THE IMPACT OF EU ACCESSION ON ENTERPRISE ADAPTATION AND INSTITUTIONAL DEVELOPMENT IN THE COUNTRIES OF CENTRAL AND EASTERN EUROPE

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SEI WORKING PAPER NO. 44

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First published in May 2001
by the **Sussex European Institute**
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This report was written as part of a European Bank for Reconstruction and Development (EBRD) project on the impact of European integration on the enterprise sector in central and eastern Europe. The authors would like to thank the EBRD for its generous support for this project.

Abstract

THE IMPACT OF EU ACCESSION ON ENTERPRISE ADAPTATION AND INSTITUTIONAL DEVELOPMENT IN THE COUNTRIES OF CENTRAL AND EASTERN EUROPE

This study considers two questions:

- how will accession to the European Union impact on the enterprise sector and on the institutions of the State in the candidate countries of central and eastern Europe
- in the specific example of Poland, how will accession affect the different sectors of the economy and how significant are accession-related effects relative to other determinants of enterprise competitivity.

The first part of the study concludes that enterprises will be affected by accession to the Union, notably in the areas of process directives, but that these integration effects should not be over-dramatised. In many cases the normal cycle of depreciation and replacement investment will lead to relatively limited remaining adjustment to be undertaken after accession.

There are areas however where the adjustment effort will be significant, such as in the environment or health and safety at work sectors. Here the most important action of Government should be to fully associate the enterprises with negotiations and to ensure that information on required adjustments reaches business in good time for these adjustments to be made.

The study of sectoral adjustment in Poland uses a computable general equilibrium model of the Polish economy. The general conclusion is that accession-related adjustments will negatively affect those enterprises which have made the least progress in adjusting to the international market economy. Sectors which are expected to fare especially badly are those where public-sector ownership is still the rule and those which have enjoyed a high level of tariff protection.

The Impact of EU Accession on Enterprise Adaptation and Institutional Development in the Countries of Central and Eastern Europe

1. Background

Ten countries of central and eastern Europe are negotiating accession to the European Union..[1] The conditions which the Union will apply to judge these applications are to be found in the EU Treaties and in the conclusions of the Copenhagen European Council from June 1993. The Copenhagen criteria are as follows:

- the stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities
- the existence of a functioning market economy
- the capacity to cope with competitive pressures and market forces within the Union
- the ability to take on the obligations of membership, including adherence to the aims of political, economic and monetary union.

In addition the Council underlined that accession would depend on the capacity of the Union to take on new members while maintaining the momentum of European integration.

The European Commission presented its opinions on the applications of the associated countries in mid-July 1997 together with papers on the budgetary implications of enlargement and reforms to the structural funds and the Common Agricultural Policy.[2] The Commission recommended that negotiations should be opened with five associated countries in Central and Eastern Europe, the Czech Republic, Estonia, Hungary, Poland and Slovenia, as well as with Cyprus.

The decision to open negotiations with these six countries was taken by the EU member states at the Luxembourg European Council in December 1997. The Council was very careful to underline that enlargement is an inclusive process, in which all ten associated countries in Central Europe are involved. As soon as the criteria for membership were met, countries which were not included in the first round of negotiations could join the negotiation process. Following positive reports from the European Commission, the

[1] Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovak Republic, Hungary, Slovenia, Romania and Bulgaria. This paper may be read in conjunction with SEI Working Paper no. 39: A. Mayhew, 'Enlargement of the European Union: An analysis of the negotiations with the Central And Eastern European Candidate Countries', December 2000.

[2] These proposals are contained in the documents entitled 'Agenda 2000': European Commission, COM (97) 2000.

European Council meeting at Helsinki in December 1999 decided to invite the remaining five countries in central and eastern Europe to enter negotiations for EU membership from the beginning of 2000.

While after the Nice European Council meeting in December 2000, enlargement of the Union has become more certain, the exact details of how and when it will take place remain unclear. Negotiations with the first group of applicant countries started in Spring 1998 and all chapters of the negotiations have been opened, but there is no clear perspective for their duration. Serious negotiations on certain key aspects of accession can only begin once the EU has come to internal agreement on the reform of EU policies.[3] Agreement on difficult subjects such as the partial reform of the Common Agricultural Policy, the Structural Funds and the Community budget were achieved at the Berlin European Council in March 1999.[4] However it is fairly clear that this reform is inadequate to cope with enlargement and other changes in international policy requirements, at least as far as the CAP is concerned. Reform of the EU's institutions was decided at the Nice Council but a new Inter Governmental Conference to consider further constitutional issues in the Union was scheduled for 2004. Accession negotiations are expected to last perhaps a further two years and the ratification process another one or two years. This suggests that it is unlikely that membership can be achieved before 2004, though a slightly later date looks more likely. It is of course possible that the countries with which the EU opens negotiations will join at different points in time as a result of different speeds of negotiation.

Such uncertainties must be taken into account by the associated countries as they prepare for accession. The possibility of a long delay in achieving membership needs to be built into the strategies for preparing accession. This is however difficult in the sense that the Union will decide on which countries can join in relation to their degree of preparation for membership. In other words if a country delays certain measures because it only makes sense to adopt them if accession is sure, it is liable to negatively influence its chances of accession. But if the measures are taken there is no guarantee of membership.

The Copenhagen criteria clearly state that the associated countries will be expected to take over the full Community *acquis* (regulation and policies) and that they will be judged on their capacity to resist the competitive pressures from the Union. Generally speaking it is to the advantage of the associated countries to take over much of the EU

[3] see A. Mayhew, SEI Working Paper no.39

[4] The European Commission made proposals to the Council on these policy changes in March 1998, but negotiations in the Council were complex and drawn-out.

regulation as this is tried and tested law necessary for the functioning of the market economy. However over-regulation at this stage of development would be detrimental. These changes will impose certain costs on enterprises and on Government in the countries of central and eastern Europe, although benefits will be set against these costs. There are however certain parts of the *acquis*, which will have very significant costs on enterprises and the state budget and where particular care will be needed in timing and sequencing. In certain cases an abrupt acceptance of the *acquis* could lead to strains which cause severe enterprise difficulties and affect economic growth rates.

The impact of these changes on enterprises in the associated countries will depend amongst other things on their management capacity for change. In general those companies which have been able to adapt well to the changes which were produced by the economic reforms undertaken in these countries are likely to perform well when faced with the new challenge of European integration. Others which have barely changed their strategies since the reforms began or are producing in pockets of protectionism, which are likely to be swept away, will find the adjustment more difficult.

This study tackles two questions:

- from a normative point of view, what are the areas of Community regulation and policy, which are most likely to provoke significant costs for both enterprises and the state budget; and how high are these costs likely to be. The benefits arising from regulation are even more difficult to estimate but they will be very significant.
- how competitive and how flexible are enterprises in the region likely to be and how well can they resist these pressures coming from the Community. An attempt is made to answer this question for a large sample of Polish enterprises.

When the answers to these two questions are combined, it is possible to make a preliminary judgement on the impact of compliance costs on enterprises. Importance is also given to the institutional problems of accession, which will add significantly to the costs and complexity of government.

Part 1

2. Policy and regulatory implications of accession

The adoption of the *acquis communautaire* will add constraints to the freedom of the Governments in the associated countries to make policy, it will put new constraints on enterprise management and lead to the creation of new institutions or changes in existing ones. These additional constraints should obviously not only be seen as costs; the process of accession and adoption of the *acquis* will also bring clear benefits. The loss of control of trade policy for instance will be offset by participation in trade policy decisions in the Union and by the benefits coming from the general liberalisation of the trade regime. Environmental costs will partly be recouped by lower spending on health over the longer term.

Additional constraints will clearly be applied to macro-economic policy, monetary policy and structural policies. Such constraints have already been experienced by those countries in the region which have joined the OECD, though the impact of EU accession will clearly be more dramatic. Policy in areas such as agriculture and trade will be decided collectively between member states and, in those areas with majority voting, the associated countries may well find themselves outvoted on certain issues.

Further policy constraints will be imposed by Union competition policy and state aids control. While these policies are not totally rigid, they will limit the ability of associated country governments to continue to subsidise certain enterprises or sectors. They will also require clearer rules that may be difficult for some sectors with particularly strong political influence (e.g. mining) to accept. The definition of state aid is very wide and will certainly include disguised subsidies such as tax arrears or particularly favourable treatment of certain firms by the banking sector. It is true that the associated countries will "benefit" from article 92.3a of the Treaty which allows somewhat more generous assistance to be given to economically backward areas.

While the impact of taking over the internal market *acquis* is likely to impose certain additional costs on enterprises and on the governments of the countries concerned, gaining entry to the internal market of the Union is one of the great prizes of accession and therefore it will be vital to take over the internal market *acquis*. The elimination of frontiers between the acceding countries and the old Union will obviously require the adoption of the whole internal market product-related regulation; most of it will have to be implemented by accession (see section 3 below).

While the cost of taking on the *acquis* will certainly be high, some factors will tend to reduce the burden:

- In estimating the effect of the *acquis* on enterprises, it must be remembered that the associated countries are still several years away from accession – perhaps as much as four or five years (2004-2005). During this period a not insignificant part of the capital stock will be renewed. As companies install modern equipment over this period, which conforms to the standards of the EU, the problems of conforming to the *acquis* at accession will be somewhat less than if accession were to take place today. An example would be the replacement of the transport fleet for domestic transport. Lorries have an estimated working life of some ten years in the EU. While lorries are kept longer in some of the associated countries, obviously a certain share of the domestic lorries will have been replaced in the period up to accession. The same effect is true for government expenditure on implementing the *acquis*. While budgetary expenditure will have to rise to meet the environmental *acquis*, it should not be forgotten that state budgets already contain resources to improve the quality of the environment and therefore the environmental situation of these countries in five years time will be considerably better than today, even without 'additional' spending.

- It should not be forgotten that the rate of growth of the successful economies in central and eastern Europe could, on an optimistic scenario average 4-5% per year for the next 20 years. If a 1-2% per annum real appreciation of their currencies is also taken into consideration, the GDP of these countries could rise from EUR 250 billion today to EUR 1 trillion by 2020 (constant prices). The burden of adjustment in such a scenario would clearly be lower than a calculation which relates costs to current GDP.

- Sectors which have received a considerable amount of inward investment over the last few years are also unlikely to experience major cost pressures through the *acquis*. The car industry is a case in point, where foreign car companies have generally installed completely new capital equipment, which respects both product and process directives of the Union.

The countries of central and eastern Europe need above all rates of economic growth which considerably exceed those expected for the Union, and this for many years. While certain parts of the *acquis* may speed up growth (for instance if the pressure of state aid and competition policies forces an end to large scale subsidisation of inefficient state industries or financial institutions), other parts are liable to slow growth and reduce flexibility in the economy. The countries of the region should concentrate not only on the compliance costs of individual parts of the *acquis*; they should consider the adoption

of the *acquis* as a whole, which implies the sequencing and timing of measures, in a way to maximise growth over a period which goes beyond the expected date of accession in some areas.

3. Priorities, Timing and Sequencing

Prioritising the process of taking over the Community *acquis*, then deciding on the timing and sequencing of the introduction and implementation of the new EU regulation are crucial steps in the preparation of the associated countries for accession to the EU.

The Commission White Paper on preparing the associated countries of central and eastern Europe to enter the Internal Market published in June 1995 attempted to give indications on prioritisation and sequencing for internal market legislation. This was done however largely on a legal basis: for instance it obviously makes sense to transpose framework directives before daughter directives dependent on the framework. Where other criteria were used the advice was obviously based on experience within the EU rather than first-hand experience in the associated countries. The White Paper then, although extremely valuable, did not give a reliable guide to these questions in individual associated countries.

In addition the White Paper, in principle, only dealt with regulation linked to the internal market. The Community *acquis* is far wider than this. In some areas only product legislation was dealt with, leaving out process legislation (cf. environment policy). The associated countries must now consider the whole *acquis*.

The whole regulatory framework and the individual pieces of Community law have been reviewed in the exhaustive screening process which was completed for all the applicant countries by the end of 1999. The bilateral screening between the European Commission and the individual applicants was really part of the negotiations, in the sense that the applicants were asked to identify where they had problems with the *acquis*: therefore they, implicitly or explicitly, confirmed that they have no problems with the remainder.

Ideally, in establishing priorities and sequencing, the associated countries would have carried out an impact assessment of the whole of EU regulation on their economies and societies before the screening began. At this stage however, well into the negotiations with all ten central European countries (and Malta and Cyprus)

, though some serious impact analysis has been completed, there is little time to consider the impact of each part of the *acquis* in detail. The available effort must be concentrated on the most important parts of the *acquis*. [5]

3.1 EU Regulation and investment requirements

EU regulation (the acquis *communautaire*) can be considered in three categories:

- product-related regulation
- market-economy regulation
- process-related regulation

This distinction is by no means perfect but it serves a useful purpose in determining where analytical effort should be centred and later to determine positions in the negotiations.

- product-related internal market regulation

This type of regulation determines the characteristics of products and services, which can be put into trade within the internal market. The directives concerning the physical characteristics of cars or the minimum safety conditions agreed in the context of new approach directives are typical of this part of the '*acquis*'.

There is little point in spending resources on assessing in detail the impact of product-related internal market regulation. This regulation has to be taken over by the time accession takes place, otherwise the new member states will not be able to fully benefit from the internal market. What will be necessary here is to draw the attention of enterprises to the changes, which will have to be made in the way enterprises operate, so that they have sufficient time to prepare for these changes. Enterprises should be able to cope with the majority of these changes in the years before accession as long as they have sufficient warning and receive advice on the least-cost route to implementing the new laws.

There will probably be a few areas where it will take more effort and more time to fully implement the internal market product-related *acquis*. This may occur, for instance, because state or private inspectorates are not fully operational by the time of accession, or because in certain enterprises structural alterations to buildings or radical changes in production processes are required. In particular situations it may be possible that a small overrun beyond

[5] see Tokarski S. and Mayhew A., SEI Working Paper no.38

the date of accession will be allowed, before infraction proceedings for non-implementation are used, but this should not be relied on.[6]

Not all parts of the internal market *acquis* are of equal importance to the functioning of the internal market. It is essential for instance that the core harmonisation (new and old approaches), certification and accreditation functions work on accession. It is less obviously necessary that all consumer protection legislation is fully implemented by the first day of membership.

- Market economy regulation

Particular attention should clearly be paid to the *acquis* which is aimed at creating and protecting the market economy. Competition and state-aid policy, and certain aspects of company and accountancy law are typical of this area. Such regulation is again basic to the operation of the internal market and few exceptions can be made. The freedom of foreigners to purchase agricultural land is one area however where the EU and the applicant countries will have to think hard about the political feasibility to immediate implementation. The free movement of workers is another such concern.

- Process-related regulation

Process-related regulation concerns in general the way in which products and services are produced but does not determine their characteristics or properties. Much of the social and environmental regulation falls into this group. Some of this legislation will be extremely expensive to implement, other parts extremely complex. Some parts of the regulation will be sufficiently burdensome, that they could have negative impacts on the financial stability of enterprises and put considerable strain on the state budget.

Most of this regulation is desirable in the medium-term. Environmental regulation for instance will bring benefits in improved health and the sustainability of the production system. Health and safety at work rules will again improve public health. There is no question of not adopting this part of the *acquis*, but only of when and how.

Process-related regulation does not however determine whether a good can enter into the internal market of the EU. There may be political reasons to insist that the applicant countries implement such regulation quickly; there are however no technical reasons

[6] It should however be noted that even in the case of Austria, full implementation of some internal market directives will not be achieved before 2003.

linked to the operation of the internal market, though individual enterprises may use 'level playing field' arguments to push for early implementation.

It is therefore above all in this area of process-related regulation that a major effort to determine the impact of EU accession on the economy of the associated countries should be concentrated. There are obvious areas which we know need careful examination because of neglect in the pre-transition period - the environmental field is an obvious example and nuclear energy is another in some of the associated countries.

Within process-related regulation itself, identifying those legal acts where the existing member states have derogations, periods of grace for full implementation or where transition periods were granted in previous enlargements is a good guide to regulation which could prove difficult to transpose and implement in a short time period. The impact of these legal acts on the economies or institutions of the applicant countries should be carefully examined.

Investment to implement product related regulation will in general be carried out by enterprises. Most foreign direct investment already incorporates the requirements of such regulation and will therefore not present major problems. For many smaller and medium-sized companies new investment will be required to meet EU regulation. A certain part of this investment will be undertaken in the normal course of replacing existing equipment over the coming years. In some areas however there may be serious problems. One such is the dairy industry where it is clear that important new investment will be required to meet EU regulations.

Relatively little investment will be required to implement the market economy regulation, though institutional reform may be involved.

It is in the area of the process *acquis* that the largest volume of investment, public and perhaps private, will be required. In the area strictly covered by Community regulation, it is above all the environment regulation and that covering health and safety at work which will require heavy investment. In the wider Community area beyond the strict *acquis*, further investment is required in transport and telecommunications services.

As discussed below, the total level of budgetary investment required to implement the process *acquis*, strictly speaking, far exceeds what the countries of central and eastern Europe can support even in the medium-term. It should be remarked however in this context that several of the financially most burdensome directives were originally agreed with long implementation periods for the existing member states. If infra-structure

investment is added, it is clear that even assuming continuing high economic growth rates, taking account of the resources already planned in national multi-annual budget planning and of the capacity of the private sector to finance certain of the necessary investments, full implementation will take several years. Private or private/public financing of investment clearly will help to accelerate adoption of the *acquis*, but in directives such as those which lay down minimum levels of service, considerable pure budgetary finance will be needed.

Generally beyond the *acquis* but within the scope of the Copenhagen criteria for accession, further major investment will be required in the deep restructuring of old, often still state-owned, industry.

3.2 Timing and Sequencing

While the date of accession is uncertain, the applicant countries in central Europe, which have been invited to negotiate with the EU, have an incentive to plan the adoption of the product and market economy *acquis* very carefully, completing the exercise by the time of accession. Where it is advantageous to these states to introduce certain regulation early, this should be done, while the implementation of the most onerous or difficult regulation should be left until just before accession. Such a strategy must not be allowed to encourage enterprises to reduce the speed of their adjustment to EU rules and will not be welcomed by the EU member states, but it could lead to a more rational use of scarce investment and administrative resources. The member states on the other hand are pushing for early implementation of this regulation. But until they make accession a certainty, the incentive to deviate from an otherwise rational timing of approximation and implementation of Community law will be missing.

The situation is more complex for process-related regulation. Some of this regulation has already been implemented (for instance important parts of the environmental or social *acquis* as well as less significant regulations such as health warnings on cigarette packets). Some of this regulation will be good for the applicant countries and they will want to take it over quickly. The question is how to deal with regulation which poses real economic or social problems. This question has pure financial and economic aspects as well as political ones and is also related to the availability of foreign capital.

- *the financial and economic considerations:*

In the sections which follow, the cost of implementing certain environmental and social regulations will be outlined. The investment required in infra-structure and other areas outside the *acquis* is also very substantial. It is clear to all that the applicant countries are not in a position to undertake this investment before accession.

The demands made on national budgets through continuing restructuring of industry, the pensions problem and other social expenditure, and for some, the increasing cost of defence as they integrate into NATO, are considerable. Most of the countries need to reduce public spending in order to make way for cuts in tax and social security contributions in order to stimulate enterprise development in the economy. The room for additional public spending on implementing the EU *acquis* is therefore reduced if it is to be accompanied by macro-economic stability.

This problem is illustrated by the recent progress report of the Commission on Poland.[7] In the first part of this report, macro-economic discipline is praised, but the problem of controlling the budget deficit while undertaking essential systemic reforms, such as pension and health reform and the deep restructuring of state industry, is raised. In the remaining chapters on sectors, the need for accelerated investment in all sectors from transport through the environment to agriculture is underlined. This is an inconsistent recommendation unless massive domestic and external funding (foreign or private) will be available.

A sensible strategy for the applicant countries would be to set clear objectives for the implementation of this legislation over the medium- to long-term, relating the speed of implementation to cost and financial capacity and the size and timing of the benefits to be expected from the measures.

An example might be the urban waste water directive, which will bring benefits to the environment and to public health in these countries. These benefits may however be relatively long-term and relatively limited compared to the enormous investment and operating costs associated with them, and which we can assume will be mainly charges on the state budget. In this case the strategy of the country in question should probably be to make preparation for the implementation of the directive over a period of perhaps as long as twenty years.

[7] European Commission, Regular report on Poland's progress towards accession 2000, Brussels November 2000.

Within the scope of the implementation of the directive however there may be areas where a limited immediate implementation would bring significant benefits. A start may be made even before accession in those few regions or cities where these short-term benefits outweigh the short-term costs. For the rest a clear implementation plan needs to be established, possibly beginning implementation as late as possible, while remaining credible to the EU. The logic of such an implementation schedule is that in economies which are growing at an average real rate of 5%/year or more, the burden of an investment, the cost of which is hardly growing in real terms, will be less the longer it is left. If the benefits are small or only to be reaped in the long-term, delaying such investments is a good strategy.

Similar arguments can be made for measures which will impose heavy investment costs on enterprises. Implementing the health and safety at work *acquis* may put at risk the financial stability of certain enterprises. The same sort of calculation may be done by the enterprise as illustrated above for the state. The rhythm of investment will depend upon the relation between the costs and benefits for the firm. Where the state judges however that there would be positive externalities through an earlier implementation (for instance in terms of public health), it may obviously decide to accelerate implementation.

These timing and sequencing proposals are subject however to certain constraints. The two most important are the political constraint on implementation delay and the availability of financial assistance.

- *the political constraint:*

The political constraint on the optimal financial schedule of implementation consists of the willingness of governments and operators in the EU to tolerate long transition periods. This may for instance make it more difficult for an applicant country to get agreement in negotiations for a long transition period in the area of health and safety at work than in the field of the environment. Whereas the quality of the water supply to households for instance does not have a direct impact on the competitiveness of enterprises, investments for health and safety do. What is more, questions of health and safety are often used politically in the context of strange notion of ‘social dumping’. This political dimension must be taken into account when an applicant country develops its negotiating position.

- *foreign capital and financial assistance:*

The availability of foreign financial assistance can change the implementation schedule for process-related regulation. The availability of loans with appropriate maturities (or in some cases of equity) from the EBRD, the EIB and the World Bank will play a significant role in preparing the associated countries for accession and accompanying them after accession. The associated countries will run into financial limitations in servicing these loans however, particularly in the state budget area, where investments may not have rapid pay-off periods. Loans from these international institutions are therefore likely to be concentrated in areas such as road and rail infrastructure, energy production and transport, and in investments in enterprises. In these areas lending to foreign utilities to enable them to undertake investments in the applicant countries can accelerate the upgrading of environmental standards.

The assistance from the European Union itself is mainly in the form of grants. The Berlin European Council decided on a doubling of assistance after 2000 until accession.[8] This assistance will consist of approximately EUR 1,5 bn annually in the PHARE Programme, EUR 1bn. for the ISPA Programme and EUR 0.5bn. for SAPARD. ISPA is a pre-accession structural fund, which is concentrated on measures in the environmental and transport fields, SAPARD finances structural measures in the agricultural sector. These pre-accession funds amount to slightly under 1% of the GDP of the applicant countries. These funds are distributed with a progressive bias, that is to say Bulgaria and Rumania will receive considerably higher allocations in relation to their GDP than Hungary or the Czech Republic. The European Union's decisions on the Structural Funds includes the constraint that transfers to recipient countries should not exceed 4% of their GDP. The Berlin Financial Framework also assumes (realistically) that it will take some years for absorption to reach this level. This means that a country such as Poland might receive the following profile of grants in relation to its GDP (assuming that accession takes place in 2004:[9]

%GDP	2000 (1)	2003 (1)	2006 (2)	2009 (2)
Poland	0.7	0.7	2.0	3.0

1) Phare+pre-accession structural and agricultural funds
2) Structural funds (net of agricultural receipts)

[8] The proposed concentration of PHARE resources on investment-related projects and their use in combination with loans from the EBRD, EIB and World Bank will be helpful, as long as care is taken not to distort private capital flows

[9] The Berlin financial framework will have to be amended for the changes in the accession timetable, the size and number of countries joining and the results of the accession negotiations.

It is worth noting here that cofinancing is the rule in both the pre-accession funds and in the post-accession structural funds. Transfers from the Union will have to be met by budgetary contributions from the recipient states.

This pattern of transfers also suggests that the associated countries may well have an interest in programming environment and infra-structure investment today, but in delaying actual investment until they are in a position to use the structural funds to meet some of the financial costs. The profile of implementation of the EU process-related regulation will therefore partly depend on the profile of financial assistance offered by the Community.

3.3 Implementation of the *acquis*, the rigour of regulation and negotiations

The European Union is naturally concerned that the *acquis* should be implemented as well as transposed into national law. The many reports to emerge from the EU clearly show a distrust of the Associated Countries to implement regulation correctly.[10] A considerable problem is created by the demands of the EU that regulations should be implemented long before accession takes place, while there is no guarantee about when accession will take place.

The rigour of regulation in the Associated Countries, especially in the areas of product-related and market-economy regulation must be adequate to ensure that the regulatory environment is similar to that in the other member states. As in the existing Union, this standard of implementation will be reached through solutions appropriate to the national situation.

However in many process-related policy areas and in those areas of policy which are not strictly in the *acquis* (for instance Trans-European networks), the legal approach to transposing and implementing legislation may not be the most appropriate. In the environment sector as an example, a financially appropriate system of setting mutually-agreed targets for pollution reduction in order to reach the required levels determined by the *acquis* after a substantial transition period would create more certainty than the more legal approach.

[10] European Commission, Regular report …op. cit. 2000

The opening position of the European Union in negotiations on accession is to require the applicant country to adopt the whole Community *acquis* on accession. In the course of negotiations however the Union normally shows flexibility in particularly difficult areas. In the case of the associated countries this flexibility is likely to be higher than in the last "EFTA" enlargement, though it is likely to remain relatively limited. In other words there will be certain areas where the associated countries will be able to negotiate a limited number of longer transition periods for adaptation to the *acquis*, where these transition periods can be justified.

However the negotiation of major changes in the way the EU expects its regulation to be implemented will be difficult. It is illusory to imagine that the EU will agree to either a large number of transitional arrangements or to permanent derogations; indeed permanent derogations would not really be in the interest of the associated countries themselves.

If faced with transferring more assistance to central Europe or giving generous transition periods with innovative ways of treating adjustment in certain areas, the EU will probably opt for the latter. This is especially the case in many of the EU directives in the environment or social areas, where implementation periods, which may be as long as fifteen or more years (e.g. for parts of the Urban Waste Water directive there is a transition period within the directive of 14 years), were agreed for the EU-15 and there is no reason why the applicant countries should not benefit from similar arrangements.

Recent negotiations with Slovenia so indeed suggest that the EU will accept lengthy transition periods for environmental directives which do not affect enterprise competitivity in any substantial direct way.

4. The capacity of enterprises in the associated countries to "resist the competitive pressures from the Union"

Enterprises in the associated countries will face extra cost pressures arising from the imposition of the *acquis*, whether directly (for instance health and safety at work) or through the tax system. However in many sectors of the economy, this study suggests that the imposition of the *acquis* will be only be secondary to the normal economic and business pressures on companies to improve their competitiveness in preparation for market liberalisation in the context of the globalisation of the economy.

While it is true that if markets are flexible and factors of production are mobile, the question of resisting competitive pressures from the Union does not make real economic sense, nevertheless severe transition costs may occur where "uncompetitive" enterprises have survived in protected situations.

The current level of tariff protection is a first indicator of where problems may arise at accession. Sectors, which still enjoy tariff protection at a significant level, experience less pressure to restructure and remain competitive at the international level. An example from Poland is the food and drink industry, which currently enjoys an effective tariff of around 20% (but where the mechanism of the CAP complicates the picture vis-à-vis EU competition). However such sectors are relatively rare today, given the impact of tariff reductions undertaken in the GATT and in the association agreements.

Some sectors may also become vulnerable in their domestic markets to third-country competition as the low EU external tariff is applied rather than higher national tariffs.

Certain sectors still receive high levels of subsidy, transparent or disguised; the Association Agreement places restrictions on state aid and some subsidies will become illegal on accession. Perhaps still the most common forms of subsidy are unpaid taxes and favourable treatment from state financial institutions. In some cases there may still be direct subsidies paid by the state or indirect state subsidies through low energy or other input costs. These dangers are reduced as financial institutions are privatised and as governments begin to take unpaid taxes or social security contributions seriously. In the Polish case study, the coal industry is the most obvious recipient of such aid.

Finally domestic cost pressures are liable to mount as accession approaches and after accession. These cost pressures will come from rising real wages and from an appreciating real exchange rate. Governments and enterprises can do much to control wage pressures through appropriate policies, though they will not be able to prevent a catching up. The real exchange rates of these countries have already appreciated against EU currencies and it is probable that this trend will continue. Working against these cost pressures (and partly the cause of them) will be productivity increases. Productivity has grown rapidly over the years of the transition and will continue to rise as these economies develop. The sectors that experience the fastest productivity catch-up are in general those which are likely to cope with competitive pressures best, assuming that wage pressures are kept under control. There is some evidence that high levels of FDI bring the risk of “wage infection”; hence the importance of flexible and efficient labour markets.

5. The impact of the *acquis* on the economies of the associated countries

Many parts of the *acquis communautaire* will impose no or little cost on these economies. Substantial parts of Community regulation have already been transposed and implemented, although often the implementation will have to be tightened up as the countries move towards accession. Company or accountancy law would be typical of such areas.

Other areas however will pose greater problems. This part of the study identifies key areas where a priori compliance costs may be high, either for enterprises or for institutions (often Government institutions). Costs can only be seriously assessed at the present time in a minority of cases. Nevertheless a qualitative appreciation of costs is made when calculations are not possible. The study does not claim to be exhaustive; four key areas of the *acquis* have been selected for examination:

- environment policy
- social policy
- the internal market *acquis* and the new approach to harmonisation
- transport

The second part of the report is a case study on Poland. Estimates of the additional costs imposed by the *acquis* are fed into a general equilibrium model of the Polish economy. The model is based on detailed data of 17000 Polish companies together with Polish trade data from the same year. The results allow the authors to make some general statements on the capacity of sectors of the Polish economy to resist competitive pressures on accession.

In the consideration of costs in this study, the benefits of the *acquis* have been largely ignored. This is notably the case where the *acquis* creates immediate enterprise or institutional costs but where the benefits accrue only after many years. The environment is a case in point. Development must be sustainable and this is only possible if environmental protection is given the highest priority. The benefits are undeniable but occur over a long period of time and not only to the agent who has to make the environmental investment. The question is not whether or not the environment policy of the Union should be adopted but rather over what period and under what conditions.

5.1 The impact of horizontal policies on the economies of the associated countries

5.1.1 Environment policy

Environment policy is expected to be the policy area which creates the greatest costs for the associated countries, and this for two reasons:

- the results of environmental neglect, and notably of the impact of low energy prices, throughout the forty years prior to 1989.
- the very high standards set by environment policy in the Union

The neglect of the environment in the associated countries gave rise to the well known environmental degradation and to the environment "hot spots" such as the "Black Triangle" in Poland and the Czech Republic. The reforms undertaken after 1989 have led to a general improvement of the situation, partly because many of the most polluting industries have been closed down in the recession which followed the initiation of reform, and partly because of the increase in resources and the reorientation of environment policy which have taken place in these countries.

In spite of these improvements, indicators of environmental pollution still point to a considerable gap between the situation in the associated countries and that in the Union:

Table 1: Environmental pressure in 1995

		Bulgaria	Poland	Slovakia	OECD
Energy intensity	TOE per capita	0.05	2.5		4.8
	TOE/$1000 GDP		0.57		0.27
Water use intensity	M3 per capita	700	327		1090
	M3 per $1000 GDP		74		44
Pollution intensity					
Municipal waste	Kg per capita	945	367	464.1	500
	Tons per $ GDP		83		27
SO_2	Kg per capita	114	74	70.5	48
	Kg per $1000 GDP		16.7		2.3
NOx	Kg per capita	15.4	30	42.3	43.6
	Kg / $1000 GDP		6.7		2.1
Particulate	Kg per capita	50	41	32.8	19.2
	Kg/ $1000 GDP		9.4		0.6
CO_2	Tons per capita	5.55	9.3		12.9
	Tons / $1000 GDP		2.1		0.6

source: OECD (September 1995) Environment for Europe Task Force

These rough statistics show that various components of pollution were clearly more intensively present in the three associated countries in the mid nineteen-nineties; SO2 and particulates being the main pollution sources. Other polluting agents occur only at about the same level or are below those in the EU. However it is important to compare pollution levels to GDP and here in the case of Poland, the high levels of pollution per unit of GDP compared to those in the OECD are obvious.

The environmental *acquis* is growing rapidly in the Union and there have been major new directives agreed over the last ten years with which the associated countries will have to conform in the future. It should be noted however that the current EU member states have a multitude of derogations themselves for the implementation of these directives.

The main areas of environmental regulation and the estimated cost of their adoption by the associated countries

The environmental chapter of the White Paper on the "Preparation of the associated countries of central and eastern Europe for integration into the internal market of the Union" (1995) listed essentially product-based directives leaving aside the process directives. While some of the product-based directives will be difficult to implement in time for accession (for instance parts of the waste directives), it is the process directives which are by far the most costly to take over.

Taking on the environmental *acquis* will also require institutional changes and a reinforcement of implementation mechanisms. We concentrate first on the capital and current costs of the new environmental regulation.[11]

In the estimation of capital and operating costs for the introduction of the environmental *acquis*, the most recent and appropriate data comes from the experience of the EU-Cohesion Countries (Greece, Portugal, Spain and Ireland). While the situation of these countries was different to that in the associated countries, nevertheless these costings of capital investment give a floor level to the investment costs which will occur in the new member states. Operating costs, which are often neglected, can probably be estimated rather well from the data for the cohesion countries.

In terms of the policy areas which will require large scale investment, the sector works generally with the following rough estimates for the implementation of the *acquis*:

- water directives - 40% of the costs
- air pollution - essentially the directives on large combustion plants - estimated to be approximately 40% of the total additional costs of the *acquis*
- waste management - 20%.

[11] The estimates cited in this study are drawn partly from a review of research into environmental costs prepared by EDC for the European Commission in May 1997: EDC (1997), 'Compliance costing for approximation of EU environmental legislation in the CEEC', Dublin.

Water directives:

The numerous water directives from the nineteen-seventies and eighties were drawn together in a framework directive on water resources; a proposal for this directive was put forward by the Commission in February 1997 and adopted early in 2000.

The existing directives set effluent and quality standards for water. The bathing water directive (1976) requires control of effluents from sewage plants, the urban waste water directive (1991) established timetables for the provision of waste water treatment plants and established levels of treatment required in various situations, the "nitrates" directive (1991) seeks to control the release of nitrates into surface and groundwater while the directive on dangerous substances (1976) together with its daughter directives establishes "black" and "grey" lists of substances for which permits must be sought or reduction plans must be approved. Finally the drinking water directive (1980) provides quality standards which have led to considerable improvement in the quality of EU drinking water.

Reference to the cohesion countries points to the following key areas of capital expenditure:

- the urban waste water directive: this directive requires particularly heavy expenditure in the cohesion countries, as they have traditionally discharged much of the total urban waste into the seas with very little treatment. This directive is estimated to amount to over 50% of the annual average investment (carried out over a 10 year period) in new environmental infrastructure in these four countries. This would suggest that investment in the associated countries is likely to be very significant in those countries with a sea coast (the three Baltic Republics, Poland, Romania and Bulgaria). Estimates suggest that the per capita capital cost of compliance in the Baltic States is likely to be twice the level of that in the land-locked Czech Republic.

- the water supply directives: the water supply directive (drinking water) is the second area of major capital costs for the cohesion countries, accounting for somewhat under 40%. The investments required varied considerably from one country to another, amounting to less than one-third of the cost of the urban waste water directive in Ireland and Greece to 80% in Spain and 130% in Portugal.[12]

There was apparently a considerable dispersion of costs between the different cohesion countries, ranging from a capital cost of ECU 427 per capita in Ireland to ECU 220 in

[12] Amber Report, 1993, Environmental investment needs in objective 1 regions.

Spain. These differences were caused by a wide range of factors from climate and the natural water resource base to the starting position of each country and the size and degree of concentration of the population.

The EDC review of several existing cost estimates suggests the main conclusions for the capital costs of implementing the water directives are as follows:

- short-term investment costs (five years) for all the CEECs were estimated by IFO at ECU 17,5 billions (1996 ECU)
- complete compliance with the *acquis* will require an investment of around ECU 50 billion
- around two thirds of this capital cost is related to sewage and waste water treatment
- the investment could be divided into two periods: the short-term (five years) for urgent measures with an annual investment of ECU 3,5 billion per year and a second period of fifteen years to reach full compliance at an annual investment cost of ECU 2,2, billion.

In addition to these capital costs, operating costs will be very significant for the associated countries. Estimates suggest that these costs could be as high as EUR 30-35 per capita per year for the urban waste water directive alone. For Poland this would mean an annual operating cost for this sole directive of over EUR 1 billion.

The final element of additional cost is the institutional cost of applying the *acquis*. Bodies to control the implementation of the directives (licensing, inspection etc.) will need to be reinforced and training provided. The only available estimate of these institutional costs given in the report of the Water Research Centre suggest that they could amount to ECU 1.16 per capita per annum.[13]

An essential element to any calculation of costs is the time period over which the investment will take place. It is totally out-of-the-question that the associated countries should be asked to meet the standards of the EU *acquis* on accession; if accession takes place in the period 2003-2005, even several of the existing member states will still not be meeting the agreed standards. Even with the high level of capital transfers from the German budget, it is still estimated that it will take the New Bundesländer 20 years from unification to meet EU standards in certain cases. A realistic investment plan for the

[13] Water Research Centre, (1993), 'Environmental standards and legislation in Western and Eastern Europe, towards harmonisation'.

associated countries must assume that capital costs are spread over at least a 10-20 year period from accession.

Air pollution and air quality directives

Estimating investment costs and operating costs in the "air sector" is considerably more complex than in water pollution control. Air pollution control is more clearly in the private sector of the economy than for instance the urban waste water directive. The extent of air pollution also depends crucially on economic growth; more rapid growth leading to considerably more air pollution.

The EU also adopted a new framework directive in this area in 1996. The ambient air quality assessment and management directive invited the Commission to propose binding limit values for 14 pollutants over the period 1997-99. This directive is partly aimed at clearing up the confusion between ambient air quality assessment and emission limit values as well as at the harmonisation of assessment and monitoring standards.

The core of air pollution control directives today is provided by the 1984 directive on combating air pollution from industrial plants and its daughter directives on large combustion plants, and municipal waste and hazardous waste incineration plants.

It is above all the directive on large combustion plants (LCP), which will lead to additional costs for the associated countries. This directive will imply retrofitting existing coal burning electricity generators with one of the known technologies for desulphurisation, producing low-sulphur fuels and installing technologies to reduce nitrogen oxide (NOx) emissions.[14]

Recent impact studies in Poland have confirmed that the cost of implementation of the LCP directive is extremely high. They however show that much of the necessary investment has already been undertaken by the power and other companies, though this investment will not be adequate to deal with new pollution limits proposed by the Commission.[15]

However the cost of implementing the *acquis* in this area is estimated to be very substantial in the associated countries. The overall estimate contained in the EDC study suggests that this cost might be as high as 1.4% of GDP annually (in the year 2010), for investment and operating costs. The estimate however does not separate out investment

[14] It is perhaps easy to overestimate the additional compliance costs involved, as spending to replace old coal-fired stations by new natural gas fired stations would take place with or without membership of the Union.
[15] Tokarski and Mayhew, 2000, SEI Working Paper, No. 38

from operating costs and is based on a very low assumption of economic growth. The true estimate could be somewhat higher.

Waste

In waste management there are two key framework directives, one on waste dating from 1975 but updated in 1991 and a second on hazardous waste from 1991. A whole series of daughter directives regulate specific types of waste (for instance batteries or packaging waste), while others deal with the transport of hazardous waste.

It is clearly extremely difficult to estimate the cost of these directives in the context of rapidly changing technologies and industrial structural change in the associated countries. It is to be expected that as consumption grows and packaging becomes more sophisticated, domestic waste may increase somewhat. In industry however, waste should decline as modern technologies are introduced and some industries which are large producers of waste are restructured. Overall probably the simplest way of estimating potential waste levels is to assume that they grow to reach levels of the member states by 2010 and then decline.

Even with simple assumptions however the estimates of total investment cost vary from one to ten. It is almost certain that the costs are lower than both water and air related investments and the EDC study suggests that they are of the order of 20% of total investment costs. In terms of operating costs however, the share of waste would appear to be a larger proportion, up to one third of total operating costs.

Total costs

With the GDP of the 10 associated countries amounting in 2000 to around EUR 380 billion, these estimates suggest that the total investment needs to meet EU directives will be around EUR 120 billion or roughly 32% of the annual GDP today. From such figures it is obvious that this investment must be programmed over a very extensive period to allow it to be financed without creating major distortions. If spread over 20 years these investment needs would still require an annual investment of around 1½% of current GDP.

In addition total operating costs could be of the order of EUR 7-10 billion per year, or roughly up to 2½% of today's GDP.

The *World Bank* detailed studies of the costs for the acceding countries of implementing the Community *acquis* in the environment area appear to confirm these orders of magnitude.[16]

The estimate for total costs of implementing the *acquis* in Poland are summarised in table 2:

Table 2: Estimated costs of implementing EU environmental regulation in Poland

Sector	Investment cost ($bn)		Annual O/M costs ($bn)		Total annualised cost ($bn)	
	low	high	low	high	low	high
Drinking water	3	8	0.2	0.5	0.6	1.6
Sewers	7.5	9.8	0.1	0.1	1.1	1.4
Sewage treatment	1.7	2.9	0.1	0.3	0.4	0.6
Long range air	1.5	10	0.4	2.5	0.6	3.8
Urban air	3.3	4.5	0.6	0.8	1.0	1.4
Nitrates	2.6	3.3	0	0	0.3	0.4
Waste	2.5	4.4	0.4	0.6	0.7	1.2
Total	**22.1**	**42.8**	**1.8**	**4.7**	**4.8**	**10.5**
total water	12.2	20.7	0.4	0.8	2.1	3.6
total for air	4.8	14.5	1.0	3.3	1.6	5.2
Total per cap/yr ($)					123	271
Total as % GDP-2000					3.2%	7%
Total as % GDP-2015					1.7%	3.7%

Source: World Bank, Poland, Complying with EU Environmental Legislation, Washington D.C., 1999

In this cost estimate, the interesting element is the annual operating and management costs of the new investment associated with the environmental *acquis*. The World Bank estimates that this will lie between 0.6% and 2.2% of current GDP. Taken together with the annualised investment costs, the total cost over 20 years of implementing the environmental *acquis* is considered to be of the order of 3%-7% of current GDP.

A recent attempt to summarise various detailed investigations commissioned by the European Commission comes to similar results for the overall investment requirements, though not attempting to estimate operational costs. The study carried out by Soil and Water Ltd.

[16] World Bank, 1999, Poland, Complying with EU Environmental Legislation, Washington D.C..

calculates that total investment costs will be of the order of EUR 110 billion.[17] The figures for investment needs in Poland of around EUR 21 billion cited by the study fall at the lower end of the World Bank estimates. The best estimate of the true cost of the environmental adjustment to the EU *acquis* for the 10 central and eastern European acceding countries can be put at between EUR 100-140 billion in investment costs alone. This represents between 30 and 40% of current GDP.

However it is important to note that relating long-term investment to today's GDP is an unrealistic calculation. On the assumption, mentioned earlier, that these countries experience long-term annual growth rates of 4-5% with a small annual real appreciation of their currencies, their economies would expand, in real terms, by over three times in the coming 20 years. Assuming that investment costs in real terms remain more or less constant, the "burden" of the necessary investments to meet the *acquis* becomes considerably more affordable. The World Bank table above measures total cost in terms of its percentage in relation to expected GDP of 2015.

Sectoral costs

Some studies attempt to allocate the costs of the environmental *acquis* to sectors of the economy. The study of the Institute of Applied Environmental Economics in the Hague looks at the cost for individual industrial sectors of the Polish economy of adjustments to the Polish Environmental Policy goals.[18] While these goals are not entirely in line with the Community *acquis*, they give a good idea of the distribution of costs between sectors.

In a "high growth' scenario, TME results are as follows:

- in the water sector, 53% of the investment costs will have to be met by the paper industry, 25% by the non-organic chemical industry, 12% by the fertiliser industry and 5% by organic chemicals.
- in air pollution control, TME estimates the total investment cost at over ECU 3 billion. The power industry will have to bear 75% of these costs alone. The other sectors to be significantly affected are non-organic chemicals 9%, iron and steel 7% and non-ferrous metals 3%.
- in the waste area, only annual costs are calculated. Three sectors are significantly affected, non-ferrous metals, non-organic chemicals and power generation.

[17] European Commission, 1999 DISAE facility, Study nr. MC112: Soil and Water Ltd.
[18] Jantzen and de Bruyn, (1994), Cost-assessment of medium-term Polish environmental policy goals, TME, den Haag

Least cost reductions in environmental pollution

The EU environmental regulation relies heavily on non-economic tools of pollution control; regulations imposing standards on the public and private sectors, controls, compulsion.

Some of the associated countries have successfully gone in the direction of more economically efficient methods, with the sale of pollution permits and other market based systems. Together with the application of least-cost technologies, it may be possible to reduce the costs below the predicted levels. It is not however clear to what extent such solutions would be acceptable to the EU.

Conclusions

In spite of current levels of investment in environmental improvement, the environmental *acquis* is certain to be one of the most significant areas of additional expenditure for the associated countries in terms of investment costs, operating costs and institutional costs,

It can be assumed that the additional annual investment costs caused by the adoption of the EU *acquis* over a period of 20 years will amount to roughly 2%-2.5% of current GDP. Operating costs could easily exceed this figure, perhaps by a considerable margin. These are exceedingly large amounts of finance, which the associated countries will have to find over the coming two decades. The timing of the investment is important however. If it is heavily front-loaded (for instance, if the EU insists on implementation of even the most costly parts of the *acquis* before accession) the negative impacts on the economies could be quite marked. However if the investment can be spread out over twenty years or more, the burden will be much less for these fast-growing economies.

While the improvement in the environmental quality which this investment will bring will clearly have measurable benefits in terms of improved health and lower costs for certain areas of activity, the financial effort in the short- and medium term will be significant. Crucial decisions will be required to allocate costs across institutions. All of the necessary finance is unlikely to be available from the national budget. These measures will also have to be financed by internal investments in enterprises, by the further development of economic instruments of pollution reduction and by making use

of foreign loans and grants from agencies such as EBRD, the World Bank and the European Union.

"Agenda 2000" produced by the Commission in July 1997, makes it perfectly clear that the Union cannot expect these investments to take place, except over a very long period of time. On the side of the associated countries, environmental investment programmes are required to schedule the work in a logical and properly sequenced way.

5.1.2 The Social Policy *acquis*

The second obvious potential cost for enterprises in central Europe is likely to be the area of social policy. An analysis of the *acquis* however suggests that contrary to many opinions, this area may be less of a burden on the associated countries than expected.

There are three main areas of the *acquis*:

- equal conditions for men and women in the workplace: from the purely legal point of view there is little difference between the situation in most of the associated countries and in the Union. Equality existed in the pre-1989 constitutions. In terms of implementation, there is little evidence to suggest that this is much better in the EU than in the associated countries. This will probably cause little problem, few costs and there are no demands for transitional period.
- labour law consists essentially of rules about the representation of workers in the place of work, the length of the working week and conditions of contract and termination of contract. While many of these directives would appear to be onerous, it should be borne in mind that many of the associated countries have even more severe labour codes and it may well be that for some, if the EU *acquis* replaces local labour law, this could bring about a liberalisation on labour markets. Obviously there is a question about the implementation of these laws which may be stricter in the EU.
- health and safety at work would appear to be the only part of the social policy *acquis* which is likely to pose important costs. Here estimates are difficult to come by. Two types of costs will occur; institutional costs and investment costs for enterprises. All the associated countries have existing institutions (inspectorates) which will need to be reformed, better equipped and perhaps expanded. These costs will tend to fall on the state. Enterprises will have restricted costs in the organisation of company programmes for health and safety but may have considerable costs for investment (buildings and machinery). Even here however it must be remembered that the

enterprises will have at least three or four years from today to conform to these standards and in this time much of the equipment will have been replaced by modern machinery corresponding to EU standards.

When considering the social policy *acquis* therefore two important points must be borne in mind:

- social policy in the EU has remained a jealously guarded national policy. The *acquis* should not be confused therefore with social policies run by some member states which have led to a lack of flexibility in markets, high costs for enterprises and rapidly rising burdens for the state budget. The associated countries will be required to take on the EU regulation not national regulation.
- it must be remembered that the associated countries already have sometimes quite ferocious labour codes which in certain aspects have far higher compliance costs than those associated with the *acquis*. The Polish labour code for instance has a 42 hour rather than a 48 hour limit on working time, and this will be diminished to 40 hours over the next few years..

Health and safety at work

The *acquis* consists principally of a framework directive from 1989 and a series of thirteen daughter directives applying to specific areas of health and safety.

The daughter directives establish minimum health and safety standards for different situations at work. Standards for protective equipment, the manual handling of loads, work with display screens, exposure to carcinogens and biological agents, work on fishing vessels and in surface and underground mineral extraction are all regulated.

Most of the associated countries have extensive legislation on health and safety at work. Frequently however the legislation is imprecise in that it does not establish clear measurable limits; for instance, for exposure to dangerous substances. An example of such a situation is that of the Polish labour code and associated legislation, which contains most of the elements of the Community *acquis* but where the limits for exposure to dangerous substances or agents are either not set in quantitative terms or are set at too low levels.

A second problem is that of implementation. The EU *acquis* requires that the governments of member states verify that the law is being applied through the inspection

of premises and also that employers are helped and advised on how best to protect the health and safety of their workers. In most of the associated countries this will mean both a reinforcement of existing inspectorates and, in some cases, changes in the way in which health and safety law is policed.

While most of the associated countries have implemented the draft directive and some of the daughter directives, other parts of the legislation remain to be adopted and much of it remains to be implemented. Most have programmes to implement the missing parts of the *acquis* by the time accession takes place. The Polish programme for instance foresees a timetable for this process which runs until the end of the year 2000.

It is very difficult to estimate the costs which are involved in implementing all the necessary changes, which will be of two types:

- costs to enterprises to bring machinery and buildings up to the level required by the directives
- institutional costs borne by enterprises and the state for reinforcing inspectorates and other necessary bodies throughout the country and for within-enterprise control.

Costs to enterprises

In 1995 the Polish Government estimated that there were 1 million workers (7% of total employment) working in enterprises with more than 20 employees who were exposed to dangerous working conditions.[19] The most common cause was noise followed by difficult (dangerous) working conditions. There were however significant numbers of workers exposed to high levels of dust, dangerous machinery and chemical substances. It is probable that if small businesses with under 20 employees were added, the numbers would rise quite considerably.

Evidence from the United Kingdom, where all new health and safety regulations have been subjected to cost-benefit analysis since 1982, suggests that the costs of introducing and implementing these regulations can be extremely high, though the longer term benefits in most cases exceed the costs. Typically health and safety measures involve an initial investment followed by a stream of operating costs. These costs are borne largely by enterprises, although the state will also be affected to some extent. Benefits accrue over time, some rapidly others only after many years. Some of the benefits accrue to companies in the form of lower absentee rates, lower numbers of accidents, better worker

[19] KBN (1995), Bezpieczenstwo i ochrona zdrowia człowieka w srodowisku pracy, Warszawa

physical and mental morale and higher productivity. Other benefits accrue to the state or insurance companies due to improved health and a lower accident rate, and to the individual, whose quality of life is improved.

The United Kingdom Health and Safety Executive has estimated the cumulative costs of 'all substantive sets of regulations put in place over the period [1983-1992/3] is around £8 billion. Around £5 billion of this was due to the large initial costs of recent EC and offshore legislation.' 'This cost calculation is not however particularly relevant to the problem of introducing new legislation into the applicant countries in central and eastern Europe, because it is a calculation of the recurring costs which would be saved if the legislation were removed. The initial and recurring costs of introducing and implementing the legislation de novo would of course be considerably higher.

An idea of the level of costs which could be incurred in central Europe can however be obtained from analysing the individual cost-benefit calculations made in the United Kingdom by the HSE prior to the introduction of new regulations.

- the new construction regulations in 1996 implemented part of the European Construction Directive.[20] For the UK it was estimated that the total present value cost of implementing the new legislation over a 25 year period would be between £148 million and £166 million.
- the provision and use of work equipment regulations (PUWER 2; 1997) and the lifting operations and lifting equipment regulations (LOLER; 1997), which implement the Amending Directive to the Use of Work Equipment Directive (AUWED; 1995) were estimated to involve a total present value cost to enterprises over eight years of up to £200 million.

Costs in central Europe will be lower in absolute terms because a considerable part of the above costs will be incurred in training, inspection and planning tasks, where it should be assumed that human capital costs will be lower, at least in the early years of accession.

On the other hand, the costs in the associated countries will weigh heavily on enterprises, given the smaller capital base of most companies and the imperfections of the banking system. A rapid implementation of certain specific measures may therefore be very difficult.

[20] Beatson Mark, (1997), The use of cost-benefit analysis techniques in setting priorities for health and safety management, Health and Safety Executive, London.

Naturally the benefits of these measures, in terms of injuries or illness saved, will in many cases outweigh the costs (as in the case of the construction regulations). The problem is that the costs fall directly on the enterprise while the benefits accrue to the health system or to individuals. It is therefore not a question of whether or not to adopt the regulations but over what period of time, in which sequence and at least cost.

It is interesting to note that although these are clearly process directives and therefore do not automatically affect the associated countries' integration into the internal market of the Union, none of the first group of negotiating countries has asked for a significant transitional period in this area. There will be strong resistance to transition periods from the member states, but nevertheless this would seem to be an area where it would be intelligent for both sides in the negotiation to decide on a clear timetable for the implementation of the complete *acquis*, which in some areas of special difficulty runs beyond the date of accession. The 1999 World Bank Country Study on the Czech Republic noted that 'there has been no attempt to quantify the likely cost of compliance from the point of view of Czech firms' and that 'there is little incentive for compliance since such regulations (labour safety standards) are not strictly enforced at the moment'.[21] It should be noted that the present member states all had rather long periods of grace after the adoption of the directives in which to implement measures. In the case of AUWED (see above), the directive was adopted in December 1995 and its provisions must be implemented in two phases, one ending in December 1998, the other in December 2002. If member states like the UK or Germany require seven years to implement the whole of just this one directive, presumably the EU should be prepared to offer transition periods to the applicant countries in the negotiations for accession.

Institutional costs

In that all of the countries concerned already have inspectorates, the institutional problems of transforming them to conform to the needs of the EU *acquis* should not be a task which is beyond accomplishment before accession. The costs to government are unlikely to be excessive and can be recouped in some cases through charges on enterprises. In some countries a more important problem will be the reorganisation of existing services, with all the accompanying professional jealousies and disruption.

[21] World Bank (1999), Czech Republic towards EU Accession, Washington DC page 155.

5.1.3 Internal market legislation

It is important to distinguish between product-related costs and those affecting processes. The regulations applying to products must be adopted by the associated countries if their products are to enter the internal market of the Union. Unless minimum standards or the regulations of the old-style specific product directives are respected, it will be impossible for goods produced in the associated countries to be admitted to the internal market and in effect accession can not take place. Process related regulation, such as much of the environmental or social directives discussed above, does not affect the character of the product and therefore its free access to the internal market of the Union.

Internal market legislation discussed here is different from that in the environment and social areas, in that it is almost all product-related and must therefore be implemented before accession if the new member states are to be allowed entry for their products into the internal market of the Union.

Internal market legislation can be divided into two types:

- sectoral approach directives
- new approach directives

Sectoral approach directives

Sectoral approach directives are old style detailed harmonisation directives for individual products or groups of products. Detailed technical specifications are laid down which have to be met. Given the detail involved, these directives require constant updating to take technical progress into account and conformity is assured by public authorities.

The slow progress and high cost of these detailed directives led to the development of the new approach to harmonisation in the mid-1980s. However sectoral approach directives are still in force in several very important areas, notably foodstuffs, pharmaceuticals, motor vehicles and chemical products. In these sectors, considered of importance for public health and safety, new directives are still being introduced in the old sector-specific detailed form. Indeed there are many who prefer sectoral harmonisation, in that it is clear what the standards required are and leaves little to imagination. It is preferred by those used to government controlled standards and inspection.

New approach directives

The new approach directives will pose problems for the associated countries in the same way that they posed problems for the Community member states when first introduced; namely they introduce a standard form of harmonisation, depending heavily on private sector organisations, which is not at all in the tradition of harmonisation in certain parts of Europe. The individual directives will also pose problems for certain countries in the context of the minimum standards established by them.

New approach directives are restricted to establishing essential minimal requirements in areas such as health, safety and environment for families of products or general risks.

These requirements are reflected in European standards established by the private sector standardisation bodies (European Committee for Standardisation - CEN, and similar bodies for the electrical - CENELEC and telecommunications - ETSI sectors). These standards are voluntary and are just one way of meeting the minimal requirements. Assessment of conformity with essential requirements is carried out by approved certification bodies. Manufacturers can place their products in the internal market when their conformity to essential requirement has been certified. The use of the 'CE' mark is advised but is not essential.

There are three levels of activity:

1. the Government level: approximation of EU laws, information on new national measures which may introduce trade barriers
2. the standardisation bodies at the national level as part of the European standardisation bodies, CEN, CENELEC and ETSI; these are private sector organisations
3. conformity assessment and certification bodies, normally also in the private sector

These three levels must also operate independently of each other.

For the associated countries the major difficulty is to move away from compulsory state control to a system run essentially by the private sector. Problems were encountered in this area at the enlargement to Spain and Portugal, so it would be astonishing if there were not serious difficulties with the associated countries.

Progress is being made in this area however. The Union has begun to sign European Conformity Assessment Agreements with the associated countries. These agreements establish that the latter can propose conformity assessment centres and testing

laboratories for particular product groups for testing by EU experts, with a view to their acceptance by the EU as registered assessment centres. Products which then are declared in conformity with national standards will be able to enter the internal market of the Union. Needless to say considerable investment will be required to establish a network of such centres, but such investment can be extremely profitable even in the short-term.

One point which has often been overlooked is that it is not necessary for each associated country to establish national centres for conformity assessment. It is possible to have products certified in conformity in laboratories or testing stations in other member states. This may be considered a satisfactory solution by some of the smaller new member states, though it would not be an economic proposition for a large country like Poland. Homologation procedures in areas such as cars, pharmaceuticals and other medical products can be extremely costly to establish, and small countries may not have the capacity or the interest to establish their own.

Inspection and control: product safety

The European Union internal market also includes a variety of inspection and control procedures as well as measures to protect the consumer.

One of the major problems for the associated countries here will be to move towards inspections in the market rather than in the factory or at the frontier, which is still the tradition today in many of them. Inspectors will need to be trained, their number increased. Consumer protection legislation which is usually somewhat behind other areas of legal approximation in the associated countries will need to be developed quickly and appropriate control mechanisms established.

Conclusion

The new approach to harmonisation in the internal market of the EU will cause additional costs for the associated countries, both in institutions and in enterprises. It is impossible to estimate these costs at the present time. However these are areas where the new member states need to be in a position to implement the EU system from the first day of accession.

5.1.4 Transport

This section considers the *acquis* affecting the transport sector and does not deal with transport infra-structure. The investment cost and later operating costs of the latter will obviously be of major proportions. But there is no real *acquis* in the infra-structure area. The Union plans for Trans-European Networks (TENS) are not part of the *acquis*. They will however play an important role in determining where assistance received from the Union will be spent. This assistance will almost certainly be conditional on its financing TENS rather than improving existing routes or railways or building by-passes around towns. The calculations of the Commission indicated that EUR 50 billion investment in the region was needed between 1997 and the year 2002 and EUR 90 billions by the year 2006 in order to create a real trans-european infra-structure network. These are extraordinarily large figures; EUR 50 billion is 17% of 1997 GDP or 3% of 1997 GDP per annum rising between 2002 and 2006 to almost 4%. If it is assumed that 50% of this finance would have to found from national budgets and 25% would be taken in loans, it is not over-stating the cost at around 2-2.5% of current GDP annually, if operating costs are included. How much of this can be recouped in tolls and how much of the network can be built by the private sector is unknown, but it is probable that most of the investment outlay will have to be borne by the state.

The *acquis* affects road, rail, water and air transport

Road Transport

The real *acquis* in the road transport area lies in the following areas:

- market access
- safety and technical norms
- social conditions
- establishment and access to the profession

Market access

The *acquis* in the transport of persons has led to the partial liberalisation of international transport but not to domestic traffic.

For goods traffic both international and national transport have been totally liberalised. Little today is known about the competitive situation of the international and domestic

transport sectors in the associated countries; the impact on the transport sector is therefore difficult to estimate.

Safety and technical norms

The important parts of the *acquis* in this area consists of the following:

- roadworthiness testing
- driving licences
- vehicle compliance testing of weights and dimensions
- tachographs
- the transport of dangerous goods by road
- speed limitation devices

The costs involved in these areas include those of equipping testing stations (usually public sector costs which can be recouped through fees) and for upgrading transport vehicles (which usually fall on their owners). Most of the associated countries require transport vehicles to be tested at least as frequently as within the Community, but the frequency and thoroughness varies from country to country.

The major problem for the associated countries will lie in the domestic haulage fleet, not in the international fleet. The latter, especially that trading with western Europe, already meets the Community *acquis* in most respects. The domestic haulage fleet will also be partially renewed over the years before accession; as new trucks generally meet Community norms, normal replacement investment will reduce the vehicle park needing major investment on accession.

Quantitative estimates are difficult to arrive at. Phare studies suggest that costs for equipping testing stations and of roadworthiness testing would be of the order of EUR 150 million for the associated countries (excluding the three Baltic states). Costs for adapting vehicles are difficult to determine.

Social norms

Social norms exist in all the associated countries and the main problems here are likely to be in the area of enforcement rather than in major new legislation. Again the situation is

worse in domestic traffic than in international, where European or international rules have to be respected.

Access to the profession

Rules on drivers licences are unlikely to prove a major cost but those on the financial standing of hauliers might cause problems for smaller operators. Rules on training and management of haulage companies may again work against the smaller operators.

Fleet replacement and competitiveness

The great unknown is what proportion of the domestic transport fleet will be replaced before accession in the context of normal depreciation and what part of the fleet will need to be adapted at enlargement. If the same value for the average life of a lorry in the EU-15 is used, namely ten years, a large part of the fleet would have been renewed prior to accession. However the average life of lorries in the associated countries may be somewhat longer. With operating costs of new lorries being considerably below those of outdated vehicles, such investment can be profitable.

At accession, the domestic market will face reinforced competition from hauliers from the EU-15 and from the other new member states. The result will probably be an acceleration of vehicle replacement going along with a concentration of the industry as larger firms push out the smaller hauliers.

Rail transport

There is practically no Community *acquis* in this area; the only directive attempts to point the way towards liberalisation in the rail sector. The main costs in rail transport will therefore be in upgrading rail systems to roughly levels in the Union and improving rolling stock. This investment, necessary if the railways are to remain competitive, is creating major financial challenges for many of the state enterprises still in charge of the railways in the associated countries.

Air transport

In air transport on the other hand the Community *acquis* is very wide. It covers two main areas, liberalisation of air transport and safety.

The air transport market will be totally liberalised by the time the associated countries join the Union. Domestic carriers will therefore have to cope with competition not only on international routes but also on domestic routes. It is unlikely that all companies will survive the increase in competition.

Most of the national airlines in the associated countries have reequipped with relatively modern planes and therefore it is unlikely that fleet replacement will be a major burden, though some of the older 'modern planes' will no longer be allowed to fly after 2002, because of rising standards in noise emissions. Short transition periods with respect to liberalisation have been requested by certain associated countries but these are designed simply to increase the value of state-owned companies in the course of privatisation.

Air transport control and airport infrastructure will also need to be upgraded but this is not a requirement of the Community *acquis* but of simply meeting competition and the needs of passengers in the next century.

For all ten associated countries, the Commission estimates that total investment including fleet renewal, air traffic control and airport infrastructure improvements are likely to come to around EUR 2 billion over the coming decade.

Conclusion

There will be important costs to be met both by the state and by the private sector in the transport area. Relatively few of these costs can be estimated today with any confidence.

Some of these costs will arise from the application of the *acquis* on accession. A certain part, particularly of the domestic, lorry fleet may have to be replaced. Other vehicles will have to be fitted with tachographs and other equipment. The controls required by the *acquis* may well encourage the growth of larger haulier firms and squeeze out smaller companies.

However a larger part of the costs which will have to be met will not be a response to the *acquis*, but to the increase in competition due to the liberalisation of markets. This is true particularly of the air transport sector and railways.

Infra-structure development, for which there is no *acquis* requirement, is likely to be a major cost on the budgets of these countries, as it is gradually brought up to the standard of the EU-15.

5.1.5 Conclusion on horizontal policies

The cost of adopting the Community *acquis* in horizontal policy areas such as environment, social policy, the internal market and transport will be very considerable. The benefits in many cases will be even higher in terms of reduced health costs, lives saved and better transport facilities.

However in the first place it is the gross costs which will affect enterprises and the state budget in the relatively short-term, the benefits arising generally in the longer term. Many of the costs will arise in the first place as a charge on the state or regional budgets, only part of which can be recouped in additional charges or taxes.

Many of the costs will however not result from regulations which impose new or different standards, but simply from the need to upgrade infra-structure and equipment to remain competitive in liberalising markets.

Table 3 shows rough orders of magnitude for additional costs due to accession in terms of %GDP/annum.

Table 3: Additional costs incurred due to accession (% GDP / annum)

	1997-2002	2002-2012	2012-
Index of real GDP (1996=100): end period	124	194	329
% of current GDP: brackets adjusted for real GDP growth, end period			
Environment			
Capital costs	2-2.5	2-2.5(1.3)	2-2.5(0.8)
Operating costs	1.0	2.0(1.0)	2.5(0.8)
Social policy			
Health and safety	0.25	0.5(0.25)	0.5(0.15)
Internal market			
Institutional costs	?	?	?
Investment costs	?	?	?
Transport			
Infrastructure	2.0	2.5(1.3)	2.5(0.8)
Acquis and restructuring	0.25	0.5(0.25)	0.5(0.15)

Table 4: Summary of impact assessment of EU regulation and policies on transition in the Associated Countries of Central Europe

Regulation or policy	Cost implications		Institutional costs	Sectors affected	Optimal adjustment policy	Foreign assistance
	For Enterprises	For state budget				
A. Regulation:						
1. Product-related internal market • New approach • harmonisation	SMEs in some sectors will have problems adjusting to *acquis*	Passing legislation and information and advice for SME	Moderate cost of adapting institutions to legislation	All sectors, goods and services; food and drink, chemicals especially affected	Implementation at or before accession	Certain specific technical assistance; grant
2. Market economy regulation	Generally low; but intellectual property rights may be a major problem in some countries	Possibly positive through reduction in state aid.	Where AMOs already exist – low. Intellectual property enforcement and civil law problems (access to justice) a problem in some states	All sectors; intellectual property rights may raise costs in pharmaceuticals and various forms of publishing	Implementation; generally immediate; land ownership possible exception	Certain specific technical assistance; grant
3. Process-related						
• environment	Very high in some sectors	Very high	Very significant for some directives e.g. IPPC	Especially energy, mineral extraction, chemicals, metal industries, waste industries, paper and board and parts of the textile and agricultural industries.	'big ticket' directives early preparation for later implementation; long transition periods of up to 15-20 years, back loaded	Grants and loans for environmental investment will accelerate implementation – EBRD, IBRD, EIB,EU, Private sector
• health and safety	Significant in some SMEs in the industrial sector and in certain office employment (cf. directive on use of dis- play screen equipment	Probably low costs	Some additional costs for health and safety inspectorates	Generally across economy; manufacturing, esp. chemicals, mineral working; construction industry	Some transition periods will be necessary together with information and advice for enterprises. Strong political pressure for early implementation	Loans to enterprises may have health and safety components

Regulation or policy	Cost implications		Institutional costs	Sectors affected	Optimal adjustment policy	Foreign assistance
	For Enterprises	For state budget				
B. Policies						
1. Common Agricultural Policy	Potentially significant for agriculture and the food and drink industry	Potentially very significant; depends on EU reform of CAP	Significant additional costs for supervision of agricultural *acquis*, market organisation and control	Food and drink; farming and certain manufacturing sectors	Maintain present policy until EU reform decided. Early implementation of veterinary and phyto-sanitary regulation	Agricultural structures improvement and rural development - SAPARD, EBRD, IBRD. TA for marketing and technical adaptation of agricultural regulation
2. Cohesion	None	Cofinancing required; some institutional costs	Urgent institutional preparation necessary	Positive impact on construction, utilities, enterprises undergoing restructuring etc	Rapid increase in absorption capacity through early institutional preparation	Pre-accession structural funds (ISPA)
3. Common commercial policy	Lower external tariff cuts costs for some enterprises and increases competition from third countries for others.	Reduction to zero of tariff revenues. Changes due to abolition of internal frontiers and financing of EU.	Institutional changes due to abolition of internal frontiers.	All sectors. Elimination of Commercial Defence Instruments particularly relevant to 'sensitive' sectors	On accession	Support for training of customs personnel and customs infra-structure
4. Transport and infra-structure (TENs)	Increased regulation for domestic transport; but more competition on domestic markets	transport infra-structure investment will be very substantial	some increase in inspection requirements	directly transport and construction sectors; indirectly other sectors	Transport *acquis* on accession; infra-structure spending phased over long-term	speed of infra-structure development will depend partly on availability of foreign capital (EBRD, IBRD,EIB,EU and private sector)
5. CFSP and 'third pillar' policies	Insignificant	Frontier control will create additional costs	Significant changes in institutions controlling frontiers, judiciary etc.	Few direct effects	Adapt to EU policy as it evolves	Technical assistance and some hard investment at frontiers

5.2 Sectoral studies

Clearly different sectors of the economy will suffer cost increases partly related to the horizontal costs discussed in 5.1 but also because of specific sectoral regulation which exists. The base chemical industry will be particularly hit by the environmental *acquis* and regulations on health and safety. But there is also a specific *acquis* applying exclusively to the chemical sector. The same is true for the food and drink industry for instance, a sector where current concerns on safety are leading to a rapid increase in regulation.

The current study only looks superficially at these sectors but the following general points can be made:

- in many sectors there will be a general problem of enterprise competitiveness which is not linked to the *acquis*. In the food sector in Poland for instance, parts of the industry are still protected by high tariffs and relatively low raw material costs. The pressure on these enterprises to restructure is therefore less and will not force the degree of rationalisation required for these companies to meet competition from the EU when tariffs are removed and raw material prices equalised. Here the *acquis* may be important (but food law is relatively well advanced in many of the associated countries) but it is probably less important than more general factors of competitivity.
- where there is a high proportion of FDI, the additional costs of respecting the *acquis* will generally be low (e.g. cars and specific sectors of the food industry). Therefore the more FDI that can be attracted the less will be the additional costs of the Community *acquis*.
- implementation of regulation is sometimes lax in the associated countries because of lack of personnel, equipment and financing. The EU will require this to be tightened up at accession, even though disparities in the existing EU member states are enormous.

5.2.1 The Food and Beverages Sector

The food and beverages sector in most of the associated countries accounts for a considerably larger part of output than in the member states of the EU. In the four largest economies (Czech Republic, Hungary, Poland and Romania) it makes up between 15% and 20% of industrial value added. It also contributes a significant share of exports

in several of these countries. It is therefore important that this sector should be well-prepared for accession to the EU.

The EU *acquis* in the food and drink sector is very extensive and, given the high profile of food safety in the EU at the current period, is likely to be even more extensive by the time accession takes place. It consists of a series of horizontal measures in the following areas aimed at ensuring the safety of foodstuffs and consumer information and protection:

- food labelling
- food additives
- flavourings
- materials and articles in contact with foodstuffs
- contaminants
- hygiene
- official control of legislation.

In addition there are a series of measures dealing with specific products.

The implementation of this legal framework depends crucially on both the prompt transposition of the remaining measures but also the establishment of appropriate institutions to control the implementation of the law.

There is very little reason why enterprises in the applicant countries should not be able to implement either the horizontal or the product specific regulation in the food and drink sector. Implementation will mean that some production processes will have to be changed (for instance through the rules on materials which are in contact with foodstuffs) and certain ingredients may no longer be used (certain sweeteners or colouring for instance). The directives on labelling may prove more difficult to implement than they seem. However early information to the sector is the key to smooth adjustment, rather than there being any serious difficulty in adjusting to EU regulations.

In several of the countries of the region the food industry has seen rapid growth of output over recent years. While all of the countries have a considerable trade deficit with the EU in this sector, exports from the sector to the EU and other regions (e.g. to eastern

Europe) grew fast until 1998.[22] Foreign direct investment in the sector has also grown rapidly over the past few years, with most of the major western food and drink concerns involved in a significant way in the region today. The companies which export to the EU and the foreign companies which have invested are both producing to EU rules already and will not be seriously affected by accession to the EU.

The sector also has however a large number of smaller producers which will require help and above all information if they are to meet EU regulations by accession; these small producers will find the ever-more complex regulation on hazard analysis and critical control point systems (HACCP) difficult to implement.

Perhaps more difficult will be the establishment of the necessary controls in the food safety area, on the one hand by the enterprises themselves (HACCP), and on the other by the official inspection services (directive 89/397). In the EU in general the food manufacturer takes the responsibility for putting products on the market and the inspection services carry out their inspections in the market place. Official inspection of the manufacturers' own food safety systems must also be carried out. The burden on the state institutions may therefore be quite considerable in some of the central European applicant countries.

However the future of the food and drink sector in central Europe will depend far more on the competitiveness of its enterprises in general rather than on the specific problems of adapting to EU regulation. In some of the applicant countries the food industry is still protected by high tariff walls, which have the effect of slowing down the adjustment process. Some 'national champions' still in state hands enjoy particularly favourable treatment which also reduces the will to restructure and the production and sale of certain products is still strictly controlled by the state. Measures such as these which protect the food and drink sector are likely to lead to weaker domestic enterprises experiencing great difficulty on accession.

An example of the need to undertake full liberalisation to allow restructuring is the vódka industry in Poland. Moving from a complete state monopoly prior to 1989, partial liberalisation has led to the 25 main production sites becoming state-owned but independently run companies, operating in a regulatory situation where prices are controlled by the state. New private plants have been established but they supply less than 5% of the market. Licenses for new brands are given by the state which tells the producer how much it can charge for the new product on the basis of estimated cost

[22] The crisis in Russia in Summer 1998 led to a perhaps temporary setback for the food industry in the associated countries

structures. Foreign competition is practically eliminated by the extremely high tariffs on imported spirits.

The result of this market organisation has been to produce an internationally uncompetitive industry, with considerable over-capacity, poor marketing of hundreds of different brands and costs which are far higher than for competitors in the European Union. Both government revenue and thousands of jobs are heavily dependent on the sector and both will be at risk on accession. The restructuring of this industry prior to accession can only be achieved by a gradual move to complete liberalisation combined with a major effort of advice and information to help management accomplish the difficult transition. Foreign investment in the sector could obviously assist this process.

While the spirits sector in many countries represents the extreme of government regulation and protection, elements of this situation persist in other parts of the food industry. It is clearly important to move towards a solution of the problems of enterprise competitiveness in order for the sector to meet the challenges of adapting to the new EU regulation. The food and drink area is one where it cannot be expected that the EU will show any sympathy in the negotiations for requests for transition periods or derogations in favour of the industry in central Europe.

5.2.2 The Chemicals Sector

The chemicals sector is also of real significance in many of the applicant countries, both in terms of output, employment and as a share of exports. For the four major economies of the region, the chemicals and pharmaceutical industries account for between 10% and 15% of industrial value-added. Employment in the sector is also still significant providing usually between 2%-4% of total employment; there are still towns which depend for employment almost exclusively on one production site in the chemicals sector.

The *acquis* for the chemicals sector is far more complex and onerous than that for the food industry. It consists essentially of three main parts: the specific regulation of the chemicals sector, environmental regulation and rules on health and safety at the workplace.

The specific chemicals *acquis* deals with the classification, labelling, packaging and marketing of dangerous substances and specific directives on the biodegradability of detergents and on the conditions to obtain the ‘EEC fertiliser’ label. As in the food

sector, foreign direct investment and the fact that chemicals enterprises are engaged already in exporting to the EU means that this product-related regulation should not cause too much of a problem to larger companies and to those with foreign participation or owned by foreign companies. The burden imposed on state institutions is also less severe than in the case of food directives. Inspection is carried out in the market but can be carried out by a wide selection of different bodies, including private-sector ones.

Nevertheless work which was done by CEFIC (Conseil Européen de l'Industrie Chimique) on the impact of the directives on the classification, labelling and packaging of dangerous substances suggests that smaller companies may well have difficulty implementing these regulations by the time of accession and that the cost of doing so may be substantial. CEFIC suggests that for the Czech Republic the costs of implementing the directive and its amendments (largely training costs and ignoring investment costs) is likely to be of the order of 1%-2% of annual turnover. Three or four years of preparation will be needed to implement the directive. The most important need today therefore is to raise the level of awareness in the industry, especially in smaller companies, to the changes which will take place.

More serious for the chemicals industry will be the implementation of the environment *acquis*. Together with the power industry and perhaps the paper industry, the chemicals industry will be amongst the most seriously affected sectors. The IPPC directive (integrated pollution prevention and control directive) specifically deals with pollution from the chemical industry as one of the five main industrial sectors affected by the directive. Some of the provisions of IPPC do not enter into force until 2004 and it would be reasonable to expect that the new member states, in negotiations, will obtain a longer transition period for implementation. Other directives regulating pollution into the air, water and soil will however have to be complied with on a timetable depending on the outcome of the negotiations and it would be unwise to assume that the transition periods obtained will be extremely long. Compliance will often mean a change in production techniques and usually some new investment.

Health and safety at work directives will cause some problems for chemical concerns in both general areas covered by the regulations and specific areas such as exposure to biological agents or carcinogens at work As it is less likely that generous transition arrangements will be available in these areas, early preparation to take on the EU *acquis* is important.

While in the New Bundesländer environmental improvements were largely dealt with through the application of massive state aid, this is clearly not possible in central Europe. Some pre-accession grant funds and later structural funds may be available to tackle

certain elements of the problem, but compliance with EU directives will have to be financed largely by the enterprises themselves. The availability of loan capital or equity participations from institutions such as the EBRD could play an important role here.

5.2.3 Financial sector

The financial sector in the countries of central and eastern Europe suffered serious underdevelopment under the communist economy. Not only the scale of the industry was very small but its role in economic life was reduced, as financial intermediation did not play any serious role in the allocation of resources. The banking system was frequently organised on a monobank basis, there was no stock exchange, insurance companies played only a marginal role in the economy, other types of financial institutions did not exist.

During the 1990s the financial sector developed dynamically in all the transition economies. However, some basic shortcomings still remain. The most important ones are:

(1) the economies are underbanked, transactions are to a degree based on cash, and the market is relatively poor from the point of view of product variety;

(2) existing banks are undercapitalized and a significant number of them does not conform to prudential regulations;

(3) in certain candidate countries an important part of the banking sector is still in the hands of the State and often requires restructuring;

(4) the portfolio problems inherited from the past are still not totally solved in some countries, despite a serious effort and huge recapitalization costs already carried by the State budget;

(5) the competitive pressure on the market is relatively low, banking spreads remain very high to cover inefficiencies of the sector, and the access of foreigners to the market is still restricted in the majority of the candidate countries;

(6) banking supervision is not sufficiently developed and implemented;

(7) domestic insurance companies are undercapitalized, and the imperfect regulation and lax market supervision remains;

(8) other institutions of the financial sector, including the stock exchange and brokerage houses, are still not sufficiently developed.

The accession to the EU is connected with some serious challenges for the financial sector, that can be grouped into three areas. First, the financial sector will have to comply with the *acquis*, that means in particular full liberalization of the access to the market, full harmonization of law, and effective implementation of the prudential regulations, accounting rules, and other market regulations. Second, supervision will have to be strengthened. Third, accession will lead to the creation of a more competitive environment, that may lead to serious problems for many domestic banks.

Direct compliance with the *acquis*

The candidate countries of central and eastern Europe have already undertaken a serious effort to harmonize the law with the EU. However, several issues are still not solved. Liberalization of market access advanced in all the countries due to implementation of the Europe Agreements and, in some cases, due to the OECD membership requirements and should not pose serious problems. Effective implementation of the First Banking Directive and the Solvency Ratio Directive may be more difficult, as a strict application of loan loss classification could leave many banks out of compliance with the Basle standards for solvency ratios. Prevention of money laundering, although formally already implemented by the majority of candidate states, needs enhancement. The Second Banking Directive, and a majority of the stage two measures, are only partly adopted in law and will have to be fully implemented after the accession.

Strengthening supervision

Financial supervision, although formally implemented in all the candidate countries, needs serious enhancement. According to some informal opinions, only two or three of the most advanced candidate countries will be able to create an efficient banking supervision system over the next 5 years. The most important problems connected with the supervision include:

(1) a need to improve the quality of auditing;

(2) development of supervision of the new types of operations of the universal banks, and particularly of securities trading, insurance, and investment banking;

(3) improvement of qualifications and training of the staff of supervising bodies;

(4) avoiding a temptation to exclude some financial institutions from a comprehensive supervision system.

Dealing with a more competitive environment

Enhanced competition may create the most serious problems for the financial institutions in central and eastern Europe due to the current features of the sector. The following factors should be mentioned:

(1) the financial institutions are generally undercapitalized; their capital strength is very low compared to the west European institutions;

(2) the banks operate with high spreads, possible due to a combination of the relatively high inflation and the limited market access for the foreign competition;

(3) a significant part of the banking sector, particularly state owned banks, still needs restructuring and a definitive solution of the portfolio problems;

(4) central and eastern European financial institutions suffer from the technological gap vis-a-vis western competitors and, even deeper, from the gap in the skills and accumulated knowledge capital;

(5) the financial sector is far from west European standards as concerns the product variety, quality of services, soundness and cost efficiency.

Conclusions

Accession to the EU will pose serious problems for the financial sector of central and eastern Europe. The formal and effective implementation of the EU market regulations is only one, and not the most important side of the problems. Greater difficulties can be expected in implementing the EU supervision standards on the one hand, and adjusting to the more competitive environment on the other. A significant progress in restructuring and privatisation of the financial sector is necessary to cope with these challenges.

Part 2

7. Impact of EU Accession on Enterprise Adaptation in Central and Eastern Europe: Case Study for Poland (a model approach)

An illustration of the above considerations concerning the impact of EU accession on enterprises in Central and Eastern Europe is a modelling exercise performed on the basis of Polish enterprise data. We tried to estimate the scale of various costs connected with the application of the *acquis communautaire* and, using a specially designed model, their impact on competitiveness of various branches of the Polish economy (the exercise was limited to industry and construction; two-digit NACE branches).

EU accession of Poland will significantly affect various sectors of the Polish economy. The costs of adopting EU regulations will vary depending on the initial situation of branches. Moreover, a likely increase in costs of some production inputs - unit cost of labour (expressed in the common currency), or energy costs, just to give a few examples - will hurt, to a various degree, competitiveness of the Polish enterprises.

Changes in competitiveness will depend on several elements:

(a) costs of adopting the single market standards and regulations

(b) costs of adjustment to the enhanced competition

(c) changes in the cost of labour (effect of real wage growth and productivity changes)

(d) effects of the likely real exchange rate appreciation

(e) elimination of remaining tariffs and other barriers to the free flow of goods.

The last element, considered as crucial in the standard trade liberalisation analysis, will have only a reduced impact on the post-accession situation of Polish firms. With the exception of a few "sensitive" products, tariffs were already abolished between Poland and EU for the trade in industrial goods. Some effects can be expected from the introduction of the Common External Tariff and from adopting the Common Trade Policy (relatively small given the modest share of non-EU trade in Polish exports and imports). The only industrial sector that still enjoys a relatively high degree of protection against imports from the EU is food and beverages production; however, in this case the tariffs reflect the difference in the agricultural policy rather than the industrial protectionism.

7.1 The model

The simple model was constructed to estimate effects of changes in various cost elements on the competitiveness of Polish enterprises during the first 5-6 years of EU membership. The costs in various branches are given by equations:

$$C_i = S_j\, a_{j,i}\, (C_{j,ind}+\Delta C_{j,ind}) + ir^*\, (D_i + \Delta D_i) + b_i\, (ULC_{i,ind} + \Delta ULC_{i,ind}) + d_i^*\, (K_i + \Delta K_i)$$

where: C_i - total costs for enterprises in branch i, $C_{j,ind}$ - index of costs of type j, D_i - debt, $ULC_{i,ind}$ - index of unit labour costs expressed in USD, K_i - stock of capital, Δ - increase during the first years of the EU membership, $a_{j,i}$ - cost structure coefficients, ir^* - future interest rate, b_i - share of labour costs in total costs, d^* - future depreciation rate.

The idea of the model is that the adjustment costs of EU accession can be expressed in two ways: either through higher operating costs of enterprises, or through higher investment and debt. With the current cost levels, the solution of the model is 1 (the sum of all the costs equals 1). However, if the cost indices increase by ΔC_j, and the debt increases by ΔD_i, the total cost increases.

The story with the unit labour cost changes is more complicated. ULC can be expressed:

$$ULC_{i,ind} = wage_{i,ind}\, XR / (VA_i/L_i)$$

where: $wage_{i,ind}$ - nominal wage index, XR - exchange rate index, (VA_i/L_i) – productivity.

The UCL change depends on three factors, two of them exogenous (or almost) to the firm - wage index and the exchange rate[23]. The third element, however, is endogenous, as productivity depends on the investment made by firms and on the restructuring effort.

The real wage, exchange rate, and the interest rate were taken in the model, as exogenous inputs, from a Computable General Equilibrium model of the Polish economy[24]. The link between investment and productivity was estimated on the basis of the Cobb-Douglas type production function:

$$(VA_i/L_i) = a\, (K_i/L_i)^{\beta}$$

where: K_i/L_i stands for the capital stock per employee, and β is the elasticity of output (value added) with respect to capital.

[23] We assume that the average wage is set on the labour market, and is to a large degree exogenous to firms.
[24] The Computable General Equilibrium model was used to estimate macroeconomic effects of the EU membership of Poland. The model, as well as the simulation experiments, is described in: Czyzewski, Or•owski, Zienkowski, 1998.

Unfortunately, as we do not have long enough time series to estimate the Cobb-Douglas function parameters on the basis of the Polish data, we decided to use the cross-country comparison. Instead of the Polish parameters for various branches we used average elasticities estimated with the OECD sectoral data for Germany, France, UK, and Italy[25].

Other parameters of the model, particularly the 1996 cost structure, were taken from the sample of 17,000 Polish big and medium-sized enterprises. The data set covers the whole population of firms employing over 50 persons (over 20 in the construction sector), and a large (although probably non-representative due to sampling problems) sample of enterprises with employment between 5 and 50.

7.2 The adjustment abilities shown during the 1990s

According to our assumptions, not only the cost pressure connected with the *acquis communautaire* will influence the position of Polish firms after the accession, but their ability to adjust to shocks as well. The adjustment abilities for 25 branches of the Polish industry were estimated on the basis of their performance in the period 1992-95 (therefore, after the initial liberalisation shock and the COMECON dissolution effects were absorbed, and economic growth began). The most important indicator of the adjustment abilities of firms in various sectors is the change in the labour productivity. However, we hesitate to use it as the only indicator. As graph 1 shows, the improvement in productivity was obtained in some sectors through drastic reductions in employment. Although there is nothing wrong in reducing the excess employment, continuation of such an extensive way of restructuring may be much more difficult, or even impossible in the future after the employment is reduced to technologically justifiable levels. With the exception of some sectors, the further growth of productivity should be connected with the investment rather than just with eliminating redundancies[26]. The sectors that depended particularly heavily on employment reductions include mining, construction, leather, textiles, radio and TV equipment, and office equipment (computers).

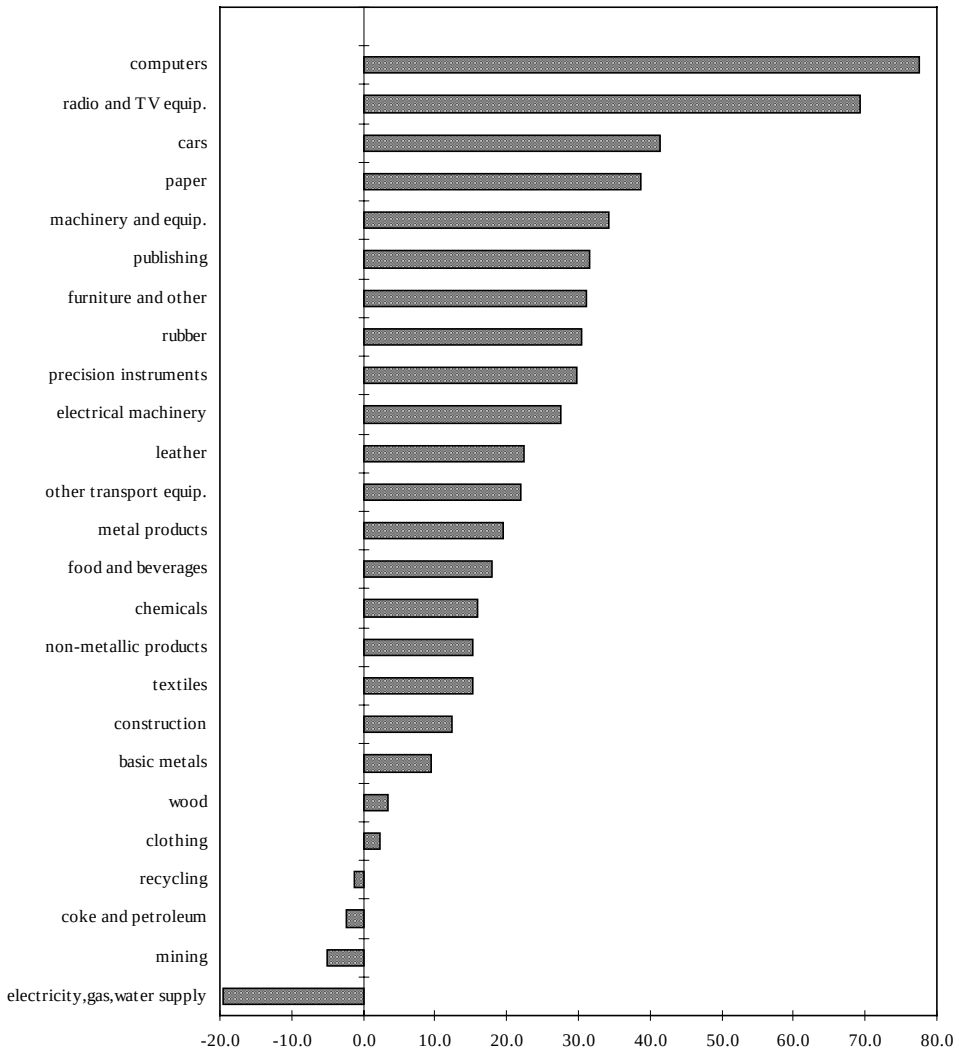
Instead of using productivity only to estimate the adjustment abilities we constructed an aggregated index based on four indicators: the growth of productivity, the growth of output, the fall of unit labour costs (expressed in USD), and the growth of exports. There exists a strong correlation between some of these indices; for example, between output growth and productivity 0.86, and between productivity and the decline in unit labour

[25] International Sectoral Data Base, 1996, OECD, Paris, November 1996.
[26] The current situation significantly differs from that point of view with the situation from early 1990s (see Pinto, Belka Krajewski, 1993, and Belka, Estrin, Schaffer, Singh, 1995).

costs 0.82. Nevertheless, the export performance is not strongly correlated with any other index (the highest correlation, with the growth of output, is 0.5).

The aggregated adjustment ability index was constructed as the average of four indices (after normalisation, with the highest value observed equal to 100)[27]. The aggregated index is presented by the graph 2 (the exact numerical values are given in the annex).

Graph 2. Performance Record: Aggregated Adjustment Ability Index



The highest adjustment abilities were demonstrated by the production of computers, radio and TV, cars, and paper. Not surprisingly, 3 out of 4 leading industries were also leading

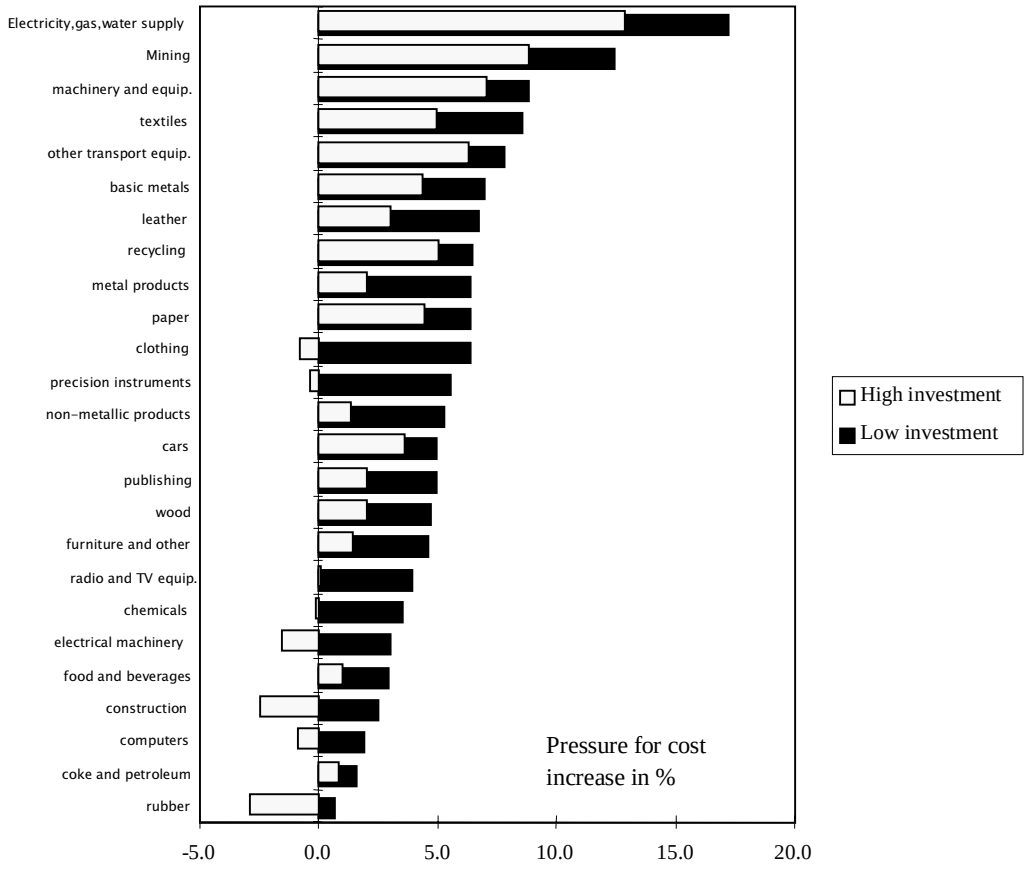
[27] For some industries with the negligible ratio of exports to domestic sales (below 5%) we skipped the export performance while calculating the aggregated index.

from the point of view of the foreign participation in privatisation. The production of computers, although with insignificant foreign participation, is almost fully privatised. The worst adjustment abilities were seen in the electricity, gas and water supply (not privatised and enjoying, to a large degree, a natural monopoly position), mining, coke and petroleum, and recycling. A negative correlation of 0.6 exists between the adjustment abilities shown during the 1990s and the level of protection (tariff rates).

7.3 Adjustment costs after EU accession

As a measure of the adjustment costs after the EU accession we used the estimated cost pressure that can be expected in the medium run (5-6 years after the accession). The

Graph 3. Medium-run cost pressure in the Polish industry after accession



measure corresponds to the increase of costs, expressed in a common currency, say USD, faced by various branches due to the implementation of the *acquis* (both the increase in the operating costs, and in the debt service due to higher investment needs). The changes, expressed in percent of current cost levels, are presented in graph 3.

As far as the investment and productivity changes are concerned (endogenous for the firms) we used two scenarios concerning investment behaviour. The ratio of investment to the stock of fixed capital observed in Polish firms in 1996, albeit growing, was on the average relatively low compared to the fast-growing economies. In the macroeconomic scale the ratio of investment to GDP was equal to 20% in 1996, while in the economies growing at 5-6% yearly average rate normally the ratio reaches 30%. At the same time a process of the fast growth of investment expenditures continues: the volume of fixed investment in the Polish economy more than doubled in the 4 years (1994-1997). Therefore, it is reasonable to assume that, if the economy develops in the right direction and firms accelerate their preparation for EU membership, the currently observed levels of investment to fixed capital in the Polish manufacturing sector may seriously increase, maybe even double over the next 5 years. For the simulation experiments we proposed two extreme scenarios:

- Under the ***low investment scenario***, the ratio of investment to the capital stock remains at the 1996 levels for all the sectors. The ratio reaches, on the average, ca.10%. Under the assumption - taken from the international comparisons - that the actual depreciation of the capital stock is ca.5-6% a year, that leaves only 4-5 percentage points for new investment, a number broadly speaking inconsistent with the target growth rate for Polish manufacturing[28].
- Under the ***high investment scenario***, the investment to fixed capital ratio doubles over the next 5 years, growing to ca.20%. Such a ratio is consistent with the growth rate of Polish manufacturing exceeding 10% a year[29].

If no change in the investment behaviour takes place ('low investment scenario') the highest cost pressure is likely to be observed in electricity, gas and water supply (mainly due to environmental investment). However, as far as the sector enjoys the quasi-monopolistic position, the likely effect of this pressure is a 20% real increase of cost of energy and water for domestic users. More problems can arise for mining (as coal is a perfectly tradable good). A significant cost pressure will affect some of industries

[28] With a 5-6% target rate for GDP, the target growth rate for Polish manufacturing reaches at least 8-9% a year. Net increase of the capital stock by 4-5% a year, even if accompanied by some increase in the use of labour and enhanced by the technological progress, is clearly not enough to secure such growth rates (whatever production function we use).

[29] Please note, that Polish manufacturing has been maintaining an annual growth rate of 10-13% between 1993 and 1997. However, fast growth accompanied by relatively low investment levels was partly possible due to the reduction of inefficiencies, and increase in the rate of capacity utilisation. Such a process can not continue forever, and the investment rates must rise to maintain high growth rates in the medium run (OECD, 1996).

considered to be 'locomotives' of the Polish exports: machinery and equipment, textiles, other transport equipment (including shipyards), basic metals. The sectors least affected by the accession are: rubber, coke and petroleum, and computers.

The situation changes if the investment behaviour changes and the 'high investment' scenario realised. The highest gains can be observed in such a situation in clothing, precision instruments, textiles, radio and TV, chemicals, electrical machinery (including consumer durables), and rubber. These are sectors that can gain the most through the increase of investment levels. In the case of some industries the increased investment and fast productivity growth leads to the projected fall of costs after the accession below today's levels (so, to enhanced competitiveness). These are industries like clothing, precision instruments, electrical machinery, construction, computers, radio and TV equipment, chemicals, and rubber. These industries - provided that their behaviour and investment strategies change - are likely to become the major winners in terms of enhanced exports to the EU markets.

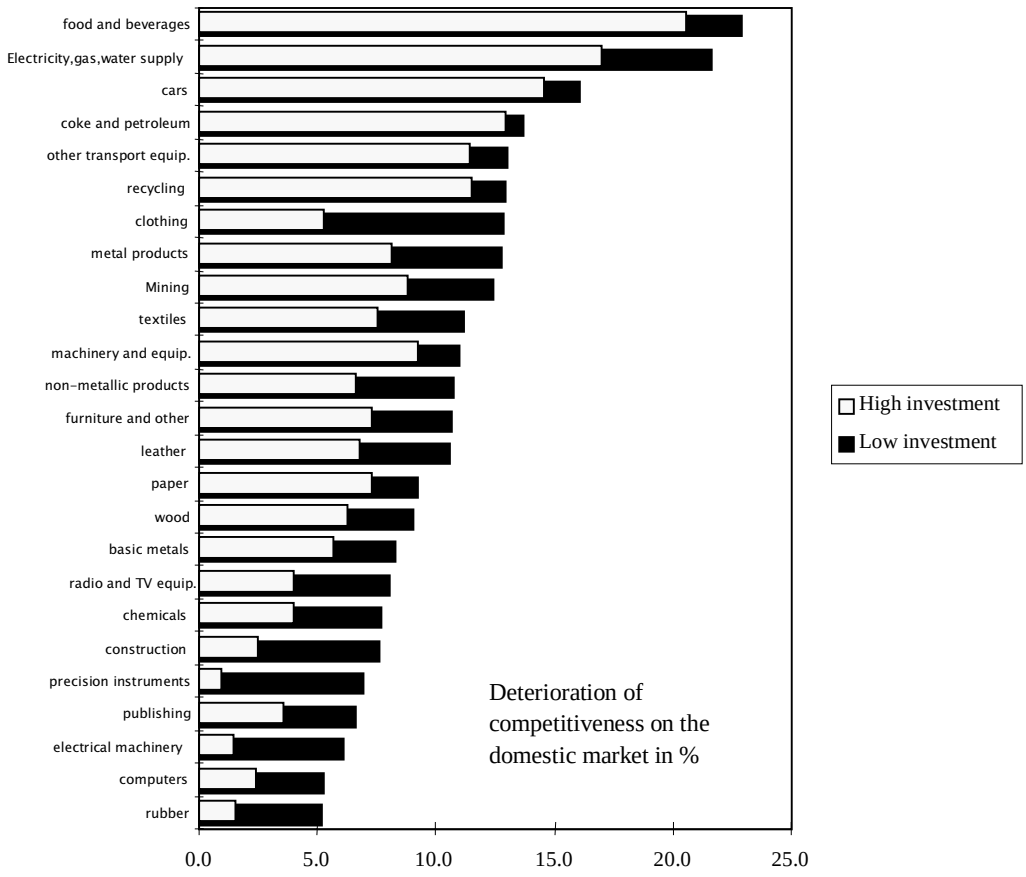
The situation is different if we compare the changes of competitive position vis-à-vis imports from EU competitors on the domestic market. In such a situation, the loss of competitiveness due to the cost pressure is accompanied by a reduction of Polish import tariffs. Although the process of tariff reduction is already well advanced, still the level of protection of some Polish industries is relatively high. In the case of the food and beverages the average effective tariff applied to EU imports was equal to 20% in 1996. The other protected sectors were: coke and petroleum (12% tariff and some non-tariff barriers), and cars (11% average tariff, despite the existence of a sizeable duty-free quota on car imports from the EU

Graph 4 shows the medium-run change of the competitiveness of sectors of the Polish economy on the domestic market[30].

The question that remains open is whether, even under the high investment scenario, the path of retooling the Polish industry is fast enough to ensure the success in facing the enhanced competitive pressure after the accession. As it is frequently pointed out the pressure for Polish firms will come not only from the elimination of trade barriers, increasing some production costs, and macroeconomic effect of the real exchange rate appreciation, but also from the change in the market strategy of the multinational companies once Poland constitutes a part of the single market[31]. The answer to this problem can not be reduced to analysing the differences in productivity and production

[30] Please note, that reduction of tariff rates included in calculation is not a result of the EU accession, but an effect of creation of a free trade zone in industrial goods. The trade liberalisation was agreed upon by Poland and the EU in the framework of the Europe (association) Agreement.
[31] Baldwin, 1994.

Graph 4. Medium-run changes in the competitiveness on the market after the accession



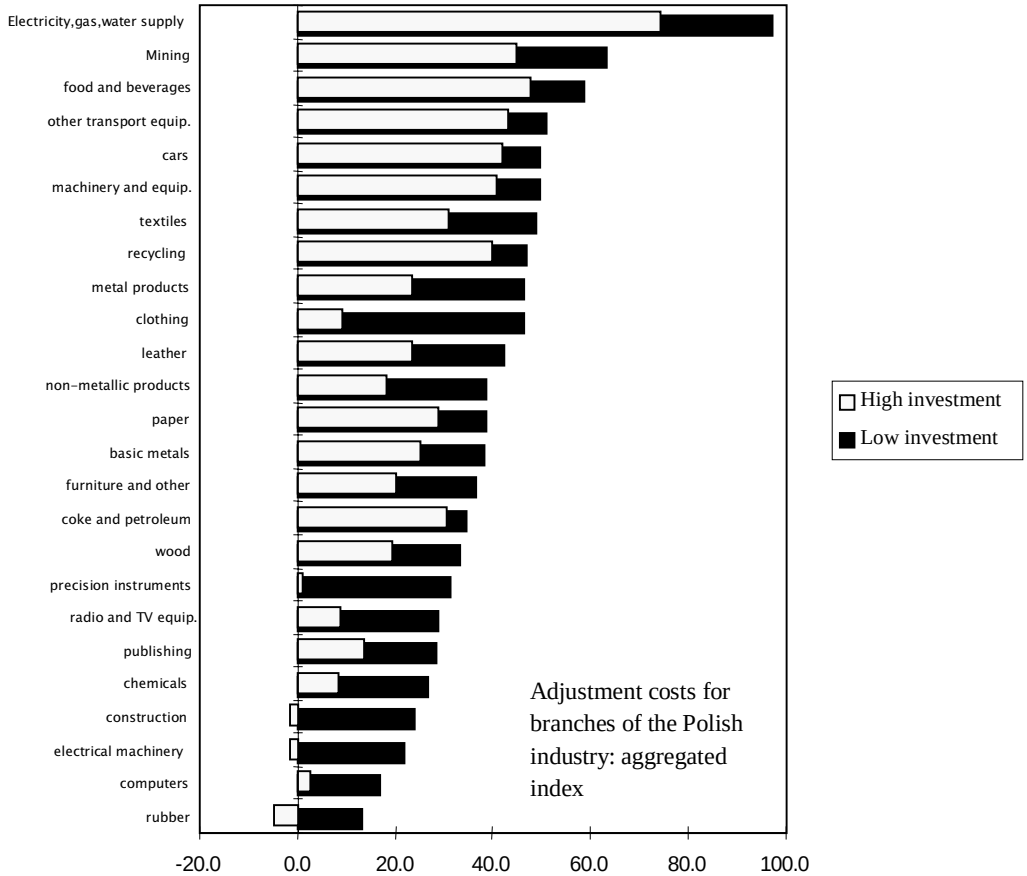
costs, but should include the general strategy of privatisation and foreign participation in the key industrial sectors. The limited scope of this exercise does not allow for this type of the analysis, but it should be still kept in mind that, even if a fast investment scenario realises, the successful preparation for the enhanced competition can not be taken for granted: the firms that will be able to adjust to it are not necessarily those production-efficient, but production-efficient and well managed at the same time.

The higher the current protection level, the stronger the future liberalisation shock for the industry. The biggest problems are likely to be faced by the food and beverages industry, cars, coke and petroleum, and other transport equipment. By contrast, the problems for rubber products, computers, electrical machinery, publishing, and precision instruments, are likely to be very small. The increased investment may help some of the industries considerably, particularly precision instruments, electrical machinery, clothing, chemicals, radio and TV equipment, and rubber. For food and beverages, even the

increased investment is not enough to compensate significantly for the loss of competitiveness vis-à-vis imports.

The effect of EU accession will be observed both in the export performance, and in the competitiveness on the domestic market. Therefore, instead of using any of above presented indices, we decided to calculate an aggregate adjustment costs index, as an average of both the cost pressure index and the change in competitiveness on the domestic market[32]. The adjustment costs index is shown by the graph 5.

Graph 5. Medium-run changes in the competitiveness of the Polish after the accession: Aggregated Adjustment Costs



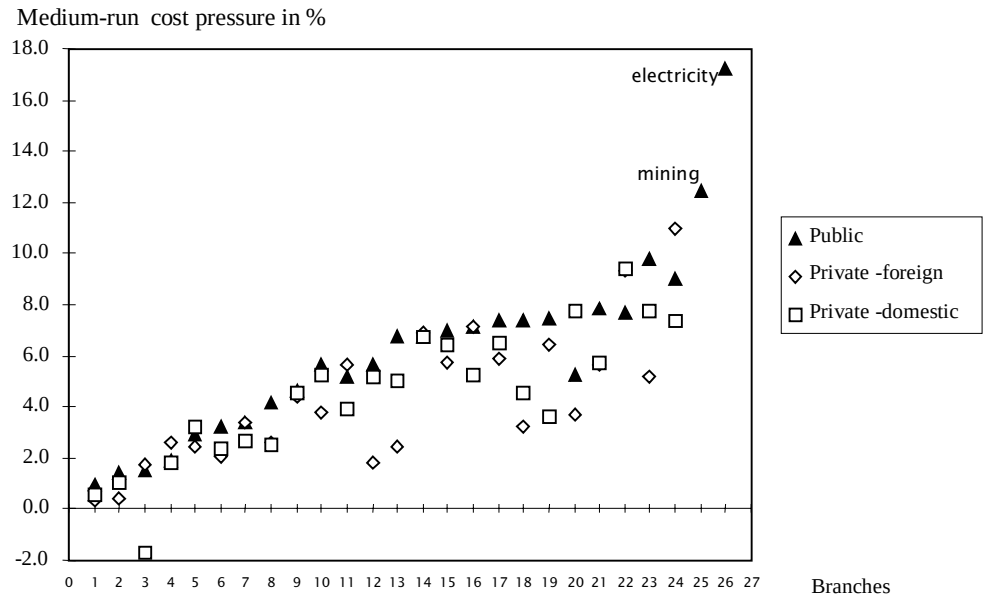
The highest adjustment costs will be faced by the electricity, gas and water supply, mining, food and beverages, and other transport equipment. The lowest costs are observed in rubber products, computers, electrical machinery, and chemicals. In some industries, like precision instruments or clothing, the costs will largely depend on the investment behaviour (for example, in precision instruments the costs can be fully compensated by lower ULC if sufficient investment is made).

[32] Both indices were normalised, with the value of 100 given to the worst performing industry.

A question that may arise is whether a significant difference exists in the adjustment costs between various ownership sectors of the economy. Graph 6 contains a comparison of the medium-term cost pressure in the low investment scenario[33], between three ownership sectors: public firms, domestic and foreign private firms. For each industrial branch, therefore, we have got three numbers (markers indicating the scale of the cost pressure for three ownership sectors in the same branch are drawn on the same vertical line).

The graph shows a clear pattern: the public firms are normally those that expect the highest cost pressure after the accession, while the privately owned foreign firms are generally in the best situation. That may indicate that the foreigners are locating themselves in the firms that are better prepared, and have better prospects than the others; or - if a greenfield investment is concerned - that the newly created foreign firms are already preparing for EU membership.

Graph 6. Medium-run cost pressure after the accession in branches by the 1996 ownership: Low investment scenario

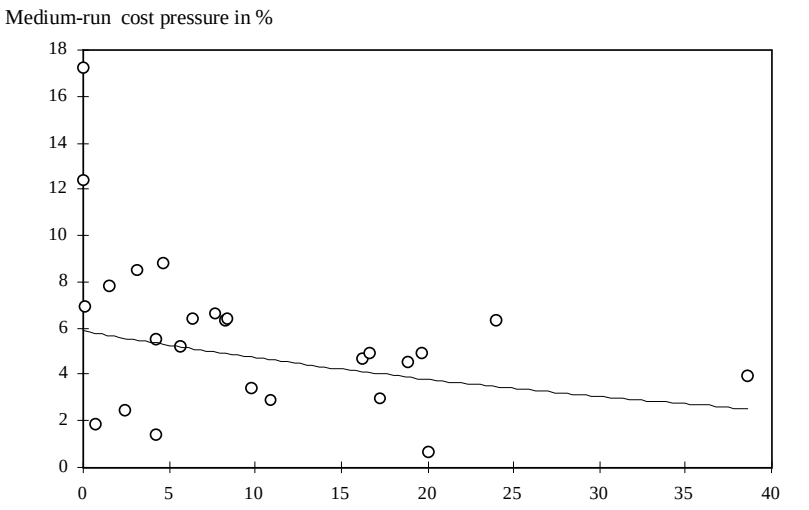


The link between the foreign participation in various branches of the Polish economy and the forecasted level of the cost pressure is clearly demonstrated by the graph 7 (the higher the foreign participation, the smaller the expected cost - a correlation coefficient of -0.4).

An even stronger link can be observed between the degree of privatisation of a branch, and the expected cost (graph 8). Again, the higher the degree of privatisation, the smaller the cost (correlation coefficient of -0.6).

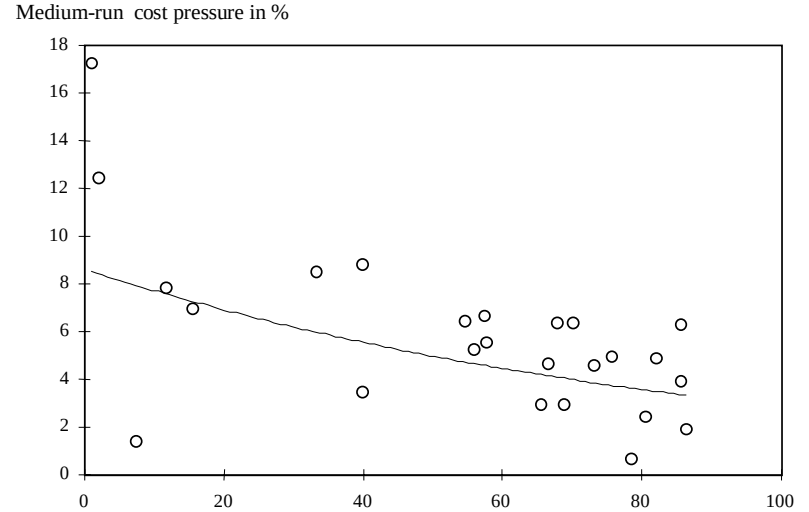
[33] As the pattern look similarly for the high investment scenario, results of only one scenario are presented.

Graph 7. Foreign participation in various branches of the Polish versus medium-term adjustment costs (low investment scenario)



In a nutshell, firms that currently belong to the public sector are likely to face bigger problems due to the EU accession than privatised ones, and particularly than those owned by foreign capital, either because they are slower to adjust, or because the private investors tend to locate in the firms that have better prospects.

Graph 8. Level of privatisation of various branches of the Polish versus medium-term adjustment costs (low investment scenario)



7.4 Adjustment costs and adjustment abilities

The ability of various sectors to cope with the competitive pressures and adjustment costs stemming from EU accession depends both on the scale of the problems that the industries will have to face, and on the adjustment abilities that the industries possess. Two tables presented below try to put various branches of the Polish economy into clusters, combining the scale of adjustment costs and the adjustment abilities shown during the 1990s[34]:

Under the 'low investment scenario' presented in Table 1, 7 branches of Polish industry fall into clusters that combine high adjustment abilities with low adjustment costs. These are industries that are the most likely to benefit from the accession.

Table 1. Adjustment abilities versus adjustment costs after the EU accession: low investment scenario

		Adjustment costs connected with the EU accession			
		Very high	*High to moderate*	*Moderate to low*	*Very low*
Adjust-ment abilities during the 1990s	*Very high*			radio and TV equip.	computers
	High to moderate		machinery &equip. cars	precision instrum. furniture publishing paper	rubber
	Moderate to low		textiles food and beverages other transport equip.	basic metals non-metallic chemicals metal products leather	electrical machinery construction
	Very low	electricity,gas, water	mining	coke+petroleum recycling clothing wood	

[34] Delimitation of clusters was somehow arbitrary: about 100 points of a difference observed between the best and the worst performers in the case of both indices (under the 'low investment scenario') was divided into 4 equal clusters. In the case of the 'high investment scenario', the same limits of the clusters were used.

By contrast, 5 industries in clusters combining low adjustment abilities with high adjustment costs are likely to face serious problems[35]. In the case of other clusters (shaded) no clear conclusions can be made on the prospects: high costs can, but do not have to be compensated by high adjustment abilities, and the low adjustment abilities may not allow them to face even low adjustment costs.

Table 2 shows the same clusters under the 'high investment scenario'. Under the assumption of the enhanced investment, some industries shift into a position where they clearly gain. However, the list of 7 industries that are the most likely to benefit from the accession (computers, radio and TV, rubber, precision instruments, furniture, publishing, paper) does not change. The list of potential losers shrinks to 3 industries (electricity, gas and water supply, mining, food and beverages).

Table 2. Adjustment abilities versus adjustment costs after the EU accession: high investment scenario

		Adjustment costs connected with the EU accession			
		Very high	*High to moderate*	*Moderate to low*	*Very low*
Adjust-ment abilities during the 1990s	*Very high*				computers radio and TV equip.
	High to moderate		machinery & equip. cars	paper	rubber precision instrum. furniture publishing
	Moderate to low		food and beverages	basic metals textiles oth.transport equip.	electr.machinery construction chemicals metal products leather non-metallic pr.
	Very low	electricity, gas,water	mining	coke+petroleum recycling	clothing wood

[35] The clusters contain some of the industries that are currently considered as 'locomotives' of Polish exports. That indicates, that the situation of sectors, and the structure of flows of goods between Poland and the EU, may change dramatically after the accession.

7.5 Conclusions:

The results of calculations point out to the following conclusions:

- The dynamic effects of integration (mainly the productivity growth) may compensate for the cost pressure increase for some sectors; it is vital that the efficient investment process accelerates in Poland;
- A list of sectors that are likely to gain/lose on EU membership is quite different from today's list of main exporters; in particular, some industries characterised by the low-productivity and historically slow to adjust may lose their importance as exporters (e.g. mining);
- Some sectors (traditional exporters, or monopolists) are likely to face serious troubles (food and beverages, mining, etc.); a more drastic restructuring will be necessary to face the competition, difficult to implement within some sectors with significant political strength;
- In the case of the food industry, a close link exists between the path of Poland's joining the CAP, and its competitiveness; the relatively high level of protection of the Polish food industry may be therefore slightly misleading as an indicator of future problems;
- The firms that belong to the public sector are generally less prepared for EU membership, and are going to face more serious challenges than private firms;
- Firms that belong to foreign owners are better prepared than domestic firms for EU membership; that may be partly due to foreign investors picking up the firms with the best prospects while participating in the privatisation in Poland, partly due to the fact that the greenfield investors already take into account the likely future EU membership effects.

Annex

Adjustment abilities shown by sectors of the Polish economy in the period 1992-95

	Output growth in %	*Productivity growth in %*	*UCL (USD) growth in %*	*Exports growth in %*[*)]	**Adjustment abilities index**
electricity,gas,water supply	-6.2	-17.8	83.1	41.8	**-19.5**
mining	-0.3	21.9	29.6	8.2	**-5.1**
coke and petroleum	27.1	26.0	32.7	-2.7	**-2.4**
recycling	20.3	14.6	21.3	9.7	**-1.3**
clothing	22.9	-4.0	26.5	30.8	**2.4**
wood	26.2	11.5	21.4	17.6	**3.4**
basic metals	36.9	51.7	2.1	-11.8	**9.4**
construction	11.9	33.6	-11.7	0.0	**12.3**
textiles	24.7	39.2	-3.1	27.7	**15.3**
non-metallic products	31.9	36.8	8.1	38.7	**15.4**
chemicals	40.8	39.1	20.0	49.9	**16.0**
food and beverages	33.9	27.5	-0.4	41.8	**18.0**
metal products	43.4	34.2	1.2	38.6	**19.4**
other transport equip.	39.6	51.2	-3.6	39.2	**21.9**
leather	20.4	40.1	-5.6	63.4	**22.5**
electrical machinery	41.2	36.2	10.0	93.2	**27.6**
precision instruments	63.0	69.9	-9.6	-23.7	**29.7**
rubber	62.9	30.5	14.0	94.6	**30.4**
furniture and other	58.4	29.0	0.2	83.4	**31.2**
publishing	74.3	55.6	-11.4	185.7	**31.5**
machinery and equip.	52.8	67.4	-14.3	63.3	**34.2**
paper	57.1	54.2	4.9	116.4	**38.8**
cars	65.3	84.6	-18.6	71.3	**41.4**
radio and TV equip.	89.1	156.4	-37.0	123.5	**69.3**
computers	126.7	250.9	-57.0	51.7	**77.6**

[*)] *Export performance for the period 1994-96*

Adjustment costs of the EU accession for various sectors of the Polish economy

	Cost pressure*)		***Domestic competitiveness change**)***		***Adjustment costs index***	
	Low investment	*High investment*	*Low investment*	*High investment*	*Low investment*	*High investment*
rubber	0.6	-2.9	5.2	1.5	13.2	-5.0
computers	1.9	-0.9	5.3	2.4	17.0	2.5
electrical machinery	3.0	-1.5	6.1	1.4	21.9	-1.4
construction	2.5	-2.4	7.6	2.4	23.7	-1.7
chemicals	3.5	-0.1	7.7	4.0	26.9	8.4
publishing	4.9	1.9	6.6	3.6	28.5	13.4
radio and TV equip.	4.0	0.1	8.0	4.0	28.9	8.8
precision instruments	5.5	-0.4	6.9	0.9	31.1	0.9
wood	4.7	2.0	9.1	6.2	33.4	19.3
coke and petroleum	1.5	0.8	13.7	12.9	34.4	30.5
furniture and other	4.6	1.4	10.6	7.3	36.4	19.9
basic metals	6.9	4.3	8.3	5.7	38.2	25.0
paper	6.3	4.5	9.2	7.3	38.5	28.8
non-metallic products	5.2	1.3	10.7	6.6	38.5	18.1
leather	6.7	3.0	10.5	6.7	42.3	23.5
clothing	6.3	-0.8	12.8	5.2	46.3	9.0
metal products	6.4	2.0	12.8	8.1	46.4	23.5
recycling	6.4	5.0	12.9	11.5	46.9	39.6
textiles	8.5	5.0	11.1	7.5	48.9	30.7
machinery and equip.	8.8	7.0	11.0	9.2	49.4	40.5
cars	5.0	3.6	16.1	14.5	49.5	42.0
other transport equip.	7.8	6.3	13.0	11.4	51.0	43.1
food and beverages	2.9	1.0	22.9	20.5	58.5	47.6
mining	12.4	8.8	12.4	8.8	63.1	44.5
electricity,gas,water supply	17.3	12.8	21.6	17.0	97.1	74.2

**) Pressure for costs increase in USD (=change in the competitiveness of exports)*

***) Deterioration of competitiveness on the domestic market (=costs increase and import tariffs reduction effects)*

8. Conclusions; the implications of this study for the activities of EBRD and the financial assistance of the EU

The first part of this study has shown that there will be significant impacts on the enterprise sector and on the institutions of state coming from the integration process. The sectoral analysis the Polish economy however showed that those sectors which have adapted worst to the general challenge of transition to the market economy and the opening to international trade will be those which are worst affected by accession to the Union.

The accession of the central European associated countries to the European Union will be one of the main challenges for governments, enterprise managements and trades unions in these countries in the coming decade. While the net benefits of accession cannot be generally disputed, it is clearly important that accession takes place in an optimal way in terms of minimising costs and disruption to these economies. The objective of the existing EU member states and the applicant states should be to maintain economic growth and new employment creation at a high level in central Europe while the necessary process of economic restructuring continues. The scale of restructuring which will take place in the coming decade varies from one country to another; however major challenges such as the very high levels of employment in agriculture in Romania and Poland or the reduction in some heavy industry and mining will not be avoided. The prime objective of institutions providing assistance to these countries must be to promote economic growth and restructuring while easing the path towards their accession to the EU.

Governments in the region have a key role to play in these processes of transition and integration. They must set the framework within which they take place. This requires some increased degree of liberalisation and privatisation in many of the countries and, in some areas, an improvement in the quality of regulation which has been introduced. In some of this work, governments still need specialised assistance. In the context of integration into the EU, they also require advice. So while there is little room for very general, non-specialised advice today, a need for targeted specialist help still exists. In many cases this should come from governments in western Europe, where most of this specialised knowledge is locked up. The real problem is to free-up sufficient high-quality resources from already strapped Government departments to really make a difference to the pace of accession preparation. Even though the EU's 'twinning' scheme has not produced the desired results, there is clearly a role here for EU and other governments to continue to support the process of reform with technical assistance and the short-term secondment of good quality civil servants.

Enterprises will require advice on the optimal way to respond to further liberalisation and the challenges of the EU internal market. Much of this advice can already be sourced within the associated countries themselves and can be paid for in the normal way by companies benefiting from the advice. There is almost certainly a problem however for the smaller companies in the region, whose access to information and advice is very limited. With generally weak business service organisations (e.g. chambers of commerce) these companies will find preparing for accession to be a potential nightmare. Foreign assistance might well provide some of the funding for schemes to provide specialised advice to smaller companies, some of which would be provided by specialists from the EU, on a cost-sharing basis. Similar schemes existed within the European Community in the second-half of the nineteen-eighties when the internal market '1992' programme was running.

Considerable resources will however be required to meet the investment needs of further restructuring, infra-structure development and accession preparation. These investments will be undertaken by the state, central, regional and local government and by enterprises. Other bodies may be involved where former state functions are contracted out to the private sector. The speed of implementation of EU regulation in several sectors, particularly in the environment field, will depend on the financing capacity of the state and enterprises, and this will depend partially on the availability of foreign capital. Ideally foreign direct investment should play an important role, but loans and grants will also be significant.

Foreign direct investment will be financed normally by the enterprises themselves. There is probably a role for the private utility companies to participate in the renewal and development of local services and infra-structure, just as there is clearly a role for foreign investment in transport and communications infra-structure development. In these areas loans from the EBRD or other similar institutions can be important. However the EBRD can perhaps be most useful in lending to or investing in companies undergoing restructuring or preparing for EU accession.

Grants may be particularly important in undertaking investment in areas where private capital is unlikely to flow e.g. agricultural infra-structure or environmental investment. The European Union often has a clear interest that the new member states should complete the transition in these areas as rapidly as possible; it is to be expected then that assistance from this source is liable to be directed at investments where the direct return to private capital might be low but where the investment has high positive externalities. The implementation of the environment directives is a case in point. The EU and also the new member states will want to improve environmental quality as quickly as possible.

The financial constraints on doing this may be eased somewhat if EU structural funds are used to accelerate implementation of the directives; though there are limits to the extent this can be achieved.

However grants will be used to accelerate the development of infra-structure in the public sector, preferably in combination with loans from EIB, EBRD or the World Bank and the normal participation of the host country. This is specifically foreseen in the EU ISPA and SAPARD Programmes. In the choice of projects to be financed, there will obviously be some preference given to Trans-European Networks, but it should not be forgotten that other infra-structure projects may give a better global return on invested capital. Grants, from Phare and pre-accession funds before accession and structural funds after, will need to be used carefully to avoid distorting markets in areas, which can attract private capital.

The governments of the new member states will also need to make corrections to their macro-financial policies in order to accommodate large flows of structural funds (Orłowski, 1999). There is a limit to the extent to which development can be accelerated by inflows of foreign capital. This limit is provided by the need to maintain long-run macro-economic and financial stability in the country. The history of the use of structural funds transfers within the EU provides very bad and very good examples of the appropriate use of these grant funds.

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