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European Integration, Regional Specialization and Location of Industrial Activity in Bulgaria

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1 Introduction

The integration drive and its orientation within the different periods of Bulgarian development have had a definitive impact on regional dynamics and spatial patterns. The relatively small size of the country and the marked openness of its economy determine the extreme importance of the integration processes for the country's regional characteristics.

The implications of the former integration of the country, namely an extreme dependence of the national economy on CMEA, are still tangible. These are related, above all, to the development of heavy and strongly material-intensive industries despite a background of limited national energy and ore resources, and to technological backwardness because of the system's relative isolation from global competition. The result has been an accelerated process of territorial concentration in the eastern direction and the emergence of a national periphery along the western and southern borders of the country.

In the 90s the country underwent fundamental socio-economic changes, related to the transition to a market economy and adaptation to the requirements of the European and world markets. The new economic orientation towards the EU imposed different standards for the competitive capacities and the survival of the national industries.

The past ten years of economic transition and EU-orientation were a period that needs to be evaluated from the point of view of mobility of economic activities and possible re-location of industries, the behavior of the individual regions, the dynamics of regional discrepancies and the stability of the territorial structures. During that period, Bulgaria passed through different economic crises and phases in its relations with the EU and the individual regions manifested different paces of transformation. It is necessary to assess the driving forces in the processes of regional development and the new factors that produce regional differences.

The objective of this paper is to study the new trends of European integration, regional specialization and location of industrial activities and their spatial implications. The territorial levels and the units of analysis are the following: six planning regions at the NUTS 2 level and 28 administrative territorial units – districts – (NUTS 3 level).

The structure of the paper outlines the main research issues of the study. The first section gives an overview of the data set, definitions, sources and time period. The unique database for the transition period at the NUTS2 and NUTS3 level, collected in the framework of this study (see Appendix 1), enables analyses and estimations to be made that test the main research hypotheses.

The second chapter presents the main driving forces for increasing economic integration with the EU, provides evidence about trade liberalization and increasing openness realized by growth in the trade with the EU and inward FDI flows.

The patterns of regional specialization and industrial location before and after the liberalization of trade with the European Union are other important parts of the paper. A descriptive analysis, using different specialization and concentration indices (Herfindahl index, Gini coefficients, Balassa-Hoover index), depicts the

changes in regional and manufacturing structures and disparities. The trend model estimations elucidate the changes in regional specialization and geographical concentration.

The following sections are devoted to econometric estimations of the impact of economic integration on the regional wage structure and on regional specialization and growth.

The winning and losing regions, which have emerged from the unevenly distributed economic integration gains, as well as the policies needed to mitigate the great regional imbalances, are described in the last chapter.

Some of the enclosed appendixes, such as summary statistics, tables, maps and graphs, contribute to a better understanding of the research issues.

Sections 1, 2, 3, 4, 5, 8 and 9 were developed by Julia Spiridonova, National Centre for Regional Development, Sofia, Bulgaria.

Sections 6 and 7 and the estimations of changes in regional specialization and concentration were developed by Simonetta Longhi.

2 The Data

Data collection and the construction of a national data set containing regional indicators covering the period before and after trade liberalization with the European Union was crucial for fulfillment of the objectives of this national study and of the entire project. The time period comprised 1990-1999 (for several types of data, 2000 was included as well). The most important level was that of NUTS 3 regions and, preferably, NUTS 2 regions.

The bulk of the data was collected from the publications of the National Statistical Institute Central Statistical Office (CSO), both traditional and electronic. Other sources have been used as well. These were, for instance, the Foreign Investments Agency (concerning the indicators about the structure, volume and regional distribution of foreign investments), the National Employment Office (concerning regional unemployment levels), the Bulgarian National Bank (exchange rates of the US Dollar, etc.), the World Bank (production output indicators characterizing exports), etc.

The data set includes total employment and employment by branches of economic activity, unemployment rate, population by age groups, wage rates, FDI, GDP, number of domestic companies, number of companies with foreign capital, number of students, R&D personnel, number of telephone posts, vehicles, road network density and public expenditure, filled out at the NUTS 2 and NUTS 3 levels. The list of regional indicators, data definitions, time periods and data sources is presented in Appendix 1.

Data collection involved overcoming significant problems. One of them was related to the transformations carried out during the transition:

- One of these changes was the introduction of the definitions proposed by EUROSTAT to harmonize the statistical registration and definitions. In 1997 the new Statistical Classification of Economic Sectors (NACE

Rev.1), the new National Product Nomenclature (CPA) and the new Nomenclature of Industrial Production were introduced in replacement of the Classification of Branches of National Economy (CBNE'86) from 1986;

- The change in the number and spatial scope of the regions since 1999. The administrative regions at the NUTS 2 level were dismantled and 28 NUTS 3 level districts replaced them. In 2000, six planning regions (NUTS 2 level) were created for planning purposes;
- The inability to compare the indicators for the production output of the territorial units for the period 1990-1999 because of the high inflation rate and the fact that these indicators were not being recalculated with comparative prices on regional level terms.

Collection of data on employment posed the greatest challenge and required the greatest effort, since these data bear the direct impact of the above-described transformations. To this end, data based on primary information from municipalities (NUTS 4) was used. The resolution of the second problem, namely the transition from CBNE'86 to NACE, was initially carried out through expert estimates at the NUTS 4 level. In order to ensure a higher level of reliability, primary information from companies was used in the process of transforming the data. This appeared to be unavoidable in certain cases, mainly for the machine tools engineering and metallurgy sectors, since these sectors are represented in NACE by several lines. It is worth noting that these re-calculations would not have been possible without the assistance rendered by the National Statistical Institute, since it was the first time that detailed information at the NUTS 3 level for the period 1990-1999 had been defined.

With respect to the compatibility of the value indicators (average earnings, GDP and public expenditure), the mean exchange rates for the respective years are presented with a view to their transformation into Euros or USD.

Regional data for the indicators of GDP have existed since 1995. For the period 1995-1998, regional data about GDP in PP$ (according to EUROSTAT) are presented as well.

The indicator Public Expenditure is comprised only of public investments.

The source of information for the analysis of export and import flows was the database of the Foreign Trade Division of the National Statistical Institute of Bulgaria. Based on the existing data, the period 1992-1995 has been presented according to the Harmonized System (HS) of two-digit chapters in material units. For the period 1995-1999, the information has been presented according to both systems – HS and S²TC 2 digits – however in monetary value (USD).

The regional disparities in the individual indicators have been estimated by means of the **Summary statistics** and are shown in Appendix 2. Their analysis and comparison for the defined temporal period of 1990-1999 provides an opportunity to identify trends and to assess the impact of the processes of European integration on them.

3 Economic integration with the European Union since 1990

3.1 Trade liberalization and trade performance

Increasing economic integration with the EU is expected to impact economic growth and to bring about positive transformations of the country's economy. The main channels through which economic integration can affect growth are the accumulation of physical capital and knowledge. Economic integration has the advantage of producing a potential improvement in the investment climate for both domestic and foreign investors. Macro-economic stability, liberalization of trade, restructuring in the production sector and promotion of the conditions for penetration of foreign direct investments prove to be among the key factors among what are expected to be the country's benefits from membership in the Union. Enlargement will be associated, however, with sectoral and regional variations and new spatial patterns. Currently there is some evidence of new spatial development and increasing regional disparities.

3.1.1 Trade agreements including the Europe Agreement[1] Bulgaria became a member of the World Trade Organization in December 1996 and applies a liberal foreign trade regime that meets the WTO requirements.

In March 1993 the country signed the Europe Agreement of Association, which entered into force on 1 February 1995. The Interim agreement on Trade and Trade Related Matters covering trade components entered into force on 31 December 1993. In accordance with the Agreement of Association, customs duties between Bulgaria and EU countries on industrial goods are being dismantled and should be completely eliminated by 2002 at the latest.

Since 1993, according to the Agreement between Bulgaria and the European Free Trade Association, preference in trade with EFTA countries (Switzerland, Norway, Iceland and Liechtenstein) is granted on almost the same terms and conditions as those pursuant to the Europe Agreement.

Bulgaria has been a member of the Central European Free Trade Agreement since July 1998. The trade component of this agreement came into force on 1 January 1999. In accordance with the above agreement, Bulgaria embarked on a process of liberalization of trade of industrial and agricultural goods with CEFTA countries (Poland, the Czech Republic, Slovakia, Hungary, Romania and Slovenia), which was completed by 1 January 2002.

Free trade agreements with Turkey and Macedonia came into force on 1 January 1999 and 1 January 2000, respectively. Customs duties with Turkey will be reduced gradually until 2002 and with Macedonia until 2005.

3.1.2 Redirection of trade towards the EU Since 1990 there has been a definitive reorientation of Bulgaria's foreign trade patterns towards the EU. Its share in Bulgaria's total trade turnover has been on the increase each year during

[1] See Bulgaria 2001 Business Guide, Bulgarian Foreign Investment Agency and Bulgarian International Business Association, August 2001, p.16.

the period of 1990-1999: it grew from 22 % in 1989 to 32 % in 1990 and exceeded 50 % in 1999 (refer to the Table below).

Year	Share of exports in GDP %	EU share in exports %	EU share in imports %
1990	23.26%	8.42%	17.94%
1991	42.27%	17.40%	26.08%
1992	45.58%	28.86%	34.90%
1993	34.41%	29.84%	32.12%
1994	41.14%	37.54%	36.84%
1995	40.86%	37.60%	36.51%
1996	49.17%	38.82%	33.26%
1997	48.56%	43.11%	36.76%
1998	35.11%	49.36%	46.07%
1999	32.06%	51.86%	47.21%
2000	40,21%	51.20%	44.10%

The change in Bulgaria's geographic trading patterns was more significant on the export side than on the import side. While in 1990 the EU's share of the country's total exports was 8.42%, in 1999 this share was 51.86%. The average annual rate of export growth, 17 % over the period of 1990-99, contrasts rather sharply with that of imports, 6 % (see Table 1-8, Appendix 3).

The EU member-states are Bulgaria's largest trading partner, accounting for USD 6686.1 million in 2000, which is 47.1% of the total turnover. The major trading partners within the EU are Germany (9.1% of total exports and 24.3% of total imports), Italy (14.3% of exports and 8.5% of imports), Greece (7.8% of exports and 4.9% of imports), France (4.8% of exports and 4.9% of imports), Belgium (6.1% of exports and 1.3% of imports) and the UK (2.4% of exports and 2.1% of imports).

Skilled-labor-intensive products account for a significantly lower share of EU-oriented exports than unskilled-labor-intensive products: their share in EU external imports is also significantly lower. The share of natural-resource-intensive products declined throughout the 1990s: it dropped from 47 % in 1989 to 30 % in 1998. So did the share of capital-intensive-products, albeit at a slower pace. Bulgarian suppliers of capital- and human capital- (skilled labor) intensive products remain, however, at a comparative disadvantage in EU markets[2].

[2] World Bank, Bulgaria: Country Economic Memorandum 'The Dual Challenge of Transition and Accession', 2000

In 2000 the share of exports to EU countries continued to grow and there was a clear shift from raw materials to consumer goods, accounting for over 40% of total exports to the EU.

In terms of processing, there was a very significant shift to intermediate-stage products and, to a lesser extent, to finished products. The Bulgarian presence in EU markets for commodity chains has increased because of expansion in exports of processed commodities. Primary stage products accounted for less than 10% of commodity chains EU-oriented exports in 1998, down from 32% in 1989. The share of intermediate-stage products rose from 26% in 1989 to 51% in 1998, mainly as a result of a dramatic increase in exports of semi-processed copper. The shift towards intermediate-stage products has resulted in an increase in the share of EU-external imports of these products. The share of finished products dropped slightly from 42 to 40% over this period, but their share in EU external imports stayed at the same level over 1994-98[3].

3.1.3 Trade specialization The change in the composition of EU-oriented exports over 1990-99 was mainly the result of a much faster increase in exports of manufactured than of agricultural products. Textiles, clothing and footwear, ferrous and non-ferrous metallurgy, machinery and equipment, and fertilizers and chemicals comprise the biggest share of industrial goods exports (refer to Table 2). The time profile of shares in EU imports points to shifts in Bulgaria's specialization: from food products to agricultural materials and textile fibers, and from capital equipment to light industries such as clothing, textiles, furniture and footwear as well as metallurgy.

The calculation of **Trade Coverage Indices (TCI)[4]** as a ratio of countries' exports of a given commodity chain to the countries' imports of the same commodity chain is the most common indicator of countries' comparative advantage in trade (see Tables 9-10).

The assessment of commodity chains according to values of TCI shows 28 two-digit commodity groups according SITC with an index greater than one in 1999:

- **Increasing values** in the period 1995-1999 have been noted for: vegetables and fruits, animal feeds, tobacco and tobacco manufacturing, hides, leather and furs, wood and cork manufacturing, prefabricated

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[3] ibid.

[4] [4] It is defined by: $TC_i = X_i / M_i$

where:

X_i- Bulgarian export of commodity i,

M_i- Bulgarian import of commodity i,

Values greater than one for a given commodity mean that the country has a comparative advantage in this sector.

structures, sanitary, plumbing, heating and lighting fixtures and fittings n.e.c;

- **Value stabilization** is characteristic for crude materials, crude rubber, cork and wood, pulp and waste paper, power generating machinery and equipment, furniture and parts thereof, travel goods, handbags and the like, articles of apparel and clothing and footwear;
- **Very unstable value dynamics** are shown by beverages, crude animal and vegetable materials n.e.c., coal, coke and briquettes, petroleum, petroleum products and related materials and iron and steel;
- **Decreasing values** of TCI over the period are displayed by meat and meat preparations, oil seeds and oleaginous fruits, crude fertilizers and minerals, metalliferous ores, metal scrap, inorganic chemicals, manufactured fertilizers, non-ferrous metals, and metalworking machinery.

The **export specialization index (RCA – Regional Comparative Advantage)**[5] in trade relations with the EU gives information about the comparative position of certain products[6].

The top-twelve commodity chains with the **highest values of RCA**, according to SITC commodity groups with values greater than one, are: hides, leather and furs, (raw); cork and wood; manufactured fertilizers; oil seeds and oleaginous fruits; tobacco and tobacco manufacturing; non-ferrous metals; beverages; travel goods, hand-bags and the like; pulp and waste paper; iron and steel; crude rubber (incl. synthetic and reclaimed); and articles of apparel and clothing (see Tables 10 and 11).

In 1995-1999 the comparative advantage in the EU market increased for 23 commodity groups: beverages; meat and meat preparations; sugar, sugar preparations and honey; oil seeds and oleaginous fruits; crude and manufactured fertilizers and minerals (excl. coal, petroleum and precious stones); petroleum, petroleum products and related materials; mineral fuel and lubricants and related materials (see Tables 10 and 11).

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[5] $$RCA_i = \frac{X_i / \sum_i X_i}{M_i^{EU} / \sum_i M_i^{EU}}$$

Where:

X_i - Exports in commodity group i;
M_i^{eu} – Imports to the EU in commodity group I

[6] High values of the RCA index indicate that the country is a preferential supplier of product i to the EU and that the product has a comparative advantage in trade. In comparison with the Trade Coverage Index (TCI), which measures 'internal' comparative advantages in the trade, RCA measures 'external' comparative advantages, the position of the product on an external market.

Comparing the TCI and RCA values in different sectors we can conclude that the groups with values of both indices greater than one possess the greatest export potential (option one). When the TCI value of a group is smaller than one and its RCA value is greater than one, it means that an economy has a strong position in the European market for these goods even if it does not have an internal comparative advantage (imports exceed exports) – option two. Second, if the TCI value is higher than the unit and the RCA is smaller than the unit, the economy does not have a strong position in the European market, even if it has gained an internal comparative advantage in the given group, since the share of exports in this group is smaller than the respective share of imports to the EU from the rest of the world (option three). Table 11 represents the distribution of Bulgarian exports by TCI and RCA values in 1996-1999. By assessing the correlation of TCI and RCA we may define the first two options.

The commodity groups **with both internal and external comparative advantage in the EU market** (TCI and RCA over one) are: hides, leather and furs, (raw); cork and wood; manufactured fertilizers; oil seeds and oleaginous fruits; tobacco and tobacco manufacturing; beverages and tobacco; non-ferrous metals; beverages; travel goods, hand-bags and the like; pulp and waste paper; iron and steel; crude rubber (incl. synthetic and reclaimed); articles of apparel and clothing; prefabricated structures; sanitary equipment; plumbing, heating and lighting fixtures and fitting n.e.c.; vegetables and fruits; footwear; wood and cork manufacturing (excl. furniture); crude animal and vegetable materials n.e.c.; inorganic chemicals; and miscellaneous manufactured articles; inedible crude materials (except fuel); furniture and parts thereof; meat and meat preparations; petroleum, petroleum products and related materials; metalliferous ores and metal scrap; metalworking machinery ; mineral fuel, lubricants and related materials; power generating machinery and equipment; animal feeds (excl. unmilled cereals); and crude fertilizers and minerals (excl. coal, petroleum and precious stones).

Good export potential (option 2) can be identified for the groups: organic chemicals; manufactured goods classified chiefly by material; sugar, sugar preparations and honey; non-metallic mineral manufactures n.e.c.; photographic and optical goods, n.e.c.; and watches and clocks.

3.1.4 Intra-industry-trade Trade in industrial spare parts and components has been rapidly growing over the last decade – much faster than trade in finished goods. In consequence, the inter-industry division of labor has become increasingly marginalized by a more complex specialization implicit in **intra-industry trade**, presently enriched by **intra-product specialization** that extends the division of labor to parts and components of products. This trade has several advantages: it is frequently accompanied by a transfer of technology and managerial know-how; and it offers direct access to larger markets allowing the exploitation of economies of scale; and it boosts exports without firms incurring marketing costs.

The main factors determining the level of intra-industry trade (IIT[7]) are vertical specialization, that is, the location of different stages of production in different countries, including subcontracts, and horizontal intra-industry trade, involving finished products.

Bulgarian industry has taken little advantage of these trends in a limited number of sectors. The commodity groups with highest indices of intra-industry trade with the EU, from 1995-1999, ranked by index values in 1999 are: machinery and transport equipment; chemical or allied products; footwear and accessories; beverages and tobacco; live animals and animal products; base metals and articles thereof; animal and vegetable oils, fats and waxes; and clothing (see Tables 13 and 14).

3.1.5 Conclusions

- The Bulgarian economy has been integrated into EU markets. Integration so far seems to have confined Bulgaria to the status of a supplier of low value-added labor and natural-resource-intensive products. Although the share of natural-resource-intensive products has been on the decline, the aggregate share of unskilled labor- and resource-intensive products in EU-oriented exports has stayed at roughly the same level of around 62 % since 1989 (see Table 15). Bulgaria continues to specialize in environmentally dirty products (see Table 16).
- Although the findings empirically support the conclusion that Bulgaria's industry has experienced little in terms of creative restructuring, there are several indications the process is taking off. First, there was a shift from primary stage products to intermediate and final stage products in commodity chains. The share of the former in Bulgarian exports to the EU has dropped from 9% in 1989 to 2.5 % in 1998, with the share of commodity chains slightly contracting from 29 % to 26 %. Second, exports of human capital-intensive products sharply increased over 1996-98. Third, privatization's acceleration for strategic investors has resulted in a surge in what appears to be mostly high quality FDI inflows[8].
- The comparative analysis of TCI and RCA for commodity groups distinguishes one category of goods with stable comparative advantage and strong export potential: hides, leather and furs, (raw); cork and wood; manufactured fertilizers; oil seeds and oleaginous fruits; tobacco and

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[7] $IIT_i = 1 - \frac{\left| X_i - M_i \right|}{\left(X_i + M_i \right)}$

where:

M(i)- countries' import of commodity group i,
X(i)- countries' export of commodity group i.

[8] World Bank, Bulgaria: Country Economic Memorandum 'The Dual Challenge of Transition and Accession', 2000

tobacco manufacturing; non-ferrous metals; beverages; travel goods, hand-bags and the like; pulp and waste paper; iron and steel; crude rubber (incl. synthetic and reclaimed); textiles and clothing; prefabricated structures, sanitary, plumbing, heating and lighting fixtures and fittings n.e.c.; footwear; crude animal and vegetable materials n.e.c.; inorganic chemicals; furniture and parts thereof; meat and meat preparations.

- Bulgarian firms have failed to take advantage of the emerging global division of labor based on fragmentation of production. The following export-oriented groups of commodities have a high level of intra-industry trade with the EU as measured by IIT Index: machinery and transport equipment; chemical or allied products; footwear and accessories; beverages and tobacco; live animals and animal products; base metals and articles thereof; animal and vegetable oils, fats and waxes; clothing.
- Different surveys lead to different conclusions about the impact of present and forthcoming models of trade on the development and productive structure of the regions and countries of the CEE. The Second Cohesion Report confirms that many of the studies suggest that enlargement will produce longer-term gains for both the EU15 and candidate-states, but with variation according to sectoral structure and trade relations. It is likely that there will be gains for the 15 EU member-states/regions, specialized in investment goods, high-productivity industries and business and financial services, and competitive pressures on EU producers of labor-intensive goods (e.g., textiles, footwear), certain agricultural products (e.g., grain, vegetables, fruit, cattle and pig farming) and products with a low level of technological sophistication (e.g., printing, chemicals). For the CEE countries and regions, some of the research predicts competitive advantages based on low labor costs (in areas such as textiles, steel and chemicals), but also disadvantages (especially for SMEs) due to the combination of greater competition and the cost of compliance with EU regulations[9]. The results from other studies lead to uncertainty regarding the possibilities for convergence[10], determining that East-West trade relations have a predominately inter-industry character. Western Europe tends to specialize in R&D-intensive and knowledge-intensive products, while Central and Eastern Europe tends to specialize in labor-intensive and resource-intensive products. As a result, trickle-down effects are assumed to stem from the core regions to the peripheral ones.

[9] Second Report on Economic and Social Cohesion, EC, 2001, pp.73-76.

[10] See Petrakos, G. (1999), 'The Spatial Impact of East-West Integration in Europe' in Petrakos, G., Maier, G. and Gorgelak, G. (Eds) *Integration and transition in Europe: The economic geography of interaction*, London, Routledge; Landesmann, M. (1995), 'The patterns of East-Europe Integration: catching up or falling behind' in Dobrinsky, R. and Landesmann, M. (Eds) *Transforming economies and European Integration*, Aldeshot: Edward Elgar; .and Mack, R. and Jakobson , D. (1996), 'The impact of peripherally upon trade patterns in European Union', *European Urban and Regional Studies*.

Regarding Bulgaria, the second conclusion has been confirmed. The liberalization of trade with the EU and increases in the importance of non-tariff barriers test the internationalization of Bulgarian industries. As a result, monostructured regions and regions with structural weaknesses and low adaptation capacities are more sensitive and suffer directly from the openness of the economy.

3.2 Foreign direct investment

According to the Bulgarian Foreign Investment Agency, throughout the decade investment flows in Bulgaria have consistently increased, from USD 34 million in 1992 to more than USD 1040 million in 2000, representing over 6% of the GDP (see Table 17).

Considering the difficulties associated with the unfavorable external environment (e.g., a period of armed conflict in neighboring countries and the effect of the Russian crisis on investment), Bulgaria has achieved great success in consistently attracting new capital flows. Over 52% of this investment has taken the form of joint ventures, green field investment, reinvested earnings and credits, while 32% is attributed to privatization and 8% to capital market investment in 2000 (Table 17 and graph).

Two phases may be identified in foreign capital penetration. The first phase extends until 1997, when FDI inflows were very low. The per capita cumulative inflows of USD 54 over 1990-96 period were some of the lowest among CE candidates for membership in the EU.

In the second phase FDI inflows increased quite impressively from 1997-2000, with the bulk of them going to the industrial sector. The aggregate value of foreign direct investment, USD 3,076.5 million over these four years, was almost four times larger than the accumulated value of FDI (USD 732.3 million) over the previous four year period (1992-96). One should take account of the fact that this was a time period marked by dynamic policy reforms, currency board enforcement and financial stabilization. The share of investments contributing to the development of an environment facilitating trade has been also on the increase, with considerable foreign investment in the banking sector, and in communications and transport.

A significant portion of FDI was associated with the privatization of state-owned enterprises (SOEs). Since a good portion of the privatized SOEs were insolvent at this stage, they did not generate considerable FDI in terms of cash inflows. Privatization-related FDI accounted for around 32% of total foreign investment inflows over the 1992-2001 period. The share reached its highest level, 66.2%, in 1997, dropped to 25.1% in 1998, and increased to 27.7% and 36.6% in 1999 and 2000, respectively.

Most companies recently investing in Bulgaria have opted for majority ownership rather than joint ventures. This indicates a significant improvement in the business climate, as foreign investors do not seem to need local partners to navigate the administrative environment.

Priority among foreign investment types shall be given to green-field FDI reinvestment into Bulgarian registered companies with foreign equity and infrastructure projects in transport, power generation and communications. These forms of foreign investment have been selected because of their pronounced beneficial effect on the national economy and their ability to be influenced by appropriate measures. The considerable increase in 1998 of green-field investment and repeat investment into companies with foreign-held equity is a good sign. This is the most important component of FDI. It is set to be a major source of foreign investments after privatization. Increased repeat investment into companies with part foreign ownership demonstrates that practically all of them are growing well.

The EU member-states are the biggest investors in Bulgaria, with a share of almost two-thirds. The five largest investors in the country are from the EU: Germany (USD 563.2 million), Greece (USD 541.7 million), Italy (USD 451.4 million), Belgium (USD 415.9 million) and Austria (USD 351.2 million). Expectations and confidence in the business sector have gradually and consistently improved since early 1999 (Table 18). By 2000 the Business Confidence Indicators for Bulgaria were growing steadily.[11]

Industry has attracted most of the foreign investments (50.1%), followed by finance with a share of 19.5% of the total FDI inflows, trade – 16.1% and tourism – 4.2%.

The sectoral composition of FDI in 1998-2001 is presented in Table 18. Foreign capital penetration is greatest in the financial sector, with a total amount of USD 688.9 million (22.0%), followed by trade – USD 462.5 million (14.78%), petroleum, chemical, rubber and plastic products – USD 289.8 million (9.26%), mineral products (cement, glass) – USD 249.2 million (7.96%), telecommunications – USD 229.6 million (7.34%), metallurgy – USD 139.7 million (4.46%), mechanical products – USD 120.6 million (3.85%), food products – USD 118.8 million (3.80%), wood products and paper – USD 105.6 million (3.38%), tourism – USD 104.8 million (3.35%), textiles and clothing – USD 90.5 million (2.89%) and electrical engineering, electronics, computers and communication equipment – USD 73 million (2.33%).

There are many factors determining the highly selective regional behavior of foreign capital. According to some studies the major motive for investment in CEE countries is access to their markets. Another important factor is related to the country/region's location. Countries that are more central with respect to the European Economic Space will attract a larger number of activities of a higher functional order, while non-central places will receive a smaller number of lower-order activities[12].

The territorial localization of foreign capital in Bulgaria confirms the conclusions about the disproportionate concentration of foreign investment in the metropolitan area, the polarizing pattern of economic growth and its dependence

[11] Bulgarian Common Country Assessment 2000, UNDP, 2000

[12] Petrakos, G. (1999), 'The Spatial Impact of East-West Integration in Europe' in Petrakos, G., Maier G. and Gorgelak G. (Eds) *Integration and transition in Europe: The economic geography of interaction*, London, Routledge

on the economic, geographical, functional and demographic characteristics of regions at the national and international-European level[13].

Table 20 presents the volume of FDI and inflows per capita by years and regions – NUTS 2 and NUTS 3. The figures in the table confirm the thesis of the highly selective spatial behavior of foreign capital. More than 75% of the foreign investments in the country are located in the district areas of the largest cities in the country. For the city of Sofia and the Sofia Region their share is 57%, for Varna – 11%, for Bourgas – 6.3%, and for Plovdiv – 5% (see map). In this respect, small cities and peripheral regions do not seem to have an equal share of the benefits of openness. In fact, if domestic resources closely match the location pattern of foreign capital, many of them may be further marginalized.

The regional distribution of FDI per capita follows the main location pattern for FDI inflows: Sofia, the Sofia region, Varna, Bourgas and Plovdiv. The sole exception is Gabrovo, where large amounts of foreign and joint-venture capital are concentrated.

The law stipulates tax incentives for investment in depressed regions. Foreign and domestic entities, investing in regions with a high unemployment rate, as listed annually in an appendix to the Law on Corporate Income Tax, enjoy a reduction in corporate income tax.

4 Regional specialization patterns

4.1 Regional structure and disparities

Bulgaria is divided into 262 municipalities[14] (the major and so far the only unit of local self-government) and 28 districts[15] (whose administration is appointed by the government). In addition, six planning regions[16] have been defined as a basis for the planning, application and monitoring of the regional interventions in a decentralized manner, corresponding to the regional policy practices in the EU[17].

Bulgarian regions at the NUTS 2 level are relatively balanced in terms of territory and population (see Table 21, 24). The economic differences between the regions are slightly deeper, although still tolerable.

The average size of a region's area is 20079 km^2, and of the population – 1, 521 thousand persons. The largest region, the South Central, is 1.9 times the size of the smallest, the North Central. In terms of population, the most populous region, the South East, is 2.6 times the size of the smallest, the North West.

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[13] Petrakos, G., (1999) 'Patterns of Regional Inequality and Convergence-Divergence Trends in Transition Economies', International Conference on Regional Potentials in an Integrating Europe, Regional Studies Association, Bilbao, Spain

[14] Corresponding to the EU NUTS IV regions

[15] corresponding to the EU NUTS 2I regions

[16] corresponding to the EU NUTS 2 regions

[17] Decree No. 145/27 July 2000 of the Council of Ministers

The smallest region is the North West, which occupies 9.6% of the territory of the country and holds 7.1% of its population. The biggest region in terms of territory is the South Central region (25.5% of the country's territory) and in terms of population the South West (26.2% of the country's population). On the other hand, the South Central region's population is decreasing (25.3% in 1999).

Measured by the indicator of GDP per capita, the differences are not significant, except in the case of the North West region, where the situation is graver; it lags significantly behind the remaining planning regions. In 1999 the ratio between the minimum and maximum GDP per capita was 1.65. The differences in the unemployment rate are much more pronounced – about 3 times greater.

Considerably larger disparities exist among the districts (see table 23, 25).

The average size of territory of a district is 3964 km^2 and the ratio between the size of the largest district (Bourgas) and the smallest one (Sofia City) is 5.7. In terms of population, the average size is 293,000 people and the ratio between the figures for the biggest district (Sofia City) and the smallest one (Vidin) is 8.7.

At the district level, differences in the GDP per capita are characterized by changing dynamics. For instance, this ratio was about two in 1995. In 1999 the ratio had already increased to three. The ratio between the unemployment levels is about seven. Sofia-City, Bourgas and Stara Zagora rank steadily in the first three places in the group of districts with the best development indicators (measured by the GDP per capita and the unemployment rate). The conclusion is that, despite the relatively well-balanced economic profile in terms of GDP per capita on a regional level, real disparities (and hence – the real regional development problems) occur on the regional and municipal levels.

Comparisons on a general European level show that the regional differences in Bulgaria are among the smallest when they are compared with EU member-states and the remaining candidate-states[18].

The national differences and the differences in regions (between Bulgaria and the 15 EU and candidate-states) mark Bulgaria as the country with the lowest GDP per capita, while Bulgarian regions appear to be some of the least developed regions in the EU and CEE.[19]. The GDP per capita was 28% of the EU average in 1999. For this reason, Bulgaria falls into the third group of countries – the least developed (comprised of both member-states and candidate-members) as defined by the Second Cohesion Report – ranking last in the group.

Among the regions in Bulgaria, however, there are no fundamental differences with respect to GDP per capita: for the majority of regions the level is 22-25% above the average for Europe (see table 22). None of the other countries manifests such convergence at the NUTS 2 level, which would be very acceptable at a higher national development level. Compared to those between developed and

[18] 'Unity, solidarity, diversity for Europe, its people and its territory', (2001), Second Report on Economic and Social Cohesion, European Commission, Brussels

[19] Second Report on Economic and Social Cohesion, EC, 2001, pp. 4-10.

underdeveloped regions in neighboring Greece and Romania, interregional differences are smaller in Bulgaria[20].

4.2 Specialized and diversified regions

In this section we examine how specialization patterns have evolved in the regions over the transition period and during the country's orientation to the EU. Regional specialization is defined as the distribution of the shares in a sector industry *i* in total manufacturing in a specific region *j*.

For the purposes of the present study, the level of regional specialization is measured by the Herfindahl index, the Krugman (dissimilarity) index and by Gini coefficients. These indexes have been calculated using employment data for NUTS 2 and NUTS 3 regions for the period 1990-1999 (Tables 26-28, appendix 3).

4.2.1 Herfindahl index[21] The absolute degree of specialization, measured by the Herfindahl index, outlines all NUTS 2 regions as less specialized ones and, it is interesting to note, with the same level of specialization as in 1999 (0.10, except for the South West region, whose level is 0.09).

According to the values of this index for the period 1990-1999, a very slight increase in the specialization rate is observed in the following NUTS II regions: North West, North Central and South Central. The most developed region, the South West Region, which includes the Sofia City Region, shows some decrease in its specialization rate and a trend towards increased diversification of the economy (refer to the Table below). The other two regions – North East and South East – demonstrate some minor changes during the period, but had the same values in 1999 as they had in 1990.

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[20] National Development Plan, Axis Five, Draft, 2001

[21] This is a measure of **absolute specialization**. It indicates how different the distribution of production is from a uniform (national) distribution. Its value is biased towards the largest shares, however. A value close to zero implies a high degree of diversification. A value close to one implies almost complete specialization.

$$H_j^S = \sum_i (s_{ij}^S)^2$$

where:

s_{ij}^S = the share of employment in industry i in region j in total employment of region j

Table 4.2.1 Herfindahl index – NUTS II

Value of Herfindahl index has increased (1990–99)	Stabilized value of Herfindahl index (1990–99)	Value of Herfindahl index has decreased (1990–99)
North West	North East	South West
North Central	South East	
South Central		

The conclusion that may be made on the basis of this index is that the NUTS II regions, which are less developed and were harder hit by the crisis, manifest an increased degree of regional specialization. The reason is that a large portion of the less-competitive sectors has deteriorated or has been almost liquidated as a result of its strong vulnerability. The process of European integration acts in a similar fashion, since it encourages the development of relatively competitive manufacturing and blocks the development of inefficient and less-competitive manufacturing.

The conclusions are strengthened when an analysis is made of the values obtained for this index at the district (NUTS III level). The picture here is more diversified: 20 districts have increased their degree of specialization, four districts (Rousse, Bourgas, Shumen and Sofia District) have maintained the same degree of specialization and another four districts (Sofia City, Smolyan, Varna and Pazardjik) have reduced their degree of specialization from 1990-1999. This process is most pronounced for the Sofia City District (refer to Table 27).

Another conclusion that can be drawn is that there is a certain regional variation in the degree of specialization (the values of the index range between 0.07 and 0.16), but a low level of specialization in all fields can be clearly identified.

4.2.2 Dissimilarity index[22] The values of the Dissimilarity index for the NUTS 2 regions for 1990-1999 are relatively low (below 0.45), which means that there

[22] This measure sums up the differences between the shares in a region and a norm (national average) without regard to the signs. A higher index reflects greater specialization.

$$DSR_j = \sum_i \left| s_{ij}^S - s_i \right|$$

where: $s_{ij}^S = \frac{Eij}{Ej} = \frac{Eij}{\sum_i Eij}$;

where:

E = employment
s = shares
i = industry (sector, branch)
j = region

are considerable differences between the regional industrial structures and the national average.

Table 4.2.2: Dissimilarity index – NUTS 2

Dissimilarity index	1990	Rank	1999	Rank
South Central	0.223	5	0.222	6
North Central	0.279	6	0.275	5
NorthEast	0.341	4	0.329	4
SouthWest	0.310	3	0.331	3
North West	0.307	5	0.377	2
SouthEast	0.351	1	0.448	1

More significant increases in the degree of relative specialization during the period under review are characteristic of the South East, North West and South West regions. There is a certain decrease of specialization in the North East Region and its level is constant in the South Central and North Central regions (refer to Table 26). We can also note that there is greater variation in the index values in 1999 (from 0.27 to 0.45) than there was in 1990 (from 0.29 to 0.35).

At the district level (NUTS III), the industrial employment structure is very similar to the national average and this process evolves dynamically. In 1990 the value of this index was higher than 0.5 in 21 districts (out of a total of 28), while in 1999 their share was only 50%, i.e., that the process of relative specialization is gaining speed is self-evident (see Table 28).

During the 1990-1999 period, a clearly manifested trend of increase in the number of regions in which the value of this index is rising has been observed. The value of the index decreases, however insignificantly, in only six districts (Smolyan, Bourgas, Shumen, Yambol, Pleven and Montana) (see table below).

	Value of index has increased (1990–99)	Value of index has decreased (1990–99)
Index>0,5 (1990)	Pernik; Vidin; Razgrad; Lovech; Smolyan; Sliven; Kardjali; Stara Zagora; Blagoevgrad; Varna; Pazardjik;	Bourgas; Gabrovo; Shumen
Index=<0 ,5 (1990)	Kustendil; Vtratza; Targoviste; Sofia City; Sofia region; Dobrich; Veliko Tarnovo; Haskovo; Silistra; Russe; Plovdiv;	Pleven; Montana; Yambol

Gini coefficients[23] Gini coefficients measure summed up differences in the specialization rates by accumulating the differences in the shares of a region and the shares of the norm (national average), after ranking the industries according to their specialization ratios. The index lies between zero and one. An index close to zero indicates that distribution of production *i* matches the overall distribution in the country, whereas an index close to one indicates that a region is completely specialized in one industry with a small overall share in manufacturing in the country.

The values of the Gini coefficients define NUTS 2 regions as relatively diversified (i.e., within the limits of 0.22 and 0. 49 in 1999). The trend goes in the direction of increase of the degree of regional specialization. The only exception is the NorthCentral region, where this process has been observed to follow a different dynamic pattern and in 1999 the region was noted to be much more strongly specialized as compared to its 1990 level (see Table below).

Table 4.2.3: Gini coefficients – NUTS 2

Dissimilarity index	1990	Rank	1999	Rank
SouthCentral	0.24	6	0.25	5
NorthCentral	0.24	5	0.22	6
SouthWest	0.25	4	0.27	4
NorthWest	0.38	3	0.38	3
NorhEast	0.38	3	0.41	2
SouthEast	0.44	1	0.49	1

[23] Gini coefficients for regional specialization

$$GINI_j^S = \frac{2}{n^2 \overline{R}} \left[\sum_{i=1}^{n} I_i \left(R_i - \overline{R} \right) \right];$$

where:

s_{ij}^S - the share of employment in industry i in region j in total employment of region j

s_i = the share of total employment in industry i in total employment

n = the number of industrial branches

$R_i = \frac{s_{ij}^S}{s_i}$ (for each industry in region j)

$\overline{R} =$ the mean of R_i across industries

$\lambda_i =$ the position of the industry i in the ranking of R_i

According to the thus constructed coefficients, one may note a considerable increase in the specialization level of the predominant portion of the districts (18 of a total of 28 at NUTS II) in the period from 1990 until 1999. It is interesting to note also that until 1998 all districts (with the exception of Bourgas, which retained its 1990 level, and Gabrovo, where a slight drop was registered) have shown increases in their level of specialization, quite significant ones in certain cases (Table 29). It is somewhat difficult to find an accurate explanation of the declines in specialization in 1999 as compared to 1998 (shown in Table) for 15 of the total 28 districts, although it is probably related to the undergoing process of restructuring,

	Value of index has increased (1990–99)	**Stabilized value of Gini coefficients (1990–99)**	**Value of index has decreased (1990–99)**	**Value of index has increased between 0.05 and 0.13 (1990–99)**
Index>0,5 (1990)	Varna; Dobrich; Kardjali; Kustendil; Lovech; Pazardjik; Pernik; Plovdiv; Razgrad; Silistra; Sliven; Stara Zagora	Bourgas; Smolyan; Shumen	Vidin; Gabrovo	Varna; Kustendil; Lovech; Pazardjik; Pernik; Razgrad; Silistra; Sliven
Index=<0 ,5 (1990)	Blagoevgrad; Vratza; Veliko Tarnovo; Russe; Sofia region	Sofia City; Haskovo	Yambol; Montana; Pleven	Blagoevgrad; Vratza; Sofia region

4.2.4 Changes in the regional industrial structures The predominant trend of expansion of specialization is the result of the changes in the industrial structure of the regions through the influence of a number of factors, and, above all, the joint impact of the conditions of economic transition and the preparations for accession to the EU. A brief overview of the major changes in the industrial structure of NUTS 2 regions is provided below.

North West Region. During the period analyzed, the region lost a considerable portion of available employment in industry in absolute and relative terms and has suffered a considerable shrinkage of its industrial employment. Its share in the GDP for the same period has decreased from 6.56% to 4.64%, evidence of low efficiency in the established patterns of employment. The sectors with strong positions in the region's industry are apparel, machine tools engineering, construction and chemical industries. Their increasingly dominant role in the structure of industry also determines the process of increasing specialization.

The rate of **absolute and relative specialization** in the North West Region is one of the greatest in the country because of the development of **a limited spectrum of industries**. This process is predetermined by the rate of shrinkage of industrial employment rather than by the emergence and development of new European-oriented manufacturing, in which the region is specializing. The manufacturing that has survived should continue to improve its efficiency, but the search for new niches is also urgent.

North Central Region. A traditionally industrial region of national significance with a rapidly restructuring economic sector, this region shows a trend of preserving its contribution to the national GDP (about 15%).

The observed trend towards **an increase in absolute specialization (Herfindahl index) has reached its greatest value in 1997, followed by a slight decrease afterwards. This dynamics is the result of concentration in specialized sectors**, which currently have relative advantages within the region and in the country's exports, namely food and beverages, textiles, apparel and metal products. In 1990 the region was characterized by well-developed manufacturing of electronics and high-tech goods, transport engineering, chemical industries, etc., which has later been either drastically reduced or liquidated.

The level of **relative specialization** (Dissimilarity index and Gini coefficients) shows an upward trend, related to the even distribution of a considerable number of developed industrial centers that is a characteristic feature of the region.

North East Region. The industrial structure of the region is characterized by a certain diversification. The process of revival is based on a broad range of sectors, the key ones among them being machine tools engineering and metal processing, chemical industries, textile and clothing industries, vehicle engineering, the food-and-beverages industry, etc.

The region's **absolute diversification is constant** (Herfindahl index values for the entire period of 1990-1999 are predominately 0.10) and **its relative specialization is increasing very slowly** (Gini cofficients), despite the fluctuations observed during this period. During the period 1995-1999, the GDP of the region steadily accounted for 16.3% of the national GDP.

South East Region. This region is characterized by diversified potential, but does have some regional disparities. In 1999, as compared to 1990, employment in the sectors of ore mining, electrical and optical equipment, textiles, chemical industries, etc. has dropped sharply. The principal sectors continue to be refined petroleum, apparel, food and beverages, tobacco production, metal products, and machinery and equipment. Until 1995, the region was characterized by the highest levels of GDP; afterwards, however, its contribution to the national GDP has shown a slight decrease.

With the exception of a slight increase in 1999, **the level of absolute specialization has remained low and almost constant** (Herfindahl index is 0.10). An explanation for this is the strong domination of the heavy chemical industry

and other specialized sectors in industrial employment, which makes the influence of fluctuations in the other sectors weaker or almost nil.

The degree of **relative specialization** shows a more significant increase (the highest for the period), related to the economic revival of the remaining part of the region (not only the area of Bourgas) in recent years.

South Central Region. The structure of the region is strongly diversified, yet it **manifests a trend towards an increase in absolute specialization** on account of the shrinking of employment, compared to 1990, in sectors like ore mining and metallurgy, electronics and instrumental engineering, vehicle engineering, etc. The increase in regional specialization in the two recent years may be equated with the process of effective restructuring, irrespective of the fact that the region's share in the national GDP is diminishing. The South Central Region is developing a specialization in the manufacture of foods, beverages and tobacco, textiles, apparel, leather, products of leather and footwear, pulp, paper and paper products, wood and products of wood and chemical products.

The dynamics of the relative specialization of the region does not show clear trends and the values for the individual years are very close, which may indicate some stabilization.

South West Region. This is the largest, the most developed and the most dynamic region in the country, including the metropolitan area of Sofia. In 1999, it turned out 35% of the national GDP.

It is observed that **the region has reduced its absolute specialization but its relative specialization remains unchanged**. These trends are not absolutely clear during the individual years, however they are pronounced. This is evidence of an on-going process of restructuring, based on diversification of the manufacturing structure. The major structure-shaping sectors are food and beverage production, the tobacco industry, metals, metal products and machine tools engineering, chemical products, apparel, leather and leather products, footwear, pulp, paper and paper products. Compared to 1990, a considerable reduction of employment in certain important manufacturing sectors has been noted, such as electronics, the electrical and optical industry, transport equipment, textiles, coal and ore mining, wood and products of wood, etc.

As has been mentioned above for the NUTS III level (districts), the dynamics and levels of both absolute and relative specialization are more clearly pronounced.

The absolute degree of specialization, measured by the Herfindahl index in 1999, was highest in six districts: Vidin, Stara Zagora, Kardjali and Targovishte (with a score of 0.16), Blagoevgrad and Veliko Tarnovo (with a score of 0.15). These districts have significantly increased their specialization since 1990. The highly specialized districts in 1990 (Smolyan (0.17) and Sofia city (0.15)) became less specialized during that period (0.12 and 0.13). The explication for Sofia city's performance is that such structure-shaping sectors as machine tools engineering and electronics have strongly diminished their share in the structure of industry. For the Smolyan District, the grave drop in employment in and the practical liquidation of such sectors as ore mining and metallurgy has also been a factor. The

majority of the remaining districts (15) show a trend towards an increase in their level of specialization, while five of them show a trend towards maintaining their current level and only two (in addition to Sofia and Smolyan) show a slight decrease.

The regional specialization rates, the Dissimilarity index, and the Gini coefficients demonstrate the relative specialization of the districts, and thus the weight of the branches relative to their role on a national scale. The Gini coefficients and the Dissimilarity index for regional specialization suggest that the most advanced specialization in employment differed from the national 'average score' (index > 0.5) in 17-21 districts. What may happen is that, in absolute terms, relative specialization in strongly specialized districts can be low, if its industrial pattern overlaps with the national pattern, since its dominant branch is also important on the national level. At the same time, it is possible that a district with a balanced industrial pattern could be relatively highly specialized, if a branch with no national importance is essential in the region.

4.2.5 Changes in regional specialization[24] By regressing the log of the specialization index on a time trend we estimate the changes in regional specialization, using a trend model of the form:

$\text{Log SPEC}_{ij} = \mu + \alpha_i + \beta \text{ time} + \varepsilon_{ij}$ (1)

where:

SPEC is the specialization index (Herfindahl, Dissimilarity and Gini index, alternatively).

t (time) = 1, 2, ….n; n = the number of years

The variable 'time' is a re-scaling of the year to which the indicator refers, re-scaled to have values starting from one (by subtracting the value 1989 from each observed year). The variable 'time' is not expressed in logs.

j = region

i = industry

$100*\beta$ = the annual percentage change of the specialization measure.

Since we have a panel of 10 periods and 28 regions (NUTS 3), we used the fixed effect estimator. To be exact, the number of observations is 280 and the number of groups is 28.

The results of the three regressions are shown in the following table:

[24] The trend model was calculated by Simonetta Longhi.

	Ln Herfindahl	Ln Dissimilarity	Ln Gini
Time (beta coefficient)	0.01944	0.01576	0.01312
	(0.00180)***	(0.00156)***	(0.00115)***
Constant (alpha)	-2.26501	-0.67776	-0.75770
	(0.01119)***	(0.00967)***	(0.00712)***
Observations	280	280	280
Number of idno	28	28	28
R-squared	0.31624	0.28970	0.34257

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%. The numbers in brackets are the standard errors of the estimates.

The first column (Ln Herfindahl) contains the results of the model in which the dependent variable is the natural log of the Herfindahl index for specialization. The second column (Ln Dissimilarity) contains the results of the model in which the dependent variable is the natural log of the dissimilarity index. The third column (Ln Gini) contains the results of the model in which the dependent variable is the natural log of the Gini index.

Since all coefficients seem to be statistically significant (the numbers in parenthesis are the standard errors, and '***' means that they are all significantly different from zero at the 1% level), from the previous table we may conclude that specialization has increased in Bulgaria over the period analyzed.

According to the model estimations, the annual percentage change over the period 1990-1999 is 1.9% for the degree of specialization measured by the Herfindahl index, 1.6% as measured by the Dissimilarity index and 1.3% as measured by the Gini index.

5 Location and concentration of industrial activity

5.1 The manufacturing structure

During the more than a decade of transition, the patterns of growth have been uneven across sectors and erratic within sectors. In different years, different sectors have been the driving force behind economic progress. The highest-growth sectors during this period were communications, transport, agriculture and forestry. Industry took the lead in 1998 and the service industry in 1999.

Except for poor growth in 1995-1996, industrial development since 1990 has decreased to 50%. In the wake of transformations in the structure of the industry, there has been a rise in the share of the ore mining and power generation sectors, while industries that were structurally important in 1990, like machine tools

engineering, computer and electrical engineering, and the food industry have lost ground.

Overall slumps in industrialization in all regions and a narrowing of their economic bases have occurred in 1990-1999.

Changes in the dynamics of the different industries have resulted in significant changes in the very structure of manufacturing. The sectors with the highest shares in manufacturing output in 1999 were food and beverages and the tobacco industry (29.7%), followed by metal products, machinery and equipment casting (14.3%) and basic metals except casting of metals (12.3%). Coke, refined petroleum products and nuclear fuel (0.8%) and leather, leather and fur clothes, footwear and products (1.5%) have the lowest shares in manufacturing (See Table 30).

Studying the changes in the manufacturing structure between 1990-1999, one may observe that the electrical and electronics industry is the sector that has suffered the greatest loss of positions. Its share was approximately 4% of the total industrial output in 1999. At the end of the 80s, the sector's share in the total industrial output was 14.5%. The same may be said for the changes in the structure of employment in the manufacturing sector. This industry has diminished its share in absolute and relative terms from 14.7% in 1990 to barely 6% in 1999. The food and beverages industry had the highest relative share (29.7%) in 1999, while in 1999 this industry accounted for 13.5%. The sectors ranking in the last places in the structure of employment in 1999 were coke, refined petroleum products and nuclear fuel (1.8%), wood and products of wood and cork, and plaiting materials (2.5%) and transport equipment (2.8%) (see Tables 30-32).

At the regional level (NUTS 2), employment in manufacturing is unevenly distributed. The South Cental (26.4%) and South West (26.8%) regions have the largest share, retaining their leading positions during the entire period. Different industries show different trends with respect to their concentrations in the individual regions. In 1999 the food and beverages industry, which employs the highest share of the labor force, was concentrated mainly in the South Cental (28.9%), North Central (20.4%) and South West (19.7%) regions; the first two of these regions have increased their structural share as compared to 1990. The largest changes in the period 1990-1999 have been observed in the territorial structure of the manufacture of rubber and plastic products and the manufacture of motor vehicles and transport equipment industries (see Table 32).

The main changes in the sectoral structure of the regions (NUTS 2) over the period 1990-1999 demonstrate similar trends: severe drops in the share of employment in the electrical and electronics industry (most acutely manifested in the South West region, where its share has dropped from 22% in 1990 to 8% in 1999), increases in the share of employment in the food and beverages industry (3-6%) and the textile and apparel industry (2-12%). A reduction in its relative share of employment in all regions has also been registered for wood and products of wood and cork, and plaiting materials (see Table 30).

As a background to the severe drop in the number of employed, the individual districts (NUTS 3) manifest minor differences with respect to their participation in the territorial distribution of the structure of employment in manufacturing. More significant changes have been observed in the districts that contain the two biggest

cities in the country: Plovdiv, which has increased its share from 9.6% in 1990 to 11.1% in 1999, and Sofia, where the increase is from 12.1% to 13%. The individual industries show, to a large extent, a consistent distribution by districts, as well as minor changes in their structural participation from 1999 to 1990. More significant territorial changes are characteristic of the structures of the electrical and electronics industry, textiles and wearing apparel, motor vehicles and transport equipment, wood and products of wood and cork and plaiting materials, and rubber and plastic products (see Table 31).

The ratio of manufacturing share to overall population share shows a different picture depending on the territorial level being studied. Higher values indicate a very even spread of manufacturing across the population (Tables 33 to 39).

With respect to the regions (NUTS 2) the situation is more balanced, particularly in 1990, when the ratio of the regional coefficients was 1.3. In 1999 the ratio was already 1.5. The lowest values (below one) have been noted for the South East (0.78), North East (0.82) and North West regions (0.84), which are characterized by the highest unemployment rates. The highest value for this coefficient was recorded in the North Central region (1.15), which features the highest industrial activity rate and the most highly skilled labor force. It is followed by the value for the South West region, which also includes the industrial agglomeration of Sofia.

The distribution of manufacturing shares, as compared to population shares, is considerably unbalanced at the NUTS 3 level, where the ratio in 1999 was 3.0 (as compared to 2.3 in 1990). The values are quite high in the industrially developed regions (Gabrovo, Lovech, Bourgas, Plovdiv, Blagoevgrad, Pernik, Stara Zagora, and Veliko Tarnovo). At the same time, the ratio's values have diminished between 1990-1999 in the districts with drops in industrial development (Vidin, Silistra, Pazardjik, Montana, Dobrich, Razgrad, Smolyan and Yambol). The reduction was most dramatic for Vidin (from 0.98 in 1990 to 0.61 in 1999), Silistra (respectively 0.80 and 0.59) and Yambol (0.87 and 0.62). Sofia City district has also suffered a slight reduction in its ratio (from 1.0 to 0.98), which is connected mainly with the strong increase in the share of employment in the services sector. The majority of regions made only a small move up or down the scale or remained the same (Table 39).

5.2 Concentrated and dispersed industries

For the purposes of this study, the level of geographic concentration is measured by the Herfindahl index[25], the Dissimilarity (Krugman) index[26] and Gini

[25] The **Herfindahl index** for geographic concentration is calculated as follows:

$H_i^C = \sum_j (s_{ij}^C)^2$; where s_{ij}^C = the share of employment in industry i in region j in total employment of industry i .

coefficients[27]. These indexes have been calculated on the basis of employment indicators for all NUTS 2 level and NUTS 3 level regions for each of the individual years in the period 1990-1999 (see Tables/Appendix and Graphs/Appendix).

The analysis of the obtained values of various concentration measures provides grounds for the following conclusions (refer to Tables 39 and 40):

- Relatively low values of the Herfindahl index of absolute concentration for the entire period are characteristic of all manufacturing industries (excepting coke, refined petroleum products and nuclear fuel), though this is more evidence of spatial dispersal than of strong spatial concentration. This conclusion is emphasized particularly with respect to the district level (NUTS 3). In the case of the planning regions (NUTS 2), the degree of concentration is higher;
- The highest level of absolute concentration has been observed for manufacture of basic metals except casting of metals (0.51 in 1999 for NUTS 2), pulp, paper and paper products and publishing and printing (0.34) and transport equipment (0.31). None of these can be called a newly developed sector.
- The least concentrated industries are manufacturing of food products, beverages and tobacco products (0.20), textiles (0.20), apparel (0.22), wood and wood products (0.21) and non-metallic products (0.20). The values for the remaining industries are close to the above figures and range between 0.22 and 0.28.
- A process of increase in the degree of concentration of industries is taking place. The industries for which the process of geographical concentration is most pronounced are: basic metals except casting of metals, transport equipment, leather, leather and fur clothes, footwear and products, and rubber and plastic products.

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[26] The **Krugman measure** for geographical concentration is calculated as follows: $DCR_i = \sum_j | s_{ij}^C - s_j |$, where s_j = the share of total employment in region ***j*** in total employment.

[27] **Gini coefficients** for geographical concentration of industries (Locational Gini coefficient) $GINI_i^C = \frac{2}{m^2 \overline{C}} \left[\sum_{j=1}^{m} l_j \left(C_j - \overline{C} \right) \right]$ **;**where**:** m = the number of regions;

$c_j = \frac{s_{ij}^C}{s_j}$

$\overline{C}$ = the mean of C_j across regions

λ_j = the position of the region in the ranking of C_j

If we consider relative geographic concentration, the highest values for manufacturing are found for coke, refined petroleum products and nuclear fuel, transport equipment, and mining and quarrying – the mining of ore and coal, and the extraction of petroleum and natural gas. It is interesting to note that the industries with the highest geographic concentration in 1990 do not have the highest geographic concentration in 1999. In 1990, the lowest relative concentrations were noted in food and beverages and tobacco, wearing apparel, machinery and equipment, electrical and electronic industry, and wood and products of wood. By 1999, only the first of these maintained a relatively homogeneous spatial distribution (refer to Tables 39 and 40).

For the period between 1990 and 1999, one may find evidence of increased geographical concentration and stability in certain industries based on regional Gini coefficients and Krugmav index values (see Table below):

1990–99	Planning regions (NUTS 2)		Districts (NUTS 3)	
	Value of Gini coefficients has grown or not changed	**Value of Gini coefficients has decreased**	**Value of Gini coefficients has grown or not changed**	**Value of Gini coefficients has decreased**
Index>0,5 (1990)	Mining of ores		Mining coal, extracting of petroleum and natural gas Mining of ores Chemicals, chemical products and fibers Basic metals except casting Transport equipment	Coke, refined petroleum products and nuclear fuel
Index = <0,5 (1990)	Mining coal, extracting of petroleum and natural gas Textiles Wearing apparel Leather, leather and fur clothes, footwear and products Wood and products of wood and cork Coke, refined petroleum products and nuclear fuel Pulp, paper and paper pro-ducts, publishing, printing Chemicals, chemical products and fibers Other non metallic products Basic metals except casting Metal products, machinery and equipment, casting of metals Electrical and optical equipment Transport equipment	Other mining and quarrying Food, beverages and tobacco Rubber and plastic products Transport equipment	Other mining and quarrying Textiles Wearing apparel Leather, leather and fur clothes, footwear and products Wood and products of wood and cork Pulp, paper and paper pro-ducts, publishing, printing Other non metallic products Metal products, machinery and equipment, casting of metals Electrical and optical equipment Manufacturing n.e.c.	Food, beverages and tobacco Rubber and plastic products

The table above shows that 15 out of 19 industries in NUTS 2 regions and NUTS 3 regions demonstrate an increase in geographical concentration with an average increase of about 2 %[28]. Only four industries experienced a fall in concentration.

In an attempt to answer the question of whether industries have become more geographically concentrated, we have constructed the following trend model:

$\log CONC_{it} = \alpha + \beta t + \varepsilon_{it}$ (2)

CONC = concentration measure (Herfindahl, Krugman, Gini)

j = region; i = industry ; t = 1, 2, .n n = the number of years

$100*\beta$ = the annual percentage change of the specialization/concentration measure.

The results for the concentration model[29] (2) are shown in the table below:

	Ln Herfindahl	**Ln Dissimilarity**	**Ln Gini**
Time (beta coefficient)	0.01923	0.01438	0.01623
	(0.00295)***	(0.00256)***	(0.00256)***
Constant (alpha)	-2.43757	-0.52917	-0.87832
	(0.01831)***	(0.01588)***	(0.01587)***
Observations	200	200	200
Number of idno	20	20	20
R-squared	0.19165	0.15006	0.18374

Standard errors in parentheses

*significant at 10%; ** significant at 5%; *** significant at 1%

The table contains the results from 3 regressions. The first column (Ln Herfindahl) shows the results of the regression in which the dependent variable is the Herfindahl index for geographical concentration, the second column (Ln Dissimilarity) – the dependent variable is the Krugman index, the third column (Ln Gini) – the dependent variable is the Gini location index.

Since all coefficients seem to be statistical, we can conclude that specialization has increased in Bulgaria over the analyzed period.

According to the model estimations the annual percentage change over the period 1990-1999 is 1.9% for the specialization measured by Herfindahl index, 1.4% - by the Dissimilarity index and 1.6% - by the Gini index.

Next, we consider development of concentration by industry.

Foods, beverages and tobacco are important export-oriented manufacturing industries. During the reported period, this sector was characterized by low indexes of absolute and relative concentration and a very slow trend of de-concentration. The spatial distribution of this industry is easy to explain by taking into account the overall existence of favorable conditions for its development throughout the

[28] The estimation is based on compliance with the regression model.

[29].The estimations were made by Simonetta Longhi

country. At the NUTS 2 regional level, a tangible increase in the South Central region's share of national employment in this sector has been observed (it has grown from 24% to 31%), above all on account of its decrease in the South East Region. The analysis of the concentration rates also indicates an increase in the South Central and the South West regions.

Textiles and apparel are labor-intensive industries that show a permanent positive trend of increase in their export potential. A process of certain stabilization of their values for absolute and relative geographic concentration is characteristic for them, i.e., no acceleration in the process of spatial concentration has been observed during the period under review. In terms of distribution within the districts, the share of employment in the apparel industry is highest in Sofia city (with a diminishing trend) and in the textile industry in Sliven (with an upward trend).

Leather, leather and fur clothing, footwear and products is a sector whose share in the country's exports is also growing. The values of the indexes for this industry are somewhat higher than those for the food and beverages and apparel and textile industries. This is evidence of an increase in spatial concentration, whose dynamics have also grown in recent years. The absolute leading areas that account for about 25% of employment in this sector are Plovdiv and Sofia.

Wood and products of wood and cork and plaiting materials is heavily dependent on the location of its resources. A certain growth trend has been observed, which is linked to acceleration of the processes of both absolute and relative concentration. This is linked to an increase in the relative share of employment in the South Central, South West, North East and North Central regions.

Pulp, paper and paper products, publishing and printing is a sector with high concentration in the South West, South Central and North West regions as a consequence of its tendency to be located in close proximity to the available raw materials. An increase in its absolute concentration has been observed during the reported period.

Chemicals, chemical products and man-made fibres manifests a steady trend of maintaining its concentration level during 1990-1999. This industry is concentrated mainly in the South Central, South East, North East and North Central regions, with stable levels of spatial location being predetermined by the manufacturing capacities in situ.

Rubber and plastic products demonstrates changes in the degree of relative concentration in the various years of the period under review, related to the different production output of the existing enterprises at the root of a considerable general shrinkage in employment in the industry.

Basic metals except casting of metals demonstrates the strongest dynamics in the processes of spatial concentration measured by the indexes for both absolute and

relative concentration. This may be explained by the elimination of considerable capacity because of low efficiency and poor environmental indicators, but also by certain requirements related to facilities that have already been built and by closeness to other related types of production. Nearly 70% of the employment in this sector is located in the South West Region, where the principal steel and cast iron works are located, as well as some non-ferrous metals works.

Metal products, machinery and equipment and casting of metals, being an important driving industry of the national economy, has preserved a fairly even distribution, accompanied by accelerated processes of absolute concentration. The predominant part of industrial employment is concentrated in the South Central, North Central and South West regions, where the major machine tools engineering centers of the country are situated.

After a heavy loss of positions in recent years, *Transport equipment* is showing signs of gradual revival. This process is accompanied by an increase in its concentration. This is one of the industries where the processes of absolute and relative concentration show the highest dynamics. In spatial terms they feature high growth in the share of this sector in the North East region. Other points of concentration of the sector are the North Central and South West regions.

After the grave decrease in employment opportunities in the early years of the period of transition, *Electrical and optical equipment* is beginning slowly to recover, with broader spatial coverage.

Coke, refined petroleum products and nuclear fuel shows a trend of increasing its concentration during the period 1991-1996 in connection with trends in the market for its raw materials. The principal concentration of capacities and employment (80%) is in the South East region.

Mining of coal; extraction of petroleum and natural gas demonstrates a logical trend of concentration, both absolute and relative. The reasons are the same as those for the development of all mining and extraction industries that are big sources of pollution, as well as their diminishing production efficiency. The sector is concentrated mainly in the South West and South Central regions, where a process of increasing employment in the sector has been observed.

Mining of ores is characterized by high concentration and variable results through the years, which is evident from the values of the indexes measuring absolute and relative concentration and their considerable annual fluctuations. The sector accounts for about 20% of the value of national exports and comprises the so-called 'dirty' export. The high spatial concentration is related to the requirement for location of the sector close to raw material deposits.

6 The impact of economic integration on the regional wage structure

The models outlined in this chapter test the impact of economic integration on regional wages. Three hypotheses have been proposed for evaluation:

1) Regional relative wage levels decrease with distance from the capital city
2) Trade liberalization eliminates distance effects
3) After the entering into force of the EU agreements, distance effects for western or south(west)ern border regions and the other regions will converge to similar levels

The first hypothesis predicts that in a closed economy regional wages are decreasing according to the value of transport costs to the industrial center, but that in an open economy regional wages are determined by access to foreign markets[30]. It supposes that estimated results can confirm that the regional relative wage levels decrease with distance from the capital city and that wages in western/south(west)ern border regions are high relative to other regions. For Bulgaria it is necessary to test this hypothesis for the western[31] regions, but also for the south(west)ern[32] and eastern border regions (Black Sea Coast) (in this case with Greece, since Greece is the only EU member-state bordering Bulgaria).

The second hypothesis proposes that trade liberalization between accession countries and European Union has determined the relocation of production activities from traditional industrial centers to border regions

The third hypothesis suggests that access to western markets has increased regional wage differentials in accession countries

The econometric estimations aimed at testing these hypotheses derive from theory and from previous empirical evidence.

6.1 Model specifications

The role of distance (transport cost) on the regional relative wage differential

Hypothesis: regional relative wage levels decrease with distance from the capital city
(bt < 0)

$$\log (WAGE_{jt}/WAGE_{ct}) = \alpha + \beta_t \log(DIST_j) + \gamma_t BORD_j + \lambda t (\log DIST_j \times BORD_j) +$$

[30] See Hanson, G. (1996),'Localization Economies, Vertical Organization, and Trade', in *The American Economic Review*, vol. 86, No. 5, p. 1272.
[31] For the econometric estimations, the western border regions are: the Vidin, Montana, Vratsa, and Sofia regions and the Pernik, Kustendil and Blagoevgrad districts
[32] For the econometric estimations, the south(west)ern border regions are: the Blagoevgrad, Pazardjik, Smolyan, Kardjali and Haskovo districts

$+ \mu_t (\log DIST_j \times YEAR) + \nu_t (\log DIST_j \times BORD_j \times YEAR) + \varepsilon_{jt}$
(3)

WAGEj = the wage in region j
$WAGE_c$ = the wage in the capital city
DISTj = the distance between region i (county capital) and capital city
BORD = dummy variable for border regions $BORD_j$ =one if region j is a border region and zero otherwise (it captures time and distance-invariant factors specific to western border regions that influence relative wages such as possibilities for cross-border co-operation and work)

For Bulgaria it is important to test this hypothesis not only for the western border region, but for the south(west)ern and eastern border regions with Greece, since Greece is the only EU member-state bordering Bulgaria.

1.1- $BORD_j$: EU border regions are Blagoevgrad, Smolyan and Kardjali;
1.2- SOUTH: instead of using data on regions bordering the EU we also used data on southern border regions, namely Blagoevgrad, Pazardjik, Smolyan, Kardjali and Haskovo;
1.3- EAST: instead of using data on regions bordering the EU we also used data on eastern border regions, namely Bourgas, Varna and Dobrich;
1.4- WEST: instead of using data on regions bordering the EU we also used data on western border regions, namely the Vidin, Montana, Vratsa and Sofia regions, and Pernik, Kustendil and Blagoevgrad.
2- YEAR: since the EU association agreements were signed in 1993 and entered into force on February, 1, 1995[33], the dummy variable has a value of zero from 1990 to 1994 and a value of one from 1995 to 1999.
3.1- $DIST_j$: this is the distance between each region and the country's capital.

2.2 Hypothesis: Trade liberalization eliminates the distance effects (m_t =0)

$\log (WAGE_{jt}/WAGE_{ct}) = \alpha + \beta_t \log(DIST_j) + \gamma_t BORD_j + \lambda t (\log DIST_j \times BORD_j) + \mu_t (\log DISTj \times YEAR) + \varepsilon_{jt}$ (4)

2.*3: Hypothesis: After the entering into force of the EU agreements, distance effects for western border regions and other regions converge to similar levels ($b_t + m_t = b_t + l_t + n_t$)*

$\log (WAGE_{jt}/WAGE_{ct}) = \alpha + \beta_t \log(DIST_j) + \gamma_t BORD_j + \lambda t (\log DISTj \times BORDj) +$
$+ \mu_t (\log DIST \times YEAR) + \nu_t (\log DIST \times BORD \times YEAR) + \varepsilon_{jt}$ (5)

[33] Julia told me.

6.2 Estimation issues

We estimated model 2.1 by pooling all data (across regions and across years), using White-corrected robust standard errors (see table 45).

We can easily see that the distance from the country's capital always has a negative significant coefficient, meaning that the more distant the region is from the country's capital the less its wages are (relative to those in the country capital).

The coefficient for the border EU dummy is never significant, while the dummies for the south, east and western borders are always significant. The interaction variables are always significant, with the only exception of the variable 'Dist Border' which is significant only in the third column.

We may note that the four dummies (Border EU, South, East and West) are not mutually exclusive: some Bulgarian regions do not belong to any of these categories; at the same time, some regions belong to more than one group. Thus, in principle, we have no reason to omit the intercept term from our estimations (this is equivalent of imposing a zero intercept for those regions not belonging to any of the four groups). In the second column we repeated the model estimations using the constant term as well. It can easily be seen that the estimates of the coefficients and their level of significance do not change much when we allow the intercept term to be different from zero; furthermore, the intercept itself does not seem to be significantly different from zero in the first two estimates. However, the R-squared drops from 0.84 to only 0.44 when we allow the constant term to be different from zero.

Table 46 presents the estimations of model 2.2. The only difference between the two models (and therefore between Table 45 and Table 46) is the interaction variable 'Ln Dist*Year', which combines the distance of each region from the country capital and the year of the entering into force of the EU association agreements.

We found that the coefficient of the variable 'Ln Dist*Year' is negative. We should comment that, before the entering into force of the EU Association Agreements, the coefficient beta (the coefficient of the variable 'distance from country capital') had a certain value (negative). After the entering into force of the EU Association Agreements, we also estimate the variable 'Ln Dist*Year'. Since its coefficient is negative, this means that the negative coefficient for beta (the coefficient of the variable 'distance from country capital') becomes even more negative. From an econometric perspective (if the coefficient is not significant) we might have said that nothing changed before and after the entering into force of the EU Association Agreement.

To check this we tried to make a regression using only observations from before the year of the entering into force of the EU Association Agreements and a regression using only observations from after the year of the entering into force of the EU Association Agreements. In the first regression the beta (the coefficient of the variable 'distance from country capital') was -0.040; in the second regression it was -0.052. Obviously, in these two last regressions we did not use the variable 'Ln Dist*Year'.

In conclusion, we would say that our results confirm that wages decrease with distance from the country capital. However, these changes are very slow, and maybe our time series is still too short to capture this effect.

The results of model 2.3 (Table 47) tend to confirm the results of the previous two models, although some coefficients seem to be closer than zero when more explanatory variables are introduced into the model. The majority of the newly introduced explanatory variables seem to not be significantly different from zero.

The interesting hypothesis we may test in this case is whether the distance effects for western border regions and the other regions converge to similar levels after the entering into force of the EU agreements.

$\beta_t + \mu_t = \beta_t + \lambda_t + \nu_t$ (2)

Although all models give the same estimated coefficients, the different standard errors may yield different results of the test. The results are summarized in Table 48, in which each column refers to the column with the same number in the table showing the estimates.

The hypothesis is not rejected for border regions only.

7 Regional specialization and growth

The model specified in this chapter analyses the impact of regional specialization and various regional characteristics on regional economic growth. The tested question is whether regional specialization is able to clarify the GDP changes and if so, in what proportion. Also we attempt to determine the relationship between regional specialization and qualitative factors and their importance for regional growth.

7.1 Model specification

$$\text{Ln}\,(y_{j,t+1} / y_{jt}) = \alpha + \beta_t \ln(SPEC_{jt}) + \gamma_{it} \quad X_{ijt} + \varepsilon_{jt} \qquad (3)$$

Control variables:

X1: share of employment in the secondary sector in region j
X2: share of employment in services in region j
X3: number of firms with foreign capital per 100.000 inhabitants
X4: share of population aged 15-65 in region j
X5: number of telephone lines per 100.000 inhabitants in region j

7.2 Estimation issues

We will use panel data to estimate this model. Since the effect of the control variables X_{ijt} is probably picked up by the fixed effects, in the following table two kinds of estimations are presented. In columns (1), (3) and (5) of Table 49 are the model estimates (alternatively using the Dissimilarity, Herfindahl or Krugman

specialization indices) using only the fixed effects, and not controlling for the regional characteristics in the matrix X. Columns (2), (4) and (6) show the results of the same model in which we also include the control variables contained in X.

The table shows that the specialization coefficient is generally not significant in explaining changes in growth; only when we use the Gini index do we obtain significant results. In this last case it seems that greater specialization in year t may cause a larger positive change in growth.

The control variables X are generally not significantly different from zero. The Wald test shows that these coefficients are generally jointly significant (note that the R-squared is higher when the control variables are included).

8 Regional winners and losers and policy implications

8.1 Winners and losers in industrial activity re-location

Previous sections have shown that economic integration gains are unevenly distributed across regions and have caused the relocation of manufacturing activity. It seems, therefore, that spatial effects are related to intensification of polarization and a geographically divided pattern of development. In general, regions with a more diversified economic structure have experienced higher economic growth and employment, while declining monostructural regions and underdeveloped regions have faced serious and lasting difficulties. Their prospects for recovery are not identical.

Winners in the process of the economic integration with the European Union are the metropolitan region, central regions and regions with a diversified production base. Those regions gain a favorable position and get more foreign investment, which in addition to traditional assets can offer an attractive innovative economic environment and also the related institutional network for economic development.

Losers in the process of European integration are regions with a declining monostructure, rural areas, and certain peripheral regions.

The different adaptation patterns may be observed in border regions.

As a result of the import of raw materials, mainly from the former USSR, a shift in the location of manufacturing facilities from the west to the east took place during the previous period. This has further increased the potential of the traditionally well-developed regions and cities along the Black sea coast and has promoted the development of the eastern parts of the country (Bourgas, Varna and Dobrich districts). At present these regions are not losing any of their attractiveness as regions for the location of manufacturing activities. One of the reasons is that some of the biggest ports on the Black Sea are located there, a fact that makes these regions direct contact points of integration, since Bulgaria has no common western frontier with the EU. Another point worth noting is the boom in construction of tourist facilities there.

Unlike the other Eastern and Central European states, the effect of the ‘western frontier’ does not manifest itself in Bulgaria.

The new processes of integration attach new qualities to regions located along the southern and southwestern border. This is Bulgaria's sole border with an EU member-state – Greece. These border regions feature a high density of foreign companies and joint ventures (mainly with Greek capital), predominating in dress-making, textile, wood and wood processing industries, fur and leather production and marble extraction. Their development is encouraged through programs supporting cross-border co-operation.

The situation in the western border regions is quite different. A degradation process is underway there. This process is very strongly manifested in the districts of Kyustendil, Montana and Vidin. The Municipality of Blagoevgrad is the sole exception. The reasons for this are the conflicts in the states with which Bulgaria borders to the west – the Federal Republic of Yugoslavia and Macedonia.

One may definitely note the relocation of economic activities along the east-west transport corridors, less so than along the north-south oriented corridors, which make the regions located along international transport corridors more effective and dynamic.

Geographical factors such as distance, accessibility and centrality emerge as important elements in the spatial organization of activities. A considerable part of the EU's regional differences is associated with inter-country rather than intra-country disparities. Regions can have a strategic or central function that is derived not only from their relative position within their country, but also from the position of the country within the emerging hierarchy of the European economic space[34].

Recent studies on transition and development emphasize the role of geography in the economic processes[35] and confirm that economic success should not always be attributed to sound economic policies alone. The authors note that geography is one of the most frequently neglected factors in the literature on the period of transition, although it has a direct impact on economic productivity through the costs of transport and communications. The fact that some of the forerunners of transition are located closer to the European core, while others, such as the Bulgarian regions, are more than 1000 km away from the economic center of Europe, is often attributed to this manner of reasoning.

Bulgaria is situated at the periphery of the European space. It is not within the proper scope of the west European centers and axes of development of business and technology. This unfavorable factor does not allow an intensive stream of innovations, goods and people to enter from all directions, important for Bulgaria's integration in the European space and for surmounting the country's serious economic problems. It does not create potential opportunities for the improvement

[34] Peshel, K. (1992), 'European Integration and Regional Development in Northern Europe', *Regional Studies*, vol. 26, p. 4; Rosenblat, C. and Pumain, D. (1993), 'The location of Multinational Firms in the European Urban System, *Urban Studies*, vol. 30, p. 10.

[35] Gallup, Sachs, J. and Mellinger, A. (1999), 'Geography and Economic Development, Transition' Working paper, Centre for International Development, Harvard University; Sachs, J. (1997), 'Geography and Economic Transition' Working paper, Centre for International Development, Harvard University, Petrakos, G. 1999, 'The Spatial Impact of East-West Integration in Europe'.

of its efficiency by direct use of the advantages of neighboring economies that emerge from business cooperation, new financial instruments, networks for implementing innovations, mobility of highly qualified personnel, etc.

In this respect, the relatively great distance from the EU's core and a lack of adjacency make integration slower and geographically more selective. On the other hand, the geographic factor may, to a large extent, be compensated for by development of the information society, information and communication technologies and the quality and value of human potential. One should add to this the advantages related to the geo-strategic location of the country as a bridge between the East and West, traversed by five of the European transport corridors.

8.2 Specialization, unemployment and economic growth

The relocation of industrial activities between regions, observed in the period of 1990-1999, has had a strong impact on employment and unemployment in the various regions. These shifts are not related to adaptation of the population and labor force in the regions that have lost manufacturing employment. Population mobility does not follow the movement of manufacturing activities. Loss of manufacturing employment cannot usually be compensated for by alternative employment. Lower growth of GDP per capita is therefore associated with higher unemployment rates.

To test the research question whether declining regions have experienced permanently higher unemployment, we have regressed the unemployment rates on GDP per capita. The time period is five years (1995-1999), since regional GDP per capital data are only available for the years since 1995.

To analyze the relationships between specialization, regional unemployment and economic growth, the correlation coefficient between regional GDP per capita and the regional unemployment rate has been calculated. The obtained negative significant coefficient on GDP per capita shows that declining economic activity threatens to bring unemployment to the whole region.

The regression shows that there is a significant negative association between GDP per capita and the rate of unemployment at the regional level (the regression results are presented in Table 44). Hence, poor regions are more likely to suffer from unemployment. However, the relationship between the two variables is very weak (the adjusted R2 is 0.045).

The comparison between the coefficients of variation for regional GDP with regional GDP per capita gives us the possibility of checking whether greater concentration of GDP is matched by a greater concentration of population. The conclusions are:

- Concentration of GDP in some lines corresponds to the concentration of population.
- Growth of regional specialization in Bulgaria in total, measured by GDP variation coefficient, corresponds to some degree to the growth of differentiation of income by regions.

- There are some initial signs that greater specialization will imply greater polarization.

8.3 Policy implications

Bulgaria confronts the necessity of searching for a compromise between the classical objectives of regional policy and economic and social cohesion policy for reducing inter-regional disparities and attaining rapid and sustainable economic growth in order to ensure convergence with the EU member-states and regions. This has been caused by the fact that not only the losing regions, but also winning regions are lagging behind according to European standards.

This policy implies priority interventions within the areas identified for growth and development and, if necessary, within other regions and towns with potential to attain substantial and sustainable economic growth based on their competitive advantages and on the respective expansion of their zones of influence, in which the positive effects of intervention are dispersed. This does not exclude intervention within the peripheral regions, especially in the case of promising potential or severe social problems.

For the winning regions (big industrial centers and regions) this policy should deal mainly with the restructuring and internationalization of the regional productive system through fostering SME development, attracting foreign investment and enhancing innovative and ecological potential, improving competitiveness, and supporting environmental improvements to enhance the quality of life.

In the losing regions (predominantly declining monostructural areas, regions with a less qualified labor force, less developed infrastructure and lesser undertaking and innovative capacity, the policy measures should be addressed to: enhancing diversification of the local economy, supporting local entrepreneurship and attracting external investments and supporting human resource development mainly through capacity building activities and increased employment opportunities. This will enable the regions to cope with structural weaknesses in performance, in particular, and the limited marketing horizons in general; to help revive and upgrade small-scale infrastructure in towns; and to create more attractive town environments for the enhancement of investments and the social mix. The main objective under these circumstances should not only be survival, but also development that would help incorporate the regions into European and international markets and increase their competitive capacity.

Integration into the European space can be described as a **Europe-oriented priority,** permanently present on the agenda of all regions. Although it includes inter-regional co-operation, the main emphasis is on cross-border cooperation directed at achieving two main results: linking national infrastructure networks to those in neighboring countries and thus integrating Bulgaria into the European space and solving the existing problems in border areas, which are among the most unfavorable in the country, the majority of them being typical for the periphery.

The creation of favorable conditions for the development of new economic activities and the diversification of production is strongly linked with the measure

of improving the educational structure and the re-qualification of manpower. The link between the skill level of the workforce and its competitiveness is increasingly recognized in all developed countries.

The development of basic and business-related infrastructure in view of the support of economic development and the creation of favorable living conditions for the population should be strongly presented as a main policy objective. The role of infrastructure as a condition for and a motor of business development and attractiveness of the region is clearly defined.

The ultimate goals of revitalizing and developing all regions require the sharing of the efforts for their achievement. The limited local financial, and to a certain extent administrative, resources might not be able to produce results that would reverse the observed development trends. To this end, sharing the burden by joining the efforts of the central, regional and local authorities and attracting support and assistance from the EU is indispensable. A special recommendation refers to seeking and locating new funding sources and financing schemes. This means prioritizing the establishment of local investment and guarantee funds, as well as national investment funds that would assist the special regional programs. The focus of spending for the limited financial resources available from the different institutions should be on implementation of projects that may play the role of development stimuli. The funds allocated under the PHARE program and other pre-accession funds are another important source of financing. Another issue of no lesser importance is the improvement of the investment image of the regions and cities and to raise the level of local entrepreneurship. Local authorities play a significant role in this process, since they may contribute to facilitation of the procedures for starting businesses and to the abolishment of bureaucratic barriers.

The regions and cities should mobilize their endogenous capacity for survival and reconstruction. It is becoming ever clearer that their problems cannot be resolved by national-level efforts alone. In this respect certain regional and local efforts have already been observed, including local development strategies, the application of certain modern institutional arrangements and contributions to endogenous development from regional development agencies, local business centers and business incubators and local development councils and forums.

9 Conclusions

Existing evidence on trade development and foreign direct investment suggests an increasing process of integration of the Bulgarian economy with the European Union in the period of 1990-1999. Integration so far seems to have confined Bulgaria to the status of a supplier of low-value-added labor and natural-resource-intensive products, however, in recent years, a decline in the aggregate share of unskilled labor and resource intensive products has been observed. The commodity groups, differentiated by their comparative advantage and strong export potential (based on TCI and RCA indices), are leather and leather products, wood and wood products, fertilizers, oil seeds and oleaginous fruits, tobacco and tobacco processing, non-ferrous metals, beverages, travel goods, handbags and the

like, pulp and waste paper, iron and steel, crude rubber (incl. synthetic and reclaimed), textiles and clothing, sanitary, plumbing, heating and lighting fixtures and fittings n.e.c., footwear, crude animal and vegetable materials n.e.c., inorganic chemicals, furniture and parts thereof, and meat and meat preparations.

The analysis of regional disparities (NUTS 2) for Bulgaria and comparisons made with EU member-states and CEECs indicate that all Bulgarian regions are 'poor' according to European standards and are relatively 'equally poor'. The analysis also shows that the disparities are much more intra-regional than inter-regional.

At the NUTS 2 level a low and uniform degree of specialization is observed (according to Herfindahl index values the level of specialization is 0.09 for the South West region and 0.10 for the other regions). At the NUTS 3 level the values of the absolute and relative measures for specialization are higher. Twenty districts have increased their degree of specialization and eight have retained or reduced their degree of specialization in 1990-1999. **The following patterns of regional specialization have been identified: regions with the highest and increasing specialization**: Blagoevgrad, Varna, Vidin, Kardjali, Lovech, Pernik, Sliven, Stara Zagora and Shumen; **regions with the highest specialization and a decreasing trend**: Vidin, Gabrovo and Smolyan; **diversified regions with increasing diversification**: the Sofia region, Haskovo, Montana and Yambol.

According to the model estimations the annual percentage change over the period 1990-1999 is 1.9% for the specialization measured by the Herfindahl index, 1.6% – by the Dissimilarity index and 1.3% – by the Gini index.

The present study finds a clear pattern of relocation of manufacturing activity in Bulgaria over the period 1990-99 in terms of manufacturing employment.

The distribution of manufacturing shares compared to population shares is considerably unbalanced at the NUTS 3 level, where the differences in 1999 are almost 3 times greater. The values are quite high in industrially developed regions (Gabrovo, Lovech, Bourgas, Plovdiv, Blagoevgrad, Pernik, Stara Zagora and Veliko Tarnovo). At the same time, the values of the ratio diminish between 1990-1999 in the districts that face a decline in industrial development (Vidin, Silistra, Pazardjik, Montana, Dobrich, Razgrad, Smolyan and Yambol).

The results of our research suggest an increasing geographical concentration of industries. 15 out of 19 industries at the NUTS 2 and NUTS 3 levels demonstrate an increase in geographical concentration. Only four industries experienced a drop in concentration. The four most concentrated industries include: coke, refined petroleum products and nuclear fuel, basic metals except casting of metals, transport equipment and pulp, paper and paper products, publishing and printing. The four most dispersed industries are food, beverages and tobacco, metal products, machinery and equipment, textiles and apparel and other non-metallic products. An annual percentage change of geographical concentration over the period 1990-1999 has been estimated to be 1.9% (under the Herfindahl index), 1.4% (under the Dissimilarity index) and 1.6% (under the Gini index).

The impact of economic integration on the regional wage structure has been estimated according to three hypotheses. The **first hypothesis** predicts that in a closed economy regional wages will decrease by the value of transport costs to

the industry center, but that in an open economy regional wages are determined by access to foreign markets. The estimations' results confirm this hypothesis: the distance from the country's capital has always a negative significant coefficient, meaning that the more distant the region is from the country's capital, the less its wages are (relative to those of the country capital).

From an econometric perspective, we would have said that nothing changed before and after the entering into force of the EU Association Agreement.

The model estimations of the impact of regional specialization on regional growth show that the specialization coefficient is generally not significant in explaining changes in growth; only when we use the Gini index do we obtain significant results. In this last case it seems that a higher specialization in year t may cause a higher positive change in growth.

Another important issue in the present paper is to analyze the relationship between regional specialization, economic growth and unemployment. During the period under review, one may notice an obvious negative relation between the level of economic activity in the region, measured by GDP per capita, and the level of unemployment. Hence, poor regions are more likely to suffer from unemployment.

The comparison between the coefficients of variation for regional GDP with regional GDP per capita give us the possibility to check whether greater a concentration of GDP is matched by a greater concentration of population. The conclusions are:

- Concentration of GDP in some lines corresponds to concentration of population.
- Growth of regional specialization in Bulgaria in total, measured by GDP variation coefficient, corresponds to some degree to growth of differentiation in income by region.
- There are some initial signs that greater specialization will imply greater polarization.

The general conclusion from the descriptive and econometric analyses in this study is that economic integration gains are unevenly distributed across regions and have caused the relocation of manufacturing activities. It seems, therefore, that the spatial effects are related to intensifying polarization and a geographically divided pattern of development.

Winners in the process of economic integration with the European Union are the metropolitan region, central regions and regions with a diversified production base.

Losers in the process of European integration are regions with a declining monostructure, rural areas, and certain peripheral regions.

Unlike the other Eastern and Central European states, the effect of the 'western frontier' does not manifest itself in Bulgaria.

Policy proposals should take into account changes in regional specialization and the relocation of economic activities that shape, respectively, the development

level of a given region and its place among the winner/loser regions. For the winner regions, policy should mainly deal with further restructuring and internationalizing the regional productive system, through fostering SMEs development, attracting foreign investment and enhancing their innovative and technological potential. In the loser regions, the policy measures should be related to enhanced diversification of the local economy; support for local entrepreneurship and the attraction of external investments; support for human resources development, aimed at building a capacity for dealing with structural weaknesses in performance, in particular, and the expansion of the limited marketing horizons in general; revitalization and upgrading of small-scale infrastructure in towns; and the creation of more attractive town environments for investments and the social mix.

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Table 1: Main Indicators of Trade and FDI with the EU

	Share of exports in GDP-%	Share of EU in exports -%	Share of EU in imports -%	Share of FDI in GDP - %	FDI per capita-USD	Share of FDI from the EU -%
1990	23.26%	8.42%	17.94%	-	-	-
1991	42.27%	17.40%	26.08%	-	-	-
1992	45.58%	28.86%	34.90%	0.40%	4.06	59.1%
1993	34.41%	29.84%	32.12%	0.95%	12.10	63.5%
1994	41.14%	37.54%	36.84%	2.18%	25.02	84.6%
1995	40.86%	37.60%	36.51%	1.24%	19.40	52.2%
1996	49.17%	38.82%	33.26%	2.58%	30.73	53.6%
1997	48.56%	43.11%	36.76%	6.25%	76.80	66.4%
1998	35.11%	49.36%	46.07%	5.06%	75.33	54.0%
1999	32.06%	51.86%	47.21%	6.50%	98.41	50.8%
2000	-	-	-	-	127.04	72.1%
Total					472.41	68.5%

Table 2: Structure of Imports and Exports in Trade Relations with the EU

Nr	BRANCH -	1995		1996		1997		1998		1999	
		Import	Export	Import	Export	Import	Export	Import	Export	Import	Export
HS	TOTAL:	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
I	Live animals, animal products	1.37%	3.20%	0.89%	2.61%	1.73%	2.02%	1.97%	2.05%	1.17%	2.00%
II	Vegetables products	1.32%	5.29%	0.96%	3.45%	1.96%	2.79%	0.83%	4.55%	0.80%	4.77%
III	Animal or vegetable fats and oils	0.78%	0.42%	0.62%	0.02%	0.68%	0.08%	0.70%	0.02%	0.45%	0.01%
IV	Food, beverages and tobacco	3.37%	5.05%	3.36%	6.12%	2.58%	4.32%	2.73%	4.71%	2.02%	4.75%
V	Mineral products	1.73%	3.31%	1.29%	4.26%	1.78%	6.23%	3.33%	3.53%	2.66%	3.83%
VI	Chemical or allied products	14.12%	12.97%	14.54%	12.64%	12.35%	11.68%	12.67%	6.88%	11.14%	5.13%
VII	Plastics and rubber	5.54%	3.84%	5.68%	4.21%	5.00%	3.57%	5.32%	3.73%	5.32%	3.18%
VIII	Leather and leather products	1.47%	1.57%	2.37%	1.55%	2.94%	1.32%	2.08%	1.17%	1.67%	1.26%
IX	Woods and articles of wood	0.49%	2.36%	0.68%	2.42%	0.77%	2.58%	0.66%	2.70%	0.49%	2.87%
X	Cellulose, paper and articles thereof	5.92%	1.62%	5.06%	1.21%	4.50%	1.41%	4.17%	0.99%	3.26%	0.93%
XI	Textiles and textile articles	16.63%	14.81%	19.13%	17.48%	22.24%	19.38%	20.87%	23.50%	18.97%	27.76%
XII	Footwear and accessories	1.99%	3.97%	2.54%	4.92%	2.43%	5.13%	1.96%	5.00%	1.50%	5.19%
XIII	Non-metallic minerals	1.69%	2.31%	1.81%	2.06%	1.57%	1.95%	1.42%	2.08%	1.31%	2.27%
XV	Base metals and articles thereof	5.84%	26.51%	6.95%	22.58%	6.70%	26.28%	5.49%	26.80%	5.50%	22.12%
XVI	Machinery and equipment	23.33%	9.25%	22.20%	9.32%	22.59%	7.17%	23.60%	8.73%	26.30%	9.94%
XVII	Vehicles, transport equipment	8.29%	0.83%	6.26%	2.52%	5.27%	1.65%	7.20%	0.78%	13.16%	0.65%
XVIII	Precise and optical equipment	4.04%	0.51%	3.59%	0.50%	2.90%	0.45%	2.97%	0.59%	2.40%	0.79%

XX	Miscellaneous manufactured articles	2.08%	2.18%	2.06%	2.16%	2.00%	1.97%	2.03%	2.17%	1.88%	2.55%
XXI	Art, collections, antiques	0.00%	0.01%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Food and live animals	4.84%	6.89%	3.72%	5.52%	5.59%	4.15%	5.00%	5.59%	3.37%	5.37%
1	Beverages and tobacco	0.67%	4.16%	1.23%	5.02%	0.65%	3.55%	0.38%	3.48%	0.43%	3.44%
2	Crude materials, inedible, except fuels	4.46%	8.66%	3.84%	6.61%	4.15%	7.97%	3.46%	6.93%	2.77%	7.37%
3	Mineral fuel, lubricants and related materials	1.06%	1.52%	0.76%	3.21%	0.98%	4.27%	2.25%	2.19%	1.55%	2.70%
4	Animal and vegetable oils, fats and waxes	0.90%	0.43%	0.43%	0.03%	0.52%	0.09%	0.62%	0.04%	0.44%	0.03%
5	Chemical and related products, n.e.s.	17.29%	14.99%	17.93%	14.74%	15.05%	13.50%	15.55%	8.62%	14.04%	6.22%
6	Manufactured goods classified chiefly by material	27.03%	35.96%	30.15%	31.82%	31.48%	34.66%	28.01%	36.07%	25.18%	29.71%
7	Machinery and transport equipment	32.58%	9.93%	29.04%	11.74%	28.12%	8.80%	31.02%	9.42%	39.20%	10.52%
8	Miscellaneous manufactured articles	11.34%	17.62%	12.96%	21.47%	13.50%	23.00%	13.68%	27.78%	12.91%	34.61%
9	Commodities and transaction not classified elsewhere	0.07%	1.09%	0.11%	0.49%	0.08%	0.41%	0.14%	0.39%	0.20%	0.76%

Table 3. Exports by EU Countries 1990-1999 – million USD

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999/1990
Total	3897.93	3439.76	3921.89	3720.97	3985.37	5354.69	4890.21	4939.69	4303.48	3973.76	101.95%
EU	328.20	598.39	1131.98	1110.44	1495.99	2013.61	1898.20	2129.73	2124.02	2060.94	627.95%
Austria	16.50	33.78	48.67	42.13	54.52	46.00	50.30	54.24	70.53	67.58	409.59%
Belgium	9.49	32.69	116.76	44.61	82.83	82.28	59.28	76.39	153.61	174.40	1838.35%
United Kingdom	21.89	66.72	122.26	115.26	106.50	168.34	140.88	131.05	108.13	99.85	456.16%
Germany	165.04	163.61	299.64	245.07	354.92	458.48	442.03	469.00	447.93	390.43	236.56%
Greece	31.16	74.88	178.81	229.27	310.22	368.63	347.63	407.10	377.55	342.93	1100.70%
Denmark	2.10	6.05	14.03	12.03	12.60	16.67	18.24	19.04	22.19	22.80	1083.61%
Ireland	-	-	-	-	-	-	-	-	-	-	-
Spain	9.52	17.81	23.27	17.75	36.78	134.54	111.33	129.24	122.35	107.53	1129.02%
Italy	30.45	92.89	226.80	221.14	304.11	435.91	493.10	577.83	552.65	552.05	1812.72%
Luxembourg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
Netherlands	14.43	31.14	63.39	54.81	92.83	102.60	79.75	75.73	79.55	82.49	571.55%
Portugal	1.07	1.91	5.61	9.82	4.30	16.49	4.30	19.93	18.18	13.17	1230.13%
Finland	3.51	10.88	15.06	7.73	10.59	12.47	8.42	8.33	9.24	8.05	229.65%
France	20.23	49.61	0.06	95.12	109.65	153.29	126.99	133.47	143.36	179.08	885.28%
Sweden	95.80	57.48	17.61	116.13	112.11	157.76	162.70	158.18	223.32	223.00	232.78%

Table 4: Reduction of Trade Towards the EU – Exports – %

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1998**	1999
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
EU	8.42%	17.40%	28.86%	29.84%	37.54%	37.60%	38.82%	43.11%	49.36%	50.17%	51.86%
Austria	0.42%	0.98%	1.24%	1.13%	1.37%	0.86%	1.03%	1.10%	1.64%	1.67%	1.70%
Belgium	0.24%	0.95%	2.98%	1.20%	2.08%	1.54%	1.21%	1.55%	3.57%	3.62%	4.39%
United Kingdom	0.56%	1.94%	3.12%	3.10%	2.67%	3.14%	2.88%	2.65%	2.51%	2.57%	2.51%
Germany	4.23%	4.76%	7.64%	6.59%	8.91%	8.56%	9.04%	9.49%	10.41%	10.62%	9.83%
Greece	0.80%	2.18%	4.56%	6.16%	7.78%	6.88%	7.11%	8.24%	8.77%	8.81%	8.63%
Denmark	0.05%	0.18%	0.36%	0.32%	0.32%	0.31%	0.37%	0.39%	0.52%	0.50%	0.57%
Ireland	-	-	-	-	-	-	-	-	-	-	-
Spain	0.24%	0.52%	0.59%	0.48%	0.92%	2.51%	2.28%	2.62%	2.84%	2.91%	2.71%
Italy	0.78%	2.70%	5.78%	5.94%	7.63%	8.14%	10.08%	11.70%	12.84%	13.07%	13.89%
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Netherlands	0.37%	0.91%	1.62%	1.47%	2.33%	1.92%	1.63%	1.53%	1.85%	1.89%	2.08%
Portugal	0.03%	0.06%	0.14%	0.26%	0.11%	0.31%	0.09%	0.40%	0.42%	0.43%	0.33%
Finland	0.09%	0.32%	0.38%	0.21%	0.27%	0.23%	0.17%	0.17%	0.21%	0.22%	0.20%
France	0.52%	1.44%	0.00%	2.56%	2.75%	2.86%	2.60%	2.70%	3.33%	3.41%	4.51%
Sweden	0.07%	0.48%	0.45%	0.42%	0.40%	0.33%	0.33%	0.57%	0.44%	0.45%	0.52%

Table 5: Share of Exports to EU Country of Total Export to the EU – %

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1998**	1999
EU	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Austria	5.03%	5.64%	4.30%	3.79%	3.64%	2.28%	2.65%	2.55%	3.32%	3.34%	3.28%
Belgium	2.89%	5.46%	10.31%	4.02%	5.54%	4.09%	3.12%	3.59%	7.23%	7.22%	8.46%
United Kingdom	6.67%	11.15%	10.80%	10.38%	7.12%	8.36%	7.42%	6.15%	5.09%	5.12%	4.85%
Germany	50.29%	27.34%	26.47%	22.07%	23.73%	22.77%	23.29%	22.02%	21.09%	21.17%	18.94%
Greece	9.49%	12.51%	15.80%	20.65%	20.74%	18.31%	18.31%	19.11%	17.78%	17.56%	16.64%
Denmark	0.64%	1.01%	1.24%	1.08%	0.84%	0.83%	0.96%	0.89%	1.04%	1.00%	1.11%
Ireland	-	-	-	-	-	-	-	-	-	-	-
Spain	2.90%	2.98%	2.06%	1.60%	2.46%	6.68%	5.87%	6.07%	5.76%	5.80%	5.22%
Italy	9.28%	15.52%	20.04%	19.91%	20.33%	21.65%	25.98%	27.13%	26.02%	26.05%	26.79%
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Netherlands	4.40%	5.20%	5.60%	4.94%	6.21%	5.10%	4.20%	3.56%	3.75%	3.76%	4.00%
Portugal	0.33%	0.32%	0.50%	0.88%	0.29%	0.82%	0.23%	0.94%	0.86%	0.86%	0.64%
Finland	1.07%	1.82%	1.33%	0.70%	0.71%	0.62%	0.44%	0.39%	0.44%	0.44%	0.39%
France	6.16%	8.29%	0.01%	8.57%	7.33%	7.61%	6.69%	6.27%	6.75%	6.79%	8.69%
Sweden	0.85%	2.75%	1.56%	1.41%	1.08%	0.89%	0.84%	1.33%	0.88%	0.89%	1.00%

Table 6: Imports by EU Countries 1990-1999 – million USD

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	3807.64	2706.10	4468.11	4757.06	4184.75	5657.64	5073.95	4931.98	5014.52	5470.30
EU	683.20	705.68	1559.30	1528.03	1541.52	2065.64	1687.57	1813.03	2310.41	2582.46
Austria	60.87	126.78	136.48	135.45	121.70	157.37	123.21	119.84	141.11	162.65
Belgium	13.14	23.68	47.27	46.15	47.80	74.63	59.28	61.98	88.71	90.60
United Kingdom	62.94	97.79	111.38	132.66	115.00	148.29	105.05	128.76	121.90	131.09
Germany	395.68	188.65	536.83	549.95	535.23	699.49	575.14	580.02	687.87	815.58
Greece	12.37	24.10	249.31	168.76	200.64	249.08	196.05	207.66	294.82	308.16
Denmark	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-
Spain	6.53	13.50	17.89	14.43	22.52	27.08	25.13	25.76	54.47	74.17
Italy	72.83	112.87	217.75	218.31	224.82	327.81	261.87	353.94	383.56	459.87
Luxembourg	-	-	-	-	-	-	-	-	-	-
Netherlands	19.38	28.49	71.53	81.85	81.61	111.23	91.36	91.71	102.84	109.81
Portugal	1.11	4.91	3.17	3.14	4.22	5.55	8.17	11.85	125.87	11.81
Finland	4.10	13.08	18.56	24.20	46.21	57.02	39.54	32.32	39.89	60.40
France	27.80	57.48	105.47	116.13	112.11	157.76	162.70	158.18	223.32	285.19
Sweden	6.46	14.34	43.65	36.99	29.67	50.33	40.08	41.02	46.05	73.13

Table 7: Redirection of Trade Towards the EU – Imports

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1998	1999
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
EU	17.94%	26.08%	34.90%	32.12%	36.84%	36.51%	33.26%	36.76%	46.07%	44.07%	47.21%
Austria	1.60%	4.69%	3.05%	2.85%	2.91%	2.78%	2.43%	2.43%	2.81%	2.86%	2.97%
Belgium	0.35%	0.88%	1.06%	0.97%	1.14%	1.32%	1.17%	1.26%	1.77%	1.74%	1.66%
United Kingdom	1.65%	3.61%	2.49%	2.79%	2.75%	2.62%	2.07%	2.61%	2.43%	2.44%	2.40%
Germany	10.39%	6.97%	12.01%	11.56%	12.79%	12.36%	11.34%	11.76%	13.72%	13.89%	14.91%
Greece	0.32%	0.89%	5.58%	3.55%	4.79%	4.40%	3.86%	4.21%	5.88%	5.84%	5.63%
Denmark	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-
Spain	0.17%	0.50%	0.40%	0.30%	0.54%	0.48%	0.50%	0.52%	1.09%	0.98%	1.36%
Italy	1.91%	4.17%	4.87%	4.59%	5.37%	5.79%	5.16%	7.18%	7.65%	7.65%	8.41%
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Netherlands	0.51%	1.05%	1.60%	1.72%	1.95%	1.97%	1.80%	1.86%	2.05%	2.06%	2.01%
Portugal	0.03%	0.18%	0.07%	0.07%	0.10%	0.10%	0.16%	0.24%	2.51%	0.23%	0.22%
Finland	0.11%	0.48%	0.42%	0.51%	1.10%	1.01%	0.78%	0.66%	0.80%	0.81%	1.10%
France	0.73%	2.12%	2.36%	2.44%	2.68%	2.79%	3.21%	3.21%	4.45%	4.51%	5.21%
Sweden	0.17%	0.53%	0.98%	0.78%	0.71%	0.89%	0.79%	0.83%	0.92%	1.05%	1.34%

Table 8: Share of Imports to EU Country of Total Imports to the EU

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1998	1999
EU	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Austria	8.91%	17.97%	8.75%	8.86%	7.89%	7.62%	7.30%	6.61%	6.11%	6.49%	6.30%
Belgium	1.92%	3.36%	3.03%	3.02%	3.10%	3.61%	3.51%	3.42%	3.84%	3.95%	3.51%
United Kingdom	9.21%	13.86%	7.14%	8.68%	7.46%	7.18%	6.22%	7.10%	5.28%	5.55%	5.08%
Germany	57.92%	26.73%	34.43%	35.99%	34.72%	33.86%	34.08%	31.99%	29.77%	31.52%	31.58%
Greece	1.81%	3.41%	15.99%	11.04%	13.02%	12.06%	11.62%	11.45%	12.76%	13.25%	11.93%
Denmark	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-
Spain	0.96%	1.91%	1.15%	0.94%	1.46%	1.31%	1.49%	1.42%	2.36%	2.23%	2.87%
Italy	10.66%	16.00%	13.96%	14.29%	14.58%	15.87%	15.52%	19.52%	16.60%	17.36%	17.81%
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Netherlands	2.84%	4.04%	4.59%	5.36%	5.29%	5.38%	5.41%	5.06%	4.45%	4.67%	4.25%
Portugal	0.16%	0.70%	0.20%	0.21%	0.27%	0.27%	0.48%	0.65%	5.45%	0.52%	0.46%
Finland	0.60%	1.85%	1.19%	1.58%	3.00%	2.76%	2.34%	1.78%	1.73%	1.84%	2.34%
France	4.07%	8.15%	6.76%	7.60%	7.27%	7.64%	9.64%	8.72%	9.67%	10.23%	11.04%
Sweden	0.95%	2.03%	2.80%	2.42%	1.92%	2.44%	2.37%	2.26%	1.99%	2.38%	2.83%

Table 9: Trade Coverage Indices (TCI) in the Trade Relations with the EU, 1992-1995

European Union	TCI	TCI	TCI	TCI
BRANCH - HS	**1992**	**1993**	**1994**	**1995**
Live animals /thousands /	2.07	0.29	0.10	0.42
Meat and edible meat offal /tons/	137.53	0.29	0.44	0.94
Dairy products and bird's eggs; natural honey; edible products /tons/	3.61	2.14	1.56	0.49
Edible vegetables and certain roots and tubers /tons/	35.67	5.28	5.26	4.29
Edible fruit and nuts; peel of citrus fruit of melons /tons/	0.87	0.25	0.22	0.14
Coffee, tea, mate and spices /tons/	0.58	0.67	3.81	4.48
Cereals /tons/	-	-	-	-
Oil seeds and oleaginous fruits; miscellaneous grain, seed, fruit etc. /tons/	4497.13	312.74	325.50	428.90
Preparation of vegetable, fruit, nuts or other /tons/	5.44	0.68	0.70	0.86
Miscellaneous edible preparations /tons/	-	-	-	-
Beverages, spirits and vinegar /thousand liters/	1.19	1.30	1.29	1.49
Tobacco and manufactured tobacco substitutes /tons/	0.47	0.47	3.10	1.50
Salt; sulfur; earth & stone; plastering material; lime & cement /tons/	7.09	4.88	3.85	5.29
Ores, slag and ash /tons/	0.60	7.73	2121.70	560.19

European Union	TCI	TCI	TCI	TCI
BRANCH - HS	**1992**	**1993**	**1994**	**1995**
Mineral fuels, oils & products of their distillation; /tons	0.19	0.50	2.73	1.18
Inorganic chemicals compounds of precious metals, radioactive elements, etc. /tons/	36.13	36.63	65.24	15.67
Organic chemicals /tons	1.09	3.24	5.46	3.53
Pharmaceutical products /thousand leva/	0.39	0.31	0.77	0.41
Essential oils & resinoids; perfume cosmetics or toilet preparation /tons/	0.22	0.48	0.80	0.30
Miscellaneous chemical products /tons/	0.70	0.25	0.24	0.19
Plastic and articles thereof /tons/	0.87	1.06	1.13	1.19
Rubber and articles thereof /tons/	3.67	17.86	3.45	3.44
Wood and articles of wood; coal /tons/	-	-	-	-
Pulp of wood/of other fibrous cellulose materials; waste etc. /tons/	4.34	2.93	13.02	19.47
Paper & paperboard; articles of paper pulp, paper/paperboard /tons/	0.24	0.20	0.10	0.19
Wool, fine/coarse animal hair, horsehair yarn & fabric /tons/	2.34	0.99	1.89	1.93
Cotton /tons/	0.38	0.94	0.46	0.38
Man-made filaments /tons/	1.63	3.08	3.04	2.80
Man-made staple fibers /tons/	0.56	0.68	0.70	0.62
Knitted or crocheted fabrics /tons/	-	-	-	-

European Union	TCI	TCI	TCI	TCI
BRANCH - HS	**1992**	**1993**	**1994**	**1995**
Articles of apparel & clothing accessories, crocheted /thousand leva/	2.32	2.30	3.00	2.84
Footwear, gaiters and the like; parts of such articles /thousand leva/	1.35	2.77	2.97	2.47
Articles of stone, plaster, cement, asbestos, mica/similar materials /tons/	80.73	13.93	5.86	8.36
Ceramic products /tons/	10.46	4.69	3.80	5.03
Glass and glassware /tons/	317.38	371.03	302.53	634.97
Iron and steel /tons/	19.63	14.10	47.56	68.82
Articles of iron or steel /tons/	6.54	8.39	11.25	10.90
Cooper and articles thereof /tons/	-	-	-	-
Aluminum and articles thereof /tons/	3.67	2.71	2.94	3.08
Tools, implements, cutlery, spoons & forks, of base metal, etc. /thousand leva/	2.65	19.53	6.59	8.72
Miscellaneous articles of base metal /tons/	0.00	0.00	0.00	0.00
Nuclear reactors, boilers, machinery & mechanical appliance; parts /thousand leva/	0.34	0.27	0.29	0.36
Electrical machines, equipment parts thereof; sound recorders, etc. /thousand leva /	0.39	0.54	0.53	0.48

European Union	TCI	TCI	TCI	TCI
BRANCH - HS	**1992**	**1993**	**1994**	**1995**
Vehicles other than railway tramway rolling stock, parts & accessories /thousand leva/	0.06	0.04	0.06	0.07
Ships, boats and floating structures /	-	-	-	-
Optical, photographic, cinematographic, measuring checking, precision, apparatus, etc. /thousand leva/	0.04	0.04	0.01	0.10
Furniture; bedding, mattress, mattress support, cushion, etc. /thousand leva/	4.25	1.44	1.47	1.98
Albumioidal substances; derivatives based on modified starches; glues; enzymes /tons/	1.78	1.04	0.04	0.04
Articles of apparel & clothing accessories, not knitted/crocheted /thousand leva/	8.21	6.72	10.30	26.38
Fish and crustacean, mollusc and other aquatic invertebrate /tons/	0.46	1.02	2.21	1.21

Table 10: Trade Coverage Indices (TCI) and Specialization Indices (RCA) in Trade Relations with the EU

	European Union	**TCI**	**TCI**	**TCI**	**TCI**	**RCAi**	**RCAi**	**RCAi**	**RCAi**
Nr	**BRANCH – SITC**	1996	1997	1998	1999	1996	1997	1998	1999
0	Food and live animals	1.59	0.85	1.03	1.29	1.48	0.74	1.10	1.66
00	Live animals	1.86	0.23	0.12	0.14	1.74	0.20	0.13	0.18
01	Meat and meat preparations	6.89	2.13	1.62	1.95	6.45	1.86	1.72	2.50
02	Dairy products and birds eggs	1.14	0.43	0.12	0.08	1.07	0.38	0.12	0.10
03	Fish, crustaceans, molluscs and the like and preparations thereof	0.73	0.26	0.27	0.60	0.68	0.22	0.29	0.77
	Cereals and cereal preparations	0.17	0.03	0.23	1.10	0.16	0.02	0.24	1.42
05	Vegetables and fruits	2.51	2.18	3.88	3.00	2.35	1.90	4.13	3.86
06	Sugar, sugar preparation sand honey	3.11	1.14	0.76	0.91	2.91	1.00	0.81	1.17
07	Coffee, tea, cocoa, spices and manufactures thereof	0.24	0.42	0.19	0.23	0.22	0.37	0.20	0.29
08	Feed for animals (excl. unmilled cereals)	0.01	0.05	0.67	1.27	0.00	0.05	0.72	1.63
09	Miscellaneous edible products and preparations	0.70	0.27	0.10	0.32	0.66	0.24	0.10	0.41
1	Beverages and tobacco	4.37	6.23	8.58	6.19	4.09	5.44	9.12	7.96
11	Beverages	15.35	35.00	12.61	5.43	14.36	30.58	13.41	6.98
12	Tobacco and tobacco manufactures	1.62	1.11	3.70	8.51	1.52	0.97	3.94	10.94
2	Crude materials, inedible (except fuel)	1.84	2.20	1.89	2.07	1.72	1.92	2.01	2.66
21	Hides, skins and fur skins, raw	14.71	65.92	7.12	57.61	13.76	57.58	7.58	74.05
22	Oil seeds and oleaginous fruits	132.33	46.78	10.84	26.59	123.79	40.86	11.53	34.18
23	Crude rubber (incl. synthetic and reclaimed)	2.96	3.51	3.61	3.87	2.77	3.07	3.83	4.97

24	Cork and wood	42.22	67.40	46.65	45.61	39.49	58.87	49.61	58.63
25	Pulp and waste paper	3.97	2.48	2.10	4.72	3.72	2.17	2.24	6.07
26	Textile fibers (excl. combed wool and their wastes not manufactured into yarn or fabric)	0.24	0.35	0.35	0.10	0.22	0.30	0.37	0.13
27	Crude fertilizers and minerals (excl. coal, petroleum and precious stones)	3.89	3.00	1.71	1.11	3.64	2.62	1.82	1.43
28	Metalliferous ores metal scrap	2.60	4.76	1.03	1.51	2.43	4.16	1.09	1.94
29	Crude animal and vegetable materials, n.e.c.	6.62	10.21	8.03	2.46	6.19	8.92	8.54	3.17
3	Mineral fuel, lubricants and related materials	3.66	3.11	0.38	1.35	3.43	2.71	0.41	1.74
32	Coal, coke and briquettes	0.13	2.69	33.07	0.44	0.12	2.35	35.18	0.57
33	Petroleum, petroleum products and related materials	3.73	3.15	0.43	1.62	3.49	2.75	0.46	2.08
34	Gas, natural and manufactured	2.00	0.00	0.00	0.00	1.87	0.00	0.00	0.00
4	Animals and vegetable oils, fats and waxes	0.08	0.20	0.06	0.05	0.08	0.17	0.06	0.06
41	Animal oils and fats	0.71	0.02	0.06	0.29	0.66	0.02	0.07	0.37
42	Fixed vegetable fats and oils, crude, refined or factionated	0.02	1.01	0.14	0.02	0.02	0.88	0.15	0.03
43	Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin	0.08	0.04	0.03	0.05	0.07	0.04	0.04	0.06
5	Chemicals and related products, n.e.c.	0.88	1.03	0.52	0.34	0.82	0.90	0.55	0.44
51	Organic chemicals	0.92	1.36	1.03	0.95	0.86	1.19	1.10	1.22
52	Inorganic chemicals	5.22	5.30	1.98	2.42	4.88	4.63	2.10	3.11
53	Dyeing, tanning and coloring materials, factionated	0.06	0.07	0.05	0.01	0.05	0.06	0.05	0.01
54	Medical and pharmaceutical products	0.54	0.68	0.39	0.23	0.51	0.60	0.41	0.30

55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	0.14	0.19	0.11	0.09	0.13	0.16	0.12	0.12
56	Fertilizers, manufactured	131.93	1062.04	103.41	36.10	123.41	927.70	109.98	46.41
57	Plastic in primary form	1.01	1.11	0.95	0.55	0.94	0.97	1.01	0.70
58	Plastic in non-primary form	0.16	0.24	0.14	0.06	0.15	0.21	0.15	0.07
59	Chemical materials and products, n.e.c.	0.07	0.09	0.05	0.05	0.07	0.08	0.05	0.06
6	Manufactured goods classified chiefly by material	1.13	1.26	1.21	0.92	1.06	1.10	1.29	1.18
61	Leather, leather manufactures, n.e.c. and dressed fur skins	0.37	0.30	0.28	0.16	0.35	0.26	0.30	0.21
62	Rubber manufactures, n.e.c.	0.82	0.68	0.58	0.65	0.76	0.60	0.62	0.84
63	Wood and cork manufactures (excl. furniture)	1.92	1.93	2.07	2.50	1.80	1.69	2.21	3.21
64	Paper, paperboard and manufactures	0.12	0.19	0.12	0.12	0.11	0.17	0.13	0.15
65	Textile yarn, fabrics, made-up articles, n.e.c., and related products	0.34	0.31	0.27	0.22	0.32	0.27	0.29	0.28
66	Non-metallic mineral manufactures, n.e.c.	1.19	1.47	1.37	0.90	1.11	1.29	1.46	1.15
67	Iron and steel	4.43	6.51	7.59	4.13	4.14	5.69	8.07	5.31
68	Non-ferrous metals	7.39	7.12	5.81	5.78	6.91	6.22	6.18	7.42
69	Manufactured metals, n.e.c.	0.72	0.78	0.90	0.72	0.67	0.68	0.95	0.92
7	Machinery and transport equipment	0.43	0.36	0.29	0.21	0.40	0.31	0.30	0.27
71	Power generating machinery and equipment	1.85	2.13	2.19	1.32	1.73	1.86	2.33	1.69
72	Machinery specialized for particular industries	0.22	0.09	0.10	0.11	0.20	0.08	0.11	0.14
73	Metalworking machinery	2.23	2.53	1.60	1.49	2.08	2.21	1.70	1.91
74	General industrial machinery and equipment and parts, n.e.c.	0.48	0.55	0.50	0.45	0.44	0.48	0.53	0.57

75	Office machines and automatic data processing machines	0.10	0.06	0.02	0.04	0.09	0.06	0.03	0.05
76	Telecommunications, sound recording and reproducing apparatus and equipment	0.04	0.05	0.02	0.04	0.04	0.04	0.03	0.06
77	Electrical machinery and parts thereof	0.44	0.36	0.33	0.31	0.42	0.31	0.35	0.40
78	Road vehicles	0.22	0.08	0.06	0.03	0.21	0.07	0.06	0.03
79	Other transport equipment	3.96	2.88	0.47	0.35	3.71	2.52	0.50	0.45
8	Miscellaneous manufactured articles	1.77	1.95	1.92	2.10	1.66	1.70	2.04	2.70
81	Prefabricated structures, sanitary, plumbing, heating and lighting fixtures and fittings, n.e.c.	0.66	1.12	1.90	3.39	0.62	0.98	2.02	4.36
82	Furniture and parts thereof	1.99	2.74	2.37	2.02	1.87	2.40	2.52	2.59
83	Travel goods, handbags and the like	4.74	3.17	2.95	4.74	4.44	2.77	3.14	6.09
84	Articles of apparel and clothing	3.89	3.47	3.30	3.62	3.64	3.03	3.51	4.66
85	Footwear	2.08	2.43	2.44	2.72	1.95	2.12	2.59	3.50
87	Professional, scientific and controlling instruments and apparatus, n.e.c.	0.11	0.11	0.17	0.20	0.10	0.09	0.18	0.26
88	Photographic and optical goods, n.e.c., watches and clocks	0.40	0.78	0.83	0.79	0.37	0.68	0.88	1.02
89	Miscellaneous manufactured articles, n.e.c.	0.61	0.53	0.48	0.44	0.57	0.46	0.51	0.57
9	Commodities and transactions, n.e.c.	4.53	5.80	2.56	2.89	4.24	5.07	2.72	3.72

Table 11: Trade Coverage Indices and Specialization Indices in Trade Relations with the EU

European Union	TCI	TCI	TCI	TCI	TCI	RCA	RCA	RCA	RCA	RCA
BRANCH	**1995**	**1996**	**1997**	**1998**	**1999**	**1995**	**1996**	**1997**	**1998**	**1999**
TOTAL:	0.95	1.07	1.14	0.94	0.78	2.34	2.91	1.17	1.04	1.71
Live animals, animal products	2.22	3.11	1.34	0.98	1.33	4.00	3.60	1.42	5.50	5.94
Vegetable products	3.79	3.85	1.63	5.17	4.62	0.54	0.03	0.12	0.03	0.03
Animal or vegetable fats and oils	0.51	0.04	0.13	0.03	0.02	1.50	1.82	1.67	1.73	2.35
Food, beverages and tobacco	1.42	1.94	1.92	1.62	1.83	1.91	3.30	3.50	1.06	1.44
Mineral products	1.82	3.53	4.00	1.00	1.12	0.92	0.87	0.95	0.54	0.46
Chemical or allied products	0.87	0.93	1.08	0.51	0.36	0.69	0.74	0.71	0.70	0.60
Plastics and rubber	0.66	0.79	0.82	0.66	0.47	1.07	0.65	0.45	0.56	0.76
Leather and leather products	1.01	0.70	0.51	0.53	0.59	4.84	3.56	3.33	4.08	5.88
Wood and articles of wood	4.60	3.80	3.81	3.84	4.58	0.27	0.24	0.31	0.24	0.29
Cellulose, paper and articles thereof	0.26	0.25	0.36	0.22	0.22	0.89	0.91	0.87	1.13	1.46
Textiles and textile articles	0.85	0.98	1.00	1.06	1.14	1.99	1.94	2.12	2.55	3.45
Footwear and accessories	1.89	2.07	2.42	2.40	2.69	1.37	1.14	1.24	1.47	1.73
Non-metallic minerals	1.30	1.22	1.42	1.38	1.35	4.54	3.25	3.92	4.88	4.02
Base metals and articles thereof	4.31	3.47	4.49	4.59	3.13	0.40	0.42	0.32	0.37	0.38
Machinery and equipment	0.38	0.45	0.36	0.35	0.29	0.10	0.40	0.31	0.11	0.05
Vehicles, transport equipment	0.09	0.43	0.36	0.10	0.04	0.13	0.14	0.15	0.20	0.33
Precise and optical equipment	0.12	0.15	0.18	0.19	0.25	1.05	1.05	0.98	1.07	1.36

Miscellaneous manufactured articles	0.99	1.12	1.13	1.00	1.06	-	-	-	-	-
SITC	-	-	-	-	-	6.15	4.06	5.44	1.00	7.93
Food and live animals	1.35	1.59	0.85	1.05	1.24	1.92	1.71	1.92	1.00	2.64
Beverages and tobacco	5.90	4.36	6.24	8.61	6.21	1.42	4.20	4.32	1.00	1.73
Crude materials, inedible, except fuels	1.84	1.84	2.20	1.89	2.07	0.47	0.07	0.17	1.00	0.07
Mineral fuel, lubricants and related materials	1.37	4.51	4.96	0.91	1.35	0.86	0.82	0.89	1.00	0.44
Animal and vegetable oils, fats and waxes	0.46	0.08	0.20	0.06	0.05	1.32	1.05	1.10	1.00	1.17
Chemical and related products, n.e.c.	0.82	0.88	1.03	0.52	0.34	0.30	0.40	0.31	1.00	0.27
Manufactured goods classified chiefly by material	1.26	1.13	1.26	1.21	0.92	1.54	1.65	1.70	1.00	2.66
Machinery and transport equipment	0.29	0.43	0.36	0.29	0.21	15.08	4.38	5.41	1.00	3.71
Miscellaneous manufactured articles	1.47	1.77	1.95	1.91	2.09					

Table 12: Intra-Industry Trade Indices in Trade Relations with the EU, 1992-1995

European Union	**IIT**	**IIT**	**IIT**	**IIT**
BRANCH – HS	**1992**	**1993**	**1994**	**1995**
Live animals /thousands/	0.65	0.45	0.17	0.59
Meat and edible meat offal /tons/	0.01	0.46	0.61	0.97
Dairy products and bird's eggs; natural honey; edible products /tons/	0.43	0.64	0.78	0.65
Edible vegetables and certain roots and tubers /tons/	0.05	0.32	0.32	0.38
Edible fruit and nuts; peel of citrus fruit of melons /tons/	0.93	0.40	0.36	0.25
Coffee, tea, mate and spices /tons/	0.74	0.80	0.42	0.37
Cereals /tons/	-	-	-	-
Oil seeds and oleaginous fruits; miscellaneous grain, seed, fruit, etc. /tons/	0.00	0.01	0.01	0.00
Preparation of vegetables, fruit, nuts or other /tons/	0.31	0.81	0.82	0.93
Miscellaneous edible preparations /tons/	-	-	-	-
Beverages, spirits and vinegar /thousand liters/	0.91	0.87	0.87	0.80
Tobacco and manufactured tobacco substitutes /tons/	0.64	0.64	0.49	0.80
Salt; sulfur; earth & stone; plastering material; lime & cement /tons/	0.25	0.34	0.41	0.32

European Union	**IIT**	**IIT**	**IIT**	**IIT**
BRANCH – HS	**1992**	**1993**	**1994**	**1995**
Ores, slag and ash /tons/	0.75	0.23	0.00	0.00
Mineral fuels, oils & products of their distillation; /tons/	0.31	0.67	0.54	0.92
Inorganic chemicals ,compounds of precious metals, radioactive elements, etc. /tons/	0.05	0.05	0.03	0.12
Organic chemicals /tons/	0.96	0.47	0.31	0.44
Pharmaceutical products /thousand leva/	0.57	0.47	0.87	0.58
Fertilizers /tons/	-	-	-	-
Essential oils & resinoids; perfume, cosmetics or toilet preparations /tons/	0.36	0.65	0.89	0.46
Miscellaneous chemical products /tons/	0.82	0.40	0.39	0.32
Plastic and articles thereof /tons/	0.93	0.97	0.94	0.91
Rubber and articles thereof /tons/	0.43	0.11	0.45	0.45
Raw hides and skins (other than fur skins) and leather /tons/	0.16	0.10	0.15	0.24
Wood and articles of wood; coal /tons/	-	-	-	-
Pulp of wood/of other fibrous cellulose materials; waste, etc. /tons/	0.37	0.51	0.14	0.10
Paper & paperboard; articles of paper pulp, paper/paperboard /tons/	0.39	0.34	0.19	0.32
Wool, fine/ coarse animal hair, horsehair yarn & fabric /tons/	0.60	1.00	0.69	0.68
Cotton /tons/	0.55	0.97	0.63	0.55

European Union	**IIT**	**IIT**	**IIT**	**IIT**
BRANCH – HS	**1992**	**1993**	**1994**	**1995**
Man-made filaments /tons/	0.76	0.49	0.50	0.53
Man-made staple fibers /tons/	0.72	0.81	0.82	0.77
Articles of apparel & clothing accessories, crocheted /thousand leva/	0.60	0.61	0.50	0.52
Footwear, gaiters and the like; parts of such articles /thousand leva/	0.85	0.53	0.50	0.58
Articles of stone, plaster, cement, asbestos, mica/similar materials /tons/	0.02	0.13	0.29	0.21
Ceramic products /tons/	0.17	0.35	0.42	0.33
Glass and glassware /tons/	0.01	0.01	0.01	0.00
Iron and steel /tons/	0.10	0.13	0.04	0.03
Articles of iron or steel /tons/	0.27	0.21	0.16	0.17
Cooper and articles thereof /tons/	-	-	-	-
Aluminum and articles thereof /tons/	0.43	0.54	0.51	0.49
Tools, implements, cutlery, spoons & forks, of base metal, etc. /thousand leva/	0.55	0.10	0.26	0.21
Miscellaneous articles of base metal /tons/	0.00	0.00	0.00	0.00
Nuclear reactors, boilers, machinery & mechanical appliances; parts /thousand leva/	0.51	0.43	0.46	0.53

European Union	**IIT**	**IIT**	**IIT**	**IIT**
BRANCH – HS	**1992**	**1993**	**1994**	**1995**
Electrical machines, equipment parts thereof; sound recorders, etc. /thousand leva /	0.56	0.70	0.69	0.65
Vehicles other than railway tramway rolling stock, parts & accessories /thousand leva/	0.11	0.08	0.11	0.13
Ships, boats and floating structures /	-	-	-	-
Optical, photographic, cinematographic, measuring, checking, precision, apparatuses, etc. /thousand leva/	0.08	0.08	0.03	0.18
Clocks and watches and parts thereof /	-	-	-	-
Furniture; bedding, mattress, mattress support, cushions, etc. /thousand leva/	0.38	0.82	0.81	0.67
Albumioidal substances; derivatives based on modified starches; glues; enzymes /tons/	0.72	0.98	0.08	0.08
Articles of apparel & clothing accessories, not knitted/crocheted /thousand leva/	0.22	0.26	0.18	0.07
Animal/vegetable fats & oils & their cleavage products; etc. /tons/	0.99	0.65	0.43	0.87
Fish and crustacean, mollusc and other aquatic invertebrate /tons/	0.63	0.99	0.62	0.91

Table 13: Intra-Industry Trade (IIT) Indices in Trade Relations with the EU, 1992-1995

Nr	**European Union** **BRANCH – SITC**	**IIT** **1996**	**IIT** **1997**	**IIT** **1998**	**IIT** **1999**
0	Food and live animals	0.77	0.92	0.98	0.87
00	Live animals	0.70	0.37	0.22	0.25
01	Meat and meat preparations	0.25	0.64	0.76	0.68
02	Dairy products and birds' eggs	0.93	0.60	0.21	0.14
03	Fish, crustaceans, molluscs and the like and preparations thereof	0.84	0.41	0.43	0.75
04	Cereals and cereal preparation	0.29	0.05	0.37	0.95
05	Vegetables and fruits	0.57	0.63	0.41	0.50
06	Sugar, sugar preparations and honey	0.49	0.93	0.87	0.95
07	Coffee, tea, cocoa, spices and manufactures thereof	0.38	0.59	0.32	0.37
08	Feed for animals (excl. unmilled cereals)	0.01	0.10	0.80	0.88
09	Miscellaneous edible products and preparations	0.82	0.43	0.18	0.48
1	Beverages and tobacco	0.37	0.28	0.21	0.28
11	Beverages	0.12	0.06	0.15	0.31
12	Tobacco and tobacco manufactures	0.76	0.95	0.43	0.21
2	Crude materials, inedible (except fuel)	0.70	0.63	0.69	0.65
21	Hides, skins and fur skins, raw	0.13	0.03	0.25	0.03
22	Oil seeds and oleaginous fruits	0.02	0.04	0.17	0.07
23	Crude rubber (incl. Synthetic and reclaimed)	0.51	0.44	0.43	0.41
24	Cork and wood	0.05	0.03	0.04	0.04

Nr	**European Union** **BRANCH – SITC**	**IIT** **1996**	**IIT** **1997**	**IIT** **1998**	**IIT** **1999**
25	Pulp and waste paper	0.40	0.57	0.64	0.35
26	Textile fibers (excl. combed wool and their wastes not manufactured into yarn or fabric)	0.38	0.52	0.52	0.18
27	Crude fertilizers and minerals (excl. coal, petroleum and precious stones)	0.41	0.50	0.74	0.95
28	Metalliferous ores; metal scrap	0.56	0.35	0.99	0.80
29	Crude animal and vegetable materials, n.e.c.	0.26	0.18	0.22	0.58
3	Mineral fuel, lubricants and related materials	0.43	0.49	0.55	0.85
32	Coal, coke and briquettes	0.22	0.54	0.06	0.62
33	Petroleum, petroleum products and related materials	0.42	0.48	0.61	0.76
34	Gas, natural and manufactured	0.67	0.00	0.00	0.00
4	Animals and vegetable oils, fats and waxes	0.15	0.33	0.11	0.10
41	Animal oils and fats	0.83	0.03	0.12	0.45
42	Fixed vegetable fats and oils, crude, refined or factionated	0.04	0.99	0.25	0.04
43	Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin	0.14	0.09	0.07	0.09
5	Chemicals and related products, n.e.c.	0.94	0.99	0.69	0.51
51	Organic chemicals	0.96	0.85	0.98	0.97
52	Inorganic chemicals	0.32	0.32	0.67	0.58
53	Dyeing, tanking and coloring materials, factionated	0.11	0.12	0.09	0.02
54	Medical and pharmaceutical products	0.70	0.81	0.56	0.38
55	Essential oils and perfume materials; toilet, polishing and	0.24	0.32	0.20	0.17

Nr	**European Union** **BRANCH – SITC**	**IIT** **1996**	**IIT** **1997**	**IIT** **1998**	**IIT** **1999**
	cleansing preparations				
56	Fertilizers manufactured	0.02	0.00	0.02	0.05
57	Plastic in primary form	1.00	0.95	0.98	0.71
58	Plastic in non-primary form	0.27	0.38	0.25	0.11
59	Chemical materials and products, n.e.c.	0.14	0.17	0.09	0.09
6	Manufactured goods classified chiefly by material	0.94	0.88	0.90	0.96
61	Leather, leather manufactures, n.e.c. and dressed fur skins	0.54	0.46	0.44	0.28
62	Rubber manufactures, n.e.c.	0.90	0.81	0.74	0.79
63	Wood and cork manufactures (excl. furniture)	0.68	0.68	0.65	0.57
64	Paper, paperboard and manufactures	0.21	0.32	0.21	0.21
65	Textile yarn, fabrics, made-up articles, n.e.c., and related products	0.51	0.48	0.43	0.36
66	Non-metallic mineral manufactures, n.e.c.	0.91	0.81	0.84	0.95
67	Iron and steel	0.37	0.27	0.23	0.39
68	Non-ferrous metals	0.24	0.25	0.29	0.30
69	Manufactured metals, n.e.c.	0.84	0.88	0.94	0.84
7	Machinery and transport equipment	0.60	0.53	0.44	0.35
71	Power generating machinery and equipment	0.70	0.64	0.63	0.86
72	Machinery specialized for particular industries	0.36	0.16	0.18	0.19
73	Metalworking machinery	0.62	0.57	0.77	0.80
74	General industrial machinery and equipment and parts, n.e.c.	0.64	0.71	0.67	0.62

Nr	**European Union** **BRANCH – SITC**	**IIT** **1996**	**IIT** **1997**	**IIT** **1998**	**IIT** **1999**
75	Office machines and automatic data processing machines	0.18	0.12	0.05	0.07
76	Telecommunications, sound recording and reproducing apparatus and equipment	0.08	0.09	0.05	0.08
77	Electrical machinery and parts thereof	0.61	0.53	0.50	0.48
78	Road vehicles	0.36	0.15	0.11	0.05
79	Other transport equipment	0.40	0.52	0.64	0.52
8	Miscellaneous manufactured articles	0.72	0.68	0.69	0.64
81	Prefabricated structures, sanitary, plumbing, heating and lighting fixtures and fittings, n.e.c.	0.79	0.94	0.69	0.46
82	Furniture and parts thereof	0.67	0.53	0.59	0.66
83	Travel goods, handbags and the like	0.35	0.48	0.51	0.35
84	Articles of apparel and clothing	0.41	0.45	0.46	0.43
85	Footwear	0.65	0.58	0.58	0.54
87	Professional, scientific and controlling instruments and apparatus, n.e.c.	0.20	0.20	0.28	0.34
88	Photographic and optical goods, n.e.c., watches and clocks	0.57	0.87	0.91	0.88
89	Miscellaneous manufactured articles, n.e.c.	0.76	0.69	0.65	0.61
9	Commodities and transactions, n.e.c.	0.36	0.29	0.56	0.51

Table 14: Intra-Industry Trade Indices in the Trade Relations with the EU, 1995-1999

	European Union	IIT	IIT	IIT	IIT	IIT
Nr HS	**BRANCH**	**1995**	**1996**	**1997**	**1998**	**1999**
I	Live animals, animal products	0.62	0.49	0.86	0.99	0.86
II	Animal or vegetable fats and oils	0.42	0.41	0.76	0.32	0.36
III	Food, beverages and tobacco	0.67	0.07	0.24	0.06	0.05
IV	Mineral products	0.83	0.68	0.69	0.76	0.71
V	Chemical or allied products	0.71	0.44	0.40	1.00	0.94
VI	Plastics and rubber	0.93	0.96	0.96	0.68	0.53
VII	Leather and leather products	0.79	0.88	0.90	0.79	0.64
VIII	Wood and articles of wood	0.99	0.82	0.68	0.69	0.74
IX	Cellulose, paper and articles thereof	0.36	0.42	0.42	0.41	0.36
X	Textiles and textile articles	0.41	0.41	0.53	0.36	0.36
XI	Footwear and accessories	0.92	0.99	1.00	0.97	0.94
XII	Non-metallic minerals	0.69	0.65	0.58	0.59	0.54
XIII	Base metals and articles thereof	0.87	0.90	0.83	0.84	0.85
XV	Machinery and equipment	0.38	0.45	0.36	0.36	0.48
XVI	Vehicles, transport equipment	0.55	0.62	0.53	0.52	0.45
XVII	Precise and optical equipment	0.17	0.60	0.53	0.18	0.07

XVIII	Miscellaneous manufactured articles	0.22	0.26	0.30	0.31	0.41
XX	Art, collections, antiques	1.00	0.94	0.94	1.00	0.97
XXI	SITC			1.00	0.00	0.00
	Food and live animals					
0	Beverages and tobacco	0.85	0.77	0.92	0.98	0.89
1	Crude materials, inedible, except fuels	0.29	0.37	0.28	0.21	0.28
2	Mineral fuel, lubricants and related materials	0.70	0.70	0.63	0.69	0.65
3	Animal and vegetable oils, fats and waxes	0.85	0.36	0.34	0.96	0.85
4	Chemical and related products, n.e.c.	0.63	0.14	0.33	0.11	0.10
5	Manufactured goods classified chiefly by material	0.90	0.94	0.99	0.69	0.51
6	Machinery and transport equipment	0.88	0.94	0.88	0.90	0.96
7	Miscellaneous manufactured articles	0.45	0.60	0.53	0.44	0.35
8	Commodities and transactions not classified elsewhere	0.81	0.72	0.68	0.69	0.65

Table 15. Composition of Bulgarian Exports to the EU in Terms of Factor Intensities and Their Share in EU External Imports, 1989-98 (in %)

A. Composition of Bulgaria's EU-oriented exports								**Index**				**Index**	
	1989	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1995, 1989=100**	**1996**	**1997**	**1998**	**1998, 1996=100**	**ROW, 1997**
Natural Resource Intensive	46.8	44.3	42.2	41.1	41.8	40.1	36.5	78	32.7	32	30.4	93	38.4
Unskilled Labor Intensive	15.5	18.6	24	29.9	31.4	27	23.6	152	28.9	30.2	33.7	117	14.6
Capital Intensive	21.1	19.4	19.3	16.3	18.2	20	19.9	94	22.1	19.8	16.5	75	29.3
Skilled Labor Intensive	13.7	15.6	13.3	11.9	6.9	11.7	18.5	135	15.5	16.8	18.1	117	14.8
All Products (in millions of US dollars	657	823	999	1,265	1,210	1,713	2,427	369	2,204	2,410	2,543	115	1,812
B. Share in EU-external imports													
Natural Resource Intensive	0.08	0.08	0.10	0.12	0.13	0.16	0.18	225	0.14	0.15	0.17	121	
Unskilled Labor Intensive	0.07	0.08	0.12	0.17	0.20	0.23	0.25	357	0.27	0.30	0.35	130	
Capital Intensive	0.03	0.03	0.04	0.04	0.05	0.06	0.07	233	0.07	0.07	0.05	71	
Skilled Labor Intensive	0.03	0.03	0.04	0.04	0.03	0.05	0.10	333	0.07	0.09	0.09	129	
All Products	0.05	0.05	0.06	0.08	0.09	0.11	0.13	260	0.11	0.12	0.12	109	

Source: World Bank calculations. Data on Bulgaria's exports as reported by the EU to the UN COMTRADE database.

Table 16. Selected Features of Bulgaria's 'Dirty' Exports to the EU, 1992-98

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Exports (in million of US dollars)	209	256	257	281	264	523	1,064	767	859	841
Share in EU oriented exports	32	31	26	22	22	31	42	35	36	33
Share in EU 'dirty' imports	0.08	0.09	0.09	0.10	0.11	0.19	0.29	0.23	0.26	0.25
Export Specialization Indices	1.4	1.7	1.6	1.4	1.5	2.1	2.8	2.1	2.3	2.4

Source: World Bank calculations from data in UN COMTRADE database.

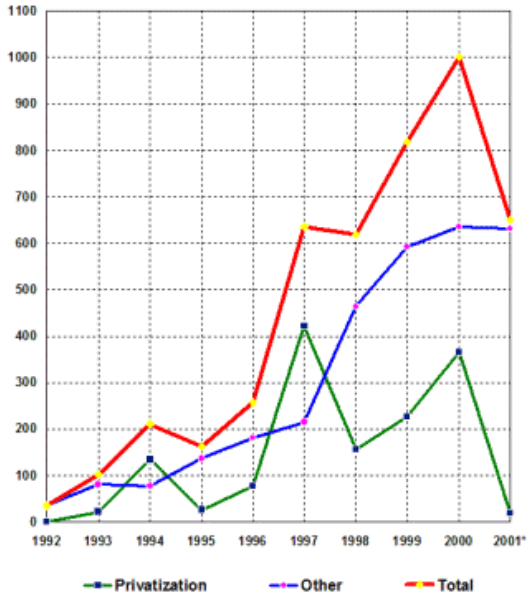
Table 17: Foreign Direct Investment Inflows in Bulgaria by Years

	VOLUME IN USD m		
YEAR	**Privatization**	**Non-privatization**	**Total by years**
1993	22	80.4	102.4
1994	134.2	76.7	210.9
1995	26	136.6	162.6
1996	76.4	180	256.4
1997	421.4	214.8	636.2
1998	155.8	464.2	620.0
1999	226.7	592.1	818.8
2000	366	635.5	1001.5
2001	19.2	631.9	688.5
Total	1447.7	3046.6	4531.7

"*Non-privatization"* - Greenfield investment + additional investment in companies with foreign participation + Reinvestment + Joint ventures

Source: Bulgarian Foreign Investment Agency

Figure 1: Foreign Direct Investment Inflows by Years in USD M



"*Non-privatization*" - Greenfield investment + additional investment in companies with foreign participation + Reinvestment + Joint ventures

Source: Bulgarian Foreign Investment Agency

Table 18:The Sectoral Composition of FDI, 1990-2000, in USD M

Nr	Sector	1998	1999	2000	2001	Total by sectors
1	Financial activities	63.8	119.1	443.2	62.8	688.9
2	Trade and repairs	177.4	124.0	89.5	71.6	462.5
3	Petroleum, chemical, rubber and plastic products	41.0	165.2	72.1	11.5	289.8
4	Mineral products (cement, glass,...)	150.6	71.8	7.4	19.4	249.2
5	Telecommunications	23.2	14.1	14.9	177.4	229.6
6	Metallurgy	13.2	72.2	17.1	37.2	139.7
7	Mechanical products	21.3	18.0	64.7	16.6	120.6
8	Food products	31.5	32.7	11.7	42.9	118.8
9	Wood products, paper	37.3	24.9	38.1	5.3	105.6
10	Hotels and restaurants	26.8	40.5	20.8	16.7	104.8
11	Textile and clothing	4.4	25.1	27.3	33.7	90.5
12	Electrical eng., electronics, computers and communication equipment	11.5	5.9	28.6	27.0	73.0
13	Construction	6.3	6.5	12.7	18.8	44.3
14	Real estate and business activities	0.1	14.7	2.8	8.1	25.7
15	Leather and leather products	0.7	0.0	21.2	0.2	22.1
16	Electricity, gas and water	0.0	0.0	18.7	0.8	19.5

17	Publishing	0.0	0.2	0.3	8.4	8.9
18	Transport	6.2	-11.7	10.1	2.7	7.3
19	Mining	0.0	2.7	0.0	2.8	5.5
20	Agriculture, forestry and fishing	0.1	2.4	0.6	1.3	4.4
21	Vehicles and other transport equipment	-0.9	1.7	0.0	0.6	1.4
	Other	5.5	88.8	99.7	122.7	316.7

Source: Bulgarian Foreign Investment Agency

Table 19: The Geographical Origin of Foreign Invested Capital, 1992-2001in USD M

Nr.	Country	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total by countries
1	GERMANY	0.1	56.6	111.4	16.2	53.1	31.4	55.7	101.3	72.3	65.1	563.2
2	GREECE	0.2	5.1	3	29.8	14.6	16.1	3.3	14.9	241.1	213.6	541.7
3	ITALY	0	0.2	5.2	2.3	1.2	0.4	2.1	23	339.7	77.3	451.4
4	BELGIUM	0	0.1	0.3	10	0.8	264.4	31.2	66.2	39.8	3.1	415.9
5	AUSTRIA	13	1	14.7	1.4	12.1	12.5	46.9	23.4	88.8	137.4	351.2
6	USA	0	10.5	16.2	16.1	20.7	46.6	38.6	49.8	37.1	41.4	277.0
7	CYPRUS	0.3	1.2	0.4	1.4	7.5	20.6	109.1	108.9	-11.3	29.1	267.2
8	RUSSIA	0.3	1.4	2.3	15.1	14.4	2	14.8	103.7	50.8	0.5	205.3
9	NETHERLANDS	0.1	0.5	37.9	0.9	46.3	10.8	41.3	28	17.4	21.6	204.8
10	UK	6.2	5.6	2.4	13.7	7.3	15.8	58.9	48	22.6	15.5	196.0
11	SPAIN	0	0.1	0	0	0	49.6	56.8	3.2	0.7	19.4	129.8
12	TURKEY	0	9.8	1.3	13.7	7.3	9.9	23.8	39.4	19.5	3.8	128.5
13	FRANCE	0	0.2	4.2	5	6.5	0.8	3.4	62.7	28.9	12.0	123.7
14	SWITZERLAND	0.4	6.7	0.2	7.9	23.1	31.4	6.6	13.1	15	1.5	105.9
15	KOREA	0	0	0.3	0.2	22.3	22.9	1.8	2.8	6.6	2.9	59.8
16	LUXEMBOURG	0.4	0.6	0.6	0.4	0.2	11.8	22.7	3.8	0	17.1	57.6
17	IRELAND	0	0	0	17.4	0.2	5.2	1	3.7	1	-5.5	23.0
18	HUNGARY	12.3	0.1	0	0	0.1	0	0.7	1.7	2	1.9	18.8
19	ISRAEL	0	0	0.9	0	1.5	0	0	13.8	1.9	-0.6	17.5

20	LIECHTENSTEIN	0	1.1	0.1	0	0	2.5	0.8	1.3	3	3.2	12.0
21	MALTA	0	0	0	0.1	0.1	0.1	8.9	0	0.5	1.5	11.2
22	CZECH REPUBLIC	0	0	0.1	2.3	2.3	4.7	0.6	0.1	0	0.4	10.5
23	SWEDEN	0	0	0	0	1.4	2.4	0.9	1.6	0.3	3.7	10.3
24	JAPAN	0	0	0.1	0.5	0.6	1.9	1.9	0	1.3	2.8	9.1
25	DENMARK	0	0	1.1	0	0	1.1	1.6	0.3	1.3	0.4	5.8
	……..											
	Total	34.4	102.4	210.9	162.6	256.4	636.2	620	818.8	1001.5	688.5	4531.7

Source: Bulgarian Foreign Investment Agency

Table 20: Foreign Direct Investments – 1992-2000 in Millions of USD

	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total	Total/cap	Total/cap-%
Total	33546.6	100524.4	204857.2	161697.3	253185.1	617858.1	609762.9	755261.0	983329.9	3720022.5	0.472	100.00%
Blagoevgrad	0.0	66.3	736.4	2724.8	8786.4	3758.9	3718.5	20196.8	15779.8	55767.8	0.162	1.44%
Bourgas	48.8	2163.5	1944.8	6095.0	3158.1	18395.1	11809.3	110795.0	79541.2	233950.8	0.548	6.05%
Varna	163.0	2385.4	1511.2	719.0	8576.9	214122.9	57119.5	46855.0	75803.0	407255.9	0.924	10.52%
Veliko Tarnovo	27.4	46.9	41.6	974.7	169.4	1835.2	7504.0	2367.3	55.8	13022.2	0.043	0.34%
Vidin	0.0	49.4	0.8	0.8	1.4	5878.3	35613.0	3680.8	1110.0	46334.4	0.334	1.20%
Vtratza	0.0	19.7	61.8	36.8	1862.9	32500.0	255.0	9400.3	2504.8	46641.3	0.182	1.21%
Gabrovo	2.0	8782.7	178.9	1672.9	12749.1	31421.9	48790.0	26488.7	24184.0	154270.4	1.005	3.99%
Dobrich	13.5	1007.1	348.4	12.3	355.5	7897.5	1721.6	195.0	4741.1	16291.9	0.072	0.42%
Kardjali	0.0	0.0	3.1	0.3	159.1	415.0	1364.0	37.6	192.0	2171.0	0.011	0.06%
Kustendil	0.0	397.9	19.0	86.0	11.5	1.4	507.0	-28.0	442.7	1437.6	0.008	0.04%
Lovech	2.1	2.0	3.4	683.0	18703.3	28289.9	27292.6	23310.3	2195.6	100482.3	0.570	2.60%
Montana	0.0	228.4	0.8	5.6	7141.1	2786.8	314.6	1.8	456.9	10936.1	0.057	0.28%
Pazardjik	8.9	32.0	14.5	2.6	44.8	6418.3	1142.6	618.9	29.2	8311.7	0.026	0.21%
Pernik	0.0	2.2	41.9	14.2	2.7	0.7	1354.0	1327.0	44.0	2786.7	0.018	0.07%
Pleven	0.0	66.9	166.7	18961.7	6295.0	3889.1	3316.3	47713.7	6029.2	86438.6	0.271	2.23%
Plovdiv	6075.0	310.2	7050.4	11935.6	9315.4	4128.1	38719.7	44293.9	65106.4	186934.8	0.256	4.83%
Razgrad	0.0	31.4	8.9	55.6	46012.3	4.3	567.0	6292.0	643.9	53615.5	0.325	1.39%
Russe	0.0	6.6	868.0	19.2	1374.1	504.1	24855.0	10877.0	17910.8	56414.9	0.205	1.46%
Silistra	0.0	1.6	0.0	18.0	937.5	180.0	423.0	21.0	79.0	1660.1	0.011	0.04%
Sliven	0.0	3.8	0.9	0.4	19.9	0.0	20.0	8300.0	12127.2	20472.2	0.089	0.53%

Smolyan	0.0	0.0	110.5	411.8	506.3	0.2	157.4	0.0	2.2	1188.3	0.008	0.03%
Sofia	26955.5	81544.7	183066.6	59083.7	101975.0	130365.3	316110.4	267017.7	651758.1	1817876.9	1.500	46.98%
Sofia region	248.6	558.2	7569.5	27418.4	7583.8	111872.6	16942.4	93447.7	19476.1	285117.3	1.088	7.37%
Stara Zagora	1.8	228.6	875.0	30408.9	721.4	1000.0	1268.3	1637.2	1339.1	37480.5	0.097	0.97%
Targoviste	0.0	2491.8	6.8	67.4	455.5	2397.6	660.0	0.0	0.0	6079.2	0.042	0.16%
Haskovo	0.0	46.4	71.9	23.5	5191.1	9749.0	3886.0	20451.8	1777.7	41197.3	0.141	1.06%
Shumen	0.0	50.5	63.9	15.2	11055.7	14.8	4142.9	9038.4	0.0	24381.3	0.113	0.63%
Yambol	0.0	0.0	91.6	250.0	20.0	31.1	189.0	924.0	0.0	1505.7	0.009	0.04%
Northwest	0.0	297.5	63.3	43.2	9005.4	41165.1	36182.6	13083.0	4071.7	103911.7		
North Central	31.4	8905.1	1258.5	22311.6	39290.9	65940.3	111757.9	110757.1	50375.5	410628.2		
Northeast	176.4	5967.9	1939.3	887.4	67393.4	224617.1	64633.9	62401.4	81267.0	509283.9		
Southeast	48.8	2167.3	2037.3	6345.4	3198.0	18426.2	12018.3	120019.0	91668.4	255928.7		
South Central	6085.8	617.2	8125.3	42782.7	15938.0	21710.5	46538.0	67039.5	68446.6	277283.7		
Southwest	27204.1	82569.3	191433.4	89327.1	118359.4	245998.8	338632.2	381961.1	687500.7	2162986.3		

Table 21. Planning Regions – NUTS 2

Planning Region	Center	Territory (km^2)	%	Population (1999 ã.)	%	No Districts / Municipalities	GDP/cap (1999) Euro	Index GDP/cap (1999)
NorthWest	Vidin	10606.032	9.6%	585512	7.1%	3/ 33	925.17	64.88%
NorthCentral	Rousse	17952.217	16.2%	1226052	15.0%	5/ 40	1244.27	87.26%
NortEast	Varna	19973.426	18.0%	1343382	16.4%	6/ 49	1414.81	99.22%
SouthWest	Bourgas	14647.608	13.2%	824491	10.1%	3/ 22	1517.48	106.42%
SouthCentral	Plovdiv	27516.178	24.8%	2068739	25.3%	6/ 66	1155.01	81.00%
SouthEast	Sofia	20306.441	18.3%	2142700	26.2%	5 /52	1900.20	133.26%
Bulgaria	Sofia	111001.9	100.0%	8190876	100.0%	28	1425.98	100.0%
AVERAGE		20079.2		1521073			1446.36	
MIN		14647.6		824491			1155.01	
MAX		27516.2		2142700			1900.20	
MAX/MIN		1.9		2.6			1.65	
STDEV		4727.5		567934			290.58	
COVAR		0.2		0.4			20.09%	

Source: NSI

Table 22. Bulgarian Regions Compared by GDP P.C. (PPS) with Different Ranges of Countries and Regions, % of the Average for Respective Range

	EU average	Objectiv 1 regions	25 obj.1 regions with lowest GDP p.c.	CEE countries	Countries with <60% in EU26*	25 CEE regions with lowest GDP p.c.
Bulgaria	22%	33%	37%	59%	64%	79%
SouthEast	24%	36%	40%	65%	71%	86%
Northwest	23%	33%	37%	59%	65%	79%
SouthWest	22%	33%	37%	59%	65%	79%
NorthCentral	22%	32%	36%	59%	64%	78%
NorthEast	22%	32%	36%	58%	64%	78%
SouthCentral	22%	31%	35%	57%	62%	76%

EUROSTAT data for 1998; * The group, defined in the 2nd Cohesion Report, includes Hungary, Slovak Republic, Poland, Estonia, Latvia, Lithuania, Romania and Bulgaria.

Table 23. Districts – NUTS 3

Districts NUTS 3	Territory (km^2)	%	Population (1999)	%	GDP/cap (1999) Euro	Index GDP/cap (1999)
Blagoevgrad	6449.5	5.8%	345138	4.2%	1146.81	80.42%
Bourgas	7748.1	7.0%	427152	5.2%	2015.59	141.35%
Varna	3819.5	3.4%	440563	5.4%	1551.33	108.79%
Veliko Tarnovo	4661.6	4.2%	301284	3.7%	1348.18	94.54%
Vidin	3032.9	2.7%	138794	1.7%	924.85	64.86%
Vtratza	3937.6	3.5%	255589	3.1%	959.36	67.28%
Gabrovo	2023.0	1.8%	153485	1.9%	1374.66	96.40%
Dobrich	4719.7	4.3%	225978	2.8%	1742.50	122.20%
Kardjali	3209.1	2.9%	201162	2.5%	833.02	58.42%
Kustendil	3051.5	2.7%	170559	2.1%	1018.74	71.44%
Lovech	4128.8	3.7%	176389	2.2%	1169.43	82.01%
Montana	3635.6	3.3%	191129	2.3%	879.69	61.69%
Pazardjik	4456.9	4.0%	315225	3.8%	1089.48	76.40%
Pernik	2394.2	2.2%	153321	1.9%	815.26	57.17%
Pleven	4335.5	3.9%	319356	3.9%	1094.21	76.73%
Plovdiv	5972.9	5.4%	729447	8.9%	1122.53	78.72%

Razgrad	2639.7	2.4%	164971	2.0%	1149.21	80.59%
Russe	2803.4	2.5%	275538	3.4%	1279.88	89.75%
Silistra	2846.3	2.6%	152392	1.9%	1214.82	85.19%
Sliven	3544.1	3.2%	229690	2.8%	973.31	68.26%
Smolyan	3192.8	2.9%	145940	1.8%	1225.54	85.94%
Sofia	1348.9	1.2%	1211531	14.8%	2533.46	177.67%
Sofia region	7062.3	6.4%	262151	3.2%	1173.52	82.30%
Stara Zagora	5151.1	4.6%	385195	4.7%	1474.04	103.37%
Targoviste	2558.5	2.3%	144601	1.8%	1253.36	87.90%
Haskovo	5533.3	5.0%	291770	3.6%	1072.52	75.21%
Shumen	3389.7	3.1%	214877	2.6%	1244.68	87.29%
Yambol	3355.5	3.0%	167649	2.0%	993.91	69.70%
Total	111001.9	100.0%	8190876	100.0%	1425.98	100.00%
AVERAGE	3964.36		292531		1238.35	
MIN	1348.90		138794		815.26	
MAX	7748.10		1211531		2533.46	
MAX/MIN	5.74		8.73		3.11	
STDEV	1524.32		220216		368.07	
COVAR	38.45%		75.28%		29.72%	

Table 24. Regional Differences at the NUTS II Level

NUTS_2	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Coefficient of variation										
GDP	-	-	-	-	-	42.46%	43.21%	44.09%	44.08%	62.28%
GDP per capita	-	-	-	-	-	11.71%	8.88%	7.33%	7.21%	29.72%
Unemployment	-	-	-	-	-	28.47%	29.39%	25.73%	28.76%	30.52%
Expenditure per capita	48.18%	77.86%	75.18%	79.21%	78.66%	104.02%	104.51%	106.72%	106.26%	127.21%
Wage	6.22%	6.08%	6.79%	7.27%	8.58%	8.15%	8.75%	7.44%	5.52%	6.25%
Telephons/1000 pers	14.54%	14.47%	14.39%	14.07%	13.33%	13.51%	13.60%	12.67%	11.58%	11.99%
Cars/1000 pers	18.49%	18.17%	14.34%	14.26%	14.07%	17.52%	17.54%	17.51%	17.05%	16.39%
Students	119.05%	117.21%	113.78%	112.27%	111.29%	105.59%	98.51%	98.59%	99.16%	95.53%
Population	45.20%	45.16%	45.06%	45.18%	45.36%	45.50%	45.64%	45.87%	46.19%	46.56%
R&D personals	153.02%	157.01%	160.08%	163.77%	151.46%	161.96%	164.66%	168.22%	165.85%	157.19%
Maximum/minimum										
GDP	-	-	-	-	-	3.87	3.72	3.58	3.58	7.52
GDP per capita	-	-	-	-	-	1.37	1.22	1.14	1.14	2.05
Unemployment	-	-	-	-	-	2.34	2.51	2.34	2.57	2.81
Expenditure per capita	4.36	5.94	6.46	14.29	6.97	11.49	14.41	11.96	18.89	23.78
Wage	1.19	1.19	1.18	1.20	1.23	1.22	1.26	1.23	1.17	1.19
Telephones/1000 pers	1.37	1.37	1.37	1.37	1.34	1.35	1.34	1.32	1.32	1.35
Cars/1000 pers	1.68	1.66	1.47	1.46	1.45	1.63	1.63	1.67	1.65	1.57
Students	822.27	448.47	88.06	61.82	51.92	48.61	56.30	46.22	55.95	57.37
Population	3.44	3.44	3.45	3.46	3.49	3.51	3.53	3.56	3.61	3.66
R&D personals	43.93	46.72	50.72	53.36	33.91	33.72	31.33	29.07	41.94	41.09

Table 25. Regional Differences on the NUTS III Level

NUTS_3	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Coefficient of variation										
GDP	-	-	-	-	-	80.22%	77.80%	75.53%	75.53%	133.19%
GDP per capita	-	-	-	-	-	11.71%	8.88%	7.33%	7.21%	29.72%
Unemployment	24.78%	30.23%	30.38%	28.93%	31.29%	32.40%	29.92%	32.46%	32.21%	
Wage	5.15%	7.91%	10.45%	11.21%	11.97%	12.85%	14.97%	15.90%	13.87%	12.67%
Telephones/1000 pers	21.74%	21.25%	20.68%	20.03%	19.67%	19.77%	19.54%	18.53%	17.96%	18.52%
Cars/1000 pers	20.94%	20.31%	17.79%	17.73%	17.69%	19.49%	19.63%	18.78%	18.31%	18.38%
Students	204.21%	191.92%	188.05%	180.19%	182.91%	173.50%	179.94%	177.27%	183.33%	179.92%
Population	69.92%	70.36%	71.11%	71.34%	71.84%	72.22%	72.35%	72.94%	74.03%	75.28%
R&D personals	341.32%	349.18%	356.04%	365.48%	330.49%	348.99%	351.95%	359.43%	353.81%	340.64%
Maximum/minimum	-	-	-	-	-	-	-	-	-	-
GDP	-	-	-	-	-	9.89	9.16	8.54	8.54	24.56
GDP per capita	-	-	-	-	-	1.76	1.56	1.41	1.40	3.11
Unemployment	2.35	2.87	3.10	3.25	4.88	5.49	4.70	5.71	6.82	-
Wage	1.25	1.39	1.50	1.51	1.57	1.62	1.76	1.74	1.61	1.53
Telephons/1000 pers	3.44	3.28	3.03	2.91	2.78	2.73	2.59	2.51	2.46	2.70
Cars/1000 pers	2.58	2.44	2.25	2.24	2.21	2.29	2.28	2.37	2.32	2.10
Students	783.15	420.85	436.08	312.43	207.64	165.07	505.59	413.30	281.90	151.90
Population	7.74	7.83	7.86	7.93	8.01	8.10	8.14	8.26	8.48	8.73
R&D personals	484.57	475.66	657.16	681.94	401.70	376.18	435.19	591.39	649.00	545.65

Table 26. Regional Specialization Measures on the NUTS II Level

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
(His) Herfindahl Index - Regional specialization measure for NUTS 2										
Northwest	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.10
North Central	0.09	0.09	0.10	0.10	0.09	0.10	0.11	0.11	0.10	0.10
Northeast	0.10	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10
Southeast	0.10	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.10
South Central	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.10
Southwest	0.10	0.10	0.09	0.10	0.10	0.10	0.10	0.09	0.09	0.09
(**DSRj) Disimilarity Index - Regional specialization measure for NUTS 2**										
Northwest	0.35	0.35	0.34	0.36	0.36	0.38	0.39	0.39	0.39	0.38
North Central	0.29	0.29	0.28	0.29	0.26	0.31	0.32	0.30	0.27	0.27
Northeast	0.35	0.35	0.36	0.35	0.33	0.37	0.41	0.39	0.35	0.33
Southeast	0.35	0.35	0.35	0.39	0.36	0.41	0.42	0.45	0.44	0.45
South Central	0.22	0.22	0.23	0.24	0.24	0.25	0.24	0.25	0.23	0.22
Southwest	0.33	0.33	0.33	0.33	0.29	0.35	0.35	0.37	0.35	0.33
(G) Gini Index - Regional specialization measure for NUTS 2										
Northwest	0.38	0.38	0.39	0.40	0.42	0.42	0.42	0.42	0.41	0.38
North Central	0.24	0.24	0.23	0.23	0.20	0.24	0.25	0.23	0.23	0.22
Northeast	0.38	0.38	0.39	0.39	0.38	0.41	0.43	0.43	0.42	0.41
Southeast	0.44	0.44	0.45	0.47	0.46	0.48	0.48	0.47	0.48	0.49
South Central	0.24	0.24	0.25	0.26	0.25	0.26	0.26	0.26	0.25	0.25
Southwest	0.25	0.25	0.26	0.26	0.22	0.26	0.27	0.28	0.28	0.27

Table 27. Herfindahl Index – Regional Specialization Measure for NUTS 3 Level

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Blagoevgrad	0.11	0.10	0.09	0.09	0.08	0.09	0.10	0.11	0.13	0.15
Bourgas	0.13	0.12	0.11	0.13	0.12	0.13	0.12	0.13	0.13	0.13
Varna	0.12	0.11	0.10	0.11	0.10	0.11	0.12	0.12	0.12	0.12
Veliko Tarnovo	0.10	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.15	0.15
Vidin	0.14	0.15	0.16	0.17	0.16	0.20	0.20	0.20	0.20	0.16
Vtratza	0.09	0.09	0.10	0.11	0.11	0.11	0.12	0.12	0.13	0.14
Gabrovo	0.13	0.13	0.14	0.14	0.13	0.15	0.15	0.14	0.14	0.14
Dobrich	0.10	0.09	0.10	0.11	0.10	0.12	0.12	0.12	0.12	0.13
Kardjali	0.09	0.10	0.10	0.11	0.12	0.12	0.13	0.14	0.16	0.16
Kustendil	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.12
Lovech	0.10	0.10	0.10	0.11	0.10	0.11	0.11	0.11	0.11	0.10
Montana	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.10	0.10	0.10
Pazardjik	0.08	0.08	0.08	0.08	0.07	0.08	0.07	0.07	0.07	0.07
Pernik	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.14
Pleven	0.11	0.11	0.11	0.12	0.11	0.12	0.13	0.12	0.12	0.12
Plovdiv	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.13	0.12
Razgrad	0.10	0.11	0.11	0.12	0.11	0.13	0.13	0.13	0.13	0.13

Russe	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Silistra	0.10	0.10	0.11	0.11	0.10	0.11	0.12	0.11	0.12	0.12
Sliven	0.11	0.11	0.12	0.12	0.11	0.13	0.14	0.15	0.14	0.12
Smolyan	0.17	0.18	0.20	0.20	0.19	0.18	0.17	0.17	0.15	0.12
Sofia	0.15	0.16	0.15	0.17	0.17	0.16	0.15	0.14	0.13	0.13
Sofia region	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08
Stara Zagora	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16
Targoviste	0.10	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.16	0.16
Haskovo	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
Shumen	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.11	0.11	0.10
Yambol	0.11	0.11	0.11	0.12	0.13	0.14	0.13	0.13	0.13	0.12

Table 28. Disimilarity Index – Regional Specialization Measure for NUTS 3 Level

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Blagoevgrad	0.55	0.56	0.54	0.58	0.54	0.55	0.54	0.58	0.62	0.64
Bourgas	0.65	0.64	0.63	0.67	0.66	0.68	0.69	0.70	0.65	0.63
Varna	0.52	0.51	0.51	0.52	0.49	0.54	0.61	0.61	0.57	0.55
Veliko Tarnovo	0.47	0.50	0.49	0.50	0.46	0.51	0.52	0.53	0.53	0.53
Vidin	0.70	0.74	0.80	0.83	0.79	0.91	0.90	0.94	0.92	0.75
Vtratza	0.45	0.51	0.55	0.54	0.55	0.56	0.57	0.57	0.62	0.64
Gabrovo	0.62	0.65	0.62	0.62	0.58	0.64	0.67	0.64	0.61	0.60
Dobrich	0.41	0.45	0.44	0.46	0.41	0.47	0.49	0.55	0.55	0.53
Kardjali	0.63	0.64	0.59	0.63	0.60	0.65	0.70	0.75	0.73	0.70
Kustendil	0.44	0.48	0.53	0.54	0.55	0.59	0.66	0.67	0.65	0.69
Lovech	0.55	0.57	0.57	0.60	0.64	0.67	0.66	0.62	0.61	0.60
Montana	0.38	0.39	0.36	0.36	0.36	0.39	0.38	0.37	0.36	0.35
Pazardjik	0.52	0.50	0.50	0.51	0.56	0.53	0.55	0.55	0.54	0.53
Pernik	0.68	0.70	0.68	0.70	0.58	0.74	0.79	0.80	0.81	0.76
Pleven	0.44	0.46	0.40	0.39	0.38	0.43	0.45	0.42	0.41	0.37
Plovdiv	0.28	0.33	0.41	0.40	0.40	0.42	0.42	0.44	0.43	0.39
Razgrad	0.63	0.63	0.63	0.64	0.65	0.69	0.73	0.74	0.74	0.75
Russe	0.32	0.31	0.31	0.32	0.32	0.34	0.34	0.34	0.40	0.39
Silistra	0.43	0.43	0.45	0.42	0.39	0.47	0.49	0.48	0.49	0.46

Sliven	0.60	0.61	0.66	0.68	0.67	0.78	0.77	0.78	0.74	0.70
Smolyan	0.81	0.86	0.94	0.94	0.94	0.94	0.92	0.93	0.88	0.72
Sofia	0.49	0.53	0.53	0.55	0.49	0.56	0.56	0.60	0.58	0.55
Sofia region	0.44	0.48	0.46	0.48	0.49	0.50	0.51	0.48	0.53	0.47
Stara Zagora	0.58	0.61	0.60	0.62	0.64	0.64	0.61	0.64	0.65	0.66
Targoviste	0.36	0.44	0.46	0.50	0.52	0.56	0.62	0.64	0.62	0.63
Haskovo	0.48	0.47	0.54	0.54	0.53	0.55	0.54	0.54	0.52	0.50
Shumen	0.58	0.62	0.61	0.68	0.71	0.67	0.68	0.67	0.62	0.57
Yambol	0.45	0.49	0.49	0.51	0.55	0.57	0.53	0.51	0.49	0.40

Table 29. Gini Index – Regional Specialization Measure for NUTS 3 Level

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Blagoevgrad	0.40	0.41	0.44	0.45	0.42	0.46	0.46	0.47	0.49	0.47
Bourgas	0.64	0.64	0.65	0.66	0.65	0.66	0.66	0.65	0.64	0.64
Varna	0.49	0.52	0.54	0.55	0.52	0.57	0.60	0.60	0.60	0.58
Veliko Tarnovo	0.41	0.42	0.41	0.40	0.37	0.41	0.42	0.43	0.44	0.44
Vidin	0.78	0.78	0.80	0.81	0.77	0.84	0.84	0.84	0.84	0.73
Vtratza	0.45	0.48	0.50	0.50	0.52	0.51	0.53	0.54	0.56	0.57
Gabrovo	0.53	0.54	0.52	0.51	0.45	0.52	0.53	0.51	0.51	0.48
Dobrich	0.49	0.48	0.48	0.50	0.45	0.50	0.52	0.52	0.52	0.53
Kardjali	0.59	0.61	0.60	0.61	0.62	0.61	0.65	0.63	0.62	0.63
Kustendil	0.41	0.44	0.47	0.48	0.48	0.51	0.54	0.55	0.55	0.57
Lovech	0.52	0.52	0.53	0.56	0.53	0.60	0.63	0.60	0.61	0.59
Montana	0.31	0.30	0.29	0.29	0.30	0.32	0.32	0.31	0.32	0.29
Pazardjik	0.41	0.41	0.42	0.44	0.44	0.46	0.48	0.49	0.49	0.51
Pernik	0.61	0.61	0.61	0.62	0.56	0.63	0.67	0.67	0.67	0.66
Pleven	0.43	0.42	0.38	0.38	0.34	0.39	0.38	0.44	0.44	0.41
Plovdiv	0.29	0.32	0.38	0.37	0.37	0.37	0.37	0.38	0.36	0.32
Razgrad	0.55	0.56	0.57	0.59	0.58	0.61	0.67	0.67	0.66	0.68
Russe	0.39	0.37	0.39	0.40	0.40	0.42	0.43	0.42	0.43	0.43
Silistra	0.46	0.47	0.46	0.45	0.41	0.47	0.48	0.48	0.52	0.52

Sliven	0.54	0.54	0.56	0.59	0.55	0.63	0.65	0.66	0.65	0.63
Smolyan	0.70	0.71	0.74	0.76	0.74	0.76	0.76	0.77	0.77	0.69
Sofia	0.42	0.44	0.44	0.43	0.38	0.43	0.43	0.45	0.45	0.41
Sofia region	0.34	0.33	0.35	0.37	0.37	0.39	0.40	0.40	0.43	0.47
Stara Zagora	0.55	0.57	0.56	0.56	0.55	0.56	0.56	0.57	0.58	0.59
Targoviste	0.42	0.43	0.42	0.44	0.43	0.46	0.54	0.55	0.54	0.53
Haskovo	0.45	0.44	0.46	0.46	0.43	0.47	0.48	0.49	0.46	0.44
Shumen	0.53	0.55	0.56	0.58	0.62	0.58	0.60	0.59	0.57	0.53
Yambol	0.49	0.50	0.51	0.52	0.55	0.61	0.56	0.55	0.53	0.47

Table 30. Changes in Manufacturing Employment Structure, 1990-1999, NUTS II Regions

Economic activity	total		NorthWest		NorthCentral		NorthEast		SouthEast		SouthCentral		SouthWest	
	1990	1999	1990	1999	1990	1999	1990	1999	1990	1999	1990	1999	1990	1999
Manufacturing (D)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Manufacture of food products, beverages and tobacco products (DA)	13.50%	17.69%	13.51%	17.35%	14.86%	18.66%	15.50%	19.27%	20.70%	22.88%	13.38%	19.11%	9.10%	13.21%
Manufacture of textiles and wearing apparel (DB)	15.50%	20.31%	16.07%	27.95%	17.12%	19.49%	13.13%	17.90%	17.12%	18.43%	17.50%	20.11%	13.07%	21.31%
Tanning and dressing of leather and manufacture of footwear (DC)	2.81%	3.37%	1.34%	1.08%	2.52%	3.27%	2.86%	2.41%	1.30%	0.73%	3.18%	3.88%	3.52%	4.71%
Manufacture of wood and furniture and other manufactured goods (DD + DN)	4.79%	2.45%	3.85%	2.20%	5.04%	2.83%	4.85%	2.28%	5.38%	3.17%	5.58%	2.72%	3.89%	1.84%
Manufacture of paper and paper products; publishing, printing and reprod. of recorded media (DE)	2.83%	4.05%	2.06%	1.83%	1.65%	2.29%	1.03%	1.73%	0.92%	1.03%	3.92%	4.74%	4.54%	7.26%
Coke, refined petroleum products and nuclear fuel (DF)	1.13%	1.83%	0.00%	0.02%	0.92%	1.69%	0.03%	0.05%	10.57%	18.40%	0.08%	0.06%	0.10%	0.04%
Chemicals, chemical products and man-made fibers (DG)	4.59%	6.15%	4.51%	6.25%	3.72%	5.61%	6.47%	9.73%	3.57%	2.66%	5.43%	6.44%	3.74%	5.40%

Manufacture of rubber and plastic products (DH)	2.60%	2.97%	9.30%	5.18%	2.45%	2.74%	1.66%	2.13%	2.26%	2.18%	2.03%	3.28%	2.11%	3.02%
Manufacture of other non-metallic mineral products (DI)	4.09%	4.67%	6.20%	7.66%	4.03%	5.15%	8.09%	9.52%	4.16%	4.61%	2.60%	2.96%	2.70%	2.88%
Manufacture of fabricated metal products and manufacture of machinery and equipment (DJ+DK)	19.56%	24.36%	20.50%	23.75%	19.97%	24.54%	13.61%	17.88%	11.97%	13.11%	22.31%	28.86%	22.26%	26.61%
Manufacture of electrical machinery (DL)	14.67%	6.04%	10.57%	4.46%	12.27%	5.90%	9.89%	4.36%	11.17%	6.68%	14.30%	4.85%	21.71%	8.38%
Manufacture of motor vehicles and transport equipment (DM)	5.41%	2.79%	1.36%	0.34%	8.11%	3.23%	12.95%	9.43%	3.76%	2.94%	1.82%	0.59%	4.18%	1.66%
Manufacturing, n.e.c.	8.52%	3.32%	10.73%	1.93%	7.33%	4.59%	9.93%	3.32%	7.12%	3.17%	7.87%	2.39%	9.09%	3.68%

Table 31. Changes in Manufacturing Employment Structure, 1990-1999, NUTS III districts

Economic activity	Manufacturing (D)		food products, beverages and tobacco products (DA)		textiles and apparel (DB)		tanning and dressing of leather footwear (DC)		wood and furniture and other manufactured goods (DD+DN)		paper and paper products ; publishing, printing (DE)		Coke, refined petroleum products and nuclear fuel (DF)	
	1990	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Blagoevgrad	5.5%	5.6%	3.4%	4.6%	6.4%	12.4%	14.2%	14.2%	7.8%	7.3%	4.6%	4.1%	0.0%	0.0%
Bourgas	4.2%	4.5%	8.1%	5.5%	2.3%	2.3%	1.0%	0.5%	5.1%	5.9%	1.1%	0.7%	80.1%	80.2%
Varna	4.8%	5.0%	4.9%	4.2%	2.9%	3.3%	0.6%	0.3%	3.2%	4.1%	1.5%	3.2%	0.4%	0.3%
V.Tarnovo	4.7%	4.6%	6.6%	7.3%	1.8%	2.4%	1.5%	0.7%	3.4%	3.8%	4.9%	5.0%	0.0%	0.0%
Vidin	1.6%	1.2%	1.7%	1.1%	1.5%	2.1%	0.3%	0.2%	1.5%	0.6%	0.3%	0.1%	0.0%	0.0%
Vtratza	3.0%	2.4%	2.1%	2.0%	3.6%	3.3%	0.2%	0.2%	1.6%	1.3%	3.5%	1.9%	0.0%	0.1%
Gabrovo	3.7%	4.0%	1.5%	1.7%	7.5%	4.5%	6.0%	9.0%	3.2%	2.8%	1.1%	0.8%	0.0%	0.0%
Dobrich	2.5%	2.1%	3.2%	2.9%	3.4%	3.1%	9.6%	6.7%	2.1%	0.5%	0.6%	0.3%	0.0%	0.0%
Kardjali	1.7%	1.7%	1.5%	1.7%	3.5%	3.5%	2.5%	3.3%	2.1%	1.4%	0.3%	0.3%	0.0%	0.0%
Kustendil	2.4%	2.2%	2.1%	1.2%	3.0%	3.2%	4.5%	8.7%	3.0%	1.2%	3.2%	2.9%	1.8%	0.3%
Lovech	3.2%	3.2%	1.9%	3.2%	1.9%	1.8%	3.2%	2.8%	9.3%	13.5%	1.5%	1.2%	0.0%	0.0%
Montana	2.4%	2.0%	3.1%	2.4%	2.0%	2.4%	2.8%	1.4%	2.5%	3.1%	1.2%	0.5%	0.0%	0.0%
Pazardjik	4.1%	3.5%	3.3%	3.0%	3.9%	3.0%	4.6%	5.6%	9.5%	12.0%	9.2%	8.9%	0.9%	0.2%
Pernik	2.3%	2.2%	1.2%	0.9%	1.0%	0.9%	0.2%	0.0%	0.8%	0.5%	0.7%	1.0%	0.0%	0.0%
Pleven	4.0%	3.8%	7.0%	4.9%	6.4%	5.2%	3.8%	3.5%	1.7%	0.8%	2.0%	2.4%	14.2%	13.7%

Plovdiv	9.6%	11.1%	10.4%	13.2%	7.2%	7.9%	14.5%	16.5%	7.1%	6.2%	20.2%	17.7%	0.4%	0.3%
Razgrad	1.8%	1.7%	2.1%	1.6%	0.8%	0.4%	0.8%	0.9%	1.3%	0.3%	1.4%	0.8%	0.0%	0.0%
Russe	3.6%	3.8%	4.1%	3.3%	3.5%	4.7%	2.7%	2.8%	2.5%	1.4%	1.6%	1.5%	1.4%	4.2%
Silistra	1.6%	1.2%	1.8%	1.6%	1.9%	1.5%	2.2%	0.9%	3.8%	3.8%	0.5%	0.5%	0.0%	0.0%
Sliven	2.7%	2.1%	2.7%	2.7%	5.5%	3.2%	1.5%	0.2%	3.1%	3.9%	1.1%	0.8%	0.0%	0.0%
Smolyan	1.5%	1.5%	1.1%	1.1%	3.5%	3.5%	0.9%	2.3%	2.8%	5.4%	0.5%	0.3%	0.0%	0.0%
Sofia	12.1%	13.0%	8.1%	9.6%	8.7%	8.7%	11.2%	12.9%	5.0%	6.3%	27.2%	31.8%	0.2%	0.1%
Sofia region	3.8%	3.4%	2.6%	3.3%	2.9%	2.5%	2.5%	1.1%	4.6%	4.4%	6.0%	7.5%	0.2%	0.2%
Stara Zagora	5.0%	5.8%	4.5%	5.1%	4.6%	3.7%	1.7%	0.5%	5.8%	3.5%	2.7%	2.7%	0.4%	0.4%
Targoviste	1.6%	1.6%	1.8%	1.7%	2.2%	2.6%	0.8%	0.4%	2.2%	1.0%	0.2%	0.2%	0.0%	0.0%
Haskovo	2.7%	3.3%	3.5%	4.8%	5.0%	4.8%	3.6%	2.6%	1.2%	1.2%	1.1%	1.4%	0.0%	0.0%
Shumen	2.5%	2.4%	3.2%	3.1%	1.3%	1.4%	1.0%	0.7%	2.4%	3.3%	1.2%	1.1%	0.0%	0.1%
Yambol	1.7%	1.4%	2.4%	2.1%	1.7%	1.7%	1.4%	1.0%	1.5%	0.4%	0.5%	0.5%	0.0%	0.0%

Table 31. Changes in Manufacturing Employment Structure, 1990-1999, NUTS III districts (continued)

Economic activity	Chemicals, chemical products and man-made fibers (DG)		rubber and plastic products (DH)		other non-metallic mineral products (DI)		fabricated metal products and manufacture of machinery and equipment (DJ+DK)		electrical machinery (DL)		motor vehicles and transport equipment (DM)		Manufacturing, n.e.c.	
	1990	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**	**1990**	**1999**
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Blagoevgrad	2.6%	2.5%	6.2%	4.8%	3.1%	1.6%	1.7%	6.1%	11.5%	6.1%	0.4%	0.0%	6.2%	8.9%
Bourgas	0.7%	0.2%	5.7%	4.6%	2.2%	2.5%	2.0%	3.8%	2.6%	3.8%	5.4%	8.1%	2.5%	5.0%
Varna	11.8%	12.5%	1.7%	1.2%	9.1%	7.6%	4.2%	1.9%	3.5%	1.9%	13.7%	32.1%	7.1%	4.1%
V.Tarnovo	8.1%	7.7%	2.3%	4.1%	4.1%	3.9%	5.7%	1.3%	4.4%	1.3%	8.6%	5.1%	6.0%	3.2%
Vidin	0.1%	0.0%	20.0%	6.3%	2.4%	2.6%	0.6%	0.9%	1.1%	0.9%	0.0%	0.0%	0.7%	0.3%
Vtratza	6.1%	5.3%	1.3%	0.6%	6.1%	4.1%	2.6%	1.6%	2.2%	1.6%	0.7%	0.2%	4.2%	1.2%
Gabrovo	0.8%	1.5%	3.8%	4.3%	1.7%	5.1%	5.6%	5.1%	2.4%	5.1%	3.2%	2.7%	2.5%	4.3%
Dobrich	0.1%	1.2%	3.2%	4.6%	0.6%	0.6%	0.9%	1.5%	2.3%	1.5%	4.4%	1.3%	2.0%	2.3%
Kardjali	0.1%	0.0%	0.3%	0.1%	0.5%	0.3%	1.7%	0.7%	0.6%	0.7%	0.0%	0.0%	1.8%	0.9%
Kustendil	5.2%	6.3%	0.9%	0.9%	0.9%	1.1%	1.2%	1.8%	3.5%	1.8%	0.4%	0.2%	2.2%	1.4%
Lovech	2.8%	2.5%	1.4%	0.8%	3.9%	5.1%	2.7%	5.3%	3.2%	5.3%	8.1%	2.0%	3.1%	10.6%
Montana	0.5%	0.4%	3.4%	3.0%	2.0%	2.5%	2.3%	1.7%	1.7%	1.7%	1.0%	0.5%	3.7%	1.8%
Pazardjik	6.0%	4.3%	5.7%	10.4%	1.7%	2.2%	1.5%	5.2%	5.9%	5.2%	0.0%	0.0%	5.4%	4.3%
Pernik	2.0%	1.5%	1.5%	2.6%	2.6%	0.7%	5.9%	1.4%	1.7%	1.4%	1.3%	0.9%	1.6%	0.3%
Pleven	0.5%	0.1%	1.9%	1.6%	5.5%	4.7%	3.2%	3.4%	2.2%	3.4%	2.0%	2.2%	2.7%	2.5%

Plovdiv	6.8%	8.1%	9.5%	16.1%	5.7%	7.0%	14.7%	7.4%	9.7%	7.4%	7.1%	5.3%	7.9%	6.3%
Razgrad	6.4%	6.6%	0.6%	0.2%	8.9%	9.3%	0.7%	1.0%	0.5%	1.0%	3.0%	3.0%	2.3%	2.3%
Russe	3.3%	5.9%	8.7%	7.1%	3.6%	2.5%	2.2%	3.8%	3.9%	3.8%	6.7%	10.4%	2.2%	6.2%
Silistra	0.1%	0.0%	1.2%	1.1%	0.5%	0.7%	1.1%	2.0%	1.2%	2.0%	0.9%	0.6%	2.3%	0.5%
Sliven	0.6%	0.1%	1.0%	0.6%	5.6%	4.2%	1.2%	4.5%	3.1%	4.5%	0.6%	0.2%	2.0%	1.4%
Smolyan	1.5%	1.6%	1.3%	0.6%	1.1%	0.3%	0.3%	1.4%	1.6%	1.4%	0.3%	0.1%	2.0%	1.3%
Sofia	9.2%	11.1%	10.5%	15.2%	7.5%	9.6%	16.4%	21.5%	16.7%	21.5%	12.0%	10.5%	12.8%	14.9%
Sofia region	2.1%	1.8%	2.1%	3.4%	3.1%	3.3%	3.6%	5.7%	5.2%	5.7%	6.0%	4.1%	5.1%	3.7%
Stara Zagora	8.6%	6.9%	1.5%	1.7%	2.2%	2.1%	11.7%	5.2%	5.0%	5.2%	0.7%	0.2%	2.3%	5.0%
Targoviste	0.3%	0.1%	1.5%	1.6%	0.8%	0.5%	1.7%	2.5%	1.4%	2.5%	2.7%	1.7%	2.1%	1.3%
Haskovo	5.9%	7.0%	1.0%	0.6%	4.4%	5.1%	1.9%	1.6%	1.1%	1.6%	0.0%	0.1%	3.3%	1.5%
Shumen	2.1%	1.7%	1.1%	1.3%	9.2%	9.6%	1.6%	1.0%	1.0%	1.0%	10.5%	8.4%	1.3%	3.4%
Yambol	5.4%	3.1%	0.8%	0.7%	0.9%	1.1%	1.1%	0.5%	0.8%	0.5%	0.0%	0.0%	2.7%	1.2%

Table 32. Changes in Manufacturing Employment Structure, 1990-1999, NUTS II Regions

Economic activity		Total	NorthWest	NorthCentral	NorthEast	SouthEast	SouthCentral	SouthWest
Manufacturing (D)	1990	100.0%	6.9%	19.2%	14.7%	8.6%	24.6%	26.1%
	1999	100.0%	5.6%	19.3%	13.9%	8.0%	26.8%	26.4%
Manufacture of food products, beverages and tobacco products (DA)	1990	100.0%	6.9%	21.1%	16.9%	13.2%	24.4%	17.6%
	1999	100.0%	5.5%	20.4%	15.2%	10.3%	28.9%	19.7%
Manufacture of textiles and wearing apparel (DB)	1990	100.0%	7.1%	21.2%	12.5%	9.5%	27.7%	22.0%
	1999	100.0%	7.8%	18.6%	12.3%	7.2%	26.5%	27.7%
Tanning and dressing of leather and manufacture of footwear (DC)	1990	100.0%	3.3%	17.2%	15.0%	4.0%	27.9%	32.7%
	1999	100.0%	1.8%	18.8%	10.0%	1.7%	30.8%	36.9%
Manufacture of wood and furniture and other manufactured goods (DD+DN)	1990	100.0%	5.5%	20.1%	14.9%	9.6%	28.6%	21.2%
	1999	100.0%	5.1%	22.3%	12.9%	10.3%	29.6%	19.8%
Manufacture of paper and paper products; publishing, printing and reprod. of recorded media (DE)	1990	100.0%	5.0%	11.2%	5.3%	2.8%	34.0%	41.7%
	1999	100.0%	2.5%	10.9%	5.9%	2.0%	31.3%	47.3%
Coke, refined petroleum products and nuclear fuel (DF)	1990	100.0%	0.0%	15.6%	0.4%	80.1%	1.6%	2.2%
	1999	100.0%	0.1%	17.9%	0.4%	80.2%	0.9%	0.5%
Chemicals, chemical products and man-made fibers (DG)	1990	100.0%	6.8%	15.5%	20.8%	6.7%	29.1%	21.2%
	1999	100.0%	5.7%	17.6%	22.0%	3.4%	28.0%	23.1%

Manufacture of rubber and plastic products (DH)	1990	100.0%	24.7%	18.1%	9.4%	7.5%	19.2%	21.2%
	1999	100.0%	9.8%	17.9%	10.0%	5.9%	29.6%	26.9%
Manufacture of other non-metallic mineral products (DI)	1990	100.0%	10.4%	18.9%	29.1%	8.7%	15.6%	17.2%
	1999	100.0%	9.2%	21.3%	28.4%	7.9%	17.0%	16.2%
Manufacture of fabricated metal products and manufacture of machinery and equipment (DJ+DK)	1990	100.0%	7.2%	19.6%	10.3%	5.3%	28.0%	29.7%
	1999	100.0%	5.5%	19.5%	10.2%	4.3%	31.7%	28.8%
Manufacture of electrical machinery (DL)	1990	100.0%	5.0%	16.0%	9.9%	6.5%	23.9%	38.6%
	1999	100.0%	4.2%	18.9%	10.1%	8.8%	21.5%	36.6%
Manufacture of motor vehicles and transport equipment (DM)	1990	100.0%	1.7%	28.7%	35.2%	6.0%	8.2%	20.1%
	1999	100.0%	0.7%	22.4%	47.1%	8.4%	5.6%	15.7%
Manufacturing, n.e.c.	1990	100.0%	8.7%	16.5%	17.2%	7.2%	22.7%	27.8%
	1999	100.0%	3.3%	26.7%	13.9%	7.6%	19.2%	29.2%

Table 33. Shares of the Country's Total Population (NUTS 2)

NUTS II	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Northwest	7.41%	7.41%	7.43%	7.40%	7.37%	7.34%	7.31%	7.28%	7.21%	7.15%
North Central	15.40%	15.41%	15.38%	15.33%	15.23%	15.18%	15.15%	15.10%	15.03%	14.97%
Northeast	16.60%	16.55%	16.45%	16.46%	16.46%	16.44%	16.44%	16.44%	16.43%	16.40%
Southeast	9.90%	9.98%	10.04%	10.05%	10.07%	10.10%	10.09%	10.07%	10.08%	10.07%
South Central	25.22%	25.11%	25.06%	25.12%	25.17%	25.19%	25.20%	25.22%	25.22%	25.26%
Southwest	25.47%	25.54%	25.64%	25.64%	25.70%	25.75%	25.80%	25.88%	26.02%	26.16%

Table 34. Shares of Industrial Employment from the Country's Total (NUTS 2)

NUTS II	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North Central	16.76%	16.43%	16.49%	16.45%	16.72%	16.62%	16.90%	17.26%	17.11%	17.16%
Northeast	13.85%	14.47%	13.84%	13.37%	13.08%	13.41%	12.98%	13.85%	14.00%	13.51%
Southeast	8.85%	9.05%	9.02%	8.74%	8.68%	8.70%	8.73%	8.47%	8.20%	7.89%
South Central	25.80%	26.16%	25.58%	25.81%	26.25%	26.28%	27.04%	27.04%	27.36%	26.92%
Southwest	27.35%	26.65%	27.96%	28.62%	28.64%	28.52%	27.82%	26.74%	26.81%	28.48%

Table 35. Ratio of Industrial Employment Shares to Population Shares (NUTS 2)

NUTS II	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Northwest	1.00	0.98	0.96	0.95	0.90	0.88	0.89	0.91	0.91	0.84
North Central	1.09	1.07	1.07	1.07	1.10	1.09	1.12	1.14	1.14	1.15
Northeast	0.83	0.87	0.84	0.81	0.80	0.82	0.79	0.84	0.85	0.82
Southeast	0.89	0.91	0.90	0.87	0.86	0.86	0.86	0.84	0.81	0.78
South Central	1.02	1.04	1.02	1.03	1.04	1.04	1.07	1.07	1.08	1.07
Southwest	1.07	1.04	1.09	1.12	1.11	1.11	1.08	1.03	1.03	1.09

Table 36. Share of Population, from the Country's Total (NUTS 3)

NUTS 2	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Blagoevgrad	4.07%	4.11%	4.15%	4.16%	4.17%	4.19%	4.21%	4.23%	4.23%	4.21%
Bourgas	5.13%	5.16%	5.19%	5.20%	5.22%	5.24%	5.22%	5.21%	5.22%	5.21%
Varna	5.35%	5.39%	5.46%	5.44%	5.41%	5.39%	5.40%	5.39%	5.41%	5.38%
Veliko Tarnovo	3.71%	3.75%	3.75%	3.76%	3.76%	3.76%	3.74%	3.73%	3.70%	3.68%
Vidin	1.80%	1.79%	1.79%	1.77%	1.77%	1.76%	1.75%	1.74%	1.72%	1.69%
Vtratza	3.16%	3.18%	3.19%	3.18%	3.17%	3.17%	3.16%	3.16%	3.13%	3.12%
Gabrovo	1.90%	1.91%	1.91%	1.90%	1.89%	1.88%	1.89%	1.88%	1.88%	1.87%
Dobrich	2.79%	2.78%	2.74%	2.74%	2.73%	2.74%	2.75%	2.75%	2.75%	2.76%
Kardjali	2.83%	2.72%	2.52%	2.53%	2.54%	2.55%	2.56%	2.57%	2.57%	2.46%
Kustendil	2.03%	2.12%	2.14%	2.13%	2.12%	2.12%	2.10%	2.10%	2.09%	2.08%
Lovech	2.24%	2.24%	2.24%	2.23%	2.19%	2.19%	2.19%	2.18%	2.16%	2.15%
Montana	2.45%	2.44%	2.45%	2.45%	2.44%	2.42%	2.40%	2.38%	2.36%	2.33%
Pazardjik	3.75%	3.80%	3.84%	3.86%	3.86%	3.87%	3.88%	3.88%	3.86%	3.85%
Pernik	2.03%	1.94%	1.92%	1.92%	1.90%	1.90%	1.90%	1.89%	1.88%	1.87%
Pleven	4.07%	4.08%	4.08%	4.05%	4.01%	3.97%	3.96%	3.95%	3.92%	3.90%
Plovdiv	8.52%	8.52%	8.66%	8.70%	8.74%	8.74%	8.72%	8.75%	8.80%	8.91%

Razgrad	2.04%	2.02%	1.97%	1.98%	2.01%	2.02%	2.02%	2.02%	2.01%	2.01%
Russe	3.48%	3.43%	3.40%	3.40%	3.37%	3.37%	3.38%	3.37%	3.37%	3.36%
Silistra	1.93%	1.91%	1.90%	1.89%	1.90%	1.90%	1.88%	1.88%	1.87%	1.86%
Sliven	2.72%	2.75%	2.77%	2.77%	2.79%	2.79%	2.79%	2.80%	2.81%	2.80%
Smolyan	1.88%	1.89%	1.88%	1.88%	1.87%	1.86%	1.86%	1.86%	1.84%	1.78%
Sofia	13.90%	13.97%	14.02%	14.05%	14.14%	14.23%	14.26%	14.37%	14.58%	14.79%
Sofia region	3.44%	3.41%	3.41%	3.38%	3.36%	3.32%	3.33%	3.29%	3.25%	3.20%
Stara Zagora	4.70%	4.69%	4.68%	4.69%	4.70%	4.68%	4.69%	4.70%	4.69%	4.70%
Targoviste	1.81%	1.78%	1.78%	1.78%	1.78%	1.78%	1.77%	1.77%	1.77%	1.77%
Haskovo	3.52%	3.51%	3.48%	3.47%	3.46%	3.48%	3.48%	3.47%	3.46%	3.56%
Shumen	2.69%	2.66%	2.60%	2.62%	2.63%	2.63%	2.62%	2.62%	2.63%	2.62%
Yambol	2.06%	2.07%	2.08%	2.07%	2.07%	2.07%	2.07%	2.07%	2.05%	2.05%

Table 37. Shares of Industrial Employment, from the Country's Total (NUTS 3)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Blagoevgrad	4.40%	4.50%	4.31%	4.12%	3.89%	4.14%	4.15%	4.31%	4.69%	4.93%
Bourgas	4.45%	4.61%	4.62%	4.55%	4.57%	4.60%	4.67%	4.68%	4.53%	4.68%
Varna	4.93%	5.21%	5.02%	5.01%	5.03%	5.23%	5.41%	5.57%	5.66%	5.38%
Veliko Tarnovo	4.02%	3.97%	3.84%	3.64%	3.74%	3.73%	3.78%	3.96%	4.01%	4.05%
Vidin	1.76%	1.66%	1.67%	1.64%	1.55%	1.49%	1.46%	1.43%	1.39%	1.03%
Vtratza	3.43%	3.45%	3.34%	3.31%	3.06%	3.11%	3.15%	3.25%	3.19%	3.16%
Gabrovo	2.72%	2.70%	2.82%	2.97%	3.10%	3.08%	3.21%	3.20%	3.27%	3.36%
Dobrich	2.24%	2.30%	2.21%	2.04%	1.84%	1.92%	1.92%	1.88%	1.95%	1.94%
Kardjali	1.75%	1.72%	1.64%	1.61%	1.58%	1.58%	1.50%	1.56%	1.64%	1.63%
Kustendil	2.41%	2.43%	2.58%	2.66%	2.61%	2.52%	2.63%	2.69%	2.77%	2.87%
Lovech	2.68%	2.55%	2.54%	2.48%	2.54%	2.61%	2.61%	2.63%	2.66%	2.62%
Montana	2.21%	2.13%	2.11%	2.05%	2.03%	1.88%	1.91%	1.97%	1.95%	1.85%
Pazardjik	3.93%	3.88%	3.84%	3.60%	3.53%	3.61%	3.58%	3.67%	3.57%	3.38%
Pernik	2.68%	2.60%	2.62%	2.67%	2.53%	2.54%	2.60%	2.62%	2.59%	2.68%
Pleven	3.92%	3.83%	3.97%	3.92%	3.94%	3.91%	3.94%	3.94%	3.68%	3.59%
Plovdiv	8.76%	8.93%	8.47%	8.91%	9.10%	9.02%	9.97%	9.69%	9.63%	9.87%
Razgrad	1.61%	1.72%	1.54%	1.52%	1.52%	1.55%	1.55%	1.58%	1.58%	1.54%

Russe	3.42%	3.39%	3.33%	3.44%	3.39%	3.29%	3.36%	3.52%	3.48%	3.53%
Silistra	1.55%	1.49%	1.40%	1.34%	1.27%	1.28%	1.20%	1.13%	1.13%	1.10%
Sliven	2.61%	2.61%	2.64%	2.56%	2.49%	2.56%	2.54%	2.38%	2.24%	1.94%
Smolyan	2.22%	2.16%	2.09%	2.03%	2.05%	1.98%	1.80%	1.86%	1.91%	1.65%
Sofia	13.95%	13.52%	14.94%	15.89%	16.29%	15.97%	15.14%	13.76%	13.35%	14.56%
Sofia region	3.91%	3.59%	3.50%	3.29%	3.32%	3.34%	3.30%	3.35%	3.40%	3.43%
Stara Zagora	5.86%	6.22%	6.29%	6.42%	6.87%	6.97%	6.96%	7.13%	7.29%	7.18%
Targoviste	1.39%	1.40%	1.37%	1.22%	1.18%	1.20%	1.17%	1.28%	1.31%	1.35%
Haskovo	3.28%	3.25%	3.24%	3.24%	3.13%	3.13%	3.23%	3.14%	3.30%	3.21%
Shumen	2.12%	2.36%	2.28%	2.24%	2.24%	2.22%	1.73%	2.40%	2.37%	2.20%
Yambol	1.78%	1.83%	1.76%	1.63%	1.61%	1.53%	1.51%	1.40%	1.43%	1.27%

Table 38. Ratio of Industrial Employment Shares to Population Shares (NUTS 2)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Blagoevgrad	1.08	1.10	1.04	0.99	0.93	0.99	0.98	1.02	1.11	1.17
Bourgas	0.87	0.89	0.89	0.87	0.88	0.88	0.89	0.90	0.87	0.90
Varna	0.92	0.97	0.92	0.92	0.93	0.97	1.00	1.03	1.05	1.00
Veliko Tarnovo	1.08	1.06	1.02	0.97	1.00	0.99	1.01	1.06	1.08	1.10
Vidin	0.98	0.93	0.93	0.92	0.88	0.85	0.84	0.82	0.81	0.61
Vtratza	1.08	1.09	1.05	1.04	0.96	0.98	1.00	1.03	1.02	1.01
Gabrovo	1.43	1.41	1.48	1.57	1.64	1.63	1.70	1.70	1.75	1.79
Dobrich	0.80	0.83	0.81	0.75	0.67	0.70	0.70	0.69	0.71	0.70
Kardjali	0.62	0.63	0.65	0.64	0.62	0.62	0.58	0.61	0.64	0.66
Kustendil	1.18	1.15	1.21	1.25	1.23	1.19	1.25	1.28	1.33	1.38
Lovech	1.20	1.14	1.13	1.11	1.16	1.19	1.19	1.21	1.23	1.22
Montana	0.90	0.88	0.86	0.84	0.83	0.78	0.79	0.83	0.83	0.79
Pazardjik	1.05	1.02	1.00	0.93	0.91	0.93	0.92	0.95	0.93	0.88
Pernik	1.32	1.34	1.36	1.39	1.33	1.34	1.37	1.39	1.38	1.43
Pleven	0.96	0.94	0.97	0.97	0.98	0.98	0.99	1.00	0.94	0.92
Plovdiv	1.03	1.05	0.98	1.02	1.04	1.03	1.14	1.11	1.09	1.11

Razgrad	0.79	0.85	0.78	0.77	0.76	0.77	0.77	0.78	0.78	0.76
Russe	0.98	0.99	0.98	1.01	1.00	0.98	1.00	1.05	1.03	1.05
Silistra	0.80	0.78	0.74	0.71	0.67	0.67	0.64	0.60	0.60	0.59
Sliven	0.96	0.95	0.95	0.92	0.90	0.92	0.91	0.85	0.80	0.69
Smolyan	1.18	1.14	1.11	1.08	1.09	1.06	0.96	1.00	1.04	0.93
Sofia City	1.00	0.97	1.07	1.13	1.15	1.12	1.06	0.96	0.92	0.98
Sofia region	1.14	1.05	1.03	0.97	0.99	1.01	0.99	1.02	1.05	1.07
Stara Zagora	1.25	1.33	1.34	1.37	1.46	1.49	1.48	1.52	1.55	1.53
Targoviste	0.77	0.78	0.77	0.68	0.66	0.67	0.66	0.72	0.74	0.76
Haskovo	0.93	0.93	0.93	0.93	0.91	0.90	0.93	0.90	0.95	0.90
Shumen	0.79	0.89	0.88	0.85	0.85	0.85	0.66	0.92	0.90	0.84
Yambol	0.87	0.88	0.84	0.79	0.78	0.74	0.73	0.68	0.70	0.62

Table 39. Geographic Concentration Measures on NUTS II Level, 1990-1999

	Mining of coal; extraction of natural gas	Mining of ores	Other mining and quarrying	Foods, beverages and tobacco	Textiles	Apparel	Leather, leather and fur clothes, footwear and products	Wood and products of wood and cork, plaiting materials	Pulp, paper and paper products, publishing and printing	Coke, refined petroleum products and nuclear fuel	Chemicals, chemical products and man-made fibers	Rubber and plastic products	Other non-metallic products	Basic metals except casting of metals	Metal products, machinery and equipment; casting of metals	Electrical and optical equipment	Transport equipment
(Hic) Herfindahl Index - Geographic concentration measure for NUTS 2																	
1990	0.35	0.47	0.18	0.19	0.21	0.20	0.24	0.20	0.31	0.67	0.21	0.19	0.19	0.43	0.22	0.25	0.26
1991	0.37	0.47	0.18	0.19	0.21	0.20	0.25	0.20	0.31	0.71	0.21	0.19	0.20	0.46	0.23	0.24	0.28
1992	0.38	0.48	0.18	0.20	0.20	0.20	0.25	0.19	0.32	0.76	0.21	0.19	0.20	0.48	0.23	0.23	0.30
1993	0.38	0.50	0.19	0.20	0.20	0.20	0.25	0.19	0.32	0.77	0.21	0.19	0.20	0.49	0.23	0.22	0.31
1994	0.38	0.49	0.19	0.20	0.20	0.20	0.26	0.20	0.33	0.77	0.21	0.19	0.20	0.21	0.23	0.21	0.32
1995	0.39	0.49	0.19	0.20	0.20	0.20	0.26	0.20	0.33	0.77	0.21	0.20	0.20	0.50	0.23	0.22	0.32
1996	0.39	0.49	0.19	0.20	0.20	0.21	0.25	0.21	0.33	0.79	0.21	0.20	0.21	0.51	0.23	0.22	0.34
1997	0.40	0.48	0.19	0.20	0.21	0.21	0.27	0.21	0.32	0.65	0.21	0.20	0.21	0.51	0.24	0.22	0.34
1998	0.40	0.46	0.19	0.20	0.20	0.21	0.26	0.21	0.33	0.66	0.21	0.20	0.20	0.51	0.24	0.23	0.35
1999	0.40	0.47	0.19	0.20	0.20	0.22	0.28	0.21	0.34	0.68	0.22	0.21	0.20	0.51	0.24	0.24	0.31
(DCRi) Disimilarity Index - Geographic concentration measure for NUTS 2																	
1990	0.60	0.81	0.22	0.22	0.28	0.11	0.17	0.16	0.45	1.42	0.21	0.38	0.41	0.72	0.26	0.21	0.66
1991	0.65	0.77	0.18	0.22	0.26	0.13	0.18	0.14	0.45	1.49	0.21	0.38	0.41	0.77	0.28	0.20	0.75
1992	0.66	0.79	0.18	0.22	0.25	0.12	0.19	0.15	0.47	1.55	0.21	0.39	0.42	0.80	0.27	0.15	0.77
1993	0.65	0.82	0.18	0.23	0.25	0.13	0.20	0.15	0.47	1.57	0.21	0.39	0.43	0.81	0.28	0.16	0.77
1994	0.67	0.81	0.18	0.21	0.25	0.11	0.23	0.13	0.50	1.56	0.21	0.40	0.42	0.16	0.27	0.16	0.74
1995	0.65	0.80	0.23	0.24	0.28	0.13	0.25	0.17	0.47	1.57	0.22	0.41	0.45	0.84	0.29	0.17	0.76

1996	0.66	0.79	0.22	0.23	0.32	0.13	0.22	0.21	0.48	1.60	0.21	0.41	0.46	0.85	0.29	0.19	0.81
1997	0.71	0.76	0.26	0.21	0.32	0.12	0.29	0.26	0.46	1.45	0.16	0.39	0.45	0.87	0.32	0.20	0.79
1998	0.69	0.70	0.30	0.19	0.27	0.09	0.23	0.23	0.47	1.46	0.17	0.35	0.44	0.86	0.31	0.21	0.81
1999	0.66	0.77	0.29	0.19	0.26	0.08	0.28	0.21	0.46	1.46	0.20	0.14	0.44	0.83	0.33	0.21	0.79
Gini Index - Geographic concentration measure for NUTS 2																	
1990	0.41	0.53	0.14	0.13	0.15	0.08	0.18	0.09	0.30	0.79	0.13	0.34	0.24	0.42	0.16	0.13	0.41
1991	0.45	0.52	0.14	0.12	0.15	0.10	0.19	0.09	0.31	0.80	0.14	0.35	0.24	0.45	0.17	0.12	0.46
1992	0.46	0.52	0.12	0.11	0.18	0.09	0.20	0.09	0.32	0.80	0.14	0.37	0.25	0.45	0.17	0.11	0.50
1993	0.46	0.53	0.11	0.11	0.20	0.10	0.22	0.10	0.32	0.81	0.14	0.38	0.25	0.46	0.17	0.10	0.52
1994	0.48	0.52	0.10	0.11	0.21	0.10	0.25	0.08	0.34	0.81	0.14	0.39	0.26	0.10	0.17	0.10	0.52
1995	0.47	0.52	0.11	0.12	0.23	0.10	0.27	0.10	0.33	0.81	0.15	0.39	0.26	0.47	0.19	0.14	0.53
1996	0.48	0.53	0.11	0.12	0.25	0.11	0.22	0.14	0.35	0.81	0.15	0.39	0.27	0.48	0.18	0.13	0.55
1997	0.52	0.52	0.12	0.09	0.25	0.11	0.28	0.16	0.33	0.79	0.14	0.37	0.27	0.49	0.18	0.13	0.55
1998	0.51	0.50	0.14	0.10	0.24	0.09	0.23	0.13	0.35	0.79	0.15	0.36	0.25	0.49	0.18	0.14	0.55
1999	0.49	0.57	0.13	0.10	0.23	0.09	0.29	0.12	0.34	0.79	0.19	0.15	0.25	0.46	0.19	0.13	0.51

Table 40. Geographic Concentration Measures on NUTS III Level, 1990-1999

	Mining of coal; extraction of petroleum and natural gas	Mining of ores	Other mining and quarrying	Foods, beverages and tobacco	Textiles	Apparel	Leather, leather and fur clothes, footwear and products	Wood and products of wood and cork, plaiting materials	Pulp, paper and paper products, publishing and printing	Coke, refined petroleum products and nuclear fuel	Chemicals, chemical products and man-made fibers	Rubber and plastic products	Other non-metallic products	Basic metals except casting of metals	Metal products, machinery and equipment; casting of metals	Electrical and optical equipment	Transport equipment
(Hic) Herfindahl Index - Geographic concentration measure for NUTS 3																	
1990	0.15	0.15	0.07	0.05	0.05	0.05	0.08	0.05	0.14	0.66	0.07	0.08	0.06	0.19	0.07	0.07	0.08
1991	0.18	0.16	0.06	0.05	0.05	0.05	0.08	0.05	0.14	0.71	0.07	0.09	0.06	0.21	0.07	0.07	0.09
1992	0.17	0.19	0.06	0.05	0.06	0.05	0.08	0.05	0.15	0.75	0.07	0.09	0.06	0.23	0.07	0.06	0.11
1993	0.17	0.21	0.07	0.05	0.06	0.05	0.09	0.05	0.15	0.76	0.07	0.10	0.06	0.23	0.07	0.06	0.12
1994	0.17	0.21	0.07	0.05	0.06	0.05	0.09	0.06	0.15	0.76	0.07	0.10	0.06	0.06	0.07	0.06	0.13
1995	0.18	0.20	0.07	0.05	0.06	0.05	0.09	0.06	0.15	0.77	0.07	0.10	0.06	0.24	0.07	0.07	0.14
1996	0.18	0.20	0.07	0.05	0.07	0.05	0.09	0.07	0.15	0.79	0.07	0.10	0.06	0.25	0.07	0.07	0.15
1997	0.19	0.22	0.07	0.05	0.07	0.05	0.10	0.07	0.14	0.64	0.07	0.10	0.06	0.25	0.07	0.07	0.16
1998	0.20	0.23	0.08	0.06	0.06	0.06	0.09	0.07	0.15	0.65	0.07	0.10	0.06	0.25	0.08	0.07	0.18
1999	0.20	0.19	0.08	0.06	0.06	0.06	0.09	0.07	0.15	0.66	0.07	0.08	0.06	0.26	0.08	0.08	0.15
(DCRi) Disimilarity Index - Geographic concentration measure for NUTS 3																	
1990	1.27	1.19	0.72	0.34	0.49	0.41	0.62	0.44	0.68	1.71	0.66	0.63	0.59	0.99	0.38	0.34	0.76
1991	1.31	1.19	0.67	0.37	0.49	0.43	0.64	0.49	0.69	1.74	0.68	0.66	0.58	1.03	0.40	0.32	0.86
1992	1.32	1.38	0.71	0.36	0.49	0.45	0.67	0.50	0.70	1.74	0.69	0.70	0.58	1.05	0.41	0.30	0.89
1993	1.32	1.42	0.72	0.37	0.52	0.46	0.69	0.52	0.71	1.74	0.68	0.72	0.59	1.06	0.41	0.33	0.88
1994	1.33	1.43	0.71	0.36	0.55	0.45	0.70	0.51	0.73	1.74	0.69	0.72	0.61	0.36	0.41	0.36	0.91
1995	1.34	1.44	0.75	0.38	0.59	0.47	0.73	0.52	0.72	1.73	0.70	0.75	0.61	1.07	0.42	0.37	0.95

1996	1.34	1.47	0.78	0.37	0.60	0.48	0.72	0.63	0.74	1.72	0.69	0.75	0.62	1.08	0.41	0.40	1.04
1997	1.33	1.47	0.75	0.34	0.58	0.50	0.78	0.71	0.72	1.72	0.63	0.74	0.61	1.10	0.45	0.43	1.01
1998	1.30	1.46	0.76	0.33	0.60	0.52	0.79	0.72	0.74	1.73	0.65	0.70	0.57	1.10	0.47	0.45	1.02
1999	1.29	1.39	0.71	0.32	0.56	0.54	0.74	0.70	0.71	1.73	0.60	0.56	0.60	1.07	0.48	0.43	0.94
(Gi) Gini locational coefficients on NUTS III level																	
1990	0.96	0.98	0.45	0.21	0.36	0.28	0.44	0.30	0.44	1.33	0.51	0.57	0.44	0.83	0.24	0.25	0.59
1991	0.98	0.99	0.44	0.21	0.36	0.29	0.45	0.31	0.44	1.33	0.53	0.58	0.43	0.84	0.26	0.26	0.62
1992	0.98	1.02	0.45	0.22	0.38	0.31	0.47	0.31	0.44	1.34	0.54	0.61	0.44	0.84	0.27	0.25	0.64
1993	0.98	1.03	0.47	0.22	0.40	0.31	0.49	0.32	0.45	1.34	0.54	0.62	0.44	0.84	0.27	0.28	0.66
1994	0.99	1.04	0.48	0.22	0.42	0.31	0.50	0.32	0.46	1.34	0.54	0.62	0.46	0.30	0.27	0.30	0.68
1995	0.99	1.03	0.49	0.23	0.45	0.32	0.53	0.35	0.47	1.34	0.55	0.64	0.46	0.85	0.28	0.34	0.69
1996	0.99	1.15	0.51	0.23	0.48	0.33	0.50	0.44	0.48	1.34	0.56	0.64	0.47	0.83	0.27	0.32	0.72
1997	1.03	1.16	0.50	0.21	0.49	0.33	0.54	0.48	0.48	1.28	0.55	0.64	0.48	0.83	0.28	0.32	0.71
1998	1.03	1.16	0.50	0.21	0.49	0.35	0.53	0.49	0.49	1.24	0.54	0.63	0.47	0.86	0.29	0.33	0.70
1999	1.03	1.11	0.48	0.20	0.48	0.36	0.52	0.49	0.47	1.24	0.52	0.50	0.48	0.82	0.29	0.31	0.67

Table 41:Regression results: Do poor regions suffer from unemployment?

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.23492
R Square	0.055188
Adjusted R Square	0.048581
Standard Error	4.528203
Observations	145

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	171.271	171.271	8.352801	0.004452
Residual	143	2932.16	20.50462		
Total	144	3103.431			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	19.72778	1.914723	10.3032	5.8E-19	15.94296	23.51259	15.94296	23.51259
GDPpc	-0.00473	0.001636	-2.89012	0.004452	-0.00796	-0.00149	-0.00796	-0.00149

Regression of GDPpc on rate of unemployment

	Coeff.	t-stat
Const.	19.728	10.303
GDPpc	-0.005	-2.890
Adj. R2	0.049	
No. of obs.	145	

Dependent variable: Rate of unemployment

Table 42: Results of the Estimates for Model 2.1

	(1)	(2)
LnDistCapital	-0.04625	-0.04792
	(0.00168)***	(0.00211)***
Border EU	0.21785	0.22744
	(0.31402)	(0.31462)
Dist * Border	-0.06292	-0.06466
	(0.06182)	(0.06194)
South	-0.53894	-0.54821
	(0.22227)**	(0.22278)**
Dist * South	0.11012	0.11178
	(0.04471)**	(0.04481)**
East	6.05951	6.05025
	(0.87619)***	(0.87783)***
Dist * East	-0.95852	-0.95686
	(0.14550)***	(0.14577)***
West	-0.12794	-0.13721
	(0.02668)***	(0.02751)***
Dist * West	0.03078	0.03244
	(0.00723)***	(0.00736)***
Constant		0.00927
		(0.00651)
Observations	280	280
R-squared	0.83933	0.43707

White robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 43: Results of the Estimates for Model 2.2

	(1)	(2)
LnDistCapital	-0.04115	-0.04282
	(0.00211)***	(0.00242)***
Border EU	0.21785	0.22744
	(0.30349)	(0.30413)
Dist * Border	-0.06292	-0.06466
	(0.05930)	(0.05942)
South	-0.53894	-0.54821
	(0.22402)**	(0.22452)**
Dist * South	0.11012	0.11178
	(0.04464)**	(0.04474)**
East	6.05951	6.05025
	(0.87033)***	(0.87197)***
Dist * East	-0.95852	-0.95686
	(0.14397)***	(0.14425)***
West	-0.12794	-0.13721
	(0.02679)***	(0.02755)***
Dist * West	0.03078	0.03244
	(0.00715)***	(0.00725)***
Ln Dist*Year	-0.01020	-0.01020
	(0.00231)***	(0.00231)***
Constant		0.00927
		(0.00623)
Observations	280	280
R-squared	0.85029	0.47548

White robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 44: Results of the Estimates for Model 2.3

	(1)	(2)
LnDistCapital	-0.04040	-0.04207
	(0.00247)***	(0.00277)***
Border EU	0.21785	0.22744
	(0.29880)	(0.29944)
Dist Border	-0.05325	-0.05498
	(0.05922)	(0.05935)
South	-0.53894	-0.54821
	(0.22117)**	(0.22168)**
Dist South	0.10694	0.10861
	(0.04549)**	(0.04559)**
East	6.05951	6.05025
	(0.86781)***	(0.86947)***
Dist East	-0.96313	-0.96146
	(0.14406)***	(0.14433)***
West	-0.12794	-0.13721
	(0.02694)***	(0.02771)***
Dist West	0.02744	0.02911
	(0.00766)***	(0.00777)***
Ln Dist * Year	-0.01169	-0.01169
	(0.00315)***	(0.00315)***
LnDist*Bord*Year	-0.01936	-0.01936
	(0.00858)**	(0.00860)**
LnDist*South*Year	0.00635	0.00635
	(0.00704)	(0.00705)
LnDist*East*Year	0.00921	0.00921
	(0.00582)	(0.00583)
LnDist*West*Year	0.00668	0.00668
	(0.00750)	(0.00751)
Constant		0.00927
		(0.00627)
Observations	280	280
R-squared	0.85389	0.48811

White robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 45: Results of the Test Based on Estimates of Model 2.3

	(1)	(2)
Border F test	1.11	1.17
Prob > F	0.2924	0.2799
South F test	8.25	8.44
Prob > F	0.0044 *	0.0040 *
East F test	42.76	42.45
Prob > F	0.0000 *	0.0000 *
West F test	23.70	25.30
Prob > F	0.0000 *	0.0000 *

(*) the null hypothesis that $\beta_t + \mu_t = \beta_t + \lambda_t + \nu_t$ is rejected at 5% or lower

Table 46: Estimation of the Growth Model

	Dissimilarity (1)	Dissimilarity (2)	Herfindhal (3)	Herfindhal (4)	Gini (5)	Gini (6)
Dissimilarity	1.95354	1.56544				
	(1.03467)*	(1.05909)				
Herfindhal			-1.20358	1.70802		
			(3.60467)	(3.78941)		
Gini					4.01752	3.26662
					(1.44713)***	(1.50716)**
X1		-1.44955		-1.03432		-0.30597
		(2.43511)		(2.44953)		(2.39226)
X2		2.61715		2.18092		2.60617
		(2.40008)		(2.41358)		(2.34822)
X3		148.34779		187.18733		169.59143
		(90.09132)		(92.07717)**		(86.73210)*
X4		2.60151		2.89981		2.61783
		(12.15183)		(12.71716)		(11.93198)
X5		-2.84259		-2.88166		-3.26951
		(3.06679)		(3.15348)		(3.03098)
Constant	-1.17694	-2.47220	0.14927	-1.96547	-2.16651	-3.55237
	(0.62324)*	(8.43329)	(0.45080)	(8.75935)	(0.78034)***	(8.30660)
Observations	112	112	112	112	112	112
Nr regions	28	28	28	28	28	28
R-squared	0.04118	0.20126	0.00134	0.18102	0.08497	0.22553

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%