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Cost of Institutional Harmonization in the ENP Countries

Veliko Dimitrov

No. 388/2009



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Abstract

This paper analyzes the costs of (partial) institutional harmonization with the EU acquis which countries of the former USSR are expected to conduct under their Partnership and Cooperation Agreements with the EU and European Neighborhood Policy Action Plans. The public sector will have to take an effort of the transposition and adaptation of EU norms, as well as ensuring that they are complied with. Yet, the major part of the adjustment costs will fall on the private sector, as enterprises will have to make substantial investments to comply with new product requirements and business practices.

In this study we used the method of extrapolation of average costs for CEE countries' harmonization with acquis to estimate the potential harmonization costs for the neighboring countries based on internationally comparative macroeconomic indicators like sectoral and total value added. This involved estimating the EU pre-accession support for the CEE countries by main areas as a percentage of the total or sectoral value added, determining the expected degree of limited harmonization in the ENP countries and estimating "coefficients of limited harmonization", which was subsequently used for adjustment of the estimated cost of full harmonization.

Introduction

Institutional harmonization of the EU Eastern neighbors¹ towards EU norms is not going to be without cost both for the public and private sectors in these countries. The public sector will have to take an effort of the transposition and adaptation of EU norms, as well as ensuring that they are complied with. Yet, the major part of the adjustment costs will fall on the private sector, as enterprises will have to make substantial investments to comply with new product requirements and business practices. It should be stressed that the kind of costs we are trying to estimate are not the costs born only by the companies exporting to the EU. These are the costs born by all businesses as they adjust to new norms introduced for the whole economy.

Clearly, the task of estimating such costs would involve tremendous effort, as one would have to work with company-level information and then sum it up for the whole economy. It is also difficult to evaluate which investments are made purely due to harmonization with the EU and which will be made anyway in the process of economic modernization. Moreover, even if one manages to estimate the magnitude of the initial investments, it is close to impossible to estimate the implementation costs, as these relate to numerous changes in lives of people and the ways the companies operate.

One possible way to make the costs estimation for EU Eastern Neighbors would be, first, to look at the experience of Central and East European (CEE) countries that became EU members and then to make an extrapolation to account for the situation and the degree of envisaged harmonization in CIS. In fact, we do follow this route, yet as will be discussed later, such an approach has its own challenge, namely figuring out the extent to which the neighboring countries are going to harmonize (as the agenda of their integration with the EU is quite vague as of the time of writing).

The paper starts with a review of the harmonization costs (Section 1) as well as a discussion of different ways for measuring them (Section 2). Section 3 presents a review of existing studies on harmonization costs. Based on it, in Section 4 we suggest an approach to estimate the costs of harmonization in CIS which must start from defining the areas and the likely degree of

¹ Unless otherwise indicated, by neighbouring countries or ENP countries we mean Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine and Russia

harmonization in each of them. The next step is to find out how much was spent on harmonization of these areas in CEE. Here, the major source of information are the volumes of EU assistance on enhancement of institutional capacity and investment in infrastructure – PHARE, ISPA and SAPARD programs. To obtain the volume of total investment in CEE we derive coefficients based on the comparison of the EU assistance and total investment for the sectors where such data is available. Finally, to obtain an estimate for the ENP countries, we take an average volume of costs in CEE and adjust them for the level of GDP and multiply them by the coefficient reflecting the degree of harmonization. Section 5 presents final conclusions.

1. Definition of harmonization costs

Based on the surveyed literature and the economic theory we group the cost of institutional harmonization into two major categories: primary and secondary. Furthermore, costs can be subdivided into direct budgetary, direct private corporate, indirect budgetary and indirect private corporate costs.

Table 1. Classification of harmonization-related costs

Primary costs
<u>Direct budgetary costs</u> – directly paid from the state budget in order to fulfill certain requirements on the governmental level (administrative, regulatory, technical)
<u>Direct private corporate costs</u> – directly payable by companies in order to achieve a minimum required level of compliance with a variety of standards and norms
Secondary costs
<u>Indirect budgetary costs</u> – costs not directly payable by the state budget but emerging due to changes in the institutional environment
<u>Indirect private corporate costs</u> – indirect costs for company owners and investors as a result of company failures and bankruptcies

Source: Own summary

Primary costs are the compliance costs in a narrower sense - regulatory, administrative, and technical. These are expenses at the country or firm level for upgrading existing infrastructure, equipment and technology, training and capacity building, costs related to amending or creating legislation, company compliance with various technical standards and regulations like labeling and packaging, testing, inspections and quarantine requirements, etc. Secondary costs represent the negative economic impact resulting from alterations. They can emerge in the public sector (e.g. reduction of tax receipts from certain sectors, subject to restructuring), and in

the private sector (bankruptcies, output decline due to increased competition or fall in employment in certain sectors).

This division should not be considered ultimate; it is rather used for explanatory purpose and clarification of the twofold nature of sustained costs – private and public even though they can be highly interconnected and dependent upon each other. So, for instance the amount of costs directly paid from the state budget in order to fulfill certain requirements on the government level could also mean drop of other activities or increase in taxation, which in turn could lead to less consumption and/or investments or increase of internal and external debt. Furthermore, purely private costs like smaller profit and production due to higher competitive pressure could also lead to higher unemployment, thus less tax revenues and need for the government to spend more on unemployment benefits, which again could be considered a significant cause for increase of taxes, etc. Yet, it is important to note that even if some companies might find themselves forced to decrease production due to higher pressure and more competitors, the overall impact of harmonization usually brings gains that lead to increase of production and welfare at a national level. In this chapter we make an attempt to estimate only the direct costs of harmonization of the ENP countries with no regard to some possible negative implications, i.e. indirect costs. This is appropriate because generally the negative dynamic impact of policy changes has to be counterbalanced with all positive effects in order to reveal the net impact and this paper is focusing only on the cost side of the process (see Maliszewska, Orlova and Taran, 2009 for estimation of net benefits at the national level based on results of CGE modeling).

1.1. Direct budgetary costs

Regulatory costs

Institutional harmonization measures may require new legislation or the amendment of existing laws in accordance with the national legislative and regulatory process of each country. This, in turn, will involve time and staff specialized in regulatory work both in the line ministries and the center of government and parliament. Resources required for such legislative and regulatory work may differ significantly depending on the country's legislative structures, procedures and frequency of changes in legislation (Moise, 2004).

Upgrade of customs infrastructure, equipment and technology

Equipment and infrastructure are not a prerequisite for trade facilitation measures (as envisaged in the ENP Action Plans), but some of these measures, such as risk assessment or special

procedures, are greatly assisted by the availability of appropriate equipment and infrastructure. Border agencies call for information and communication technology (ICT) products, as well as infrastructure and scanners, primarily because of their potential to enhance the effectiveness and efficiency of customs operations and control. Numerous studies show that insufficient equipment and infrastructure will make trade facilitation measures more difficult to implement (Moise, 2004).

Training and capacity building

Usually for the introduction of new policy instruments and the harmonization of wide areas of the economy more civil servants is needed, time is also spent for learning new legislation in details, which is another factor increasing demand for labor force in public administration. More specifically, these are costs related to training, increasing a number of civil servant, assuring the availability of partner-side regulatory bodies for cooperation, time for reorganization of government structures, etc. Training, even if often perceived as a less significant item in harmonization agenda, may be costly. According to Moise (2004), the governments can choose between:

- Recruiting new expert staff (if available);
- Training existing staff in a training center;
- On-the-job training;
- Importing trained staff through personal exchange with other government bodies.

The most commonly observed practice is a combination of (b) and (c). Regular training is a common practice in many customs administrations, varying only in frequency and duration. On-job training usually does not involve additional direct budgetary costs, however, it may temporarily increase costs for traders due to underperformance and incompetence of trainees. Ideally trade policy capacity building in the neighboring countries should involve research, training and institutional funding with the aim of further creation of trade-related knowledge and physical base for trade facilitation and harmonization with EU acquis.

The above-described measures have to be undertaken and financed by the government (or by international organizations, including the EU) and, to a certain extent, depend upon the government's will and readiness to implement them. The direct estimation of their costs is hardly attainable. First, they depend greatly on how efficiently reforms are carried out, their time horizon

and organization of public administration. Second, they cannot be clearly separated from ongoing and future reforms that would take place anyway. For these reasons, in this study, we will estimate the potential costs in the ENP countries indirectly based on the CEE countries' experience with the EU pre-accession financial support programs.

1.2. Direct private corporate costs

For private entities, the costs of institutional harmonization related to compliance with standards and regulations. In order to have access to the EU Internal Market, companies in neighboring countries have to fulfill certain criteria regarding quality of their production, labor standards in plants and offices as well as to take appropriate measures for environmental protection according to the EU environmental policy (the last requirements apply now only to EU companies but in future, due to harmonization, they may also apply to export oriented companies in the neighboring countries). This means that resources have to be shifted from production to securing compliance. This involves investing in environmental protection facilities and equipment, securing more space and appropriate clothing for workers, modernization of production capacities, introduction of new production technologies, etc. Now, all EU companies, not only export-oriented ones, are required to comply with the EU norms, otherwise they are not allowed to sell their products on the EU Internal Market. The number of companies in ENP countries that will have to comply with EU norms will likely be smaller than in the EU. The exporting enterprises will have to comply with all EU standards, while other will be subject to the EU norms and regulations only if these norms are implemented at national level. We expect that harmonization costs would vary from country to country depending on its current legislation and administrative and business practices.

2. Ways of measurement of harmonization-related costs

Estimation of costs of institutional harmonization is a methodologically challenging effort. Countries usually do not undertake trade facilitation and institutional harmonization efforts as an end in itself. Rather, they occur primarily as part of a wider reform effort driven by either a transition to a market economy, or accession to a regional or sub-regional grouping or a trade agreement. As a result, there is often no specific allocation of funding for pursuing institutional harmonization per se, making it very difficult to assess those specific costs.

There is also no uniform approach in dealing with costs of harmonization in the ENP or CEE countries. Regarding the latter group, most studies have been prepared by national authorities or research teams for a respective country and focused on sectoral transformation or adoption of a single EU directive/standard requirement. The following methodologies have been used most frequently: survey-based approach, econometric modeling and impact assessment, including commonly used quantitative techniques. In the next few paragraphs we review these approaches and assess their strengths and weaknesses.

2.1 Survey-based approach

It gives insights into the cost expectations of different categories of agents, time horizon of implementation or compliance with different requirements in the public and the private sector, their expected scope, depth, etc. Although there is always concern about the credibility of survey-based studies, in cases where information is insufficient or the problem to be solved is too complex, the use of such studies seems to be justified.

Generally, there is a lack of large-scale studies attempting to reveal compliance costs for a whole economy. Probably the only exception is a World Bank survey, which has been completed explicitly for the purpose of the assessment of compliance costs of firms facing technical standards in their potential export markets. The most useful part of the information focusing on harmonization or compliance cost assessment is shown in Table 2.

Table 2. Total investment costs to comply with technical requirements as a share of sales in three CEE countries (in %)

Country / Indicator	Mean	Standard Deviation	Min	Max
Bulgaria	2.15	2.52	0.13	9.68
Czech Republic	5.71	9.12	0.05	31.88
Poland	3.84	10.99	0.03	55.65
Total	3.74	8.26	0.03	55.65

Source: Wilson and Otsuki (2004)

With regard to the raw questionnaire-based data of the WB study, the practical use of these results for the estimation of harmonization costs in other countries (for instance ENP countries) appears questionable for the reason that the results for the total investment compliance costs are survey-based and most probably reflect many other country specificities that are not easily detected and weeded out. The estimation of compliance cost per capita in the three countries more or less supports the sustainability of the above conclusion.

Table 3. Compliance costs per capita in the three countries covered by the survey

Indicators Countries	Mean of compliance costs as share in company sales	Nominal GDP per capita in US dollars (2004)	Compliance cost per capita in US dollars
Bulgaria	2.15%	3,096	66.6
Czech Republic	5.71%	10,564	603.2
Poland	3.48%	6,317	221.7
Average	3.74%	6,659	297.2

Source: Wilson and Otsuki (2004), UNCTAD Handbook of Statistics, own calculations

First, the evidence shows that the higher the GDP per capita, the higher the share of the compliance costs and second, that compliance cost per capita is at significantly lower level in Bulgaria compared to relatively more economically developed Czech Republic and Poland. These results are somewhat confusing because intuitively one could think of the need of more investments in comparatively backward countries since the level of harmonization with EU standards that has to be achieved is relatively the same across the Union. The results are a bit controversial as well because part of the costs are bound to international prices (like equipment, production lines, etc.), which are not likely to be influenced by national conditions, thus the lower the standard of living, the higher the percentage of compliance costs should be (driven by the import of special equipment). Given these problems with interpretation of the results, we are unable to use them in our study. Moreover, they represent only the costs for exporters to the EU, yet there are other cost categories that have not been covered by this survey, namely, the compliance costs for all non-export-oriented companies in the case of obligatory harmonization and the costs for institutional building in the public sector.

2.2. Econometric modeling

Using an econometric model or simply linking known costs of harmonization to some observable economic indicators, a calculation of ENP countries' harmonization costs (or part of them) is theoretically possible. There are some studies in the literature that attempt to estimate different aspects of costs of harmonization, yet this approach is not very popular. Holzinger et al (2006) uses a regression analysis to estimate the correlation between the EU membership and the cross-national environmental policy convergence. Although there is no clear estimation of costs of harmonization or compliance, the findings show a significant correlation between harmonization with EU standards and environmental policy convergence, i.e. the approximation to EU acquis will certainly mean an increase of the harmonization costs. Although regression analysis is not widely used for estimation of harmonization or transition costs, there are also

other studies and authors that have applied such models. For instance, to estimate costs of harmonization of the Romanian accounting system with international standards – EU directives and IAS/IFRS - COTW (2006) tested whether big enterprises and enterprises with double reporting incur higher implementation costs in absolute terms. The necessary data were gathered using questionnaires. To estimate correlations between numerical variables a simple linear regression model was used:

$$C_i = \alpha_0 + \alpha_1 MC_i + \varepsilon_i$$

with C_i denoting the cost of implementation by company i , and MC_i the market capitalization of company i . The following main regression results were obtained:

Table 4. Linear regression output

Statistics	Values
R	0.696
R squared	0.484
α_0	17,479.552
(t)	(4.206)
α_1	0.372
(t)	(4.311)

Source: COTW (2006)

Based on regression results authors conclude that big companies incur higher implementation costs. We should point out, however, that R and R squared are on relatively low levels.

The European Institute of Romania has taken a different approach for estimation of the impact of harmonization (Ciupagea et al, 2004). In the theoretical part, a twofold division of accession or harmonization costs is introduced. Costs are separated between those generated by institutional building and formation of human resources and costs related to confirmation with and implementation of the standards defined by the European norms and policies. Furthermore, there is a suggestion to distinguish between costs arising in the public and private sector in the areas like transport infrastructure, labor and social security standards, consumer protection, quality and environmental standards. To estimate these costs, a macro-economic model is used (LINK-Dobrescu model), simulating potential changes in major macroeconomic indicators like GDP, household consumption, employment, etc. (according to two different scenarios – isolation and integration and in two stages: 2000-2004 and 2004-2015). Although such simulations could contribute to understanding future perspectives at macro level, they do not solve the cost-estimation-problem.

2.3. The Standard Cost Model (SCM)²

The SCM is a method for determining administrative costs for businesses imposed by regulations, i.e. by legislative changes. It is a quantitative methodology that can be applied in all countries at different levels. The method can be also used to measure a single law, selected areas of legislation or to perform a baseline measurement of all legislation in a country. Furthermore, the SCM is also suitable for measuring simplification efforts as well as administrative consequences of new legislative proposals and compliance costs at the firm level. When carrying out the actual measurement in the SCM framework, it is important to get as detailed data as possible. Not only will this increase the level of accuracy, but it will also ensure that data can be compared at the disaggregated level. Comparing aggregated data at the national level may reveal cross-country differences, but this will often not be enough to explain why there is a difference. In order to explain differences, it is often necessary to be able to exclude differences in wages and overhead costs, and mainly focus on the differences in time spent on performing a certain administrative activity. There are several publicly available applications of the SCM³, yet none of them is closely related to the goal of this paper, i.e. estimation of costs of ENP countries' harmonization with EU standards.

2.4 Impact assessment

Impact assessment could probably retrieve the most accurate results regarding the forthcoming harmonization because this method allows the reflection of country specificities, exact scope and frequency of implementation. Yet the implementation of a bottom-up impact analysis for the whole country is time- and resource-consuming. In many cases, when analyzing regulations, governments, private and international organizations conduct an impact assessment – a cost-benefit analysis that reveals whether legislative requirements are beneficial or not and what will be their net cost. This way of bottom-up calculation relies on summing up all retrieved results – costs and/or benefits of a single directive, standard to be adopted or another unit of harmonization, presenting at the end total investments needed for achievement of compliance in a whole sector or a subsector. There were impact assessments of harmonization costs with EU

² More information on the assumptions of the model and the applied approach can be found in Kolesnichenko et al. (2007), Ch. 4.

³ Accessible at: <http://www.administrative-burdens.com/default.asp?page=140>

norms done in some CEE countries, and below we provide a brief description of two commonly used Impact Assessment methodologies: the one of the European Commission and of the Office of Communications in the UK (Ofcom).

2.4.1. European Commission Impact Assessment Guidelines

The impact assessment analysis, according to European Commission (2005) guidelines, aims to predict the likely consequences – both intended and unintended – of implementation of EU regulations on national level. One of the key objectives of this methodology is enable any non-specialist to follow the argumentation and understand the positive and negative impacts of each of the options considered. Analysis is usually carried out in three consequent steps: identification of environmental, economic and social impacts of a policy or a single requirement, why they occur and who is affected. The first step is to identify those impacts that are likely to occur as a consequence of implementing the policy⁴. A useful approach is to build a casual model – a bottom-up exercise that starts by identifying the impacts that would arise as a result of the policy attaining its objectives. These primary impacts can then form the basis for identifying further rounds of impacts and so on. How far one should develop the casual model is a matter of judgment (a more detailed analysis makes for greater clarity, yet requires greater investments in time and effort). Presented below are some possible areas of economic impact and key questions⁵ that could be relevant for doing an impact assessment in the ENP countries:

1. Impact on operating cost and conduct of business:

- Will it impose necessity of additional adjustment, compliance or transaction cost on business?
- Does the option affect the cost or availability of essential inputs (raw materials, machinery, labor, energy)?
- Will it entail the withdrawal of certain products from the market?

2. Impact on administrative costs on business

- Does the option impose additional administrative requirements on businesses or increase administrative complexity?

⁴ Some of the impacts are always intentional and are therefore identified in the form of objectives of the policy to be implemented.

⁵ They originate from the European Commission Impact Assessment Guidelines and were selected from a set of areas and questions as most relevant in the light of the present study.

- Do these costs weigh heavily on SMEs (this should be rather an optional question)

3. Public authorities

- Does the option have budgetary consequences for public authorities at different levels of government, both immediately and in the long run?
- Does the option require establishing of new or restructuring of existing public authorities?

The areas and questions represent an example of how the impact assessment works at this level; they are neither exhaustive nor definitive. Most of these questions can have a quantitative answer using simple arithmetic and proper information for the respective sector or the economy. Fundamental limitation of the approach is related to the fact that accurate calculation can be made when dealing with a single requirement or directive focused on a certain area but not on a variety of areas combined with many different alterations. More sophisticated quantitative methods can be used as well. Table 5 presents suitability of the major model types with respect to the range of the coverage of the measure.

Table 5. Model suitability with respect to the range of coverage of the measure

Analysis	CGE models	Macroeconometric models	Sectoral models
Single-market analysis without economy-wide impacts			X
Single-market analysis with economy-wide impacts	X	X	
Multi-market analysis with effects in secondary markets	X	X	

Source: European Commission Impact Assessment Guidelines

As underlined by the Commission, these models are appropriate for the estimation and valuation of legislative measures' impacts on GDP, unemployment, international trade, household income, etc. We call such effects, as to their negative side, as "indirect costs". What we need in this study are the costs borne by private entities in all sectors (or the main sectors, in which harmonization effort is expected) given a variety of options and costs of institutional building understood as costs of transformation of existing or creation of new government bodies.

2.4.2. Ofcom's approach to Impact Assessment

A key principle of Ofcom (2005) Impact Assessment is its proportional character to the impact of the decision that has to be made. This means that the more wide-ranging the impact on stakeholders is, the more comprehensive the Impact Assessment should be (the depth of the analysis naturally depends on the information available as well). According to the Ofcom's official guidelines, producing an Impact Assessment normally involves six stages:

- Defining the issue that needs to be considered and identification of citizens' or consumers' interests;
- Definition of the policy objective;
- Identification of possible options of compliance;
- Identification of the impact on different types of stakeholders;
- Identification of any impact on competition;
- Assessing the impact and choosing the best option (if available)

This approach, due to the comprehensiveness of its analytical tools is greatly suitable for the purpose of the present study. Yet, as evident from the above outlined stages, it is very demanding in terms of input information – its proper application would require either conduct of surveys or collection of highly disaggregated data.

2.4.3. Examples of impact assessment

The National Program for the Adoption of the Acquis (NPAA) in Slovakia can serve as an example of application of the impact assessment method. According to the estimation results, around 4.8 billion Euros were needed for securing compliance with all environmental requirements (see Table 6). The Government of Slovakia used the Environmental Impact Assessment⁶ for the estimation of costs and benefits of different legislative proposals on harmonization with EU directives and regulations, yet the exact methodology was not described. The total investments needed have been calculated as a sum of the investments needed in individual subsectors, which was a data intensive procedure.

⁶ Act No. 127/1994 on Environmental Impact Assessment, Decree No. 52/1995 of the Ministry of the Environment on the Register of Persons Professionally Qualified for Environmental Impact Assessment

Table 6: Structure of expenditures for securing compliance with environmental acquis in Slovakia over 1999 – 2008

Sectors	Investment (Million EUR)	Non-investment ⁷ (Million EUR)
Horizontal legislation	2.07	4,9
Air protection	756.34	71,20
Waste management	412.54	19,64
Water protection	3,388.84	68,75
Nature conservation	19.64	7,36
Industrial pollution control and risk management	22.09	12,27
Chemical substances and genetically modified organisms	12.27	6,14
Noise from vehicles and machinery	0.0	2,05
Total	4,616.64	192,32
Investment + non-investment	4,808.59	

Source: Government Office of the Slovak Republic, 2000

Ciupagea et al (2004) cite estimates done for Romania, in particular, for the transport and the environmental domain both prior and after the accession. There is no clarity about how the amounts have been estimated, what is known is that they have been provided by the Romanian authorities – the Ministry of Transport, Construction and Tourism, and the Ministry of Environment and Water Administration. The estimated total financing needed for acquis implementation in the transport area amounted to 18,293 million EUR for the period 2004-2013 or 1,829.3 million EUR annually, and 29,523 million EUR for the period 2004-2021 or an average annual amount of 2,271 million EUR in the environmental area. A detailed breakdown is presented in Tables 7 and 8.

Table 7. Financing needs estimated for Acquis implementation in the transport sector in Romania (million EUR)

Item	Total	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
I. Infrastructure (A+B), out of which:	16,697	478	1,565	1,923	2,591	1,457	1,152	1,275	1,545	1,575	1,412
A. Infrastructure	10,629	245	1,259	1,396	1,650	649	580	817	991	881	899
- Road	0	0	0	0	0						
- Railway	8,650	166	1,044	1,188	1,462	492	420	620	849	749	755
- Constanta seaport	344.6	17.5	64	67	90	40	38	18	10	0	0
- Seaports and inland waters	1,206	29	117	115	81	111	116	124	78	78	96
- Aerial	418	33	33	26	7	6	6	54	54	54	48
B. National roads' rehabilitation	6,068	234	306	526	941	808	572	458	553	694	513
II. Cost of acquis application	1,595	296	277	280	255	198	145	144	0	0	0
Total (I+II)	18,293	775	1,842	2,203	2,846	1,655	1,297	1,419	1,545	1,575	1,412

Source: European Institute of Romania (EIR), according to an estimation provided by the Romanian Ministry of Transports, Constructions and Tourism - <http://www.ier.ro/PAIS/PAIS2/En/study12.pdf>

⁷ No clear definition of non-investment costs is provided; we would suggest that these are pure administrative expenditures like filling out or typing documents, inter and intra coordination, communication costs, etc.

Table 8. Estimation of environment costs in Romania with the financing sources in the period of 2004 – 2021 (in million EUR)

Item	Total	Out of which:			
		Total budget	Total EU funds	Total economic agents	Total other sources
Horizontal legislation	9.05	9.01			0.04
Air quality	804.28	19.97	3.20	774.51	6.6
Waste management	2,474.78	571.48	1,010.18	648.98	244.14
Air quality	16,282.06	3,427.84	7,008.88	2,198.34	3,647
Industrial pollution control	9,797.64	1,655.26	540.26	6,909.32	692.8
Protection of nature	7.32	7.32			
Chemicals	29.73	6.23	1.0	22.5	0.0
CNCAN	31.80	27.03			4.77
Noise	1.15	1.15			
Civil protection	85.52	22.43			63.09
General total	29,523.32	5,747.73	8,563.52	10,553.64	4,658.43

Source: European Institute of Romania (EIR) according to an estimation of the Romanian Ministry of Environment and Water Administration - <http://www.ier.ro/PAIS/PAIS2/En/study12.pdf>

2.4.4. Conclusions on impact assessment methodologies based on a bottom-up casual model

- The models allow for a deep analysis on the level of separate activities and therefore, the estimations could be highly realistic;
- They are suitable for measurement of the impact of single regulations but not process-related costs in general; at the same time, the detailed approach speaks in favor of applying the models in small-scale studies;
- The proper application of the models requires both deep knowledge of a country, sector and subsector specificities and highly disaggregated statistical or sociological data.

3. Review of studies on harmonization costs

This section provides a brief overview of several studies that describe major cost categories related to the EU accession of the CEE countries. In broader sense, we could talk about institutional harmonization costs. When talking about expenditures related to complying with various kinds of standards and norms we mean investment expenditures and, in particular, expenditures on the implementation of environmental protection norms, improvement of sanitary conditions in food production, costs of increasing safety at work, etc. According to a study dealing with costs and benefits of Poland's EU integration (CEN, 2003), these and similar types

of expenditures should not be treated as costs, but as investments (even when considering short or medium term). The authors stress that labeling the expenditures related to adaptation of *acquis*, as costs of accession to the EU is a misunderstanding. It is pointed out that those measures and the related costs bring important – although hardly measurable – benefits for the society such as clear environment, good health and fewer incidents at work.

Another study (Tupy, 2003) takes a different point of view. Although the accession of CEE countries brings important benefits (or more precisely creates conditions for them) such as reduced barriers to trade and investment, completely free movement of labor by 2010 – 2013 and economic liberalization in some sectors, it also accounts for stringent environmental, sanitary, etc. regulations, which are generally costly and represent a significant entry barrier especially for the SME sector (solely complying with environmental standards is estimated to impose a cost of up to 120 billion euro on the eight CEE countries that joined the EU in 2004). The European Commission (2001) also expected that the environmental legislation alone will cost between 2 and 3% of annual GDP of CEE countries during the transition period of five to seven years.

Angelov (2001) discusses the cost of Bulgaria's compliance with EU *acquis* regardless of source of their financing – domestic private or public, FDI or external borrowing. It amounted to 25-35% of the overall investment needs before accession or in real terms about 15 billion EUR (6% of the annual GDP for 20 years). His estimation also show that for compliance with EU regulations in the transport sector the CEE countries had to invest over 90 billion EUR, with a figure for Bulgaria of 5.3 billion EUR. According to estimation of the European Commission (2001), for achievement of environmental standards alone, the CEE countries that joined in 2004 needed 122 billion EUR.

The above figures should not to be taken exactly – first, it is very difficult to anticipate the overall volume of investment and second, if some investments are easier to identify for each group, others are more difficult. For instance, environment protection standards could be met not only, and not even mainly, by cleaning and protective equipment, but rather by modern energy saving and environment friendly technologies. Some authors (CEN, 2003) suggest that costs or losses incurred by particular sectors could be considered as adaptation costs that accompany the process of structural change and compliance related to the accession to the EU. Therefore, negative sectoral effects, which in the end turn to be positive for the economy as a whole, and

which are unavoidable in a long-term perspective, should not be treated as costs of harmonization, but instead considered as expenses on modernization.

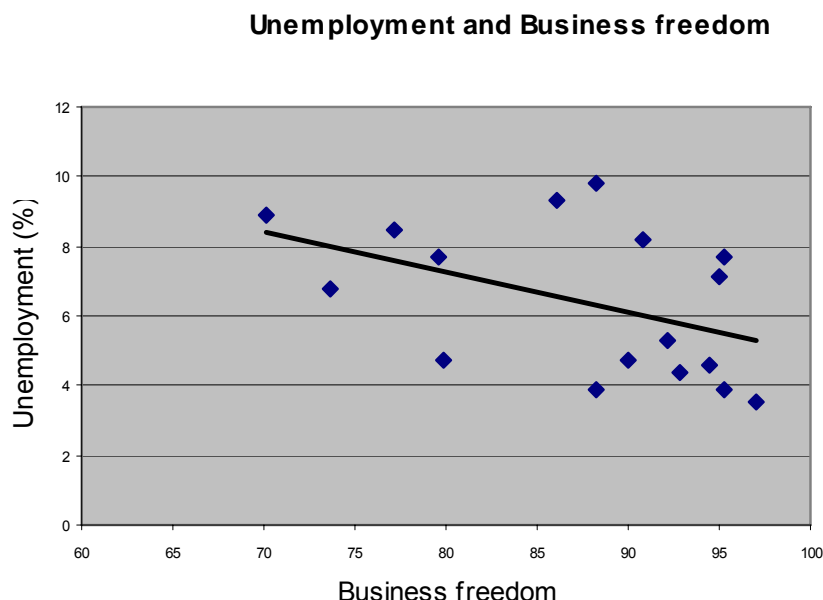
There are also studies that look at the indirect costs of harmonization that fall on the economy as a whole. So Tupy (2003) shows that all kinds of additional regulations that have to be implemented should be seen as a job-killing factor, i.e. an indirect cost. Following his research, most of the EU regulations that prevail nowadays were developed to suit the need of the society for social justice, consumer protection and environmental preservation. Yet, in the case of less developed countries these regulations may hamper higher growth rate and job opportunities. Table 9 demonstrates that less business regulation guarantees lower unemployment rate.

Table 9 Regulatory environment and level of unemployment in EU15, Norway and USA

Country	Business freedom* - 2007** (%)	Unemployment rates (%) – 2006
Norway	97.0	3.5
Denmark	95.3	3.9
Netherlands	88.3	3.9
Ireland	92.8	4.4
United States	94.5	4.6
Luxembourg	90.0	4.7
Austria	79.8	4.7
United Kingdom	92.1	5.3
Italy	73.7	6.8
Sweden	95.0	7.1
Finland	95.3	7.7
Portugal	79.6	7.7
Belgium	90.8	8.2
Spain	77.1	8.5
Greece	70.2	8.9
France	86.1	9.2
Germany	88.2	9.8

* The ability to create, operate and close an enterprise quickly and easily. The indicator measures how burdensome regulatory rules are. ** Calculated with data for 2006

Source: Eurostat, Index of Economic Freedom (2007), own summary

Figure 1: Unemployment and Business Freedom

Source: Eurostat, Index of Economic Freedom (2007), own summary

The same is demonstrated by Figure 1: a negative correlation between the score of business freedom and the unemployment rate (yet, the number of outliers is significant as well). However, one must remember that unemployment rate is also dependent on labor market regulations, monetary and the fiscal policy, etc. There is also evident that within the EU there is a different level of freedom and each country can determine its own internal economic policy and regulations (because the EU directives leave a great room of flexibility of how they can be transposed into a national legislation). In particular, higher standards and intense competition may drive some companies and even industries out of business, which is going to lead to a rise of unemployment, yet this effect will certainly not hold in the long run. Moreover, all negative effects can be mitigated thanks to labor migration not only within a country, but also between countries.

Table 10 summarizes the results obtained in various studies and official documents dealing with the expected cost of harmonization in the agricultural, environmental and transport areas in the EU candidate countries.

Table 10. Costs of compliance with EU standards according to different studies

Country/ Indicator	Agriculture	Environment	Transport
Bulgaria Total investment costs – 2.15% of domestic company's sales (Wilson and Otsuki, 2004)		- 15 billion EUR (Angelov, 2001); - 8.6 billion EUR (EC, 2001); - 11.7 – 15.0 billion EUR (IIASA, 1999)	5.3 billion EUR (Angelov, 2001)
Cyprus		1.1 billion EUR (EC, 2001)	
Czech Republic Total investment costs – 5.71% of domestic company's sales (Wilson and Otsuki, 2004)		- 6.6 – 9.4 billion EUR (EC, 2001); - 10.4 – 13.4 billion EUR (IIASA, 1999)	
Estonia		- 4.4 billion EUR (EC, 2001); - 1.5 billion EUR (IIASA, 1999)	
Hungary		- 4.1 – 10 billion EUR (EC, 2001); - 10.4 – 13.4 billion EUR (IIASA, 1999)	
Latvia		- 1.5 – 2.4 billion EUR (EC, 2001); - 1.71 billion EUR (IIASA, 1999)	
Lithuania	2-2.5% of GDP (205 million EUR from SAPARD in the period 2000-06, accounting for 75% of the total cost) (CEPS, 2006)	- 1.6 billion EUR (EC, 2001); - 2.38 billion EUR (IIASA, 1999)	
Poland Total investment costs – 3,84% of domestic company's sales (Wilson and Otsuki, 2004)	2-2.5% of GDP (172 million EUR annually, representing 75% of the total cost); (CEPS, 2006)	- 30.4 billion EUR in 1999 (CEN, 2003); - 22.1 – 42.8 billion EUR (EC, 2001); - 34.1 – 35.2 billion EUR (IIASA, 1999)	
Romania	538 million EUR (Ciupagea et al., 2004)	- 22 billion EUR (EC, 2001); - 29.5 billion EUR (Ministry of Environment of Romania); - 20.2 – 22.0 billion EUR (IIASA, 1999)	18,3 billion EUR (Ciupagea et al., 2004) *
Slovakia		- 4.8 billion EUR (EC, 2001); - 4.8 billion EUR (NPPA, 2000) - 4.1 – 5.4 billion EUR (IIASA, 1999)	3.5 billion EUR (NPAA, 2000)
Slovenia		- 2.4 billion EUR (EC, 2001); - 1.84 billion EUR (IIASA, 1999)	
CEE countries		- 79 – 120 billion EUR (estimation of the European Commission); - 78 – 85 billion EUR (IIASA, 1999)	90 billion EUR (Angelov, 2001)

Sources: CEPS, IFW, ICPS, European Commission, CEN, BAS, NPAA Slovakia, EIR, IIASA, The World Bank, own summary, * Information initially provided by the Romanian Ministry of Transport, Construction and Tourism

4. Harmonization costs in the neighboring countries

4.1. Methodological steps

For purpose of measuring the potential harmonization costs in the ENP countries we decided to use costs incurred by other countries as a benchmark and then adjust them for ENP countries specifics. This approach is less reliable than the impact assessment and could be less or more reliable in comparison with the survey-based method depending on the latter's quality, depth and coverage. However, difficulty in conducting an impact assessment for the ENP countries and the lack of appropriate questionnaire-based data, has limited our choice⁸.

As the first step, we defined the major areas of harmonization of the ENP countries and their respective degree. The next step was to find out costs of harmonization in these areas in the CEE countries, in order to work out a relationship to an observable macroeconomic indicator, which we can use later for the estimation of such costs in the neighboring countries. Here, the major source of information was the volumes of EU assistance on enhancement of institutional capacity and investment in infrastructure and agriculture – PHARE, ISPA and SAPARD programs, including national co-financing. Yet, the resources allocated under these programs represent only a part of all harmonization-related costs in the CEE countries, therefore to obtain the volume of the total investment, we derive coefficients based on the comparison of the EU assistance and total investment for the sectors where such data is available (see Table 10). Finally, to obtain an estimate for the ENP countries, we take an average volume of costs in CEE and adjust them for the level of GDP and multiply them by the coefficient reflecting the degree of limited harmonization.

4.2. Areas and the degree of likely harmonization in the ENP countries

In this section we review major types of activities and economic sectors that the neighboring countries are supposed to harmonize according to the provisions of the ENP Actions Plans and the Partnership and Cooperation Agreements (PCAs)⁹. These activities are of different nature,

⁸ The research team decided not to use regression analysis due to limited number of observations

⁹ Original texts are accessible at: http://ec.europa.eu/external_relations/ceeca/pca/index.htm

yet most of them are crucial for trade facilitation, ensuring better market access and closer integration in energy and transport sectors. In particular, the rules to be harmonized fall into the following areas: agriculture and food safety, competition, customs, employment and social policy, environment, external trade, internal market (free movement of people, single market for goods, single market for services, free movement of capital), company law, public procurement, intellectual property rights, transport and energy policy¹⁰. Furthermore, we have attempted to define the degree of limited harmonization for the neighboring countries as envisaged in the ENP strategic papers.

Internal market:

Free movement of people – abolishment of all discriminatory measures based on nationality of migrant workers in respect to working conditions, remuneration and dismissal.

The rules related to free movement of EU citizens within the Union, Schengen information system, penetration of external borders, visas, asylum, immigration, rights of non-EU nationals, relations with non-EU member countries, recognizing qualifications, skills and mobility and social protection of workers will not be harmonized.

Single market for goods – gradual removal of all export and import restrictions according to the PCAs, gradual liberalization of trade in steel products and gradual removal of export duties on ferrous scrap and voluntary harmonization with EU technical requirements.

An explicit harmonization is not to be expected in respect to consumer health, including genetically modified organisms, quality of goods and services, community patents, biotechnological inventions, duty free treatment, management of pollution and waste, energy efficiency and the general rules establishing the Single European Market.

Single market for services - Removal of obstacles identified, taking into account WTO services commitments, effective implementation of legislation setting out basic principles of non-discrimination, compliance with the recommendation of the International Monetary Fund, independent and well-trained supervisory authorities in accordance with internationally

¹⁰ In a few cases there are rules that apply to more than one area.

recognized standards, as well as effective implementation of adequate company law, accounting and governance rules.

No explicit harmonization is expected regarding recognition of qualifications, “Services” Directive, competitiveness of services related to businesses, liberal professions, inland navigation, intra-Community air routes, postal services, etc.

Free movement of capital – free movement of capital related to direct investments or other investments made in accordance with the provisions of the PCAs, protection of foreign investments as well as to liquidation or repatriation of these investments and of any profits resulting from them.

No explicit harmonization is expected regarding the free movement of capital and the relations within the Union, consumer credit, actions for injunctions, common taxation of parent companies and their subsidiaries, indirect taxes on raising of capital, Statute for a European Company, Investor compensation schemes and late payments.

Other horizontal areas:

Food safety - legislative approximation in the sphere of food hygiene, including food processing, convergence with EU food traceability legislation, general food safety principles and requirements (Regulation (EC) No 178/2002), implementation of the Hazard Analysis Critical Control Point system at enterprises and controlling bodies, including the fish industry.

No explicit harmonization is expected to take place regarding labeling, presentation and advertising of foodstuffs, deregulation of pack sizes, prices of products offered to consumers, frozen food, genetically modified organisms, novel foods and novel food ingredients, nutrition and allergens, foods for infants and young children, food packaging and containers, imports from third countries and intra-community trade, genetically modified feeding stuffs, animal waste and pathogenic agents, etc.

Competition – state aid policy, anti-trust legislation, control regimes.

No explicit harmonization is foreseen regarding calculation of fines, immunity from and reduction of fines, information on infringements and complaints, exemptions of agreements of minor importance as well as the competition rules applicable to specific sectors: agriculture (state aid in the agricultural sector, state aid to small businesses), postal services and telecommunications.

Customs – general legislation aligned with the international practice, adoption of the harmonized system in use, risk based customs control, well-trained customs officials

No harmonization is expected to take place regarding the Community customs code, the Common Customs Tariff and the Integrated Tariff, customs check and exemptions at internal and external borders, the specific schemes and the agreements with third countries.

Employment and Social Policy – closer approximation to EU practices, non-discriminatory treatment of migrant workers, trade unions' rights and core labor standards based on European standards

No explicit harmonization is foreseen regarding the partnership for growth and employment, the legal instruments for Community employment policies, incl. the quality of employment as well as reporting and statistics, job creation measures, social protection, third-country nationals, organization of working time, cross-industry social dialogue, protection of specific groups of workers, the workplace, the female employment and entrepreneurship, etc.

Enterprise – national registration system for companies, based on best practice in EU Member States, non-discriminatory, transparent and predictable business conditions, adoption and implementation of a system of impact assessment of regulatory measures, consultation of stakeholders, and prior notification of regulatory changes to economic operators, developed domestic securities markets and improved regulatory and supervisory framework for non-bank financial institutions, approximation of legislation on liability for defective products and general product safety, consolidated and strengthened market surveillance capacities of state institutions based on best practice of EU Member States.

No explicit harmonization is to be expected in the areas of small and medium-sized enterprises, multiannual program for enterprises and entrepreneurship, financing, corporate social

responsibility as well as regarding the rules for specific industries like automobile, chemical, pharmaceutical, textile industry and tourism.

Environment - Strategic planning of environment issues and co-ordination between relevant actors, establishment of procedures regarding access to environmental information and public participation, structures and procedures to carry out environmental impact assessments, implementation of the provisions under the Kyoto Protocol, and the UN Framework Convention on Climate Change.

No explicit harmonization is expected regarding biodiversity, genetically modified organisms, management of specific soil types, discharge of substances, civil protection measure, noise management and the cooperation with third countries.

External trade – Gradual removal of restrictions and non-tariff barriers that impede bilateral trade and implementation of the necessary regulatory reforms, gradual liberalization of trade in steel products and gradual removal of export duties on ferrous scrap, harmonization of the remaining import licensing and registration requirements with those of the EU, removal of the existing discriminative measures against imported products in terms of measures covering the weight, composition, labeling manufacture and description of products (see also customs).

Harmonization will not take place in respect to export credit insurance rules, dual-use items and technology, exports of cultural goods, rules for imports from certain non-EU member countries, anti-dumping measures, anti-subsidy measures, defense against trade barriers, etc.

Public procurement - approximation to the EU legislation on procurement for goods, services and works across all relevant public bodies at all levels, open and competitive award of contracts, in particular through calls for tenders, possibility of independent/ judicial review in the event of disputes and effective dissemination of tendering opportunities and time-limits (above agreed thresholds), which allow EU as well as domestic suppliers to prepare and submit tenders.

Sectors:

Transport - National sustainable transport policy for development of all transport modes, coherent with the EU's White Paper on transport, infrastructure policy in order to identify and evaluate the priority projects in various sectors, co-operation in satellite navigation (including joint research actions and applications), improved efficiency of freight transport services (including issues of border crossing procedures), incl. multi-modal services and address issues of interoperability, implementation of relevant international IMO (International Maritime Organization) conventions.

Harmonization is not expected in respect to carriage of passengers, employment and working conditions, technical harmonization of motor vehicles, inland waterways navigation, the Single Sky and air traffic management, biofuels, passenger rights, intelligent transport systems, European space policy and regarding rules applicable to anti-trust and state aid legislation in transport.

Energy - gradual convergence towards the regulatory principles of the EU internal electricity and gas markets, including price formation, participation in EU related energy events as appropriate, including gradual involvement in the European Gas and Electricity Regulatory fora, increased performance of networks and reduction of network losses (oil, gas, electricity), increased performance, safety and security of the gas transit networks, restructuring of the solid fuels mines, compliance with the internationally accepted nuclear safety standards, accession to the agreement concluded with EURATOM on peaceful uses of nuclear energy and the adoption of a nuclear waste strategy.

No explicit harmonization is foreseen in the areas of climate change, greenhouse gas emission allowance trading scheme, energy taxation, European Strategic Energy Technology Plan, sustainable power generation from fossil fuels, "Intelligent Energy – Europe" program for innovation and competitiveness.

As previously indicated, the institutional harmonization in the neighboring countries will not be equally distributed among sectors, primarily focusing on trade in goods and important infrastructure sectors like energy and transport, with a rather limited scope of harmonization in services and agriculture. According to the ENP Action Plans and the Partnership and Cooperation Agreements, foreseen harmonization measures and objectives are very similar

across countries, with the exception of some country specificities like nuclear power plants, hazardous areas, etc.

Although the agenda is generally quite wide in scope and concrete efforts undertaken by each country may differ even if final goal is the same, this similarity makes the assessment of cost and benefits of the integration easier, allowing the use of a uniform approach. On this basis we found it appropriate to treat all countries equally, attempting also to assign to each area a separate coefficient representing the expected degree of limited harmonization. Estimates of the harmonization-degree-coefficients provided in Table 11 are based on the arbitrary authors' judgment after studying EU policies in each area and measures foreseen in the ENP strategic documents, as summarized above.

For example, in the public procurement area harmonization will encompass the establishment of open and competitive award of contracts in all areas – goods, services and construction works, possibility of independent review in the event disputes and effective dissemination of tendering opportunities and time-limits. On the other hand, no explicit harmonization is expected to take place in the public awarding in the water, energy, transport and postal services sectors, defense procurement, e-Government measures, public procurement partnerships and concessions under the Community law.

The number of public procurement areas to be and not to be harmonized is generally the same for all ENP countries, yet the first category encompasses more general and wide-ranging measures, i.e. presumably more resource-intensive while the second one consists of specific and some sector-oriented measures, i.e. presumably as a weighted share in the public procurement area as a whole and all harmonization-related costs, their value would be less than 50%. For this reason, we decided to assign a limited-harmonization-coefficient to the public procurement area of 0.75. Indeed, this approach could be only a very rough measure for the harmonization efforts across areas, yet the large scale of the study does not allow any closer examining of each domain and the application of more sophisticated metrics.

Table 11 shows the most relevant EU policy areas and activities as well as an assessment of the degree of institutional approximation of the ENP countries.

Table 11. Evaluation of ENP countries' foreseen harmonization

Areas	Expected harmonization in ENP countries, by subareas	Coefficient of harmonization [0;1] (1=full harmonization)*
Agriculture / Food safety	<ul style="list-style-type: none"> - Legislative approximation in the sphere of food hygiene, including food processing (see "Food Safety"); - Convergence with EU food traceability legislation, general food safety principles and requirements (Regulation (EC) No 178/2002); - Implementation of the Hazard Analysis Critical Control Point system at enterprises and controlling bodies, including the fish industry. 	0.15
Competition	<ul style="list-style-type: none"> - State aid policy compatible with that of the EU; - Prohibition of state aids which distort trade; - Adequacy and compatibility with the EU, of the domestic anti-trust legislation and control regimes. 	0.5
Customs	<ul style="list-style-type: none"> - Customs legislation aligned with international and EU standards; - Adoption of the Harmonized System in use, with a view to adopt the Combined Nomenclature in the longer term, as agreed in the PCA; - Risk based customs control and set the necessary organizational framework; - Customs-related legislation: provisions on customs control of precursors, counterfeit and pirated goods, dual use goods, and cultural goods; - Well-trained customs officials, higher computerization of the customs administration and upgraded Customs laboratories. 	0.4
Employment and Social Policy	<ul style="list-style-type: none"> - Closer approximation to EU standards and practices in the area of employment and social policy; - Non-discrimination of migrant workers on a ground of nationality; - Trade unions' rights and core labor standards based on European standards and in accordance with relevant ILO conventions; - Effective employment creation and poverty reduction; - Sustainable systems for education, health and other social services with access for all. 	0.1
Energy	<ul style="list-style-type: none"> - Gradual convergence towards the principles of the EU internal electricity and gas markets; - Price convergence of the neighboring countries' and the EU markets; - Participation in EU related energy events as appropriate, including gradual involvement in the European Gas and Electricity Regulatory fora; - Increased performance of networks and reduction of network losses (oil, gas, electricity); - Increased performance, safety and security of the gas transit network; - Restructuring of the solid fuels mines; - Compliance with the internationally accepted nuclear safety standards; - Accession to the agreement concluded with EURATOM on peaceful uses of nuclear energy; - Adoption of a nuclear waste strategy. 	0.7
Enterprise	<ul style="list-style-type: none"> - Implementation of a national registration system for companies, based on best practice in EU Member States (possible accession to the European Business Register); - Non-discriminatory, transparent and predictable business conditions, simplified administrative procedures and fight against corruption; - Adoption and implementation of a system of impact assessment of regulatory measures, consultation of stakeholders, and prior 	0.2

Areas	Expected harmonization in ENP countries, by subareas	Coefficient of harmonization [0;1] (1=full harmonization)*
	<ul style="list-style-type: none"> notification of regulatory changes to economic operators; - Privatization program, including large-scale privatization, and increased transparency of the process; - Reduction of the involvement of the state in setting prices; - Strengthening banking regulation and supervision; - Developed domestic securities markets and improved regulatory and supervisory framework for non-bank financial institutions; - Harmonization of the necessary framework and sectoral legislation with the EU technical regulations in the priority sectors (priority sectors not stated); - Transparent and predictable regulatory environment for the economic operators; - Approximation of legislation on liability for defective products and general product safety; - Gradual simplification of procedures of conformity assessment of industrial products, in accordance with the requirements of the Technical Regulations (EU Directives), and with the objectives of avoiding compulsory certification of non-risk products and multiple testing of products; - Consolidated and strengthened market surveillance capacities of state institutions based on best practice of EU Member States. 	
Environment	<ul style="list-style-type: none"> - Strategic planning of environment issues and co-ordination between relevant actors; - Waste management and water protection; - Establishment of procedures regarding access to environmental information and public participation, including implementation of Aarhus Convention, particularly by establishment of structures and procedures for ensuring an acceptable level of service to those wishing to have access to information; - Structures and procedures to carry out environmental impact assessments, including in relation to trans-border issues; - Implementation of the provisions under the Kyoto Protocol and the UN Framework Convention on Climate Change; - Possible participation in selected European Environment Agency activities. 	0.4
External Trade	<ul style="list-style-type: none"> - Gradual removal of restrictions and non-tariff barriers that impede bilateral trade and implementation of the necessary regulatory reforms; - Gradual removal of all export and import restrictions according to the PCA; - Gradual liberalization of trade in steel products and gradual removal of export duties on ferrous scrap; - Harmonization of the remaining import licensing and registration requirements with those of the EU; - Removal of the existing discriminatory measures against imported products in terms of measures covering the weight, composition, labeling manufacture and description of products; - Full and effective implementation of most favored nation and national treatment. 	0.6
Internal Market – 0.55 on average		
- Free movement	- Full application of the best endeavor clause by abolishing all discriminatory measures based on nationality which affect migrant	0.3

Areas	Expected harmonization in ENP countries, by subareas	Coefficient of harmonization [0;1] (1=full harmonization)*
of people	workers, as regards working conditions, remuneration or dismissal.	
- Single market for goods	<ul style="list-style-type: none"> - Gradual removal of all export and import restrictions in the spirit of the PCA; - Gradual liberalization of trade in steel products and gradual removal of export duties on ferrous scrap. 	0.85
- Single market for services	<ul style="list-style-type: none"> - Removal of obstacles identified, taking into account WTO services commitments; - Effective implementation of legislation that sets out basic principles of non-discrimination and introduction of more detailed secondary or sector-specific legislation where necessary; - Compliance with the recommendations of the IMF's Financial Sector Assessment Program (FSAP) of November 2003; - Effective implementation of independent and well-trained supervisory authorities in accordance with internationally recognized standards; - Effective implementation of adequate company law, accounting and governance rules. 	0.3
- Free movement of capital	<ul style="list-style-type: none"> - Free movement of capital related to direct investments or other investments made in accordance with the provisions of the PCAs; - Protection of foreign investments as well as liquidation or repatriation of these investments and of any profits stemming there from. 	0.65
- Company law	<ul style="list-style-type: none"> - Adoption and implementation of effective competition and bankruptcy legislation; - Abolishment of discriminatory measures affecting the operation of EU companies; - Full and effective implementation of most favored nation and national treatment; - Progressive removal of restrictions on company establishment; - Improved competences and independence of auditors. 	0.2
- Public procurement	<ul style="list-style-type: none"> - Approximation to the EU legislation on public procurement. These principles should apply to procurement for goods, services and works across all relevant public bodies at all levels; - Open and competitive award of contracts, in particular through calls for tenders; - Ensure the possibility of independent/judicial review in the event of disputes; - Effective dissemination of tendering opportunities and time-limits (above agreed thresholds), which allow EU as well as domestic suppliers to prepare and submit tenders. 	0.75
- Intellectual property	<ul style="list-style-type: none"> - Level of protection similar to that in the EU, including effective means of enforcement; - In particular, legislation on trademarks and geographical indications sanctions for infringements of intellectual and industrial property rights, effective measures against counterfeit/pirated goods in specifically targeted sectors. 	0.8
Transport	<ul style="list-style-type: none"> - National sustainable transport policy for the development of all transport modes, coherent with the EU's White Paper on transport; - Infrastructure policy in order to identify and evaluate the priority infrastructure projects in various sectors and continue participation in the joint development of the Pan-European Corridors and Areas as well as in the TRACECA program; - Co-operation in satellite navigation (including joint research actions 	0.3

Areas	Expected harmonization in ENP countries, by subareas	Coefficient of harmonization [0;1] (1=full harmonization)*
	and applications); - Introduction and enforcement of mandatory driving times and rest periods in the international transport sector complying with international standards; - Adoption of an action plan for improving road safety; - Improved efficiency of freight transport services (including issues of border crossing procedures), incl. multi-modal services and address issues of interoperability; - Obtaining a full member status in the European Joint Aviation Authorities (JAA); - Implementation of relevant international IMO (International Maritime Organization) conventions.	

* No exact formula is used; the numbers are chosen based on the author's own expert assessment.

Source: European Commission, EU/ENP partners Action Plans, Partnership and Co-operation Agreements, own summary; Belarus is excluded because it has not signed an Action Plan.

4.3. Harmonization in Russia

Russia is an important geopolitical, security and trade partner of the EU and its largest neighbor. Although Russia's engagement with the EU is aimed more towards building a strategic partnership and cooperation in diverse areas rather than unilateral harmonization, the coverage and the essence of this cooperation is quite close to what is being done in the context of the ENP, especially in the economic domain. EU-Russia relations draw on a large spectrum of particular EU policies, including the Common Foreign and Security Policy, trade policy, external aspects of EU general policies such as energy, transport, environment and the external dimension of freedom, security and justice affairs.

The provisions of the PCA also cover a wide range of policy areas including political dialogue, trade in goods and services, business and investment, financial and legislative cooperation, science and technology, education and training, energy, nuclear and space cooperation, etc. At the St. Petersburg Summit in 2003 EU and Russia agreed to create four common spaces in the framework of the PCA – common economic space, common space of freedom, security and justice, space of cooperation in the field of external security and a common space of research and education.

There are also ongoing negotiations on Fishery Agreement, Energy Charter Treaty, agreement for trade in nuclear materials, the Kyoto Protocol, agreement for nuclear safety and nuclear fusion, EU-Russia action plan on combating organized crime, agreement on satellite navigation

(Galileo/Glonass), etc. As result, these various forms of cooperation may certainly bring EU and Russia closer in terms of policies and formal rules. The project team believes that there are enough reasons to estimate the potential harmonization costs for Russia in the same way they are calculated for ENP countries. This will also guarantee higher accuracy in cross-country comparisons.

4.4. Cost of harmonization in the CEE countries

The volume of the EU pre-accession assistance to the CEE can serve as an indicator of the costs of harmonization, as the EU financed a big part of them. The three main programs that financed institutional and infrastructural harmonization in CEE were PHARE, ISPA and SAPARD.

4.4.1. PHARE

The PHARE program funded modernization of CEE counties for over a decade. In 1997 and 1999 it was modified to meet better the requirements of accession and prepare EU candidates for absorption of the Structural Funds. It was designed to meet the following six main broad objectives:

- Strengthening the public administration and judiciary at all levels;
- Improving transparency, financial control and the fight against corruption and fraud;
- Promoting economic growth, competitiveness and social cohesion;
- Integration of minority and vulnerable groups into mainstream society and the creation of more dynamic and pluralistic civil society;
- Improvement of the administrative and judicial capacity to implement and enforce legislative measures and assume obligations of the EU membership;
- Improvement of the strategic planning and effective utilization of EU funds.

Although PHARE was generally not sector-oriented like ISPA or SAPARD, there have been many projects undertaken to support development of specific sectors of the EU accession economies. Those initiatives and PHARE funds depended on national sector performance and thus no general rule of distribution can be devised.

In the Bulgarian agricultural sector, for instance, PHARE projects aimed at the improvement of phytosanitary control and plant protection, mainly through training of experts on different control mechanisms and methods, on improvement of veterinary control through supporting the alignment of legislation and control systems and on the establishment of adequate border veterinary control measures. What concerns the environmental sector in Bulgaria, there were projects providing assistance for the closure of Eleshnitsa uranium mines, improving the administrative framework and institutional capacities necessary for implementation and enforcement of the Seveso Directive, etc.

In Romania's transport sector, several projects were implemented for improvement of traffic safety infrastructure, e.g. the rehabilitation of a railway-testing centre and the completion of the interlocking systems in three main railway stations, a river information system on Danube and a video surveillance system on the national road no. 1. In the environmental sector, there were PHARE projects focused on the cost assessment and the preparation of a financial strategy for the so-called "heavy investment" directives, development of an environmental administration capable to cope with relevant EU requirements, including compliance with industrial pollution and Water Framework Directives. PHARE funds were generally allocated to several different areas and for various different objectives – administrative capacity improvement, internal market, agriculture, energy and nuclear safety, employment, social affairs and health¹¹.

The most comprehensive data on distribution of PHARE funds across areas and countries, including nuclear decommissioning, is available for the years 2001 and 2003. Based on this information an average distribution of the total funds is calculated (see Table 12).

Table 12. Distribution of PHARE commitments by areas and countries (1990 – 2004), EUR millions¹²

	Administrative capacity	Internal market	Agriculture	Transport	Energy and nuclear safety	Environment	Employment, social affairs and health
Bulgaria	362.0	-	-	-	756.3	-	480.3
Czech Republic*	365.8	48.6	-	-	26.3	-	491.4

¹¹ In our analysis some areas are omitted, due to their minimal or no relevance to the harmonization process in the ENP countries, for example, justice and home affairs, internal statistical issues, regional policy and internally managed community programs.

¹² We have the total (1990-2004) PHARE allocation across countries but not across areas; to estimate the latter we take the average allocation for 2001 and 2003 across areas (as provided in Appendix 1) and assume that it is the same or similar for the whole period.

	Administrative capacity	Internal market	Agriculture	Transport	Energy and nuclear safety	Environment	Employment, social affairs and health
Estonia	85.7	48.6	89.8	-	-	48.6	32.1
Hungary	735.7	81.9	124.3	71.1	8.8	81.9	97.9
Latvia	62.4	57.9	15.2	-	12.7	-	32.4
Lithuania	66.9	29.5	73.3	9.6	376.2	20.7	11.9
Poland	601.4	228.0	365.6	-	-	129.7	1 639.2
Romania	242.3	29.9	-	-	13.6	108.9	1 179.1
Slovakia*	33.5	27.8	29.4	-	278.6	13.1	117.6
Slovenia	26.4	44.7	-	-	7.0	-	98.2

* The funds provided to former Czechoslovakia (EUR 230 millions) are equally divided between the Czech Republic and Slovakia

Source: Official reports of the European Commission, own summary and calculations

4.4.2. ISPA

The Pre-Accession Structural Instrument provided funding to transport and environmental projects in all the CEE countries since early 2000s, along the same lines as the Cohesion Fund designed for the lower-income EU members. The program had two main objectives:

- To help candidate countries to catch up with EU environmental standards;
- To upgrade and expand their links with the trans-European transport networks

ISPA provided an overall financing of 1,040 million EUR per year or 7,280 million EUR for the whole period of 2000-2006. The objective was to have an equal division of the budget between the two sectors, i.e. 520 million EUR per year per each of them¹³. Generally the rate of the Community assistance¹⁴ granted under ISPA might be up to 75% of the public or equivalent expenditure, including expenditures of bodies whose activities are undertaken within an administrative or legal framework by virtue of which they are regarded as equivalent to public bodies (the European Commission could propose to increase this rate to up to 85%, in particular where it was required for achieving ISPA's general objectives). Table 13 presents the actual distribution of ISPA funds across areas and countries according to Commission's official reports (a more detailed breakdown is provided in Appendix 2, Table A2.2).

¹³ A breakdown by country of actually provided ISPA funds and the total estimated project costs are provided in Appendix 2, Table A2.1.

¹⁴ According to the official statement of the Commission, the available ISPA funding for all EU candidate countries was distributed according to size of population, GDP per capita, and the specific needs of the country.

Table 13. Distribution of overall ISPA support (including national contribution) over 2000-2004, EUR million

Country	Environment	Transport	Technical assistance / EDIS
Bulgaria*	507.7	947.9	11.7
Czech Republic	373.4	440.0	4.4
Estonia	129.3	86.0	24.0
Hungary	550.7	627.2	15.3
Latvia	178.5	230.2	26.5
Lithuania	214.9	288.0	18.3
Poland	2,047.3	1,695.5	60.4
Romania*	1,301.1	1,621.9	44.6
Slovakia	304.8	313.9	18.8
Slovenia	90.4	74.3	3.4

* - for Bulgaria and Romania the period covered is 2000-2006

Source: European Commission, own summary and calculations

4.4.3. SAPARD

In the beginning of 2000, the European Union reinforced its pre-accession assistance for the rural development by creating the Special Accession Program for Agriculture and Rural Development (SAPARD). Financial support provided under this program was intended to assist the countries to make structural improvements of their agricultural and rural environment in anticipation of joining the EU. In particular, the European Union provided financial support to improve product processing, marketing and observation of the quality standards in the agricultural sector in order to help EU candidates meeting the requirements of several EU policies and objectives (see Table 14).

Table 14 Total SAPARD commitments by countries, 2000-2004, EUR million

Country	Total commitments
Bulgaria	286.8
Czech Republic	92.8
Estonia	51.0
Hungary	160.0
Latvia	91.9
Lithuania	125.4
Poland	709.4
Romania	791.2
Slovakia	76.9
Slovenia	26.7

Source: European Commission staff working document, annex to the SAPARD annual report, 2004, own summary and calculations

4.4.4. Estimation of total harmonization cost in the CEE countries

Table 15 summarizes numbers analyzed in the previous three subsections, and presents the total amount of resources allocated in different harmonization areas in the EU accession countries (these are also the main areas that are expected to be harmonized in the ENP countries to the degree identified earlier in this section).

Table 15. Total EU support to the CEE countries by area, EUR million

Country	Administrative capacity *	Internal market	Agriculture **	Transport ***	Energy and nuclear safety	Environment ****	Employment, social affairs and health
Bulgaria	373.7	-	286.8	947.9	756.3	507.7	480.3
Czech Republic	370.2	48.6	92.8	440	26.3	373.4	491.4
Estonia	109.7	48.6	140.8	86	-	177.9	32.1
Hungary	751	81.9	284.3	698.3	8.8	632.6	97.9
Latvia	88.9	57.9	107.1	230.2	12.7	178.5	32.4
Lithuania	85.2	29.5	198.7	297.6	376.2	235.6	11.9
Poland	661.8	228.0	1,075.0	1,695.5	-	2,177.0	1,639.2
Romania	286.9	29.9	791.2	1,621.9	13.6	1,410.0	1,179.1
Slovakia	52.3	27.8	106.3	313.9	278.6	317.9	117.6
Slovenia	29.8	44.7	26.7	74.3	7.0	90.4	98.2

* PHARE support + technical assistance provided under ISPA

** PHARE + SAPARD support

*** PHARE + ISPA support

**** PHARE + ISPA support

Source: Own summary and calculations

Obviously, the financial assistance provided in these areas represents only a part of the total harmonization costs in the CEE countries. It is mainly related to projects and programs carried out and (co-) financed by the public sector and, to a very limited extent, represents the cost of compliance with EU technical standards and requirements of the private sector (as part of the overall harmonization costs). Therefore, the estimated amount of resources has to be adjusted in order to account for a wider spectrum of costs, which we do by comparing the volumes of EU financing with the volume of total investments in the areas where estimates on the total investments are available – environment and transport (see Table 10). Based on the comparison of the total costs and the EU financial support, an average cost/support ratio is calculated and subsequently applied to all sectors.

Table 16. Comparison between costs of compliance with EU standards according to different studies in the environmental and transport sectors and EU financial support programs in the same area, EUR millions

Country	EU environmental support	Environmental costs - average of all studies	Environmental cost/support ratio	EU support in transportation	Transport costs – average of all studies	Transport cost/support ratio
Bulgaria	507.7	12,200	24.0	947.9	5,300	5.6
Czech Republic	373.4	9,950	26.6	440	-	-
Estonia	177.9	2,950	16.6	86	-	-
Hungary	632.6	9,250	14.6	698.3	-	-
Latvia	178.5	1,850	10.4	230.2	-	-
Lithuania	235.6	1,990	8.4	297.6	-	-
Poland	2177	31,600	14.5	1,695.5	-	-
Romania	1410	23,900	17.0	1,621.9	18,300	11.3
Slovakia	317.9	4,800	15.1	313.9	3,500	11.2
Slovenia	90.4	2,120	23.5	74.3	-	-
Average			17.1			9.4

Sources: CEPS, IFW, ICPS, European Commission, CEN, BAS, NPAA Slovakia, EIR, IIASA, The World Bank, Table 10, own summary and calculations

There is significant difference between the costs that were covered by the EU pre-accession financial instruments in the environmental and transport domain and the total cost of compliance as estimated in different studies. Undoubtedly the EU assistance (and related national co-financing) covered only part of the cost resulting from harmonization efforts in the CEE countries. Unfortunately, due to lack of appropriate studies and information, the cost/support ratio in the remaining areas cannot be estimated. One possible solution is to take the average ratio as estimated for the environmental and transport domain and to assume that it is similar in all other areas. Although there is a risk of under- or overestimation of the harmonization costs in the CEE countries (i.e. of the ENP countries as well), given the existing information limitations, we consider it appropriate. Table 17 provides estimates of the harmonization cost in the EU accession countries calculated according to the above-described approach¹⁵.

¹⁵ For the purpose of adjustment we used the arithmetic average of the transport and environmental cost/support ratio (13.25)

Table 17. Estimated total harmonization costs in the CEE countries by main area, EUR millions

Country	Administrative capacity	Internal market	Agriculture	Transport	Energy and nuclear safety	Environment	Employment, social affairs and health
Bulgaria	4,951.5	-	3,800.1	5,308.2	10,021.0	12,200	6,364.0
Czech Republic	4,905.2	644.0	1,229.6	4,136.0	348.4	9,950	6,511.1
Estonia	1,453.5	644.0	1,865.6	808.4	-	2,950	425.3
Hungary	9,950.8	1085.2	3,767.0	6,564.0	116.6	9,250	1,297.2
Latvia	1,177.9	767.2	1,419.1	2,163.9	168.3	1,850	429.3
Lithuania	1,128.9	390.9	2,632.8	2,797.4	4,984.7	1,990	157.7
Poland	8,768.9	3,021.0	14,244.0	15,938.0	-	31,600	21,719.0
Romania	3,801.4	396.2	10,483.0	18,328.0	180.2	23,900	15,623.0
Slovakia	693.0	368.4	1,408.5	3,515.7	3,691.4	4,800	1,558.2
Slovenia	394.9	592.3	353.8	698.4	92.75	2,120	1,301.2

Source: Own calculations

4.5. Estimation of harmonization costs in the ENP countries

To enable cross-country comparisons, the next step is to calculate these amounts as a percentage of the total or sectoral value added. The analysis of funds' allocation to the CEE countries has not allowed detecting any clear and economically justifiable rule of distribution. The only exception is the relationship between the nominal GDP or the value added and the average annual allocation of resources – the higher nation's income, the more projects has been contracted, yet not proportionately and not in all the cases.

We assume that the volume of the financial resources needed for harmonization is proportional to the level of GDP (or value added in particular sectors). In other words, the larger the size of the economy is, more financial resources is needed for improvement and compliance with EU standards and technical requirements. On the other hand, the larger the economy and the greater the need for compliance in production in absolute terms, the more infrastructure and administrative capacity is needed to facilitate and administer the flows of goods, services and capital as well as the administrative paperwork. This also means higher demand for resources to achieve a certain level of harmonization.

On the basis of the above conclusions we calculated the harmonization costs in the CEE countries as a percentage of their total value added (in the agricultural and energy sector as a percentage of their sectoral value added) and then we use the average ratios in each area for

estimation of the harmonization costs in the ENP countries, given the full integration effort is undertaken. Subsequently in the last step, all results are adjusted for the limited degree of harmonization (coefficients presented in Table 11).

Table 18. Cost of institutional harmonization in the CEE countries, % of total value added or sectoral value added for 2001

Area	BG	CZ	EE	HU	LV	LT	PL	RO	SK	SI	CEE average
Adm. capacity	36.6	7.8	23.5	19.4	14.0	9.4	4.6	9.3	3.3	2.0	13.0
Internal market	-	1.0	10.4	2.1	9.1	3.2	1.6	1.0	1.7	3.0	3.3
Agriculture	209.6	50.4	642.3	141.1	375.6	307.5	147.5	174.8	140.9	62.3	225.2
Transport	39.2	6.6	13.1	12.8	25.8	23.2	8.4	44.9	16.5	3.6	19.4
Energy	296.3	1.8	-	0.9	11.5	167.4	-	1.4	60.9	1.6	54.2
Environment	90.2	15.9	47.7	18.0	22.0	16.5	16.7	58.6	22.6	10.8	31.9
Employment and social affairs	47.0	10.4	6.9	2.5	5.1	1.3	11.5	38.3	7.3	6.6	13.7

Note: For total, agriculture and industry value added in the CEE and ENP countries see Appendix 3

Source: UNCTAD, Table 17, own calculations

Table 19. Total cost of full institutional harmonization of the ENP countries according to the CEE average levels by areas, USD million

Area	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Russia	Ukraine
Administrative capacity	586.0	1,517.4	3,335.9	794.3	324.7	87,193	9,470.1
Internal market	148.8	385.2	846.8	201.6	82.4	22,134	2,404.0
Agriculture - limited	2,068.9	2,616.1	6,128.7	2,797.4	936.8	81,787	21,356.8
Transport	874.5	2,264.4	4,978.1	1,185.3	484.5	130,120	14,132.3
Energy	1,070.1	3,915.5	5,450.9	786.4	323.9	139,975	12,751.3
Environment	1,438.0	3,723.4	8,185.7	1,949.0	796.7	213,959	23,238.2
Empl. and social affairs	617.6	1,599.1	3,515.5	837.0	342.2	91,888	9,980.1
Total	6,803.8	16,021.1	32,442.0	8,551.1	3291.1	767,055	93,333.0

Source: UNCTAD, Table 18 (last column), own calculations

Table 20. Cost of limited harmonization of the ENP countries, USD millions

Area	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Russia	Ukraine
Administrative capacity	263.7	682.8	1,501.1	357.4	146.1	39,237.0	4,261.5
Internal market	81.8	211.9	465.7	110.9	45.3	12,174.0	1,322.2
Agriculture - limited	310.3	392.4	919.3	419.6	140.5	12,268.0	3,203.5
Transport	262.4	679.3	1,493.4	355.6	145.4	39,036.0	4,239.5
Energy	749.1	2,740.8	3,815.6	550.5	226.7	97,983.0	8,925.9
Environment	575.2	1,489.4	3,274.3	779.6	318.7	85,584.0	9,295.3
Empl. and social affairs	61.8	159.9	351.4	83.7	34.2	9,188.8	998.0
Total	2,304.3	6,356.5	11,821.0	2,657.3	1,056.9	295,469.0	32,246.0

Source: Tables 11 and 19, own calculations



As evident from Table 20, institutional harmonization as envisaged in the ENP Action Plans is not going to be without cost for the Eastern neighboring countries – both the public and private sector will have to make a variety of adjustments and thus incur certain costs. Not surprisingly due to its size, Russia is expected to incur the highest costs. Belarus also needs to make relatively large investments in all sectors since not much was done in the country in the last decade in terms of internal institutional improvement, trade liberalization and openness of the economy. Unlike environment, transport and energy issues, relatively small amounts of funds are expected to go for reforms of the employment and social systems in the neighboring countries due to limited number of commitments bilaterally agreed between them and the EU. With regard to the first three areas indicated in the table – administrative capacity, internal market and agriculture – certain overlap among them is expected since, for example, food safety of agricultural products is also an internal market issue or improved administrative capacity shall also lead to easier market access through more efficient surveillance and control mechanisms.

5. Conclusions

ENP countries' institutional harmonization is going to be carried out in the context of the approximation to EU norms and practices in a variety of areas like transport, energy and environmental infrastructure, public procurement and property rights, sanitary and phytosanitary requirements in agriculture, nuclear safety, telecommunication, etc. In this respect, both the public and the private sector is expected to make certain adjustments, thus incur various costs (positive effects have been studied in Maliszewska, Orlova and Taran, 2009). Based on the experience of the accession countries we made an attempt to estimate these costs (considering them as investment) and the needed financial resources, including national and international aid, to cover them. It is to be emphasized that perfect and unquestionable methodology for measurement of harmonization or transition costs does not exist, mainly due to their complex and interconnected character. Theoretically, there are instruments like the impact assessment that could allow exact measurement of harmonization costs, yet such estimations have to be made at least at a sector level and are not appropriate for large-scale studies, due to the necessity of disaggregated assessment, highly detailed data and deep knowledge on the analyzed areas.

We identified two other ways of estimating the potential harmonization costs – survey-based and extrapolation. Within the present study, conducting country-tailored questionnaires at least at a sector level was not foreseen, which made the application of this approach impossible. On the other hand, extrapolation of average costs for CEE countries' harmonization to estimate the potential harmonization costs for the neighboring countries based on internationally comparative macroeconomic indicators like sectoral and total value added, was generally possible. This involved estimating the EU pre-accession support for the CEE countries by main areas as a percentage of the total or sectoral value added, determining the expected degree of limited harmonization in the ENP countries and estimating "coefficients of limited harmonization", which we subsequently used for adjustment of the estimated cost of full harmonization.

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Appendixes

Appendix 1. PHARE financial support by countries and area as published in the official documents of the Commission

Table A1.1 PHARE commitments, contracts and payments by country, 1990 – 2004, EUR millions

Area	Commitments	Contracts	Payments	Average annual commitments
Bulgaria	1,792.15	1,313.36	1,120.22	128.0
Czech Republic *	1,013.24	845.86	788.87	72.4
Estonia	337.44	268.96	254.42	24.1
Hungary	1,462.59	1,341.13	1,174.57	104.5
Latvia	410.84	330.82	313.30	29.3
Lithuania	797.0	750.53	654.92	56.9
Poland	3,930.96	3,292.59	2,856.95	280.8
Romania	2,723.40	1,860.11	1,559.37	194.5
Slovakia *	817.39	700.70	605.40	58.4
Slovenia	351.64	278.49	255.64	25.1
Multi-country programmes	230.49	231.82	228.88	1191.3
Total	16,677.50	13,395.73	11,573.29	128.0

* The funds provided to former Czechoslovakia (EUR 230 millions) are equally divided between the Czech Republic and Slovakia

Source: European Commission, own summary

Table A1.2 Distribution of PHARE support provided to the countries of the last two enlargements in 2001 and 2003

Distribution of PHARE support provided to Bulgaria, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	6.55	4.2	-	-	2.1
Administrative capacity	14.88	9.7	49.5	30.7	20.2
Internal market	-	-	-	-	-
Agriculture	-	-	-	-	-
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	70.0	45.8	61.9	38.5	42.2
Environment	-	-	-	-	-
Employment, social affairs and health	48.31	31.6	35.3	21.9	26.8
Justice and Home Affairs	-	-	-	-	-
Statistics	-	-	-	-	-
Regional policy / Community programmes	-	-	-	-	-
Total	152.8		160.9		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to the Czech Republic, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	3	4.4	1.0	1.0	2.7
Administrative capacity	35.1	51.9	19.6	20.2	36.1
Internal market	6.5	9.6	-	-	4.8
Agriculture	-	-	-	-	-
Transport	-	-	-	-	-
Energy and nuclear safety (Incl. nuclear decommissioning)	2.2	3.3	1.8	1.9	2.6
Environment	-	-	-	-	-
Employment, social affairs and health	13.6	20.1	74.6	76.9	48.5
Justice and Home Affairs	-	-	-	-	-
Statistics	-	-	-	-	-
Regional policy / Community programmes	7.2	10.6	-	-	5.8
Total	67.6		97.0		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Estonia, EUR millions

Area	2001	% of total	2003 (n/a)	% of total	Average %
Political criteria	-	-	-	-	-
Administrative capacity	6.7	25.4	-	-	25.4
Internal market	3.8	14.4	-	-	14.4
Agriculture	7	26.6	-	-	26.6
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	-	-	-	-	-
Environment	3.8	14.4	-	-	14.4
Employment, social affairs and health	2.5	9.5	-	-	9.5
Justice and Home Affairs	0.6	2.3	-	-	2.3
Statistics	-	-	-	-	-
Regional policy / Community programmes	1.3	4.9	-	-	4.9
Total	26.35		39.5		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Hungary, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	9	9.9	-	-	4.9
Administrative capacity	28.1	30.9	70.9	69.7	50.3
Internal market	9.16	10.1	-	-	5.6
Agriculture	-	-	17.3	17.0	8.5
Transport	9	9.9	-	-	4.9
Energy and nuclear safety (incl. nuclear decommissioning)	1.05	1.2	-	-	0.6
Environment	9.16	10.1	-	-	5.6
Employment, social affairs and health	6.9	7.6	5.9	5.8	6.7
Justice and Home Affairs	9.16	10.1	7.7	7.6	8.9

Area	2001	% of total	2003	% of total	Average %
Statistics	-	-	-	-	-
Regional policy / Community programmes	9.16	10.1	-	-	5.5
Total	90.85		101.7		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Latvia, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	2	6.0	5.3	11.6	8.8
Administrative capacity	5.4	16.3	6.3	13.8	15.2
Internal market	9	27.1	0.5	1.1	14.1
Agriculture	-	-	2.9	6.3	3.7
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	1.75	5.3	0.4	0.9	3.1
Environment	-	-	-	-	-
Employment, social affairs and health	2.2	6.6	4.2	9.2	7.9
Justice and Home Affairs	10.57	31.9	5.9	12.9	22.4
Statistics	-	-	-	-	-
Regional policy / Community programmes	2.23	6.7	17.2	37.6	22.2
Total	33.15		45.7		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Lithuania, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	-	-	-	-	-
Administrative capacity	9.25	9.0	6.4	7.8	8.4
Internal market	-	-	6.0	7.3	3.7
Agriculture	3	2.9	12.6	15.4	9.2
Transport	2.4	2.3	-	-	1.2
Energy and nuclear safety (incl. nuclear decommissioning)	59.5	57.7	30.0	36.6	47.2
Environment	-	-	4.3	5.2	2.6
Employment, social affairs and health	3	2.9	-	-	1.5
Justice and Home Affairs	4.8	4.7	11.6	14.1	9.4
Statistics	-	-	-	-	-
Regional policy / Community programmes	4.4	4.3	-	-	2.2
Total	103.2		82.0		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Poland, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	-	-	-	-	-
Administrative capacity	45.46	11.0	78.9	19.6	15.3
Internal market	33.75	8.2	13.5	3.4	5.8
Agriculture	32.92	8.0	42.5	10.6	9.3

Area	2001	% of total	2003	% of total	Average %
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	1.45	0.4	-	-	-
Environment	21.91	5.3	5.0	1.2	3.3
Employment, social affairs and health	169.96	41.2	169.5	42.1	41.7
Justice and Home Affairs	49.7	12.0	57.5	14.3	13.2
Statistics	-	-	-	-	-
Regional policy / Community programmes	42.3	10.3	36.0	8.9	9.6
Total	412.5		402.8		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Romania, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	27	10.8	34.9	13.4	12.1
Administrative capacity	18	7.2	27.4	10.5	8.9
Internal market	5.6	2.2	-	-	1.1
Agriculture	-	-	-	-	-
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	2.45	1.0	-	-	0.5
Environment	20	8.0	-	-	4.0
Employment, social affairs and health	109.25	43.5	112.0	43.0	43.3
Justice and Home Affairs	20	8.0	-	-	4.0
Statistics	-	-	-	-	-
Regional policy / Community programmes	41.44	16.5	79.8	30.6	23.4
Total	251		260.6		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Slovakia, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	10	14.6	8.9	10.8	12.7
Administrative capacity	1.8	2.6	4.6	5.6	4.1
Internal market	3.7	5.4	1.3	1.6	3.4
Agriculture	-	-	5.9	7.2	3.6
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	25.8	37.7	25	30.5	34.1
Environment	-	-	2.6	3.2	1.6
Employment, social affairs and health	18.4	26.9	1.6	1.9	14.4
Justice and Home Affairs	1	1.5	8.7	10.6	6.1
Statistics	-	-	2.9	3.5	1.8
Regional policy / Community programmes	7.3	10.7	20.7	25.2	17.9
Total	68.5		82.1		

Source: European Commission, own summary and calculations

Distribution of PHARE support provided to Slovenia, EUR millions

Area	2001	% of total	2003	% of total	Average %
Political criteria	-	-	-	-	-
Administrative capacity	3.52	15.0	-	-	7.5
Internal market	2.15	9.1	6.4	16.3	12.7
Agriculture	-	-	-	-	-
Transport	-	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	0.15	0.6	1.3	3.3	2.0
Environment	-	-	-	-	-
Employment, social affairs and health	3.5	14.9	16.0	40.8	27.9
Justice and Home Affairs	9.3	39.6	12.2	31.1	35.4
Statistics	-	-	-	-	-
Regional policy / Community programmes	-	-	3.3	8.4	4.2
Total	23.5		39.2		

Source: European Commission, own summary and calculations

Table A1.3. Average distribution of PHARE support across areas as % of country's total

Area/Country	BG	CZ	ES	HU	LV	LT	PL	RO	SK	SL
Political criteria	2.1	2.7	-	4.9	8.8	-	-	12.1	12.7	-
Administrative capacity	20.2	36.1	25.4	50.3	15.2	8.4	15.3	8.9	4.1	7.5
Internal market	-	4.8	14.4	5.6	14.1	3.7	5.8	1.1	3.4	12.7
Agriculture	-	-	26.6	8.5	3.7	9.2	9.3	-	3.6	-
Transport	-	-	-	4.9	-	1.2	-	-	-	-
Energy and nuclear safety (incl. nuclear decommissioning)	42.2	2.6	-	0.6	3.1	47.2	-	0.5	34.1	2.0
Environment	-	-	14.4	5.6	-	2.6	3.3	4.0	1.6	-
Employment, social affairs and health	26.8	48.5	9.5	6.7	7.9	1.5	41.7	43.3	14.4	27.9
Justice and Home Affairs	-	-	2.3	8.9	22.4	9.4	13.2	4.0	6.1	35.4
Statistics	-	-	-	-	-	-	-	-	1.8	-
Regional policy / Community programmes	-	-	4.9	5.5	22.2	2.2	9.6	23.4	17.9	4.2

Source: Own calculations

Appendix 2. ISPA financial support by countries and area as published in the official documents of the Commission

Appendix A2.1 Total support under ISPA provided to the CEE countries, including national contribution, 2000-2004 (Bulgaria and Romania, 2000-2006)

Country	Estimated total costs	EU contribution
Bulgaria	1,467.3	1,055.5
Czech Republic	817.8	506.4
Estonia	239.3	180.4
Hungary	1,193.0	656.1
Latvia	435.2	310.2
Lithuania	521.2	283.1
Poland	3,803.2	2,587.3
Romania	2,970.6	2,470.9
Slovakia	637.5	362.1
Slovenia	168.1	86.5

Source: European Commission, own summary

Table A2.2 Distribution of ISPA support provided to the CEE countries across areas

Distribution of ISPA support, provided to Bulgaria and the Czech Republic, EUR million

Area	Bulgaria*		Bulgaria**		Czech Republic	
	Eligible cost	% of total	Eligible cost	% of total	Eligible cost	% of total
Environment	355.0	34.6	507.7	34.6	373.4	45.7
Transport	663.6	64.6	947.9	64.6	440.0	53.8
Technical assistance / EDIS	8.2	0.8	11.7	0.8	4.4	0.5
Total	1 026.8		1 467.3		817.8	

* 2000-2004, ** 2000-2006

Source: European Commission, own summary and calculations

Distribution of ISPA support, provided to Estonia, Hungary and Latvia, EUR million

Area	Estonia		Hungary		Latvia	
	Eligible cost	% of total	Eligible cost	% of total	Eligible cost	% of total
Environment	129.3	54.0	550.7	46.2	178.5	41.0
Transport	86.0	35.9	627.2	52.6	230.2	52.9
Technical assistance / EDIS	24.0	10.0	15.3	1.3	26.5	6.1
Total	239.3		1 193.2		435.2	

Source: European Commission, own summary and calculations

Distribution of ISPA support, provided to Lithuania, Poland and Romania, EUR million

Area	Lithuania		Poland		Romania*	
	Eligible cost	% of total	Eligible cost	% of total	Eligible cost	% of total
Environment	214.9	41.2	2 047.3	53.8	851.3	43.8
Transport	288.0	55.3	1 695.5	44.6	1 061.5	54.6
Technical assistance / EDIS	18.3	3.5	60.4	1.6	29.9	1.5
Total	521.2		3 803.2		1 942.7	

* 2000-2004

Source: European Commission, own summary and calculations

Distribution of ISPA support, provided to Romania, Slovakia and Slovenia EUR million

Area	Romania**		Slovakia		Slovenia	
	Eligible cost	% of total	Eligible cost	% of total	Eligible cost	% of total
Environment	1 301.1	43.8	304.8	47.8	90.4	53.8
Transport	1 621.9	54.6	313.9	49.2	74.3	44.2
Technical assistance / EDIS	44.6	1.5	18.8	2.9	3.4	2.0
Total	2 970.6		637.5		168.1	

** 2000-2006

Source: European Commission, own summary and calculations

Appendix 3. Total and sector value added in the CEE and ENP countries

Gross value added at basic prices and current exchange rates in the CEE countries

	YEAR	2001	2001
ECONOMY	INDICATOR	%	EUR, mil
Bulgaria	Total Value Added	13,528.20	13,528.20
	Agriculture	13.4%	1,812.78
	Industry	25.0%	3,382.05
	Services	61.6%	8,333.37
Czech Republic	Total Value Added	62,591.50	62,591.50
	Agriculture	3.9%	2,441.07
	Industry	31.5%	19,716.32
	Services	64.6%	40,434.11
Estonia	Total Value Added	6,180.30	6,180.30
	Agriculture	4.7%	290.47
	Industry	22.7%	1,402.93
	Services	72.6%	4,486.90
Hungary	Total Value Added	51,346.60	51,346.60
	Agriculture	5.2%	2,670.02
	Industry	25.6%	13,144.73
	Services	69.2%	35,531.85
Latvia	Total Value Added	8,395.30	8,395.30
	Agriculture	4.50%	377.79
	Industry	17.50%	1,469.18
	Services	78.00%	6,548.33
Lithuania	Total Value Added	12,058.80	12,058.80
	Agriculture	7.10%	856.17
	Industry	24.70%	2,978.52
	Services	68.20%	8,224.10
Poland	Total Value Added	189,334.40	189,334.40
	Agriculture	5.10%	9,656.05
	Industry	22.50%	42,600.24
	Services	72.40%	137,078.11
Romania	Total Value Added	40,794.60	40,794.60
	Agriculture	14.70%	5,996.81
	Industry	30.50%	12,442.35
	Services	54.80%	22,355.44
Slovakia	Total Value Added	21,274.60	21,274.60
	Agriculture	4.70%	999.91
	Industry	28.50%	6,063.26
	Services	66.80%	14,211.43
Slovenia	Total Value Added	19,573.50	19,573.50
	Agriculture	2.90%	567.63
	Industry	29.60%	5,793.76
	Services	67.50%	13,212.11

Source: Eurostat, own summary and calculations

Total value added and value added in agriculture, industry and services sector in the ENP countries, USD in current prices, millions

Economy	Indicator	2005
Armenia	Total Value Added	4,507.71
	Agriculture	918.69
	Industry	1,974.36
	Services	1,614.65
Azerbaijan	Total Value Added	11,672.22
	Agriculture	1,161.68
	Industry	7,224.13
	Services	3,286.41
Belarus	Total Value Added	25,660.55
	Agriculture	2,721.44
	Industry	10,057.04
	Services	12,882.07
Georgia	Total Value Added	6,109.83
	Agriculture	1,242.20
	Industry	1,450.86
	Services	3,416.77
Moldova	Total Value Added	2,497.48
	Agriculture	415.99
	Industry	597.51
	Services	1,483.97
Russia	Total Value Added	670,717.70
	Agriculture	36,317.30
	Industry	258,255.70
	Services	376,174.70
Ukraine	Total Value Added	72,847.08
	Agriculture	9,483.50
	Industry	23,526.32
	Services	39,837.27

Source: UNCTAD, Handbook of Statistics