PORTUGUESE EXPORT MARKET SHARES: AN ANALYSIS BY SELECTED GEOGRAPHICAL AND PRODUCT MARKETS*

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1. INTRODUCTION

Portuguese export market shares have been showing a disappointing behaviour recently, with substantial reductions in the last two years. This fact is often considered as a signal of deteriorating external competitiveness and as a hinder to growth in a small open economy like Portugal, thus contributing to the real growth divergence against the euro area observed since 2002. Besides being determined by a country's capacity to compete effectively with other supply sources, market share growth depends also on other factors, like a country's geographical and sectoral specialization and its ability to adapt its exports to demand changes.

This article analyses the evolution of Portuguese export shares in a sample of selected product and geographical markets, taking into account the impact of product and geographical composition on the aggregate behaviour of export shares. For this purpose, the percentage change of the aggregate Portuguese export market share is decomposed into three main additive and analytically interpretable terms: a market share effect, taking into account the effective changes of share in each product/geographical market, and two additional terms that analyse how the geographical and product composition of Portuguese exports affected developments in the overall market share. Eight countries and twelve products are considered as the relevant market in the period from 1999 to 2005, representing together more than 70 per cent of total Portuguese manufacturing exports.

Our analysis is basically a modified version of the traditional constant market share analysis, as it also allows to isolate the effective changes of export share in each individual market from the effects related with the product and geographical structure of exports. Applications of constant market share analysis to Portuguese exports can be found in Manteu and Abreu (1993) and Cabral (2004), and ECB (2005) shows an analysis of this type for euro area exports. The information of our sample, covering the selected 96 individual markets, helps to understand if losses of market share were a generalised phenomenon or if they can be attributed to some specific product or geographical destination. Additionally, the use of this detailed dataset, not only for Portugal but also for all other countries, permits to detect the ones that compete the most with Portuguese exports in each individual market of our sample. This kind of analysis is related to Esteves and Reis (2005) where the computation of the Portuguese effective exchange rate index with a triple-weights scheme for exports with a product breakdown for each country allowed the identification of some of the main competitors of Portuguese exports in 2004.

In our sample of 96 individual markets, Portuguese exports show a considerable cumulative loss of total market share in the 2000-2005 period, 16.2 per cent. This decline of Portuguese total export share stems essentially from effective market share losses in specific markets (product-country), with a con-

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tribution of 19.6 percentage points (p.p.) to the total loss, pointing to a decline of Portuguese external competitiveness. Looking only at the geographical dimension, there was a generalised effective loss of export shares across the countries analysed. As regards the product dimension, the effective losses of market share were not so generalised and some gains, albeit small, were observed in certain goods.

Assuming the 96 individual markets as the only ones relevant for the Portuguese economy, the contribution of the relative specialisation by products was negative, as in Cabral (2004). This negative product structure effect resulted mainly from the higher relative export share of Portugal in products whose markets grew below average, in particular the so-called traditional sectors like textiles, clothing and footwear. However, the negative effect of the product specialization was offset by a positive contribution of 5.4 p.p. related with the geographical distribution of Portuguese exports in this sample. The positive impact of the geographical distribution of exports across the eight developed countries included in the analysis was mostly related to the Spanish market: a market with above average growth in this period and where Portugal has a high and sustained share.

In period from 2000 to 2005, the effective losses of market share did not result from an abnormal behaviour of Portuguese exports in specific markets. Despite some gains of share in certain markets, the losses were relatively widespread across the 96 individual markets, suggesting an overall deterioration of external competitiveness. The main gainers in the markets where Portugal registered stronger market share losses were essentially developing countries from Central and Eastern Europe and from East Asia. The main losers in the same markets were essentially developed economies, including some euro area countries. These results are not surprising and reflect the significant increase in worldwide competition resulting from the intensive participation of new players in international trade. However, in line with Esteves and Reis (2005), the product specialization of the Portuguese exports is quite similar to the one of these countries, suggesting that the increased competition in third markets from new trading partners may be particular challenging for the Portuguese economy.

This article is organized as follows. Section 2 presents the dataset and the methodology used to breakdown the overall change of export market share. Section 3 analyses the evolution of Portuguese export shares according to that methodology and Section 4 tries to identify the main competitors of Portuguese exports in this period. Finally, Section 5 concludes.

2. DATA AND METHODOLOGY

The annual information on import and export values in euros was obtained from the World Trade Atlas (WTA) database and covers the period from 1999 to 2005. Export market shares were calculated in nominal terms given the lack of information on external trade flows in volume with the suitable product and geographical detail. Thus this article focus on manufacturing trade, as the traditional high volatility of commodities prices tends to distort the nominal market shares for total goods.

As regards product groups, they were constructed from the Harmonised System (HS) Nomenclature at the 4-digit detail level in order to exclude accurately non-manufacturing products¹. These exhaustive data was subsequently re-grouped together at a 2-digit level, leading to 72 product aggregates, covering only the respective subcomponents classified as manufactures². Subsequently, some of these product groups were aggregated in order to reflect the sectoral specialisation of Portuguese exports

⁽¹⁾ The Harmonized Commodity Description and Coding System, commonly known as HS Nomenclature, is an international nomenclature which was elaborated under the auspices of the World Customs Organization (WCO). The HS Nomenclature comprises about 5,000 commodity groups identified by a 6-digit code. The Combined Nomenclature of the European Union integrates the HS Nomenclature with additional 8-digit subdivisions. For further information, see the website of Commission's Taxation and Customs Union Directorate-General or the website of the WCO.

⁽²⁾ The products classified here as manufactures represent around 85 per cent of total Portuguese exports of goods.

and the most relevant products in total Portuguese exports were selected for this analysis³. In the end, the relevant markets selected correspond to the main eight destination countries and the main twelve products, i.e. 96 individual markets, representing together more than 70 per cent of total Portuguese manufacturing exports and more than 60 per cent of total Portuguese exports of goods (Table 1).

Considering these 96 individual markets as the ones relevant for the Portuguese economy, Portuguese total export market share (Q) can be expressed as follows⁴:

$$Q = \frac{\sum_{i} \sum_{j} X_{ij}}{\sum_{i} \sum_{j} M_{ij}} = \sum_{i} \sum_{j} X_{ij} \frac{1}{\sum_{i} \sum_{j} M_{ij}} = \sum_{i} \sum_{j} Q_{ij} \frac{M_{ij}}{\sum_{i} \sum_{j} M_{ij}}$$
(1)

where X_{ij} are the Portuguese exports of product i to country j, M_{ij} are the imports of country j of product i and the ratio between these two variables, Q_{ij} , is the Portuguese export market share of product i in country j.

The percentage change of the total export market share can be expressed as:

$$\frac{\Delta Q}{Q} = \underbrace{\sum_{i} \sum_{j} \frac{\Delta Q_{ij}}{Q_{ij}} \frac{X_{ij}}{\sum_{i} \sum_{j} X_{ij}}}_{(i)} + \underbrace{\sum_{i} \sum_{j} \Delta \frac{M_{ij}}{\sum_{i} \sum_{j} M_{ij}} Q_{ij}}_{(ii)} + \underbrace{\sum_{i} \sum_{j} \frac{\Delta Q_{ij}}{Q} \Delta \frac{M_{ij}}{\sum_{i} \sum_{j} M_{ij}}}_{(ii)}$$
(2)

Following this expression, the growth rate of the overall market share can be broken down into three terms:

(i) Market Share Effect – The change of the export share in each individual market weighted by the relative importance of this market on total Portuguese exports. This term is usually interpreted as a measure of external competitiveness, as it results from effective gains/losses of share in each specific market.

(ii) Combined Structure Effect – The relative evolution of each destination market (defined as the change of its weight in total imports) weighted by the relative importance of that export share for Portugal. This effect determines which part of the total change of market share resulted from the influ-

Table 1

PORTUGUESE In percentage					6								
	Chemicals	Pharmaceuticals	Plastics	Wood and paper	Cork	Textiles and clothing	Footwear	Metal products	Non-electrical machinery	Electrical machinery	Vehicles	Furniture	Total
Spain	0.8	0.1	1.5	1.5	0.3	3.6	0.3	2.9	1.5	1.8	3.0	0.8	18.0
France	0.1 0.2	0.1 0.2	0.4 0.2	0.6 0.5	0.8	2.9 2.7	1.3 1.6	0.4 0.5	0.9 1.8	1.6 4.1	2.5 4.2	0.9 0.2	12.4 16.4
Germany United Kingdom	0.2	0.2	0.2	0.5	0.4 0.1	2.7	1.0	0.5	0.4	4.1 1.3	4.2 2.2	0.2	9.5
United States	0.1	0.2	0.1	0.4	0.1	3.0 1.3	0.2	0.3	0.4	1.3	0.1	0.1	9.5 4.5
Belgium	0.2	0.0	0.0	0.1	0.0	0.5	0.2	0.1	0.0	0.9	2.0	0.0	4.5
Italy	0.4	0.0	0.1	0.1	0.2	0.9	0.1	0.1	0.2	0.5	1.1	0.0	3.8
Netherlands	0.5	0.0	0.2	0.4	0.0	1.0	0.6	0.0	0.2	0.3	0.3	0.0	3.2
Total	2.4	0.6	2.6	3.8	2.3	15.7	5.4	4.4	6.0	11.5	15.3	2.0	72.2

Sources: World Trade Atlas and own calculations.

(3) A description of the products included in each group with the respective HS codes is included in Table 1 of the Annex.

(4) The notion of individual market used here refers to each ij market measured as imports of country j of product i.

ence of the productive/geographical specialisation of the country. The overall export market share is positively influenced if the country is relatively more (less) specialized in markets that grow above (below) average. The specialization indicator (Q_{ij} / Q) is given by the relative value between each market share and the overall export share, which is equivalent to compare the weigh of each market on total exports with the weight of the same market in total foreign demand⁵.

(iii) **Residual** – The cross variations term that simply ensures a 100 per cent breakdown of the overall market share change.

The Combined Structure Effect (ii) can be further decomposed into three terms to account for the effects on exports of both the geographical and product specialization separately:

(iia) Geographical Structure Effect that determines which part of the total change in the market share resulted from the geographical specialisation of Portuguese exports,

$$\sum_{j} \Delta \frac{M_{j}}{\sum_{i} M_{j}} \frac{Q_{j}}{Q}, \text{ where } M_{j} = \sum_{i} M_{ij} \text{ and } Q_{j} = \frac{\sum_{i} X_{ij}}{M_{j}}$$
(3)

(iib) Product Structure Effect that determines which part of the total change in the market share resulted from the product specialisation of Portuguese exports,

$$\sum_{i} \Delta \frac{M_i}{\sum_{i} M_i} \frac{Q_i}{Q}, \text{ where } M_i = \sum_{j} M_{ij} \text{ and } Q_i = \frac{\sum_{j} X_{ij}}{M_i}$$
(4)

(iic) Mixed Structure Effect, which is a residual term that results from the fact that the sectoral and geographical structures are not independent and thus the sum of the product and geographical effects does not match the combined structure effect. In fact, for each geographic market (product), the sectoral (geographical) distribution of exports differs from the product (geographical) distribution of total exports. The option here was to calculate and display this interaction effect separately, hence controlling for its magnitude.

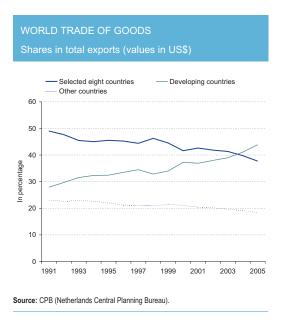
This kind of arithmetic analysis, like the traditional constant market methodology, has been criticised both for the lack of strong theoretical foundations and for its empirical applications⁶. In our case, the selection of the 96 individual markets was made exclusively according to their importance in Portuguese exports. Some information on additional products and geographical markets was available, but it was not included due to their low weight in Portuguese exports. Thus, this approach considers the export specialization as exogenous, computing the structure effects across the markets with different growth rates. Regarding the product dimension, this sample selection issue should not be very significant, as the twelve products considered cover more than 80 per cent of world manufacturing trade. In what concerns the geographical dimension, the eight countries selected represent only around 40 per cent of total world trade of goods⁷, while the share of developing countries on world trade increased steadily in recent years, reflecting mainly the strong growth of trade flows of some countries from Asia and from Central and Eastern Europe (Chart1). The non-specialization of Portuguese exports in most

⁽⁵⁾ This specialization indicator is similar to the traditional Balassa index of revealed comparative advantage. In our case we compare the Portuguese export structure with the structure of total imports of the relevant market, instead of comparing relative export structures as in the Balassa indicator.

⁽⁶⁾ For instance, the constant market share analysis can be applied at several product/geographical breakdown levels. In particular, the breakdown level used can be especially relevant for products with a high degree of heterogeneity, like machinery items. The results are not independent from this choice, although the discretionary decision on the level of disaggregation used is generally determined by the availability of information. See Richardson (1971) for a detailed discussion of the main criticisms and Cheptea et al. (2005) for a recent shift-share analysis of trade competitiveness.

⁽⁷⁾ This number should be seen as a lower bound to the importance of these countries in manufacturing world trade. This weight was computed using information for total world trade of goods and thus includes oil exports, which are not very relevant to the eight countries selected.

Chart 1



of the dynamic emerging market economies can potentially hamper the future growth of Portuguese exports, as the benefits of strong domestic demand in these countries are not being captured⁸. However, this kind of effects is not accounted for by this approach, where the markets considered as relevant were selected exclusively according to their importance in Portuguese exports.

3. EVOLUTION OF PORTUGUESE EXPORT MARKET SHARES

Table 2 and Chart 2 show the evolution and breakdown of the total change of Portuguese export market shares using the methodology described in the previous section⁹. In our sample of 96 individual markets, the results reveal a considerable total loss of export share in the 2000-2005 period, higher than 16 per cent in cumulative terms. After a significant market share gain in 2001, the gains became progressively smaller in the two subsequent years and finally turned into substantial losses in 2004 and 2005. The breakdown of this total effect over the whole period shows that there were large effective losses of market share, which contributed with 19.6 p.p. to the total share loss. In particular, the effective losses of share became increasingly significant in the last three years. The contribution of the combined structure was positive, due to a rather positive effect of the geographical specialization across the selected sample. However, the contribution of the geographical specialisation of Portuguese exports decreased steadily from 2003 onwards, turning even into a negative figure in 2005. In turn, the specialisation by products had a unfavourable impact on the overall developments of Portuguese export market shares in the 2000-2005 period, showing negative contributions in almost all years analysed, although more significant in the last two years.

It is important to analyse the evolution of Portuguese export market shares in each of the 96 individual markets that make up total foreign demand and determine the contribution of each one to the effects calculated above. Table 3 shows the contribution of each individual market to the total market share

⁽⁸⁾ Considering data for manufacturing exports in 2004, Portuguese exports have a relatively low specialization in most developing countries. For instance, non-Japan Asia and the ten new EU member states represent 4.6 and 1.5 per cent of total Portuguese manufacturing exports, respectively, against values close to 10 and 5 per cent observed in the non-weighted average of the twelve euro area countries. More information concerning the different export specialization across euro area countries can be founded in Esteves and Reis (2005).

⁽⁹⁾ See Table 2 in the Annex for detailed annual data on Portuguese export market shares (levels, changes and contributions).

ARITHMETIC BREAKDOWN OF THE TOTAL CHANGE OF PORTUGUESE EXPORT MARKET SHARES

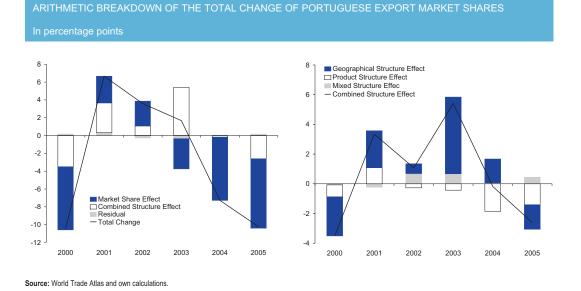
	Total Change	Market Share	Combined	of which:			Residua
		Effect	Structure Effect	Geographical	Product	Mixed Structure	
				Structure Effect S	structure Effect	Effect	
2000	-10.4	-7.1	-3.5	-2.6	-0.8	-0.1	0.2
2001	6.7	3.0	3.3	2.5	1.1	-0.2	0.3
2002	3.6	2.8	1.1	0.7	-0.3	0.7	-0.3
2003	1.7	-3.4	5.4	5.2	-0.4	0.7	-0.4
2004	-7.3	-7.1	-0.2	1.6	-1.8	0.1	0.0
2005	-10.2	-7.8	-2.6	-1.7	-1.4	0.4	0.2
2000-2005	-16.2	-19.6	2.2	5.4	-4.7	1.5	1.2
2003-2005	-15.4	-17.8	1.9	5.1	-4.1	0.8	0.5

Sources: World Trade Atlas and own calculations.

loss of 16.2 per cent in the 2000-2005 period. Contributions with an absolute value higher than 1.5 p.p. are highlighted in the table. Seven individual markets stand out for the very high contributions to the loss of market share in this period: textiles and clothing in France, Germany and the UK, footwear in the UK, electrical machinery in Germany and the UK and vehicles in Germany. On the contrary, there was a significant positive contribution of Portuguese exports of metal products and plastics in the Spanish market, and of vehicles in France.

Looking only at the geographical dimension, there was a generalised decline of export shares during the period considered¹⁰. In the period from 2000 to 2005, the only two countries that did not contribute to the reduction of the total market share were the US and, specially, Spain, where a very high gain was recorded. The gains of market share in the Spanish market were, not only, high but relatively wide-spread across the different products. On the opposite side, the most impressive loss was observed in

Chart 2



(10) The total contribution of a specific country j (product i) can be taken as the sum over i (j) of the ij individual contributions.

CONTRIBUT	IONS T	O THE	TOTAL (CHANGE	E OF PC	ORTUGL	IESE MA	ARKET S	SHARE,	2000-2	005		
In percentage	e points												
	Chemicals	Pharmaceuticals	Plastics	Wood and paper	Cork	Textiles and clothing	Footwear	Metal products	Non-electrical machinery	Electrical machinery	Vehicles	Furniture	Total
Spain	0.53	0.05	1.55	-0.02	0.06	0.60	0.22	2.70	-0.03	-0.11	1.02	0.73	7.3
France	0.03	-0.01	0.13	-0.02	-0.19	-2.65	-0.52	0.04	0.34	-1.04	1.77	0.73	-1.5
Germany	0.15	-0.07	0.06	0.17	-0.25	-3.12	-1.37	-0.07	1.42	-4.30	-4.19	-0.13	-11.7
United Kingdom	0.00	0.05	-0.08	-0.17	-0.04	-2.33	-1.70	0.15	-0.12	-1.75	-0.05	-0.05	-6.1
United States	-0.19	0.07	-0.01	0.31	-0.14	-0.80	-0.20	0.00	0.64	0.49	0.04	0.00	0.2
Belgium	0.29	0.10	0.00	0.03	-0.02	-0.13	-0.03	0.00	-0.26	-0.97	-0.49	-0.01	-1.5
Italy	-0.03	0.00	-0.01	0.14	0.00	-0.58	-0.05	0.03	0.03	0.30	-0.80	0.02	-1.0
Netherlands	-0.35	0.02	-0.02	0.06	-0.04	-0.90	-0.22	-0.04	0.01	-0.04	-0.48	-0.03	-2.0
Total	0.4	0.2	1.6	0.5	-0.6	-9.9	-3.9	2.8	2.0	-7.4	-3.2	1.2	-16.2

Sources: World Trade Atlas and own calculations.

Germany, with an accumulated loss of more than 45 per cent since 2000 that gave a negative contribution of 11.7 p.p. to the overall share loss in this period. In fact, from being the main destination of Portuguese manufacturing exports in 1999, the German market is currently less important than the Spanish and French ones. Additionally, the losses of share in the UK market made also a significant contribution to the loss in the total export share.

Looking now at the product dimension, the decline of market shares was not so generalised and important gains were observed in some goods. In particular, Portuguese gains of share in metal products, non-electrical machinery, plastics, furniture, and, to a lesser extent, chemicals and wood and paper contributed positively to the overall evolution of export shares. In contrast, the negative contributions were particularly expressive in the usually called traditional sectors (textiles and clothing, and footwear), in electrical machinery and in vehicles.

The contribution of each individual market to the sizeable market share effect in the 2000-2005 period is illustrated in Table 4. As mentioned previously, this effect results from effective changes in the market share of each product in each destination market, excluding the impact of the relative specialization of the country in terms of geographical distribution and product composition The losses of share in the German markets of electrical machinery and of vehicles were the main individual contributors to the highly negative market share effect observed in this period. The losses of export share in textiles and clothing in France, Germany and the UK, and in footwear and electrical machinery in the UK also contributed strongly to the total effective loss of market share over the 2000-2005 period. The gains of market share in vehicles in France and in non-electrical machinery in Germany gave the highest positive contributions in this period. Overall, the effective losses of share did not seem to result only from the evolution of Portuguese shares in some specific markets but were relatively widespread across individual markets, indicating a deterioration of the external competitiveness of the Portuguese economy during the recent years.¹¹

Taking into account only the geographical component¹², the effective losses of export share in the German market were the major explanation for the overall losses over this period. However, most other

⁽¹¹⁾ To better analyse this feature some simple core measures, as trimmed means, were constructed. The behaviour of the trimmed means computed is very similar to the total market share effect. If anything the "core market share effect", i.e. excluding outliers, seems to be somewhat more negative that the headline measure.

⁽¹²⁾ Again, the total contribution of a specific country j (product i) can be taken as the sum over i (j) of the ij individual contributions.

BREAKDOW Contributions				HARE EI	FECT,	2000-20	05						
	Chemicals	Pharmaceuticals	Plastics	Wood and paper	Cork	Textiles and clothing	Footwear	Metal products	Non-electrica I machinery	Electrical machinery	Vehicles	Furniture	Total
Spain	0.24	-0.01	0.84	-0.10	0.04	-0.71	0.00	0.97	-0.22	-0.32	0.50	0.05	1.3
France	0.02	-0.04	0.10	0.05	0.04	-2.28	-0.67	-0.04	0.54	-0.89	1.53	0.47	-1.2
Germany	0.15	-0.20	0.03	0.26	-0.04	-2.39	-1.01	-0.15	1.50	-4.72	-4.21	-0.11	-10.9
United Kingdom	-0.02	-0.02	-0.08	-0.08	0.06	-2.08	-1.61	0.11	-0.02	-1.59	0.18	-0.08	-5.2
United States	-0.20	0.03	-0.02	0.33	-0.01	-0.66	-0.16	-0.02	0.90	0.60	0.06	-0.01	0.9
Belgium	0.10	0.00	0.00	0.05	-0.02	-0.04	-0.03	-0.02	-0.26	-0.89	-0.56	-0.01	-1.7
Italy	-0.03	-0.01	-0.03	0.16	0.00	-0.63	-0.06	0.00	0.07	0.32	-0.80	0.01	-1.0
Netherlands	-0.41	-0.01	-0.02	0.15	-0.03	-0.65	-0.25	-0.05	0.02	-0.09	-0.43	-0.02	-1.8
Total	-0.2	-0.2	0.8	0.8	0.0	-9.4	-3.8	0.8	2.5	-7.6	-3.7	0.3	-19.6

Sources: World Trade Atlas and own calculations.

destination markets gave also negative contributions to the market share evolution in the period 2000-2005, especially the UK. On the opposite side, there were effective export share gains in the Spanish market, but smaller than the total effect could lead us to expect.

Considering now only the product dimension, the picture is more mixed. Four sectors show significant effective market share losses: textiles and clothing, footwear, electrical machinery, and vehicles. The losses of effective share in the textile, clothing and footwear sectors are visible in all destination countries considered (with the exception of the footwear market share in Spain that remained unchanged), while in the last two products the losses are mostly concentrated in Germany. Nevertheless, Portuguese exports of other products analysed seem to have been able to maintain or even increase their effective market shares, with emphasis on the gains in non-electrical machinery. Products like plastics, wood and paper, metal products and furniture gave also positive, albeit small, contributions to the market share effect in this period.

Tables 5 and 6 illustrate the geographical and product structure effects separately to determine the impact of relative specialisation in the overall developments of total market shares. Starting with the geographical dimension, Table 5 shows that, besides the positive evolution of effective shares in the Spanish market, Portuguese exports were also much favoured by having a high market share (around 4 per cent against an average value close to 1 per cent) in a country whose imports grew above the average of the sample considered¹³. This specific impact of the Spanish market basically explains the positive effect of the geographical structure and hence prevented an even deeper decline of the Portuguese overall export shares over this period.

In contrast to the geographical distribution, the product specialization did not help to improve the overall market share evolution (Table 6). The product structure effect was negative, with the most important contribution arriving from the textiles and clothing sector: a market where Portugal has high shares but that grew below average in the period from 2000 to 2005. Other negative contributions, as wood and paper, cork, footwear and vehicles, resulted also from the fact that Portuguese exports were relatively more specialised in these slow-growing products. In addition, Portuguese exports have a bad positioning in most fast-growing products, like chemicals, pharmaceuticals, plastics and metal products, which leads to a rather small contribution of these sectors despite their strong demand growth, especially in

⁽¹³⁾ For more details, see Table 2 in the Annex.

BREAKDOWN OF THE GEOGRAPHICAL STRUCTURE EFFECT

Total	5.4
Spain	4.5
France	-0.2
Germany	1.0
United Kingdom	-1.3
United States	-0.3
Belgium	1.4
Italy	0.2
Netherlands	0.0

Table 6

In percentage points, 2000-2008	5
	_
Total	-4.7
Chemicals	0.3
Pharmaceuticals	0.8
Plastics	0.3
Wood and paper	-0.5
Cork	-0.6
Textiles and clothing	-3.0
Footwear	-0.7
Metal products	0.9
Non-electrical machinery	-0.7
Electrical machinery	-0.5
Vehicles	-1.2
Furniture	0.2

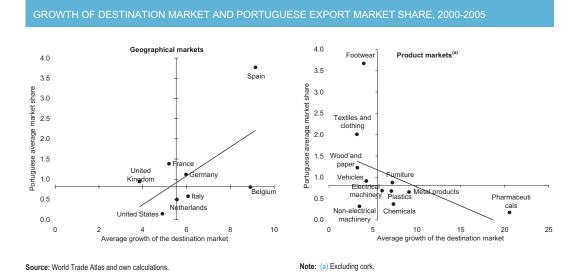
Sources: World Trade Atlas and own calculations.

Sources: World Trade Atlas and own calculations

the case of pharmaceuticals. Among the most dynamic markets during the recent years, Portugal is only relatively more specialised in furniture.

The relative geographical and sectoral specialization of Portuguese exports is also illustrated in Chart 3. It's again clear from the chart that the positive contribution of the geographical specialization in our sample was mostly due to the evolution of the Spanish market. In the period from 2000 to 2005, a correlation coefficient of 60 per cent is obtained between the average growth of the geographic destinations and the Portuguese average shares in those markets, but this coefficient decreases sharply to 1 per cent if we exclude the Spanish market. The product specialization acted in the opposite direction, as most of the markets where Portugal exhibits some specialization grew less than average in this period. A negative correlation coefficient of 33 per cent is obtained between the average growth of im-

Chart 3



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ports of the selected goods and Portuguese market shares in the same products¹⁴. When only the last three years are considered, this negative correlation coefficient associated with product specialization is reinforced, increasing to more than 60 per cent.

4. MAIN COMPETITORS

Given the considerable total market share loss of Portuguese exports, it seems interesting to see which countries exhibit gains of export share in the same individual markets, thus identifying the main competitors of Portuguese exports. Table 7 illustrates this aspect by showing the countries that have a higher gain of share in the ten and twenty individual markets were Portuguese exports lost the most¹⁵. Among the "main gainers" are some of the most important emerging market economies in Eastern Europe and Asia, which pose an increasing challenge to the export performance of developed countries¹⁶. As refers to developing Asian economies, the main gainers in this period were China, Vietnam, Bangladesh and India. The countries from Central and Eastern Europe whose shares grew the most, on average, in the same individual markets where Portuguese exports show the higher losses were Turkey, Romania, Slovakia and Bulgaria. Chart 4 illustrates further this aspect by displaying the four main gainers in some of the individual markets where Portuguese losses of share were more severe. Overall the same countries are identified as the main competitors of Portuguese exports. Looking at the twelve individual markets included in Chart 4, competition from Central and Eastern European countries tends to be relatively more intense in the vehicles sector, a sector where the presence of developing Asian economies is still not very strong. In the other three products, China is the main gainer in all geographical markets considered. Nevertheless, emerging Asia still appears to gain more market shares in traditional low-tech, low-skill products, like textiles, clothing and footwear, in spite of the gains of China and South Korea in electrical machinery, especially in the German market.

Table 7

		s with higher es (average)	20 markets share losse	0
tugal's loss of share				
ercentage points)	-2	.8	-1.7	7
	China	10.3	China	7.5
	Vietnam	1.2	Turkey	1.3
	Turkey	1.1	Belgium	1.0
	Netherlands	0.9	Romania	0.7
Main economies gaining shares	Romania	0.9	Vietnam	0.6
n the same markets	Belgium	0.7	Netherlands	0.5
(percentage points)	Bangladesh	0.7	India	0.5
	India	0.6	Bangladesh	0.4
	Slovakia	0.3	Poland	0.3
	Bulgaria	0.2	Czech Republic	0.3

Sources: World Trade Atlas and own calculations.

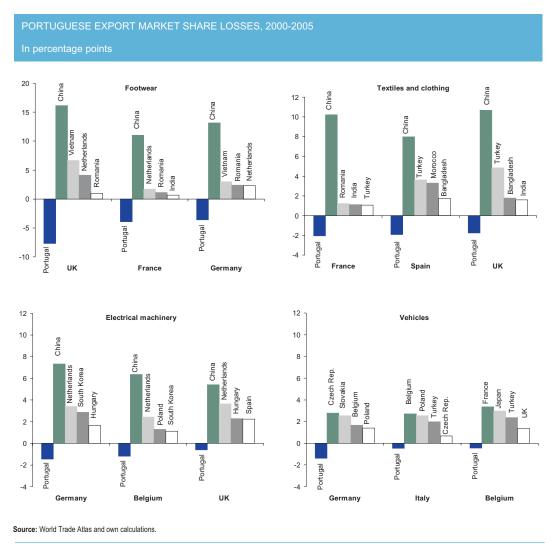
(14) The computation of the correlation coefficients related to product specialization was done excluding cork, where Portugal has an abnormally high market share of around 70 per cent. However, the growth of total imports of cork products was around 1.5 per cent in the 2000-2005 period, i.e. below the total yearly average growth of around 5.5 per cent.

(15) The detailed information about the ten individual markets considered is shown in Table 3 of the Annex.

PORTUGUESE EXPORT MARKET SHARE LOSSES. 2000-2005

(16) Although our work focuses on the export market shares of Portugal in a specific sample of 96 individual markets and hence analyses the competition effects from emerging market economies, the complementary effects (related to demand factors in these countries) deserve also important attention. Taking advantage of the increased opportunities for exports to these new and expanding markets appears to be crucial to gain market share in a progressively more integrated world.

Chart 4



Were Portuguese market share losses in our sample of 96 individual markets an isolated phenomenon? Or did the same happen to other euro area countries? Table 8 shows the countries that had the higher losses of market share in the same individual market as Portugal¹⁷. The most interesting result is related with the Italian economy. Although the selection of the ten and twenty individual markets was made considering the ones where Portugal had the sharper market share losses, Italian exports suffered an even more pronounced decline of share in these markets over this period. Other developed countries had also a negative export performance in these markets, in particular Japan, the UK and the US, and among the euro area, Spain and Germany.

The market share gains of emerging market economies in detriment of developed countries are not surprising and reflect mainly the significant increase in worldwide competition resulting from the intensive participation of new players in international trade¹⁸. A way to see if Portuguese exports could be more affected by this increasing competition is to compare the export structure of Portugal with other countries, by looking at the correlation coefficients between the market share of Portugal and of the different countries that export to the same individual markets. Table 9 shows the top ten positive and neg-

(17) The detailed information about the ten individual markets considered is shown in Table 4 of the Annex.

⁽¹⁸⁾ For a detailed analysis on the challenges of globalisation, see European Commission (2005b).

	10 markets with higher	share losses (average)	20 markets with higher	share losses (average
Portugal's loss of share				
(percentage points)	-2.8	3	-1.7	,
	Italy	-3.7	Italy	-1.8
	Hong Kong	-1.5	United States	-1.6
	Japan	-1.2	United Kingdom	-1.3
	United Kingdom	-1.2	Japan	-1.2
Main economies losing shares	Spain	-1.1	Germany	-1.1
n the same markets	United States	-0.7	Hong Kong	-1.0
(percentage points)	Thailand	-0.7	France	-0.9
	Taiwan	-0.7	Spain	-0.5
	Germany	-0.6	Indonesia	-0.4
	Indonesia	-0.5	Thailand	-0.4

Sources: World Trade Atlas and own calculations.

ative correlation coefficients in the cross structure (considering the 96 individual markets), by product (considering only the twelve products selected), by country (considering only the eight destinations). All countries whose average export share in these 96 individual markets was above 0.1 percent in the 1999-2005 period were included.

Table 9

Cross-markets (96 markets)	Product (12 p	roducts)	Geographic (8 countries)
	10 co	untries with the highest cor	relation coefficie	ents with Portugal	
Italy	0.69	Romania	0.96	Italy	0.78
Vietnam	0.52	Vietnam	0.92	France	0.69
Morocco	0.51	Indonesia	0.89	Morocco	0.68
India	0.42	China	0.80	United Kingdom	0.30
Indonesia	0.37	Brazil	0.76	Germany	0.24
Pakistan	0.22	Tunisia	0.76	Finland	0.23
Bangladesh	0.21	Bulgaria	0.71	Turkey	0.16
Thailand	0.20	Italy	0.70	Netherlands	0.13
Tunisia	0.19	Thailand	0.69	Switzerland	0.12
Turkey	0.16	Dominican Republic	0.67	Belgium	0.11
	10 co	untries with the lowest corr	elation coefficie	nts with Portugal	
Germany	-0.18	Israel	-0.42	Japan	-0.47
Mexico	-0.19	Australia	-0.43	Hong Kong	-0.48
Australia	-0.19	Ireland	-0.43	Thailand	-0.49
Israel	-0.20	Netherlands	-0.44	China	-0.50
Singapore	-0.21	Denmark	-0.46	Malaysia	-0.50
Ireland	-0.25	Switzerland	-0.55	Philippines	-0.52
United Kingdom	-0.28	United States	-0.65	Singapore	-0.52
Japan	-0.28	France	-0.67	Russia	-0.53
Switzerland	-0.28	United Kingdom	-0.68	Taiwan	-0.53
United States	-0.31	Germany	-0.68	Indonesia	-0.56
		Some developing c	ountries aggreg	ates	
NMS10	-0.05	NMS10	0.00	NMS10	-0.02
	0.05	Developing Asia	0.77	Developing Asia	-0.51
Developing Asia	0.25	Developing Asia	0.77	Developing Asia	-0.01

Sources: World Trade Atlas and own calculations.

Sources: World Trade Atlas and own calculations. Notes: NMS10 includes the 10 new member states of the European Union. Developing Asia includes Bangladesh, Bhutan, Brunei, Cambodia, China, East Timor, Hong Kong, India, In-donesia, Korea D P Rp., Korea Rp. Laos, Macau, Malaysia, Maldives, Micronesia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Viet-nam. CEECs (Central and Eastern European Countries) includes the Commonwealth of Independent States (CIS), Former Yugoslavia, Central Europe (Albania, Bulgaria and Romania) and Turkey, excluding all new member states of the European Union.

Among the countries that show a higher correlation coefficient with Portugal across the 96 individual markets are some of the main emerging market economies, being Italy the only developed country ranked¹⁹. Notwithstanding the positive geographical correlation between Portuguese export shares and the ones of other European countries, these correlation coefficients decrease substantially when the product dimension is considered. In fact, the identification of some developing countries as the main competitors of Portuguese exports becomes even clearer if we focus only on the product specialization, with Romania, Vietnam, Indonesia and China showing the higher coefficients. On the opposite, the more negative correlation coefficients emerge when developed countries are considered, reflecting a different product structure of exports. Thus, it seems that the relatively high share of low-tech exports in Portugal, mainly from the textile, clothing and footwear sectors, may create some extra challenges for Portuguese exports, given the strong revealed comparative advantage that some of the new low-cost competitors from Asia and Eastern Europe have in these products.

5. CONCLUSIONS

This article analyses the evolution of Portuguese export shares in a selected sample of individual markets, taking into account the influence of product and geographical composition on the aggregate behaviour of export shares. Our results should be interpreted with care and not directly extrapolated as they are not independent of the individual markets chosen. Eight countries and twelve products were selected according to their weight in Portuguese exports and considered as the only relevant markets for Portuguese exports in the period from 1999 to 2005, representing together more than 70 per cent of total manufacturing exports.²⁰

In this sample of 96 individual markets, Portuguese exports showed a considerable cumulative loss in total market share in the 2000-2005 period, higher than 16 per cent. After a significant gain in 2001, the gains became progressively smaller in the two subsequent years and finally turned into a substantial loss in 2005. The breakdown of this total share loss shows that there were high effective losses of share in the individual markets analysed, which contributed with 19.6 p.p. to the total export share loss over this period. Even if there were relatively widespread across individual markets. Such a negative and widespread market share effect suggests a considerable deterioration of the relative competitiveness of Portuguese exports in these markets vis-à-vis major competitors over this period.

The product composition of Portuguese exports made also a significant contribution to the strong loss of total market share in the period. The negative contribution of the relative specialisation by products resulted mainly from the higher relative export share of Portugal in products whose markets recorded below average growth, in particular the so-called traditional sectors like textiles and clothing. In addition, the under-specialisation in fast-growing products, such as pharmaceuticals, resulted in a smaller growth potential of Portuguese exports.

In contrast, considering the eight major destinations of Portuguese exports as the only ones relevant, the geographical structure effect was positive in the 2000-2005 period, more than offsetting the negative impact of product composition. This positive geographical effect was mostly related with the Spanish market: a market that grew, on average, more than the other seven countries included in our sample and where Portugal has a high market share. This result highlights the relevance of the Spanish market for Portuguese exports, drawing also the attention to a high sensitivity of the Portuguese

⁽¹⁹⁾ This is mainly connected with a similar product composition of Portuguese and Italian exports [see Esteves and Reis (2005)].

⁽²⁰⁾ The external demand indicator usually computed by the Banco de Portugal is based in a sample comprising the total imports of 17 countries, representing around 90 per cent of total Portuguese exports.

economy to the Spanish business cycle. In fact, the negative geographical effect obtained for 2005 results mainly from the fact that Spanish imports of the products included in our sample grew below average in that year. It should be mentioned that the current analysis does not consider the effects of Portuguese non-specialization in some developing economies, which are growing clearly above world average.

The countries that displayed the higher gains of export share in the same individual markets where Portuguese exports showed the sharper losses were essentially developing countries from Central and Eastern Europe and from East Asia. The Portuguese share losses in these individual markets were not an isolated phenomenon, as the same happened to other developed countries, some of them from the euro area. These results are not surprising and reflect essentially the increased overall competition from new trading partners that are gaining market shares in international markets and creating a significant competitive challenge to most developed countries. However, the product composition of Portuguese exports may create some extra challenges in the short to medium term, since these low-cost competitors have a strong revealed comparative advantage in some of the products where Portugal specializes. This pattern of specialization may pose some risks for the future of Portuguese exports, especially if firms face constraints in moving resources to expanding activities due to structural rigidities. In that sense, it is necessary to deepen the structural reform process to favour the performance of the Portuguese economy²¹.

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(21) For details of reforms suggested by the European Commission in this context, see European Commission (2005a).

ANNEX

Table 1

IUFACTURED GOODS INCLUDED IN THE ANALY	SIS
HS codes	Designation
28-29, 31-32, 38	Chemicals
30	Pharmaceuticals
39	Plastics
44,48	Wood and Paper
45	Cork
50-63	Textiles and clothing
64	Footwear
72-80	Metal products
84	Non-electrical machinery
85	Electrical machinery
87	Vehicles
94	Furniture

Sources: World Trade Atlas and own aggregation.

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PORTUGUESE EXPORT MARKET SHARES

Nominal, manufacturing	facturing																								
					Level							Ре	Percentage change	change					Co	Contribution, in percentage points	n, in per	centage	points		
	1999	2000	2001	2002	2003	2004	2005	2000 -05	2003 -05	2000	2001	2002	2003	2004	2005	2000	2003 -05	2000	2001 2	2002	2003 2	2004 2	2005 2	-05	2003 -05
Total	0.87	0.78	0.83	0.86	0.87	0.81	0.73	0.81	0.80	-10.4	6.7	3.6	1.7	-7.3	-10.2	-16.2	-15.4	-10.4	6.7	3.6	1.7	-7.3	-10.2	-16.2	-15.4
Spain	3.54	3.41	3.45	3.75	4.15	3.91	3.95	3.79	4.00	-3.7	1.3	8.5	10.7	-5.6	1.1		5.6	-0.4	1.2	2.4	5.6	-0.4		7.3	4.4
Germany	1.47	1.25	1.36	1.36	1.05	0.90	0.78	1.11	0.91	-13.3 -13.3	9.0	9.9 -0.3	-22.6	-14.4	-0.4 -13.0		-0.0 -42.3	-2.9 -4.7	0.0 3.4	-0.6	4.3 -4.3	-2.9		-1.5	-9.6
United Kingdom	1.12	0.98	1.00	1.03	1.05	0.91	0.73	0.95	0.89	-12.5	1.6	2.8	2.8	-13.9	-19.4		-28.7	-2.5	0.2	0.4	0.2	-1.8		-6.1	-4.2
United States Belgium	0.12 0.94	0.12 1.14	0.14 0.98	0.15 0.76	0.17 0.73	0.15 0.64	0.13 0.58	0.14 0.79	0.15 0.65	2.6 21.3	9.8 -14.0	10.5 -22.2	9.2 4.4	-8.7 -12.3	-10.9 -9.5	-38.4	-11.1 -24.2	0.5 1.1	-0.6	0.6 -1.0	0.1 0.0	-0.7 -0.6	-0.6 -0.4	0.2 -1.5	-1.2 -1.1
Italy	0.60	0.54	0.63	0.68	0.64	0.51	0.47	0.57	0.54	-10.7	18.4	6.8	-5.2	-19.9	-9.3		-31.1	-0.8	1.1	0.5	0.0	-1.0		-1.0	-1.6
Netherlands	0.59	0.52	0.56	0.55	0.53	0.48	0.34	0.49	0.44	-11.5	7.8	-1.0	-4.1	-9.3	-29.5		-38.7	-0.8	0.3	-0.1	0.0	-0.3		-2.0	-1.5
Chemicals	0.36	0.38	0.31	0.34	0.41	0.43	0.37	0.37	0.40	6.1	-18.5	12.0	18.4	4.8	-14.0	3.4	6.7	0.2	-0.4	0.3	9.0	0.1	-0.4	0.4	0.3
Pharmaceuticals	0.24	0.25	0.22	0.15	0.15	0.15	0.14	0.16	0.14	5.3	-13.5	-28.6	-4.6	-1.2	-3.1	-40.6	-8.7	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1
Plastics	0.55	0.56	0.57	0.63	0.72	0.79	0.79	0.68	0.77	2.5	1.4	11.2	14.2	9.6	0.5	45.5	25.9	0.0	0.1	0.4	0.6	0.4	0.2	1.6	1.2
Wood and paper	1.06	1.16	1.09	1.24	1.37	1.19	1.31	1.22	1.29	10.0	-6.3	13.8	10.2	-12.7	10.1	24.3	5.9	0.2	-0.2	0.6	0.5	-0.9	0.2	0.5	-0.2
Cork	69.47	68.56	68.04	71.28	72.95	71.12	69.96	70.30	71.38	-1.3	-0.8	4.8	2.3	-2.5	-1.6	0.7	-1.9	-0.2	0.0	0.1	0.2	-0.3	-0.4	9.0-	-0.6
Textiles and cloth.	2.40	2.07	2.14	2.15	2.09	1.95	1.65	2.01	1.89	-13.6	3.1	0.7	-3.1	-6.5	-15.3	-31.2	-23.3	-4.3	1.4	0.0	-0.9	-2.7	-3.6	-9.9	-7.0
Footwear	4.67	4.04	4.09	3.84	3.72	3.48	2.86	3.67	3.34	-13.5	1.2	-6.2	-3.2	-6.3	-17.8	-38.8	-25.5	-1.7	0.8	-0.5	-0.5	-1.0	-1.1	-3.9	-2.5
Metal products	0.55	0.57	0.58	0.62	0.71	0.72	0.74	0.66	0.72	2.9	2.6	7.6	13.1	1.3	3.3	34.4	18.3	0.3	-0.1	0.3	0.8	1.1	0.4	2.8	2.3
Non-electr. machi.	0.24	0.23	0.28	0.32	0.37	0.37	0.35	0.32	0.36	-5.7	23.1	12.9	17.5	-0.1	-4.7	46.6	11.8	-0.6	1.3	0.7	1.2	-0.1	-0.4	2.0	0.8
Electr. machi.	0.86	0.70	0.71	0.77	0.79	0.63	0.52	0.68	0.64	-18.2	0.2	9.6	1.9	-19.5	-17.4	-39.2	-32.3	-1.2	-1.5	0.2	-0.1	-2.7	-2.3	-7.4	-5.0
Vehicles	0.92	0.84	1.00	1.01	0.93	0.89	0.83	0.91	0.88	-8.8	18.8	1.2	-8.2	-4.1	-6.9	-10.3	-18.1	-3.0	4.7	1.2	-1.9	-1.5	-2.3	-3.2	-5.6
Furniture	0.68	0.62	0.73	0.74	1.04	1.15	0.99	0.89	1.06	-9.5	17.5	1.5	40.5	11.4	-13.8	45.5	34.9	-0.2	0.4	0.2	1.0	0.3	-0.5	1.2	0.8
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Sources: World Trade Atlas and own calculations.

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ndividual market	Portuguese share losses					Main economies	Main economies gaining shares				
64uk	7.7-	China 16.1	Vietnam 6.7	Netherlands 4.1	Romania 1.0	Germany 0.8	France 0.5	Tunisia 0.4	Brazil 0.4	Hong Kong 0.4	Luxembourg 0.2
64fra	-3.9	China 11 0	Netherlands	Romania	India 0.7	Switzerland 0.6	Vietnam 0.4	Germany 0.4	Bangladesh 0.3	Belgium 0.3	Bosnia Herzegovina 0.2
64ger	-3.6	China 13.2	Vietnam 3 0	Romania	Netherlands	Belgium 1 7	India	Denmark	United Kingdom	Slovakia 0.7	Cambodia
64nl	-2.5	China 17.1	Belgium 8.1	Vietnam 1.4	Brazil 0.5	India 0.4	Turkey	Luxembourg 0.1	Sweden 0.1	Finland 0.1	lsrael 0.0
50-63fra	-2.1	China 10.2	Romania 1.2	India 1.1	Turkey 1.1	Bangladesh 0.9	Bulgaria 0.7	Cambodia 0.2	Lithuania 0.1	Pakistan 0.1	Luxembourg 0.1
50-63sp	-1.9	China 8.0	Turkey 3.6	Morocco 3.3	Bangladesh 1 8	India 15	Bulgaria 0 7	Pakistan 0.4	Tunisia 0.4	Denmark 0.4	Romania 0.4
50-63uk	-1.8	China 10.7	Turkey 4.8	Bangladesh 1.8	India 1.6	Romania 1.1	Spain 0.3	Vietnam 0.3	Bulgaria 0.3	Tunisia 0.2	Pakistan 0.2
85ger	-1.5	China 7.3	Netherlands 3.4	Korea,South 2.9	Hungary 1.7	United Arab Emirates 1.0	Switzerland 0.8	Czech Republic 0.7	Romania 0.6	Finland 0.4	Poland 0.4
87ger	-1.4	Czech Republic 2.8	Slovakia 2.5	Belgium 1.7	Poland 1.4	United States 1.0	Austria 0.9	Finland 0.8	Brazil 0.5	Korea,South 0.5	Romania 0.5
50-63ger	-1.3	China 8.8	Bangladesh 2.1	Turkey 1.2	Luxembourg 0.9	Bulgaria 0.6	Cambodia 0.6	India 0.5	Denmark 0.4	Romania 0.4	Spain 0.3

Sources: World Trade Atlas and own calculations.

Individual market	Portuguese share losses						,				
64uk	-7.7	Italy -8.4	Thailand -2.6	Spain -2.5	Belgium -2.0	Indonesia -1.8	Taiwan -1.2	India -1.0	Korea,South -0.5	Philippines -0.5	Denmark -0.5
64fra	-3.9	Italy -3.6	Spain -2.5	Morocco -1.6	Thailand -1.6	United Kingdom -1.3	Czech Republic -0.7	Taiwan -0.7	United States -0.5	Philippines -0.4	Tunisia -0.3
64ger	-3.6	Italy -9.5	Spain -4.1	Hungary -2.7	Czech Republic -1.2	Korea,South -1.0	Macau -0.8	Poland -0.7	Taiwan -0.7	France -0.5	Malta -0.5
64nl	-2.5	Hong Kong -11.1	Italy -3.0	Taiwan -2.0	Spain -1.8	Germany -1.6	France -1.2	Thailand -0.8	Poland -0.8	Czech Republic -0.7	Indonesia -0.6
50-63fra	-2.1	Italy -1.7	United Kingdom -1.6	Morocco -1.5	Germany -1.2	Belgium -0.8	Taiwan -0.6	Mauritius -0.6	Hong Kong -0.4	United States -0.4	Thailand -0.4
50-63sp	-1.9	Italy -3.7	United Kingdom -2.7	Germany -1.8	Korea, South -1.4	Netherlands -1.4	Indonesia -1.2	United States -1.0	Belgium -0.8	Hong Kong -0.8	Japan -0.8
50-63uk	-1.8	Germany -2.3	Hong Kong -1.9	Italy -1.5	Ireland -1.5	United States	Israel -1.2	France -1.2	Korea, South -1.2	Indonesia -1.1	Netherland -1.0
85ger	-1.5	United Kingdom -4.8	Japan -3.9	United States -3.6	France -2.5	Malaysia -0.7	Austria -0.6	Denmark -0.5	Italy -0.5	Thailand -0.4	Sweden -0.4
87ger	-1.4	Japan -6.6	United Kingdom -2.2	Italy -1.1	South Africa -1.0	Spain -0.7	Hungary -0.5	Netherlands -0.4	Slovenia -0.4	Mexico -0.3	Canada -0.1
50-63ger	-1.3	Italy -3.8	Poland -1.6	Greece -1.0	Hong Kong -1.0	France -0.9	Hungary -0.8	Slovenia -0.7	Tunisia -0.6	Korea,South -0.5	United Kingd -0.5