



German Economic Team Belarus

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How to increase sophistication of Belarus' export basket

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How to increase sophistication of Belarus' export basket

Executive summary

The paper discusses the level of sophistication (productivity) of Belarus' export basket. The analysis revealed the unfavourable changes in the structure of Belarus exports, i.e. the increase in the share of low productivity goods that in its turn brought about a reduction in the level of sophistication of Belarus' export basket in comparison with some other countries, e.g. Russia, Ukraine, and Poland. This tendency testifies not only to a certain decrease in productivity of Belarus' export basket but also to the fact that growth prospects in the medium term are deteriorating as well, since Hausmann, Hwang and Rodrik (2005) empirically proved the relationship between the level of sophistication of the export basket and economic growth.

The productivity of export basket can be increased in two ways: **First**, by increasing the exports of high productivity goods, which have already been sold in foreign markets, and there through by expanding their share in the export basket; **second**, by diversification of exports through development of comparative advantage into new high productivity goods, which level of sophistication exceed those of the current export basket. In view of this, based on the methodology developed by Hausman-Klinger (2006, 2007) the goods with high probability of exporting (i.e. obtaining comparative advantage) were identified for each product in which Belarus has already had a comparative advantage. However, most of the potential goods, for which the level of productivity (*PRODY*) exceed the level of sophistication of the current exports basket (*EXPY*), are relatively distant from the current export basket, and thus, the probability of development of comparative advantage in new goods in Belarus is much lower than in some other countries (e.g. China, Poland).

For this reason the Belarusian government should support the diversification of export basket in favor of high productive goods, which in their turn will have positive impact on economic growth, by implementing of economic policy measures such as:

- Improvement of the investment climate in Belarus with the goal of increasing foreign direct investments (FDI); adaptation of FDI attraction policy to the need of increasing FDI inflows to the industries/activities with high probabilities of the development of comparative advantage and favorable combination of distance and *PRODY/EXPY* value.
- Creation of incentives for an increase in domestic investments into production of goods, which income earning potential is higher than that of the current export basket.

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1. Introduction

In 2010, the trade balance deficit in Belarus reached 17.6% of GDP and peaked at a record 22.7% of GDP in the first quarter 2011, indicating the serious imbalances in foreign trade. In its turn, a persistent and rising trade deficit may reduce long-term economic growth as it will increase debt (including but not limited to external debt) and as a whole may serve as a signal that the country faces an export challenge. This places the reduction of the negative trade balance as a top priority of Belarus' economic policy agenda. In order to solve this problem, the Government elaborated the National Exports Promotion Programme for 2011-2015 that set ambitious targets to balance trade by 2014, and reach a trade surplus of about USD 500 m starting from 2015 as a result of the boost of the exports of goods and services. The Programme envisages the expansion of export potential through development of new export-oriented manufactures that will contribute to commodities and geographical export diversification.

In this regard, it is important to determine which goods have high export potential and may be competitive at external markets. Furthermore, it should be borne in mind that although export expansion is one of the key factors in achieving and maintaining sustainable economic growth, the findings of recent studies show that exported goods have different effects on economic performance, i.e. specialisation in certain products leads to higher economic growth compared with other commodities. Thus, this paper aims to identify empirically the goods, which might contribute not only to export growth and commodity diversification, but also change the structure of the export basket in favor of products, whose impact on economic growth is the greatest, that will help Belarus to realise a "double dividend".

The paper is organized as follows: First it provides an empirical assessment of the level of sophistication of Belarus' export basket. Chapter 3 identifies the goods that have high potential in terms of increase of current export basket sophistication. The concluding section summarises the major arguments and offers some policy recommendations.

2. Belarus' export basket level of sophistication: an empirical assessment

The analysis of the productivity level of Belarus export basket was conducted based on the methodology developed by Ricardo Hausmann, Jason Hwang and Dani Rodrik (2005)¹, which showed that traded goods are associated with different productivity levels, and the more higher productivity goods countries have at their export baskets, the better they perform. According to Hausmann, Hwang and Rodrik commodities that are exported by developed countries, i.e. those who have the highest GDP per capita, correspond to high productivity goods, e.g. countries that specialize on exporting cars typically have a higher per capita GDP, therefore the *PRODY* for cars is high. Thus, the more such goods a country exports, the higher is the index productivity of its export basket.

Trade data for the analysis come from United Nations Commodity Trade Statistics database (COMTRADE) at the Harmonized System (HS)² four-digit level for the years 1999 and 2009.

At the first step, the income-productivity measure of each good *PRODY* was calculated as a weighed sum of GDP per capita of countries exporting a given commodity, where weights correspond to the revealed comparative advantage of each country in this good. Below are the equations that are used to calculate *PRODY*:

$$X_j = \sum_i x_{ji}, \quad (1)$$

¹ Hausmann, Ricardo, Jason Hwang and Dani Rodrik. (2005). What You Export Matters, Working Paper, Harvard University

² HS – Harmonized Commodity Description and Coding System.

where, X_j - total exports of a country j , x_{jl} - exports of good l by country j

$$PRODY_k = \sum_j \frac{(x_{jk} / X_j)}{\sum_j (x_{jk} / X_j)} Y_j, \quad (2)$$

where, Y_j - GDP per capita of country j , k - good

At the second step, productivity of export basket $EXPY$ was calculated for each country that reported trade data to COMTRADE in 1999 and 2009.

$$EXPY_i = \sum_l \left(\frac{x_{il}}{X_i} \right) PRODY_l, \quad (3)$$

Table 1 presents the results of calculations for some of the CIS and EU member countries as well as China, Vietnam and Brazil. The calculation revealed that Belarus' had higher export basket productivity relative to Kazakhstan, Russia and Ukraine. It is worthy of note that Poland and China, which had in 1999 almost the same $EXPY$ as Belarus, substantially outstripped the country in this index in 2009. In its turn, Brazil in 1999 had a level of $EXPY$ 11% lower than Belarus, while in 2009 the indices for these two countries were comparable. In addition, as can be seen from Table 1, Belarus had the lowest rate of $EXPY$ growth among the countries represented in the table, while Poland, Finland, Czech Republic, Brazil and China experienced the most rapid increase of this index.

Table 1. GDP per capita and $EXPY$ for selected countries in 1999 and 2009, USD

	GDP per capita		EXPY		2009/ 1999, %	EXPY over GDP per capita	
	1999	2009	1999	2009		1999	2009
Belarus	1209.6	5075	9277.3	15692.7	169.2	7.7	3.1
Russia	1844.5	8684	8401.5	15171.9	180.5	4.6	1.7
Kazakhstan	1130.1	7257	7040.4	11839.7	168.2	6.2	1.6
Ukraine	635.8	2468	8484.0	15183.9	179.0	13.3	6.1
Poland	4344.3	11273	9391.8	18811.4	200.3	2.2	1.7
Hungary	4693.0	12868	11062.5	20292.9	183.4	2.4	5.6
Czech Republic	5853.6	18139	10701.8	20336.1	190.0	1.8	1.1
Slovakia	3788.4	16176	10428.2	18641.3	178.8	2.8	1.2
China	949	3744	9514.6	17854.3	187.7	10.0	4.8
Brazil	3418	8230	8258.9	15695.4	190.0	4.6	1.9
Vietnam	370	1113	6452.1	11555.2	179.1	31.2	10.4

Source: own calculations based on COMTRADE data

The changes occurring in the structure of export basket can be spotted based on the increase or decrease in the share of high productivity goods in total exports. It should be pointed that the share of top ten commodities (4-digit level) with highest level of $PRODY$ in Belarus' export basket declined through the period under investigation from 1.1% to 0.16%, while, for example, in Poland in 2009 it was 0.8%, in Ukraine it accounted for 1.3%, and the world average was 1.25%.

This testifies not only to a certain decrease in productivity of Belarus' export basket but also to the fact that growth prospects in the medium term are deteriorating as well, since Hausmann, Hwang and Rodrik (2005) empirically proved the relationship between *EXPY* and economic growth.

They found that substantial excess of the productivity level of exports (*EXPY*) over GDP per capita has a positive impact on economic growth of the country in the future. As can be seen from Table 1, Belarus *EXPY*/ GDP per capita ratio in 2009 was a relatively high and constituted 3.1, indicating good prospects for growth (e.g. Russia's ratio was significantly lower). However, it is noteworthy that in 1999 excess of *EXPY* over GDP per capita was notably higher for Belarus. First, this witnesses that changes in the structure of Belarus exports could not keep pace with the growth of the economy, and second, it testifies about an increase of the share of low productivity goods, especially primary commodities, in the export basket. Both of these phenomena represent a threat to long-term sustainable growth of countries in the future as resources associated with export-led economic growth will no longer give the same effect as previously. It should be noted that countries with highest growth rates usually demonstrate significant excess of *EXPY* over GDP per capita, e.g. for China this ratio amounted to 4.9 in 2009, for Vietnam and India it was as high as 10.4 and 12.8, respectively.

3. The prospects of Belarus' export basket diversification

There are two ways to increase export productivity, **first**, to raise the exports of high productivity goods³, which have already been sold in foreign markets, and expand their share in an export basket. For Belarus, it may be, for example, the following commodities according to HS classification: 0404 "Whey; products consisting of natural milk constituents", 2926 "Nitrile-function compounds", 3908 "Polyamides in primary forms", 4411 "Fibreboard of wood or other ligneous materials", 5603 "Nonwovens", 5902 "Tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon", 7005 "Tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon", 8113 "Cermets and articles thereof, including waste and scrap", 8408 "Compression-ignition internal combustion piston engines (diesel or semi-diesel engines)", 8412 "Other engines and motors".

It should be noted that commodity groups 2709-2711 related to petroleum products that have a high share in the structure of Belarus exports (36.9% compared with 11.6% share of these commodities in the world exports) are characterized by relatively low level of *PRODY*, as well as groups 3102 and 3104 (mineral and potash fertilizers), which amounted to 7.1% in export basket.

Second, in order to improve the productivity of the export basket, the exports should be diversified by new high productive goods. From this point of view it is important to determine potential and prospective goods. A potential good is determined based on the probability of its appearance in the export basket given that a county has already exported the other specific product (i.e. good that has high conditional probability of export). A good can be considered as prospective if it has high values *PRODY* and is within relatively short distance from the current export basket.

In order to identify prospective goods we followed the methodology developed by Hausmann and Klinger (2006, 2007⁴). To this end, using the standard Balassa's RCA (Revealed Comparative Advantage) index, we determined in which goods Belarus has a revealed comparative advantage.

³ High productivity goods are not necessarily correspond to high-tech goods.

⁴ Ricardo Hausmann, and Bailey Klinger (2006), Structural Transformation and Patterns of Comparative Advantage in the Product Space, CID Working Paper No. 128, Center for International Development, Harvard University; Ricardo Hausmann, and Bailey Klinger (2007), The Structure of the Product Space and the Evolution of Comparative Advantage, CID Working Paper No. 146, Center for International Development, Harvard University.

An index value exceeding 1 indicates that a country has a comparative advantage (the greater the index the stronger the advantage) and vice versa. Table 2 presents Belarusian exported commodities that have the highest value of RCA.

$$RCA_i = \frac{\frac{E_{ik}}{\sum_i E_k}}{\frac{E_{iw}}{\sum_i E_w}} \quad (4)$$

where E - exports, i - good, k - country, w - world

Table 2. Twenty goods exported from Belarus with the highest RCA index in 2009

HS code	Description
0402	Milk and cream, concentrated or containing added sugar or other sweetening matter
0405	Butter and other fats and oils derived from milk; dairy spreads.
0708	Leguminous vegetables, shelled or unshelled, fresh or chilled
2501	Salt (including table salt and denatured salt) and pure sodium chloride
2703	Peat (including peat litter), whether or not agglomerated
3104	Mineral or chemical fertilisers, potassic
3501	Casein, caseinates and other casein derivatives; casein glues
3605	Matches, other than pyrotechnic articles of heading 36.04
3814	Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers
4404	Waste, parings and scrap of rubber and powders and granules obtained there from
4814	Wallpaper and similar wall coverings; window transparencies of paper
5309	Woven fabrics of flax
5405	Artificial monofilament, strip, straws
5501	Synthetic filament tow
5503	Synthetic staple fibers, not carded, combed or otherwise processed for spinning
7312	Stranded wire, ropes, cables, plaited bands, slings and the like, of iron or steel, not electrically insulated

7317	Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel
7321	Stoves, ranges, grates, cookers (including those with subsidiary boilers for central heating), barbecues, braziers, gas-rings, plate
8701	Tractors (other than tractors of heading 87.09)
9005	Binoculars, monoculars, other optical telescopes, and mountings therefor; other astronomical instruments and mountings therefor, but not including instruments for radio-astronomy.

Source: own calculations based on COMTRADE

The RCA calculations at HS four digit level revealed the decrease in the share of Belarusian goods with RCA index exceeding 1 from 24.5% in 1999 to 15.3% in 2009.

In order to determine how foreign trade specialization of the country can be changed and what potential products may appear in the export basket the matrix of conditional probability was calculated based on the Hausman and Klinger (2006, 2007) product space methodology. This matrix shows the conditional probability of exporting one product given that a country also exports the other product. If there exists a high probability of exporting good *j* given that a country has already exported good *i*, it can be assumed that *j* is a potential product for exports in the future. This results from the fact that production of each good requires a specific combination of inputs (skilled labour force, capital, infrastructure and etc.). Therefore, if a country has factor endowments for effective production of one good, it is possible to adjust them for production of the "nearest" good.

Based on the matrix of conditional probabilities, the goods with high probability of exporting (i.e. obtaining comparative advantage) were identified for each product in which Belarus has already had a comparative advantage. However, it should be noted that only those goods that will improve the export basket in terms of enhancing *EXPY* can be considered as prospective. The greater will be a diversification of exports towards more productive goods the higher can be the rate of economic growth. Therefore, from the set of potential goods we selected those which have *PRODY* index larger than productivity of current export basket. The calculation showed that 51% of potential products for Belarus' exports have *PRODY* lower than *EXPY*, and therefore are not considered as attractive in terms of exports upgrade. In its turn, the increase in the level of sophistication of Belarus' exports can come from its diversification towards the products which income earning potential is higher than that of the current export basket. Table 1A in the Annex reports 50 goods with the highest value of *PRODY* over *EXPY*.

Hausman and Klinger (2006, 2007) showed that the process of structural transformation, or probability of developing comparative advantage in the good also depends on the distance between this good and country's current area of comparative advantage (see Box 1). This distance is inversely proportional to the probability of gaining comparative advantage in this good.

Box 1

This distance is calculated using the following equation:

$$dist_{iEXPYc} = 1/(density_{ic}) \quad (1)$$

where, $dist_{iEXPYc}$ - distance between potential good *i* and current export basket, $density_{ic}$ density to which country *c* current exports surround product *i*, in other words it is the measure of country's possibility to adapt its factors and skills to the production of new good :

$$density_{ic} = \frac{\sum_k \phi_{i,k} x_{c,k}}{\sum_k \phi_{i,k}} \quad (2)$$

It is calculated as a sum of probabilities of exports good i given that country exports good k that has revealed comparative advantage divided by the sum of probabilities of exports of all goods

$$\phi_{i,j} = \min\{P(x_i|x_j), P(x_j|x_i)\} \quad (3)$$

$$x_{i,c} = \begin{cases} 1, & \text{if } RCA_{ic} > 1, \\ 0, & \text{otherwise} \end{cases} \quad (4)$$

Source: Ricardo Hausmann and Bailey Klinger (2006), Structural Transformation and Patterns of Comparative Advantage in the Product Space, CID Working Paper No. 128, Center for International Development, Harvard University.

The calculations showed that for Belarus most of the potential goods with positive difference between *PRODY* and *EXPY* have the distance between 1.6 and 2⁵, i.e. are relatively distant from the current export basket. For example, the distance of China's prospective products is about 1. Thus, the probability of development of comparative advantage in new goods in Belarus is much lower than in China.

Table 3 presents top 20 goods with the better combination of density and *PRODY* over current export basket *EXPY* value. These goods are mainly represented by iron and steel and articles from iron and steel, chemical products, machinery, pulp of wood, paper and paperboard, glass and glassware.

Table 3. Top 20 goods with the better combination of distance and *PRODY-EXPY* value

Number	Description	HS code
1	Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel.	7301
2	Machinery parts, not containing electrical connectors, insulators, coils, contacts or other electrical features, not specified or included elsewhere in this Chapter.	8487
3	Furnace burners for liquid fuel, for pulverised solid fuel or for gas; mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances.	8416
4	Angles, shapes and sections of iron or non-alloy steel.	7216
5	Railway or tramway track construction material of iron or steel, the following : rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish-plates, chairs, chair wedges, sole plates	7302
6	Wire of stainless steel.	7223

⁵ The density is in logs.

7	Clocks with watch movements, excluding clocks of heading 91.04.	9103
8	Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard (whether or not perforated or hardened).	4822
9	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size, other than goods of the kind described in head	4811
10	Mixtures of odoriferous substances and mixtures (including alcoholic solutions) with a basis of one or more of these substances, of a kind used as raw materials in industry; other preparations based on odoriferous substances	3302
11	Safety glass, consisting of toughened (tempered) or laminated glass.	7007
12	Enzymes; prepared enzymes not elsewhere specified or included.	3507
13	Other bars and rods of stainless steel; angles, shapes and sections of stainless steel.	7222
14	Machinery for making pulp of fibrous cellulosic material or for making or finishing paper or paperboard.	8439
15	Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes.	8456
16	Book-binding machinery, including book-sewing machines.	8440
17	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers, in rolls or sheets.	4806
18	Antibiotics.	2941
19	Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids.	2918
20	Drawn glass and blown glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.	7004

Source: own calculations

However, it is worthy of note that some of the goods indicated in Table 3 are energy intensive (e.g. product of ferrous metallurgy and glass industry), and therefore the development of their comparative advantages may be hampered due to an increase in prices for energy inputs, and may require additional investments in energy saving technologies. So, the more prospective are those goods from Table 3, which comparative advantage can be developed along the line of Belarus natural competitiveness rather than based on the preferential prices on energy inputs imported from Russia.

4. Conclusions and recommendations

The conducted analyses revealed the unfavourable changes in the structure of Belarus exports, e.g. the increase of the share of low productivity goods that resulted in the downward trend in the level of sophistication of Belarus' export basket. Based on the methodology developed by Hausman and Klinger (2006, 2007), the goods with high probability of exporting (i.e. obtaining comparative advantage) were identified for each product in which Belarus has already had a comparative advantage. However, most of the potential goods for which level of productivity (*PRODY*) exceed level of sophistication of current exports basket (*EXPY*) are relatively distant from the current export basket, and therefore the probability of development of comparative

advantage in new goods in Belarus is much lower than in some other countries (e.g. China, Poland).

Yet, the government can support the diversification of the current export basket in favor of high productive goods, which in their turn will have positive impact on economic growth, by implementation of certain economic policy measures:

- The exports of high productivity goods, which have already had comparative advantage on foreign markets should be expanded, especially it refers to the products with the high *PRODY-EXPY* value, for instance: 2933 "Heterocyclic compounds with nitrogen heteroatom(s) only", 8113 "Cermets and articles thereof, including waste and scrap", 8202 "Hand saws; blades for saws of all kinds (including slitting, slotting or toothless saw blades", 4411 "Fibreboard of wood or other ligneous materials, whether or not bonded with resins or other organic substance", 8428 "Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics)", 9005 "Binoculars, monoculars, other optical telescopes, and mountings therefor". The export of these goods should be stimulated by a variety of measures, including, informational support and trade facilitation measures.
- Improvement of the investment climate in Belarus with the goal of increasing foreign direct investments (FDI); adaptation of FDI attraction policy to the need of increasing FDI inflows to the industries/activities with high probabilities of the development of comparative advantage and favorable combination of distance and *PRODY/EXPY* value.
- Incentives for an increase in domestic investments into production of goods, which income earning potential is higher than that of the current export basket, should be created.

Annex

Table 1A. Top 50 goods with the highest *PRODY/EXPY* value

No.	Description	HS code	PRODY/EXPY
1	Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel.	7301	5.75
2	Machinery parts, not containing electrical connectors, insulators, coils, contacts or other electrical features, not specified or included elsewhere in this Chapter.	8487	3.96
3	Furnace burners for liquid fuel, for pulverised solid fuel or for gas; mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances.	8416	3.83
4	Plates, sticks, tips and the like for tools, unmounted, of cermets.	8209	3.39
5	Angles, shapes and sections of iron or non-alloy steel.	7216	3.36
6	Railway or tramway track construction material of iron or steel, the following : rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish-plates, chairs, chair wedges, sole plates	7302	3.26
7	Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel.	7227	3.2
8	Wire of stainless steel.	7223	3.19
9	Clocks with watch movements, excluding clocks of heading 91.04.	9103	2.96
10	Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones.	2937	2.94
11	Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard (whether or not perforated or hardened).	4822	2.92
12	Carboxamide-function compounds; amide-function compounds of carbonic acid.	2924	2.85
13	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size, other than goods of the kind described in head	4811	2.84
14	Nucleic acids and their salts, whether or not chemically defined; other heterocyclic compounds.	2934	2.84
15	Organic derivatives of hydrazine or of hydroxylamine.	2928	2.76
16	Sulphonamides.	2935	2.71
17	Self-propelled railway or tramway coaches, vans and trucks, other than those of heading 86.04.	8603	2.67
18	Mixtures of odoriferous substances and mixtures (including alcoholic solutions) with a basis of one or more of these substances, of a kind used as raw materials in industry; other preparations based on odoriferous substances	3302	2.62
19	Complete watch or clock movements, unassembled or partly assembled (movement sets); incomplete watch or clock movements, assembled; rough watch or clock movements.	9110	2.6

20	Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics.	3818	2.6
21	Balances of a sensitivity of 5 cg or better, with or without weights.	9016	2.6
22	Parts and accessories of articles of headings 93.01 to 93.04.	9305	2.56
23	Raw furskins other than raw hides and skins of heading 41.01, 41.02 or 41.03.	4301	2.54
24	Zirconium and articles thereof, including waste and scrap.	8109	2.54
25	Lignite, whether or not agglomerated, excluding jet.	2702	2.5
26	Safety glass, consisting of toughened (tempered) or laminated glass.	7007	2.5
27	Machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays; machines and apparatus specified in Note 9 (C)	8486	2.49
28	Enzymes; prepared enzymes not elsewhere specified or included.	3507	2.48
29	Nickel bars, rods, profiles and wire.	7505	2.35
30	Watch movements, complete and assembled.	9108	2.48
31	Other bars and rods of stainless steel; angles, shapes and sections of stainless steel.	7222	2.46
32	Machinery for making pulp of fibrous cellulosic material or for making or finishing paper or paperboard.	8439	2.45
33	Other organo-inorganic compounds.	2931	2.44
34	Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells.	3821	2.43
35	Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes.	8456	2.37
36	Nickel tubes, pipes and tube or pipe fittings (for example, couplings, elbows, sleeves).	7507	2.35
37	Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39.	2940	2.35
38	Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives.	2910	2.33
39	Automatic goods-vending machines (for example, postage stamp, cigarette, food or beverage machines), including money-changing machines.	8476	2.31
40	Book-binding machinery, including book-sewing machines.	8440	2.29
41	Wood pulp obtained by a combination of mechanical and chemical pulping processes.	4705	2.29
42	Rail locomotives powered from an external source of electricity or by electric accumulators.	8601	2.27
43	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers, in rolls or sheets.	4806	2.25

44	Antibiotics.	2941	2.25
45	Photographic plates and film, exposed and developed, other than cinematographic film	3705	2.25
46	Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids.	2918	2.2
47	Drawn glass and blown glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.	7004	2.17
48	Chemical preparations for photographic uses	3707	2.13
49	Polyamides in primary forms	3908	2.0
50	Silicones in primary forms	3910	2.0

Source: own calculations