INTEGRATING EUROPE:
PROSPECTS FOR UKRANIAN
TRADE PERFORMANCE

by

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Abstract

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PERFORMANCE

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The paper examines the forthcoming integration processes in Europe and effects they will impose on European trade patterns and, in particular, Ukrainian trade performance. Estimates of applied gravity model of international trade lead to a conclusion that bilateral trade flows between Newly Independent States and Associated country will shrink after the accession of the latter into the European Union. Nevertheless, we extended our analysis further to see if actual Ukrainian trade patterns resemble those of average NIS. We showed that Ukraine seems to be much more integrated with the EU and Candidate Countries and much less with former Soviet republics, thus degree of trade diversion may not be as crucial as supposed. We then use the model's estimates as approximate measures of the change in geographical distribution of Ukrainian export flows after EU Enlargement and try to estimate which export goods will meet the highest and the lowest demand in the near future.

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GLOSSARY

CAP	Common Agricultural Policy of the European Union
BSECC	The Black Sea Economic Cooperation Council
CBSS	Council of Baltic Sea States
CE-5	Czech Republic, Estonia, Hungary, Poland, Slovenia
CEEC	Central and Eastern European Countries
CEFTA	Central European Free Trade Agreement
CIF	Cost, insurance, freight
CIS	Commonwealth of Independent States - is comprised of all the states of the former Soviet Union except for the three Baltic countries (Estonia, Latvia and Lithuania).
CMEA	Council for Mutual Economic Assistance
Derzhkomstat	State Statistics Committee of Ukraine
EA	European (Association) Agreement
EC	European Community
EFTA	European Free Trade Association
EU	European Union
FOB	Free on board
FSU	Former Soviet Union
FTA	Free Trade Area
GATT	General Agreement on Tariffs and Trade
HS	Harmonized Commodity Description and Coding System
MFN	Most Favored Nation
NIS	Newly Independent States
NTB	Non-tariff barriers
PCA	Partnership and Cooperation Agreement
PTA	Preferential Trade Area
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

Chapter 1

INTRODUCTION

Over the last ten years Ukraine has faced a lot of changes: together with the transition process in our own economy there have been crucial events coming from the outside. European integration and the continuing enlargement of the European Union (EU) make huge differences in the economic environment of the continent thus having a direct effect on the economic performance of Ukraine herself.

The EU is Ukraine's main trading partner outside the Newly Independent States (NIS). That is why the changes in the Union's trade patterns will inevitably change the volume and direction of Ukrainian exports. Eastern Enlargement of the EU will stretch its borders to Ukraine in the near future. Given the big weight of geography in determining the trade patterns, this could have important implications.

Starting from the beginning of last decade, many authors examined the ties between processes of integration in Western Europe and disintegration between countries of Central and Eastern Europe (CEECs). Most of studies predicted a large increase in the potential level of trade between developed European economies and their eastern neighbors and deterioration of trade relationships within former Soviet Union bloc. More recent studies, however, are quite convincing in proving that this "East-West" trade has already reached, or even exceeded, its potential volume, thus pointing on further redirection of CEEC's trade flows. Predicting the future of Ukrainian trade is even more controversial. First, the researchers evaluate the effects of integration mainly on Candidate countries, those that are expected to join the EU in the near future. Ukrainian trade and economic

history is much different from these, although "European" status of Ukraine does not allow to directly compare it with the majority of ex-Soviet republics too. Second, Ukraine is still trading most intensively with NIS-block. Lastly, it is not clear which effect – trade creation or trade diversion between Ukraine and Candidate countries- will prevail after accession takes place.

The purpose of this paper is to examine the trade patterns in Europe in recent years and effects they could impose on volume and distribution of Ukrainian trade flows. In particular, we attempt to update the previous projections based on the use of gravity model. This allows to get estimates of Ukraine's potential trade in the medium term and to consider the degree by which Ukraine exceeds or undershoots its export opportunities at present time. Knowing the commodity structure of Ukrainian exports, we thus try to estimate which export goods will meet the highest demand after Enlargement takes place. Important implications could be made also in regard to Ukrainian external trade policies.

Chapter 2 is a brief look on previous findings in this field; it presents the major points of reference. Chapter 3 describes the overall setting, with an accent made on behaviour of Ukrainian trade during the transition period and experience of CEEC-frontrunners in light of Eastern Enlargement. Chapter 4 presents the methodology of estimation and the results. Chapter 5 examines differences between estimates of present potential and actual trade between Ukraine and its trading partners. Chapter 6 is devoted for studying the effects of Eastern Enlargement on geographical distribution of Ukrainian exports and commodity structure of Ukrainian trade. In Chapter 7 we discuss the findings and conclude.

Chapter 2

LITERATURE REVIEW

Economic theory gives researches traditional and powerful tools to study trade integration effects. **The theoretical framework** for this field of analysis is given in Krugman and Obstfeld (2000) as well as in Lindert (1991). Applying general and partial equilibrium models of international trade, these authors describe the concepts of trade creation and trade diversion, which arise in result of the formation of the trading blocks. The author of the latter book also talks about prospects of East-West trade stressing that those Eastern European countries are likely to gain, which have a developed industrial sector, are willing and able to specialize more and to engage in intra-industry trade. And that a rapid trade expansion will bring the sharp differences in the economic fortunes of different sectors of domestic economies.

Gros and Steinherr (1995) also apply general and partial equilibrium analysis, but now with a particular purpose to evaluate the effects of trade arrangements with the European Union (EU). Using the partial equilibrium model, they show that net gains from the formation of a preferential trade area (PTA) are ambiguous if the most efficient producers are outside newly formed PTA. Applying a general equilibrium model, it was shown that the gains are larger:
- the higher the initial tariff in a given sector and the lower is the post-PTA tariff on extra-union countries
- the higher are the tariffs in the outside world on the incoming partner
- the more competitive is the existing (but the complementary the potential) trade structure of the newcomer with that of PTA.

It is argued that in any case there are obvious advantages of integrating with the EU, despite some "warning lights of theory" that it could hurt the trade with the rest of the world:

- European Union is much more than a free trade area, it is an integrated single market supported by institutions that provide indispensable policy and institutional framework;
- PTA is a protection against the risk of more protectionist policies of trade partners in the future;
- EU serves as a building block rather than a stumbling block for global free trade;
- small country which has a little weight in trade negotiations when on its own can more easily defend its interests;
- critique towards European Agreements (saying that they are based on "hub-and-spoke" approach) is exaggerated; Eas bias competition in favor of the European Union as long as countries do not pursue free trade among themselves.

The level of remaining protection is being discussed also. The results of implied gravity model show that trade between CEECs and EU is 23% greater than one would expect on the basis of the geography and income alone, thus indicating EU is not protectionist against imports from transition economies. The authors emphasize the weight of geography in determining future trade patterns. Turning once more to the gravity model, they calculate the gravity index to measure the trade potential of each country in different hypothetical trading blocks. The results show that free trade with Central Europe increases the trading potential of former Soviet republics only marginally (the other way round the influence is stronger), but opening to Western Europe leads to a 10 to 20-fold increase in trade potential. Finally, adding rest of the world (mainly US and Japan) increases the trading potential of Central European countries and most Western former republics only moderately. Gravity indexes were also used to

determine which countries would become the gravity centers of trade after the formation of particular PTAs.

The gravity model of international trade, mentioned above, is extensively used in empirical studies concerning economic integration, evolution of trade relations and reorientation of the trade flows. Before 1990s, these studied mostly focused on analyzing the effect of formal PTAs, like EU and European Free Trade Association (EFTA), on trade volumes. In particular, Aitken (1973) utilizes this model to evaluate the impact of the formation of European Economic Community and EFTA on European trade patterns over the period 1951-1967. Estimation of trade preference coefficients for each year in the integration period allowed to obtain the dollar value of gross trade creation for each of the two European communities.

Anderson and Smith (1998) investigate the effect of complete, economic and political, integration on trade and find that it is much more profound that could be expected. After controlling for all basic variables of gravity model, estimates show that Canadian provinces trade 20 times more intensively with each other than with US states. Thus the authors conclude, "national borders really matter" even in a presence of a large extent of economic integration between two countries.

The same conclusion was made in Fidrmuc (2000), where gravity model was used to assess the decline in intensity of trade relations between disintegrated economies of Czechoslovakia, Soviet Union and the Baltic States. According to estimates of the paper, trade among constituent parts of these states before disintegration was 40 times above the normal level, then substantially deteriorated but still was much intensive in 1998. As many other studies based on gravity model, this one also gives attention to progress of trade liberalization between Western and Eastern Europe and estimate the extent of East-West trade in the future. Among most widely recognized in this field of research is also paper by Baldwin (1994), who

found that in the late 80s CEECs had a huge level of export potential towards European Union but were under-using it. Later on Nilsson (2000) shows that trade between EU and Candidate countries has mostly reached, or even exceeded, its estimated potential by the mid-90s. Gács (2000) concludes the same but now comparing the actual volumes of exports of these two groups of countries. In 1998 Candidate countries exported a high share (61.3%) to the EU, which was close to the average of the EU members (64.5%). If Candidate countries were already close or even beyond their trade potential with the EU, then it is likely that they will not feel the shock of trade creation in time of integration, as is often predicted. Moreover, the mutual reduction of tariffs and non-tariff barriers (NTBs) between these countries and the European Union will be completed by the time of accession. The author also studies the changes in Hungarian export performance (the only parameter used here in trade equations is EU import demand) and assumes that the news about accession in year 2005 will be known from 2001. He finds that in 2000-2004 exports will grow annually at only about 0.6% faster than under the non-accession scenario. In 2005-2010, this difference will make 1.5%.

EU Enlargement and trade relations with the European Union are also discussed on another two papers of Baldwin (1992, 1997). The former focuses on alternatives towards "EC tunnel vision" and argues that eastern enlargement of an EFTA is a better opportunity for CEE countries mainly because of possibility to avoid the case of "being marginalized individually" through taking an intermediate step. The latter, however, evidently favors EU membership. Furthermore, it concludes that delaying accession negotiations could have very negative effects on CEE economies.

The subject of timing of integration process is of special interest to Martin and Ottaviono (1995). These authors use the tools of "new geography" to investigate the possible impacts of different speeds of integration in Europe

on the long-term geography of economic activities. The basic model implies two rich countries decide to integrate their economies while leaving a third, poorer, country temporarily outside. The existing income gap is measured as a difference in the human capital or the entrepreneurs, the level of integration - by a possibility of migration through the lowered transaction costs and there are two possible scenarios – with or without agglomeration economies. Under the last one the location of firms is free, still incomes are geographically fixed by the initial endowments of human capital, so there will be no agglomeration forces. Results of an analysis show that when the integration process between the two rich countries starts, they become a better export base to each other and all the firms will relocate to integrated area. A third country, however, faces a trade-off. If it does not enter at the same time, it permanently looses its market, if it does – the income differential will imply a very unequal distribution of firms. So, if difference in the aggregate incomes is initially low, one-shot integration process should be preferred. If it is high and is expected to converge, then economic geography says in favor of a long transition phase with a few stages. Nevertheless, the authors argue that introduction of the human capital mobility leads to the "agglomeration effect" of the multi-speed integration. That is in the long-run all entrepreneurs will migrate to a richer region with a higher capital rents, the increasing returns sector will concentrate there, and, as a result the rich and the poor countries will diverge in terms of real per capita income. Using the numerical simulation of the model they also show that if convergence in per-capita income should be achieved along with higher welfare, human capital mobility should be implemented immediately, while the free trade should be liberalized only after convergence has taken place. The probability of agglomeration in both types of countries depends on the main parameters of the model: the share of expenditure devoted to the differentiated good, returns to scale in production and the level of transaction costs before and after the integration. Thus the model gives important policy implications according to

the initial income gap between the countries in question and the conditions for the agglomeration process. If the last one is expected to be a long-term scenario, transition period before integration of periphery country should not be too short, and not too long either.

Effects of integration on the third countries were assessed a few years before in Smith and Venables (1991). In particular, they use the model of monopolistic competition, which incorporates possible effects of integration both on the marginal costs of trade and on fixed costs of market access. Changes in the latter two may affect not only EU firms but also firms from the rest of the world that produce in, or import through, a group of EU countries (for example, by reducing the cost of shipping and harmonization of standards). The author show that even if the effect on outside firms will be smaller relative to the effect on the EU firms, it is possible still that EU firms will lose market share to the rest of the world.

The agricultural topic is discussed in Rollo and Smith (1993). They showed that relaxing CAP and allowing prices for agricultural products to change bring net gains both to EU members and for exporting countries.

Both theoretical and empirical studies make important findings about the effects of integration. In general, we may conclude that integrating with the European Union could bring a lot of benefits for Ukraine, as it already did for the majority of Central and Eastern European economies. Among them is higher economic efficiency and increased trade with the EU members. However the extent of the latter is not certain. In the beginning of 1990s most of the scholars predicted a large increase in the potential level of trade between developed European economies and their eastern neighbors and deterioration of trade relationships within former Soviet Union bloc. More recent studies, however, are quite convincing in proving that this "East-West" trade has already reached, or even exceeded, its potential volume,

thus pointing on further redirection of CEEC's trade flows. Predicting the future of Ukrainian trade is even more controversial. First, Ukraine will not get a status of Associated country in the near future. It will rather become a "third" country to both new and old members of an enlarged European Union. And the empirical papers evaluate the effects of integration mainly on Candidate (or Associated) countries, those that are to join the EU in the next 5-10 years. Second, if we do not consider the possibility of full accession, but rather look on deepening of integration processes with different trading partners, previous estimates of trade potential will be of little use here. Again, they were obtained mainly for the present Candidates. Ukrainian trade and economic history is much different from those, although "European" status of Ukraine does not allow to directly compare it with the majority of ex-Soviet republics too. Lastly, it is not clear which effect – trade creation or trade diversion between Ukraine and Candidate countries- will prevail after accession of the latter to the European Union.

Considering that gravity model of trade received a substantial attention in the integration studies, we will use this model to update the previous projections, and concentrate on recent evolutions in trade patterns and a place of Ukraine in the latter. But prior to building a model it is important to look at the actual behavior of Ukrainian trade, her relations with trading partners, and at the trade performance of the main actors – first five Associated countries (CE-5). These are the topics of the next chapter.

C h a p t e r   3

THE SETTING

3.1. Ukrainian trade performance. Relations with the EU and arrangements with major trading partners.

Foreign trade forms an essential part of economic activity in Ukraine. Its share is estimated at a level of 40-45% of official GDP. Nevertheless, Ukrainian merchandise exports were steadily declining from the beginning of 1990s. In 1998, Ukraine had a merchandise trade deficit of $2.6 billion. Ukraine's exports were suffering considerably due to Russia's economic decline in 1998, combined with continued weak demand in Asia, slowed growth in Europe, and decline in trade along the Danube River due to the Kosovo crisis. Year 2000 was the first year of growth of both Ukrainian exports and imports. Total exports increased by 25% compared to 1999 and led to a trade surplus of $2.4 billion.[1]

Ukrainian exports remain very segmented and consist largely of human capital-intensive manufacture and primary products. Ukraine's main export products are unprocessed metals, chemicals, machinery and foodstuffs. In addition, Ukraine profits from transit services for Russian natural gas to Western Europe. Imports are mainly energy carriers from Russia and Turkmenistan.

The largest part of Ukrainian exports (36% in 1998) goes to former Soviet Union countries, although during last 4 years they are being redirected to other countries, mostly from Europe and Asia. Ukrainian imports from FSU

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[1] Source: Derzhkomstat

account for even larger share (about 60% of total imports in 1998). As a result of the high share of trade with Russian Federation in Ukraine's international trade (Russia absorbed 24% of Ukrainian exports and produced 42% of her imports in 2000), the country is very vulnerable to any change in the economic situation or policy in Russia. The most noticeable is the dependence on the raw materials, however Kempe (1998) notes that it is partly compensated by Russian interests in the smooth transit of natural gas pipelines through Ukraine.

The study by Firdmuc (2000) showed that the extent of trade among European countries that have recently disintegrated, in particular Belarus-Russia-Ukraine, remains substantially above the normal level, but is declining over time. Ukraine, as all other newly independent countries in Eastern Europe, is starting to trade much more intensively with its previous counterparts than with other countries.

While the EU is Ukraine's main trading partner outside the New Independent States (22% of Ukraine's trade flows in 1999), for the EU, though, trade with Ukraine remains at margin (only 0.42% of EU total trade). In this sense, Ukrainian trade somewhat resembles that of its Eastern European neighbors. Over the past years Ukraine faced a steadily increasing trade deficit with the EU. In 1998, protectionist measures together with Ukraine's economic crisis have led to a threefold decrease in the EU's trade surplus with Ukraine, from ECU 1,556mln in 1997 to ECU 524mln in 1999.[2] Ukraine's main export products to the EU are ceramic products (16%); oil producing seeds/starch/gluten (11%); industrial-use textiles (10%); rubber products (6%); and mineral ores/slag/ash (5%). As was noted in Pelkmans and Brenton (1997), product structures of EU imports from Newly Independent States are very similar. Moreover, large shares of these

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[2] Information on the EU relations with Ukraine could be obtained at the official site of the European Union, at http://europa.eu.int/comm/enlargement/index.htm

imports take products in which all NIS reveal a comparative advantage. EU imposes significant tariffs for some of those products (tariffs for some type of fertilisers are 10%), but even small tariffs on basic intermediate products could have a large distorting effect. Thus, a preferential agreement of European Union with one of the countries of NIS will significantly hurt the exports of other NIS to the EU. This makes an issue of product diversification very important for Ukraine, as it could help limiting trade diversion effects in a mentioned case.

Ukraine's relations with the EU

Ukraine has signed a Partnership and Cooperation Agreement (PCA) with the European Union in 1994. It was then the first of the Newly Independent States who implemented PCA. The agreement provided a basis for a deepening economic relationships between the EU and Ukraine, in particular, development of the trade relations with the perspective of a free trade area. The extensive requirements of its provisions should bring Ukraine in line with the legal frameworks of the single European market and the GATT/WTO system. The agreement also provides a framework for political relations and wide-ranging cooperation in the commercial, industrial, scientific and the administrative fields. Separate agreements were signed to regulate trade in textiles (1993) and trade in steel products (1995).

In December 1999, the Helsinki European Council adopted the EU Common Strategy on Ukraine. It aims at developing the partnership on the basis of PCA by setting three principal objectives:

A)   support of the democratic and the transition process in Ukraine;

B)   meeting common challenges on the European continent (stability and security in Europe, environment, energy and nuclear safety);

C)   support for strengthened cooperation between the EU and Ukraine in the context of enlargement, i.e. integration of Ukraine into European and world economy and the cooperation in the field of justice and home affairs.

At the EU-Ukraine summit in Paris, September 2000, it was stated that EU Council is considering removing Ukraine from the list of non-market economies in the EC antidumping legislation and granting it the same treatment as Russia and China in antidumping proceedings. Ukraine is looking for this possibility for its exporters to request, on a case by case basis, market economy treatment. It was also noted that progress has been made towards establishing a long-term agreement on trade in textiles and clothes, which will significantly liberalize mutual access to the EU and Ukrainian textile markets.

Ukraine's arrangements with major trading partners

Ukraine participates in the Black Sea Economic Cooperation Council (BSECC) that was established in 1990 on the Turkish initiative to create a new barrier-free economic grouping similar to the EU. Besides Turkey, it includes Albania, Bulgaria, Romania and Greece, plus six former Soviet republics (Ukraine, Russia, Moldova, Georgia, Armenia and Azerbaijan). Negotiations are underway for the establishment of a Baltic-Black Sea cooperation agreement.

Carpathian Euroregion, established in February 1993, united Ukraine and adjoining regions of Hungary, Poland and Slovakia to facilitate the cross-border cooperation with the help of its own institutional framework[3].

Ukraine has signed free trade agreements with almost all of the former Soviet republics.

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[3] East-Central European Economies in Transition (1995).

The bilateral trade agreement with Estonia, which came into force in 1996, is unprecedented in that it is the most liberal free trade agreement that Estonia has with any former Soviet republic, as it eliminates customs duties on imports and exports of both industrial and agricultural goods.

Ukraine intends to become a full member of the Central European Free Trade Agreement, which is predicated on Ukraine first becoming a member of the World Trade Organization (WTO).

In 1992 the U.S. and Ukraine signed a Bilateral Trade Agreement providing reciprocal most-favored nation (MFN) trade status, improved market access, and strong intellectual property rights protection. In 1994 a bilateral agreement on cooperation and mutual agreement between the customs services of the U.S. and Ukraine entered into force.

3.2. Central and Eastern European economies. The Eastern Enlargement experience.

In the course of transition process foreign trade of Central and East European Countries (CEECs) has already been reoriented towards EU to a large extent. The EU has become the main trading partner to all CEE economies. EU market amounted to 50-60% of all their exports in 1994[4]. At that time, estimations based on gravity models[5] predicted that CEE exports to EU had a potential to increase even further to 70%. Most of CEE countries were eager for being accepted and that pushed them for implementing more speedy reforms in different sectors of economy and legislation, especially in the field of trade liberalisation. By year 2000 virtually all quantitative and administrative trade restrictions (apart from agriculture) have been removed in all CEECs but Bosnia and Herzegovina. Nine countries are now members of World Trade Organisation. Seven CEE

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[4] Baldwin (1997)
[5] See Gros and Steinherr (1995)

economies (Hungary, Poland, Slovenia, Czech Republic, Slovakia, Latvia and Bulgaria) now have achieved policy standards in trade and foreign exchange systems that are comparable to those of the advanced industrial economies (USAID, 2000).

Finally, by 1995 EU has signed Association Agreements with five CEE countries: Poland, Czech Republic, Hungary, Estonia and Slovenia (Accession countries). Accession negotiations were formally opened in March, 1998. It is possible that some of the latter will be accepted to EU by the end of 2002. In October, 1999 five more countries (plus Turkey) have been invited to participate in negotiations towards membership, which brings the total number of Eastern Enlargement candidates to eleven.

Despite the seemingly attractive relationships between EU and CEECs in light of Eastern Enlargement, there are some worries about the way of developing trade ties between them:

> 1)   European Agreements has in some cases resulted in very moderate or even empty concessions, although they were supposed to help Central and Eastern Europe in its recovery by opening up export markets.

-   the process of elimination of EU barriers against CEE products was the longest for goods of greatest importance to those countries, such as agriculture, iron and steel

-   the EU has at times offered concessions on products which are not exported by CEECs at all

2)   All CEE countries have registered trade deficits with EU since 1991, and these are likely to increase[6].

3)   EAs allow for contingent protection, i.e. the reintroduction of trade barriers when import competition leads to sectoral disturbances. As result, the stability of new trade regime is weakened[7].

Although in the CEE economies exports were growing, but usually on the slower pace than imports, even in agriculture and food. Subsidised EU products began replacing local products, which are no longer competitive since CEE subsidies were cut during transition. These negative "supply effects" could be compared to a flood on markets of individual CEE countries, while in EU their effect was compared to barely noticeable stream (Kumar, 2000). This asymmetry in intensiveness of trade levels contributed to some decrease in the reputation of the EU in 4 out of 10 candidate countries.[8]

Finally, turning back to literature review proves that some 5-10 years ago there were more strong beliefs as to fast reorientation of trade from East to West and to positive effect of free trade areas in Western Europe on trade flows between their members. More recent studies (Fidrmuc, 2000) find that EU membership has only moderate positive effect on trade flows. And that the trade growth between East and West in 1990s is accounted for by normalisation of trade relations, rather than acquiring some special gains from association agreements and deepening of integration process.

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[6] See Kawecka-Wyrzykowska (2000)
[7] See Hagen (2000) in *Coming to Terms with Accession*
[8] Kumar (2000) in *Coming to Terms with Accession:*

The five first-wave candidate countries for Eastern Enlargement are Poland, Czech Republic, Hungary, Estonia and Slovenia[9].

All the CE-5 signed the free trade agreements with countries of European Free Trade Association. In 1994, the Czech Republic, Hungary, Poland and Slovakia formed the Central European Free Trade; Slovenia joined it in 1996 and Romania – in 1997. In the same year almost all duties on industrial imports (except some textiles, cars and steel products) were removed. This has extended the share of preferential access to the CE-5 markets even further. CE-5 countries have free trade agreements with Latvia and Lithuania; some have signed them with Bulgaria, Israel, Croatia (Slovenia) and Turkey. These countries together make up to 10% of CE-5 imports.

In 1990s Accession countries experienced very high rate of exports growth to the EU. This growth was particularly noticeable in the field of vertical intra-industry trade, indicating the high reliance of CE-5 economies on inputs from the EU and reorientation of the trade structure. Trade policies of these countries have always been diverse but European Association Agreements and the closeness of accession gave them a common feature: the low level of tariff and non-tariff barriers, which, however, is not extended over the MFN policy (except Estonia).

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[9] Established in 1991, the Visegrad Triangle (initially included Poland, Hungary and Czechoslovakia) was 'hailed as a major breakthrough in intraregional relationships', but in reality it became more focused on coordinating its 'road to Europe' instead of developing closer ties within a region. (See *East-Central European Economies in Transition* for discussion). Efforts proved to be successful as association agreements with the EU were signed in December 1991. They offered the prospect of full membership within ten years with a gradual lowering of trade barriers. Tariffs on EU imports were frozen at then existing levels and industrial imports were divided into the three groups. Tariffs for the first group were removed three years into the agreement (1 January, 1994); for the second group after six years (1 January 1997); for the third group – subject for gradual reduction until complete removal in 1 January 2001. Nevertheless 'sensitive' areas of steel, textiles and agriculture were to stay closed. It was also recognized that tariff reduction would have little sense in the presence of non-tariff barriers left beyond the scope of agreement. Polish exports were most adversely hurt by the NTBs.

Slovenia signed the EA in June 1996, Estonia in 1995.

All the CE-5 countries made a radical reversal from the central-planned to the liberalised trade. The trade provisions of the EAs and the regional trade agreements resulted in significant tariff reductions on industrial products. Now 60 percent of EU imports to the CE-5 are duty-free. That wide import competition coming from the EU and the fact that MFN partners account for no more than 30% of CE-5 total imports imply there would be no reason against the convergence of the MFN tariff rated towards the EU levels. Nevertheless, except Estonia with its duty-free regime, CE-5 countries have MFN tariff rates much higher than the EU[10] (although still lower than most developing countries with the similar level of GDP per capita). This excludes the possibility of trade diversion in time of accession into EU. Bilateral regional trade liberalisation added to the contrast of discriminating trade policies towards MFN partners.

Contrary to the experience of the developed countries during the 1980s and the early 1990s, in CE-5 trade history there was no sudden increase in the non-tariff measures of protection due to the falling tariffs. Except for Hungary, NTB levels were always very low in these countries. (See Kaminski, 2000).

Protectionist impulses were most clearly seen in Poland and Hungary, although Hungary turned to its liberalization path in 1997. Slovenia followed the gradual path. Czech Republic was even more liberal and its tariff structure remained quite close to that of the EU. The most interesting is the case of Estonia, which adopted unilateral liberalization and the free trade policy regime. There are only few such economies in the world.

Poland, with a population approaching 40 million (or nearly 50% of Czech Republic, Slovakia and Hungary combined) was seen by some as a 'too large

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[10] With the exception of agricultural and small numb er of industrial goods, the EU has very low external tariffs: weighted post-Uruguay round MFN average tariff for industrial goods is calculated to be 2.9% .(See Kaminski, 2000).

and too risky a partner' not only because its big external debt and decade-long history of political and economical instability, but also because it was the first country that fully experienced all the austerity of the free market, which threw the country into much deeper recession. The asymmetry with the other Central European states was increased further through the political factor. Poland was the only country that had a communist, rather than democratic government by the mid-1990. The asymmetries were reduced afterwards, when Hungary and Czechoslovakia faced the effects of slumping trade with the Soviet Union, and Poland took the steps necessary to complete its democratic transition. Its transformation program *cum* introduced current account convertibility of domestic currency and opened almost all sectors of the economy to foreign competition. In 1990, Polish trade policy was considered to be the best in terms of free trade.[11] Later it moved in another direction.

Poland introduced import surcharge on all imports between 1993 and 1996. MFN tariff rates in Poland are the highest in all CE-5. As in Hungary, the largest are applied to transport equipment, non-electric and electric machinery, metals. In 1996 the average MFN tariff rate stood at 21.3 percent, or 4.35 times higher than the average preferential tariff rate. After Uruguay Round it was to be lowered to 6.9%. If compared to the EU MFN rates, it is still 2.46 times higher.

Disappearance of the CMEA and the collapse of the USSR are among the major factors that explain the significant decline in the GDP of <u>Hungary</u> in the beginning of 1990s. However, the aggregate trade figures did not deviate much as the loss of export markets was followed by a quick reorientation of exports to the West. More, this reorientation turned to be extremely successful later on, in both the value of trade (exports rose at unprecedented level of 15% annually, imports - by 12% in 1994-1998) and quality changes. If earlier exports consisted mainly from agricultural and unprocessed goods,

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[11] Kaminski (2000)

food and light industry products, in 1998-1999 the major exports were machinery goods: passenger cars and parts thereof, combustible engines and parts thereof, office machines electric parts and electric cables, video appliances, radio and television equipment, light bulbs and apparel. Such a development was mainly due to the successful privatisation policy, which favoured the attraction of foreign investors.[12] Companies with foreign investment made up to 75% of exports in 1998. Among other reasons was the 9% real devaluation of the forint in 1995 with the announced switch to the fixed exchange rate and the introduction of the temporary import surcharges for balance-of-payments reasons. It contrasted the period of gradual foreign liberalisation in the beginning of decade, when rationing of imports of intermediate and a number of consumer goods was abandoned. But under the external pressure from the WTO and EU these protectionist measures were gradually phased off. In 1997 customs fee were reduced from 6 to 2 percent, and completely abolished for imports from WTO members. The 'effective' rate of surcharge on duty-free imports was reduced gradually from 15% to 3.75% in the mid-1997. Hungarian exports were heavily influenced by the demand from the EU, in particular - from Germany. In 1998 Hungary exported 73% of its products to the EU, 9%- to CEFTA countries, which are increasingly integrated with EU markets.

As in the most of the CE-5, Hungarian MFN tariff rates vis-à-vis third countries are higher than relevant tariffs in the EU. In 1998 50% of them were 1.75 times higher of EU rates. The ratio of average MFN to average preferential rate was about 2 in 1997.

Hungary showed the highest level of protectionism in terms of non-tariff barriers. The NTB coverage ratio, i.e. the percentage of imports subject to non-tariff measures, equalled 22.4 percent in 1997, compared to the relevant figure in EU – 11%, Poland – 3.2% (excluding technical regulations, though), Japan – 3%. Enforced Uruguay Round Agreements, which eliminated the quantitative restrictions on agricultural products subject to

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[12] See Gács (2000).

tariffication, were to reduce this ratio in Hungary to 19%. But the same reduction has occurred in another countries, e.g. in EU – to 4%, thus even increasing the difference.

Slovenia initially had a very high level of protection of its foreign trade markets: in 1986 the average effective rate of protection was estimated at 53%. The following gradual liberalisation and the accession to GATT in 1994 led to the reduction of quantitative restrictions on imports, which covered 22% in 1990 and only 2% in 1996. The same policy was conducted as to the export taxes.

Czech Republic found itself by early 1994 with a deteriorating trade balance, partly because of a sharp decline in a trade with Slovakia. Transformation program *cum*, launched in 1991 and accompanied by a 20% import surcharge, led to the increase in the border protection, in contrast to the Poland analogous program. However this protection was revoked quite soon and the Czech Republic experienced the highest level of the export growth. The main policy was to upgrade or differentiate the traditional export goods with the use of EU machinery, inputs and the know-how. As FDI flows into Eastern Europe were in part limited, the non-equity-based linkages with Western European firms turned to be very helpful. In result Czech Republic experienced also the highest level and rate of growth with the EU itself. [13]

In the mid-1992 Estonia has already zeroed all of its tariff rates and export controls, and refrained the introducing of any quotas on imports. The only two exceptions concerned fur and fur products (uniform tariff rate of 16% until 1996) and establishing of government monopoly in exporting lucrative metals in order to reduce illegal activities.[14]

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[13] See Hoekman (1996)
[14] Kaminski (2000)

Chapter 4

THE GRAVITY MODEL: METHODOLOGY AND ESTIMATION

The processes of integration in Europe in the recent decade have undoubtedly influenced directions and volumes of the trade flows between the majority of economies. The major impacts were believed to be the larger intensity of trade within EU since the completion of the Single Market and massive reorientation of CEECs' exports from transition and developing countries towards EU. The ongoing preparation for Eastern Enlargement increases effects of integration even further. Accession negotiations with CE-5 (the Czech Republic, Estonia, Hungary, Poland, Slovenia and Cyprus) were combined with relaxing previous restrictions on exports from these countries to the European Union. As admission of new members could be started in the next year (2002), it is possible and useful to analyse the consequences of this enlargement on Ukrainian trade performance.

 Applying gravity model will help to see more clear how significant is trade with and within European Union now and to what level of trade creation (or trade diversion) could Eastern Enlargement lead. Also it will make possible to predict percentage distribution of Ukrainian trade flows in the nearest future. Given we know the approximate goods composition of export flows, it could be possible to estimate which export goods will meet the highest demand after Enlargement takes place. Important implications could be made also in regard to Ukrainian external trade policies.

4.1. Data

The data set for our estimation contains bilateral trade flows in 1998 and 1999 among 46 countries: 26 transition economies (Central and Eastern European and the FSU republics), the rest – major Ukrainian trade partners including US, Japan, African and Asian countries. In total it makes 4140 panel observations, although the sample size changed due to non-availability of data points in some particular cases. More details on data and its sources are provided in the Appendix A of this work.

4.2. Specification

As is commonly mentioned in the literature, the gravity model of international trade was developed independently by Tinbergen (1962) and Poyhonen (1963) and since then was quite successfully used to assess trade patterns between countries within one or different trade regions. The gravity model in its basic form explains the amount of trade between any pair of countries as increasing in their economic sizes (typically measured by aggregate outputs), and decreasing in the cost of transport (measured by distance between their economic centers). Some studies also use output per capita and/or land area. GDP per capita is then used as a proxy for the level of income of a country: richer countries will trade more among themselves and their demands for imports tend to rise. Land area is supposed to increase transport costs within the home country and thus have a negative effect on trade. The influence of policy issues, such as integration and level of protectionism is captured by dummy variables. Their positive coefficients will indicate then that trade flows under some type of policy exceed the normal level, predicted by countries' economic sizes, income and distance alone. Negative coefficient estimates will imply the reverse effect. The most commonly used dummy variable is also an adjacency, or the presence of common border, which is supposed to have a positive effect on trade

between neighbor countries, as it reduces transaction costs and reflects better information and smaller cultural similarities.

Gravity models are usually estimated on cross section data referring to a single year or average of several years. The model describes trade flows from particular country i to country j. A typical equation for estimating export flows goes as follows:

Ln (exports from i to j)= a*ln(distance between)+b*ln(GDP i)+c*ln(GDPj)+d*ln(population i)+ e*ln(population j)+f*ln(area of i)+g*ln(area of j)+h*(adjacency:dummy)+k*(trade integration:dummy).

The gravity model recently gained much popularity and said to be "gone from an embarrassment of poverty of theoretical foundations to an embarrassment of the riches" (Cheng, 1999). Gravity equations could be effectively used for estimating changes in trade flows in result of integration processes in Europe.

Estimation method is pooled cross-section model

ln EXPijt = a_0 + a_t + b_1 ln GDPit + b_2 ln GDPjt + c_1 ln PERCAPit + c_2 ln PERCAPjt + d_1 ln AREAi + d_2 ln AREAj + d_3 ln DISTij + e_1 ADJij + e_2 LANGUEij + f_1 EUEUij +f_2 CANDCANDij + f_3 NISNISij + f_4 CANDNISij + f_5 EUNISij + e_{ijt}

where:

a_0 intercept which is common for all years and trading pairs

a_t year-specific effect common to all trading pairs

EXPijt exports from origin to destination country in year t

GDPit GDP of origin country in year t

GDP*jt* GDP of destination country in year *t*

PERCAP*it per capita* income in origin country in year *t*

PERCAP*jt per capita* income in destination country in year *t*

AREA*i* area of origin country in year *t*

AREA*j* area of destination country in year *t*

DIST*ij* distance between major economic centres of origin and destination countries

ADJ*ij* dummy, takes the value of 1 if both countries have a common border, 0 otherwise

LANGUE*ij* dummy, takes value of 1 if both countries share a common language

EUEU*ij* dummy, takes value of 1 both countries are members of the European Union

NISNIS*ij* dummy, positive if both countries belong to Newly Independent States

CANDCAND*ij* dummy, positive if both countries are Candidate countries

CANDNIS*ij* dummy, positive if one of the trading countries is Candidate country and another is Newly Independent State

EUNIS*ij* dummy, positive if one of the trading countries is a member of European Union, another is Newly Independent State.

Besides all the basic variables, there are more regressors added to the model: a dummy for common language to capture historic and cultural effects

(which tend to influence trade positively), five integration dummy variables and a time dummy for year 1999 (to indicate "globalization"[15] effect, i.e. a common trend towards greater real trading volumes, independent of the sizes of the economies).

4.3. Results

Main results of least squares estimation of this model are presented in column (1) of Table 1; details could be found in Estimation Output in Appendix B.

Table 1. Regression results for pooled cross-section, years 1998-1999.
Dependent variable is log of exports.

Variable	Coefficients*
constant	-11.543* (0.375)
origin GDP	0.867* (0.033)
destination GDP	0.097* (0.014)
origin per capita income	0.126* (0.040)
destination per capita income	0.874* (0.021)
origin area	-0.013 (0.030)
destination area	0.533* (0.018)
distance	-0.827* (0.037)
common border	0.870* (0.094)
common language	0.672* (0.149)
year 1999	-0.029 (0.053)
EUEU	0.387* (0.106)

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[15] Cheng (1999)

CANDCAND	0.239***
	(0.128)
NISNIS	1.554*
	(0.120)
CANDNIS	0.572*
	(0.100)
EUNIS	-0.168***
	(0.092)
observations	3250
adjusted R-squared	0.730

*All non-dummy variables are expressed in logs; standard errors (White Heteroscedasticity consistent) are shown in parentheses; *, **, *** mean significance at 1%, 5% and 10% level, respectively.

The model gives quite good explanation of trade patterns as evidenced by the value of adjusted R-squared. Almost all the coefficients have expected signs and are significant at 1% level. In general, coefficients do not differ much from the ones obtained by researchers for different set of countries for previous years[16]. Although results could not be directly comparable due to differences in model specifications, still they could give us some general insight.

In order to make conclusions about the impact of variables constructed as dummies in the model, it is necessary to transform their estimated values first, by taking antilogs and substracting one. The numbers below now could be viewed as reflecting degree of increase in exports when the dummy variable takes a positive value.

common border   1.39

common language   0.96

EUEU   0.47

NISNIS   3.73

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[16] See Bergstrand (1985), Gros and Steinherr (1995), Cheng (1999).

CANDCAND   0.27

CANDNIS   0.77

EUNIS   -0.15

So, according to estimates:

a) a 10% rise in country's GDP should be associated with 8.7% rise in its exports and 1% rise in imports, other things being equal

b) country will export

- 83% less to a market that is twice as distant as another identical market

- 139% more to the market with common border

- 96% more to the market with common language

Concerning integration effects, trade between EU members has positive and significant coefficient, although its value is at maximum as high as estimated in earlier years. This goes in line with conclusions of Fidrmuc (2000), who obtains nearly the same coefficient for year 1998, about the moderate impact of European integration process on trade volumes within EU. Albeit deepening of integration during 90s with the introduction of the Single Market in 1992 and formation of the EMU in 1999, EU membership of both countries leads to only 47% increase above the normal level of trade. If compared to other intra-block coefficients, still this effect is greater than that between Candidate countries. However trade integration between NIS is much more significant as evidenced by the estimated value. Trade between NIS countries is more than 4 times higher than explained by geography and income alone! This result suggests that the existence of strong trading links between ex-Soviet republics still dominates their trade

patterns despite disintegration and decline in trade intensity after break-up of Soviet Union.

The estimate for NIS trade with the Candidate countries (CANDNIS) denotes that trade between these two country groups is significantly greater (by 77%) than the average trade between sample countries. In contrast, trade between NIS and European Union is lower than the normal level of trade by 15%, indicating the low level of integration between two country groups.

Obviously, there are some exogenous factors that influence trade relationships between NIS and other trade blocks. Among these may be the following:

1)   European Union remains protectionist towards NIS.

2)   There is not enough information as for profitable export possibilities to the EU.

3)   Trade links created in the past were hard to change in short term.

If these factors will not loose or gain importance when some particular Candidate country joins the European Union (first one is weighty in this respect), we could expect a large trade diversity effect on this country's trade with the country from NIS block. Gaining EU membership, former Candidate may also loose those trade relationships, which positively influenced its trade with NIS. Combining these two effects gives us an estimate of 52% decrease in the volume of trade. Of course, this is a rough assumption as is any other concerning prediction of future trade flows after drastic changes in trade environment. However, it is feasible to use this extent of trade deterioration in our further study to make more clear the general trends and directions.

C h a p t e r   5

UKRAINE: POTENTIAL TRADE PATTERNS

In the previous chapter of this work we have estimated the percentage deviation from the normal level of trade when trade is conducted within particular trade block or between different blocks. Now it is interesting to look if volumes of Ukrainian actual trade are about the volumes that model predicts. (Geographical distribution of Ukrainian exports and imports in 1998-1999 is given in the Appendix C.)

We define potential volume of trade between any two countries as the volume of trade that would prevail if trade were explained completely by the same factors that determine trade between sample countries in the constructed model. Potential volume of Ukrainian exports to a particular country is calculated then by taking coefficients of the model and multiplying them by actual values of variables for Ukraine and its respective partner. Ratio of potential to actual exports will indicate if there is some distinct level of integration and competitiveness of exporting country on the market of the importer.

5.1. Potential and actual exports to the EU.

Table 2 presents ratios for Ukrainian exports to individual members of the European Union in 1999. Results suggest that Ukraine has twice exceeded its export potential to the European Union. Only the lines for France and UK show the ratios above 1, indicating that UK imports were about their potential level in 1999, while France with time may be expected to increase its imports from Ukraine by a great extent.

Table 2. Ratio of Ukraine's potential to actual exports to the EU.

Country	Ratio
France	2.05
UK	1.05
Austria	0.75
Spain	0.74
Netherlands	0.56
Germany	0.45
Italy	0.29
Belgium + Luxembourg	0.21
Ireland	0.15
EU-10	**0.50**

A possible reason for this finding is that goods exported by Ukraine tend to be more competitive on Western European market, than goods exported there by average NIS. One must not forget, though, that the binary variable, used here for EU-NIS trade, explains trade flows in both East-West and West-East directions. As EU's exports to NIS remain marginal, compared to other trade regions, this may give a bias to obtained estimate and reduce the real gap between potential to actual exports in the East-West direction.

5.2. Potential and actual exports to the transition countries.

As could be seen from Table 3, Ukrainian exports to Candidate countries should have been 3 times lower than they actually were in 1999. After conditioning on all "gravity" and integration effects, Ukraine thus reveals even higher level of individual trade integration with Candidate countries, than it does with EU. But splitting this group into Accession and Candidate countries allows noting that the gap between potential and actual exports is much lower for more prospective members of European Community. Again, it may reflect different degrees of competitiveness of Ukrainian exports at these two markets (which is in both cases higher than the average for NIS block). Still, there is more feasible reason. Ratio of potential to actual exports to the second group of Candidate countries is too low (only 0.17), but this is a result of very low figures for Turkey and Bulgaria. As

Ukraine, these two countries are located on the Black Sea shore and perform most of trade between themselves over sea, which is less costly than overland trade. While building the model, though, we assumed that all overland/oversea transportation is equally costly. As result economic distance in some cases was not measured accurately, and potential volume of trade between particular countries appears to be lower than it might be. Furthermore, inflated integration between the discussed countries is likely to be due to their participation in Black Sea Cooperation Counsil.

From the individual country-pair estimates it could be seen, that among eleven Candidate countries, only Slovenia, Poland and Romania are still below or about their import potential from Ukraine. As supposed before, this potential may be lost by the time of accession.

The estimate of intra-NIS trade suggested that potential trade between two former republics should be 373% higher than normal trade. At the same time, Ukrainian actual exports to NIS-block were 3.23 times lower than what gravity model predicts, remaining about the normal level and indicating no integration effect at all. However, looking at individual ratios reveals a big diversity among them: most of the countries do nor reveal any unused exports possibilities for Ukraine, but Kazakhstan and, especially, Russia. The latter introduces a bias into the ratio for Ukraine's overall exports to NIS and to transition economies as a group. A huge gap between potential and actual exports to Russia (although Russia still remains Ukraine's biggest importer) could be explained by a sharp drop in Ukrainian exports to a number of FSU countries, in the second half of 1998. The reasons for this decrease were strong currency devaluation and financial crisis in Russia together with increased protectionism from Russian side.[17] If the first reason is temporary in essence, the second may be not. In this case Ukraine will be unable to use its huge unused export potential to Russia.

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[17] Biznes, No.16 (327), 1999, p.18

Table 3. Ratio of Ukraine's potential to actual exports to the transition countries.

Group	Country	Ratio
Candidate Accession countries	Slovenia	1.09
	Poland	0.97
	Hungary	0.46
	Estonia	0.42
	Czech Republic	0.30
	Total	0.63
Candidate countries	Romania	1.11
	Latvia	0.48
	Lithuania	0.47
	Slovakia	0.29
	Turkey	0.16
	Bulgaria	0.05
	Total	0.17
	Total for all candidate countries	**0.31**
NIS	Russia	3.62
	Kazakhstan	1.30
	Armenia	0.41
	Azerbaijan	0.35
	Georgia	0.30
	Kyrgyz Republic	0.27
	Moldova	0.16
	Tajikistan	0.03
	Turkmenistan	-
	Uzbekistan	-
	Belarus	-
	Total	**3.23**
Other transition countries	Croatia	0.99
	Yugoslavia	0.11
	Macedonia	0.06
Total transition economies		**1.94**

Upon removal of trade restrictions Ukraine will most probably redirect its trade flows towards Russia in a great extent[18]. One must not forget, though, that reported statistics on trade between Ukraine and Russia may differ from

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[18] The change has already taken place in year 2000: the share of exports to Russia in total exports increased to 24.1% (source: Derzhcomstat) compared to 20.7% in 1999.

real due to a large amount of non-declared and informal trade. If this is a case, statement about unused export potential to Russia is weakened.Table 4 presents the figures for Ukrainian exports to the rest of countries in the sample indicating unexploited export opportunities to such an important trading partners as US and Japan and "subnormal" levels of trade to all Asian economies. The latter may be explained by a rise in world metal prices, which allowed Ukraine to increase its exports to Asian economies, as well as to Egypt. As to projection that US and Japan will be increasing their imports from Ukraine, it is supported by the fact that US was the only one of Ukrainian major trading partners which showed a steady increase during last three years (1998-2000).

Table 4. Ratio of Ukraine's potential to actual exports to Asia, Africa and America.

Country	Ratio
Japan	1.48
US	1.20
Egypt	0.14
Syria	0.13
Algeria	0.13
Korea	0.09
Israel	0.05
India	0.05
China	0.02
Philippines	0.02
Pakistan	0.02
Total	**0.29**

Ratio of potential to actual exports to all countries in the sample equals **1.20.**

C h a p t e r 6

ESTIMATING THE EFFECTS OF EUROPEAN INTEGRATION ON
GEOGRAPHICAL DISTRIBUTION AND COMMODITY
COMPOSITION OF UKRAINIAN TRADE FLOWS

It was shown previously that although the model works well in explaining the behaviour of international trade, Ukrainian export flows substantially differ from values predicted by the model. Party, this is due to the influence of some specific to Ukrainian trade relationships factors or factors, which were not captured in the model. Still, it also indicates the presence of under- or overused export potential, which is expected to change the destinations and relative volumes of exports in the future. Combining the estimates of potential trade levels and the impact of Eastern Enlargement on the latter allows to get a percentage distribution of Ukrainian exports among countries in the sample. Few important assumptions are made here: (a) prices, GDP and population are held constant at 1999 level; (b) "other things being equal", i.e. we do not consider the possible changes of parameters over the time span or the influence of exogenous to our model factors; (c) we take coefficients from the model as given and do not consider the joint effect of loosing status of one trade block and acquiring position in another; (d) all eleven Candidate countries simultaneously join the European Union. Table 5 helps to compare predicted geographical distribution of Ukrainian exports with actual distribution in 1999.

The only countries, which are likely to increase their share in total imports from Ukraine are Japan, US, France, Kazakhstan and, most noticeably, Russia. Exports to these markets of some particular goods could be lower now due to such factors, as high tariffs and non-tariff barriers, unfavourable

Table 5. Predicted distribution of Ukrainian exports after Eastern Enlargement of the EU

Country	As % of total actual exports to sample countries*, 1999	As % of total potential exports to sample countries
Algeria	2.15%	0.23%
Armenia	0.13%	0.04%
Austria	1.48%	0.96%
Azerbaijan	0.31%	0.09%
Belgium + Luxembourg	2.04%	0.36%
Bulgaria	3.13%	0.07%
China	7.74%	0.16%
Croatia	0.17%	0.14%
Czech Republic	1.50%	0.19%
Egypt	1.81%	0.21%
Estonia	0.49%	0.08%
France	0.98%	1.71%
Georgia	0.45%	0.12%
Germany	5.94%	2.28%
Hungary	2.95%	0.55%
India	1.85%	0.08%
Ireland	2.65%	0.35%
Israel	1.63%	0.07%
Italy	4.92%	1.22%
Japan	0.64%	0.81%
Kazahstan	0.51%	0.57%
Korea	1.36%	0.10%
Kyrgyz Republic	0.15%	0.03%
Latvia	0.52%	0.10%
Lithuania	0.76%	0.15%
Macedonia	0.70%	0.03%
Moldova	1.30%	0.18%
Netherlands	0.89%	0.43%
Pakistan	1.93%	0.03%
Philippines	1.11%	0.02%
Poland	3.19%	1.26%
Romania	0.81%	0.37%
Russia	25.41%	79.02%
Slovakia	2.11%	0.25%
Slovenia	0.10%	0.04%
Spain	1.12%	0.72%
Syria	1.30%	0.14%
Tajikistan	0.67%	0.02%
Turkey	7.14%	0.97%
UK	1.15%	1.04%
US	4.62%	4.77%
Yugoslavia	0.21%	0.02%
Sample	**100%**	**100%**
As % of total exports	**89%**	

*Belarus, Turkmenistan and Uzbekistan are excluded from the sample due to the missing observations.

now due to such factors, as high tariffs and non-tariff barriers, unfavourable market conditions, and other, previously referred to. So we may expect them to grow as Ukraine increases its overall trade with these countries, developing more tight trading links. Among 30 most heavily exported goods, 15 then are likely to meet higher demand in future, as among three leading markets for these goods are either Russia, US, or Japan. These products are listed in Table 6.

Table 6. Exports to markets with underused export potential.

Category	Group	HS	Product	Rank*	Russia	US	Japan
C01	02 - Meat and substandard meat products	020210	Bovine carcasses	12	1st		
C02	15 - Animal and vegetable fats and oils	151211	Sunflower/safflower oil	29	1st		
C06	28 - Non-organic chemicals	281410	Anhydrous ammonia	5		1st	
		281820	Aluminium oxide nes	11	1st		
C14		710239	Diamonds non-industrial	28		3rd	
C15	72 – Ferrous metals	720110	Pig iron	9		1st	
		720230	Ferro-silico-manganese	15	1st		3rd
		720712	Semi-fin prod steel	3		3rd	
		720842	Flat rolled steel	16	2nd		3rd
		720843	Flat rolled steel	30	2nd		
		720943	Flat rolled steel	27	3rd		
		721331	Steel bars	20			1st
		721420	Steel bars	8		2nd	
	73 – Articles made of ferrous metals	730439	Tubes, pipe...	25	1st		
	76 - Aluminum	760120	Aluminium	7	2nd	3rd	1st

*Rank value is the rank of the 30 leading merchandise export product groups of the country under HS 6 digit level in 1999.

Source: International Trade Center UNCTAD/WTO[19]; Merchandise Nomenclature of Foreign Economic Activity ('ÒÍÇÅÄ"[20]).

Closer look at trends of exporting these goods in 1995-1999 (see Appendix) reveals the diminishing activity of Ukrainian exporters on Russian market.

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[19] Accessed at www. intracen.org
[20] See Appendix D for classification of goods.

As was already noted, it was a result of currency devaluation, which undermined the competitiveness of all Ukrainian goods, but in particular energy-consuming mettalurgical products (C15). Nonprecious metals, and, especially, ferrous metals are considered to be crucial for Ukrainian exports since they represent about 35% of total merchandise exports[21]. That is why developing export potential in this industry is quite important. Projections about export growth are a good sign, but the growth also strongly depends on the reciprocity of fair trade policies.[22]

It appears to be more complicate to determine the goods, exports of which are likely to decrease. Overused export potential on the leading markets or unfavourable effect of Eastern Enlargement alone do not necessarily cause the negative trends in imports demand. Here we underline the significance of degree of market diversification and trend in world's demand for some particular good. If exporter is to loose one or all of his leading markets, but has a large number of other markets to reorient its exports, volume of trade flows will probably remain unchanged. However the declining trend in world's import serves as an additional obstacle to keep level of exports at the original level. The following two selections of goods are made according to these thoughts. The first one (Table 7) lists items, exported mainly to the markets that might reduce their purchases from Ukraine in future, and have a relatively low degree of market diversification (up to 8 export markets). Items in the second list (Table 8) were also chosen because of their "non-perspective" leading markets, but have a large number of other importers – however, world demand for this group of items was falling during 1995-1999. The combination of two (or more) unfavorable features may lead to the conclusion about future contraction in the number of goods imported, and the decrease in rank of this particular good (and industry) among the leaders.

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[21] Source: Derzhkomstat.

Table 7. Exports of products with low level of market diversification.

Category	Group	Code	Product	Rank	Leading markets			
					No.	1st	2nd	3rd
C05	26 – Ores, slags, ashes	260111	Iron ores and concentrates, non-agglomerated	19	8	Pol	Cze	Hun
		260112	Iron ores and concentrates, agglomerated	14	6	Svk	Cze	Pol
	27 – Mineral fuels, petroleum&petroleum products	271029	Fuel oils	17	6	Ita	Grc	Tur
	27s03 – Natural gas	271121	Natural gas	18	2	Pol	Hun	
	27s04 - Electricity	271600	Electrical energy	24	6	Hun	Mda	Pol

*Rank value is the rank of the 30 leading merchandise export product groups of the country under HS 6 digit level in 1999. No is number of countries, which imported the product under review in 1999.

Source: International Trade Center UNCTAD/WTO[23]; Merchandise Nomenclature of Foreign Economic Activity ('ÒÍÇÅÄ').

It is easy to notice that all products in Table 7 belong to Category 5 (C05) – Mineral products, which takes about 9% of total merchandise exports[24]. It consists of 3 groups: 'Mineral fuels, petroleum and petroleum products' comprises about 50% of the category, another 40% belong to 'Ores, slags and ashes'. Products of this category may loose its share in national exports as at least some time will be needed to find new markets and profitable export opportunities. Worth noting here is that iron ores also faced a declining world demand during preceding five years.

Among the products of the second group are such important for national exports as wheat and some non-precious metals. We anticipate these goods to lose their position on the leading markets and meet a lower demand on the world level, thus we may expect them to take a lower share in Ukrainian exports in the future. However, we are not so clear about the future demand

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[22] For the discussion of trade policies in regard to metallurgical products, see Gronicki & Kuz'myn (2000), p.9

[23] Accessed at www. intracen.org

for fertilizers, which take the main part of Ukrainian exports of chemical products. There is an opinion, that products of this group will meet the growing demand on the markets of European Union, Latin America and USA[25].

Table 8. Export of products with high degree of market diversification but decreasing world import demand.

Category	Group	Code	Product	Rank	Leading markets				World trade growth
					No	1st	2nd	3rd	
C02	10 – Grain crops	100190	Wheat	2	15	Kor	Blr	Isr	- 4
C06	31 - Fertilizers	310210	Urea	21	26	Tur	Ita	Esp	- 20
C15	72 – Ferrous metals	720449	Ferrous waste and scrap	1	17	Tur	Egy	Ita	- 9
		720711	Semi-fin iron or steel	4	22	Tur	Ita	Tha	- 15
		720923	Flat rolled iron or steel	23	26	Chn	Nga	Tur	- 1
	74 – Copper&copper articles	740400	Waste and scrap, copper	22	13	Deu	Kor	Ita	- 11

*Rank value is the rank of the 30 leading merchandise export product groups of the country under HS 6 digit level in 1999. World trade growth is an annual percentage growth of world imports of the product under review, 1995-1999. No is number of countries, which imported the product under review in 1999.

Source: International Trade Center UNCTAD/WTO[26]; Merchandise Nomenclature of Foreign Economic Activity ('ÒÍÇÅÄ').

It is interesting to note that although projections made here are very vulnerable to the influence of different factors, they are confirmed by the actual changes in product composition of Ukrainian exports in 2000. During first 11 months of the year 2000, compared to the equivalent period of 1999

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[24] Source: Derzhkomstat
[25] Mainly due to: (a) the development of agriculture in the EU and Latin America; (b) ecological considerations of EU and US. (See Biznes #20 (331).)
[26] Accessed at www. intracen.org

(base year in this work), the shares of ferrous metals and non-organic chemicals increased from 33.7% to 35.1% and from 3.8% to 4.4% respectively. (Table 6 shows the same product groups.) Among those products that lost their percentage in the total exports were grain crops (from 4.5% to 0.8%) and mineral fuels, petroleum and petroleum products (from 6% to 5.5%). (These product groups could be also found in tables 7 and 8.)

DISCUSSION OF THE RESULTS. CONCLUSIONS.

This study analyses recent evolution in trade relations between European economies and their trading partners, focusing on influence of integration processes in Europe on Ukrainian trade performance. It updates the previous projections on the trade potential between the CEECs and the EU made with the use of gravity model of international trade. The model applied in this work allows to study trade relations of Candidates to Eastern Enlargement of the EU and the NIS separately, rather than referring them to CEEC or simply "East". We found that trade between Newly Independent States remains far above the normal level (almost 4 times), trade between NIS and Candidate Countries is also higher, but the degree is less significant (77%). However, trade tends to become lower than normal level if conducted between the NIS and the EU. General results lead to a conclusion that bilateral trade flows between Ukraine and a Candidate country will shrink after the accession of the latter into European Union. Nevertheless, we extended our analysis further to see if actual Ukrainian trade patterns resemble those of average NIS. We showed that Ukrainian export flows display significant deviations from levels, predicted by the model. In particular, in 1999 Ukraine actual exports to the EU were twice as large as they should have been according to the model estimates. In contrast, exports to Russia and Kazakhstan were much lower than predicted, decreasing the extent of overall trade with NIS block. Thus, Ukraine seems to be much more integrated with the EU and Candidate Countries and much less with former Soviet republics than the average NIS. There might be a number of factors to explain this finding. We divide them into:

(a) Common factors – those, which were not captured by the model, and introduced ambiguity in interpretation of the obtained estimates.

Here we remind that in applied model the binary variable for EU-NIS trade stands for export flows in both directions. As EU's exports to NIS remain marginal, compared to other trade regions, there may be an asymmetry in export markets of these two trade blocks. So, although conclusions about low bilateral trade level between EU and NIS are feasible, one should remember that the estimate could be biased towards imports from the European Union.

(b) Block-specific factors

- There was a sharp drop in Ukrainian exports to a number of FSU countries, in the second half of 1998. The reasons for this decrease were strong currency devaluation and financial crisis in Russia together with increased protectionism from Russian side;

- Reported statistics on trade between Ukraine and Russia may differ from real due to a large amount of non-declared and informal trade. If this is a case, the amount of Ukrainian exports to Russia gets closer to the potential (predicted) value.

(c) Country-specific factors

- Goods exported by Ukraine tend to be more competitive on Western European market, than goods exported there by average NIS.

- Having European status, Ukraine has more traditional (and political) ties with the European Union than, say, Asian NIS. Moreover, Ukraine was first from the NIS, who implemented Partnership and Cooperation Agreement with the EU, getting closer to the latter in terms of integration.

All these factors also indicate that the degree of trade diversion, which is expected to happen between Candidate countries and Ukraine after the former join the European Union, may not be as crucial as supposed. This thought is also supported by existence of a number of Preferential Trade Agreements with Candidate Countries. Moreover, now MFN tariff rates of Candidates vis-à-vis third countries are higher than that of the EU – thus the possibility of trade diversion after accession is reduced.

Nevertheless, we have used the model's estimates as approximate measures of the change in geographical distribution and commodity structure of Ukrainian exports after Eastern Enlargement. The relative distribution of export flows between the sample countries allowed to define the most and the least prospective markets. Considering influence of other factors, such as degree of market diversification and the trends in world demand, we tried to determine which products will meet higher or lower import demand. (See tables 6-8.) Some projections seem to coincide with actual trends in Ukrainian exports in the year 2000.

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APPENDIX A

Data Sources

Volume of exports, measured in millions of US dollars, from the International Monetary Fund's publications Direction of Trade Statistics Yearbook 2000 and Quarterly December 1999.

When the country's export data is unavailable, the mirror statistics is used, i.e. amounts reported by importing rather than exporting country. Although reducing the precision (imports are typically measured by C.I.F. values which tend to be 10% higher than F.O.B. values used to measure export flows), this method allows to include data for a significant number of non-reporting countries.

Gross Domestic Product is measured in millions of US dollars, *population* - in thousands of citizens; both taken from World Bank Datatables, available at www.worldbank.org

Distance is expressed as between main economic centers (usually capital cities), in kilometers. Available at http://www.indo.com/distance/.

APPENDIX B

Estimation Output

Dependent Variable: EXP_?
Method: Pooled Least Squares
Sample: 1998 1999
Included observations: 2
Total panel observations 3250
White Heteroskedasticity-Consistent Standard Errors & Covariance
Cross sections without valid observations dropped

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.54265	0.375129	-30.76985	0.0000
GDPI_?	0.866848	0.032905	26.34415	0.0000
GDPJ_?	0.097466	0.013901	7.011473	0.0000
AREAI_?	-0.012788	0.030504	-0.419232	0.6751
AREAJ_?	0.533186	0.018319	29.10614	0.0000
PERCAPI_?	0.125913	0.039916	3.154453	0.0016
PERCAPJ_?	0.874365	0.021206	41.23232	0.0000
DIST_?	-0.827437	0.037218	-22.23209	0.0000
ADJ_?	0.869848	0.094457	9.208948	0.0000
LANGUE_?	0.672103	0.149426	4.497892	0.0000
CANDCAND_?	0.238809	0.127962	1.866242	0.0621
EUEU_?	0.387382	0.106575	3.634821	0.0003
CANDNIS_?	0.571917	0.099993	5.719546	0.0000
NISNIS_?	1.554550	0.120516	12.89909	0.0000
EUNIS_?	-0.168504	0.092386	-1.823907	0.0683
YEAR	-0.028985	0.052961	-0.547288	0.5842

APPENDIX C

Geographical distribution of Ukrainian Exports and Imports, in mln of $US

	Export				Import			
	1998	1998 % of total	1999	1999 % of total	1998	1998 % of total	1999	1999 % of total
Total	12637.00		11582.00		14676.00		11846.00	
NIS	*4203.02*	*33.26%*	*2727.00*	*23.55%*	*6259.30*	*42.65%*	*5827.50*	*49.19%*
Armenia	8.00	0.06%	12.00	0.10%	4.10	0.03%	2.10	0.02%
Azerbaijan	90.00	0.71%	29.00	0.25%	25.20	0.17%	24.00	0.20%
Belarus	548.00	4.34%	-	-	386.90	2.64%	312.30	2.64%
Georgia	32.00	0.25%	42.00	0.36%	7.10	0.05%	5.50	0.05%
Kazakhstan	90.00	0.71%	48.00	0.41%	314.30	2.14%	149.9	1.27%
Kyrgyzstan	12.00	0.09%	14.00	0.12%	4.70	0.03%	1.50	0.01%
Moldova	180.00	1.42%	123.00	1.06%	46.50	0.32%	22.50	0.19%
Russia	2906.00	23.00%	2396.00	20.69%	5441.00	37.07%	4786.00	40.40%
Tajikistan	76.00	0.60%	63.00	0.54%	1.30	0.01%	7.00	0.06%
Turkmenistan	121.00	0.96%	-	-	1.20	0.01%	437.30	3.69%
Uzbekistan	140.00	1.11%	-	-	27.00	0.18%	79.40	0.67%
EU-10	*1988.10*	*15.73%*	*1996.00*	*17.23%*	*3441.00*	*23.45%*	*2430.00*	*20.51%*
Austria	135.00	1.07%	140.00	1.21%	194.00	1.32%	132.00	1.11%
Belgium&Luxembourg	86.10	0.68%	192.00	1.66%	182.00	1.24%	163.00	1.38%
France	135.00	1.07%	92.00	0.79%	318.00	2.17%	288.00	2.43%
Germany	639.00	5.06%	560.00	4.84%	1633.00	11.13%	1080.00	9.12%
Ireland	82.00	0.65%	250.00	2.16%	20.00	0.14%	20.00	0.17%
Italy	554.00	4.38%	464.00	4.01%	481.00	3.28%	353.00	2.98%
Netherlands	118.00	0.93%	84.00	0.73%	248.00	1.69%	101.00	0.85%
Spain	131.00	1.04%	106.00	0.92%	85.00	0.58%	57.00	0.48%
United Kingdom	108.00	0.85%	108.00	0.93%	280.00	1.91%	236.00	1.99%
Candidate Countries	*2298.00*	*18.18%*	*2613.00*	*18.47%*	*2695.90*	*18.37%*	*1710.10*	*14.44%*
Bulgaria	205.00	1.62%	295.00	2.55%	110.80	0.75%	62.30	0.53%
Czech Republic	172.00	1.36%	141.00	1.22%	215.00	1.46%	120.00	1.01%
Estonia	51.00	0.40%	46.00	0.40%	160.10	1.09%	84.60	0.71%
Hungary	263.00	2.08%	278.00	2.40%	220.00	1.50%	126.00	1.06%
Latvia	78.00	0.62%	49.00	0.42%	52.00	0.35%	49.70	0.42%
Lithuania	102.00	0.81%	72.00	0.62%	288.00	1.96%	110.50	0.93%
Poland	313.00	2.48%	301.00	2.60%	1086.00	7.40%	703.00	5.93%
Romania	161.00	1.27%	76.00	0.66%	50.00	0.34%	63.00	0.53%
Slovakia	245.00	1.94%	199.00	1.72%	198.00	1.35%	136.00	1.15%
Slovenia	12.00	0.09%	9.00	0.08%	42.00	0.29%	29.00	0.24%
Turkey	696.00	5.51%	673.00	5.81%	274.00	1.87%	226.00	1.91%
Rest of the world	*4147.90*	*32.82%*	*4720.00*	*40.75%*	*2279.80*	*15.53%*	*2417.60*	*20.41%*
Algeria	108.00	0.85%	203.00	1.75%	0.70	0.005%	2.10	0.02%
China	737.00	5.83%	730.00	6.30%	90.00	0.61%	81.00	0.68%
Croatia	18.00	0.14%	16.00	0.14%	8.00	0.05%	7.00	0.06%
Egypt	187.00	1.48%	171.00	1.48%	6.00	0.04%	3.00	0.03%
India	138.00	1.09%	174.00	1.50%	67.00	0.46%	60.00	0.51%
Israel	134.00	1.06%	154.00	1.33%	54.20	0.37%	46.00	0.39%
Japan	4.00	0.03%	60.00	0.52%	73.00	0.50%	55.00	0.46%
Korea	75.00	0.59%	128.00	1.11%	197.00	1.34%	92.00	0.78%
Macedonia	43.00	0.34%	66.00	0.57%	5.20	0.04%	4.00	0.03%
Pakistan	195.00	1.54%	182.00	1.57%	2.00	0.01%	1.00	0.01%
Phillippines	39.00	0.31%	105.00	0.91%	-	-	3.00	0.03%
Syria	204.00	1.61%	123.00	1.06%	5.90	0.04%	2.70	0.02%
USA	502.00	3.97%	436.00	3.76%	368.00	2.51%	232.00	1.96%
Yugoslavia	43.00	0.34%	20.00	0.17%	-	-	15.00	0.13%
Other countries	1720.90	13.62%	2152.00	18.58%	1402.8	9.56%	1813.80	15.31%

Source: IMF, own calculations

ÒÍ ÇÅÄ – Ukrainian System of Classification of Goods used for Foreign Economic Activity

_C01, I. Live animals and animal husbandry products
_01, — live animals
_02, — meat and substandard meat products
_03, — fish and fish products
_04, — milk and dairy products eggs
_05, — other animal products
_C02, II. Vegetable products
_06, — seedlings and other trees
_07, — vegetables and roots
_08, — edible fruits, nuts, citrus fruits
_09, — coffee, tea, spices
_10, — grain crops
_11, — flour
_12, — oil seeds and fruits
_13, — lacquers and resins
_14, — materials of vegetable origin
_15, III. Animal and vegetable fats and oils
_C04, IV. Food industry products
_16, — meat and fish products
_17, — sugar
_18, — cocoa and cocoa products
_19, — cereals
_20, — processed fruit and vegetable products
_21, — food mixes
_22, — alcoholic and soft drinks vinegar
_23, — wastes and by-products
_24, — tobacco
_C05, V. Mineral products
_25, — salt, sulfur, lime, cement
_26, — ores, slags, ashes
_27, — mineral fuels, petroleum, and petroleum products, total
_27s01, - coal
_27s02, - crude petroleum

_27s03, - natural gas
_27s04, - electricity
_C06, VI. Chemical and related industries' products
_28, — non-organic chemicals
_29, — organic chemicals
_30, — pharmaceutical products, including medicaments
_31, — fertilizers
_32, — tanning extracts, dyes
_33, — etheric oils and essences
_34, — soaps and detergents
_35, — protein substances
_36, — explosives
_37, — photo and cinema products
_38, — other chemicals
_C07, VII. Plastics and rubber
_39, — plastics and plastic articles
_40, — rubber and rubber articles
_C08, VIII. Leather, skins, furs (raw materials and articles)
_41, — skin raw materials
_42, — leather goods
_43, — fur raw materials
_C09, IX. Timber and woodwork
_44, — timber and woodwork
_45, — cork and cork articles
_46, — straw articles
_C10, X. Paper and pulp made of timber and other plant fibers
_47, — pulp
_48, — paper and cardboard
_49, — books and newspapers
_C11, XI. Textiles and textile articles
_50, — silk (natural silk fabrics)
_51, — wool
_52, — cotton and cotton fabrics
_53, — other plant fibers
_54, — chemical fiber threads

_55, — chemical fibers
_56, — cotton-wool
_57, — rugs
_58, — special fabrics
_59, — textile fabrics
_60, — knitted fabrics
_61, — knitwear and knitted accessories
_62, — textile clothing and accessories
_63, — other ready-made articles
_C12, XII. Footwear, headgear, umbrellas
_64, — footwear
_65, — headgear
_66, — umbrellas
_67, — processed feathers and down
_C13, XIII. Stone, gypsum, cement, glass, and asbestos articles
_68, — stone, gypsum articles
_69, — ceramic articles
_70, — glass and glass articles
_C15, XV. Nonprecious metals and articles made of them
_72, — ferrous metals
_73, — articles made of ferrous metals
_74, — copper and copper articles
_75, — nickel and nickel articles
_76, — aluminum and aluminum articles
_78, — lead and lead articles
_79, — zinc and zinc articles
_80, — tin and tin articles
_81, — other non-ferrous metals
_82, — tools utensils cutlery
_83, —other articles made of non-ferrous metals
_C16, XVI. Machinery. equipment and mechanical devices. appliances. tape recorders. videos. televisions
_84, — machinery and equipment
_85, — electric machines
_C17, XVII. Road vehicles. aerial and water craft
_86, — locomotives. rolling stocks. tramways. etc.
87, — road vehicles. except railroad vehicles
_88, — aircraft space. apparatuses. and their craft
_89, — ships. Vessels. boats

C18, XVIII. Optical. photo. cinema. measuring. medical. and surgical instruments; clocks and watches; musical instruments
_90, — instruments
_91, — clocks. Watches. and their parts
_92, — musical instruments
_93, XIX. Miscellaneous manufactured goods
_94, — furniture
_95, — toys. Games
_96, — other manufactured goods
_97, XX. Work of art
_98, Products brought in ports
_99,Other