foreign activity in Western Europe and the US. Again, Western Europe is a more important source of revenues, impacting, in the median, 55% of revenues. On the other hand, regarding business with the US, the median result is that only 15%-20% of revenues are derived from US sales. An exception is one Bulgarian firm that derives 100% of its revenues from US sales.





**Figure 13 Revenue generated from sales to Western Europe and the U.S.**

Of the 20 respondents, 9 had three or more contracts with the U.S; two companies had two contracts so far. This gradual market entry is consistent with the median number of years the respondents have been selling abroad, 3.5 years. Of the 20 exporting companies interviewed, four had sales offices in the U.S. - one company for three years, one for two years, and two for one year. Establishing a sales office is an expensive, but necessary, mode of market entry.

The overwhelming majority focuses on high-end tasks: new development of fully integrated systems, and new development of system components (Figure 14). These are the highest end tasks in software development using the definitions in the survey. Indeed, many of these firms develop their own products or design and build complete

systems. Testing, maintenance and support, as well as design, are also services provided by around fifty percent of respondents. Also note that roughly the same services are provided to both the U.S. and Western Europe.

**Figure 14 Central European sample: Services exported.**

Response to Question: “What are the primary services your company provides for U.S. and Western European customers?” and “Which services were most important financially”?

| <u>USA:</u><br><u>services</u><br><u>provided</u> | <u>USA:</u><br><u>most</u><br><u>important</u><br><u>service</u> | <u>Western</u><br><u>Europe:</u><br><u>services</u><br><u>provided</u> | <u>Western</u><br><u>Europe:</u><br><u>Most</u><br><u>important</u><br><u>service</u> | <u>Nature of Work</u>                            |
|---|--|--|---|--|
| 11  | 6  | 15   | 10  | A – New development of a fully integrated system |
| 11  | 6  | 15   | 7   | B – New development of a system component        |
| 2   | 0  | 5  | 0   | C – Systems integration                          |
| 1   | 0  | 4  | 0   | D - Data communications networks                 |
| 1   | 0  | 1  | 0   | E - Data center operations                       |
| 9   | 2  | 9  | 1   | F - Maintenance and support                      |
| 6   | 0  | 7  | 0   | G – Testing                                      |
| 7   | 0  | 11   | 1   | H – Design                                       |
| 1   | 1  | 2  | 0   | I – Facilities management                        |
| 1   | 0  | 1  | 0   | J - Disaster recovery                            |
| 1   | 0  | 2  | 0   | K – Help desk                                    |
| 5   | 0  | 6  | 0   | L – Localization                                 |
| 2   | 0  | 3  | 0   | M – Training                                     |
| 0   | 0  | 0  | 0   | N - Data Entry                                   |
| N=15  | N=15   | N=19   | N=19  |  |

Asked to elaborate on their country advantageous characteristics, almost all respondents (95%) emphasize talented professionals as an attribute of the country to potential clients (Figure 15).

**Figure 15 Central European sample: Country characteristics emphasized by respondents to the customer.**  
 More than one answer allowed.

|  | Number of responses<br>(N=19) |
|--|-------------------------------|
| Talented professionals                       | 18                            |
| Low cost/ low wages                          | 14                            |
| Rapid project start-up                       | 9                             |
| Large pool of talented labor                 | 7                             |
| Specific skills such as Microsoft, C++, etc. | 4                             |

Low wages costs come second: 74% emphasize low wages as a country characteristic. To potential clients, it must be obvious that Central European companies are much less expensive than, say, their German neighbors.

Related to the first item is the companies' emphasis that there is a large pool of talented professionals. This is attractive to customers because it implies continued competitive wages, low company turnover, and growth opportunities (e.g., when the foreign customer needs more personnel for the job than these can be readily found). About half the firms emphasized rapid project start-up. Rapid start-up is critical to project-level decision-makers. Once a project is approved, the client company wants an immediate pool of labor to begin work, rather than waiting weeks or months for

employees to finish other projects. Indian firms in particular have emphasized their “excess” labor at ready to begin a project immediately.

Finally, a number of firms emphasize specific skills. Some of these are skills available in nations around the world (in a sense they are commodity skills). In other cases, these skills allow the firms to develop unique products/services which have done well in international markets.

Figure 16 summarizes the results on comparative disadvantages when it comes to establishing an I.T. service sector capable of exporting to advanced markets. With 68%, the most frequent response was that their country's weak regulatory and legal regime put the respondents at a disadvantage. In other words, respondents pointed their finger at the government. The second most common response was “poor reputation.” The firms in Central Europe are well aware that the reputation hurdle is a big one.

**Figure 16 Competitive disadvantages of Central European countries**

| What are your country's greatest comparative <u>disadvantages</u> when it comes to establishing an I.T. service sector capable of exporting to the U.S.? (N=19) |  |
|---|--|
| 13  | Weakness of government regulation and legal regime |
| 8   | Poor reputation                                    |
| 5   | Weak application knowledge                         |
| 5   | Inadequate project managers                        |
| 3   | Poor English competency                            |
| 2   | Poor telecom infrastructure                        |
| 2   | Cultural distance                                  |

The next two most common answers refer to core business issues: weak application knowledge and inadequate project managers. Weak application knowledge refers to the knowledge the programmer has about the actual application domain for which he/she is writing software, whether it be a gasoline distribution system, a utility for a database, or embedded software for a scientific measuring device. The second item deals with project managers. While it is important to have smart, capable programmers, they must work together on project teams. Well-trained, experienced project managers are the layer of middle management that gets the systems development projects done. This layer of technical managers typically takes years to develop.

Poor English competency was selected by only 16 percent of respondents.

The respondents were asked an open-ended question on policy: "What steps would you recommend your country undertake to improve its environment for outsourcing IT work from the U.S.?" Then, the answers were coded and summarized in Figure 17.<sup>iii</sup> Among those interviewees who answered the question, a third would like to see tax benefits for the IT sector. Slightly less than a third believe that IT education and, separately, reputation should be improved.

**Figure 17 How to improve countries' environment for outsourcing IT work**

| What steps would you recommend your country undertake to improve its environment for outsourcing I.T. work from the U.S.? (N=15) |   |
|--|---|
| 5  | Create tax benefits for IT sector                     |
| 4  | Improvement of IT education                           |
| 4  | Improve reputation                                    |
| 3  | Business associations should be more active           |
| 2  | Speed up bureaucratic procedures/improve legal system |
| 2  | Convince U.S. (to open its markets or provide visas)  |
| 1  | Provide information on business opportunities         |

Only 20% stated that business associations should be more active on their behalf. Possibly, this indicates that IT companies view themselves as businesses not as political activists. Managers accept their country factors as constraints, as givens, rather than structures that can be changed through political involvement.

Interestingly, none of the respondents said that software piracy needed to be curbed, even though Central and Eastern Europe is notorious for its high piracy rates, and this surely prevents Western European and U.S. corporations to move some system development tasks to the region. Silence on software piracy may simply mean that companies are not aware of the issue.

In their search for contracts in the U.S. and Western Europe, Central European companies compete with firms from the U.S., the European Union, India, as well as Central and Eastern Europe (Figure 18). However, competition among Central European companies does not appear to be very strong. Three companies listed Bulgarian competitors for U.S. bids, and three listed the Czech Republic for West European bids. This picture is a promising one for Central European industries: it means that the firms have not been “typed” as addressing a certain market segment. If these firms were “typed” they would be competing against other regional firms much more often.

There are differences, however, in competition for US and West European markets. For U.S. bids, India is most relevant as a competitor, with over fifty percent of respondents listing Indian competitors. 38% of respondents listed U.S. companies as competitors for U.S. bids. In bids for Western European contracts, the playing field appears to be more level. 41% of competitors came from a EU member state, and 29% come from India and Russia, respectively.

**Figure 18 Competition for bids in U.S. and Western Europe.**

| During the last 5 bids in the U.S. and Western Europe, what were the country |             |                       |
|--|-------------|-----------------------|
| Country origin   | U.S. (N=13) | Western Europe (N=17) |
| India  | 7           | 5                     |
| U.S.   | 5           | 4                     |
| EU member  | 3           | 7                     |
| Poland   | 2           | 1                     |
| Bulgaria   | 3           | 1                     |
| Hungary  | 1           | 2                     |
| Romania  | 0           | 1                     |
| Czech  | 2           | 3                     |
| Russia   | 2           | 5                     |
| Ukraine  | 0           | 1                     |
| Algeria  | 1           | 0                     |

Respondents attribute a substantial part of Indian success in bids for Western European and U.S. contracts to their good reputation. Asked if India's reputation for being good at outsourcing was partly responsible for respondents losing contracts to India, 5 out of 20 said yes, 2 answered negatively. While the response rate for this question was low—with only 35% offering an opinion -- the finding is corroborated by answers to the follow up question "What advantages do your Indian competitors have?" (Figure 19). 38% of respondents selected "Firms are better known" and 19% chose "Better overall reputation for IT work" as a response. One respondent added in his own words: "Stronger than the [Indian] reputation, we feel is the Indian



networking (Indian [immigrants] in top-management of the US and EU organizations)"

**Figure 19 Advantages of Indian competition**

| What advantages do your Indian competitors have? (N=16) |  |
|---|--|
| 7   | Less expensive                         |
| 6   | Firms are better known                 |
| 3   | Better overall reputation for IT work  |
| 3   | More professional sales marketing      |
| 2   | More human resources                   |
| 2   | More sophisticated development process |
| 2   | Government support/protection          |

The most important factor from the respondents' viewpoint was price. 44% selected "less expensive" Although Central European wages are low compared to those in the U.S. and the European Union; Indian firms have been price competitive. But this data conflicts with the next item, in Figure 20, in which some of the region's firms see themselves as being competitive on price. Also note the significant wage differentials between Poland on one hand and Romania on the other.

**Figure 20 Competitive advantages of respondents**

| When you compete with Indian firms in the US or Western Europe, what are the competitive advantages of your <u>company</u> ?<br>(N=16) |  |
|--|--|
| 5  | Cultural closeness                             |
| 5  | Quality/know-how                               |
| 3  | Closer time zone                               |
| 3  | Lower cost                                     |
| 2  | Flexibility                                    |
| 2  | Experience with foreign co.'s/similar projects |

In an open-ended question, the respondents were asked for the competitive advantages of their firms vis-à-vis the Indian competition. Then, open coding to these responses was applied. Some felt that *cultural closeness* was their edge. This is a refrain heard from other marketing people: From managers participating, it was heard that, in reference to the advantage of accessing markets in Western Europe relative to the Indians, “we are Europeans, after all.” The question is whether the perception of the companies matches reality.

The respondents were asked how they are able to win contracts for work abroad. The respondents were given open-ended and closed-ended questions for this topic.

First, the respondents were asked how many of their last contracts with U.S. firms went through a competitive RFP (“Request for Proposals”) process. 60% of respondents had never won a contract through this process, which indicates that it plays a very minor role for Central European IT companies. While not all projects

are awarded based on an RFP, it might also be that Central Europeans do not have sufficient business connections in the U.S. to make it onto the RFP mailing lists.

The respondents were then asked the open-ended question of how these firms won contracts and applied open coding. 82 %professed to have won their contracts through personal contacts or direct references.<sup>iv</sup> This is a powerful finding, given that the question was open-ended and the respondents came up with the response without being prompted (Figure 21).

**Figure 21 How companies got their contracts (open-ended)**

| How did you get the other contracts? (N=12) |                             |
|---|-----------------------------|
| 9   | Personal contact/reference  |
| 1   | Trade fair/conference       |
| 1   | Government tender           |
| 1   | Chamber of Commerce etc.    |
| 1   | Consultant/Business agent   |
| 1   | Informal ties to immigrants |
| 1   | Website                     |

Finally, the respondents were asked the closed-ended question of how they found their current customers in the USA and Western Europe. Here, word of mouth and reference play a smaller role than in the previous question. The most interesting result is that only one respondent selected the option "the Chamber of Commerce/ Export

Institute, or a similar 3<sup>rd</sup> party mediated the business relationship" (Figure 22). This suggests that industry associations play a limited role in helping these small to medium-size firms close deals.

**Figure 22 How companies found current customers (closed-ended)**

| How did you find your current customers in the USA and Western Europe? (N=16) |   |
|---|---|
| 7   | Trade fair or conference                                  |
| 6   | Web site  |
| 6   | Informal ties to immigrants to the U.S. or Western Europe |
| 4   | Consultant  |
| 1   | Chamber of Commerce/Export Institute                      |
| 3   | Other: Word of mouth and references                       |
| 2   | Other: Direct mailing                                     |
| 1   | Other: Visits to potential clients in the U.S., Europe    |
| 1   | Other: Specialized magazines                              |

## **5. Discussion and Conclusions**

The survey data shows that in spite of a lack of an international awareness and recognition – even small Central European companies can successfully compete on cost and/or technical expertise to win significant (if not very large) international contracts. It is the opinion of the Central European IT exporters that they could do more with government policies designed to support them. They also acknowledge the need to improve their capabilities in project management, English competency and knowledge of Western business culture. This self-perception coincides well with the expectations of Western firms and consultants who stress that Central European IT firms need to continue to improve to meet rising international standards for quality, speedy communications, dependability and adaptability.

The growth and improvement of the Central European export oriented IT sector (most of which consists of small and midsize players) brings up the question of size, critical mass and investment. Given the existing intense international rivalry, the Central European IT exporters will likely find it hard to grow without supporting government policies or collaborative arrangements with Western firms. In turn for the governments to pay attention, an effective lobbying effort has to be made by business associations.

As has been pointed out, the sad paradox is that most Central European governments have proactive or passive policies that support and frequently subsidize traditional sectors of the economy such as agriculture, mining, steel - while they lack sufficient policies and programs that would be oriented towards the industries of the future, such as IT and high technology. The explanation of this paradox is simple:

traditional sectors have powerful lobbies with strong political representation. Western companies, which also have considerable influence, push for market opening measures and not for the support of a nascent local IT industry. The experience and success of countries such as India and to a lesser degree Russia offer important lessons for Central Europe in the sense that an internationally competitive IT sector can be created.

In 2003, follow-up interviews were conducted with some of the firms included in the original study. Also, a number of additional companies were identified that have emerged as significant exporters of IT products/services.<sup>v</sup> A preliminary examination of the top 30 IT exporters in the countries studied shows some new developments. The largest and most successful companies are the ones that go beyond just selling standard services in the international markets. They offer unique niche products (such as education packages) or services (such as specialized software for medical analysis) and they have successfully attracted a Western investor or joint venture partner. In this sense, these frontrunners are charting a model for other Central European companies to emulate.

## Appendix 1 Company Rankings

| Company Name  | Revenues | # of Emp. | Clients | Alliances | Work | Age | Site | Total |
|---|----------|-----------|---------|-----------|------|-----|------|-------|
| IQSoft (Hu) <a href="http://www.iqsoft.hu">www.iqsoft.hu</a>                                  | 5        | 5         | 4       | 4         | 5    | 5   | 5    | 33    |
| Softwin (Ro) <a href="http://www.softwin.ro">www.softwin.ro</a>                               | 5        | 5         | 5       | 3         | 3    | 5   | 5    | 31    |
| APP Czech (Czech) <a href="http://www.app.cz">www.app.cz</a>                                  | 3        | 5         | 3       | 3         | 4    | 5   | 4    | 27    |
| Logotec Engineering (Pl)<br><a href="http://www.logotec.com.pl">www.logotec.com.pl</a>        | 4        | 3         | 4       | 3         | 3    | 5   | 4    | 26    |
| AAM Technologies (Hu)<br><a href="http://www.aamtech.hu">www.aamtech.hu</a>                   | 5        | 5         | 1       | 1         | 4    | 4   | 4    | 24    |
| LCS International (Czech)<br><a href="http://www.lcs.cz">www.lcs.cz</a>                       | 5        | 5         | 3       | 1         | 3    | 5   | 2    | 24    |
| Soft System (Pl)<br><a href="http://www.softsystem.pl">www.softsystem.pl</a>                  | 4        | 5         | 3       | 1         | 3    | 5   | 2    | 23    |
| NetageSolutions (Bul)<br><a href="http://www.netagesolutions.com">www.netagesolutions.com</a> | 1        | 1         | 5       | 2         | 5    | 3   | 5    | 22    |
| Sirma AI Ltd (Bul) <a href="http://www.sirma.bg">www.sirma.bg</a>                             | 3        | 4         | 4       | 1         | 3    | 4   | 3    | 22    |
| InterConsult Bulgaria (Bul)<br><a href="http://www.icb.bg">www.icb.bg</a>                     | 3        | 3         | 4       | 3         | 3    | 3   | 2    | 21    |
| AllRound (Hu) <a href="http://www.allround.net">www.allround.net</a>                          | 3        | 3         | 3       | 1         | 2    | 5   | 4    | 21    |
| EON Technologies (Bul)<br><a href="http://www.eontechnologies.bg">www.eontechnologies.bg</a>  | 2        | 4         | 3       | 2         | 2    | 3   | 3    | 19    |
| Lasting Software (Ro)<br><a href="http://www.lasting.ro">www.lasting.ro</a>                   | 2        | 2         | 1       | 1         | 3    | 4   | 5    | 18    |
| Decsoft (Pl) <a href="http://www.decsoft.com.pl">www.decsoft.com.pl</a>                       | 1        | 4         | 1       | 2         | 3    | 5   | 2    | 18    |
| Haeminmont-Smartcom AD (Bul)<br><a href="http://www.smartcom.bg">www.smartcom.bg</a>          | 3        | 1         | 3       | 1         | 2    | 1   | 3    | 14    |
| Pentacomp (Pl)<br><a href="http://www.pentacomp.pl">www.pentacomp.pl</a>                      | 1        | 2         | 2       | 1         | 2    | 4   | 2    | 14    |
| KodaR Ltd. (Bul) <a href="http://www.kodar.net">www.kodar.net</a>                             | 2        | 2         | 2       | 1         | 2    | 1   | 3    | 13    |
| Globema (Pl)<br><a href="http://www.globema.com.pl">www.globema.com.pl</a>                    | 1        | 2         | 1       | 2         | 2    | 3   | 2    | 13    |
| PC-Progress s.r.o. (Czech)<br><a href="http://www.pc-progress.cz">www.pc-progress.cz</a>      | 2        | 1         | 2       | 1         | 2    | 3   | 2    | 13    |
| Musala Soft (Bul)<br><a href="http://www.musala.com">www.musala.com</a>                       | 2        | 1         | 2       | 1         | 3    | 1   | 2    | 12    |

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**Notes**

<sup>i</sup> *Hungarian News Agency MTI – May 26, 2003, Global News Wire, Financial Times Information.*

<sup>ii</sup> The numbers are Hungary 24%

*Source: World Bank Knowledge Assessment*

<sup>iii</sup> 5 of the 20 survey participants did not come up with an response for this open-ended question

<sup>iv</sup> After excluding five companies that did not export to the U.S. and four non-responses, we were left with an N of 11.

<sup>v</sup> A preliminary ranking of the best Central European IT exporters is attached as Appendix 1