

## **UKRAINE, THE ENLARGEMENT OF THE EUROPEAN UNION AND CONSEQUENCES FOR HIGHER EDUCATION**

*Even though Ukraine is to some extent integrated into the world trading system, and is characterized by a remarkably high education index, both the structural composition of imports and exports and the absolute numbers on GDP per capita and on expenditures/or research and development represent a considerable gap between the economic development in Ukraine and in the member states of the European Union. The enlargement of the European Union and the establishment of the Free Trade Area between Ukraine and the European Union will offer Ukraine an enhanced opportunity for fostering its economic growth. In order to accommodate the increasing capital intensity due to the rising flow of foreign direct investment, it will be necessary to raise labour intensity by shifting the focus to new products with higher knowledge content. This in turn requires a careful analysis of adequate study programs in the institutions of higher learning.*

### **I. Introduction**

In analysing the national data, one can notice some similarities between Ukraine and large West-

ern European countries. Take, for example, Germany. The two countries, Germany and Ukraine, have almost identical education index, which combines adult literacy rate and gross student enrolment

Table 1. Ukraine and Germany (Source: UNDP (2003))

Human development index	Ukraine	Germany
Life expectancy index, 2001	0,74	0,88
Education index, 2001	0,93	0,96
GDP index, 2001	0,63	0,92
Human development index (HDI) value, 2001	0,766	0,921
GDP per capita (PPP US\$) rank minus HDI rank	23	-5
Demographic trends		
Population under age 15 (as % of total), 2001	17,2	15,4
Population under age 15 (as % of total), 2015	13,2	13,2
Population over age 65 (as % of total), 2001	14,2	16,7
Population over age 65 (as % of total), 2015	16,1	20,8
Commitment to education: public spending		
Public expenditure on education (as % of GDP), 1998-2000	4,4	4,6
Technology: diffusion and creation		
Research and development (R&D) expenditures (as % of GDP), 1996-2000	0,9	2,5
Scientists & engineers in R&D (per million people), 1996-2000	2118	3161,0
The structure of trade		
Imports of goods and services (as % of GDP), 1990	29	25
Imports of goods and services (as % of GDP), 2001	54	33
Exports of goods and services (as % of GDP), 1990	28	29
Exports of goods and services (as % of GDP), 2001	56	35

ratio. They have comparable levels of public spending on education and of dependence of the economies on international trade. The countries also face similar demographic trends. But, obviously, there are some substantial differences reflected by the Table 1.

Naturally, there is a clear disparity in the GDP per capita levels. In fact, the current standard of living in Ukraine amounts to approximately 15 % of the average European Union level. There is also a sizable gap in the R&D expenditures. In addition, a closer look at the Ukrainian trade relations reveals that, in 2002, as little as 19 percent of Ukraine's exports went to the European Union. This low level of trade constitutes a sharp deviation from the predictions of the gravity model, which, given the size of the countries' economies and the geographical distance between them, assesses the level of intra-country trade. According to Aslund (2003), the share of the Ukrainian trade with the European Union should be about 60 percent of the total volume and grow even further in view of the EU enlargement.

Within the European Union the main partners in export as well as in import (more than 50 % of the general trade turnover with the European Union

countries) are Germany, Italy and Great Britain. Most important, however, is the following composition of Ukraine's exports and imports to (respectively, from) the European Union (in 2002, taken from AHT (2003)) (see tabl. 2, 3).

Table 2. Ukraine's exports to the European Union, %

Base metals and metal goods	22,6
Mineral products	22,2
Light industry goods	15,8
Agricultural products and food products	16,1
Machinery, equipment and mechanisms	10,9

Table 3. Ukraine's imports from the European Union, %

Machinery, equipment, vehicles	42,4
Chemicals and related products	22,5
Light industry products	9,7

Thus, Ukraine suffers from a predominance of products in its exports, which are particularly exposed to protectionist measures by other countries. They account for about three-quarters of Ukraine's total exports. Steel comprises 40 % of Ukraine's exports, while each of the three sensitive commodity groups, agricultural goods, chemicals and textiles, account for over 10%. The following chart (taken from ESDP of UNDP (2003)) shows the overall composition of exports of the Ukraine (Fig. 1).

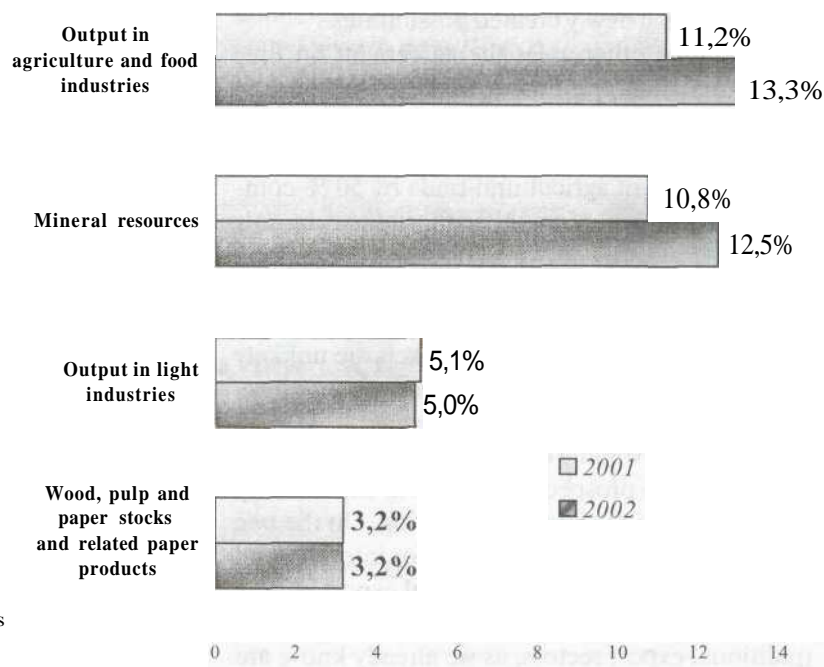


Fig. 1. Overall composition of exports of Ukraine (Source UNDP (2003))

Thus, three quarters of Ukraine's exports concentrate on natural resources and on labour-intensive products, which require a limited amount of skilled labour, whereas imports include technologically more advanced commodities. One must notice that this imbalance has been avoided by the new accession countries to the EU, who, at least to some degree, succeeded in switching their exports to the European Union to more labour-intensive products, which are characterized by a higher content of technologically advanced knowledge (cf. Quaiser and Vincentz (2001)).

## II. Ukraine and the European Union

The Agreement on Partnership and Cooperation (PCA) between EU and Ukraine came into force on March 1, 1998, when one of the objectives is the promotion of trade, investment and economic relations between two sides. Naturally, these became even more important as the result of the recent enlargement of the European Union, which create the common border of the Union with the Republic of Ukraine (cf. again AHT (2003)). To be more precise, PCA establishes the most favoured nation treatment between Ukraine and the member states of the European Union. There is, moreover, a possibility of a Free Trade Area between Ukraine and the European Union, although the PCA does not set any specific time frame or deadline for its implementation.

Up to now, the European Union has had some reservations against this Free Trade Area: in its view

(i) Ukraine should first implement its structural reforms by means of a planned and stable policy, (ii) it should eliminate some problematic issues, which arose in bilateral relations, (iii) there should be a substantial advance in Ukraine's accession to the World Trade Organization. In fact, the accession to the WTO is even considered to be a necessary precondition for discussing the creation of the Free Trade Area.

Given the current development, Ukraine could possibly be admitted to the WTO in 2003 or 2004. Then the most important requirements for launching the negotiations on creating the Free Trade Area will be fulfilled, and the Free Trade Area between Ukraine and the member states of the European Union could soon become reality. What will happen then? And how can Ukraine favourably affect what is going to happen?

### 111. The Structure of Free Trade

Given the common border of Ukraine and the European Union, free trade to emerge in the envisaged Free Trade Area is, in principle, beneficial for both sides, especially for Ukraine. In order to carefully examine this development, Ukraine and the European Union have undertaken joint research on the prospects and relevance of the Free Trade Area. The results of this investigation generated the following conclusions (excerpt, cf. AHT (2003)):

1. The Free Trade Area Agreement will bring substantial economic benefits to both Parties, if it is established within a favourable environment,

which will allow the individual economic entities to enjoy all the newly created possibilities.

2. Among other areas the agreement on Free Trade Area must comprise agriculture, which is an important industry of Ukraine. According to the survey results, Ukraine expects to see an increase in the volume of agricultural trade by 50 % compared to a prospect of growth in the industry by only 10%!

3. Even in case the agricultural exports into the European Union make up a substantial share, the European Union agricultural markets are unlikely to feel the significant impact of Ukrainian produce.

The conclusion that "Ukraine expects to see an increase in the volume of agricultural trade by 50 % compared to a prospect of growth in the industry by only 10 %" is somewhat surprising. On the one hand, the extended opportunities for international trade will strengthen the traditional export sectors of the Ukrainian economy. On the other hand, these traditional export sectors, as we already know, are characterized by the vast employment of mostly unskilled labour, and therefore contrasting the comparatively high value of the Ukrainian education index.

In order to understand this somewhat paradoxical situation, we have to investigate the internal mechanisms of free trade more carefully. We shall thereby make extended use of the well known Heckscher-Ohlin model of international trade (see for example Ethier(1995)), which seems to be appropriate for this case. The Heckscher-Ohlin model explains international trade by means of differences in relative factor endowments. Thus, under the conditions of free trade, a country will increasingly produce and supply for export the commodities, whose production requires more intensive utilization of the factors that are abundant in that country. These relative factor abundances translate into comparative advantages in the production of some commodities under the conditions of free trade. Observe that the emphasis is here on relative factor abundance, and not on absolute factor abundance! In addition to these shifts in the production and the export structure, due to free trade, flexible factor prices for the relatively abundant factors will increase, as will the prices for the corresponding commodities. In contrast to this positive result, prices for the other factors will decrease. If factor prices are downward inflexible, then there will be an increasing unemployment with respect to the less abundant factors.

What conclusions for the development of Ukraine could and should be drawn from the theory of international trade, especially from the Heck-

scher-Ohlin model? We believe that, looking at the perspectives for the Ukrainian export structure on the basis of these results and some indicators provided earlier, the skilled labour does not represent the relatively abundant factor in the Ukraine, at least not in comparison to the other member states of the European Union. The skilled labour will not represent the relatively abundant factor in the near future and, moreover, one should also not expect a dramatic increase in the wages for skilled labour, whereas wages for unskilled labour will rise. There are some indications that these wage adjustments started already last year!

4. Should Ukraine be Satisfied with this Prospective Development?

The tentative negative answer to this important question immediately raises the next question: what is to be done in order to change this perspective to a more agreeable and more reasonable development? To provide a sensible answer to this second question is, however, much more difficult, and again requires some careful analysis. For this we shall consider some more or less obvious arguments:

**1. Laisser-Faire-Policy.** Of course, one could argue that the economic situation of Ukraine will change and improve in the course of time as the stimulation of economic growth will show its positive results sooner or later.

In order to evaluate this "laissez-faire" argument, assume, for a moment, that the average economic growth in Ukraine will equal 4,5 % over the next seven years. Then nominal GDP of Ukraine will not exceed US \$60 billion in market prices by the year 2010. In 2001 the GDP of Greece—a small member state of the European Union with a population of 10,6 million and one of the poorest economies of the current European Union—amounted to US \$ 119,7 billion in market prices. In other words, in 2001 the GDP of the poorest member state of the European Union, whose population is 4,5 fold less than that of the Ukraine, doubled over the GDP rate that Ukraine might obtain in 2010, given the average rate of economic growth accounts to 4,5 % per year (these numbers are taken from AHT (2003)). This simple, but—given the current situation—nevertheless realistic exercise demonstrates that Ukraine may stay far behind the less prosperous member states of the European Union with such a laissez-faire regime, even after the enlargement of the European Union. Economic potential of the Ukraine and welfare will remain on a relatively low level for many years to come.

**Foreign Direct Investments.** Then one might argue that after the enlargement of the European Union wages in the accession countries will tend to

increase. As an immediate consequence, foreign direct investments in Ukraine will start to increase, too. The resulting accelerator and multiplier effects

will then contribute towards a stimulation of economic growth in the Ukraine with increasingly higher growth rates (Fig. 2).

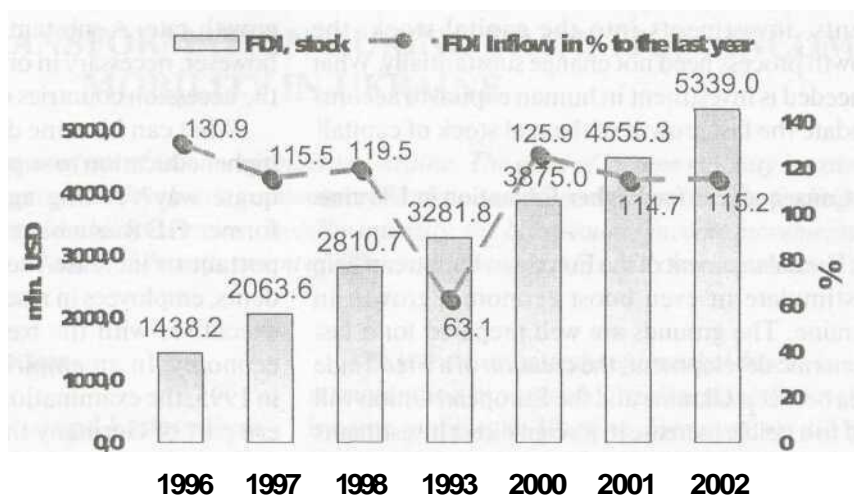


Fig. 2. FDI in Ukraine (Source UNDP(2003))

Now, foreign direct investment in Ukraine rose to a new high of 2,1 percent of GDP in 2002 (cf. the above chart, taken again from ESDP of UN DP (2003)), and further growth is likely, though this is only one third of the East-Central European level. One important reason for a lack of massive foreign investment in Ukraine is the country's limited market access, hindered by the wide array of various barriers. Thus, a Free Trade Area between Ukraine and The European Union could indeed speed up the process of economic growth in Ukraine!

There is, however, one additional point, which should be respected when discussing a major inflow of foreign investments. As we indicated above, there are some striking similarities between Ukraine and the EU, demonstrated in comparison with Germany. And to some extent, the coming exposure of Ukraine to free trade with the member states of the European Union resembles the economic effect of the German reunification on the former GDR. Of course, the eastern part of Germany was not only exposed to free trade, but to full competition with all of Western Europe. On the other hand, however, the Western provinces (lands) of Germany supported the Eastern counterparts (and continue to do so) on unprecedented scale up to this day. Actually, direct investments moved the capital intensity of the eastern part of Germany even ahead of the western part of Germany, at least in some areas.

So, what was the economic effect of these "foreign direct investments" in the eastern part of Germany? There is one striking paradox, the so called "Productivity Gap" (cf. the following chart), which allows some reflections on what should be done in Ukraine (Fig. 3).

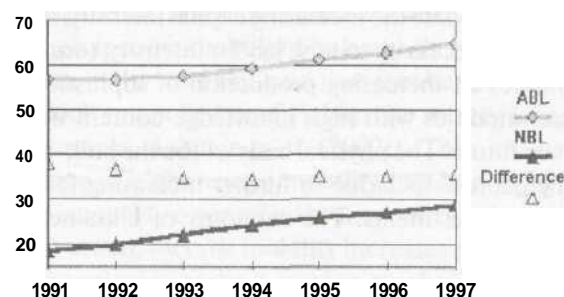


Fig. 3. Labour Productivity (GDP / Hour)

This diagram (cf. Klodt (2000)) demonstrates that, in spite of huge direct investments into the East German economy, the gap between the labour productivity in the western part of Germany (ABL) and the eastern part (NBL) did not close. For an explanation, one could point to the fact that price differences between the East and the West make up for the difference. But then there remains the problem, why are these price differences so persistent? In spite of the sometimes higher capital intensity in the East (cf. Klodt (1999)) of the high value of the education index in former GDR, economists attribute this fact to a difference in labour intensity. Thus there seems to be an insufficient supply of products with a high knowledge content, which prevented and continues to prevent many enterprises in the East to charge higher prices for their commodities.

The situation in Ukraine with relatively small expenditures on research and development activities points to a similar effect of increasing foreign direct investments. Even though, some voices in the European Union argue that Ukraine should raise

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the degree of processing of its export goods to avoid the barriers to the markets of the European Union. However, the above analysis demonstrates that is not an easy challenge. Along with foreign direct investments, investments into the capital stock, the growth process need not change substantially. What is needed is investment in human capital to accommodate the fast growth of the real stock of capital!

## V. Consequences for Higher Education in Ukraine

The enlargement of the European Union can help to stimulate or even boost economic growth in Ukraine. The grounds are well prepared for a fast economic development: the creation of a Free Trade Area between Ukraine and the European Union will lead to a visible increase in foreign direct investments in Ukraine. The high value of the Ukrainian education index guarantees, moreover, an adequate supply of skilled labour. However, in order to optimally accommodate the increasing capital intensity, it will soon be necessary to raise labour intensity, too. This implies an increasing production of sophisticated commodities with high knowledge content in the near future. The physical basis will be the built-up of the capital stock due to further increasing foreign direct investments. The economy of Ukraine will

then gradually shift from supplying agricultural commodities, mineral products and steel to an economy producing technologically advanced goods, which promise a higher return and therefore also a higher growth rate. A substantially higher growth rate is, however, necessary in order to catch up at least with the accession countries of the European Union.

What can Ukraine do in terms of the system of higher education to support this process in an adequate way? Taking again the experience from former GDR as a benchmark, it seems to be important to increase the familiarity of young students, employees in research and development and executives with the basic principles of a market economy. In an empirical study carried through in 1995, the examination of enterprises in the eastern part of Germany that went through dramatic changes after reunification (cf. Töpfer (1995)) has shown that more than 50 % of the participating firms conceded a too weak emphasis on management qualities, on product quality, and on productivity. Not surprisingly, many of these firms had serious problems emerging from the sudden exposure to competition! Once the Free Trade Area is established, Ukrainian enterprises will make the same experience, if they do not get ready for this increasing competition.

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## УКРАЇНА, РОЗШИРЕННЯ ЄВРОПЕЙСЬКОГО СОЮЗУ ТА НАСЛІДКИ ДЛЯ СИСТЕМИ ВИЩОЇ ОСВІТИ

*Попри те, що Україна певною мірою інтегрована у світову торговельну систему та характеризується надзвичайно високим освітнім індексом, структурний склад експорту та імпорту, абсолютні значення ВВПу розрахунку на одну особу та витрати на науково-дослідні й конструкторські роботи вказують на значний розрив між економічним розвитком України та країнами-членами Європейського Союзу. Розширення Європейського Союзу та встановлення вільної зони торгівлі між Україною та Європейським Союзом надасть Україні більше можливостей для стимулювання її економічного розвитку. Для того, щоб забезпечити зростання капіталомісткості за рахунок збільшення потоку прямих іноземних інвестицій, потрібно буде збільшити трудомісткість через переорієнтацію на виробництво нових продуктів, які вимагають більшої кількості знань. Це, в свою чергу, потребує ретельного аналізу адекватних освітніх програм у закладах вищої освіти.*