Regional Diversification of Ukraine's Foreign Trade*

Viktor Chuzhykov**

ABSTRACT. This paper introduces a framework for studying regions in post-socialist countries, in particular Ukraine. The author identifies patterns in the gross state products (GSP), the concentration of foreign direct investments (FDI) and diversification of foreign trade of Ukraine's regions. Kyiv and the Donetsk-Dnipropetrovsk-Zaporizhia industrial triangle have leading in foreign economic diversification over the past few years. Considering that production is not diversified and exports are primarily in ferrous metal products, the author identifies a degree of «regional susceptibility» resulting from the application of European and American frameworks, i.e. producer price index, consumer price index, open- and RCA- (revealed comparative advantage) export method, for studying regional foreign trade diversification in Ukraine. In concluding he proposes new methods to raise the quality of foreign trade forecasts of Ukraine's regions.

KEY WORDS. Foreign trade, regions of Ukraine, diversification, gross state product (GSP), gross value added (GVA), direct foreign investment (DFI), producer price index, consumer price index, RCA-export.

Introduction

As Ukraine identifies its foreign trade priorities and fulfils its expectations of acceding to the World Trade Organization (WTO), two important components of its national economy must be attended to: sectoral and regional. These two components are closely bound together and can either promote or undermine Ukraine's economic growth. Until recently the standard approach to analyzing the general structure of exports and imports was applied which, from today's point of view, is too narrow because it inadequately expressed

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the substance of the Ukrainian economy's integration with the world and Europe in particular and made it impossible, at least in the first instance, to formulate prospects for developing individual sectors and territories of the country. Therefore, studies of the sectoral-regional disproportions of foreign trade in Ukraine, by which its economy and society are moving toward a globally competitive environment, are a current topic of a range of economic disciplines: international economy, regional economy, economic theory, industrial economics and many others. However, thus far these studies have not been systemic and the use of western instruments and techniques are far from always being effective for the following reasons:

1) They lack a clearly defined methodology for identifying foreign trade of countries undergoing systemic changes;

2) The incomparability of the experience of the Central and Eastern European countries that are small in territory and population with much larger countries (Russia, China, Kazakhstan, Ukraine);

3) The presence of a compensatory form of economic growth in the main economic indicators, which in the previous decade demonstrated a stable collapse or a slow decline;

4) The absence of techniques for examining changes in the foreign trade structure against the correlation of gross state product (GSP)[1] growth indicators and FDI.

Nevertheless, some practical experience has been gained in studying the individual aspects of Ukraine's foreign trade diversification. Among the specialists who explore the general issue of foreign trade are I. Burakovsky, A. Halchynsky, B. Hubsky, D. Lukianenko, V. Novytsky, A. Poruchnyk and A. Filipenko, to name a few.[2] This topic is also extensively reviewed in the works of western analysts, such as Lars Handrich, Luts Hoffman, Stefan Cramon-

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[1] This article uses the term 'gross state product' to refer to the gross product of a sub-national unit as is used in the United States. It is comparable to the term 'gross domestic product of regions' that is more commonly used in Europe.

[2] A. Hal'chynsky, V. M. Heyets', A. K. Kinakh, V. P. Semynozhenko, *Innovatsiyna stratehiya ukrains'kykh reform* (Kyiv: Znannya Ukrainy, 2002), 356 s.; [A. Halchynsky, V. Heyets, A. Kinakh, V. P. Semynozhenko, *Innovation Strategy of Ukrainian Reforms* (Kyiv: Znannya Ukrainy Publishers, 2002), p. 356]; B. Hubs'ky, D. Luk'ianenko, V. Sidenko, «Internatsionalizatsiya ukrains'koi ekonomiky,» *Ekonomika Ukrainy* No. 9 (2000): 15-23 s.; [B. Hubsky, D. Lukianenko, V. Sidenko, «Internationalization of the Ukrainian Economy,» *Economy of Ukraine* No. 9 (2000): pp. 15-23]; V. Novytsky, «Heoekonomichni priorytety Ukrainy: rehional'ni tendentsii,» *Ekonomika Ukrainy* No. 5 (1997): 25-34 s.; [V. Novytsky, «Geoeconomic Priorities of Ukraine: Regional Trends,» *Economy of Ukraine* No. 5 (1997): pp. 25-34]; A. Poruchnyk, *Integratsia Ukrainy v mirovoe khozyaystvo* (Kyiv: KDEU, 1994), 127 s.; (A. Poruchnyk, *Ukraine's Integration into the World Economy* (Kyiv: Kyiv State Economic University, 1994), p. 127]; A. Filipenko, *Ekonomichniy rozvytok: Yevropeyskiy kontekst* (Kyiv: Znannya Ukrainy, 2002), 190 s.; [A. Filipenko, *Economic Development: The European Context* (Kyiv: Znannya Ukrainy Publishers, 2002), p. 190].

Taubadel, H. Tumpel-Gugerel and George Bat.[3] Certain regional and sectoral aspects are reflected in the works of such national and foreign economists and economic-geographers as J. Lessinger, M. Dolishny, B. Lavrovsky, S. Romaniuk and A. Granberg.[4] But the absence of inter-disciplinary studies makes it impossible to improve forecasts of the prospects of regional and sectoral diversification of foreign trade, as noted above, which explains the timeliness of this article. Therefore, the purpose of this article is to study the reasons and consequences of Ukraine's foreign trade diversification at the sectoral and regional levels by assessing its economic and societal transformation and using foreign and national techniques for identifying the dynamics of the convergence of Ukraine's sectors and regions with the globally competitive environment.

Framework

In world practice, the main indicators of the economic development of regions include the gross regional product accepted in the US, Canada and Russia or the gross domestic product of a region (GDP of region) accepted in the European Union (EU) and by applicants to EU accession. In contrast the gross value added (GVA) indicator is widely current in Ukraine. It is similar to the previous indicators and best reflects the essence of structural changes in sectors of the domestic economy at the regional level. The GVA indicator makes it possible to study the dynamics of the regions' movements that can result in their convergence (or divergence) both in terms of the national economy and, to a certain extent, within a common European economic area (EEA), the formation of which

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[3] I. Burakovsky, L. Handrich, L. Hoffman, et al., *Vstup Urkainy do SOT: novyy vyklyk ekonomichniy reformi* (Kyiv: Al'fa-Print, 2003), 292 s.; [I. Burakovsky, L. Handrich, L. Hoffman et al., *Ukraine's Accession to WTO: A New Challenge to Economic Reform* (Kyiv. Alpha-Print, 2003), p. 292]; S. Kramon-Taubadel' et al., *Ukraina na shlyakhu do Yevropy* (Kyiv: Fenix, 2001), 343 s.; [S. Cramon-Taubadel et al. *Ukraine on the Road to Europe* (Kyiv: Phoenix Publishers, 2002), p. 343].

[4] J. Lessinger, *Region of Opportunity: A Bold New Strategy for Real Estate Investment with Forecasts to the Year 2010* (New York, Toronto: Times Books, 1986), p. 308; M. Dolishniy i P. Belenskiy, «Rehional'ni osnovy transkordonnoho spivrobitnytstva,» *Rehional'na ekonomika* No. 1-2 (1996): 65-70 s.; [M. Dolishny and P. Belenskiy, «Regional Fundamentals of Transboundary Cooperation,» *Regional Economy* No. 1-2 (1996): pp. 65-70]; B. Lavrovsky, «Izmereniye assimetrichosti na primere Rossii,» *Voprosy ekonomiki* No. 3 (1999): 42-52 s.; [B. Lavrovsky, «Measuring Asymmetry by Russia's Example,» *Issues of Economics* No. 3 (1999): pp.42-52]; S. Romaniuk, «Pidsumky diyal'nosti ta problemy pidvyshchennya funktsionuvannya spetsial'nykh ekonomichnykh zon i terytoriy priorytetnoho rozvytku,» *Rehional'na ekonomika* No. 3 (2001): 56-61 s.; S. Romaniuk, «Summarizing the Activity and Issues of Improving the Operation of Special Economic Zones and Territories of Priority Development,» *Regional Economy* No. 3 (2001): pp. 56-61]; A. G. Grangerg, *Osnovy rehional'noy ekonomiki* (Moskva: GU VShE, 2000), 495 s.; [A. Granberg, *Fundamentals of Regional Economy* (Moscow: GU VShE, 2000), p. 495].

was recognized in March 2003 by the European Commission as its strategic objective. While a considerable number of western studies on national economies use the GVA indicator,[5] its application to international comparisons is rather limited because it does not allow comparisons with regions in countries where only GSP is used. Thus, the GVA serves only as an intermediary indicator.

Another measure of regional economies draws from GDP calculations. From the viewpoint of traditional economics, GDP includes net export (export minus import); therefore, at the regional level the GSP will have the same component. Thus, an analytical model is proposed below that uses GDP calculations as a basis for forecasting foreign trade diversification. At the same time, the model takes into account certain important factors that make it noteworthy:

1) the total GDP of regions equals a country's GDP indicator and is not measured per region; thus, in the Ukrainian case the calculation of total GDP of regions is based on 27 administrative units (24 oblasts, the Autonomous Republic of Crimea [ARC] and two cities, Kyiv and Sevastopol, under republic jurisdiction). To put this in another way:

$$\sum_{i=1}^{27} GSP = GDP_{UKR}.$$

2) GSP can be identified only at the European level using the Nomenclature of Territorial Units for Statistics (NUTS)-2[6] and as such provisionally corresponds to the modern administrative-territorial system of Ukraine, i.e. the 24 oblasts, ARC, Kyiv and Sevastopol. The size of their populations (except for Sevastopol) and area fall within the average of EU indicators;

3) in Ukraine there are no large regional fluctuations in the regional exchange rate; therefore, the regional exchange rate index of the US dollar or Euro to the Ukrainian hryvnia was not calculated. Even so, the situation is likely to change given expectations of a growth in trans-regional cooperation with EU countries after 2004 and 2007 with the eastward expansion of the EU to Ukraine's bor-

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[5] G. Tumpel-Gugerell and P. Moosledner, eds., *Economic Convergence and Divergence in Europe: Growth and Regional Development in an Enlarged European Union* (Cheltenham, UK; Northampton, MA: Edward Elgar, 2002), p. 435; V. Kaitila. «Accession Countries' Comparative Advantage in the Internal Market: A Trade and Factor Analysis,» Bank of Finland Institute for Economies in Transition (BOFIT), Discussion Paper № 3 (2001): p. 45; Vadims Sarajevs, «Convergence of European Transition Economies and the EU: What do the Data Show,» Bank of Finland Institute for Economies in Transition (BOFIT), Discussion Paper No. 13 (2001): p. 40; *Enlarging the European Union* (Luxembourg: OOPEC, European Union, 2001), p. 28.

[6] NUTS is used in European statistics for identifying the hierarchy of regions among the EU members. NUTS-2 denotes the second largest regions among EU members by area and size of population.

ders as well as with Russia. Thus, fluctuations of regional exchange rates will likely occur and will need to be measured. One method by which this can be done is by using that developed in 1999 by US scientists D. P. Clark, S. W. Sawyer and R. L. Sprinkle which uses the producer price index and the consumer price index measurements[7] and which is adopted to the Ukrainian case by using three levels:

US $ —
€ — } Ukrainian hryvnia
Russian rouble —

Thus, the design and implementation of such a model of regional exchange rate indexes would demonstrate the diversification of foreign trade by relying on different short-term currency prices in, for example, Lviv and Donetsk, Kyiv and Odessa. Such factors significantly form the underlying basis of regional differentiation of foreign trade in the US; for instance, Japan accounts for the larger share of export-import transactions on the west coast and the EU and Canada on the east.

These circumstances facilitated the inclusion of the ratio between the GVA and GSP into our measurements, which was determined by comparing the amount of the GSP by parity of purchasing power in US dollars and GVA in hryvnias at current prices. Thus, the positions of Ukraine's regions in the common EEA could be identified. The results of the calculations are presented in Table 1.

The Ukrainian Regional Model Today

Studies of the foreign trade dynamics of Ukraine's regions in the late 1990s showed substantial contrasts among the regions in terms of per capita GSP. Thus, in 1999 Ukraine had a per capita GDP of US$3,454, which reflected 15.5 percent of the average in the EU-15 country model and 17.9 percent of the EU-25 model. [8] The city of Kyiv accounted for US$7,017 and 31.6 percent and 36.4 percent, re-

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[7] D. P. Clark, S. W. Sawyer, R. L. Sprinkle, «Regional Exchange Rate Indexes for the United States,»*Journal of Regional Science* 39:1 (1999): pp.149-166.

[8] *Statystychny shchorichnyk Ukrainy za 2000 rik* (Kyiv: Tekhnika, 2001), 650 s. [*Statistical Yearbook of Ukraine for 2000* (Kyiv: Tekhnika Publishers, 2001), pp. 650]; *Statystychny shchorichnyk Ukrainy za 2001 rik* (Kyiv: Tekhnika, 2002), 655 s. [*Statistical Yearbook of Ukraine for 2001* (Kyiv: Tekhnika Publishers, 2002), pp. 655]; *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s. [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

spectively, while the most depressed oblast, Chernivtsi, accounted for US$1,896 and 8.5 percent and 9.8 percent, respectively.[9]

Table 1. GSP per capita by parity of purchasing power in 2000-2001, in US$

Name of regions	2000				2001			
	GSP per capita US $	Rank	Percentage of EU average (99)		GSP per capita US $	Rank	Percentage of EU average (99)	
			EU-15	EU -25			EU -15	EU -25
Ukraine	3,816	–	12.6	19.8	4,350	–	19.5	22.5
AR of Crimea	2,652	21	11.9	13.7	3,108	20	13.9	16.1
Vinnytsia	2,880	17	12.9	14.9	3,248	13	14.6	16.8
Volyn	2,843	18	12.7	14.7	3,121	19	14.0	16.2
Dnipropetrovsk	4,876	3	21.9	25.3	5,265	3	23.6	27.3
Donetsk	4,804	4	21.5	25.0	5,419	2	24.3	28.1
Zhytomyr	2,720	20	12.2	14.1	2,621	24	11.8	13.6
Transcarpathia	2,298	25	10.3	11.9	2,550	25	11.4	13.2
Zaporizhia	5,195	2	23.3	26.9	4,752	4	21.3	24.6
Ivano-Frankivsk	2,932	15	13.2	15.2	3,183	17	14.3	16.5
Kyiv	4,456	6	20.0	23.1	4,040	8	18.1	20.9
Kirovohrad	2,546	23	11.4	13.2	3,222	14	14.5	16.7
Luhansk	3,339	11	15.0	17.3	3,350	12	15.0	17.4
Lviv	2,956	14	13.3	15.3	3,197	16	14.3	16.6
Mykolaiv	3,508	10	15.7	18.2	3,952	9	17.7	20.5
Odessa	3,872	7	17.4	20.1	4,439	6	19.9	23.0
Poltava	4,686	5	21.0	24.3	4,670	5	21.0	24.2
Rivne	2,900	16	13.0	15.0	3,129	18	14.0	16.2

[9] *Statystychny shchorichnyk Ukrainy za 2000 rik* (Kyiv: Tekhnika, 2001), 650 s. [*Statistical Yearbook of Ukraine for 2000* (Kyiv: Tekhnika Publishers, 2001), pp. 650]; *Statystychny shchorichnyk Ukrainy za 2001 rik* (Kyiv: Tekhnika, 2002), 655 s. [*Statistical Yearbook of Ukraine for 2001* (Kyiv: Tekhnika Publishers, 2002), pp. 655]; *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s. [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

Name of regions	2000				2001			
	GSP per capita US $	Rank	Percentage of EU average (99)		GSP per capita US $	Rank	Percentage of EU average (99)	
			EU-15	EU -25			EU -15	EU -25
Sumy	3,602	9	11.7	18.7	3,637	11	16.3	18.8
Ternopil	2,197	26	9.9	11.4	2,365	26	10.6	12.3
Kharkiv	3,832	8	17.2	19.9	4,135	7	18.6	21.4
Kherson	2,635	22	11.8	13.7	2,930	22	13.1	15.2
Khmelnytsky	2,776	19	12.5	14.4	2,900	23	13.0	15.0
Cherkassy	3,016	13	13.5	15.6	2,939	21	13.2	15.2
Chernivtsi	1,932	27	8.7	10.0	2,327	27	10.4	12.1
Chernihiv	3,295	12	14.8	17.1	3,211	15	14.4	16.6
city of Kyiv	8,166	1	36.6	42.3	13,795	1	61.9	71.5
city of Sevastopol	2,303	24	10.3	11.9	3,643	10	16.3	18.9

Estimated according to Monitoring sotsial'no-ekonomichnoho rozvytku rehioniv Ukrainy za 2001 rik (Kyiv: PROON, 2002), 174 s. [*Monitoring of the Socio-economic Development of Ukraine's Regions for 2001* (Kyiv: United Nations Development Program (UNDP), 2002), p. 174]; Ukrainia u tsyfrakh u 2002 rotsi: Korotky statystychny dovidnyk (Kyiv: Konsultant, 2003), 267 s. [*Ukraine in Figures, 2002: Statistical Manual* (Kyiv: Konsultant Publishers, 2003), p. 267]; *Human Development Report, 2002* (New York: UNDP, 2002), p. 277; Doklad o razvytii cheloveka za 2003 g.: Tseli v oblasti razvitiya sformulirovanye v Deklaratsii tysyacheletiya, (Minsk: YuNIPAK, 2003), 368 s. [*Human Development Report 2003: Goals of Development Formulated in the Declaration of the Millennium* (Minsk: YuNIPAK, 2003), p. 368].

In 2000-2001 the trend changed markedly relative to the 1999 EU base period. More specifically, GDP for Ukraine as a whole increased from US$3,816 per capita to US$4,350. The greatest increase was Kyiv — from US$8,166 to US$13,795, i.e. 42.3 percent and 71.5 percent of EU-25 level, respectively. But three depressed oblasts (Chernivtsi, Ternopil and Transcarpathia) did not change in proportion to the average EU level (10 percent-13 percent).

The industrially intensive Dnipropetrovsk-Donetsk-Zaporizhia triangle converged even more owing to the favourable situation in the world markets of ferrous metals and iron ore. In general these regions comprise 40 percent of Ukrainian exports. On the one hand, their dependence on the fluctuating demand for steel, rolled stock and products thereof on the world market has decisive importance both for these regions and for the Ukrainian economy as a whole. On the other, reduced quotas for Ukraine and other protectionist measures by foreign governments can con-

siderably impact on the economic situation of the regions and the entire national economy.

The past three years saw an intensively growing regional divergence in the development of Ukraine's capital city and the rest of the country. While the ratio of Kyiv-Ukraine was 2:1 in 1999, it became 2.1:1 in 2000, and 3.17:1 in 2001.[10] If the ratio of the «extreme regions» is compared, such as between the highest in Kyiv and the lowest in Chernivtsi, as is accepted in the EU, the ratio becomes 3.7:1 (1999), 4.2:1 (2000), and 5.9:1 (2001).[11] Thus, the gap among Ukraine's regions has intensified considerably, while that between the capital city and the peripheral regions is gaining all the attributes of the traditional European pattern. The only difference between the EU and the Ukrainian situations in this instance is that in the EU there is a powerful mechanism for regional equalization in the form of structural funds and the Consolidation Fund, while in Ukraine such a mechanism is lacking.

When identifying the nature of the regions' foreign trade another extremely important problem emerges of assessing the level of foreign direct investments and their impact on the possibility of diversifying national exports. By January 2002 Ukraine received US$4.4 billion in investments.[12] This figure since increased to US$5 billion, but even a twofold increase hardly provides what is needed.[13] Nevertheless, even in this matter regional patterns emerge and are presented in Table 2.

Not all regions showed a clear trend of growth. An increase in FDI per capita was most evident in Kyiv (1.8 times over four years). Extreme ratios between highest and lowest levels explicitly reflected such a trend: 49:1 (1999), 56:1 (2000), 51:1 (2001), and 54:1 (2002). Within this same period there was an outflow of investments from some regions to Kyiv and abroad, as was recorded in Rivne, Poltava, Cherkassy and Chernivtsi oblasts and to some extent in the city of Sevastopol. While in 1999 there were 21 regions

[10] Data compiled by the author from *Statystychny shchorichnyk Ukrainy za 2000 rik* (Kyiv: Tekhnika, 2001), 650 s. [*Statistical Yearbook of Ukraine for 2000* (Kyiv: Tekhnika Publishers, 2001), pp. 650]; *Statystychny shchorichnyk Ukrainy za 2001 rik* (Kyiv: Tekhnika, 2002), 655 s. [*Statistical Yearbook of Ukraine for 2001* (Kyiv: Tekhnika Publishers, 2002), pp. 655]; *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s. [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

[11] Data compiled by the author from *Statystychny shchorichnyk Ukrainy za 2000 rik* (Kyiv: Tekhnika, 2001), 650 s. [*Statistical Yearbook of Ukraine for 2000* (Kyiv: Tekhnika Publishers, 2001), pp. 650]; *Statystychny shchorichnyk Ukrainy za 2001 rik* (Kyiv: Tekhnika, 2002), 655 s. [*Statistical Yearbook of Ukraine for 2001* (Kyiv: Tekhnika Publishers, 2002), pp. 655]; *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s. [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

[12] *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s. [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

[13] Data estimated from the Ministry of the Economy and European Integration of Ukraine.

who were least attractive for investment (even by Ukrainian standards) whereby their average per capita indicator was less than the average indicator for Ukraine, in 2002 there were 22 such regions.

***Table 2*. Foreign direct investments per capita (as of January 1, 2003)**

Regions	1999		2000		2001		2000	2001
	export US $	import US $	export US $	import US $	export US $	import, US $	Total volume of foreign trade US $ m	Total foreign trade export US $ m
Ukraine	1,581.8	11,846.1	14,572.5	13,956	16,264.7	15,775.1	28,528.5	32,039.8
AR Crimea	127.3	121.7	173.5	146.2	218.3	125.8	319.7	344.1
Vinnytsia	175.6	127.6	199.1	120.0	208.6	150.5	319.1	359.1
Volyn	85.6	54.3	147.7	367.3	171.1	179.6	515.0	350.7
Dnipropetrovsk	2,074.8	762.2	2,890.5	1,014.7	2,844.6	973.2	3,905.2	3,817.8
Donetsk	2,136.2	690.5	2,960.0	895.6	2,954.7	830.2	3,855.6	3,784.9
Zhytomyr	107.8	68.4	136.7	91.2	140.5	126.3	227.9	2668
Transcarpathia	169.5	158.8	215.6	184.4	2,53.7	243.6	400.0	497.3
Zaporizhia	1,134.3	399.7	1380.7	696.8	1,316.6	502.5	2,077.5	1,819.1
Ivano-Frankivsk	1,52.4	83.5	191.5	132.8	307.1	198.8	324.4	505.9
Kyiv	178.2	241.0	241.2	307.2	304.5	386.0	548.5	690.5
Kirovohrad	45.3	20.0	51.9	28.2	76.4	36.8	80.1	113.2
Luhansk	508.3	138.7	680.7	233.0	1,236.4	211.8	913.6	1,448.2
Lviv	197.4	214.5	303.1	353.2	302.1	611.6	656.4	913.7
Mykolaiv	355.3	146.2	523.7	282.3	485.6	265.7	807.9	751.3
Odessa	580.4	357.2	527.8	424.8	601.7	592.5	925.5	1,194.0
Poltava	369.2	134.6	440.7	210.6	601.8	170.3	651.3	772.1
Rivne	75.5	59.6	85.1	84.5	78.3	111.7	169.7	190.0
Sumy	166.0	160.4	197.5	118.3	237.0	118.2	315.8	355.2

Regions	1999		2000		2001		2000	2001
	export US $	import US $	export US $	import US $	export US $	import, US $	Total volume of foreign trade US $ m	Total foreign trade export US $ m
Ternopil	42.7	31.7	42.8	26.5	49.3	36.4	69.3	85.7
Kharkiv	313.8	668.1	327.7	430.0	430.4	475.5	757.7	905.9
Kherson	101.0	37.6	1,03.4	44.0	129.9	45.5	147.3	175.4
Khmelnyt-sky	89.6	54.8	87.5	57.7	92.9	70.5	1445.2	163.4
Cherkassy	185.0	146.3	224.6	132.2	208.3	109.1	356.8	317.4
Chernivtsi	44.5	32.3	57.9	34.6	61.4	38.4	92.6	99.8
Chernihiv	115.7	601.1	131.8	173.3	143.4	155.9	305.0	299.3
city of Kyiv	1,864.7	2,091.7	1,976.6	2,786.4	2,604.5	3,483.6	4,763.0	6,088.1
city of Se-vastopol	56.6	35.9	35.9	60.7	48.8	47.1	96.6	95.9

Source: Monitoring sotsial'no-ekonomichnoho rozvytku rehioniv Ukrainy za 2001 rik (Kyiv: PROON, 2002), 76 s. [*Monitoring of the Socio-economic Development of Ukraine's Regions for 2001* (Kyiv: United Nations Development Program (UNDP), 2002), p. 76].

From this two important conclusions follow:

1) If the accumulation of capital and the accelerated economic growth is retained, in 2005-2006 Kyiv will surpass the average EU level and in subsequent years claim a leading position among the capital cities of Central and Eastern Europe.

2) The disparity between the main macroeconomic indicators of the capital and the depressed regions will grow markedly. This will aggravate the disproportion in the economic and social development of the regions and stimulate the migration of the able-bodied population to places more attractive to investment .

Such prospects do not make Ukraine an exception in the common European economic environment because it is consistent with the current theory in the EU about marginal and sub-marginal localities, which directly follows from the theory of European cities in competition.[14] And yet, delaying regional reforms may negatively affect the structure of foreign trade, which ignores the innovational nature of the domestic economy (see Table 3.)

[14] C. Jensen-Butler, A. Shachar, J. Weesep, eds., *European Cities in Competition* (Brookfield, VT: Avebury, 1997), p. 530

***Table 3*. Export/import volume of goods, US $ million**

Regions	1999		2000		2001		2002	
	Total, US $	Rank	Total, US $	Rank	Total, US $	Rank	Total, US $	Rank
Ukraine	55.9	—	65.8	—	78.3	—	89.7	—
AR Crimea	60.0	6	62.4	7	69.2	8	77.7	8
Vinnytsia	6.7	27	7.1	27	12.2	24	15.7	24
Volyn	39.7	11	40.3	13	46.4	12	46.4	13
Dnipropetrovsk	46.0	9	47.7	10	59.5	10	85.1	6
Donetsk	33.0	13	52.1	9	62.3	9	68.7	9
Zhytomyr	22.1	18	19.4	21	19.5	21	26.9	22
Transcarpathian	50.4	8	57.4	8	71.8	7	83.9	7
Zaporizhia	112.8	3	106.4	4	115.3	3	126.3	3
Ivano-Frankivsk	23.6	17	25.3	17	27.6	20	31.9	20
Kyiv	140.1	2	145.4	2	188.2	2	194.6	2
Kirovohrad	12.9	23	14.2	23	16.8	23	30.0	21
Luhansk	10.5	25	10.7	24	12.0	25	15.1	25
Lviv	30.2	15	41.5	12	55.3	11	62.4	10
Mykolaiv	23.9	16	27.8	16	35.1	17	45.0	14
Odessa	72.0	5	72.8	5	81.2	5	95.0	4
Poltava	50.4	7	123.4	3	108.5	4	88.3	5
Rivne	42.8	10	38.9	14	38.4	16	40.5	16
Sumy	14.7	21	23.2	19	33.3	18	37.5	18
Ternopil	15.6	20	14.9	22	18.4	22	20.1	23
Kharkiv	17.0	19	25.1	18	40.9	13	56.8	12
Kherson	13.0	22	21.0	20	28.9	19	33.8	19
Khmelnytsky	8.4	26	9.5	25	10.6	25	12.5	26
Cherkassy	82.2	4	71.2	6	72.6	6	59.6	11
Chernivtsi	11.2	24	8.7	26	9.6	27	10.8	27
Chernihiv	32.3	14	36.2	15	40.3	14	42.8	15
city of Kyiv	328.9	1	396.8	1	489.3	1	577.3	1
city of Sevastopol	35.0	12	42.7	11	39.1	15	40.0	17

Source: Monitoring sotsial'no-ekonomichnoho rozvytku rehioniv Ukrainy za 2001 rik (Kyiv: PROON, 2002), 76 s. [*Monitoring of the Socio-economic Development of Ukraine's Regions for 2001* (Kyiv: United Nations Development Program (UNDP), 2002), p. 76].

Over three years, as represented in Table 3, the total volume of Ukraine's foreign trade increased; exports especially rose 1.4 times while imports only 1.3 times. In 2000 the country had a favourable balance of foreign trade, and its total volume of foreign trade for two years alone (2000-2001) increased by 11 percent. But the disparity between the oblasts and cities, as with GSP and FDI, were clearly evident. In terms of volume of foreign trade Kyiv led with its share in 2000 of 16.7 percent and in 2001 19.0 percent. Next were the industrial leaders of the metallurgical industries — Dnipropetrovsk oblast (13.7 percent and 11.9 percent, respectively), Donetsk oblast (13.5 percent and 11.8 percent) and, some distance away, Zaporizhia oblast (7.3 percent and 5.7 percent). The figures from other regions were negligible — from 4.5 percent in Luhansk oblast to 0.3 percent in Chernivtsi oblast and the city of Sevastopol. Yet it should be pointed out that the largest export potential is concentrated in the industrially-developed regions, which are rather sensitive to restrictions on metallurgical imports imposed by traditional consumers of these low-tech products. Thus, the 2000 «metallurgical wars» in the global economy had a negative effect on the industry. In the one year alone, the share of Ukraine's exports of Dnipropetrovsk oblast dropped from 19.8 percent to 17.5 percent, of Donetsk oblast from 20.3 percent to 18.2 percent, and of Zaporizhia oblast from 9.5 percent to 8.1 percent. These oblasts accounted for the largest share in the favourable balance of foreign trade, which in 2001 amounted to US$8,171.4 million in Dnipropetrovsk oblast, US$2,124.5 million in Donetsk oblast, and US$5,814.1 million in Zaporizhia oblast. At the same time, Kyiv's unfavourable balance of trade fluctuated from US$2,753.9 million in 1997 to US$1,529.5 million in 1998, US$227 million in 1999, US$809.8 million in 2000, and US$879.1 million in 2001.[15]

Exports of domestic services are oddly reflected in the structure of Ukraine's foreign trade. In early 2000 the share of services in the structure of GVA was 44.9 percent, while in industry it was only 34.2 percent and in agriculture 14.1 percent. This creates the wrong impression that Ukraine qualifies as a post-industrial state, in which the most developed region, i.e. Kyiv, accounted for 73.8 percent of services in the structure of GVA, while Rivne oblast accounted for 34.1 percent, slightly exceeding its share of industry. Such a phenomenon has several explanations:

[15] The actual volumes of foreign trade were affected by the currency crisis of 1997—1998 and the devaluation of the Ukrainian hryvnia. *Statystychny shchorichnyk Ukrainy* (Kyiv: Tekhnika), 1997-2002 [*Statistical Yearbook of Ukraine* (Kyiv: Tekhnika Publishers), 1997—2002].

1) GDP and other macroeconomic indicators had been declining for ten years. In some periods, the negative growth was 20 percent or more per annum.

2) Irregularities in the sectoral structure of the economy because of the low competitiveness of technological manufacturing, above all in mechanical engineering which requires substantial investment that is otherwise mostly committed to trade, food industry and services.

3) The low share of services of Ukrainian exports. In 2001 services earned US$3.5 billion, which was 4.6 times less than the export of goods.[16]

4) The overwhelming domination of basic sectors that were traditionally intended to meet the intra-Union and COMECON consumption of products from ferrous metallurgy, chemistry and heavy mechanical engineering.

On the whole, the export and import of services reflects a model comprising the above-mentioned indicators, with the only difference being that the leader in the export of services is Odessa oblast which accounted for 12.3 percent of the national volume, followed by Kyiv (12.3 percent) and, at a considerable distance, Poltava and Lviv oblasts.[17] Such patterns can be explained by the domination of services for moving freight and passengers, including by sea.

Ukraine's sectoral and regional structure of foreign trade is more indicative of a country overcoming a crisis, but by the standards of post-industrial countries it still retains a low-technology foreign trade character that requires fundamental restructuring. From this point of view there must be a change from traditionally dividing sectors when methodologically analyzing the structure and trends of foreign trade dynamics and to assess first of all their technological and investment levels.

European Model of Foreign Trade for Member States and Applicants

In the twenty-first century a fundamentally new model of structural analysis, *revealed comparative advantages* (RCA), became current in world trade. Specifically, the Finnish scholar, Ville Kaitila, proposed an approach based on the generalization of the labour intensity factor for the 1993-1998 period to compare the mesoregional changes in the foreign trade structure of the EU member

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[16] *Statystychny shchorichnyk Ukrainy* (Kyiv: Tekhnika), 1997-2002 [*Statistical Yearbook of Ukraine* (Kyiv: Tekhnika Publishers), 1997-2002].

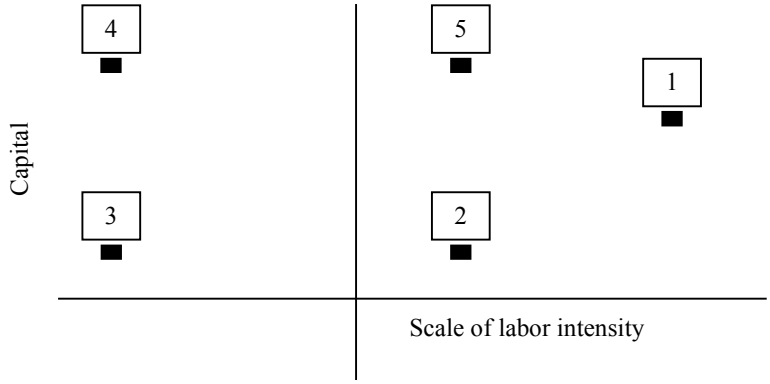
[17] *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s.; [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

countries and Central Europe.[18] The underlying basis of its classification consisted of four variables:

- The share of white-collar workers in the aggregate labour force of industry;
- average wages;
- the rate of general cost of labor in value added products;
- rate of fixed investments in value added products.

Relying on this model, Kaitila suggested a five-tier structure for classifying industry (see Figure).

Classification of types of industry according to Ville Kaitila



Category 1 is characterized by a high measure of pay in value added products and an extremely high pay and stratum of white-collar workers. These are high-technological types of industry with an intensive use of human capital.

Category 2 is also marked by an intensive use of human capital, but uses only negligible physical capital. It has a low level of investments relative to value added products, although a high level of pay in value added products.

Category 3 is intensive in relation to labour and uses relatively little capital. Average wages are low and yield a low level of investments and high level of pay in value added.

Category 4 includes labour- and capital-intensive production. It is distinguished for a high degree of investment, relatively low pay, small share of white-collar workers and an average share of pay in value added.

Category 5 is dominant in the food industry that is intensive in two types of capital — physical and human.

[18] *Statystychny shchorichnyk Ukrainy za 2002 rik* (Kyiv: Tekhnika, 2003), 657 s.; [*Statistical Yearbook of Ukraine for 2002* (Kyiv: Tekhnika Publishers, 2003), pp. 657].

The application of this classification revealed certain trends in the export structure of Europe's post-socialist countries/candidates for accession to the EU (see Table 4). The share of sectors in the first category is sufficiently large in Hungary (25.3 percent), Estonia (18 percent) and Lithuania (15.4 percent). The rest of the countries have a small stratum of white-collar workers and a low measure of pay in value added products.

Table 4. **Share of Central European countries in exports to the EU under the RCA-exports method across five categories, 1998 according to Ville Kaitila**

Countries of Central Europe	Categories					Total	3+4
	1	2	3	4	5		
1. Bulgaria	7.0	4.5	37.2	42.8	8.5	100	80.0
2. Czech Republic	5.2	19.2	14.7	58.7	2.2	100	73.4
3. Estonia	18.0	6.5	25.3	46.8	3.4	100	72.1
4. Hungary	25.3	15.5	18.1	39.9	1.2	100	58.0
5. Latvia	2.1	1.1	21.2	73.3	2.2	100	94.5
6. Lithuania	15.4	7.3	37.0	34.4	5.9	100	71.4
7. Poland	6.9	8.1	33.0	45.4	6.6	100	78.4
8. Romania	1.6	6.2	66.9	24.4	0.9	100	91.3
9. Slovakia	6.5	10.9	19.5	60.4	2.7	100	79.9
10. Slovenia	3.0	20.1	18.7	57.2	1.0	100	75.9

Source: Ville Kaitila, «Accession Countries' Comparative Advantage in the Internal Market: A Trade and Factor Analysis,» Bank of Finland Institute for Economies in Transition (BOFIT), Discussion Paper No. 3 (2001): p. 23.

The fifth category reflects to a certain extent the mesoregional diversification of production. In Hungary the growth of category 1 resulted in the reduced share of the food industry by 1.2 percent. Yet low-tech labour remains rather high in Bulgaria (8.5 percent), Poland (6.6 percent), and Lithuania (5.9 percent).

Categories 3 and 4 are presented in the table in both summary and differentiated forms. Their total sum is very important for analysis as this shows the domination of old sectors characterized by a low share of white-collar workers and relatively low pay in several countries: Hungary (58 percent), Lithuania (71.4 percent), Estonia (72.1 percent), the Czech Republic (73.4 percent), Bulgaria (80

percent), Romania (91.3 percent) and Latvia (94.5 percent). The earlier stated thesis about the varying pace of systemic reforms in the Baltic countries is reflected at this level as well.

It is also necessary to trace the dynamics of categories 3 and 4. From 1993 to 1998 the highest rates of decline of this category were recorded in Hungary (14.7 percent), Estonia (11.6 percent), Slovenia (1.6 percent), the Czech Republic (1.5 percent), and Poland (1.2 percent). No trends whatsoever were observed in Romania, while the rest of the countries stimulated their export capacities precisely in the basic sectors, specifically Bulgaria with a 9.9 percent increase, Latvia 4.8 percent, Lithuania 4.1 percent and Slovakia 3.1 percent.

Marked conceptual changes occurred at the inter-regional level in the countries of the megaregion. Disparity intensified in those regions where the share of categories 3 and 4 increased, while it was typical for the asymmetry to be overcome in countries that stimulated the use of human capital as much as possible.

The application of this analytical method to the EU also yielded some unexpected results that can be used for forecasting the goals and implementation of a balanced regional policy (see Table 5). The highest share of the sectors in categories 3 and 4 was held by Spain (79.4 percent), Portugal (76.1 percent) and Italy (72.2 percent), while the lowest share by Ireland (7 percent), The Netherlands (29.3 percent) and the United Kingdom (30.2 percent).

Table 5. **Share of internal export of EU member countries under the RCA-experts method across five categories in 1998**

EU countries	Categories					Total	3+4
	1	2	3	4	5		
1. Austria	10.8	16.2	12.8	55.1	5.1	100	67.9
2. Belgium-Luxembourg	21.2	10.4	6.8	58.3	6.2	100	62.1
3. Denmark	10.1	31.6	22.5	30.8	5.0	100	53.4
4. Finland	18.6	8.4	5.2	47.3	20.5	100	52.4
5. France	21.8	13.2	3.6	51.1	10.3	100	54.7
6. Germany	19.8	21.2	5.9	50.5	2.6	100	56.4
7. Greece	1.8	19.6	36.3	25.3	17.1	100	61.5
8. Ireland	75.2	7.8	0.4	6.7	10.0	100	7.0
9. Italy	2.4	21.9	25.7	46.4	3.6	100	72.2

EU countries	Categories					Total	3+4
	1	2	3	4	5		
10. The Netherlands	44.0	17.5	3.7	25.6	9.3	100	29.3
11. Portugal	3.9	10.3	35.6	40.4	9.8	100	76.1
12. Spain	4.8	9.8	6.5	72.9	6.1	100	79.4
13. Sweden	22.0	16.2	7.1	39.9	14.8	100	47.0
14. United Kingdom	49.0	18.8	3.2	27.0	2.1	100	30.2

Source: Ville Kaitila, «Accession Countries' Comparative Advantage in the Internal Market: A Trade and Factor Analysis,» Bank of Finland Institute for Economies in Transition (BOFIT), Discussion Paper No. 3 (2001): p. 25.

Thus, the Irish phenomenon can be explained by its rapid economic growth, regional and sectoral diversification, as well as the effective structural policy pursued by the EU. The implementation of the idea of post-industrial modernization made Ireland (located in category 1) among Europe's leaders. But the rapid dynamics of future sectoral deformities will not sustain economic development. This is especially true of the period after 2006 when the EU's regional priorities will be reviewed. Some considerable positive changes were also registered in 1993-1998 in such countries as the UK (the share of sectors in categories 3 and 4 dropped by 10.1 percent), Greece (by 5.4 percent), Finland (by 4.5 percent), Belgium-Luxembourg (by 4.14 percent), Sweden (by 3.2 percent), The Netherlands (by 3 percent), France (by 1.9 percent) and Denmark (by 1 percent). In contrast, countries such as German, Portugal and Spain showed an export growth in sectors in categories 3 and 4.[19]

This model represents a new approach for Ukraine, but it needs to be implemented at the national and regional levels. Of particular importance is to introduce the European system of measuring real changes in the diversification of foreign trade. In this respect Ukraine will likely follow the Romanian example with an RCA-exports indicator under the first category within the range of 1.5 to 2.5 percent and the domination of categories 3 and 4 within the range of 85 to 93 percent. In reality it will mean that the possibilities for innovation investments and capital renovations will be restricted. At the same time, the RCA indicator to identify regional level NUTS-1[20] (Donbas, Industrial Dnieper Area, Kyiv, Carpathia and other regions) may be used in accordance with the European regional model.

[19] Kaitila, «Accession Countries' Comparative Advantage in the Internal Market,» pp. 24-25.
[20] NUTS-1 denotes the largest EU regions by area and population size.

Conclusions

1. Over the next five years Ukraine will most likely continue the trend of «low-tech» exports, which makes metallurgy, agriculture, and the food and textile industries highly susceptible to world market conditions, and the European market in particular. Such a situation is reflected in the internal and external priorities that were assigned to some sectors of the economy in Soviet times and during the first years of independence. The government's intention to increase state support of enterprises in the «basic» industries subsequently will produce negative consequences for the restructuring of production in order to generate innovation and expansion of the country's export potential.

2. Diversification of foreign trade at the regional and sectoral levels will be possible by increasing FDI in those areas of innovation that are priorities in the overall structure of production and non-productive spheres. Those regions, in which the transformation of the sectoral structure of production is proceeding at a slow pace (i.e. the oblasts of Central and, partly, Western Ukraine), will experience a worsening depression that will restrict their exports and require increased subsidies from the state budget. The rapid invigoration of foreign economic activity in Ukraine's largest cities and, especially, in Kyiv will stimulate a higher rate and scope of labour force migration.

3. At the analytical level the implementation of new models of statistical studies should be done as quickly as possible: i.e. calculations of GSP for regions and sectors as well as identification of the structural components of foreign trade by the RCA methods. With Ukraine having an immediate western border with the EU as of 1 May 2004, the study of regional fluctuations of the hryvnia's exchange rate with the Euro, Russian rouble and US dollar, which, in the final analysis, will greatly impact on the dimensions of exports from Ukraine's western and eastern regions, will become very important. Therefore, the application of the producer price index and the consumer price index methods will become useful for calculating regional currency exchange rates.

4. At the state level, the strategic volumes of output of ferrous and non-ferrous metals and agricultural and chemical products must be identified, which would accord with the standards of Ukraine's socio-economic security and make it possible to diversify foreign trade quickly and also avoid a steep increase in sectoral-regional disparities that tend to build up substantially.

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