CHAPTER VII
SUMMARY AND CONCLUSIONS

This chapter threads together the conclusions regarding the integration of Hungary and Poland into the EU and its probable impact on the developing countries. The chapter is divided into 6 sections. Section 7.1 brings out some features of the transition of Hungary and Poland to a decentralized market system. Section 7.2 shows the extent to which the increased EU integration attained by Hungary and Poland have increased their export competitiveness in the EU market. Section 7.3 brings out the implications of this increased integration for the exports of developing countries to the EU. The section focuses on commodity composition of exports. Section 7.4 reinforces the conclusions regarding the trade potentials of the developing countries vis-à-vis Hungary and Poland in the EU market based on the trade potential index as calculated by using a gravity model. Sections 7.5 and 7.6 bring out, respectively, the contributions and limitations of the study.

7.1 THE TRANSITION OF HUNGARY AND POLAND TO A DECENTRALISED MARKET SYSTEM

The two transition economies chosen for our study, Hungary and Poland were the first in the Central Eastern European countries (CEEC's) to make a transition to democracy, replacing central planning by a decentralized market system. They were also the first to benefit from the international community's involvement in the process of transition through assistance and advice. The transition process aimed at creating a decentralized market system
for the efficient allocation of resources and the reintegration of these economies into the regional and world trading system as market economies.

The system of central planning produced reasonably rapid rate of growth in the first two or three decades. But growth slowed down in the 1970s. Hungary and Poland inherited many problems due to widespread distortions caused by central planning. To mention a few: an over emphasis on heavy industries, subsidized prices of energy, food and housing, and state monopoly of foreign trade. It was therefore imperative to shift to a system that would efficiently allocate economic resources and free prices hence the transition. The transition process in the CEEC’s is often termed as ‘unique’ because of the massive scale of change involving the destruction of an existing economic system and the construction of a new one.

Two main objectives of transition were: i) Creating a decentralized market system for the efficient allocation of resources, ii) Reintegration of these economies into the world market as market economies through regional as well as global integration. These two objectives have been dealt with in Chapters II & III. Our study has further focused on the second of the above two objectives, i.e. the regional and global integration of Hungary and Poland.

i) Creating a decentralized market system for the efficient allocation of resources.

Chapter III provided a context for the study. The chapter examines macroeconomic stabilization, price liberalization, external sector liberalization, and enterprise and financial sector reforms as a part of the transition processes. We also examine the transition strategies and
the debate surrounding the ‘Gradualist approach’ adopted by Hungary as versus the ‘Shock Therapy approach’ followed by Poland. We find that it is the initial conditions such as macroeconomic imbalances present in the economy that dictate the choice of strategies adopted by Hungary and Poland to move towards a market economy. Apart from the stabilization and liberalization, far reaching reforms in the banking and the financial sector and restructuring in the industrial sector brought about wide-ranging changes in the economy. These also imparted greater dynamism to export structure of the economies and made them more competitive.

ii) Regional and global integration

Economic integration, regionally and globally, can be viewed as an alternative strategy for the process of economic development in the transition economies.

The EU as a Regional Trading Arrangement (RTA) and the WTO as a multilateral trading system have played an important role in shaping the foreign trade of Hungary and Poland along with the stabilization, liberalization and institutional reforms implemented in the economies.

Prior to 1990 a large proportion of the trade of Hungary and Poland was with Council for Mutual Economic Assistance (CMEA). But after the collapse of CMEA, a substantial proportion of trade was redirected to the west.
The ‘Europe Agreements’ signed between the EU and the five of the CEECs provided increased access to the exports of Hungary and Poland in the EU markets. The ‘Europe Agreements’ distinguished between six groups of industrial products with different schedules for liberalization of trade measures. They were also partially responsible for increased Foreign Direct Investment (FDI) inflows into Hungary and Poland. The ‘Europe Agreements’ enhanced the credibility of the transition economy as they offered certain advantages to the foreign investors such as improved business climate, combined with additional incentives associated with improved access to market of developed countries. It also provided incentive among EU producers to relocate production to Hungary and Poland and other transition economies. Moreover, the privatization policy of Hungary encouraged foreign enterprises in areas like telecommunication, utilities and financial services.

Hungary and Poland have also benefited as members of GATT/WTO. It was ensured that trading partners would apply MFN rates instead of protectionist measures. Hungary and Poland have also reduced their tariffs and in both the countries about 94 percent of the tariff lines are bound.

The preferential access granted by the EU, eased considerably the pain of transition. It provided for economic reforms and institutional guidance that have been decisive in attracting FDI flows into Hungary and Poland. This led to significant changes in the trade structure of Hungary and Poland. We have
examined the changes in the trade structure of Hungary and Poland in terms of changes in the commodity composition of exports; competitiveness attained and increased integration at regional and global level in Chapter IV. We have also matched the export structure of Hungary / Poland with the imports of the EU and exports of the world. A good matching implies scope for trade expansion. In Section 7.2 we bring out some conclusions regarding the above issues.

7.2 INCREASED COMPETITIVENESS ATTAINED BY HUNGARY AND POLAND IN THEIR EXPORT BASKETS

The change in the commodity composition of exports of Hungary and Poland and increased competitiveness attained by them was analyzed using the Revealed Comparative Advantage (RCA) index and the correlation coefficient. The compatibility index and the trade structure index were used to match the export structure of Hungary / Poland with the imports of the EU and exports of the world. The conclusions reached by us through the above analyses are presented below. These conclusions are based on the RCA indices, the correlation coefficient between the exports of Hungary / Poland on the one hand and world imports on the other hand, and the comparison of the most dynamic products in world trade with the exports of Hungary and Poland to find out whether Hungary and Poland have become competitive at regional and global level.

i) The RCA index was utilized to study the changes in the comparative advantage in the export baskets of Hungary and Poland. The index was computed for 150 commodities at SITC Revision 2 three-digit
level of disaggregation. The results show the changing comparative advantage of Hungary in favour of high technology products like machinery and transport equipments, internal combustion engines and parts, and telecommunications equipment, and parts. In low technology commodities like furniture, textiles, footwear, although the RCA indices remained greater than unity, they show declining values. The RCA indices for resource based manufactured goods also show a declining trend. On the other hand the RCA indices of Poland do not show significant changes in their values between the years 1994 and 2000. The correlation coefficient between the RCA indices of 1994 and 2000 for Hungary was 0.256, suggesting a rapidly changing export structure. On the other hand, in the case of Poland, the correlation of coefficient between the RCAs in 1994 and 2000 yielded a value of 0.716, suggesting that the export basket had not changed much over the two years.

ii) Competitiveness is defined as an increase in the share of a country’s exports in the world trade in those commodities/sectors for which the world demand is growing. The correlation coefficient was computed between the share of a sector in the total exports of Hungary / Poland on the one hand and world imports in that sector on the other. This coefficient is an important indicator of specialization in products for which the world demand is growing. Our results show that the correlation coefficient between the exports of Hungary and world imports at SITC three-digit level of disaggregation for 226 commodities increased from 0.343 in 1991 to 0.659 in 2000, while for
Poland it increased from 0.130 to 0.434 over the same period. This reinforces the conclusion that the export baskets of both Hungary and Poland are becoming increasingly consistent with world demand for imports, though the correlation coefficient values are substantially lower for Poland then for Hungary for both the years.

iii) To reinforce our conclusions, we compared the top 20 exports of Hungary and Poland in their total exports with the most dynamic exports in the world trade. The dynamic products in world trade are defined as products at SITC, Revision 2 three-digit level that accounted for more than 1 percent of world trade, both in 1994 and 2000. 20 such products were identified, satisfying the criterion. Our results show that at least 10 commodities in the export baskets of Hungary and Poland are identical with those of the world top exports. Again the percentage shares of these commodities in total exports were higher for Hungary as compared to Poland.

Thus, a very clear conclusion that emerges from our analysis is that the export baskets of Hungary and Poland have attained competitiveness between the years 1991 and 2000.

The results of the analysis carried out to study the integration of Hungary and Poland at regional and global level shows that while Hungary and Poland have been able to increase their share in the EU imports, they have not been able to so increase their share substantially in the world market. The exports of Hungary as a percentage share of world imports increased from 0.30 percent in 1991 to 0.45 percent in 2000, whereas the exports of Hungary as a
percentage share of EU imports increased from 0.30 percent in 1991 to 0.98 percent in 2000. On the other hand the exports of Poland as a percentage share of world imports increased from 0.43 percent in 1991 to 0.51 percent in 2000, whereas the exports of Poland as a percentage share of EU imports increased from 0.53 percent in 1991 to 1.01 percent in 2000. Thus both Hungary and Poland are integrating with the world economy as a whole, but to a greater degree with the EU.

The matching of the export structure of Hungary and Poland with the EU imports and world exports was studied through the compatibility index and the trade structure index. The compatibility index indicates how well the export profile of one country, matches the import profile of others and therefore addresses the prospects of trade expansion between the two. The index is expected to be between zero and unity. It will be zero when the trade flows have no similarity whatsoever and is unity, its maximum level, when the structures of the two trade flows are identical.

The results of the compatibility index computed for 226 commodities at SITC three-digit level show that there is potential for trade expansion between Hungary and EU. The value of the compatibility index between the exports of Hungary and the EU imports increased from 0.593 in 1991 to 0.598 in 2000. Similarly, the compatibility index between the exports of Poland and the EU imports increased from 0.537 in 1991 to 0.590 in 2000. This increased potential arises from a good matching of the export-import structure of the trading partners, which is the result of increased dynamism and
competitiveness gained by Hungary and Poland in their export structure. It suggests that there is scope for expansion in trade between them in future.

The trade structure index matches the structure of world exports with the exports of Hungary / Poland for 226 commodities at SITC three-digit level of disaggregation. Lower values of the index indicate that a country's export structure more closely matches that of world trade. The computed index yields a value of 0.408 between the exports of Hungary and world, and 0.421 between the exports of Poland and world in 2000. A good matching implies that their trade structure is also a good match for imports structure of any other country, pointing to the fact that Hungary and Poland will compete with other developing countries in the world market.

Thus the main conclusions are:

i) Hungary and Poland have become competitive and have been able to increase their share in regional trade, more than that in the global trade.

ii) There is scope for further trade expansion between Hungary and Poland on the one hand and the EU on the other.

In the next two sections we show the implications of this increased competitiveness and integration attained by Hungary and Poland in their export baskets for the exports of the developing countries in the EU market. In Section 7.3 we bring out the conclusions of the XRSCA indices used in the study to identify the commodities-wise category in which the developing countries and Hungary and Poland specialize, and are therefore likely to compete in these commodity-wise category in the EU market. In Section 7.4
we bring out the conclusions of the gravity model-based trade potential indices used to identify the developing countries that are likely to compete with Hungary and Poland in the EU market.

7.3 SIMILARITY IN THE EXPORT STRUCTURE: HUNGARY AND POLAND versus DEVELOPING COUNTRIES

In order to identify the commodities in which Hungary and Poland are likely to compete with the developing countries, we have analyzed in Chapter V the export baskets of a sample of developing countries that are important exporters in the world market and, in particular, to the EU market. The sample countries selected are Indonesia and Thailand from ASEAN, Argentina and Brazil from LAIA, Mexico from NAFTA, India from the South Asia region and Turkey from the Mediterranean region bringing the total to 7 countries in addition to Hungary and Poland. We analyzed the export baskets of the sample countries and of Hungary and Poland using (A) Compatibility index (B) Similarity index (C) XRSCA index. The compatibility index and the similarity index verify the scope for trade expansion between the developing countries and the EU, and the competition between the developing countries and Hungary and Poland in that context. The XRSCA index indicates the presence or absence of specialization in a particular product category.

Our analysis of the compatibility between the developing countries exports and the EU imports shows that the compatibility index for all countries except India has increased between 1991 and 2000. This suggests a potential for
further increase in trade between the sample countries and the EU based on the commodity structure.

The results of the computed similarity index between developing countries exports and exports of Hungary and Poland show that the export baskets of Thailand and Mexico match with that of Hungary; whereas the export baskets of Turkey, Thailand, Brazil and Mexico are similar to that of Poland.

To compute the XRSCA index that indicates the presence or absence of specialization in a particular product category we have adopted the following methodology in the study. We identified the commodities in which Hungary and Poland are likely to compete with the sample countries and selected 179 commodities at SITC Revision 2 three-digit level of disaggregation. The selected commodities were those commodities, which were exported by Hungary and Poland generating export revenues of more than 10 million U.S $ and exported by at least five of the nine developing countries in our sample. Additionally, commodities fetching export earnings of more than 1 percent of the total exports of the respective sample countries were also included. Further, to facilitate comparisons we classified the 179 commodities into five categories, following the classification of the commodities adopted by the *World Investment Report 2002*. The five categories are: Category I (Primary products), Category II (Resource based manufactures), Category III (Low technology manufactures), Category IV (Medium technology manufactures) and Category V (High technology manufactures).
The XRSCA index was computed for each of these categories of commodities for the sample countries, and Hungary and Poland, for four time periods i.e. 1991, 1994, 1997 and 2000. The shifting pattern of specialization was used to identify commodity categories in which the developing countries specialize and are therefore likely to compete with Hungary and Poland in the EU market.

The results from this analysis are as follows:

The XRSCA indices of Hungary in Category I (Primary products), Category II (Resource based manufactures) and Category III (Low technology manufactures), have changed signs from positive to negative between 1991 and 2000 implying a declining international competitiveness in these categories. The estimated XRSCA indices of Hungary, Thailand, and Mexico in Category V (High technology manufactures), have become positive indicating that they have gained international competitiveness in exporting goods in this category. Thus, we can expect to see stiff competition between Hungary, Thailand and Mexico in the EU markets in this category.

Poland has advantage in producing goods in Category I (Primary goods) and Category III (Low technology manufactures) and is therefore likely to compete with countries like India, Turkey, Indonesia, Thailand, Argentina and Brazil that also specialize in exporting these goods.

7.4 THE TRADE POTENTIAL INDEX

In Chapter VI we have estimated a gravity model in order to compute the trade potential index. The gravity model explains the flow of trade
between a pair of countries being proportional to their economic 'mass' and inversely proportional to the distance between them. To estimate the gravity model we consider 8 countries from ASEAN, 14 from EU, 10 from LAIA, and 3 from NAFTA. We have also included India, Turkey Hungary and Poland bringing the total to 39 countries. Our data set covered export flows of 39 countries as they originate from (39-1) = 38 countries to 14 importing countries of the EU. The gravity equation was estimated using the OLS regression by pooling data for the years 1991, 1994, 1997 and 2000. In the equation total trade (exports plus imports) is the dependent variable. The equations include 9 explanatory variables: GNP of country i GNP of country j, population of country i and j, distance between two countries, three dummy variables – adjacency, common language, common RTA, and the COS or EIS index. The COS / EIS index, which measure the export-import similarity between the trade flows of two partners have been included as explanatory variables as the measures indicate the expected intensity of total bilateral trade between country i and j. Both measures vary between zero (no similarity) and one (perfect similarity). The estimated gravity equations show that all the coefficients of the explanatory variables are statistically significant and have the expected signs. The equations also have a high explanatory power.

For calculating the trade potential index to determine the relative trading position of the exporting countries in the EU we use the formula used by Linnemann (1992). The coefficients of GNP, population and COS / EIS obtained from the estimated gravity equations are used as weights to compute the trade potential index for each of the 24 exporting countries to the 14 EU importing countries. The estimated trade potential index show very high trade
potential for Hungary and Poland and also for Mexico and Thailand amongst the developing countries and Canada and U.S.A. amongst the developed countries.

Our results based on the trade potential index presented below indicate the countries that are likely to compete with each other in the EU market:

i) Mexico will compete with Hungary

ii) Thailand, Singapore, Brazil and Malaysia are likely to compete with Poland in the EU market

iii) Argentina, Indonesia, India, Turkey and Philippines are likely to compete with each other in the EU market.

iv) The trading position of the U.S.A. and Canada in the EU market is strong and comparable to that of Hungary.

v) The position of countries like Indonesia, India, Argentina, Turkey, Philippines is relatively weaker as compared to that of Hungary and Poland

vi) The remaining 12 countries of ASEAN and LAIA show low trade potential.

The trade potential index computed for the four time periods 1991, 1994, 1997 and 2000 to study variations underlying the averages over time, we find that the trade potential index for Hungary, Poland, Indonesia, Thailand, Brazil and Mexico show an upward trend.

The main conclusions that we get from sections 7.3 and 7.4 are presented below:
1) Poland, India, Indonesia, Thailand, Argentina and Brazil have advantage in Category I (Primary products).

India, Indonesia, Argentina and Brazil have advantage in Category II (Resource based manufactures).

Poland, India, Turkey, Indonesia, Thailand and Brazil have advantage in Category III (Low technology manufactures).

Only Mexico has advantage in Category IV (Medium technology based manufactures).

Hungary, Thailand and Mexico have advantage in Category V (High technology manufactures).

Thus, we see that Mexico and Thailand will compete with Hungary in Category V (High technology manufactures). While India, Indonesia, Thailand, Argentina and Brazil will compete with Poland in Category I (Primary products). India, Turkey, Indonesia, Thailand and Brazil will compete with Poland in Category III (Low technology manufactures).

2) Similarly on the basis of the trade potential index we can say that Mexico will compete with Hungary. While Thailand, Singapore, Brazil and Malaysia will compete with Poland in the EU market.

3) The trading position of countries like India, Indonesia, Argentina and Turkey is relatively weak as compared to that of Hungary and Poland in the EU market.

7.5 CONTRIBUTIONS OF THE STUDY

The purpose of the present study was to identify the countries and commodities that are likely to face competition from Hungary and Poland in
the EU markets because of increased competitiveness and integration attained by these two countries as a result of the reforms implemented, Europe Agreements and FDI inflows. The study broadly covers the period from 1991 to 2000 (1991, 1994, 1997 and 2000). The study investigates the competitiveness achieved by Hungary and Poland in their export baskets through the use of various indices such as the RCA index, trade compatibility index and the trade structure index.

For the period mentioned above we find out the category-wise advantage that the sample countries, and Hungary and Poland have in their respective export baskets. We have used the XRSCA indices to identify category-wise advantage that each country has in its export basket, on the basis of which we have been able to find out the countries that are likely to compete with Hungary and Poland in the EU markets in those categories.

The study has also been able to find out the relative trading positions of the exporting countries in the EU market vis-à-vis that of Hungary and Poland using the trade potential index estimated from the coefficients of a gravity model.

7.6 LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH

This thesis is subject to following limitations. Country-commodity wise data is not easily available and this has limited the use of trade measures such as market share analysis. Using such measures it would have been possible to isolate the effects of demand, diversification and competitiveness
in a country's exports basket indicating improved ability to compete in regional and global markets.

This thesis has concentrated on trade to the exclusion of FDI. Investment is important in determining direction and pattern of trade. The flow of FDI has increased in Hungary and Poland in response to reform efforts and membership in EU. Increased FDI inflows are beneficial to growth and development in an economy and lead to an increase in trade. Further research can be undertaken to find out the precise contribution of FDI to the sector-wise increase in the exports of Hungary and Poland. Research can also be undertaken to find out whether this increased FDI inflows is a result of diversion of investment from other countries to Hungary and Poland as such diversion would have negative implications for the rest of the world in terms of welfare effects.