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Federal Republic Yugoslavia: Trade Potentials and Comparative Advantages

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This study has been developed in the framework of research networks initiated and monitored by wiiw under the premises of the GDN–SEE partnership.

The Global Development Network, initiated by The World Bank, is a global network of research and policy institutes working together to address the problems of national and regional development. It promotes the generation of local knowledge in developing and transition countries and aims at building research capacities in the different regions.

The Vienna Institute for International Economic Studies is a GDN Partner Institute and acts as a hub for Southeast Europe. The GDN–wiiw partnership aims to support the enhancement of economic research capacity in Southeast Europe, to promote knowledge transfer to SEE, to facilitate networking among researchers within SEE and to assist in securing knowledge transfer from researchers to policy makers.

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FEDERAL REPUBLIC YUGOSLAVIA: TRADE POTENTIALS AND COMPARATIVE ADVANTAGES

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1. Introduction

1.1 The current state of the economy and main reform goals

The democratic change in FR Yugoslavia of October 2000 found the economy in a disastrous state. Under the UN economic sanctions since 1992, amidst more than ten years of crises, Yugoslav economy is ruined. The estimated loss of the Yugoslav GNP, compared to what it would have been by mere extrapolation of figures that were actually achieved before 1989, is about a thousand of billions of dollars[1]. By a process of eroding the capital (underinvestment[2]), the fixed capital has been diminished to roughly one half, and in industry to less than 40% of its 1989 value. The industrial production has also been reduced to about 40% and mostly became obsolete and inadequate for trade in modern markets. The Yugoslav economic recession was caused by long run factors, and not only an effect of war on the territory of the former Yugoslavia during the 90's, and of NATO bombing in 1999. However, these events also produced a large number of refugees, ruined infrastructure and growing poverty of the population.

The economic system, consisting of laws that regulate economic processes, in the 80's was more advanced than in other socialist countries. During the Milosevic regime it has been completely derogated and put out of function by a series of government regulations and resolutions by decrees that were sometimes not even mentioned in public declarations. The economic structure has thus been severely deformed. By direct control of the economy and unreasonable price policy, agricultural production has been crippled and the country now enters the transition period with a deficit of food. The production capacity of electrical energy (the country was formerly an exporter) became incapable of satisfying domestic needs. Therefore, the opening of the economy is an essential need, but also is slowed down by resolving the most severe problems inherited from the past (such as ruined infrastructure, poverty and disparities).

The new government **reforms have three main goals[3]:** 1) stability of the region, 2) economic reforms, 3) the establishment of the rule of law (law-state). Plans for regional co-operation are primarily in the fields of energetics, transport, agriculture and new technologies.

The year of 2001, which is the first and probably most difficult year in the transition period, could see economic growth, but based on substantial foreign financial aid. Assuming that fixed capital is no longer converted into consumption and that some price disparities are dealt with (a high rise of prices of electricity and fuels, communal services and basic consumption goods can be expected), the current income cannot

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[1] *Monthly Analyses and Prognoses* 10/November 2000, Institute of economic sciences, Belgrade.

[2] For more than ten years, total investment was lower than amortisation.

[3] Minister for Finance in the Serbian Government Božidar Djelic, in his interview to *Business Week*, after being nominated as one of European stars among the reform leaders, also says: "The West in general underestimates the seriousness of problems in Serbia and Yugoslavia. We are not only a country in transition, but a post-conflict country as well. Our starting point is not like in other transition economies, but we start from a national catastrophe", *Politika*, June 16, 2001.

cover the achieved standard of living - namely the real wage level necessary to preserve a minimal growth. Therefore, the foreign aid inputs are of primary importance, including of course some new investment. This would require a fast opening of financial communications with the world and resolving some of the dilemmas that arise from the reform program.

After the re-examination of previous regime's economic results, massive legislative changes have been undertaken: budget reforms, privatisation, investment regulations, etc. The government is now working on a macro-economic strategy in the medium run, starting by defining a set of main aims and priorities.

The most urgent **priorities in 2001** are:

1. Stabilisation of the dinar; a floating exchange rate seems the optimal solution, with achieved current account convertibility.
2. Liberalisation of domestic market and foreign trade.
3. Reconstruction of the banking sector; since re-organisation of existing banks cannot satisfy the needs of the economy, entry of foreign banks is required to establish credibility.
4. Recovery of the power supply sector; new financial sources are needed, other than primary monetary emission.
5. Disparity elimination, especially of inputs and necessities; this will produce substantial inflation (probably a two-digit number, but at a diminishing rate - starting with about 50% in 2001).
6. Price liberalisation requires a social safety net; a drastic fall of real wages could compromise political changes.

During **the first eight months of 2001**, compared to the same period last year, the industrial production has fallen by 2%, the inflation rate is 120%, and the average real wage (deflated by the cost of living) is 4,3% higher. Due to a very low base at the end of the previous year, the industrial production is expected to show no fall in 2001. The expected growth of agricultural industry in 2001 is 20% (with about the same share in GDP), and it gives some hope for a GDP increase of about 5%. The estimated core inflation (approximately 10%) is about one third of the total achieved[4] in the current year. Stability policy of the dinar exchange rate (kept stable for the whole year), and simultaneous parity adjustments after the price liberalisation, has caused significant appreciation of the dinar. Thus the average August wage in German marks has been doubled compared to its August 2000 value, and reached 200 DEM. However, the real wage (deflated by the cost of living) has risen by only about 10%. Owing to dinar appreciation, the exports are lower and the imports higher than last year, so the expected foreign exchange deficit in 2001 will probably be by 20% higher than has been forecast[5]. Firing of excess labour also caused the wage increase. The unemployment rate has increased (officially to more than 27%) and social policy reform is one of the hot subjects of the Autumn of 2001.

[4] The retail price level is in August of 2001 29.5% higher than in December 2000, and 113% higher than in August of the last year.

[5] *Monthly Analyses and Prognoses*, 9/2001.

1.2. General conditions and main features of the Yugoslav foreign trade in the period 1990- 2001

In the last decade of the 20th century FR Yugoslavia was in a very specific situation: completely isolated by UN and EU sanctions, and even bombed by NATO in 1999. For all this time, newly formed countries on the territory of former Yugoslavia and other neighbouring countries were used for avoiding obstacles in foreign trade. Not only did this situation make the official data on foreign trade unreliable, but also the making of business through intermediaries made trade more costly. Together with extremely poor conditions for payments for imported goods and payment collection on exports, it influenced worsening of the terms of trade and resulted in an outflow of a significant share of GDP. The second channel of income losses is the aggravation of foreign trade structure through a notable increase of share of primary products in exports.

When analysing foreign trade dynamics, it is easy to notice certain regularity in **structural shifts**, dependent on the changes of external conditions, or limitations, for trade. In periods when restrictions were released and some preferences in trade with developed countries were realised, especially with EU-15, a much faster increase of trade with this group of countries occurred than with countries of West Balkans, or transition countries in general. And the opposite happened as well: in periods with stronger restrictions imposed, a much sharper decline of trade value with developed countries took place than with transition countries.

In entering different segments of the international commodity market, Yugoslav exports supply appears to have different structures[6]. Thus the exports to the EU-15 market are marked by labour-intensive and stock exchange products, while exports to neighbouring countries of the West Balkans and other transition countries mostly contain industrial products that are not competitive enough for western markets. This **differing export structure** relative to different groups of countries will diminish with the country's integration into the international economy. Then the Yugoslav export supply will be specialised in products competitive both in price and quality, and will equally display on all markets - not taking into account the effects of transaction costs that will determine the regional trade structure.

In the last ten years, significant **changes in industrial structure** that happened in FRY were a result of the UN sanctions rather than the development adjustment to new economic conditions. The majority of these changes took place in the period of 1991-1993, and after that the structure was almost "frozen". Changes of small intensity also took place in periods of the relaxation of sanctions, when export-oriented sectors increased their share in the industrial production. But after new external pressures, the previous industrial structure was re-established. The negative effects of these changes entail the reduction in the share of total production of industries with high rates of growth in the world economy (e.g. manufacturing of office machinery and computers, other electrical machinery and appliances, manufacturing of transport equipment), and the increase of the share of industries with low growth rates (manufacturing of basic metals, iron and steel).

During 2001, **after trade liberalisation**, certain export changes also occurred because

[6] Similarly to dual export structure that characterises, or used to characterise, other transition economies.

of a relative increase in production of labour-intensive industries, that happened as a consequence of their increased export realisation. However, the new structural changes are not spectacular, because the total industrial production is stagnating. The new reform government in Serbia has failed to instigate production regeneration after ten-year long disinvestment process; privatisation of large and medium-size enterprises is late and export competitiveness has diminished.

The export structure has also been unfavourable. Despite a low level of foreign trade, Yugoslav economy has one of the lowest coefficients of export specialisation, as measured by the Hirchmann index of export concentration[7]. This is a consequence of the inherited industrial structure and an inability to achieve export specialisation during the last decade of economic sanctions.

As an illustration of inadequacy of the existing export structure for industrial revitalisation, we calculated a potential rate of growth of FRY exports, based on average growth rates in the world trade for groups of three-digit SITC in the period 1990-1998[8]. The average growth rate of the world commodity exports in this period was 7.1%. Applying the world growth rates to the Yugoslav export structure in 1991, 1997 and 1998, we obtained a figure of 6.2% in all observed years[9]. This means that an expansion of Yugoslav exports with the existing structure is possible, but limited. It is possible because FRY exports of all products are relatively small in quantity; but it is limited, because all of these products belong to low-growing trade activities.

According to theoretical expectations, and judging by factor availability and the level of development, the trade model of FRY with the EU should predominantly be **inter-industry trade**, and intra-industry trade (IIT) with SETE-6. Analyses of the two-digit SITC data on trade of FRY with these groups of countries mainly confirm such theoretical expectations.

The main confirmation of the predicted trade flows can be found in the share of primary products in total FRY trade during the 90's. For trade with the EU, the proportion of primary products was between 30% (in 1991) and 56% (in 1996) in total exports, and between 13% (in 1991) and 20% (in 1997) in total imports. Conversely, for trade with SETE-6, FRY had a proportion of primary products between 29% (in 1998) and 72% (in 1991) in total exports, and between 43% (1998) and 57% (1999) in total imports. Also, comparing main product groups[10] with high levels of intra-industry trade between

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[7] Results of the computed indices of export concentration for FRY are given in the Annex.

[8] According to: UNCTAD (2000), Handbook of Trade and Development Statistics, pp. 117-140.

[9] In the 1998 Yugoslav export calculations, products and transactions 931 SITC are excluded, because in the international trade they had a rate of growth of 15%, and in the Yugoslav exports their portion was above 15%, thus increasing the overall rate to more than 7%.

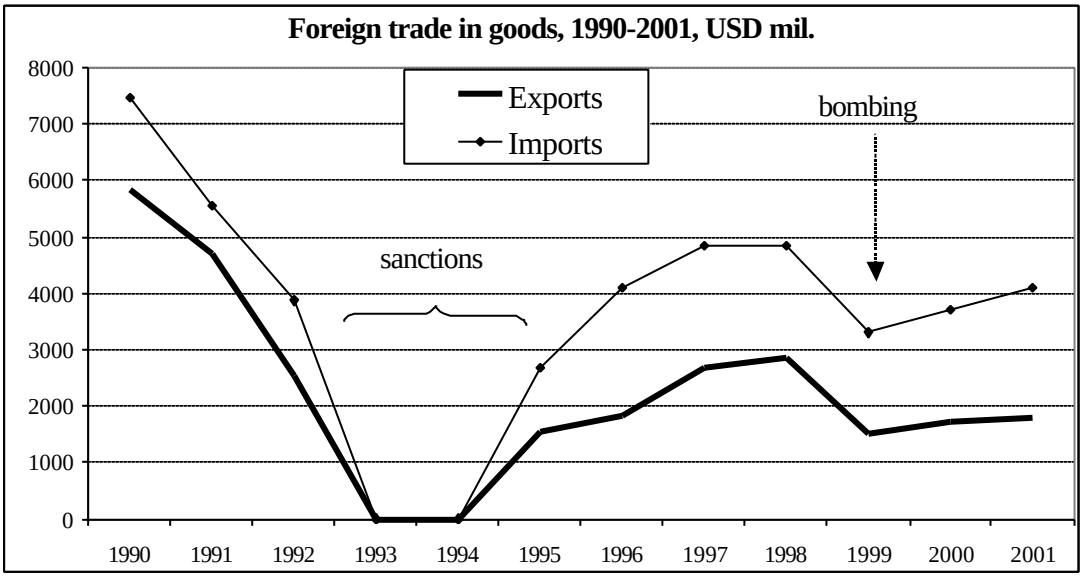
[10] The main groups of products with a level of intra-industry trade with the EU are: Wood and cork manufactures (excluding furniture) (63), Iron and steel (67), Power generating machinery and equipment (71), Metal working machinery (73), Other transport equipment (79), and Furniture and parts thereof (82). Main groups of products with a high level of IIT with SETE-6 are: Organic chemicals (51), Chemical materials and products, n.e.s. (59), Textile yarn, fabrics, made up articles and related products (65), Manufactures of metals, n.e.s. (69), Power generating machinery and equipment (71), Telecommunication apparatus and equipment (77), and Scientific and controlling instruments (87).

FRY with EU and with SETE-6, it can easily be seen that there is almost no concordance between them.

Consequently, a fast export recovery of the Yugoslav foreign trade is possible only if it is based on the production increase of products with high competitiveness and propulsion in the international trade for which Yugoslavia has some comparative advantages.

2. Value and structure changes of the Yugoslav trade during the 90's

The general environment of Yugoslav foreign trade during the 90's was extremely unfavourable. First the disintegration of the country created a need for fast re-orientation of trade towards new countries, other than the former Yugoslav republics. But an optimal trade re-direction was interrupted by the EEC sanctions in November 1991 and UN sanctions in May 1992. From May 1992 until November 1995 (when the UN sanctions were suspended), the trade was conducted in completely irregular conditions, so that a high level of corruption and criminalisation developed, both in FRY and in neighbouring countries that took part in such trade. From November 1995 until March 1998 (when the Kosovo crisis started), external restrictions were gradually released, so that the export value was almost doubled from 1.5 billion dollars in 1995 to 2.8 billion in 1998. But the Kosovo crisis caused a new series of sanctions and finally escalated to NATO bombardment of FRY in 1999. The foreign trade value in 1999 was reduced to the level that prevailed during sanctions, and in 2000, due to the destruction caused by the bombing and sanctions that started in 1998, only a small increase took place.



Political changes in Serbia that started in October 2000 brought about fast relaxation of all external limitations for foreign trade. However, the Yugoslav economy, financially exhausted by ten year-long unstable conditions, with obsolete production means and a large outflow of qualified labour, is no longer able to profit in the short run on benefits of normal business conditions for trade with other countries.

Total value of FRY exports in the year 2000 was 1723 million dollars, which is 39% less than in 1998. Cumulative value of imports was 3711 million dollars, and is 21.6% lower than the value achieved in 1998. The foreign trade deficit in 2000 thus amounted

to 1988 million dollars and was 4% higher than in 1998. Compared to the 1990 level, exports are 70% lower in 2000, and imports 50%. However, if the trade with former Yugoslav republics is included in the 1990 figure (for then it counted as an internal realisation, and now it is considered a part of foreign trade), the total exports in 2000 make only 9% of the 1990 level, and imports about 20%. Bearing in mind that in the same period the industrial production was reduced by about 65%, it can be concluded that the **export coefficient** (share of export goods in GDP) is almost one quarter of its 1990 level.

In the analysis of Yugoslav **foreign trade structure**, we observed exports and imports by groups of countries. In the absence of clear integration flows in SEE, there are several different groupings of countries in the region. The Balkan countries include Albania, Greece, Bulgaria, Romania, FYR Macedonia, Turkey, FR Yugoslavia, Bosnia and Herzegovina and Croatia. West Balkans countries are: Croatia, Bosnia and Herzegovina, FR Yugoslavia and Albania. Some of the named countries are members of one or more economic or political integration. Therefore there is a possibility of some double counting when countries in the region are grouped according to a geographic or economic classification. Differences in data also appear when Yugoslav trade with the **former Yugoslav republics (FYR)** is included in foreign trade.

Table 2.1 Foreign trade structure of FRY with chosen groups of countries, in %

Exports	***1991***	***1992***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001****
EU-15	52.8	43.9	31.8	35.4	38.6	36.7	38.2	44.5
EU-15, excl. FYR	...	...	**48.0**	**52.3**	**56.6**	**56.6**	**53.1**	**57.8**
FYR	...	...	33.8	32.3	31.8	35.2	28.0	23.0
Alb, Bulg, Rom.	6.4	10.6	7.2	3.7	2.6	3.2	3.0	2.9
Alb,Bulg,Rom,excl. FYR	...	...	**10.9**	**5.5**	**3.8**	**4.9**	**4.2**	**3.8**
Others	40.8	45.5	27.2	28.6	27.0	24.9	30.8	29.6
Others, excl. FYR	...	...	**41.1**	**42.2**	**39.6**	**38.4**	**42.8**	**38.4**
Imports	***1991***	***1992***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001****
EU-15	48.6	43.8	42.1	41.2	38.3	41.9	40.7	38.0
EU-15, excl. FYR	...	...	**49.1**	**49.2**	**43.7**	**47.6**	**50.4**	**44.7**
FYR	...	...	14.2	16.3	12.3	11.9	19.2	15.0
Alb, Bulg, Rom.	3.9	10.0	8.2	4.7	3.7	7.8	11.0	8.5
Alb,Bulg,Rom,excl. FYR	...	...	**9.6**	**5.6**	**4.2**	**8.9**	**13.6**	**10.0**
Others	47.5	46.2	37.3	40.1	47.1	39.7	29.1	38.5
Others, excl. FYR	...	...	**43.5**	**47.9**	**53.7**	**45.1**	**36.0**	**45.3**

* First seven month

From the given table it can be seen how excluding FYR influences the indicators of foreign trade structure. When FYR are excluded from the data, the selected groups of countries have relatively stable shares in Yugoslav trade. If we had the exact figures on trade with FYR in 1991 and 1992, data on shares in Yugoslav trade for the selected groups of countries would be much lower than in the period 1996-2000, as a result of relatively higher importance of FYR during that period.

In the following text we shall first establish some of the most important characteristics of trade with EU-15, and then with SETE-6. For the latter group, properties of trade with the former Yugoslav republics will be discussed at great length, as these are the countries with which FRY has many similarities in industrial and foreign trade structure and specific political and economic heritage.

2.1. Trade with the EU during the 90's

Developed West European countries represented the most important foreign trade partners for Yugoslavia since her creation in 1918. Small geographic distance and economic strength of West Europe caused a high dependence of Yugoslav economic development on good relationships with these countries. Disintegration of former SFR Yugoslavia 1991-1992 and wars in Croatia and Slovenia resulted in sanctions imposed on newly formed FRY by EEC, and then EU. Despite permanent restrictions in trade, EU maintained the same relative importance for Yugoslav export realisation during the 90's (about 50% of total exports), if figures of foreign trade with former Yugoslav republics are excluded. It can be expected that the importance of EU for Yugoslav foreign trade will increase in the future, primarily because of long production stagnation of almost all of the countries of the former Eastern Block (that represented an approximately equally important foreign trade partner as countries of West Europe).

Yugoslav foreign trade with the EU-15[11] is characterised by a high level of **export specialisation** (see Figure 2.1 in the Annex), and a very **diversified import structure**. This trade property is a normal consequence of differences in magnitude and development levels of the Yugoslav and EU-15 economies. On the export side, the main feature is a high share of industrial products in total exports - much higher than in trade with any other group of countries. If we exclude the product group Fruits and Vegetables (05) from the total exports, the share of industrial exports extends to over 75% of total exports. If we consider such a high share of industrial exports, and the traditional and potential importance of this group of countries, it is easy to conclude that industrial restructuring and export specialisation of FR Yugoslavia will depend on the progress of economic relationship with this group of countries. This was also the case with all prosperous transition countries in the last decades.

The history of economic relations of FR Yugoslavia with the EU in the last ten years represents a series of periods of tightening and relaxation of economic sanctions. Nine years after the first sanctions were enforced (in November 1991), on October 31 2000 FR Yugoslavia was granted a duty-free admittance to the EU market.

In the last ten years only slight changes in the **relative importance of the EU countries** took place. Germany lowered its share in total FRY exports, while the shares of Italy and Greece were increased. This is a result of a fall in competitiveness of the Yugoslav economy, and consequently of an expanded realisation of lower production level commodities on markets of less developed EU countries. At the same time, in the export supply there was a decrease, or total disappearance, in the share of high technological sophisticated products. For instance, while in 1998 the proportion of primary products in total exports to Germany was 23.5%, the respective figure illustrating the trade with Italy was 30.5% and 46.2% for Greece.

Although the EU share in total Yugoslav exports was reduced from 52,8% in 1991 to 38,6% in 2000[12], the EU market is very important for certain groups of products. For

[11] In the whole text, and in the database on two-digit level SITC, aggregated data on the 15 EU countries are given, although in 1991 and 1992 EEC had only 12 members. This was done so that time series become comparative.

[12] When data for FRY are excluded from total exports, the EU share is actually increased to 53.1%.

instance, over half of total exports is oriented to this market for the following primary products: Live Animals (00), Fruits and Vegetables (04) and Cork and Wood (54), and for the following industrial products: Rubber Manufactures (62), Clothing (84), and Footwear (85) - as shown on Table 2.2 in the Annex.

2.2. Trade with countries of SETE-6

The Yugoslav trade with SEE countries in transition will be analysed separately for the former Yugoslav republics (FYRs) and for other neighbouring countries (Albania, Bulgaria, and Rumania). This was done because the trade with FYRs at the beginning of the 90's was not imputed as foreign trade, so that the official statistical data are available only starting with 1995. Also, although this chapter concerns the trade with SETE-6, Slovenia is included in the analysis of Yugoslav exchange with the FYRs. It was not necessary to exclude the data for Slovenia, although it does not belong to this group in the new classification of transition countries, because the exchange with Slovenia is still negligible (although the potential is large), and aggregate data do not differ much.

In the table illustrating the exchange with FYRs it is easy to observe a regularity of **decreasing shares** in total trade of these countries when relaxation of limitations occur in trade with developed countries (1996-1998). Likewise, their share in total trade increases in periods when worsening of the exchange conditions appear (1999). Also, it can be noted that their importance is much greater for export realisation than for import supplies. This is the only group of countries with which FRY realised trade surplus during the 90's, at the time when the coverage of imports by exports was very unsuccessful.

Table 2.2 FRY trade in goods with Former Yugoslav Republics, 1996-1999

(in millions of US$, and in % of total exchange)

	1996	1997	1998	1999
Exports	622.1	673.6	808.9	526.9
Imports	509.5	582.9	569.7	351.4
Trade balance	112.6	90.7	239.2	175.5
% of total exports	33.8	32.3	28.3	35.2
% of total imports	12.4	14.0	10.9	10.7

From these data on trade dynamics and the importance of FYRs for commodity trade of FRY we can conclude (also proved by the estimated gravity model) that trade with these countries is a factor of stabilisation of the Yugoslav overall commodity flows. However, in achieving potential levels of exports, this group of countries has less importance than the EU. Unused potentials for exchange still exist with Croatia, Slovenia and Federation of Bosnia and Herzegovina, and they can easily be attained after normalisation of political relations.

The importance of FYRs in Yugoslav trade during the 90's resulted from traditional relations, but also from "**soft borders**"[13] that enabled FRY to place products in foreign

[13] "Soft borders" existed not only with the FYR (with FYR Macedonia, in the first place), but also with other neighbouring countries (Albania, Bulgaria, Rumania and Hungary).

markets and acquire necessary raw materials and consumer goods, even at times of the most severe UN sanctions. "Soft borders" had both positive and negative side effects. The main positive effect was making the inside economic system functional, irrelevant of how much transaction costs and national income outflows, based on the terms of trade, made the domestic production costly and export uncompetitive. The main negative effect was the lack of control of business transactions, so that even until today it is not known how large the capital flight was.

Because of very frequent changes in levels of prohibition, imposed by the international community in FRY foreign transactions, it is very uncertain how reliable are the data on trade with FYRs. The data may well include trade with other regions. For instance, after suspension of sanctions in November 1995, firms in Yugoslavia gained a right to legally run business with firms in the EU and other countries rather than through intermediary firms in FYRs or other neighbouring countries. Then the share of FYRs in total Yugoslav trade started to decrease, both for accounting and real economic reasons. Similarly, when the EU introduced new sanctions, and especially during the bombing of 1999, firms from Yugoslavia were compelled to make business through middle firms from neighbouring countries. Therefore the data on trade with the FYRs, as well as Bulgaria and Romania, are dubious.

A special problem is caused by an **unregistered exchange** between FYRs, which takes place in the grey zone of the economy. The majority of these commodities do not originate from these countries, and their low quality increases consumer risks. It can be expected that this problem will be solved only after the normalisation of business conditions between FYRs. Cooperation in fighting the economic crime is an additional condition for reducing unregistered exchange, because all of the countries in the region lose substantial fiscal revenues in this way. Hence, this is not only a problem in Yugoslavia, but also in the entire region. For this reason, the end of 2000 saw the beginning of a regional co-operation of custom services, with exchanging experiences and common actions in suppressing illegal trade.

When making observations at the level of product sectors, the importance of different FYRs appears to be very unequal. From the figure representing the structure of FRY foreign trade with FYRs and other countries (Annex, Figure 2.4), it can be seen that on the export side FYRs are especially important as a market for Yugoslav agricultural products, beverages, tobacco and chemical products, and less important as a market for raw materials and different final products. For exports of industrial raw materials (SITC 2), machinery and transport equipment, the significance of FYRs and other countries is approximately equal. On the import side, FYRs are especially important for imports of industrial raw materials, beverages and tobacco. FYRs have a considerably smaller share in imports of agricultural products, machinery and transport equipment and miscellaneous manufactured articles.

A greater importance of FYRs than other countries in Yugoslav trade is a consequence of various factors. Mutual language similarities, familiar customs and other market properties, with high possibilities of cooperation between FYRs, constitute a strong factor of competitiveness, especially for products in which FRY would not be competitive in the world market (or other FYRs when appearing in the FRY market). Still, as normalisation of conditions for the international trade progresses, it can be expected that the FRY trade with FYRs will differ less and less from the structure of

trade with other countries. There are some exceptions: trade with products for which transport costs are very high relative to price, or products for which these countries have no export supply (such as mineral fuels and lubricants).

If the foreign trade is classified into primary products, industrial products and special transactions[14], it can be observed that there is an unusually higher share of special transactions and a somewhat larger share of primary products in trade with the FYRs than with other countries. This is a clear indication of the poorer quality of trade with the FYRs. If energy imports (petroleum and gas) were excluded from the data on imports from other foreign countries, the difference in the quality of trade would even be greater, and at the expense of the trade with the FYRs.

Since the trade in industrial products has a low value and share in the overall trade, and in case of primary products there is a two-way flow of same products, the dominant model of trade with the FYRs is not intra-industrial but 'intra-primary products' trade.

The market of the FYRs enables expansion for the producers from the FRY who cannot offer the same products in the third markets, especially in the markets of the developed countries. Of 66 trade divisions, which were involved in exports in 1998, the sales in the markers of the FYRs accounted for over 50% in 16 trade divisions. Among the 10 most important products exported to the FYRs (see Table 2.3 in the Annex) three had a share above 50% of total exports in the trade divisions, while in the others, except for iron and steel and non-ferrous metals, the share was 25% or more.

If special transactions are excluded from the total value of exports to the FYRs, the FRY has a significantly lower level of **export concentration**. This is a consequence of considerably easier access to the markets of the FYRs, in comparison with the possibility of expansion in the world markets. If exports to the FYRs are excluded from the total value of exports, the level of exports concentration is significantly higher, which points to the increase in the level of restrictions with which other foreign markets react to the low (and deteriorating) quality of the Yugoslav exports supply.

Observing the data on Yugoslav trade with the FRY, we can conclude that it is not developing according to any economic logic. The former common market had disintegrated, and then the wars in Croatia, B&H, and finally bombing of Yugoslavia, caused the breaking of the matrix of trade flows between former Yugoslav republics in the late nineties. There is still some existence of bilateral ties of various intensities between them. Nevertheless, even in cases with a significant trade value (for example between Croatia-B&H, FRY-B&H, Macedonia-FRY, Croatia-Slovenia), the trade is far below the 1989 level.

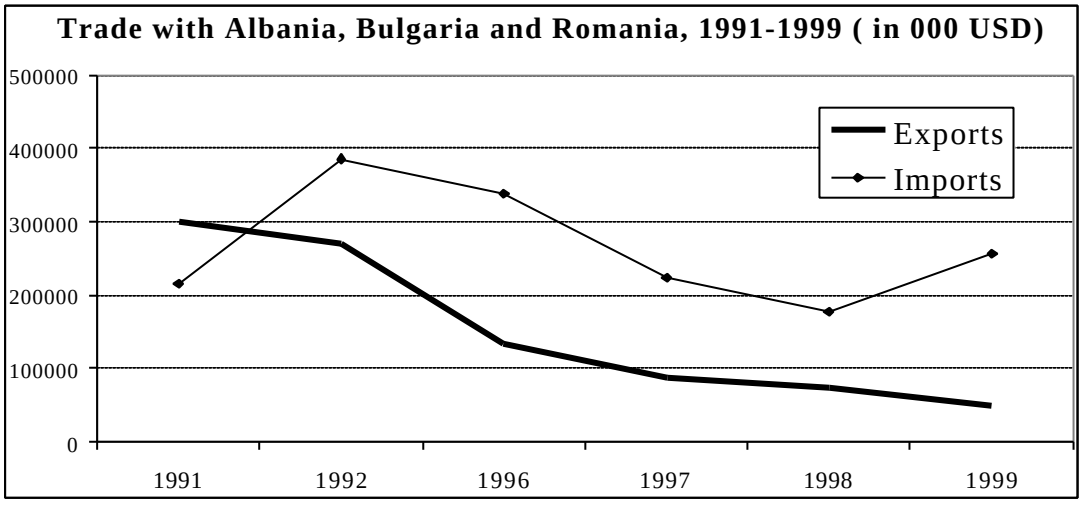
Table 2.3 Foreign sales in 1989 (% of net material product)

	Exports of goods and services	Shipments to other republics	Total
Croatia	23.3	51.8	75.1
Macedonia	17.4	64.4	81.8
B&H	21.1	48.5	69.6
FRY	20.7	47.4	68.1
Slovenia	24.6	56.4	81

[14] Special transactions present trade flows not covered by regular trade, and flows for which it is desirable that their origin or destination remains unknown.

For instance, value of Yugoslav foreign exchange with B&H that was 38 times larger than with Croatia in 1998 (and Croatia has a 4 times higher GDP than B&H) indicates both that trade with B&H is disproportionate and that there is a possibility of a large increase of trade with Croatia. Of four FYRs, the greatest absolute and relative increase of trade value is possible with Croatia, then with Slovenia. There is also an unused potential for trade increase with the Federation of Bosnia and Herzegovina, while FRY trade with FYR Macedonia will depend on dynamics of economic recovery of each of the countries themselves (see the results of estimated gravity model).

In case of Albania, Bulgaria and Romania, the neighbouring countries in transition that belong to SETE-7 group of countries but are not FYRs, the UN and EU sanctions influenced a sharp **loss of FRY competitiveness**. This can be seen from the figure on commodity trade. Starting with a surplus that existed during the 80's, in 1992 FRY started facing a deficit, which was sustained even when sanctions were suspended, and in 1999 and 2000 it became even larger. These countries served to mitigate the effect of the developed countries' sanctions, and so the relevant data are very misleading. For instance, in 1992 (the year when UN sanctions were imposed) and in 1999 (NATO bombing) a large increase in import value appeared, and a much lower decrease of exports than for total figures. Conversely, during the relatively stable years (1996-1998 and 2000-2001) the absolute value of Yugoslav exchange with these countries is decreasing, owing to trade re-orientation towards the EU, which indicates that the average value of trade with these countries was above the optimal level.



Having looked at the figure of trade structure observed by sectors of SITC (Figure 2.5 in the Annex), we are able to discuss the main reasons for restrictions to a larger mutual trade. A negligible share in industrial sectors Machinery and Transport Equipment (7) and Miscellaneous Manufactured Products (8) is a consequence of the fact that these countries import from the EU products of sector 7, and export to EU products of sector 8. Also, a large increase in share of Crude Materials except Fuels (2) and lowered share of Food and Live Animals (0) show that there is a restriction of trade in primary products. Compared to a highly subsidised agricultural production of the EU, producers in Balkan countries are price non-competitive, so that value and importance of trade with these products is lessened. This can also be expected in the future, owing to the EU pressure to further reduce the level of protection for their agricultural sectors. An increase of share in the total trade of natural resources (sector 2) indicates the absence

of industrial supply for exchange, but also the limitations to further rise of the achieved value in this sector. (See Table 2.4 in the Annex for the most significant trade divisions in the trade with Albania, Bulgaria and Romania.)

Among ten most important product groups, there are even five same groups (28, 35, 51, 52 and 68) in mutual exchange with Albania, Bulgaria and Romania. This indicates a high level of similarity of export supplies - not only in the EU market entry, but in mutual trade as well. This also shows that there is a relative lag in the transition process of these countries, because dual export structure is disappearing in advanced transition countries of East Europe.

The existing trade structure of FRY with the countries in the region (SETE-6) does not show any potential for an absolute increase of trade value in itself. The main potential for **future development of regional trade** emerges from the regional division of labour, which will take place alongside regional stabilisation and mutual opening for trade and investment. The division of labour will be strongly conditioned by foreign direct investment in the region, motivated by serving the whole regional market from one location. Then a trade with industrial products of a much higher quality will come about, so that mutual exchange will increase GDP of each of the countries individually.

Before the democratic changes in Croatia and FRY there were almost no conditions for any economic regional integration. Now there is a possibility, and if the political situation in the South of Serbia and in Macedonia improves, it will be quite conceivable that in a relatively short run free trade potentials are attained. Hence, to everybody's benefit, the broken matrix of trade flows could be normalised and formed on the basis of economic interests, and not political imperative.

3. Potential directions of the FRY foreign trade development - Results of the estimated gravity model

In the period of economic sanctions, the war in the former Yugoslav republics and NATO air raids, Yugoslavia realised hardly 1/5 of its GDP in exports. At the same time, exports of the countries in transition were the main factor of their economic growth (with more than 1/3 GDP in exports). Therefore, the gravity model approach in this work was used to examine whether Yugoslav actual exports to foreign trade partners have already reached the potential level or not. In other words, our intention is to examine if there are possibilities for the recovery of Yugoslav exports by redirecting the exports from one group of countries to another.

3.1. The model

The estimated gravity model assumes the usual approach, with the main factors that determine trade flows: potential supply of exporting country (that is, a positive function of the exporter's income, measured by GDP), potential demand of the importing country (a positive function of the importer's income, measured by importer's GDP), trade cost sources (measured by a distance variable), membership in the same economic integration, level of openness of the economy, common language, common border, and a dummy variables to indicate other properties. However, the estimated model differs from the original in the following two ways.

Although the original gravity model is based on cross-section data, we used **panel data,**

since there is a problem of the basic year choice when we use pure cross section data. In fact, data are desaggregated over countries and time for two reasons: 1) to avoid the effects of some disbalances or shocks, i.e. to mitigate the influence of outliers in time dimension[15], and 2) to improve the precision of the regression parameters estimates by including the variations in time dimension. Unlike the original model, where **the dependent variable** presents a trade flow from each country *i* (*i*=1,…,N) into remaining N-1 countries, in our model only Yugoslav trade flow (exports**)** into N countries is used as the dependent variable, and this is done for two reasons: 1) the absence of the data from Yugoslav statistical database for the estimation of bilateral trade flows of all countries in the sample; 2) this particular analysis is focused on estimating Yugoslav export potentials only[16].

For the purpose of this analysis we used a simple gravity model just to predict Yugoslav export flows (potentials), although we were aware of several econometric problems in this model specification[17]. Yugoslav exports are **estimated**[18] as a function of the following variables: **1.** gross domestic products (GDP) of importing countries (European Union, CEFTA, Southeast Europe: Albania, Bulgaria, Romania, Hungary, Greece, Turkey, and the former Yugoslav republics), **2.** GDP of Yugoslavia, **3.** population of importing countries, **4.** population of Yugoslavia, **5.** distance between main economic centres, **6.** dummy variable for common border and **7.** dummy variables for the membership in the economic unions or groups.

The model is based on panel data of 27 countries over the period 1996-1999. The basic model has the following form:

$$\ln E_{it} = \ln \alpha + \beta_1 \ln GDP_{FRY,t} + \beta_2 \ln GDP_{it} + \beta_3 \ln POP_{FRY,t} + \beta_4 \ln POP_{it} + \beta_5 \ln D_{FRY,i} + \\ + \beta_6 \ln CB_{FRY,i} + \gamma_1 EU + \gamma_2 SEE + \gamma_3 CEFTA + \gamma_4 FYR + v_{it}, \qquad (3.1)$$
$$i = 1,..., 27; t = 1,..., 4,$$

where:

- E_{it} denotes Yugoslav exports into country *i* in the year *t*;
- $GDP_{FRY,t}$ is Yugoslav GDP in year *t*,
- GDP_{it} is GDP of country *i* in the year *t*,
- $POP_{FRY,t}$ is population in FRY in year *t*,
- POP_{it} – population in country *i* in year *t*,
- $D_{FRY,i}$ is distance between capitals of Yugoslavia and country *i*;
- $CB_{FRY,i}$ is dummy variable for common border,
- EU is dummy variable for the membership in the European Union,

[15] Some authors take data averages over the analysed period for the estimation.

[16] We used Yugoslav exports, rather than data on imports. Import flows into Yugoslavia during the observed period were irregular, never determined by development adjustment to economic conditions, and the coverage of imports by exports was extremely low.

[17] For example, possible correlation of explanatory variables with unobserved individual effects, serial correlation of residuals, endogeneity problem of GDP in the model, i.e. correlation of GDP with the remaining stochastic disturbance u_{it}, etc.

[18] All panel data estimations have been done using software *RATS 4.20 (Regression Analysis of Time Series).*

- SEE is dummy variable for countries in Southeast Europe,
- CEFTA is dummy variable for CEFTA countries,
- FYR is dummy variable for the former Yugoslav republics;

v_{it} is the error term of the gravity panel data model, which consists of three components**:** $v_{it}=m_i + l_t + u_{it}$. m_i is the unobservable individual effects (time invariant bilateral propensity to trade), l_t is the time effect, and u_{it} is the remaining stochastic disturbance term. For all data, the main source was Yugoslav statistical database[19.] Nominal GDP and GDP per capita are measured in US dollars. Costs of transport are denoted by a distance variable ($D_{FRY,i}$), measured in kilometers. The similarity of Yugoslavia with the neighbouring countries is measured by dummy common border dummy variable, $CB_{FRY,i}$.

Population variable ($POP_{i,t}$ and $POP_{FRY,t}$) as one of country size measures is also included in the gravity model (3.1). This variable is to indicate the degree of self-sufficiency of a country and consequently the level of the openness of its economy (larger country – larger self-sufficiency – less imports). However, the result of the gravity model estimation indicates an insignificant influence of population variable on the export variations, so this variable is omitted from the model.

Some **modifications** of the model (3.1) were also needed to avoid multicollinearity, as there are many dummies in the model. For example, observed by years, Yugoslav GDP variable (GDP per capita variable) has the characteristics of a constant term in each year; however, the existence of both the Yugoslav GDP variable and a real constant term α would lead to multicollinearity in the model. In order to avoid this problem, the constant term α was omitted (it turned out that α was insignificant anyway). There was also some overlap between several dummy variables (for example, some countries belonging both to SEE and CEFTA, and having common border with Yugoslavia[20] at the same time).

As for other variables concerned, a dummy variable CRO had to be included in the model to indicate specific exports flow from Yugoslavia into Croatia. Trade flows in the region of the former Yugoslav republics were irregular during the last ten years, because of the war and problematic political circumstances. Especially, trade between Yugoslavia and Croatia was very low, but trade between Yugoslavia and Federation of Bosnia and Herzegovina (Republic of Srpska) was very high.

Based on these modifications of the model (3.1), the gravity panel data model has the following form:

$$\ln E_{it} = \beta_1 \ln GDPPC_{FRY,t} + \beta_2 \ln GDP_{it} + \beta_5 \ln D_{FRY,i} + \beta_6 \ln CB_{FRY,i} +$$
$$+ \gamma_1 EU + \gamma_2 SEE + \gamma_3 CEFTA + \gamma_4 FYR + \gamma_5 CRO + v_{it}, \qquad (3.2)$$
$$i = 1,..., 27; t = 1,..., 4,$$

where $GDPPC_{FRY,t}$ is Yugoslav GDP per capita variable. All results of the gravity

[19] Statistics of Foreign Trade, 1996-1999, Statistical Yearbook, 1996-1999, Federal Statistics Bureau, FRY.

[20] Hungary, Romania, Bulgaria.

model testing and estimation are given in Table 3.1 in the Annex.

Variables GDP, GDPPC and DIST in all variants of the gravity model are very highly significant (Table 3.1 in the Annex) and have the expected signs. Significance of the GDP variable indicates that Yugoslav exports depend on GDP as an indicator of demand in the importing countries, especially the EU countries, as the most important Yugoslav trade partners. Namely, the coefficient of the importer's income (GDP) is its **income demand elasticity**. This coefficient is less then unity in these models and indicates that the demand of importing countries for Yugoslav goods is not elastic. Yugoslav GDP per capita as an indicator of potential supply is also a significant variable. Costs of transaction and transport variable (DIST), is another very important factor that influenced Yugoslav exports variations over countries in the analysed period.

Variations of Yugoslav exports in time are measured by dummy variables V97, V98 and V99. Nevertheless, these time dummy estimates are not significant at 1% and 5% significance level. Dummy variables representing countries belonging to SEE and CEFTA are not significant either, so they had to be excluded from the model (equations 4 and 5 in table 3.1. in the Annex). However, the average actual/estimated export ratio for CEFTA countries is significantly lower than one and lower than the averages for other groups of countries in each observed year (Table 3.3 in the Annex).

In general, panel data are able to explain individual effects (μ_i, time-invariant variables) and time effects (λ_t, individual-invariant variables), whereas a time-series or cross-section analysis cannot. In order to **test** these individual (bilateral) and time effects in the gravity panel model, a modified Breusch-Pagan test for individual and time effects and F test have been used. Breusch-Pagan LM test has suggested a model with individual effects, rather than individual and time effects[21] (Table 3.1 in Annex). The analysis of residual variance in random effects model (REM – equation 5 in Table 3.1), that is the F test, has also suggested the existence of the individual (bilateral), rather than time effects (Table 3.2 in Annex).

3.2 Implications of model estimates

Based on the gravity model estimates, we are able to compare actual and estimated (potential) exports and draw a number of conclusions.

(1) Trade links between Yugoslavia and **EU or CEFTA** are **lower than potential** levels in each observed year (see actual to potential exports ratio in Table 3.3 in Annex). This indicates that there are possibilities to increase Yugoslav exports into these countries in the future. According to the gravity model results, the greatest chance for the Yugoslav exports increase is exactly with the countries that were the most important Yugoslav foreign trade partners in the past, such as Italy and Germany. Yugoslav actual exports into Italy, Germany, Austria and Denmark were lower than the potential levels in each observed year (Table 3.4 -Annex). In the same period, Yugoslav actual exports into Greece were above potential levels (more than five times), and actual exports into France and Great Britain were slightly above potential levels. According to the model

[21] Breusch-Pagan LMμ and LMλ test statistics for testing individual and time effects, are asymptotically distributed as χ^2 (1 degree of freedom) under H_0: $\sigma_\mu^2=0$, and H_0: $\sigma_\lambda^2=0$, respectively.

estimates, the Yugoslav exports into some countries, such as Luxembourg and Portugal, are unnaturally lower than potential levels. However, this does not permit much interpretation about the possibility for a significant increase of the Yugoslav exports, because Yugoslav exports into these countries were traditionally low from year to year, so even bringing them closer to potential levels would not significantly contribute to the increase in total Yugoslav exports.

(2) Yugoslav exports into former Yugoslav republics (Federation of Bosnia and Herzegovina, FYR Macedonia) and neighbouring countries (Romania, Bulgaria) are much **higher than potential levels**. Yugoslavia has been forced by the EU trade sanctions and the war in the region to redirect the exports into these countries and also to re-export goods and services into the EU market through these countries. In fact, Yugoslav exports into and through countries of the region were the only way to avoid EU trade sanctions. This means that the statistical data about Yugoslav exports into countries in the region contain not only data for exports into these countries, but also exports to some other countries as well. For those reasons, Yugoslavia has above-potential trade with countries in the region, especially with Bosnia and Herzegovina (Republic Srpska) and Macedonia.

(3) Regarding the former Yugoslav republics and other countries in the region, it should be noted that Yugoslav exports into Slovenia, Croatia and Hungary were below their potential levels during the observed period, so it is realistic to **expect growth** of export flows into these countries in near future.

(4) Finally, some short time **prognoses** of the Yugoslav exports have been made. Regarding Yugoslav trade potentials in the transition period, some redirecting of the Yugoslav exports could be expected, from the countries in the region to countries of EU (Italy, Germany, Austria,...), some CEFTA countries (Hungary, Slovenia,...) and to Croatia. From the estimated model point of view, decreasing export flows could be expected into: Romania, Bulgaria, Bosnia and Herzegovina, Macedonia (compared to the period of 1996-1999). These trends would come about after the suspension of all the economic sanctions and after some positive changes in the economic policy in the country (starting with foreign trade liberalisation).

Of course, conclusions based on the results of the estimated gravity model should be made with great care, especially the comparison of the estimation results among different econometric specifications, since different parameters estimates give different residuals i.e. actual to potential ratio. The estimated level of trade potentials depends on the choice of variables included in the model. Therefore, conclusions based on gravity equations in this work (Table 3.1 in Annex), interpretation of the results and the forecasts made are not the definite illustrations of Yugoslav trade potentials.

4. Comparative advantages of FRY in trade with EU and SETE-6

Analysis of comparative advantages of FRY in trade with the EU and SETE-6 was conducted by measuring revealed comparative advantages (RCA). The data desaggregation was done according to Standard International Trade Classification (SITC - 65) on a two-digit level, including whole groups of products where trade existed.

Revealed comparative advantage has been calculated in the following way:

$$\mathbf{RCA_i^j = \frac{X_i^j - M_i^j}{X_i^j + M_i^j}} \qquad (4.1)$$

where:

- RCA_i^j is revealed comparative advantage (in relation to EU, or SETE-6) of country j (FRY) in production of commodity i;
- X_i^j is the value of exports of commodity i to the EU/SETE-6 by country j;
- M_i^j is the value of imports of commodity i from EU/SETE-6 by country j.

Bearing in mind that FRY had a huge trade deficit with EU in the observed period, we also made calculation of "adjusted" RCA, to eliminate the effects of trade barriers and overvalued domestic currency.

Adjusted RCA coefficients have been calculated in a following way:

$$\mathbf{adjRCA_i^j = \frac{cX_i^j - M_i^j}{cX_i^j + M_i^j}}, \qquad (4.2)$$

where **c** is a coefficient[22] of multiplication for exports of all commodity groups calculated to make a trade balance with EU. It has different values in different years, depending on degree coverage of imports by exports. Adjusted RCA is thus computed under the assumption of liberal excess to market and balance of trade with the EU.

As stated before, there is a huge difference in comparative advantages of FRY in the markets of the EU and SETE-6, which resulted in dual trade structure, characteristic for most transition countries.

A **positive value of RCA (in 1998)**, measured on the two-digit level of SITC, is found in 20 out of 65 groups of products in total exports of FRY. For the exports to EU there is a positive RCA in 20 groups of products, and for trade with SETE-6 in 32 groups. The number of common groups with positive RCA in trade with both EU and SETE-6 is 12, of which 10 groups have positive RCA in total exports as well. This means that not only a large difference exists in FRY market entry to these two groups of countries, but there is also a divergence in RCA for other markets (for instance, Russian Federation, developing countries). This represents the main difference between FRY and other transition countries - while the other countries made export restructuring in the last ten years (by lessening the share of mutual trade, re-orienting exports toward the EU market, and changing their trade structure in accordance with their comparative advantages), Yugoslavia was compelled to export whatever was possible, without using economic logic.

4.1. The RCA analysis of FRY in trade with the EU, 1991-1999

Due to a higher level of export concentration to EU (compared to imports from the EU), even in calculation of the adjusted RCA to achieve elimination of the deficit, only a small number of commodity groups from the two-digit SITS are left in which FR

[22] **c** is a constant for all product groups in one year, and is calculated as C=total imports/total exports, for each year.

Yugoslavia can boast some comparative advantages. That is a logical consequence of different relative powers of FRY and EU economies. Table 4.1 in the Annex lists the main groups of products with RCA (with RCA that existed in the whole period, with the increased RCA in the second sub-period, with lost RCA in the second sub-period, and with adjusted RCA in the whole period). In the following table the number of product groups are given with positive and negative RCA in two-digit SITC.

Table 4.1 Number of product groups in trade with the EU (two-digit SITC)

	1991	**1992**	**1996**	**1997**	**1998**	**1999**
»Regular RCA«						
Positive	20	20	10	14	20	18
Negative	45	42	54	51	45	47
Not-traded	0	3	1	0	0	0
»Adjusted RCA«						
Positive	24	26	24	23	28	23
Negative	41	36	40	42	37	42
Not-traded	0	3	1	0	0	0

In competing in the EU, the FRY firms have different destination markets. This produces differences in competitive advantages of FRY in specific markets of the EU countries, and the appearance of comparative advantages on the level of specific countries even if they do not exist on the overall level. In order to examine competitive advantages of the FRY economy in the EU markets, an analysis of RCA was made for trade with the most important partners from the EU: Austria, France, Greece, Italy, Germany and Great Britain. The results are reported in Table 4.2 in the Annex.

4.2. Measuring RCA in FRY trade with SETE-6, 1991-1999

Because of the disintegration of former Yugoslavia, there are no comparative data on RCA with neighbouring countries for sub-periods 1991-1992 and 1996-1999. In the first sub-period, the data on foreign trade include Albania, Bulgaria and Romania, and in the second sub-period, apart from these countries, there are also data for Croatia, B&H and FYR Macedonia.

In the observed period economic policies had an exceptionally significant influence on the value and structure of the exchange, so that FRY foreign trade took place in extremely varying conditions with different countries. The trade with Former Yugoslav Republic Macedonia and Republic Srpska was relatively undisturbed. In contrast, the trade with Croatia and the Federation of Bosnia and Herzegovina almost completely died down. The trade with Romania and Bulgaria was "forced" by the need to circumvent the EU sanctions. Albania, as an autarchic country, and FRY as "imposed" autarchic, had almost a negligible exchange. In both sub-periods the FRY trade with neighbouring countries was relatively balanced, so there was no need to compute the adjusted RCA additionally.

Table 4.2 Number of product groups in trade with SETE (two-digit SITC)

RCA	1991	1992	1996	1997	1998	1999
Positive	33	27	36	34	34	40
Negative	30	36	29	30	30	24
Not-traded	2	2	0	1	1	1

With the exception of 1992, in each observed year FRY had a larger number of product groups with positive RCA in trading with neighbouring countries. This can be explained by the fact that FRY is a country with the most diversified economic structure in the region. For instance, Croatia is economically more developed, but smaller in population, and hence more specialised in production. On the other hand, Romania is larger by population, but has a relatively poor export supply. Also, a larger number of product groups in export with positive RCA can be explained by a large degree of market integration of FRY with Macedonian and Republic of Srpska markets, where FRY can offer products that are not competitive in other markets.

Table 4.3 in the Annex lists groups of products in which FRY has comparative advantages in trade with the neighbouring countries, and groups of products in which neighbouring countries have comparative advantage when trading with FRY. In all other groups of products there are no revealed comparative advantages, neither on the part of FRY nor any of the neighbouring countries.

In the following period, with the expected regional trade liberalisation, a much higher specialisation of all the countries in the region can be expected in trade with specific products. This will undoubtedly influence a significant decrease in the number of the product groups in which FR Yugoslavia has comparative advantages.

Table 4.3. Share of primary products in FRY trade with selected countries in 1998

- in % -

Country/ country group	Exports	Imports
European Union	31,6	17,0
SETE-6	28,8	42,7
Albania	16,9	45,3
Bulgaria	66,6	42,5
B&H	17,9	43,4
Croatia	44,6	17,1
Macedonia	42,7	43,5
Rumania	46,7	41,0

4.3 Specific features of FRY trade with SETE-6

Groups of products in two-digit SITC for which FR Yugoslavia has RCA in trade with a neighbouring country, or in which a neighbouring country has RCA in trade with Yugoslavia are given in Table 4.4 in the Annex. Here are given some specific features of trade with each of the SETE countries.

? **Albania**: The exchange takes place by single shipments, so there is no regularity or existence of some competitive advantages in specific groups of products.

? **Bulgaria:** Due to a large trade deficit with Bulgaria during the 90's, in each of these years FRY had a significantly lower group of products with positive RCA.

? **Romania:** Before the UN sanctions (that started in 1991) FRY had a surplus in exchange with Romania, but after the suspension of sanctions it turned into a large trade deficit. Although the degree by which imports are covered by exports is very low (as is for the exchange with Bulgaria), there is a larger number of product groups of two-digit SITC than for exchange with Bulgaria in which FRY has positive RCA. It is a consequence of a higher level of export concentration for Romania than for Bulgaria. Apart from a large share of primary products in total exchange, the trade with Romania is characterised by a low level of trade in sophisticated products. Sectors 7 and 8 have a negligible share in total trade. Sector 7 is the most propulsive sector in the world trade, but neither FRY nor Romania is sufficiently technologically developed to be competitive in this sector. For both countries sector 8 represents the most important export sector in their entry into the EU market, so that they are rivals and can jeopardise domestic producers. In the future trade integration of the Balkan states, this will be one of the most delicate sectors to liberalise.

? **Bosnia and Herzegovina**: most of the trade concerns Republic Srpska (over 80%). That means that there still exists an unused potential for exchange with Federation of B&H. FRY realises a significant surplus in trade. This is a consequence of both the previous isolation of the Republic of Srpska from the international community, and the diversified production structure and relative economic importance of FRY for this entity of B&H. FRY has a much larger number of product groups in two-digit SITC with positive RCA value. Nevertheless, the number of positive RCA groups of FRY is decreasing, because of the integration of the Republic Srpska into international economic processes and the entry of more competitive products from other countries into the Republic Srpska market. A large level of IIT that exists in sections 74, 77 and 78 is a consequence of a negligible trade value and not developed industrial relationships. Likewise, in case of Bulgaria and Romania, the share of sectors 7 and 8 in total exchange is insignificant.

? **Croatia:** Trade is at a negligible level, because of the unfortunate political relations in the last decade. Thus it is not easy to predict or identify comparative advantages, although it is certain that the potential trade value is substantially larger than what is realised. Owing to a great similarity of production and export structures of FRY and Croatia, price competitiveness of products becomes very important. Therefore any changes of the real exchange rate of their currencies will have a considerable effect on the value and structure of the exchange flows. In Table 4.4 of the Annex, sectors and product groups are noted in which advantages of FRY, or Croatia, can be expected in mutual trade. Because of a negligible value of exchange in the period 1996-1999, no product groups with a high IIT level could be identified.

? **FYR Macedonia:** As with Republic of Srpska, the trade with FYRM developed relatively easily in the last half of the 90's. Therefore a relatively stable and balanced trade continued (except in 1999, because of NATO aggression). As a result of relative economic size of FRY compared to Macedonia, FRY has twice as many product groups with positive RCA, although the trade is balanced.

5. Characteristics of factor markets in FR Yugoslavia

5.1. Labour market characteristics

The main feature of the labour market is a very low level of employment[23] of the working population: in about 6.6 million persons above the age of 15, only one quarter is employed. However, there is also a "grey zone" of the labour market, with an estimated number of about a million employed, roughly 60% of whom are also regularly employed in the official labour market. A substantial additional latent unemployment ('technological surplus') and a very low mobility of labour accompany the massive official unemployment. Thus in the unofficial labour market, the main competition for the unemployed workers are those already employed. The wage level is very low, and there is an increasing inequality of wages. There are also large relative wage differences for the same qualifications in different sectors.

Since 1989 the **employment** has been dropping[24] and in 2000 it fell to 60% of its 1989 level - while production fell to only about 40%. Populist economic policy was especially notable during the economic sanctions, when law prohibited labour shedding. The number of redundant employees in non-private firms is estimated to at least half a million. Official regular statistical reports account for 1.65 million employees; Labour Force Survey estimates always give a number about 35% higher. This means that, including army, police, private and unofficial sector, the total number of employees is about 2.2 million.

Unemployment is very high. According to the Unemployment Bureau data, there were 778 thousand unemployed in Serbia in August 2001 (6.5% increase in a year). No more than 7% of them are receiving money allowance (about 100 DEM), but only with a three-month delay. The official statistics thus reports an unemployment rate of 26%. However, taking into account the surplus employment of about 0.5 million and thus estimating real employment to only 1.7 million, the actual unemployment rate is, or soon will be, as high as 43%[25]. The structure of the unemployed is very unfavourable: in 2000[26], the proportion of persons 15-27 years of age among the unemployed was 49%; 66% were first-time job seekers, and there were 34% of those waiting for a job longer than 5 years.

The only instance of an increase in employment can be found in the **private sector**, but it is very slow due to a chronic lack of capital. As the number of "officially" unemployed amounts to twice the number of employed in the private sector, at this rate of job creation it would take at least 10 years for the private sector to absorb the existing

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[23] Statistical data on labour are very unreliable. Official statistics cover only state (and social) sector ownership, and only largest private firms. More realistic estimates are given by the Labour Force Survey (LFS) data, based on about 4400 households.

[24] Statistical data until 1998 include the region of Kosovo, which accounted for about 6% of total employment. In 2000, the number of statistically registered employees in Yugoslavia was lower than the 1994 figure (that also included Kosovo) by about 450 thousand, and lower than the respective 1989 figure by almost a million.

[25] Apart from private agriculture: total number of unemployed (0.8+0.5 million) divided by the number of employed, (2.2-0.5 million) plus the number of unemployed equals 1.3/3 = 43.33%.

[26] Federal Statistical Office Report No. 073, April 2001: Labour Force Survey

unemployment. The reforms that are already under way will make the problem of unemployment even more severe, and serious social unrest is likely unless massive investment and job creation take place soon.

Qualification structure of the employees and their relative wages show significant changes in the last five years. All eight statistical qualification categories in LFS data show a decrease in number (in the period 1995-2000 the average rate of decrease was 18%). The middle education categories had decreased the least, whereas the productive skills had decreased the most (31%), as the proportion of employees in material production declined and that in social services went up. The highest education level shows an increase in proportion; however, the proportion of employees holding a Ph.D. or a Masters degree has dwindled considerably (from 0.55 to 0.26%).

The reason for a low proportion of the most highly qualified employees may be emigration. The events of the 1990s - ethnic conflicts, civil war in former Yugoslavia, international isolation of FR Yugoslavia - accelerated the **brain drain** that was particularly prominent in 1993[27], the year of hyperinflation. Surveys conducted in 1993-1995 for the 15-year period show that about 10% researchers from R&D institutions emigrated. Some 60% of them had a PhD or MSc degree, most of them were scientists and they emigrated mostly for economic reasons. In 1995 a survey showed that 77% of researchers and 89% of students were willing to leave, 25% of whom had already taken some steps in that direction. However, despite economic devastation of the last decade, the number of scientific and research/development institutions in Yugoslavia has not diminished. Similarly, the proportion of science degree holders and the number of students do not seem to be decreasing.

The **wage level** is still very low in Yugoslavia. After the hyperinflation of 1993, the average monthly wage slowly increased from about 120 DEM in 1994 and 1995 to about 200 DEM in 1997[28], but since then it has been on a downward trend until October 2000. Due to the stable dinar exchange rate, in August 2001 the average wage has reached 200 DEM and has doubled its value compared to last October. However, the price level has increased substantially in a year and the real wage level, deflated by the cost of living, exhibits a much slower rate of increase. The average real wage in the first eight months of 2001 has just reached its 1998 level, while the productivity (industrial production, seasonally adjusted, deflated by industrial employment) is still several percent higher, as shown in Figure 5.1 of the Annex.

In order to measure the changes in wage distributions, the data for average wages in 1995 and 2000[29] were used, and distributions counted on the basis of 48 economic activities and production branches' averages. The relative frequencies are presented in Figure 5.2. The middle (fifth) group contains the mean level as the midpoint, and the groups are formed as intervals of a half of the standard deviation, for each year. A larger proportion of below-average wages was recorded for 1995, while a group of above-

[27] According to Grecic, V., "Brain Drain Issues in Southern European Countries in the Process of Transition: The Case of Yugoslavia", in: Vgenopoulos, C.G. (ed.), *Population Movements and Development, Ekem Hellenic Centre for European Studies*, Athens, 2000.

[28] It was an election year, and the former government used up the capital received from selling the Telecom to foreign buyers to temporarily raise personal wages.

[29] In 2001 the methodology of wage statistics has changed.

average wages is apparent in 2000. Actually, both distributions seem to be bimodal rather than normal.

In the analysis of wage averages for the 48 economic activities, an increase of **wage inequality** can be confirmed by different measures, reported in the following table.

Wage inequality measures	**1995**	**2000**
Coefficient of variation (s/μ)	0.32	0.41
Ratio of 10^{th} and 1^{st} decile averages	2.77	4.03
Gini coefficient	0.176	0.308

A rise in inequality is probably mostly a consequence of the appearance of relatively higher wages in some branches in 2000, actually a polarisation of the production sectors.

As an apparent cause of sector polarisation, in the absence of notable production growth, new technology or capital investment, a relative **export expansion** can be considered. Contrary to the common belief that relatively higher wages are an obstacle for exports, in the Yugoslav case, wages are so low that a positive correlation between export increase and relative wage level can be found for 33 production branches in the seven months of 2001 (after trade liberalisation), compared to the same period of the previous year.

Turning to the time series aspect, the aggregate export series and real wage level (nominal wage deflated by the cost of living) are also positively correlated, both as highly cointegrated series in the long run, and on the level of first differences - in the short run dependency analysis, as stationary series, as well. The reason can be found in a very close cointegration between the real wage level and productivity (Figure 5.3 in the Annex). Also, by testing Granger causality, we can discover that, with one period time lag, exports cause real wage level and not vice versa.

On the other hand, export series is negatively correlated with real unit labour cost (Figure 5.4 in the Annex). In order to establish the signs of partial correlations, several relevant variables are used in the analysis. Exports, exchange rate, real wage (nominal wage divided by cost of living index) and real unit labour cost (real wage over productivity, which is counted as seasonally adjusted industrial production divided by the number of employees in industry), are all time series with a unit root. By Johansen's procedure[30] we find one cointegrating vector between them, including a dummy variable for the period of sanctions. The OLS estimates of a linear model on the monthly data for the last 7 years (n=84) reported in Table 5.1 of the Annex confirm that it is indeed a long run balance equation: residuals are stationary by ADF test and free of serial correlation and heteroscedasticity. The positive regression sign associated with the coefficient of the real wage variable[31] shows that real wages are so low that they do not represent a hindrance to export expansion. Actually, in the past, periods of export revival have coincided with the periods of relative or real wage increases. Rather poor

[30] All results reported in this chapter were computed using the programme EViews 3.0.

[31] Even when estimating with a two-stage procedure (the real wage variable exchanged by its estimate from a marginal model, based on productivity, lags and dummy variable) the coefficient remains positive and highly significant.

export achievements are thus to be attributed to factors other than real wage level, such as economic sanctions, low production, low product competitiveness, unfavourable exchange rate policy, etc.

5.2 Capital market

Yugoslavia was the first among all social SEE economies to develop commodity market, and even to show some characteristics of labour market (for instance, during the 70's labour engagements abroad were permitted and regulated by law). However, capital market has stayed completely rudimentary and undeveloped until now. Development of **financial market** is directly conditional on: institutional framework, financial instruments, number of participants, state of infrastructure of financial organisations, and the level of financial savings.

Despite ideological limitations of the economic system, for a number of years there existed some formal institutional conditions for the development of the financial market. However, a specific feature[32] of Yugoslavia was the dominance of **social ownership** of productive capital, alongside the existence of private ownership. After several laws on "transformation of social property", only the new Privatisation Act (adopted in mid-2001) finally makes privatisation process compulsory and time-limited. The main feature of the new law is outsider privatisation, that is, acquiring foreign strategic partners through tenders and auctions and selling out social property firms (that have previously been made state property). Thus the privatisation process has become centralised, and there is a justifiable fear that it will be somewhat slackened. Besides, it fails to create the expected impulses for development of the financial market.

Privatisation law is a corner stone of transition, but only in combination with other laws can it be fully effective. Beside the new Privatisation Act, a package of tax laws adopted this year, and the new proposal of the Labour Act, the Yugoslav **legal system** already contains a series of laws that are necessary for regulation and functioning of the financial market[33]. However, all these laws should be adjusted in order to speed up the transition process; a number of relevant law changes are ready and waiting to enter the parliamentary procedure.

As for the **instruments and infrastructure** of financial organisations, the existing already permit solutions involving emission and operations with securities[34] that are in place in developed market economies, as well as the foundation and work of all usual sorts of financial intermediaries[35]. But The Security and Exchange Commission (SEC) has only authorised the Belgrade and the Montenegro stock exchanges, and gave licences to work to a relatively small number of broker-dealer firms.

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[32] On specifics of the capital market in FR Yugoslavia: Dabic, S., Finansijsko trziste u Jugoslaviji, *Ekonomski anali*, Okt. 2000, Ekonomski fakultet, Beograd

[33] For instance: Security Act, Security and Exchange Act, Corporate Law, Bankruptcy Law, Banking Act, Central Bank Act, Foreign Currency Act, etc.

[34] Such as: bills, shares, bonds, bank notes, commercial papers, treasury bills, CDs, and financial derivatives (future agreements, options).

[35] Banks, post saving offices, insurance companies, investment funds, brokers, dealers, mercantile banks, exchange offices.

Abundance and structure of the **participants** in the financial market are directly determined by savings of the population and by the level of credibility in the overall financial system. In the last ten years the Yugoslav banking system has been completely destroyed, confidence of citizens in financial organisations has been lost, money flows were broken both with foreign markets and between population and other sectors, the public sector has been reduced to poverty, law regulations and practice have weakened security of creditors, etc.

During 2001, after democratic changes, mainly because of the stable monetary policy and inflow of foreign donations[36], and especially after the entry of foreign banks into the domestic financial market, slowly the trust of the population in the financial system is being regained. This can be observed by the count of growing savings deposits in the last months, simultaneously followed by a slow decrease of the interest rate on bank credits, and steadily growing foreign currency reserves. The increase of foreign reserves enabled the Central Bank to increase the money supply well above the commodity price level (for about 67% in 9 months; in September of 2001 it reached about 1.5 billion DEM in dinars), so that real **remonetisation** resulted in lowering of the interest rates.

The Central Bank is also successfully undertaking the programme of reconstruction of the banking sector[37], and soon bonds for old saving deposits will be issued. Most of them will enter the secondary exchange. Therefore, instead of privatisation vouchers, public debt bonds will help develop the financial market infrastructure in Yugoslavia. The Central Bank is trying to regulate a transparent and well-organised system of trade, directing the stock exchange to official, and eliminating the unofficial market. However, it is very likely that a large majority of the bond owners will not be interested in investment, but rather in cash, due to a very low level of the standard of living.

New domestic investment cannot be expected with negative total **savings**. Since structural changes are not possible with stagnant industrial production, only inflows of foreign direct investment can initiate a new investment cycle and economic recovery. But Trans-national Corporations require certain conditions for their investment activities. The main conditions for substantial investment increases are:

1. Political stability, both in FRY and all over the Balkans;
2. Sound macro-economic policy and a resolute approach in reform realisation;
3. Consistent and transparent law regulations, with efficient protection of creditors;
4. Reduced level of corruption, illegal activities and risk of investment;
5. Social stability;
6. Decreased risk of investment, by reduction and rescheduling of the foreign debt.

Developing stable conditions for an active capital market is necessary for revival of investment activities. Of course, in the long run, only **domestic savings** can be a reliable source of investment that results in a steady economic growth.

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[36] Of about 1.4 billion DEM approved at the doners' conference, in the first nine months of 2001 only about 330 million DEM came into the country.

[37] Although not all of the elements of this programme are known, the situation diagnosis (that is, the magnitude and location of potential losses of the banking sector), and the main instruments of the sanation (main types of institutional arrangements) are presented in *MAP 6/2001*.

6. Conclusions

6.1 Trade liberalisation effects in 2001

The latest data[38] show that in the first nine months of 2001, Yugoslav exports to EU increased by 18% as a consequence of the preferential status approved by the EU.

However, cumulative exports are not increasing so rapidly at all. In the first seven months of 2001, cumulative exports amount to 1022.5 million dollars and are only 1.9% higher than in the same period last year. Cumulative imports in the first seven months amount to 2525 million dollars and are 10% higher, so that the foreign trade deficit of 1495.5 million dollars is 16.2% higher than in the same period last year.

The new conditions of trade liberalisation influenced notable export re-orientation, despite the stagnancy of total exports. Thus exports to Germany and Italy are increasing, and the absolute value of trade with Bosnia and Herzegovina, FYR Macedonia, Russian Federation and Greece is declining. Hence the significance of the EU in Yugoslav foreign trade is being confirmed, but so is an inadequate trade structure prior to lifting of the sanctions imposed by the developed world. The previous trade structure therefore showed an indication of constrained earnings of hard foreign currencies, rather than economically optimal trade choices.

In the period of January to July 2001, compared to the same period last year, exports of labour-intensive products increased by the amount that can totally cover the total exports increase. Declined values of exports of agricultural products and basic metals were more than twice covered by the increase of exports of textile, clothes and footwear. On the imports side too, there were significant structural changes in 2001. Imports of manufacturing products are declining, while the imports of fuels are rising (unrefined petroleum and gas).

Decrease of exports of agricultural products, as well as food and tobacco industries, shifting the balance of trade by about 100 million dollars, in addition to the total imports of the energy sector (unrefined petrol and its derivatives, gas and electricity), almost completely explain the total increase of the foreign trade deficit this year (208.5 million dollars).

This year's rather modest export results, despite foreign trade liberalisation, can be attributed to significant real appreciation of dinar. Until July 2001, dinar's rate of exchange for a German mark has increased by 25%, and compared to last July, by about 70%. Thus, despite a very low level of capacity utilisation and liberalisation of export constraints, this large decline in relative competitiveness (relative to neighbouring countries) is the most important factor explaining a slower than expected rate of export revival.

However, internal economic problems, such as inflation caused by parity readjustments, accompanied by social problems (e.g. unemployment rise), and regaining credibility in the domestic financial system, asked for a stable dinar policy as a temporarily higher priority than export revival policy.

[38] According to Federal deputy Prime-minister Labus, at the press conference on October 26, 2001, after the talks with the EU High Commissioner Christopher Patten.

6.2 Possible directions of trade expansion and comparative advantages of FRY

The extent to which the lifting of constraints on Yugoslav foreign trade could influence the economy will depend on many factors. The most important of these are: regulation of legal status of the whole region of FR Yugoslavia, total regional stabilisation, rebuilding the infrastructure, foreign debt arrangements, speed of the reforms, favourable macro-economic policy, efficiency of organisation of the economy, etc.

Even with substantial economic disturbances in the past years, foreign trade deficit was shown to be pretty stable (about two billion dollars a year). On the other hand, it is rather evident that yearly remittance inflow that can be used to finance this deficit, foreign debt servicing and investments amounts to at most 1.5 billion dollars. It is therefore clear that neither economic recovery, nor export expansion, can happen without prior substantial foreign direct investment. FDI should not only cover the gap between domestic savings and investment needs, but also bring about new technologies, organisational skills, new markets and modern know-how. Only solid FDI inflow can help overcome the technological discontinuity that was created by total isolation and the bombing of Serbia in the last decade.

Not until a new matrix of production and trade relationships is established through foreign investment, the rule of law, free factor markets and regional trade liberalisation, can it become clear which direction should the development of FRY's production and exports take.

Judging by the recent foreign trade progress, perspectives for increasing foreign trade value are mostly with the EU, but not with the products that have up to now made the largest share in the Yugoslav exports to the EU. Most of these products (such as fruits and vegetables, non-ferrous metals, iron and steel, cork and wood) are already being exported at a level close to their maximum. Therefore, should the coming years bring a strong export expansion, it will have to include visible changes in the export structure. Considering the traditional significance of the EU market for the Yugoslav economy, it is clear that industrial restructuring and export specialisation of FR Yugoslavia will depend mostly on the development of economic relations with the EU.

Due to a high level of similarity of their export structures, the neighbouring countries actually represent the main Yugoslav competitors on the EU markets, and their relative competitiveness continues to grow. Owing to earlier economic relations with the former Yugoslav republics, some increase in trade with them can be expected, especially in the framework of the regional integration. Above-average trade increase could be expected with some consumption commodities, e.g. chemical products, food, etc.

In the short run, an increase in FRY exports of labour-intensive industries can be expected. In the long run, the main potentials for Yugoslav export expansion seem to be in the groups of products such as Telecommunication Apparatus and Equipment (77), Road Vehicles (78) and Other Transport Equipment (79) for which there are already production capacities and qualified labour in Yugoslavia. The condition is, of course, that successful privatisation of large firms in these sectors of production be carried out.

Human capital, with a large proportion of the working population holding advanced educational qualifications, high unemployment (competition), and very low wages, still remain the main comparative advantage of the Yugoslav economy.

ANNEX

Hirchmann index of export concentration:

$$\mathbf{H_j} = \left[\sqrt{\Sigma(\mathbf{x_i} / \mathbf{X})^2} - \sqrt{1/206} \right] / \left(1 - \sqrt{1/206}\right)$$

where: j=country; x_i=value export of product i; X= total exports; 206=number of products in three-digit Standard International Trade Classification with export value> $100,000

Table 1.1: Ten product groups with highest export value (in 000 $)

1991			1997			1998			1999		
Code	**Value**	**%**	**Code**	**Value**	**%**	**Code**	**Value**	**%**	**Code**	**Value**	**%**
842	291477	6.20	**635**	187290	7.91	**931**	437342	15.30	**684**	90913	6.08
682	285547	6.07	**682**	176158	7.44	**673**	184323	6.45	**058**	86853	5.80
841	225620	4.80	**673**	162112	6.85	**682**	159655	5.59	**682**	75659	5.05
851	176553	3.75	**684**	107504	4.54	**058**	99824	3.49	**931**	68796	4.59
673	167354	3.56	**058**	81751	3.45	**684**	90121	3.15	**625**	49599	3.31
773	113394	2.41	**248**	60700	2.56	**841**	87070	3.05	**248**	47185	3.15
684	112482	2.39	**571**	58293	2.46	**542**	81515	2.85	**841**	36811	2.46
784	111389	2.37	**542**	58257	2.46	**842**	79871	2.79	**542**	36072	2.41
058	98066	2.08	**625**	54554	2.30	**652**	73012	2.55	**662**	35908	2.40
625	97385	2.07	**652**	51959	2.19	**248**	65093	2.31	**851**	31130	2.08
Total	1679267	35.7		998578	41.17		1358636	47.53		558926	37.32
Hirchmann indices		**0.078**			**0.107**			**0.142**			**0.081**

Table 1.2 Twenty product groups with highest, and twenty with lowest, export rate of growth in 1998 comparing with 1991 (values in 000 $ and rates in %)

SITC code	1991	1998	%	SITC code	1991	1998	%
931	3749	437342	11665.6	671	35088	3132	8.9
882	118	2012	1705.1	723	38704	3334	8.6
652	4883	73012	1495.2	351	87724	7237	8.2
335	796	8575	1077.3	266	2828	226	8.0
111	239	2449	1024.7	971	14924	1190	8.0
792	3990	32625	817.7	785	12800	964	7.5
022	330	2489	754.2	653	55601	4125	7.4
421	3830	19766	516.1	041	79975	5882	7.4
024	275	1264	459.6	524	2240	159	7.1
288	1710	5067	296.3	574	8423	533	6.3
322	1552	4556	293.6	752	5667	276	4.9
591	950	2391	251.7	679	26256	1128	4.3
554	1407	3383	240.4	783	21880	599	2.7
344	2107	4912	233.1	011	22882	512	2.2
044	23895	49268	206.2	061	85341	1869	2.2
232	6757	13320	197.1	333*	73808	0	0.0
431	1596	3114	195.1	761*	14145	0	0.0
791	3564	6836	191.8	285*	12228	0	0.0
674	14559	27917	191.8	593*	4701	0	0.0
714	679	1288	189.7	672*	3326	0	0.0

**Exports of less than 100.000 USD*

Table 2.1 Total value and structure (by SITC) of FRY's foreign trade in goods , 1999-2001, mil.$

		1990	1991	1992	1995	1996	1997	1998	1999	2000	I-VII 2001
	Total exports in USD mil.	**5816**	**4704**	**2539**	**1531**	**1841**	**2677**	**2858**	**1498**	**1723**	**1023**
0	Food and live animals	7.1	11.0	17.2	23.2	22.0	10.5	11.7	19.4	14.8	11.8
1	Beverages and tobacco	0.7	1.4	1.5	4.3	5.5	2.9	1.5	1.5	0.9	0.8
2	Crude materials, inedible, except fuels	4.6	3.2	3.6	5.6	4.7	4.8	4.4	5.5	7.1	5.9
3	Mineral fuels, lubricants and related materials	3.4	4.4	5.8	2.9	2.1	2.1	2.7	2.4	0.3	2.0
4	Animal and vegetables oils and fats	0.1	0.1	0.1	1.9	0.5	0.8	0.8	0.6	1.0	0.7
5	Chemicals	9.9	9.2	7.0	4.1	9.1	12.0	10.0	9.7	8.4	6.5
6	Manufactured goods classified by materials	27.3	27.2	25.4	29.6	33.1	34.0	29.9	31.1	36.7	38.4
7	Machinery and transport equipment	24.8	19.9	17.2	15.5	12.2	8.9	10.2	12.3	12.5	13.1
8	Miscellaneous manufactured articles	21.4	23.2	21.7	9.5	9.1	16.1	13.5	14.8	15.7	18.6
9	Commodities and transactions, n.e.s.	0.6	0.4	0.5	3.4	1.8	8.2	15.3	2.9	2.7	2.2
	Total imports in USD mil.	**7460**	**5548**	**3859**	**2666**	**4102**	**4826**	**4849**	**3296**	**3711**	**2515**
0	Food and live animals	9.6	7.7	7.5	15.2	12.2	12.1	10.1	8.5	7.5	8.1
1	Beverages and tobacco	0.5	0.8	0.5	2.5	0.9	1.7	1.0	1.2	1.4	2.1
2	Crude materials, inedible, except fuels	6.5	5.0	6.2	6.0	10.4	8.3	6.4	7.0	5.9	4.3
3	Mineral fuels, lubricants and related materials	15.9	18.4	22.7	7.0	13.9	15.9	15.8	17.8	20.1	22.5
4	Animal and vegetables oils and fats	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
5	Chemicals	11.4	13.4	16.4	22.4	14.3	13.2	14.0	15.7	15.0	15.3
6	Manufactured goods classified by materials	15.0	14.2	15.8	21.5	19.8	20.5	21.5	20.5	20.8	19.0
7	Machinery and transport equipment	24.6	23.3	18.8	16.9	19.4	17.9	20.6	21.7	22.1	20.6
8	Miscellaneous manufactured articles	10.1	10.5	7.7	8.0	7.9	7.7	7.9	6.5	6.4	6.8
9	Commodities and transactions, n.e.s.	6.0	6.5	4.1	0.4	0.9	2.2	2.4	0.8	0.5	1.0

Figure 2.1

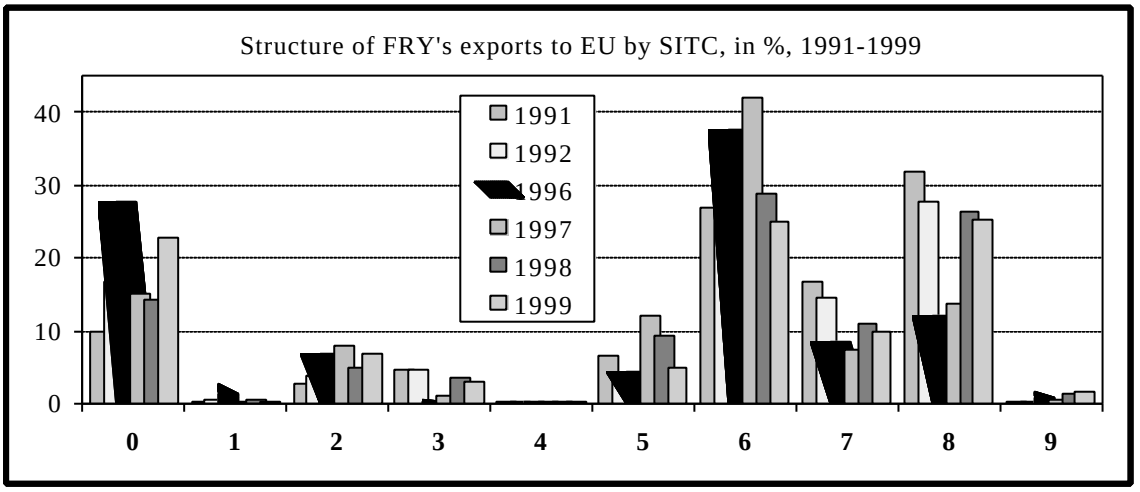

Figure 2.2

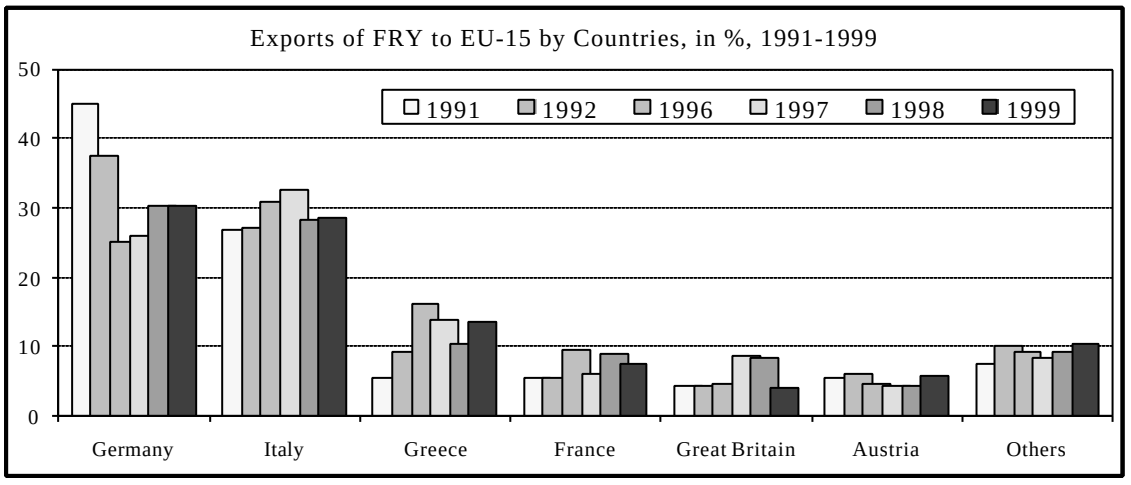

Figure 2.3

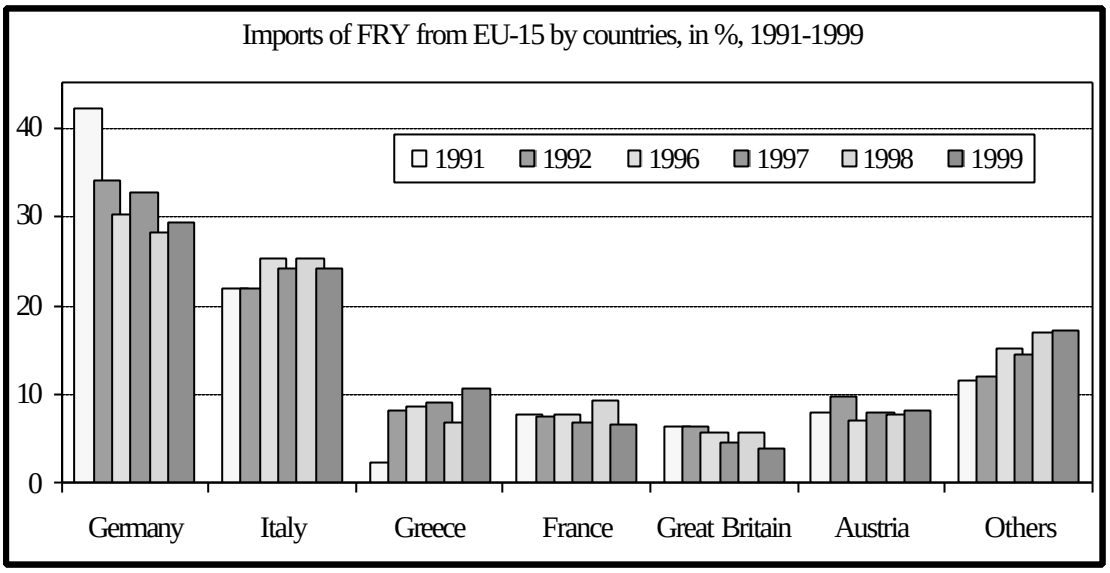

Table 2.2. Ten most significant trade divisions in the trade with the EU, in 1998

Exports				Imports			
Rank and name of trade division	Value (mil. $)	% of exports to FYRs	% of total exports of divisions	Rank and name of trade division	Value (mil. $)	% of imports to FYRs	% of total imports of the divisions
1. Clothing (84)	207.7	19.0	87.6	1. General industrial machinery (74)	146.4	7.9	77.9
2. Fruits and vegetables (05)	136.5	12.5	83.2	2. Machinery specialised for particular industries (72)	124.6	6.7	73.3
3. Iron and steel (67)	96.5	8.8	41.1	3. Road vehicles (78)	113.7	6.1	62.5
4. Non ferrous metals (68)	89.5	8.2	31.1	4. Petroleum and petroleum products (33)	80.8	4.4	19.6
5. Rubber manufactures, n.e.s. (62)	51.9	4.7	62.5	5. Telecommunication apparatus and equipment (77)	80.7	4.4	53.5
6. Organic chemicals (51)	44.2	4.0	65.0	6. Medical and pharmaceutical products (54)	71.2	3.8	61.4
7. Footwear (85)	42.3	3.9	78.3	7. Chemical materials and products, n.e.s. (59)	67.6	3.7	77.7
8. Plastics in primary forms (57)	40.7	3.7	65.6	8. Clothing (84)	65.3	3.5	73.4
9. Petroleum and petroleum products (33)	36.4	3.3	59.7	9. Organic chemicals (51)	63.8	3.4	56.5
10. Cork and wood (24)	36.2	3.3	51.0	10. Electrical machinery, apparatus and appliances (76)	63.3	3.4	71.1
Total 1-10	781.9	71.5		Total 1-10	877.4	64.7	
Total	1094.1	100	38.3	Total	1855	100	38.3

Figure 2.4

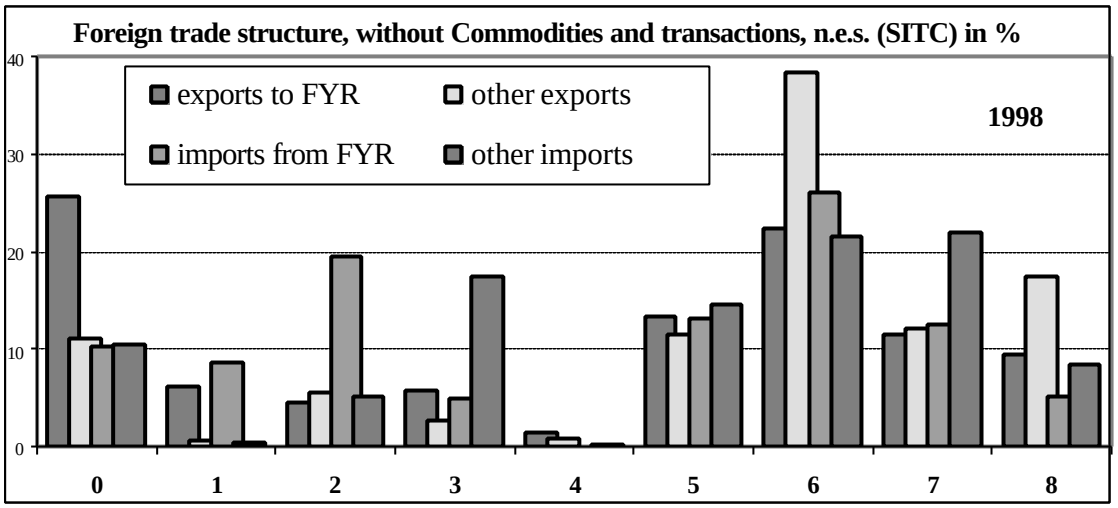

Table 2.3 : Ten most significant trade divisions in trade with the FYRs, in 1998

Exports				**Imports**			
Rank and name of trade division	Value (mil. $)	% of exports to FYRs	% of total exports of divisions	**Rank and name of trade division**	Value (mil. $)	% of imports to FYRs	% of total imports of divisions
1. Special transactions (93)	402.9	49.8	92.2	1. Special transactions (93)	91.5	17.3	77.6
2. Cereals and cereal preparations (04)	58.0	7.2	63.0	2. Cork and wood (24)	61.6	11.6	94.8
3. Non-ferrous metals (68)	39.4	4.9	13.7	3. Paper paperboard and articles of paper pulp (64)	29.0	5.5	19.0
4. Medical and pharmaceutical products (54)	22.8	2.8	26.8	4. Fruits and vegetables (05)	28.5	5.4	18.4
5. Road vehicles (78)	21.7	2.7	46.3	5. Textile yarns, fabrics, made up articles and related products (64)	25.7	4.8	5.3
6. Miscellaneous manufactured products (89)	17.7	2.2	43.1	6. Beverages (11)	24.2	4.6	67.3
7. Petroleum and petroleum products (33)	16.5	2.0	27.1	7. Electrical machinery, apparatus and appliances (77)	23.4	4.4	15.5
8. Meat and meat preparations (01)	15.8	2.0	78.9	8. Iron and steel (67)	19.8	3.7	15.5
9. Iron and steel (67)	15.7	1.9	6.7	9. Road vehicles (78)	19.8	3.7	10.9
10. Manufactures of metal, n.e.s. (69)	15.3	1.9	24.6	10. Petroleum and petroleum products (33)	19.7	3.7	4.8
Total 1-10	519.8	77.4		Total 1-10	343.3	64.7	
Total	808.9	100	28.3	Total	530.6	100	10.9

Figure 2.5

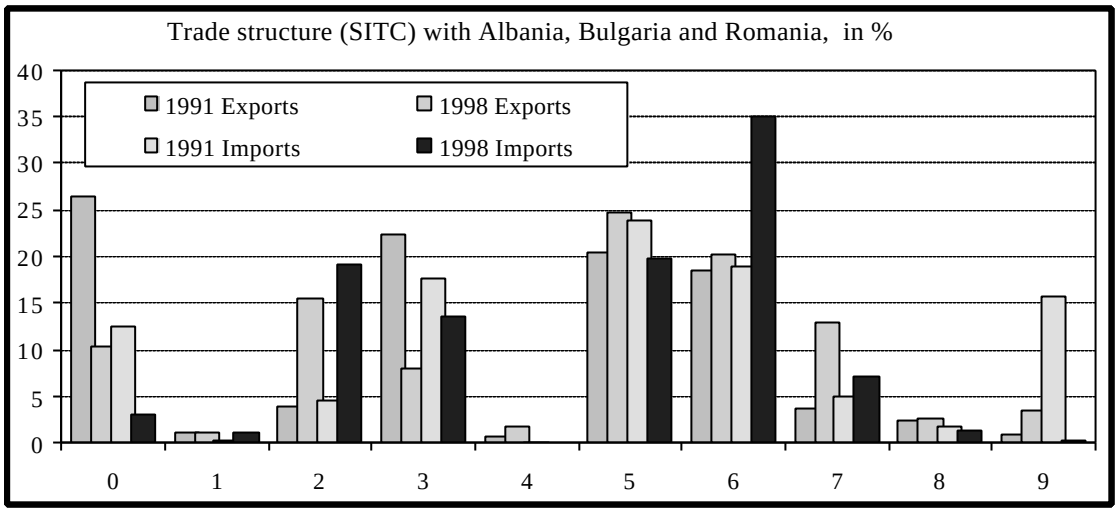

Table 2.4 Ten most significant trade divisions in the trade with the Albania, Bulgaria and Romania, in 1998

Exports				**Imports**			
Rank and name of trade division	Value (mil. $)	% of exports to FYRs	% of total exports of divisions	Rank and name of trade division	Value (mil. $)	% of imports to FYRs	% of total imports of divisions
1. Non-ferrous metals (68)	11.3	17.8	3.4	1. Iron and steel (67)	36.9	20.8	28.9
2. Metalliferous ores and metal scrap (28)	5.3	8.4	66.7	2. Metalliferous ores and metal scrap (28)	20.9	11.7	22.2
3. Inorganic chemicals (52)	4.3	6.8	23.8	3. Petroleum and petroleum products (33)	18.4	10.3	4.5
4. Non-metallic mineral manufactures, n.e.s. (66)	3.9	6.2	9.4	4. Inorganic chemicals (52)	11.8	6.6	19.7
5. Telecommunic. apparatus and equipment (77)	3.8	6.1	6.7	5. Non-ferrous metals (68)	8.8	5.0	16.4
6. Medical and pharmaceutical products (54)	3.6	5.7	4.2	6. Plastics in primary forms (57)	8.3	4.6	7.4
7. Electric energy (35)	3.2	5.1	46.0	7. Crude fertilisers and crude minerals (27)	7.9	4.5	19.4
8. Organic chemicals (51)	3.2	5.1	4.7	8. Organic chemicals (51)	6.4	3.6	5.7
9. Chemical materials	2.9	4.6	10.8	9. Paper	6.0	3.4	3.9

and products, n.e.s. (59)				paperboard and articles of paper pulp (64)			
10. Cereals and cereal preparations (04)	2.9	4.5	3.1	10. Electric energy (35)	5.5	3.1	92.4
Total 1-10	44.4	60.3		Total 1-10	131.0	73.5	
Total	73.7.9	100	2.6	Total	178.0	100	10.9

Table 3.1 Gravity model of FRY exports

Regressor	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5 (REM)
$GDP_{i,t}$	0.8476 (9.1417)*	0.8459 (9.3729)	0.8388 (9.0838)	0.8319 (9.3345)	0.8322 9.2158)
$GDPPC_{FRY,\,t}$	1.2520 (3.2146)	1.2935 (3.5961)	1.4082 (3.7471)	1.4492 (4.1412)	1.4464 (4.1316)
$DIST_{FRY,i}$	-2.4489 (-6.940)	-2.4557 (-7.3027)	-2.5471 (-7.4062)	-2.5683 (-7.7470)	-2.5658 (-7.7379)
$CB_{FRY,i}$	0.7559 (1.9553)	0.8598 (2.4254)	0.7015 (1.8236)	0.7869 (2.2248)	0.7885 (2.2298)
EU	0.8347 (1.4744)	0.7324 (1.7471)	0.8714 (1.5389)	0.8326 (1.9955)	0.8305 (1.9907)
SEE	0.2727 (0.6729)**	-	0.2399 (0.5918)**	-	-
CEFTA	0.0084 (0.0196)**	-	-0.0304 (-0.0707)**	-	-
FYR	2.7293 (4.5667)	2.5331 (5.7030)	2.6337 (4.4407)	2.4598 (5.5363)	2.4613 (5.5415)
CRO	-4.2965 (-6.0669)	-4.3321 (-6.3085)	-4.2837 (-6.0346)	-4.2939 (-6.2258)	-4.2947 (-6.2299)
V97	0.4698 (1.4765)**	0.3554 (1.2904)**	-	-	-
V98	0.5421 (1.6955)	0.4266 (1.5389)**	-	-	-
V99	0.2205 (0.6969)**	-	-	-	-
Adjusted R^2	0.670	0.676	0.668	0.673	0.674
BP test (LM μ)- individual effects	19.304	18.882	17.520	17.882	-
BP test (LM λ) – time effects	2.077**	1.068**	0.247**	0.264**	-
Standard error of estimate	1.1597	1.1478	1.1627	1.1535	1.1529
Sum of squared residuals	129.1057	130.4379	133.8395	134.3780	131.150
Durbin-Watson statistic	1.8735	1.8329	1.8054	1.7850	1.7867
Degrees of freedom	96	99	99	101	101

* *Numbers in parentheses are* t *values.*

** Insignificant values at the 1% and 5% level.

Table 3. 2 Analysis of residual variance

Source	Sum of Squares	Degrees of freedom	Mean square	F -statistic	Signif. level
Individual effects	66.368	26	2.553	3.140	0.00005
Time effects	1.374	3	0.458	0.563	0.64080
Joint effects	67.742	29	2.336	2.874	0.00012
Error	63.408	78	0.813		
Total	131.150	107			

Table 3.3 Yugoslav exports and actual / potential exports ratio

- in million US$

	1996		1997		1998		1999	
	Exports	A/P*)	Exports	A/P	Exports	A/P	Exports	A/P
European Union	586.4	0.94	838.5	0.85	1098.0	0.98	548.7	0.95
Former Yugoslav Republics	622.1	1.80	764.3	1.27	808.9	1.07	526.9	1.31
Southeast Europe	268.7	1.80	289.6	1.21	255.4	0.96	156.1	1.15
CEFTA	210.9	0.85	236.6	0.59	229.6	0.51	144.9	0.62

**) Actual/Potential exports*

Table 3.4 Yugoslav exports and actual / potential exports ratio - European Union

- in million US$

	1996		1997		1998		1999	
	Exports	A/P*)	Exports	A/P	Exports	A/P	Exports	A/P
Italy	180.6	0.82	272.3	0.78	310.8	0.79	157.26	0.78
Germany	146.4	0.67	218	0.63	335.5	0.85	166.69	0.82
Greece	94.9	5.32	115.8	7.59	115.4	6.60	73.92	8.14
France	55.3	1.70	52	1.00	98.4	1.66	41.08	1.35
Great Britain	27.5	1.17	71.8	1.90	92.1	2.16	22.07	1.01
Austria	26.7	0.34	37.7	0.30	49.7	0.35	31.6	0.43
Holland	21.4	2.07	32.6	1.96	34.6	1.81	19.42	1.97
Belgium	19.7	2.33	13.5	1.00	19.6	1.28	9.2	1.16
Ireland	4.0	3.05	4.5	1.82	3.4	1.27	1.89	1.32
Sweden	3.6	1.00	3.6	0.64	6.9	1.15	4.73	1.43
Denmark	2.6	0.44	4.6	0.47	8	0.95	4.63	0.81
Finland	2	1.43	1.4	0.60	0.7	0.24	4.63	3.31
Spain	1.1	0.20	10.3	1.13	22.2	2.17	9.58	1.77
Luxembourg	0.5	0.73	0.5	0.46	0.7	0.68	1.98	3.09
Portugal	0.001	0.001	0.13	0.1	4.94	3.25	0.73	0.93

**) Actual/Potential exports*

Table 3.5 Yugoslav exports and actual / potential exports ratio

-CEFTA, South-East Europe, former Yugoslav republics- - in million US$

	1996		1997		1998		1999	
	Exports	A/P*)	Exports	A/P	Exports	A/P	Exports	A/P
Bosnia & Herzegovina with Republic Srpska	380.5	2.33	447.4	1.42	502.7	1.19	302.6	1.30
FYR Macedonia	211.8	3.04	221.2	2.03	251.2	2.04	174.9	2.80
Bulgaria	62.9	2.60	38.0	0.98	35.5	0.89	18.1	0.94
Romania	62.5	2.71	47.0	1.28	37.7	0.95	29.3	1.52
Hungary	29.7	0.38	60.0	0.48	55.9	0.39	30.8	0.41
Slovenia	28.8	0.27	37.2	0.22	44.7	0.23	41.7	0.41
Czech	14.4	3.09	19.3	2.61	19.5	2.33	14.9	3.58
Turkey	12.0	1.03	26.8	1.39	10.1	0.44	3.7	0.31
Albany	6.7	2.85	2.0	0.57	0.8	0.19	0.3	0.14
Slovakia	6.5	1.04	15.1	1.50	17.2	1.48	5.1	0.84
Poland	6.2	1.02	20.0	2.04	19.1	1.68	5.0	0.82
Croatia	1.1	0.16	58.6	5.56	10.4	0.86	7.7	0.87

**) Actual/Potential exports ratio*

Table 4.1 Groups of products with comparative advantages in trade with EU

RCA existed in the whole period	**Increase of RCA in 1996-1999**	**Lost RCA from the period 1991-1992**	**Adj. RCA (elim. deficit)**
Non ferrous metals (68)	Clothing (84)	Fertilisers (other than crude) (56)	
Rubber manufactures, n.e.s. (62)	Travel goods (83)	Pulp and waste paper (25)	Live animals (00)
Eletric energy (35)*	Footwear (85)	Metalliferous ores and metal scrap (28)**	Feeding stuff for animals (not including un-milled cereals) (08)
Cork and wood (24)	Furniture and parts thereof (82)	Meat and meat preparations (01)	Oil seeds and oleaginous fruits (22)
Hides, skins and fur undressed (21)	Power generating machinery and equipment (71)		Leather, leather manufactures, n.e.s., and dressed fur skin (61)
Fruits and vegetables (05)	Live animals (00)		Wood and cork manufactures (excluding furniture) (63)
			Iron and steel (67)

* Since 2000 electrical power is no more an export product of FRY, because of the revealed problems in its production and distribution.

** In FRY the copper resources have been exhausted, so that in the last years it is imported for manufacturing.

Table 4.2 Common and specific RCA in exports to selected EU countries

Common RCA	Specific RCA in trade with EU countries				
	Greece	**Italy**	**Germany**	**Great Britain**	**France**
Fruits and vegetables (05)*	Meat and meat preparations (01)	Live animals (00)	Wood and cork manufactures (excluding furniture) (63)	Feeding stuf animals (not including unmilled cereals) (08)	Furniture and parts thereof (82)
Cork and wood (24)	Crude rubber (including syntetic and reclaimed) (23)	Tobacco and manufactures (12)	Furniture and parts thereof (82)	Iron and steel (67)	
Rubber manufactures, n.e.s. (62)**	Inorganic chemicals (52)	Hides, skins and fur undressed (21)			
Non ferrous metals (68)	Non-metalic mineral manufactures n.e.s. (66)				
Clothing (84).					

* Except in trade with Greece.

** Except in trade with Austria.

Table 4.3 Groups of products in which FRY or neighbouring countries have RCA

FRY most revealed comparative advantages in trade with neighbouring countries	**Neighbouring countries most revealed comparative advantages in trade with FRY**
Meat and meat preparations (01)	Cork and wood (24)
Cereals and cereal preparations (04)	Textile fibres and their wastes (26)
Feeding stuff for animals (not including unmilled cereals) (08)	Crude fertilisers and crude minerals (28)
Hides, skins and fur undressed (21)	Electric energy (35)
Crude animals and vegetables n.e.s. (29)	Plastics in primary forms (57).
Animal oils and fats (41)	
Fixed vegetable oils and fats (42)	
Animal and vegetable oils and fats, processed (43)	
Medical and pharmaceutical products (54)	
Rubber manufactures, n.e.s. (62)	
Travel goods (83)	
Clothing (84)	
Footwear (85)	

Table 4.4 RCA in sectors or groups of products (two-digit SITC)

	Neighbouring country's RCA	FR Yugoslavia's RCA	High level of IIT
Bulgaria	almost all groups in sectors 0, 1, 3, 5, 7, 8	22, 24, 28, 29, 42, 68, 69, 84, 85	51, 68
Rumania	22, 27, 33, 52, 56, 57, 64, 67	04, 08, 54, 59, 62, 66, 68, 79	65, 66, 74
Bosnia and Herzegovina	24, 32 and 63	sectors 0*, 4, 6**, 8, 54, 55	67, 74, 77, 78
Croatia	03, 33, 66, almost all groups in sectors 5 and 7	05, 59, 62, and 69	
Macedonia	05, 11, 12, 26, 27, 53, 55, 56, 57,58, 64, 65, 67	sectors 0***, 8**** groups 21, 23, 24, 4, 51, 59, 62, 63, 68, 71,72,73,74, 78,	51, 52, 54, 59, 64, 66, 69, 77, 78, 81

* excluding 03
** excluding 61 and 63
*** except 00 and 05
**** except 81

Figure 5.1. Indices of real wage and wage in DEM, ind. production and productivity

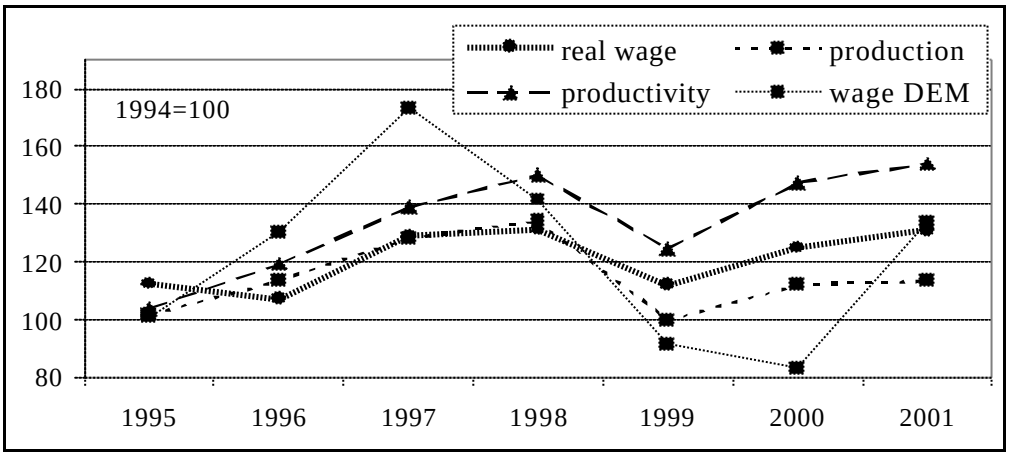

Figure 5.2. Frequencies of wages around the mean level (half st. dev. intervals)

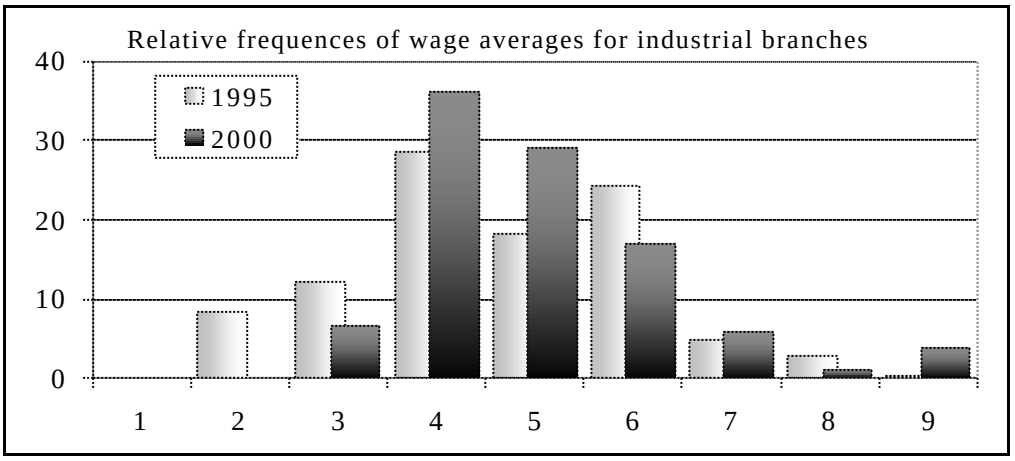

Figure 5.3. Average real wage and industrial productivity (production / employment)
- standardised series (zero mean, s =1)

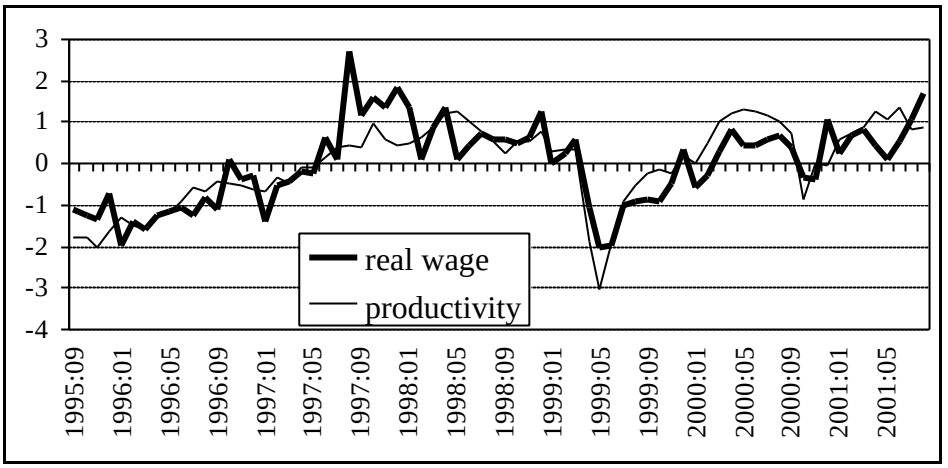

Figure 5.4. Exports in million of dollars and unit labour cost (real wage / productivity)
- dual scale -

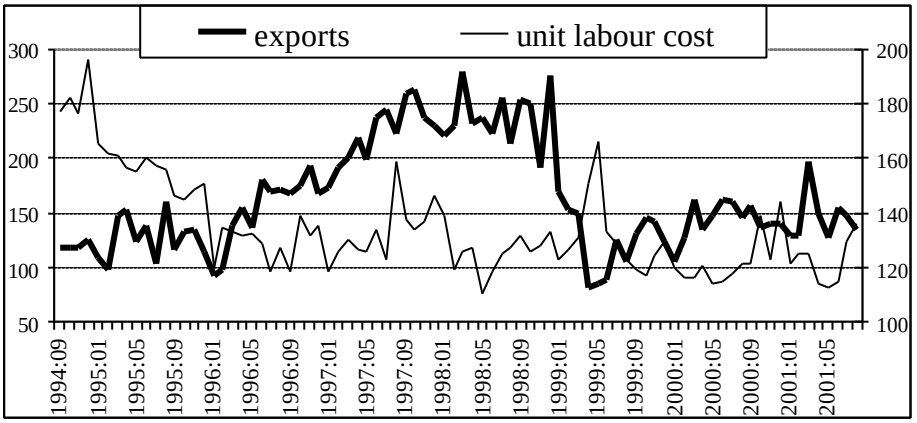

Table 5.1 Regression results

Dependent Variable: EXPORT Sample: 1994:09 2001:08 Included observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCHRATE	-3.380004	0.317912	-10.63189	0.0000
REALWAGE	1.728717	0.162900	10.61212	0.0000
UNITLABORCOST	-1.851360	0.185475	-9.981747	0.0000
SANCTIONS	-14.49260	6.994654	-2.071953	0.0415
C	155.3743	34.61275	4.488933	0.0000

R-squared	0.751720	Mean dependent var.	164.0202
Adjusted R-squared	0.739149	S.D. dependent var.	49.81105
S.E. of regression	25.44028	Akaike info criterion	9.368223
Sum squared resid	51129.41	Schwarz criterion	9.512915
Log likelihood	-388.4654	F-statistic	59.79738
Durbin-Watson stat	1.540570	Prob(F-statistic)	0.000000

Breusch-Godfrey Ser. Correlation LM Test: 4.10966 ADF Test Statistic: -8.332137
White Heteroskedasticity Test: Obs*R-squared 12.28846

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