

"ASSEMBLED IN EUROPE" - THE ROLE OF PROCESSING TRADE IN EU EXPORT PERFORMANCE

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****The views expressed therein are those of the authors and do not necessarily reflect the views of the European Commission.***

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Abstract

According to recent analyses, processing trade represents around 50% of total Chinese exports. But processing trade is not just a feature of Chinese trade or other emerging economies. It is also one option that EU trade policy offers to interested companies, subject to a specific set of rules and procedures. If in the case of China processing trade is responsible for half of China's impressive trade performance, what is the role of processing trade in Europe?

This column investigates the use and role of processing trade - a trade regime credited as a key driver of Chinese export performance but largely overlooked in Europe - on the overall and sectoral EU trade performance in recent years. It argues that, despite its rather low profile in trade debates, EU exports after inward processing accounted for around 10% of total extra-EU exports in 2011. Given its non-negligible share, processing trade procedures may require further reflection on how to maximize its benefits for EU's external competitiveness.

GLOBAL VALUE CHAINS, TRADE IN VALUE ADDED AND BROADER ECONOMIC LINKAGES

The last couple of years after the global economic and financial crisis have been dominated by a heightened debate about the benefits or perils of globalization, the economic effects of offshoring and outsourcing particularly vis-a-vis China, exchange rates, and the relapse into protectionist tendencies by some countries.

But for those interested in a more accurate picture of some of these issues, such as the domestic value added generated by a globalized world economy, in bilateral trade balances that assign the value of intermediate inputs where they are actually produced, or in broader economic effects such as employment, income distribution and greenhouse emissions linked to international trade, the year 2012 has a lot to offer.

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One important development was the launch on 16 April of the European Commission sponsored "World Input-Output Database" (WIOD) ([hyperlink to our event](#)). Beyond its rather cryptic name for non-specialists, the WIOD database contains a wealth of information on some of the policy issues mentioned above, and even beyond.

The WIOD research project involved several academic centres and is in fact part of a broader analytical effort involving also major international organizations like the WTO and OECD that are also in the process of producing additional policy-relevant analytical tools.

Apart from these macro-level analyses, at the other end of the methodological spectrum there are micro-level, product specific analyses aimed at mapping global value chains and value added across countries involved in the production of iPhones or Nokia phones. In between input-output databases and "screwdriver economics", sector-specific analyses for the most globalized industries (electronics, automotives, etc.) are also contemplated by some researchers.

PROCESSING TRADE: A LOOK AT THE EU SPECIAL TRADE REGIME

One particular lens through which a subset of global value chains can be looked at is the so-called processing trade. Processing trade - the process through which companies source intermediate inputs from various countries, assemble them in another for the final consumption in third markets - has been credited with a large role in the impressive export performance of China over the last decade. According to recent analyses, processing trade represents around 50% of total Chinese exports.² But processing trade is not only a feature of Chinese trade or other emerging economies. Processing trade is also one option that EU trade policy offers to interested companies, subject to a specific set of rules and procedures. If in the case of China, processing trade is responsible for 50% of China's impressive trade performance, what is the role of processing trade in Europe?

The use and role of this special trade regime in the overall EU trade performance is not widely known. This paper looks at the use of processing trade customs provisions in Europe - a special trade regime whereby imports and exports of intermediate and final products can be traded duty-free and thus benefit from the "global value chain" logic, under certain conditions. Processing trade has two main variants - outward and inward processing trade - depending on the role played by each country. The EU legislation provides for separate customs and statistical procedures³ that allow for processing trade flows to be recorded separately. These statistical regimes are briefly summarized below⁴:

According to recent analyses, **processing trade** represents around 50% of total Chinese exports

¹ "Screwdriver economics" refers casually to the detailed economic analysis that "breaks down" all the parts, components and intermediate tasks needed to produce a final product, in order to assign the economic "value-added" of each of these components to the various economic operators and countries involved along global production chains.

² See for instance H. K. Kee and H. Tang "Domestic Value Added in Chinese Exports", February 2012. Available at [http://econ.la.psu.edu/papers/psu-tsinghua/H_Looi_Kee058-912%20\(1\).pdf](http://econ.la.psu.edu/papers/psu-tsinghua/H_Looi_Kee058-912%20(1).pdf)

³ There is also a fourth EU trade statistical regime covering goods that, for a variety of reasons, do not follow the standard statistical procedures. But the share of this statistical regime in total EU trade values is very marginal and its functioning is not



1- "Normal" imports or exports: goods are exported definitively, or goods imported and released into free circulation in the EU customs territory;

2 - Imports or exports under inward processing procedures: goods are imported temporarily so that they can be further processed (assembled or transformed) and then all the resulting processed products are exported outside Europe. When they comply with the rules governing this trading regime, the intermediate goods imported under the inward processing procedure benefit from an exemption from duties, levies or other checks which would be carried out under the trade policy normally applicable to imported goods;

3 - Imports or exports under outward processing procedure: intermediate goods are temporarily exported for further processing in a non-EU country and the processed products are re-imported into the EU. The imported processed products benefit from a full or partial exemption from custom duties and levies.

A clear distinction has to be made between the overall EU trade flows that follow a "processing trade" logic, which is synonymous with global value chains, without necessarily complying with these specific customs procedures and those trade flows that are recorded as inward or outward processing trade. This paper covers only the latter, i.e. trade statistics that follow the special processing trade customs procedures explained above. Therefore the subsequent analysis most likely underestimates the real trade volumes that use imported intermediates for further processing in Europe with the aim to export the final products elsewhere.

The importance of EU inward processing trade - around 10% of EU exports - is somewhat surprising compared to the level of attention paid to such trade flows.

EU PROCESSING TRADE: THE NON-NEGLIGIBLE PERFORMANCE OF INWARD EU PROCESSING EXPORTS

Based on these statistical categories, one can disentangle the EU trade performance into "normal" and processing trade.

The first important but unsurprising finding is that an overwhelming majority of EU trade (about 94% of total EU imports and 89% of EU exports) in 2011 was conducted under the "normal" trade regime. But 3.8% (€65 bn) of EU imports and, more importantly, 9.6% (€148 bn) of EU exports were conducted under the inward processing trade regime. Furthermore, 0.7% (€12 bn) of EU imports and some 0.8% (€13 bn) of EU exports were conducted under outward processing trade regime (see Table 1 and figure 1 for a partner breakdown).

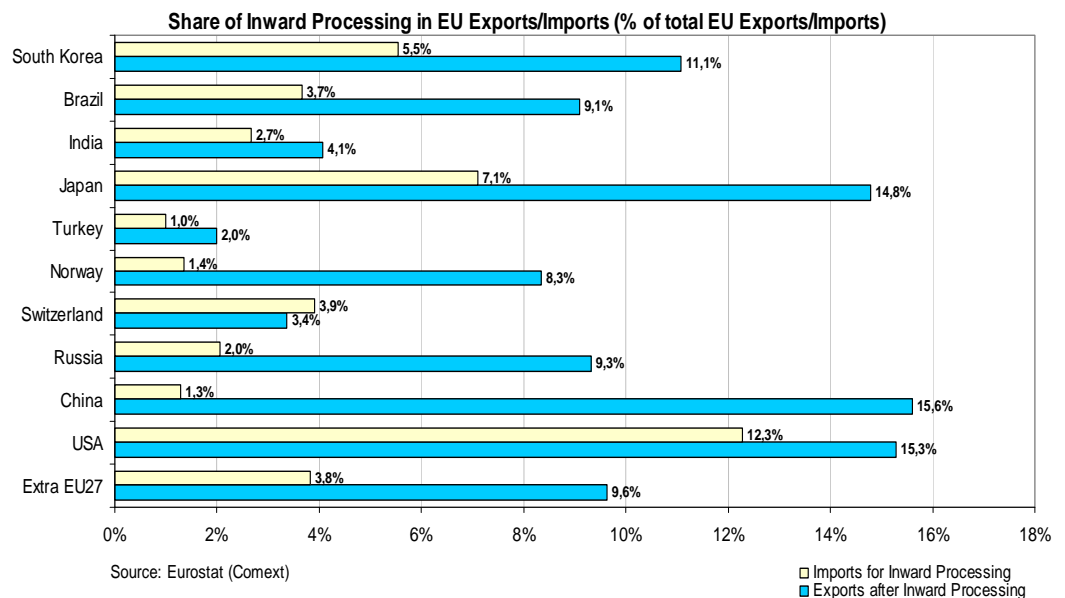
While the bulk of EU trade, unlike Chinese trade, is conducted under the "normal" trade procedures and the share of outward processing trade is less than 1% of EU trade, the importance of EU inward processing trade - around 10% of EU exports - is surprisingly high, compared to the level of attention paid to such trade flows.

Table 1. EU trade by Statistical Regimes (2011)

	Imports				Exports			
	All Statistical Regimes of which:	Normal (1)	Inward Processing (2)	Outward Processing (3)	All Statistical Regimes of which:	Normal (1)	Inward Processing (2)	Outward Processing (3)
Value (billions of euro)								
Extra EU27	1 687,7	1 585,1	64,6	12,1	1 531,9	1 365,2	147,6	12,7
USA	184,3	157,0	22,6	4,7	260,7	213,4	39,9	6,3
China	292,2	287,8	3,7	0,6	136,2	114,5	21,2	0,4
Russia	199,3	184,5	4,1	0,2	108,4	98,1	10,1	0,1
Switzerland	91,2	86,9	3,6	0,6	121,7	117,1	4,1	0,4
Norway	93,5	84,9	1,3	0,1	46,6	41,6	3,9	0,1
Turkey	47,6	47,1	0,5	0,0	72,7	71,1	1,5	0,0
Japan	67,5	61,8	4,8	0,8	49,0	41,3	7,2	0,4
India	39,4	38,2	1,0	0,1	40,4	38,7	1,6	0,1
Brazil	37,9	36,4	1,4	0,1	35,7	32,2	3,3	0,1
South Korea	36,1	33,6	2,0	0,4	32,5	28,6	3,6	0,3
Share of Statistical Regime in Trade (%)								
Extra EU27		93,9%	3,8%	0,7%		89,1%	9,6%	0,8%
USA		85,2%	12,3%	2,6%		81,9%	15,3%	2,4%
China		98,5%	1,3%	0,2%		84,0%	15,6%	0,3%
Russia		92,6%	2,0%	0,1%		90,5%	9,3%	0,1%
Switzerland		95,2%	3,9%	0,6%		96,2%	3,4%	0,3%
Norway		90,8%	1,4%	0,1%		89,4%	8,3%	0,2%
Turkey		98,9%	1,0%	0,1%		97,8%	2,0%	0,1%
Japan		91,7%	7,1%	1,2%		84,4%	14,8%	0,8%
India		97,0%	2,7%	0,4%		95,7%	4,1%	0,2%
Brazil		96,1%	3,7%	0,2%		90,1%	9,1%	0,2%
South Korea		93,0%	5,5%	1,0%		88,0%	11,1%	0,8%

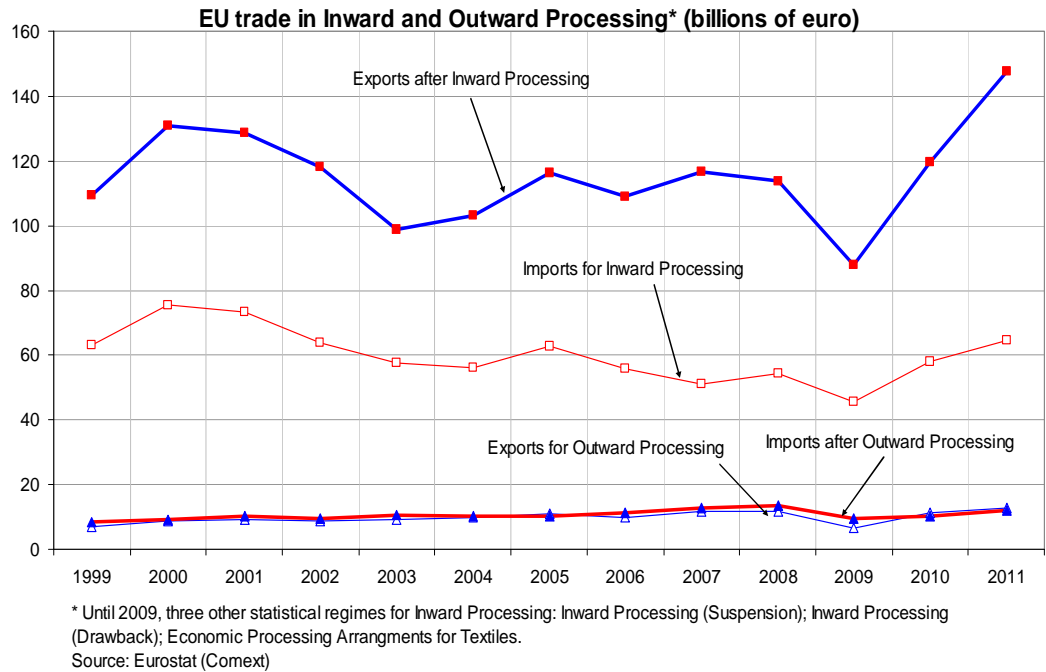
Source: Eurostat (Comext)

Figure 1.



The value of processing trade flows has been fairly constant over time, with the notable exception of inward processing exports that has grown considerably from a low base in 2009 to above the average of the past decade (see figure 2)

Figure 2



The USA seems to be the most important actor in both EU inward and outward processing imports and exports.

GEOGRAPHICAL PATTERS: THE ROLE OF THE UNITED STATES

Which trade partners account for the 10% of EU inward processing export figures? When looking at the top 10 EU trade partners, almost 15% of EU imports from the USA and almost 18% of EU exports are under inward and outward processing. Other important partners are China (around 16% of EU exports but only 1.5% of EU imports), Japan (15.6% of EU export and 8.3% of EU imports) and South Korea (almost 12% of EU exports and 6.5% of EU imports). Perhaps interesting and contrary to expectations, is the fact that China has a low share in EU processing trade, compared to other emerging economies.

The USA seems to be the most important actor in both EU inward and outward processing imports and exports. Indeed, with €22.6 bn, the USA ranked first of EU imports under inward processing (35%) followed by Japan and Russia (Table 2). Reciprocally, 27% of EU exports under inward processing go to the USA (Table 3).

Table 2. EU Imports - Ranking by Imports under Inward Processing (2011)

	All Statistical Regimes	Normal (1)	Inward Processing (2)	Outward Processing (3)
Value (billions of euro)				
Extra EU27	1 687,7	1 585,1	64,6	12,1
USA	184,3	157,0	22,6	4,7
Japan	67,5	61,8	4,8	0,8
Russia	199,3	184,5	4,1	0,2
China	292,2	287,8	3,7	0,6
Switzerland	91,2	86,9	3,6	0,6
Partner share (%)				
Extra EU27	100,0%	100,0%	100,0%	100,0%
USA	10,9%	9,9%	35,0%	39,0%
Japan	4,0%	3,9%	7,4%	6,7%
Russia	11,8%	11,6%	6,3%	1,4%
China	17,3%	18,2%	5,8%	4,7%
Switzerland	5,4%	5,5%	5,5%	4,6%

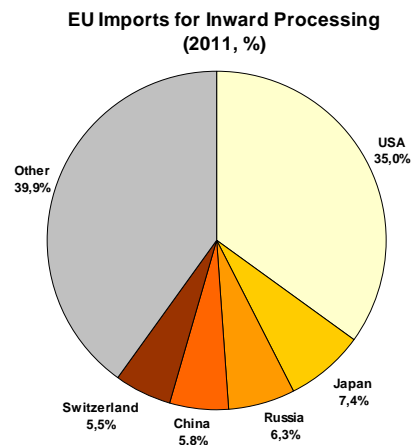
Source: Eurostat (Comext)

Table 3. EU Exports - Ranking by Exports under Inward Processing (2011)

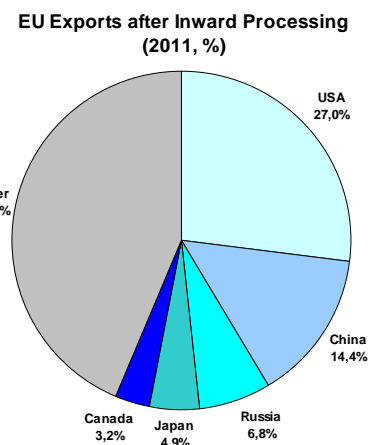
	All Statistical Regimes	Normal (1)	Inward Processing (2)	Outward Processing (3)
Value (billions of euro)				
Extra EU27	1 531,9	1 365,2	147,6	12,7
USA	260,7	213,4	39,9	6,3
China	136,2	114,5	21,2	0,4
Russia	108,4	98,1	10,1	0,1
Japan	49,0	41,3	7,2	0,4
Canada	29,6	24,7	4,7	0,1
Partner share (%)				
Extra EU27	100,0%	100,0%	100,0%	100,0%
USA	17,0%	15,6%	27,0%	49,6%
China	8,9%	8,4%	14,4%	3,0%
Russia	7,1%	7,2%	6,8%	0,8%
Japan	3,2%	3,0%	4,9%	3,0%
Canada	1,9%	1,8%	3,2%	0,7%

Source: Eurostat (Comext)

Figure 3



Source: Eurostat (Comext, Statistical regime 2)



Source: Eurostat (Comext, Statistical regime 2)

**KEY SECTORS IN PROCESSING TRADE: THE ROLE OF SUPPLY CHAINS**

From a sectoral point of view, several industries seem to be more heavily engaged in processing trade in Europe. The sectoral composition of processing imports is quite different from processing exports. Regarding EU inward processing imports, given its important size in total EU trade, HS chapter 84 (nuclear reactors, boilers, machinery and mechanical appliances) accounts for a large share (26.9%). However, when looking at the share of inward processing imports in total imports of the sector, other sectors are far more active in processing trade imports than others. For instance, one third of certain tobacco products (HS24) are imported come under the inward processing trade regime. Some 18% of certain chemical raw materials and intermediate products (HS28) or hides and skins (HS43) are also imported under the same processing trade regime. This suggests that for certain industrial sectors, the inward processing trade regime is extremely important.

Exports of motor vehicles account for almost half of total EU exports under the inward processing trade.

These sectoral specificities are even more visible when looking at inward processing exports, the sales abroad of those products that emerge from the further processing and assembling of such processing trade imports. This is particularly the case for exports of motor vehicles (HS87) which account for almost half (46.6%) of total EU exports under the inward processing trade. Motor vehicle processing exports are not just important in absolute and relative terms for the overall processing trade. Processing trade is in turn also crucial for the overall export sales of the sector itself. Out of €160 bn worth of EU motor vehicles exports in 2011, almost 43% (€69 bn) were exports of motor vehicles that were produced under the inward processing trade regime, being essentially cars assembled in Europe from parts and components imported from the rest of the world.

Behind the average and sectoral trade figures at EU level, the participation of EU Member States in processing trade varies considerably, notably for a handful of countries such as Germany, Slovakia, Malta, Estonia, Poland, Sweden, and UK where the share of processing trade flows is above EU average. In contrast, other EU Members States such as Spain, Slovenia, Luxembourg, Greece, and Portugal have a very low participation in processing trade.

SOME TENTATIVE CONCLUSIONS

This brief analysis of the role of processing trade in EU trade performance points to some potentially interesting conclusions or questions that may deserve further reflection.

First, processing trade is a special trade regime that is inter alia aimed at boosting EU competitiveness. Accounting for around 10% of total EU exports proves that this special trade regime matters. At least for some. This once again confirms the importance of sectoral supply chains for highly integrated industrial processes across the globe, such as the automotive sector.

Second, this analysis provides an interesting complement to the new initiatives aimed at measuring "trade in value added". Some of the main conclusions stemming from the recently launched WIOD project sponsored by the European Commission were that, despite the increasing role of globalization, EU gross exports as measured by traditional trade statistics contain a large share of EU



domestic value-added. A second important conclusion stemming from the "trade in value added" analyses is that the Single Market created a strong "Made in Europe" job creation value chain that underpins a strong European export platform. The relative importance of processing trade suggests that apart from a strong "Made in Europe" export basis, there is also a non-negligible "Assembled in Europe" trading pattern in the overall EU trade performance. This is even more the case for a handful of sectors, notably the automotive industry.

But beyond confirming the importance of being truly globalized, this first-cut analysis of the structure and importance of EU processing trade customs regimes in the overall EU trade performance, certain trade policy issues also come to mind.

For instance, it would be interesting to understand to what extent such "Assembled in Europe" activities are also important for **value-added creation in Europe**. The available data does not lend itself to a rigorous value-added analysis like the work carried out by WIOD and similar approaches based on input-output data. However, given the strict rules governing the import and export of various products under the EU processing trade regime, a first rough indication of the value-added generated by processing trade is given by the difference between the value of imports and exports under the inward processing trade. This is of course an overestimate since the total value of processed exports can contain not only inward processing imports and domestic value added but also "normal" intermediate imports. Bearing this important caveat in mind, the inward processing overall export and import statistics suggest that the European value-added generated by the "Assembled in Europe" trade is in the range of 56%. While this clearly less than the EU domestic value added in "normal exports" (around 87%) it is by no means an indication of simply low-value added, "screwdriver-type" of simple assembling activities.⁵

A second pertinent question refers to **the role of current customs rules and procedures** governing such processing trade activities. It would, for instance, clearly be useful to know why inward processing trade is far more important than outward processing trade, and why other highly globalized sectors rely less on processing trade activities than the automotive sector and to which degree customs rules and procedures are a determining factor for that.

Thirdly, the fact that for a handful of sectors such duty-free processing trade represents a large share of their overall trade activity, it will be important to factor this into the overall analyses of **the impact of various recent and future EU FTAs**. This is particularly important for the automotive sector, but not only, given the double-digit shares of processing trade in total exports of several other sectors (e.g. certain chemicals, fertilizers, metal products, textiles, processed food, etc). Intuitively, one of the main possible factors explaining the reliance of certain sectors on processing trade is the existence of custom duties on intermediate inputs. So, one could expect a reduction in the relative role of processing trade once EU FTAs with major partners (e.g. Korea, Japan, ASEAN, Mercosur, etc) will be concluded. However, it may well be that tariffs are not the only factor driving these processing trade patterns. For instance, there is little correlation between processing trade values and the level of tariffs, even at the most detailed product level for which data is available.

The inward processing overall statistics suggest that the European value-added generated by the "Assembled in Europe" trade is in the range of 56%.

⁵ Based on a detailed dataset of Chinese processing trade statistics, Kee and Tang (2012) found the domestic Chinese value added in processed exports to have increased over time, reaching 60% in 2006 based on a weighted average.



Therefore, beyond the economic rationale of doing so, several **other specific trade policies may act as incentives for firms to engage in processing trade apart from tariffs**, such as rules of origin, duty drawback provisions, etc. Given that the intermediate products are not imported for the final consumption in the EU it may be that processing trade rules also exempt importers from compliance with non-tariff barriers (standards, technical barriers, etc) on intermediate products under the inward processing trade rules. This hypothesis may explain why there is no apparent correlation between the level of tariffs and processing trade activity.

Fourthly, processing trade is usually driven by FDI and activities of multinational firms. Understanding the **linkages between processing trade and FDI** could reveal additional areas for improving EU trade performance. On the other hand, quite likely, not all processing trade is conducted by big multinational firms but also by SMEs. Understanding the firm-specific factors involved in processing trade may provide additional insights on how to promote the internationalization of SMEs through processing trade, another interesting policy avenue that deserves further reflection.

Finally, since in practice processing trade is to a large extent carried out at MS level based on the procedures implemented by each national customs administration, it would be important to understand the factors behind **the diversity in the use of processing trade by economic operators in various MS**. A "fitness test" of various trade rules and customs procedures governing processing trade could identify "best practices" and additional implementing guidelines that would put economic operators on a level playing field across Europe, to the extent this is not already the case.