

Technological upgrading and Portuguese competitiveness

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Abstract

For a long time regional competition has been a main theme of debate for researchers interested in spatial economics, regional development and related issues. Several factors (natural resources, human capital, institutional density, social networks, or technology and innovation) are relevant to understand how different regions reveal different performances in what concerns to attract investments, to create employment and wealth. Those factors are relevant conditions enabling regions and nations to be more competitive than others. Although there isn't a consensus on what competitiveness means at national level and some more critics even argue that it is essentially a meaningless concept, it become fashionable to monitor the competitive performance of regions, cities and nations.

In spite we had a previous experience of internationalisation and FDI inward, as we were one of the EFTA founding members in the beginning of the 60's, and that the EU membership provided the opportunity and the support (structural and cohesion funds) to undertake profound transformation, both economic, social and institutional, Portugal has been demonstrating some difficulties facing the economic globalization. The failure of Portugal to diversify the destiny of its exports after EU adhesion, strongly concentrated on few partners (namely Germany, France and UK, and more recently Spain) and to move towards a more qualified manufacturing structure, is affecting his position on the overall European economy.

This paper is exclusively about the role of technological upgrading and its impacts as a major driving force for the differences that characterize Portuguese competitiveness in the framework of both European and World economy. This research is supported by an analysis concerning the evolution of the Portuguese export structure by technological intensity with selected trade partner, namely the most relevant ones.

Key words: Technological upgrading, competitiveness, economic growth, Portugal

JEL Classification: F1 ; O33 ; O50; R11

1. Introduction

The deepening of economic globalization is creating highly competitive environments where only few will be winners. We face a time where competition is increasingly global as a result of international trade liberalization and increased deregulation of transportation, communication, and financial markets. Moreover a competitive environment has been push forward by a “shrinking space” due to the diffusion of new technologies that are lowering mobility costs and enlarging the “operational space” of companies, even for SME’s. Altogether these current trends are contributing to increase global economic integration and to intensify competition among countries, regions, cities or companies.

Following the deepening of the globalization process the drivers of regional competition have shifted from “hard” to “soft” factors. Nowadays more relevant than infrastructures is a pool of intangible factors, among them the “institutional thickness” (Amin and Thrift, 1994); knowledge; technology and innovation; R&D activities; or even creativity and cooperation among companies (Cheshire and Gordon, 1998; Porter, 1998; Batey and Friedrich, ed, 2000; Camagni, 2002; Florida, 2002; Martin, 2003). It is more and more recognised that firms must be able to mobilise those “soft” factors to quickly adapt to rapid changing environments and increasing economic integration (Hamilton and Pose, 2001).

Under the framework of “soft” factors relevance, this paper focuses exclusively on the role of technological upgrading and its impacts as a driving force for the so desired reformulation of Portugal’s paradigm of development (towards an economic model driven by innovation and human resources qualification). Methodological this research is supported by an analysis concerning the evolution of the Portuguese export structure, by technological intensity levels, in order to expose the extent of the technology upgrading in Portugal.

The main purpose of this study is to discuss the performance of Portugal in face of the highly competitive scenario that characterizes economic globalization. A country that has been demonstrating some difficulties to diversify the destiny of its exports after EU adhesion, strongly concentrated on few partners (namely Germany, France and UK, and more recently Spain) and to move towards a more qualified manufacturing structure, which is affecting his position on the overall global economy.

One might expect that the process of convergence with the EU, carried out with the support of EU funds and programs designed specifically for the modernization of the production process and qualification of human resources, would result in increased competitiveness in the global market. However Portugal seems to be trapped in a “low-wage-low-added-value” specialization pattern, a result of the specialization model that began with EFTA membership, in the 60's, and was accentuated after EU integration in the middle of the 80s.

In spite of the government policies and the endeavour that has been placed to modernize mobility infrastructures; to upgrade manufacturing structure; to qualify human resources; and to invest in R&D activities, the specialization pattern in low-medium technology seems to remain, and a shift towards more added-value products seems to become increasingly difficult in the future as the world market becomes more and more competitive. In this scenario how can Portugal become more successful concerning the benefits of economic globalization, namely in order to achieve the so needed upgrade on its trade structure from low to high tech products?

2. Recent trends in Portuguese economy

After the Second World War western European countries experienced an economic prosperity as a result of the reconstruction of their economies reinforced by the favourable international context of the 60's and the beginning of the 70's. Portugal aspired to participate in those growing markets, avoiding however, any political involvement. In the beginning of the 60's, EFTA was the choice (Portugal was a charter member in 1959), since it allowed taking advantage of a wide market, without implying the deepening of the political relationship, not desirable to the dictatorship in power in 1928-1974 (Silva Lopes, 1996) besides it included UK, a traditional partner.

This period was also characterised by the rapid expansion of FDI, facilitated by the liberalization of the legislation, and by the dominant role played by multinationals, namely US-based and also European-based, in the economic modernization through technology transfer (Martins, 1976). Portuguese economy experienced strong economic growth during this period due to export opportunities. Low wages and the absence of working conflicts, both quite controlled by Government and the geographical proximity attracted foreign capitals from Germany, France, United Kingdom and Norway and also from USA and Japan, transforming Portugal in a "export platform" of labour intensive products, namely garments and footwear. After Portuguese EU adhesion the same advantages (low wages, geographical proximity, and political stability) channelled new investments again for the most labour intensive manufacturing branches. Employment grew at very fast rates emphasizing Portuguese specialization in this type of industries. But during the nineties a severe downsizing occurred especially in textiles that lost almost 40% of their jobs after two decades of steady increase.

So Portugal had to face a huge challenge of a fast adaptation to the new European and international context. In spite EU funding supported Portuguese manufacturing to adapt to a more competitive environment, namely through PEDIP (CSF II) and PRIME (CSF III), relevant components like innovation and qualification of human resources were insufficient. Labour productivity stayed below half of the average due to insufficient improvements during the 90's and the beginning of the present decade (OECD, 2006). After EU membership, the same comparative advantages of the 60's (large pools of cheap, young and unskilled labour) defined the country's role as a low-wage workbench for European companies who were looking for opportunities to develop intensive phases of production close to their markets. The late growth of this type of industries contributed to further emphasize the so-called 'extensive model' in which the growth process is a mere expansion of the existing production system based on low wages and postponed the transition to another development model away from international competition from low-labour-cost countries.

Textile, clothing and footwear were the main exported products, at least until the mid-nineties when the Government made a commitment to consolidate the car industry in Portugal, following the setting up in Portugal of a French assembly line (Renault), succeeding in attracting more foreign capital and major world car constructors. In 1991, the originally joint venture between Ford and Volkswagen (presently only VW) decided to locate the assembly line near Lisbon, which greatly contributed to the development of the car industry in Portugal and to upgrade quality and innovation in the supply networks (Pike, Vale, 1996; Lobo and Melo, 2002; Simões, 2002). Gradually, cars and cars compounds arrived at the top of exported manufacturing substituting T&C exports. Both sectors represented almost 59% of

Portuguese exports at the end of the nineties with vehicles and parts assuming an increasing relevance.

However, textiles and car industry are highly sensitive to international competition; besides there is the danger of excessive dependence on international subcontracting networks and Portugal has to move forward to a more ambitious development path.

Besides those two filières, Portuguese exports includes other products related with the exploitation of natural resources like wood processing, paper and marble. This specialization strongly contrasts with the EU average where the share of technology-driven industries, of high skill industries and of industries with high content of knowledge-based services increased, while the share of labour-intensive and of low-skill industries decreased (CEC, 2000).

On one hand, while total exports, employment, number of firms and subcontracts were increasing, they created an illusion of a very positive environment for Portuguese T&C and car industries and postponed the necessary up grading. But this growth pattern is somehow similar to Kaplinsky's "*immiserising growth*", describing a situation where there is increasing economic activity but failing economic returns as a consequence of incapacity of firms, groups of firms and national economies to insert themselves appropriately into global markets (Kaplinsky, 2000; Kaplinsky and Readman, 2001).

3. The structure of Portuguese exports by technological intensity levels

Portuguese economy is extremely dependent on its performance in terms of exports, which grew 29% during the period 2002-2008, a consequence from good results achieved especially in the triennium 2005-2007 (Figure 1). Although a positive tendency had characterized recent evolution of Portuguese exports, it should be noticed a decrease of 560 million Euros between 2007 and 2008 in the transaction of manufactured products, as a direct consequence of the global economic crisis. However it should be highlighted that this recent decrease does not affect equally Portuguese exports to all markets. If trade with NAFTA and EU is declining, emerging economies such as BRIC (Brazil, Russia, India and China) and CPLP (Community of Portuguese Languages Countries) have been reinforcing their imports from Portugal in recent years. The geographical analysis of Portuguese exports will be detailed examined on the following section.

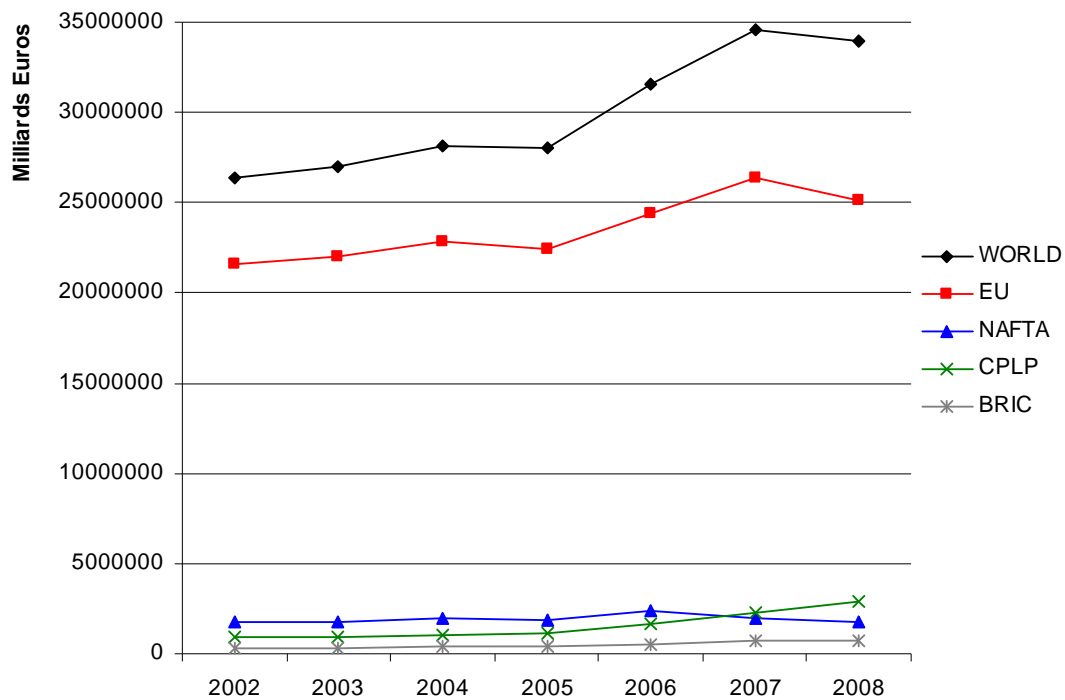


Figure 1. Evolution of Portuguese exports of manufactured products, by destination world regions

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

Besides the recent decrease of Portuguese exports, when analysing the evolution by different levels of technological intensity (Figure 2), it only can be detected a slightly and not significant qualification of the Portuguese external trade.

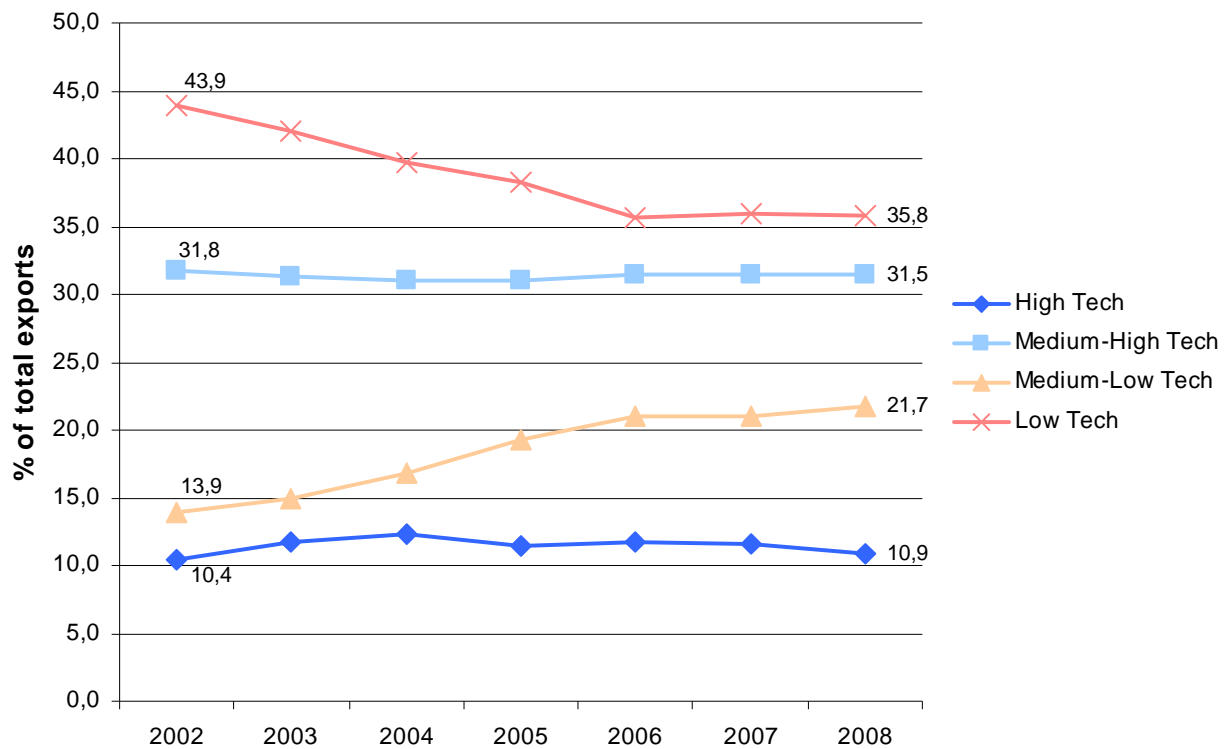


Figure 2. Evolution of Portuguese exports of manufactured products, according to technological intensity levels

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

The medium-high and the high tech products did not increase their importance during these recent years. Portugal is still mainly exporting low-tech products (especially textiles, apparel, leather and footwear) as it happened when it became a joint member of the European Union in the middle of the 80's. If it's true that the proportion of these goods has been declining, this trend is only a result of a higher representation of medium-low tech products (rubber and plastic, metallurgy, and non metallic mineral products) that evolved from 13,9% in 2002 to 21,7% of all exports in 2008.

In the triennium 2006-2008 Portugal had had a negative trade balance of around 43 billion Euros. It can be stated that metallurgy is the most responsible for this imbalance in the Portuguese trade balance (Figure 3¹). From a set of 21 different activities, metallurgy is by itself responsible for almost a third of the entire deficit that characterizes Portuguese trade balance. It can also be observed that other goods where Portugal has a deficit trade balance belong to the best-selling activities in Portugal, unlike what happens in metallurgy, where the huge trade deficit can be explained by the fact that we are mainly importers in this specific activity.

¹ Statistics regarding trade balance by economic activity are not available for the period 2002-2008, but only for the last three years.

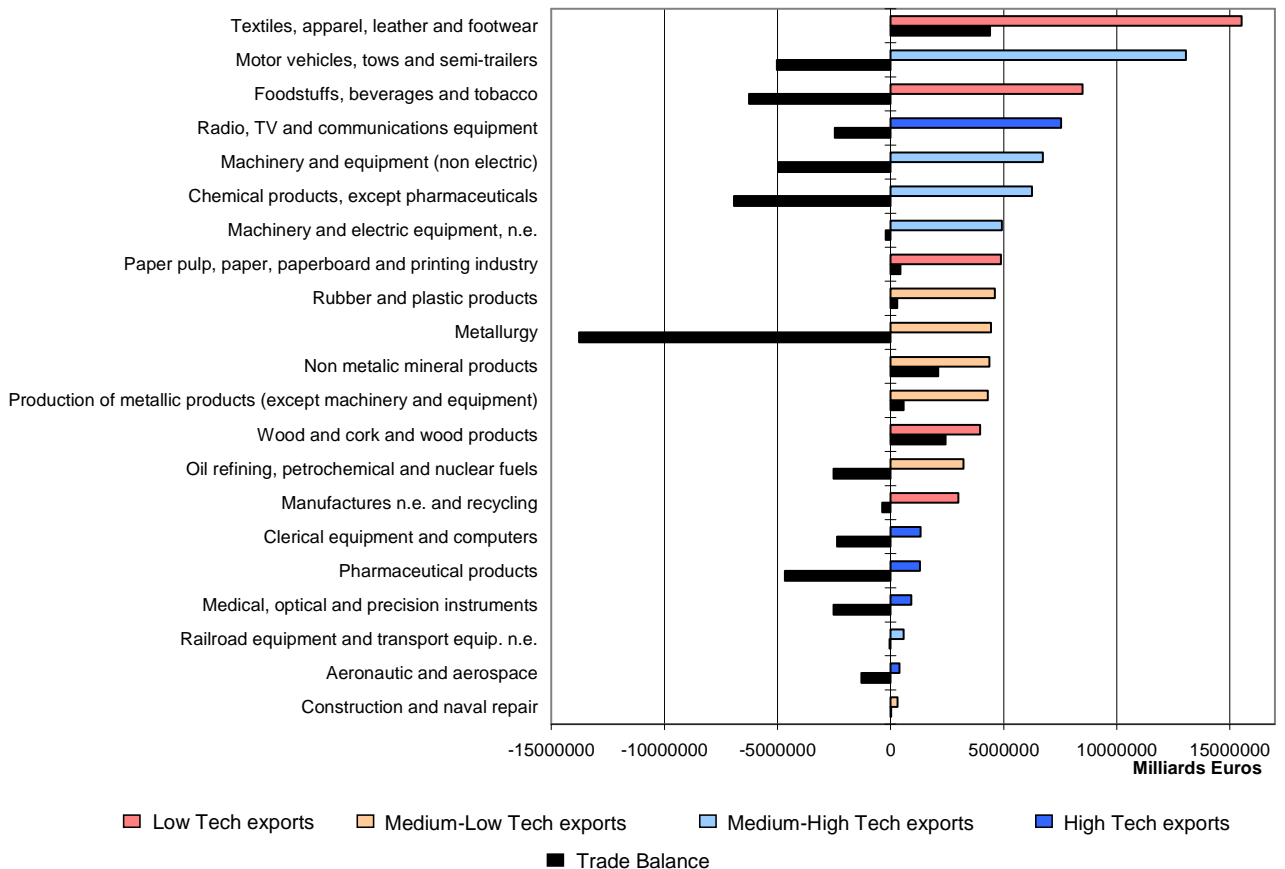


Figure 3. Portuguese exports and trade balance in the triennium 2006-2008, by activity
Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

The best performing activities in the Portuguese economy, both in terms of total sales and trade balance, are again those related with the production of textiles, apparel, leather and footwear, even in spite of the recent international trade liberalization, occurred in 2005, that increased global competition on the commerce of textiles and clothing. During the period 2006-2008 Portugal sold 15,5 billion Euros in these specific goods, but it remains a mystery if this figure is the last breath of the long date Portuguese specialization in this economic sector or, on the contrary, if it is a sign suggesting that in some way Portugal seems to be reacting/adapting to new challenge that China represents as the major world producer in the textile sector. Besides the performance of this labour-intensive industries, Portuguese trade balance is also significantly positive in activities related with the exploration of natural resources as cement, marbles or wood products.

Analysing the Portuguese exports structure and its recent evolution it can be suggested that what is hindering the upgrading of the profile of Portuguese exports it is not the performance of medium-high tech goods, as several of those belong to the top ranking Portuguese export activities. That responsibility especially lays on the poor representation of Portuguese high tech products in the global market, with the sole exception of companies trading radio, TV and communications equipments, which rank fourth in the list of most exported Portuguese products.

4. The geography of Portuguese exports by technological intensity levels

In the framework of the world economy and in order to understand the geography of Portuguese exports (Table 1) it should be underline that almost 79% of all Portuguese exports between 2002 and 2008 went to EU-European Union (78,7%); NAFTA-North America Free Trade Agreement received 6,4% and the CPLP-Community of Portuguese Speaking Countries another 5,2%, which points to an extremely geographic concentration in the Portuguese exports (more than 90% only to these destinations).

Considering only the transaction of more qualified goods, it can be stated that there are significant signs that point out to a gradually globalization of the Portuguese economy. If in 2002 the external trade of medium-high and high tech products within European Union represented 83%, in 2008 it was less than 70%. EU relative decrease was a consequence of a more expressive trade of these specific goods with regions such as the CPLP (especially Angola) and ASEAN-Association of Southeast Asian Nations.

Table 1. Portuguese exports of manufactured products between 2002 and 2008, by groups of countries

	% on total Portuguese exports	% on total High and Médium-High Portuguese exports							
		2002 a 2008	2002	2003	2004	2005	2006	2007	2008
UE	78,65	82,8	81,1	79,7	78,1	75,5	72,9	69,8	76,7
NAFTA	6,43	5,8	6,2	7,2	6,7	6,2	4,2	3,9	5,7
CPLP	5,23	3,6	3,5	3,3	4,1	5,2	6,8	9,0	5,3
ASEAN	2,21	1,6	2,3	3,2	4,0	5,7	7,4	8,6	4,9
ARAB LEAGUE	1,67	1,1	1,2	1,5	1,9	1,5	1,7	2,4	1,6
BRIC	1,61	1,4	1,3	1,6	1,3	1,9	2,1	2,1	1,7
UNASUR	0,98	0,9	0,5	0,5	0,6	0,8	0,9	1,0	0,7
ECOWAS	0,87	0,8	0,6	0,6	0,8	0,8	0,9	1,0	0,8
CEI	0,37	0,1	0,2	0,2	0,3	0,2	0,3	0,5	0,3
COMESA	0,17	0,2	0,2	0,1	0,2	0,2	0,2	0,2	0,2
CEMAC	0,12	0,1	0,2	0,6	0,2	0,1	0,1	0,1	0,2
CEFTA	0,08	0,0	0,0	0,0	0,0	0,1	0,1	0,2	0,1

Notes:

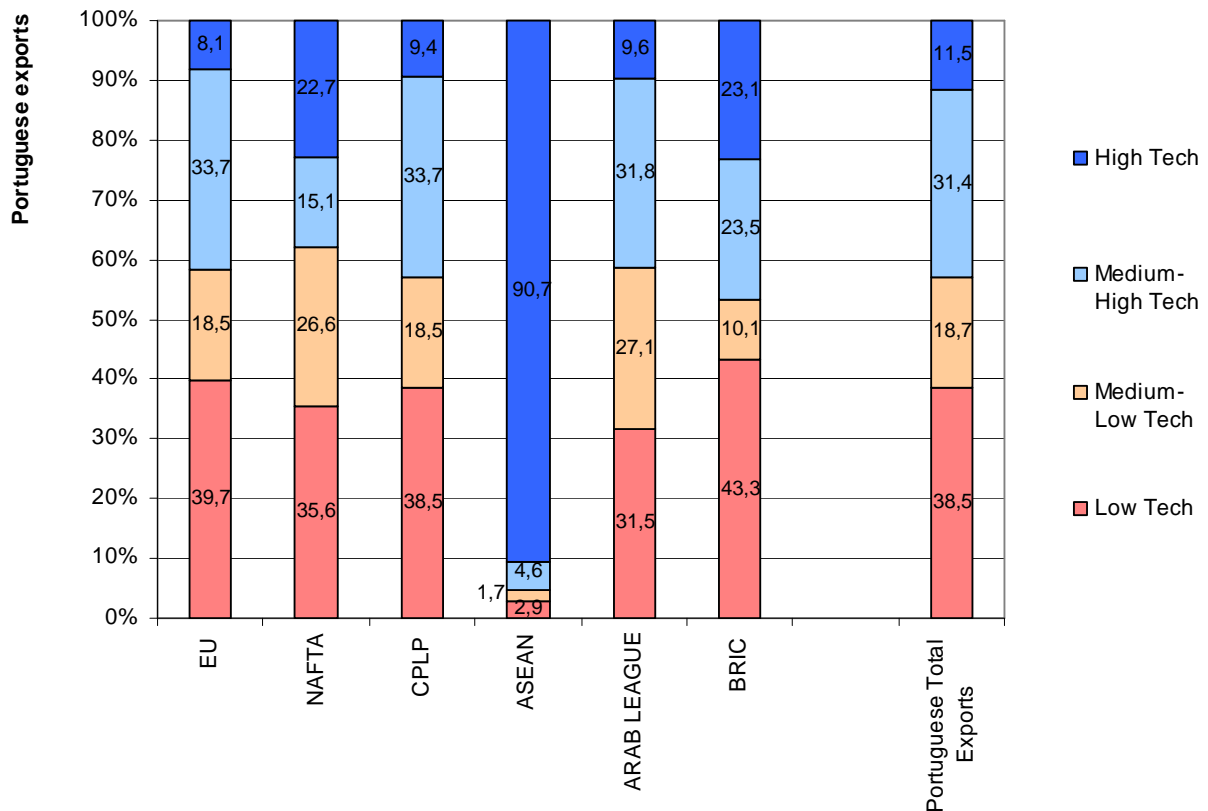
Countries can be part of more than one trade block.

EU – European Union; NAFTA – North América Free Trade Agreement; CPLP – Community of Portuguese Languages Countries; ASEAN – Association of Southeast Asian Nations; ARAB LEAGUE – League of Arab States; BRIC – Emergent Economies: Brazil, Russia, India and China; UNASUL – Union of South American Nations; ECOWAS – Economic Community of West African; CEI – Commonwealth of Independent States; COMESA – Common Market for Eastern and Southern Africa; CEMAC – Economic and Monetary Community of Central Africa; CEFTA – Central European Free Trade Agreement.

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

Singapore and Malaysia are the major importing countries of Portuguese goods from ASEAN, and it should be detached that almost all of those trade relationships refers to high tech sectors, which is not the case of Portuguese exports to other trade blocs (Figure 4). Both

Singapore and Malaysia are heavily industrialized countries and very dynamic economies in the Asian contexts. In the case of Singapore Portuguese exports are mainly composed of radio, TV and communications equipments, while in the case of Malaysia clerical equipment and computers are also very expressive in the export structure.



Notes:

Countries can be part of more than one trade block.

EU – European Union; NAFTA – North America Free Trade Agreement; CPLP – Community of Portuguese Languages Countries; ASEAN – Association of Southeast Asian Nations; ARAB LEAGUE – League of Arab States; BRIC – Emergent Economies: Brazil, Russia, India and China.

Figure 4. Portuguese exports of manufactured products between 2002 and 2008, according to technological intensity levels, in the six most relevant importer economic blocs.

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

Besides this singular and specific economic relationship between Portugal and ASEAN countries, it should also be highlighted that the structure of Portuguese exports is also significantly qualified with NAFTA, as well as between Portugal and the four major emerging economies (BRIC-Brazil, Russia, India, China). Almost a quarter of Portuguese exports to both these two groups of countries are from high tech sectors, while it is only 8% in what concerns Portuguese exports to other EU member states.

Portuguese firms seem to show some difficulty in competing in the most demanding markets, the weight of high-tech products exported to EU declined during this decade. As a

consequence Portuguese firms are turning to emerging markets looking for export opportunities.

A detailed examination, by country, of the geography of Portuguese exports (Figure 5) shows and reinforces the relevance of economic relationships with Asia in order to achieve the desired technological improvement in the Portuguese economy. Besides ASEAN's countries China and Japan are also destinations importing mainly high tech Portuguese goods. This scenario suggests that all efforts to strengthen Portuguese trade with Southeast Asian countries will give a decisive contribution for the qualification of Portuguese exports, and consequently for the competitiveness of the Portuguese economy.

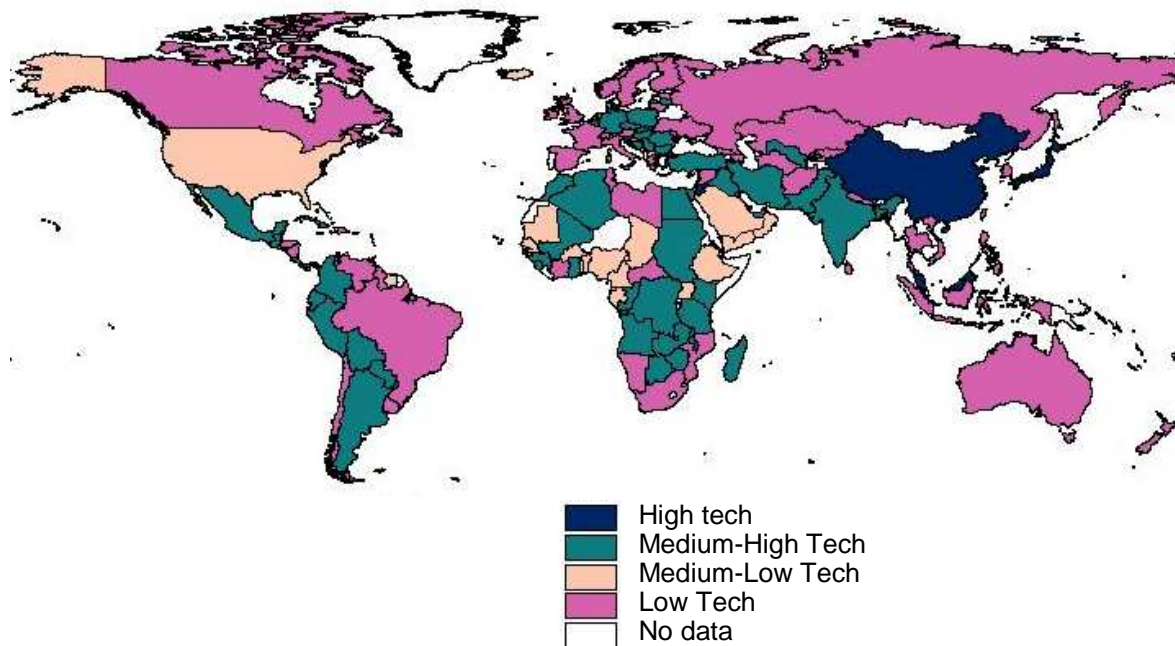


Figure 5. Portuguese exports in the triennium 2006-2008 according to the dominant technological intensity level, by country

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

The same situation is happening with Central Europe, Middle East, India, and several South America and African countries that are mainly importing medium-high tech Portuguese goods, suggesting that it seems easier to introduce more qualified Portuguese goods into markets that were not, until recently, Portuguese traditional trade partners. This is taken into account by Portuguese institutions and programmes supporting the internationalization of Portuguese economy and AICEP (the Agency that supports the internationalization of Portuguese companies) recently opened an office in Singapore.

As it was already been mentioned a huge proportion of Portuguese exports go to European countries. However analysing the specialization of Portuguese exports by European countries (Figure 6) we observe a clear divide. On the one hand the majority of other European Union member states (before the enlargement of 2004 and 2007) are mainly importing Portuguese

low tech products, especially textiles, apparel, leather and footwear, suggesting that there still is some vitality in this important economic sector for the Portuguese economy as it seems to be maintaining high quality demanding markets. On the other hand most of the recent EU member states, from Central Europe (besides Germany and Belgium), are important markets for Portuguese medium-high and high tech goods, especially motor vehicles and other car compounds that goes to the assembly lines located in those countries.

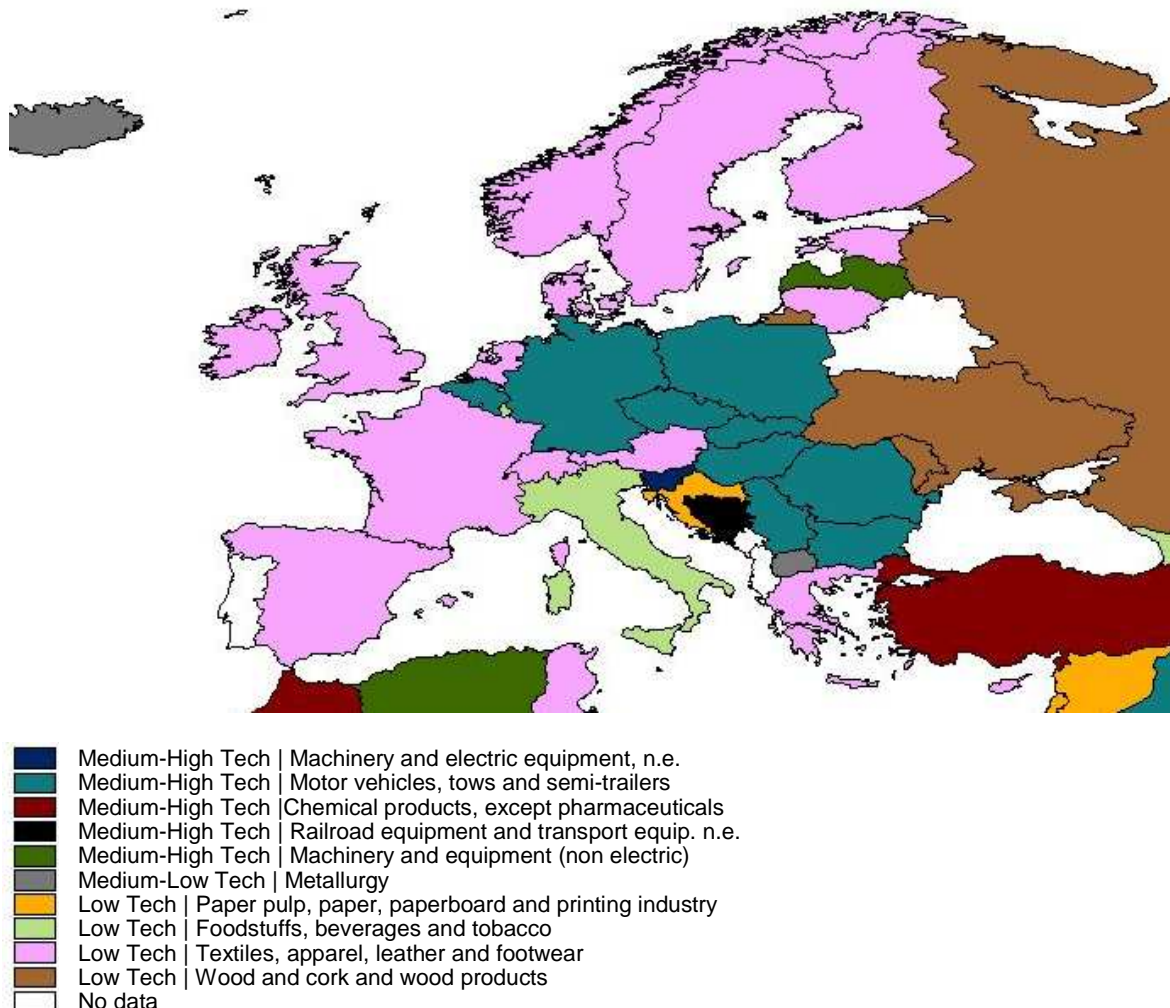


Figure 6. Portuguese exports within Europe in the triennium 2006-2008, according to the dominant degree of technological intensity and main exporter activity by country
 Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

These figures suggest that Central Europe represent an important potential market for Portuguese economy, especially for the high specialization of Portuguese exports to those destinations and consequently the contribution they can give towards a technological upgrade in Portuguese economy. They are not yet relevant in what concerns the total volume of imports, only Poland belong to the list of Top 25 destinations of Portuguese exports (Table 2), but Portugal needs to gradually reinforce and intensify the economic relationships with Central Europe, in order to increase exports to those destinations that offer excellent

opportunities while they are modernizing their economies and gradually converging to the EU average wealth and well being standards.

Table 2. TOP 25 destinations of Portuguese exports in the triennium 2006-2008, by technological intensity level

		% of Portuguese exports	% of Portuguese exports received in each destination country, by technological intensity level			
			High Tech	Medium-High Tech	Médium-Low Tech	Low Tech
1	Spain	26,2	3,3	27,2	33,1	36,4
2	Germany	13,9	15,3	49,5	11,2	24,0
3	France	12,7	4,3	36,6	16,3	42,7
4	United Kingdom	6,3	7,1	28,1	19,6	45,2
5	United States	5,1	20,0	14,1	35,9	29,9
6	Angola	5,1	8,6	38,5	19,8	33,1
7	Italy	4,0	8,1	27,8	9,6	54,5
8	Netherlands	3,6	6,9	31,0	14,5	47,5
9	Belgium	2,8	17,1	36,6	16,7	29,6
10	Singapore	2,3	97,3	1,3	0,8	0,6
11	Sweden	1,0	5,8	19,1	13,9	61,1
12	Malaysia	0,9	95,8	2,4	0,9	0,8
13	Switzerland	0,8	10,7	18,9	15,6	54,9
14	Poland	0,8	9,5	43,0	17,5	30,0
15	Denmark	0,7	10,0	10,1	17,2	62,7
16	China	0,7	55,6	15,8	5,4	23,2
17	Brazil	0,7	5,6	22,1	8,5	63,8
18	Turkey	0,7	4,7	64,7	9,8	20,8
19	Cape Verde	0,7	10,5	29,3	26,9	33,3
20	Morocco	0,6	4,6	44,2	29,4	21,8
21	Japan	0,6	70,6	4,9	3,7	20,8
22	Ireland	0,6	14,3	20,4	28,2	37,1
23	Austria	0,5	4,6	30,1	15,3	50,0
24	Mexico	0,5	3,6	43,9	31,8	20,7
25	Canada	0,5	3,8	9,7	24,3	62,2
Top 25		92,2				

Note: Top 25 destinations match with those countries receiving 0,5% or more of the total Portuguese exports.

	Countries importing dominantly High Tech Portuguese exports
	Countries importing dominantly Medium-High Tech Portuguese exports
	Countries importing dominantly Medium-Low Tech Portuguese exports
	Countries importing dominantly Low Tech Portuguese exports

Source: produced by authors from the database ‘Bilateral Trade by Degree of Technological Intensity’. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

Poland is a market with almost 40 millions inhabitants that has already attracted a significant proportion of Portuguese exports (more than 50% are medium-high or high tech goods), besides considerable outwards investments from Portuguese entrepreneurs². For now on it is expected that Poland’s potential should be explored to serve as a platform for neighbouring markets.

² In fact Poland has been the favourite destination of Portuguese investments in Central and Eastern Europe, especially in the retail trade sector (Grupo Jerónimo Martins with a network of more than a thousand of “Biedronka” supermarkets in Poland).

Analysing this Top 25 destinations and concerning the former EU member states (before the Eastern enlargements) Spain is definitely the main destination, attracting alone more than a quarter of all Portuguese exports. However Germany is clearly the most relevant market that has been pushing forward the technological intensity of Portuguese economy (Figure 7); almost 65% of Portuguese exports to German in 2006-2008 were from high and medium-high techs products (more than 9 billion Euros sold in these specific goods during this triennium).

Trading relationships with countries demanding high tech products possesses a determinant role for the so needed reformulation of Portugal's paradigm of development (increase high tech exports it's a way to impel innovation and human resources qualification). From this study it can be concluded that this contribution has been essentially performed by trading relationships with non-EU countries. Besides German there are only two other EU members with the same profile concerning imports from Portugal (more than half of Portuguese exports with high levels of technological intensity): Belgium and Poland.

Besides Europe and apart the qualified trade with some Asian countries it should also be highlighted how Portugal has been exploring historic relationships with Angola. This African country is a former Portuguese colony that is nowadays an emerging economy, importing from Portugal essentially medium-high tech goods, namely machinery and equipment (non electric and electric). Portuguese exports to Angola have been growing considerably in this decade and especially in last years (a growth rate of 35% between 2007 and 2008) in spite the current financial and economic crisis affecting world markets.

5. Conclusion

Portuguese manufacturing specialization as its roots on FDI that arrived during the sixties, after EFTA adhesion, to explore a large, young and low-paid working force. This pattern was further emphasized after the integration of Portugal in the EU, in 1986. Immediately after EU adhesion Portuguese firms turned to the common market to take advantages from special conditions created to Portugal due to his low development level. A pronounced division of labour consolidated during that period as a consequence of both specific patterns of FDI and integration of Portuguese manufacturing structure in subcontracting networks organized at a European scale for labour-intensive goods. At international level this period was characterized by progressive abolition of trade barriers and a shift to knowledge-based economies to avoid trade competition from less developed economies.

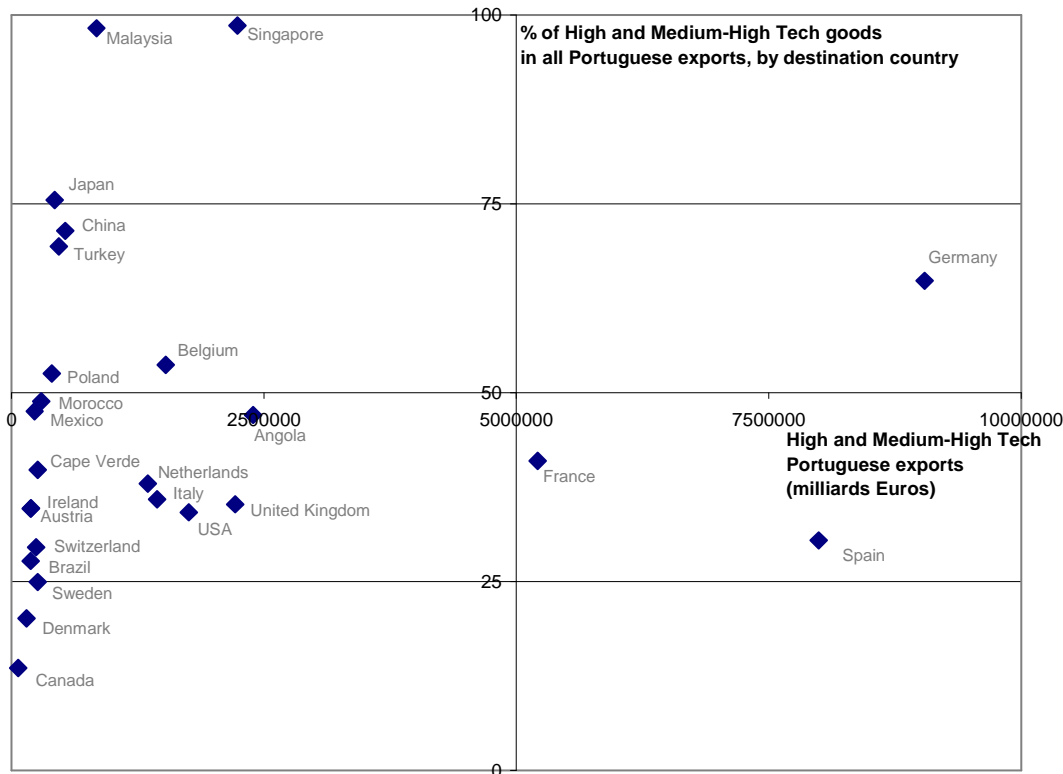


Figure 7. Portuguese trading of High and Medium-High Tech goods with the 25 main destinations of Portuguese exports in the triennium 2006-2008

Source: produced by authors from the database 'Bilateral Trade by Degree of Technological Intensity'. A database from the Office of Strategic Studies of the Portuguese Ministry of Economy and Innovation (consulted in June 2009).

Despite all the modernization efforts related with EU integration during the nineties Portugal failed to diversify its manufacturing and export specialization and the geography of trade remains heavily dependent on few EU trade partners.

The delay in the introduction of relevant structural reforms (public administration, finances, justice) and the lack of skilled and educated work force seems to be a weakness that penalizes Portugal in its insertion into the global economy. With the exception of Portugal, where employment creation was confined to low and medium-skilled jobs, all Member States have registered significant growth in high skilled jobs against a widespread decline of low-skill employment (SEC, 2002). This handicap has a negative impact over productivity and on the global economic performance. If we join low levels of R&D investments and the delay in the materialization of most of the Lisbon Strategy targets, the shift towards a new pattern of specialization will become more difficult.

In spite the recent turn to emerging markets that will contribute to diversify the geography of trade, and the relevance high-tech products are acquiring in those markets, the performance of Portuguese economy is suffering from a “lock in” phenomenon and an unfavorable specific national context that affects the performance of exports.

The statistical and cartographical analysis presented in this study allow us to say that the positive aspect from recent trends in Portuguese international trade is the emergence of new export destinies that will contribute to lower the dependence on EU markets, and these, on

reverse of traditional destinies, are importing mainly high and medium-high tech products. Some of these new markets may not represent nowadays important destinations in the total amount of Portuguese exports, but they definitely are relevant concerning their contribution towards a technological improvement of Portuguese economy.

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