CHAPTER 1

Introduction

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The end of the Cold War has had profound implications for the economic and political life of Europe. The Central and Eastern European Countries (CEECs, usually defined as Bulgaria, the Czech Republic, Hungary, Poland, Romania, and Slovakia) emerged from the legacy of forty-five years of Communism with a variety of economic pathologies ranging from misguided price incentives, distorted economic structures, mispriced resources, bankrupt state enterprises and financial institutions to inadequate legal systems and distrusted political institutions. The transition process is expected to be long and difficult. But it represents the most creative opportunity for raising standards of living in the industrialized world since the recovery from World War II. If grasped effectively, this opportunity has every prospect of generating great welfare gains, including substantial spillover benefits to the European Union (EU), not, however, without potential adjustment costs, in the form of increased competition in some EU industries and pressure on transfer programs including the Common Agricultural Policy (CAP).

The primary beneficiaries of the transition process should be the CEECs themselves, although many of their residents have become impatient waiting for the benefits to arrive. The papers in this volume attempt to spell out the costs and benefits of many of the changes that CEECs will have to undergo to reap the gains.

For members of the European Union, the benefits include building market economies and functioning democracies as neighbors and the chance to put an end to the East–West division of Europe. These developments reduce the security problems of Europe dramatically, as the CEECs have shifted from being members of an opposing alliance to applicants for membership in the EU and NATO. In the economic field, significant new trade, investment, and migration patterns are emerging.

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Americans should be interested in this process for several reasons. While our direct trade relationships with Central and Eastern Europe are and will likely remain relatively small, we have important and growing foreign investments there. In addition there are significant ties of blood for many U.S. immigrants from the area. Perhaps most fundamentally, the United States paid a heavy price through both World War II and the Cold War for the liberation of Central and Eastern Europe from two different tyrannical regimes. Surely, we have an important interest in the peaceful evolution of the region into democracy and prosperity under a free market system compatible with the Western democracies. Nevertheless, the achievement of this objective will be very difficult.

Incomes in the CEECs have fallen far behind EU levels as a result of the failures and collapse of the Communist system. The income gap is currently estimated at about 75 percent of EU average incomes and represents a formidable barrier to the integration of East and West, particularly if integration takes the form of full membership in the EU. The four freedoms of the EU entail free trade in goods and services between the high-wage EU and low-wage CEECs, as well as free movement of both capital and labor. To what extent will extension of the four freedoms create problems for workers and firms in the EU? Is there danger of a "giant sucking sound" of jobs moving east or a parallel flood of workers moving west? Will cheap labor combined with free trade overwhelm the declining industries of the West? The Europe Agreements already limit entry of CEEC products in "sensitive" industries. And EU redistribution programs such as the CAP and the Regional and Structural Funds would require vastly increased expenditures at current income levels in the CEECs.

Quantifying some of these costs and benefits and examining the policies appropriate for the transition process is the goal of this study, which includes seven papers and thirteen comments by economists from Europe and the United States presented at a conference at the American Institute for Contemporary German Studies in Washington, D.C., on May 15–16, 1995. The papers are divided into four groups: trade relations, investment patterns, labor market issues, and the process of integration. They provide a clear picture of many of the key issues that must be addressed in each of these areas if the integration process is to move forward.

1.1 Trade relations

Trade relations between CEECs and the EU have been studied previously in a variety of different ways. Historical data from the interwar period have been used by Collins and Rodrik (1991) to predict future trade flows. Gravity models have been used by Baldwin (1994) to predict likely aggregate trade flows between countries at the same distance and relative income levels as the CEECs and EU. Partial equilibrium models of specific sectors by Winters and Wang (1994) have examined the effects of trade integration on CEECs and their EU

partners. Effects on agricultural trade have been studied by Rollo and Smith (1993). The impact of the Europe Agreements on particular countries such as Greece, Spain, Portugal, and France have also been examined by various authors. What has not been done is to examine the *general equilibrium* effects of trade liberalization between the CEECs and the EU, allowing for changes in real wages and real exchange rates as labor markets and goods markets adjust to the changes in trade flows. And while the gravity models have been helpful in judging the possible levels of *aggregate* trade flows, they have not previously addressed the more important sectoral issues, where the possible displacement of workers is likely to be much larger than at the aggregate level, where gains and losses are netted against each other.

It may be helpful to consider the distinction between general equilibrium and sectoral gravity models. The general equilibrium approach derives sectoral demand and supply functions for goods and services from utility and profit maximization in each country, subject to trade policy measures such as tariff and nontariff barriers. Changes in trade policies then generate changes in sectoral exports and imports, subject to the level of resources available and assuming that the exchange rate changes to maintain the balance of trade. By contrast, the gravity model may be thought of as the reduced form of a general equilibrium model, showing net sectoral trade patterns between pairs of countries as a function of each country's size, per capita income, and the distance between them. This has been rigorously demonstrated in a two industries by two factors context by Bergstrand (1989), assuming monopolistic competition with differentiated products and taking account of factor endowments and transportation costs. Bergstrand generalizes the 2×2 Rybczynski theorem to show that in a multi-industry world an increase in a country's endowment of capital (labor) *tends* to increase the output of relatively capital-intensive (labor-intensive) industries. In the gravity model, exporter's per capita income is a proxy for the capital–labor ratio of the exporter, while importer's per capita income influences the pattern of demand and distance is a proxy for transportation cost. Other more specific factors such as natural resources are, however, omitted from the model.

Three papers in this volume examine trade issues directly. The paper by Drusilla Brown, Alan Deardorff, Serge Djankov, and Robert Stern is the first to examine CEEC trade issues using a general equilibrium world trade model. The Michigan model has been expanded to include four CEECs in a special study done for this conference. The paper by Hari Vittas and Paolo Mauro is the first to use a disaggregated gravity model to examine trade flows in eight sensitive sectors between the CEECs and several key EU trading partners: Germany, France, Italy, Spain, and Portugal. Finally, the paper by Dieter Schumacher looks in detail at current and likely future trade flows between the CEECs and Germany, using a gravity model disaggregated both by technology level and at the individual industry level.

Assessment of the economic effects of entry

The Michigan model includes micro-based demand and supply functions for twenty-nine individual tradable goods and services, including twenty-one two-digit manufacturing industries, agriculture, trade, transportation, mining, utilities, and construction. As customary in such models, the level of total employment and the balance of trade are assumed to remain constant in each country. As noted by the authors, there are several ways of interpreting the employment assumption, given the existence of substantial open and disguised unemployment in the CEECs. One interpretation is that the process of economic integration by itself will not affect the aggregate level of employment, in which case there is no problem. Alternatively, if integration does affect the level of employment, the model omits such effects. In any case, the model assumes, like all standard trade models, that the existence of unemployment does not interfere with the market processes built into the model. Less common is the model's careful allowance for differentiated products in manufacturing, along with imperfect competition and economies of scale. The world is subdivided into nine regions: three Central European Countries (CECs: Czech Republic and Slovakia – treated as one country for data reasons; Hungary; and Poland); three divisions of the EU (South: Greece, Spain, and Portugal; EU/EFTA: Austria, Finland, and Sweden; and North); NAFTA; other major industrialized and developing countries; and the rest of the world.

Based on the 1992 structure of trade, tariffs, and nontariff barriers (NTBs), the authors examine a range of trade liberalization possibilities: (1) CEFTA (removal of all trade barriers including NTBs between Czechoslovakia, Hungary, and Poland); (2) CEFTA plus a *joint* CEC-EU FTA (maintaining all existing NTBs); (3) CEFTA plus a joint CEC-EU FTA including relaxation of selected nonsensitive NTBs (the base case, comparable to the Europe Agreements); and finally, (4) CEFTA plus a joint CEC-EU FTA including relaxation of all NTBs (comparable to entry into the EU). The initial tariff barriers between the CECs and EU, EFTA, and NAFTA average around 6 to 8 percent. Removal of these barriers leads to changes in domestic consumption and production and the pattern of trade, and in expanding industries leads to cost reductions as a result of economies of scale.

The model's key finding is that all the potential trade liberalizations involving the EU yield positive welfare benefits for the CECs and *all* regions of the EU, at the cost of negligible negative welfare effects on NAFTA and other major trading nations. Complete liberalization is significantly more beneficial than partial liberalization. The second major finding is that there are no significant effects on the returns to capital or labor in any regions of the EU, given the assumption that all labor is treated as homogeneous. As noted by Winters in his comments, it would be desirable to be able to distinguish between skilled and unskilled labor, since the CECs are expected to export the products of relatively unskilled labor. And finally, while the return to labor in the CECs rises be-

tween 3 and 5 percent, the return to capital either falls or is unchanged, depending on whether NTBs are liberalized or not. The benefits to labor are larger and capital loses when all NTBs are relaxed, as expected from the Heckscher–Ohlin model. The possibility that one factor gains while the other does not lose is shown to arise from economies of scale due to increased output per firm and the availability of increased varieties of goods.

The largest CEC sectoral export effects, in the base case with only nonsensitive NTBs relaxed, come in the areas of leather and footwear, nonmetallic minerals and glass, mining, and food (all CECs), paper products and petroleum products (Czechoslovakia and Poland), and nonferrous metals and metal products (Poland). Eliminating all NTBs expands these effects sharply in agriculture, textiles, chemicals, and iron and steel. The largest effects on exports *to* the CECs come in the EU-North and EU-EFTA regions, averaging about 10 percent if all NTBs are relaxed, whereas the EU-South's exports rise only about 7 percent overall, although in many individual sectors exports rise much more. Trade liberalization tends to expand output in virtually all sectors. As the authors note, the relatively small sectoral impacts in the EU regions would be negligible if the impacts of the trade liberalization were to be phased in over time.

Richardson in his comments points out that the model predicts very favorable outcomes for the CECs, with few problems for the EU. He wishes for more details on the (small) regional adjustment problems affecting the EU-South region. Winters' comments on the paper bring out some of the factors that the authors omitted from their analysis: allowance for differential effects on skilled and unskilled labor, migration, capital flows including technology transfer. While he views the results as generally convincing and the modeling strategy as appropriate, he does raise some interesting queries. The predicted decline in CEC apparel production may reflect the lack of special provisions for outward processing in the Stylized Europe Agreement Package simulated by the authors. The fall in service employment reflects the lower taxes on traded goods, but does not include the effects of the structural change that is taking place as the planners' bias against services is removed.

Potential trade with core and periphery

A different methodology is used by Hari Vittas and Paolo Mauro to focus on some of the same types of issues. Rather than constructing a complete world trade model, they adopt the increasingly popular gravity model of trade, which assumes that bilateral trade volumes depend directly on the economic size of trading partners and inversely on distance as well as trade barriers. This model, which has usually been estimated for aggregate trade data, is adopted at the sectoral level to examine potential trade in the "sensitive" sectors (agriculture, iron and steel, chemicals, textiles and apparel) subject to NTBs in the Europe Agreements.

Vittas and Mauro begin by showing the rapid growth of trade between the

six CEECs and Germany, France, Italy, Portugal, and the United Kingdom. Germany has the largest overall volume of trade (both exports and imports). Using Baldwin's aggregate gravity model, Germany has already achieved its medium-term potential level of trade with the CEECs (based on current income levels), while the other four countries have only achieved about 30 percent of their medium-term trade potential, on average. The Baldwin model indicates a large further potential for trade growth as the CEECs income levels gradually rise.

Looking more closely at the "sensitive" sectors, Vittas and Mauro find that growth of imports from the CEECs was lower than the growth of total imports for each of the five countries they study, most notably for agricultural products and iron and steel. This appears to be also true for other (non-EU) OECD countries, suggesting that the limits in the Europe Agreements are not the only trade restrictions faced by the CEECs. Next they use indicators of "revealed comparative advantage" (RCA) to ask whether the CEECs actually are increasing their net exports of sensitive products. In several cases they are not, and in agriculture their advantage seems to be receding, suggesting the impact of EU restrictions.

Vittas and Mauro then use their disaggregated gravity equations to look at actual versus medium-term potential imports in the "sensitive" sectors. In most cases they find the ratio of actual imports to potential imports in the "sensitive" sectors to be well below the comparable ratio for total imports. In Germany the ratio is 36 percent in the "sensitive" sectors compared to 105 percent for total imports. In France, the ratios are 15 percent and 53 percent, in Italy 28 versus 26, and in the UK 14 versus 28. Textiles, food, and agriculture (in that order) are the areas where protection seems to have held trade back the most. By implication, removal of trade barriers is likely to lead to especially large increases in these same areas and countries.

A further simulation examines the effect of partial as compared to complete trade integration, by omitting the effect of the trade agreement dummy variable from the potential trade calculations. Potential trade between the six countries and the CEECs would be only about half as large without membership in the EU, according to Vittas and Mauro. This is considerably larger than the estimate of 20 to 30 percent gains in CEEC trade from the Michigan Model.

Looking at factor market flows, Vittas and Mauro conclude that German direct investment in the CEECs is playing an important role in facilitating the growth of trade. On the other hand, employment trends in the EU do not seem to have been influenced negatively in the "sensitive" sectors. In most cases, normal trends do not seem to have been interrupted since 1989.

The discussion by Susan Collins agrees with the findings of the paper, but doubts the strength of the evidence from revealed comparative advantage and sectoral gravity equations. In the case of the RCAs, Vittas and Mauro themselves point out that they can be misleading because of the distortions from central planning and therefore use the evidence from RCAs only to raise questions.

With respect to sectoral gravity equations, the key issue is whether the omission of natural resources and other specific factors biases the results for the sensitive products.

Impact on German trade

A detailed and thorough analysis of German trade with the CEECs is offered in the paper by Dieter Schumacher, which first reviews post-1989 German trade with six CEECs and the ex-USSR. The data show that Germany is by far the largest Western trading partner of the CEECs. The locus of that trade has shifted to western Germany from eastern Germany, where export competitiveness collapsed after exposure to Western competition and due to sharply higher wage costs after unification. Its focus is primarily the Visegrad countries (Czech Republic, Hungary, Poland, Slovakia), owing to the slower progress of reform farther east. The sectoral pattern involves mainly German exports of investment goods and imports of raw materials from the ex-USSR and labor-intensive consumer and industrial goods from the CEECs.

To evaluate the potential level of trade between the CEECs and Germany, some very detailed and thoroughly disaggregated gravity models are estimated. To begin with, data for twenty-two OECD countries' trade with seventy partner countries are used to estimate export and import equations for (1) all goods trade, (2) manufactures, (3) manufactures disaggregated into three levels of technological sophistication: high, medium, and low, and (4) twenty-five three-digit manufacturing industries. Second, the analysis is repeated only for German exports and imports to sixty-nine partner countries, to discover whether the determinants of German trade differ from the "typical" OECD country.

In addition to the standard variables of country size and distance, Schumacher includes measures of trade barriers such as membership in a customs union or free trade area, a common land border, common language, and colonial ties. The latter two variables are most often statistically significant, but do not greatly influence the basic results. At the aggregate level, for total trade and all manufactures, the gravity model works very well for exports of OECD countries, but not as well for imports, reflecting the greater importance of omitted resource endowments for OECD imports than for exports. In addition, exports appear to be more sensitive to distance than imports. The grouping of trade data by level of technology indicates higher income elasticities of demand and supply for higher technology items, as should be expected.

At the three-digit level, Schumacher displays the distance, size, and income per capita coefficients, obtaining interesting differences across industries. Such factors prove important in estimating potential trade with CEECs as their income levels rise. Basic goods like mineral products, iron and steel, and nonferrous metals are very sensitive to distance, whereas exports of investment goods and imports of consumer goods are not. Supply elasticities rise with GNP

and income per head. These appear to be large for mineral oil products, plastics, precision instruments, and transport equipment, as well as iron and steel, glass, and paper products. Demand elasticities appear largest in footwear, leather products, furniture, and clothing.

Repeating the analysis for German trade reveals some interesting differences. The commodity structure of German exports tends to vary significantly with distance (low-tech goods only to nearby countries), while the commodity structure of imports varies more with the income level of the supplying country (high-tech goods from richer countries). While the three-digit results offer differences in detail, the general picture is the same as for all OECD trade.

When Schumacher uses his gravity model estimates to project potential trade between Germany and the CEECs and Russia, his results are broadly similar to those obtained by Vittas and Mauro or Baldwin, namely that Germany has already reached its medium-term potential for trade with the CEECs. Several different estimates are offered: (1) assuming 1992 levels of income in the CEECs and 1989 levels of German trade, (2) assuming 1992 levels of CEEC income and inflating German trade to 1992 levels, (3) raising CEEC income levels by threefold to account for long-term recovery and growth, and (4) moving the economic center of Germany eastward from Frankfurt to Berlin to allow for the industrial recovery of eastern Germany. The whole exercise is also repeated using the OECD trade equations, as compared with those based on German trade only.

Taking estimate (2) as the base comparison, German exports and imports to the CEECs and ex-USSR in 1992 were already at or above the medium-term potential as estimated by the German trade equations. The OECD trade equations give estimates of potential exports and imports to CEECs that are 56 percent and 62 percent higher for 1992, respectively, reflecting the larger role of distance and smaller role of GNP in the trade of the "typical" OECD country as compared to Germany. The CEECs, while poor, are rather close to Germany. Even these higher levels of potential trade have already been reached by actual trade in 1994 for the CEECs, but not for Russia. The impact of trebling income levels in the CEECs is roughly to treble trade levels, for both exports and imports. Moving the industrial center of Germany to Berlin raises them an additional 10 to 15 percent.

The three-digit manufacturing sector gravity model results allow Schumacher to predict which industries are most likely to gain or lose market share as CEEC incomes rise. Both exports and imports with highest sensitivity to distance are likely to increase in importance as trade with the nearby CEECs grows. This includes on the export side clothing, wood products, mineral oil products, textiles, and shoes, and on the import side mineral oil products, iron and steel, other nonmetallic mineral products, wood products, and motor vehicles. Low-income countries such as the CEECs tend to buy large amounts of German iron and steel, industrial chemicals, and machinery. As CEEC incomes rise, they will buy more German consumer goods. On the import side, the CEECs' low income levels give them comparative advantage in basic goods

such as wood products, pottery, iron and steel, and foodstuffs. As their incomes rise, they may specialize more in plastics, industrial chemicals, rubber products, shoes, and paper.

An important calculation by Schumacher shows that German exports to CEECs embody more human capital than imports and relatively less raw labor. Thus, increased trade with the CEECs will raise the human capital requirements for the German labor force. As Germany also exports relatively high-tech products to the CEECs, maintaining future competitiveness of the German economy depends on increasing both the skills of the labor force and the technological prowess of industry. Schumacher faults the current mix of government and private spending for devoting too much effort to maintaining the status quo. In addition, the Europe Agreements provide too little scope for CEECs to expand trade based on their comparative advantage.

Wolfgang Maennig in his comments raises some of the same questions about the gravity model of trade as Susan Collins. He points to the omission of factors such as exchange rates, subsidies, and infrastructure from the model and asks whether the model can reflect the actual historical experience of the CEECs. Ellen Meade, by contrast, argues for a time series approach to prediction of new trade patterns.

1.2 Investment patterns

A number of recent studies reviewed in the paper by Stanley Black and Mathias Moersch have examined investment behavior in the CEECs. Some have attempted to calculate how much Western investment might be available or how much might be needed to raise growth in the CEECs. Black and Moersch build on these studies by examining the domestic and foreign sources of finance in six CEECs, and then determining potential output growth based on a four-phase transition process including recovery, reform, restructuring, and capital accumulation. Others have studied the progress and requirements for privatization of the previously State-Owned Enterprises (SOEs), widely thought to be a prerequisite for vigorous investment and growth. Paul Welfens examines the various ways in which the privatization process may be expected to affect productivity in the CEECs.

Investment and its financing

The paper by Black and Moersch constructs a simulation model of the transition process for six CEECs based on accumulation of capital through domestic and foreign savings and a production function parameterized on the basis of EU experience. The model requires estimates of initial output, capital stock, and labor force in each country, domestic and foreign savings ratios, and the (in-) efficiency with which resources are initially used. The transition process consists of a ten-year period with gradual recovery of full employment, reduction of in-

efficiency, reorientation of production from heavy industry to light industry and services, and replacement investment and accumulation of new capital.

Focusing initially on domestic savings potential, Black and Moersch argue that relatively strong savings behavior in the CEECs prior to the inflation shock of 1989–90 can be restored if recently negative real interest rates become positive again. On the other hand, diversion of savings to finance government deficits and loss-making SOEs reduces the availability of finance from domestic sources. Foreign capital inflows have been substantial and growing, mainly in the Visegrad countries, and can be expected to increase if the CEECs follow appropriate exchange rate and macroeconomic policies. For the CEECs as a group over the ten-year period, the simulations assume that domestic savings rise from 23 percent to 29 percent of GDP, while foreign savings decline from 3 percent to 1 percent of GDP. Government deficits are assumed to decline from 5 percent of GDP to zero.

The initial capital stock of the CEECs in 1992 is estimated, following Boote (1992), by assuming that CEEC capital resources were used with only 62 percent of the efficiency of EU capital of the same type and that labor resources were only 26 percent as efficient as EU labor. During the process of reform, these efficiency levels are raised to 100 percent and 73 percent, respectively. The recovery process involves raising the employment rate from 90 percent to 95 percent of the labor force. The restructuring process involves shifting the mix of output from 60 percent in industry to 65 percent in the service sector, comparable to that in the EU. The resulting improved allocation of resources is estimated to add 16 percent to productivity over the ten-year process.

Combining these various factors, Black and Moersch find that productivity in the CEECs would rise from about $10,000 per worker to about $33,000 per worker, or about triple the original level. This is the same growth factor as assumed by Schumacher in his paper. Productivity would rise from 25 percent to 63 percent of the EU level. This favorable outcome depends on a variety of positive developments, including containment of budget deficits, maintenance of positive real interest rates and appropriate real exchange rates, restructuring of industry, reorganization of production and management methods, retraining of workers, and improved financial intermediation, as well as receptive markets for CEEC exports and capital inflows of some $15 billion per year.

Less favorable conditions would lead to less economic growth in the CEECs, a pessimistic outlook leaving CEEC productivity at only $16,840 per worker after ten years, about half the optimistic outcome and only about a third the EU level. The key factor is the rate at which the efficiency of utilization of resources approaches Western levels.

Individual CEECs vary around the average, depending on their starting point and individual savings, borrowing, and reform and restructuring capabilities. The Czech Republic and Slovakia start out ahead, and maintain their lead over Hungary and Poland. Bulgaria appears to gain the most rapidly, while Romania starts out far behind and remains behind until late in the simulation.