

Domestic value-added and import content of exports:

Evidence from the Chilean Input - Output tables 2008-2012

Sebastián Rébora

Diego Vivanco

Abstract

It is commonly stated that foreign trade represents 60% to 70% of the Chilean economy, a claim that is based on adding exports and imports and dividing by GDP. However, according to the international evidence, with globalization and the development of global value chains, exports are increasingly composed of imported inputs giving a misleading view of foreign trade size and its effects on economic growth. This paper provides recent empirical evidence on the evolution of domestic value-added (net exports) and import content of Chilean exports by using an input-output framework in order to identify the direct and indirect effects of industries. For the period 2008-2012 net exports accounted on average 31% of nominal GDP while the import content of export reached 9% of GDP and 23% of gross exports for the same period. At industry level, “Business services” and “Transport” are the activities that contribute most to the total value-added of exports. On the other hand “Fuel”, “Rubber and plastic” and “Transport” are the industries with the highest levels of foreign inputs on their exports.

1. Introduction

Trade openness, measured as the share of international trade (sum of exports and imports at constant prices) in GDP has increased in recent decades in Latin America, from 20% in 1990 to 43% in 2014. The trend has been similar in the world trade, whose share of GDP expanded substantially during this period, from 45% to 73%.

In Chile, the scenario is similar. In 2014, foreign trade was 75% of the total output. Moreover, it is often claimed that exports are the engine of the Chilean economy. However, conventional trade statistics are measured in gross terms, giving a misleading view of foreign trade size and its effects on economic growth. The objective of this paper is to identify the real effect of foreign trade in Chile by computing the domestic value-added in exports and, therefore, the import content of intermediate goods on them. Additionally, a disaggregate analysis is performed in order to identify the contribution to domestic value-added and import content by industry. These indicators are estimated using industry-by-industry input-output tables (IOT) with a breakdown of 111 activities for the period 2008-2012.

Table 1
Share of international trade in total output, 1980-14
(% of GDP, constant prices)

	Exports and imports of goods and services		
	World	Latin America (19)	Chile
1990	45%	20%	46%
2000	65%	36%	64%
2010	72%	40%	79%
2014	73%	43%	75%

Sources: World Bank and ECLAC for the world and Latin America (19), respectively. For Chile, data are based on Central Bank of Chile statistics.

The rest of the paper is organized as follows. Section 2 provides international evidence about net exports across countries and gives some lights to explain its evolution in recent years. In Section 3 the methodology and the data used to compute net export in Chile is described. Section 4 presents the main results by industry. Section 5 concludes.

2. Domestic value-added on exports: International evidence

The contribution of exports is usually measured by the share of exports in GDP, ignoring the fact that part of the export value is not generated domestically, but corresponds to imported inputs used in the exportable production of the goods and services.

In this context, it is widely known that in the last decades the nature of international trade has changed dramatically. One of the most important changes involves the increasing interconnectedness of production processes in a vertical trading chain that stretches across many countries (Hummels et al, 2001), where each nation takes part in a particular stage of the production chain sequence. This phenomenon is called vertical specialization.

Formally, vertical specialization occurs when:

1. A good is produced in two or more sequential stages,
2. Two or more countries provide value-added during the production of the good,
3. At least one country uses imported inputs in its stage of the production process, and some of the output is exported.

The import content of exports measure provides an indicator of the increasing importance of the international fragmentation of production processes (Koopman, 2008).

Nevertheless, this indicator is not part of a systematic international measurement, because it requires the construction of IOT, which are not always available. Input-output tables allow dividing the gross exports into the domestic contribution in terms of value-added and the contribution of foreign content by industry, considering both, the direct and the indirect effects by using the Leontief matrix.

An alternative view for Latin America has been to calculate net exports considering import content as the proportion of capital goods and intermediate inputs in total GDP (Ffrench-Davis, 2005). By applying this methodology we found that GDP exported (net exports) rose from 13.5% in 1990 to 18.5% in 2013, versus 14.5% and 21.4% of the gross exports for the same period. In the case of Chile, the gap between these measurements is significantly higher: while gross exports scored around 33% in both years, net exports reached 28% in 1990 and 24% in 2014.

Table 2
Latin America (19 countries) and Chile: Exports and import content, 1990-2014^a
 (% of nominal GDP)

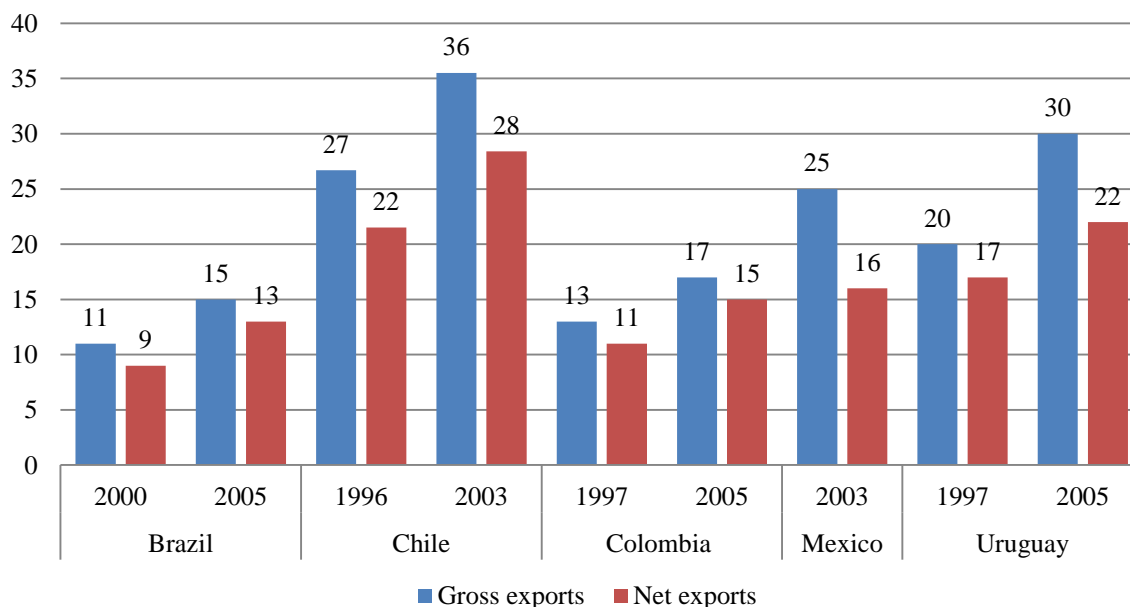
		Gross exports	Import content^a	Net exports
	1990-98	14.2	1.0	13.2
	1999-2003	20.2	2.7	17.5
Latin America (19)	2004-08	23.7	5.1	18.6
	2009-13	20.9	2.7	18.2
	1990-13	18.8	2.2	16.6
	1990-98	28.4	4.6	23.8
	1999-2003	31.9	6.1	25.8
Chile	2004-08	42.1	10.5	31.6
	2009-14	35.6	10.5	25.1
	1990-14	33.6	7.6	26.0

Sources: Author's calculations based on ECLAC and Central bank of Chile.

^a Imported inputs in exports were assumed to be equal to the share of non-consumer imports in GDP.

Figure 1 shows the estimates for five countries in the region where input-output tables are available. The share of net exports in GDP has increased over the years, highlighting Chile as the country with the largest share of the export sector in the economy (28% in 2003). Moreover, Mexico, Uruguay and Chile are, in order of importance, countries whose exports have the higher content of imported inputs, reflected in a greater discrepancy between the participation of gross and net exports in total GDP.

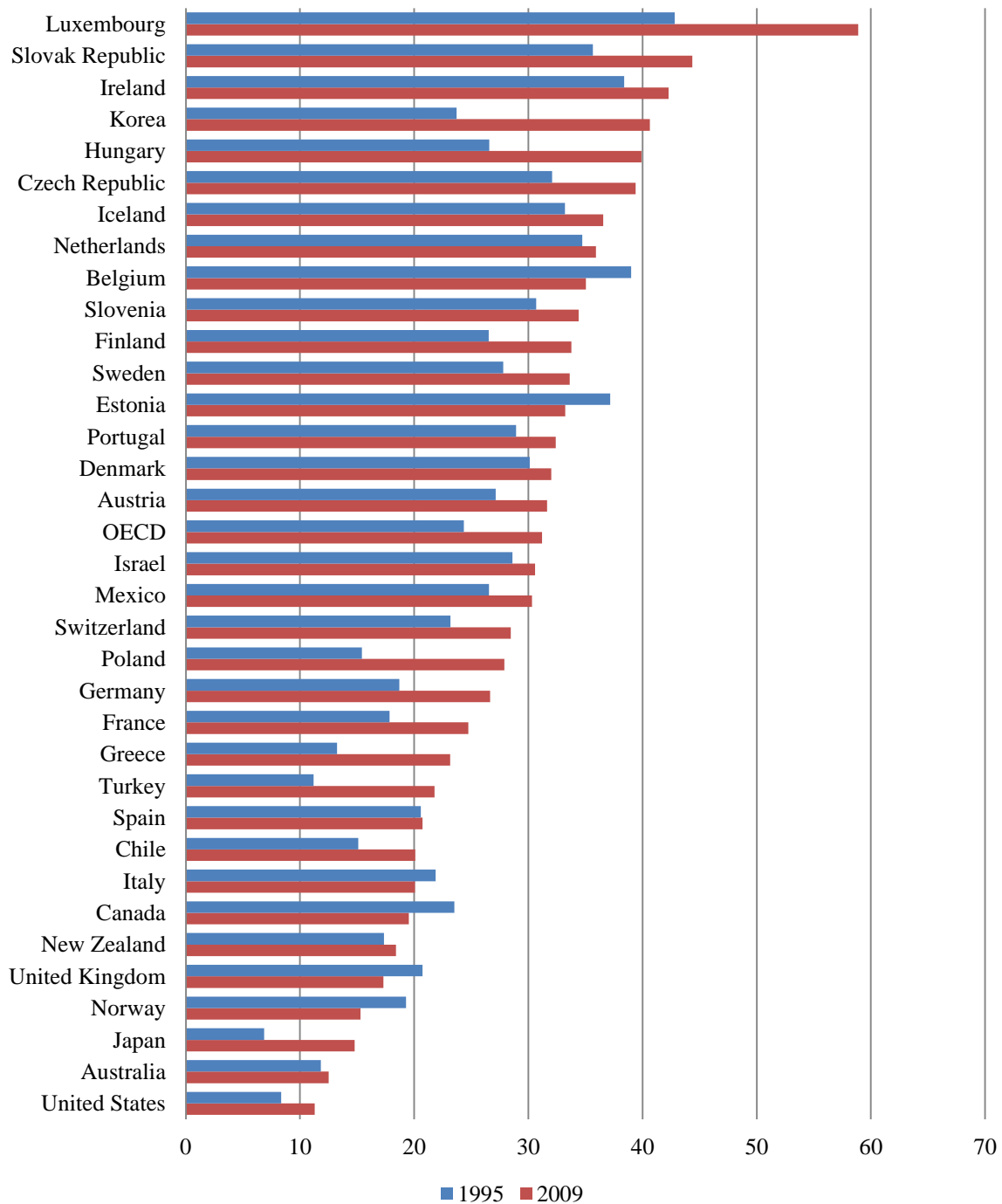
Figure 1
Latin America (selection of countries): Gross and net exports
 (% of GDP)



Sources: Data for Brazil, Colombia, Mexico and Uruguay was taken from ECLAC (2010). For Chile, coefficients are based on Venegas and Henríquez (2007).

Figure 2 shows estimates of import content in OECD gross exports. Between 1995 and 2009, the share of import content increased in most of the countries covered, with the exception of a group composed by Belgium, Canada, Estonia, Italia, Norway and United Kingdom. However, if we consider a weighted average with the share of countries exports in total OECD exports, the result shows that imports content increased from 24% in 1995 to 31% in 2009.

Figure 2
OECD: Import content of exports, 1995-2009
 (% of gross exports)



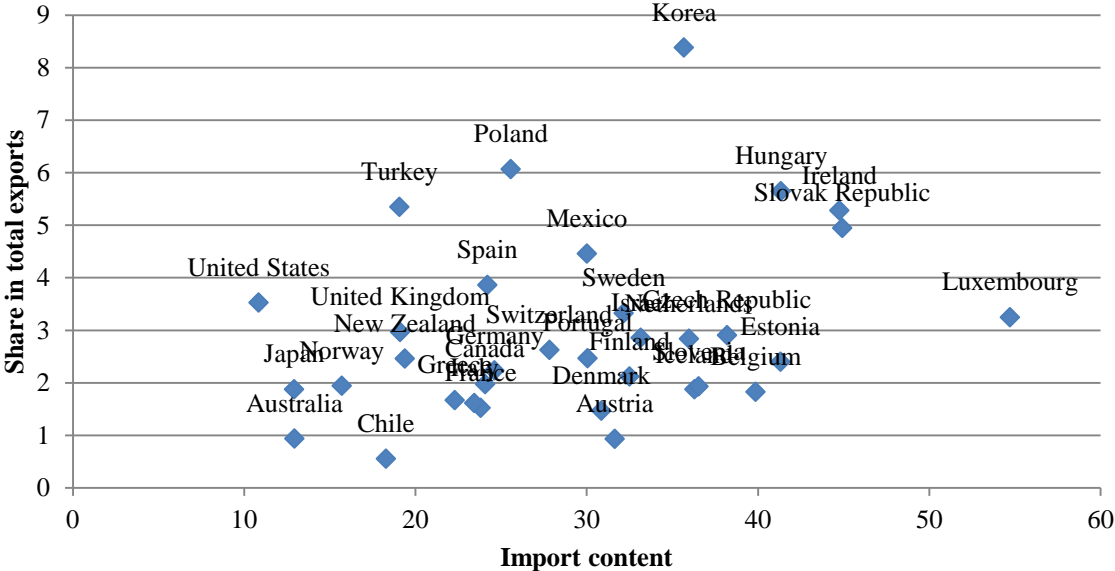
Sources: Based on OECD – WTO trade in Value-Added (TIVA).

In general, it would expect that smaller economies tend to have higher shares of imports embodied in their exports, given that the variety and availability of domestically sourced intermediate goods are commonly lower in comparison to larger ones (Lanz et al, 2009).

Nevertheless, the data shows that although there is a positive relationship, on average, between the import content of exports and size of the economy (measured as the share of exports to total OECD exports), this does not mean that a direct causal relation exist, because of a wide range of other variables and the variety of paths contained in the result.

In particular, there are countries with greater international trade that have high and low import content (Korea and Turkey respectively); small economies with high shares of imports embodied in their exports (Austria and Denmark); some countries evolve in ascending (Sweden and Germany) and others are reducing their import content over time (Belgium).

Figure 3
OECD: Share in total exports vs import content
 (Average 1995-2009)



It seems much more evident that, in an overall upward trend of import content, there are options that can be taken by countries and this will depend on the productive structures of each. In this sense, it was interesting to compare Chile among countries with similar share of natural resources such as Australia, Norway, and Canada; in addition we include South Africa and the Russian Federation for analytical purposes. The results show that all countries present a coefficient of import content lower than 19%, with the exception of Canada (24%). The intuition is as follows: mining activities (for example) require few intermediate consumption goods to produce their output, so even if the intermediate consumption is mainly imported, the percentage over the total of exports is still low¹.

¹ Imported capital goods, such as machinery and equipment, are excluded from this analysis.

Although the international evidence shows an upward trend in import content of gross exports across countries, it is not clear in which type of countries the use of imported input in their production structure is more intensive. Recent studies and initiatives headed by OECD to measure the trade in value-added reveal that the exports of countries involved in global value chains increasingly rely on significant intermediate imports. This paper aims to contribute to this matter providing recent evidence for Chilean exports in the period 2008-2012.

3. Data and Methodology

The basic data for the estimates comes from the national accounts series 2008-2012 (reference 2008), specifically the industry-by-industry input-output tables with a breakdown of 111 activities available for each year. Nevertheless, for illustrative purposes, a breakdown of 33 activities is used, which is in fact an aggregation of IOT of 111 activities.

According to OECD (2012), Input-output tables are compiled to measure the interrelationships between the producers of goods and services (including imports) within an economy and the users of these same goods and services (including exports). In this context they can be used to estimate the contribution that imports make in the production of any good (or service) for export.

For instance, if the industry j imports certain input, the direct import contribution will be the ratio of the value of the input to the total value of the production of industry j . However, if this industry purchases other inputs from domestic producers, who in turn use imports in their production process, those imports will be included in j 's production value.

These indirect imports should be included in any indicator that attempts to measure the contribution of imports to the production of industry j for export. The total direct and indirect imports are known as import content on exports or embodied imports.

In an input-output framework, the relation between producers and consumers can be simply described as follows

$$x = Ax + e$$

Where x is an $n * 1$ vector of the output of n industries; A is an $n * n$ matrix known as the technical coefficients matrix. Any element of A , a_{ij} is the ratio of inputs from industry i that is required in the production of one unit of industry j ; and e is an $n * 1$ vector of final demand (including exports). Then, x can be transformed in:

$$x = (I - A)^{-1} * e$$

Where $(I - A)^{-1}$ is known as the Leontief inverse matrix. This represents the total requirements (direct and indirect) of domestic inputs to produce one unit of final demand.

In that context, to determine the import content of exports, it is necessary to estimate the import content of domestic production or direct requirements. In matrix notation A^M is the $n * n$ imported coefficient matrix. Element a_{ij}^M of A^M denotes the imported inputs from industry i used to produce one unit of industry j 's output.

Additionally, as we mentioned before, I-O tables allow calculating the value of imported inputs used indirectly in the production of an exported good. That is, imported inputs may be used in one sector, whose outputs are employed in a second, then a third, and eventually embodied in an export good (indirect requirements). Then, the imported intermediates term would include all direct and indirect imported inputs.

Formally:

$$L^M = A^M * (I - A)^{-1}$$

Once the import content of final demand is determined, it is possible to approach the import content of exports:

$$A^M * (I - A)^{-1} * e^X$$

Where e^X is an $n * 1$ vector of exports. In this case, $(I - A)^{-1}$ is the term that captures the imported input embodied in exports, directly and indirectly through backward linkages.

In the same way, it is possible to estimate the total indirect and direct contribution of exports to value-added by replacing the import vector A^M above with an equivalent vector that shows the ratio of value-added to output(Y). Hence, the contribution of exports to total economy value-added is equal to

$$Y * (I - A)^{-1} * e^X$$

4. Results

General results

Table 3 shows the overall results for the period using input-output tables. A first finding is related to the effective share of exports in the national economy after deducting the import content. While gross exports reached 40% of GDP, on average, net exports recorded 31%. This implies that non-exported GDP for domestic market accounted 69% of value-added in 2008-12.

Table 3
Exports and import content 2008-12
(% of nominal GDP)

	Gross Exports	Import Content	Net Exports
2008	43.7	12.2	31.5
2009	38.9	8.7	30.2
2010	41.1	8.3	32.8
2011	41.1	9.5	31.6
2012	37.3	8.1	29.2
Average	40.4	9.4	31.0

Results by industry

If the import content is discounted, “Copper mining” remains the largest share of total exports in 2012 (while gross exports scored US\$43,610 million, net exports reached US\$37,506) and there are not significant changes when the rest of industries are ranked. For example, “Food products” and “Transport” are the second and third largest exporters (net) with US\$5,392 and US\$4,182 million, respectively. On the contrary, analogous to gross exports, analysis, “Extraction of petroleum”, “Health” and “Education” are the industries with the lower contribution of exports to value-added.

However, an alternative analysis is to calculate the contribution to value-added in total exports by industry. If “Copper exports” (US\$28,990) is excluded, “Business services” becomes the most important industry, contributing directly and indirectly in almost every export by economic sector. It is followed by “Transport”, “Wholesale and retail trade” and “Other mining”.

Figure 4
Value-added and imported content of exports , 2012
 (millions of US\$)

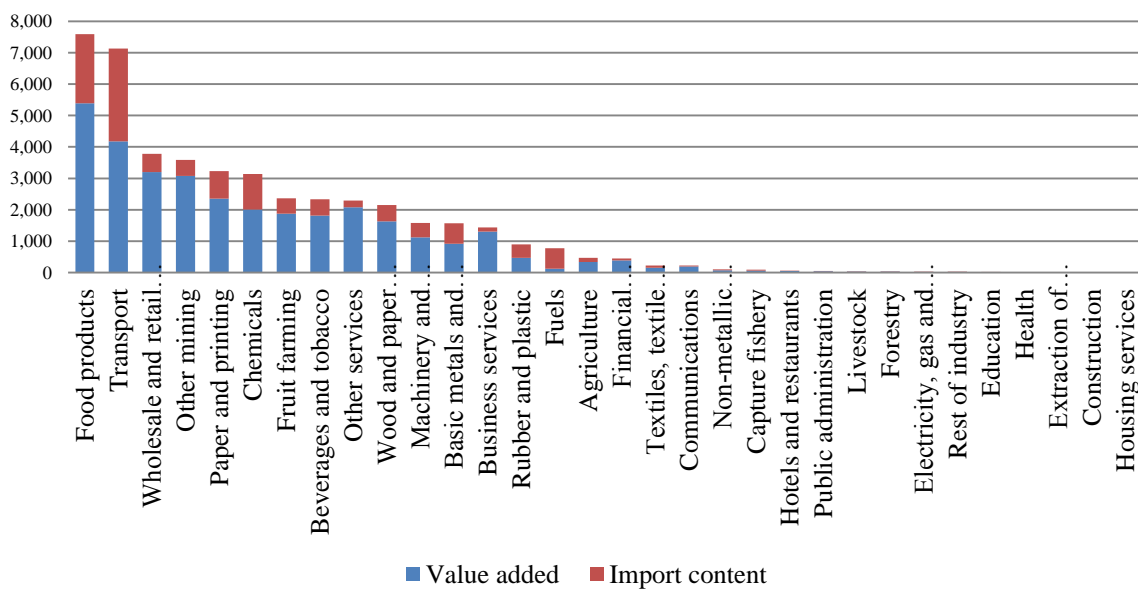
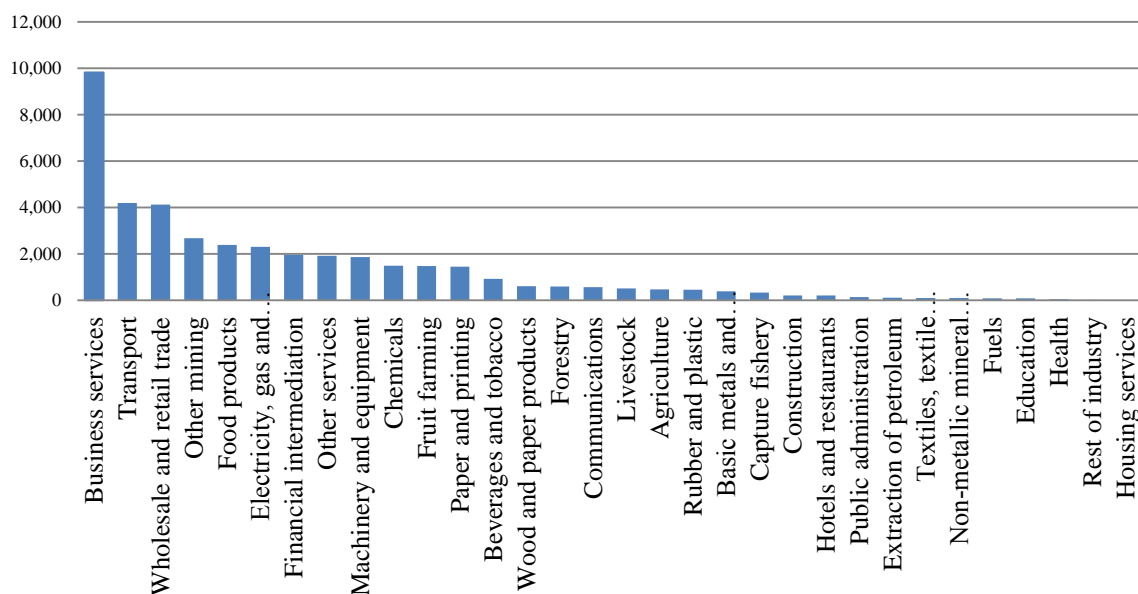


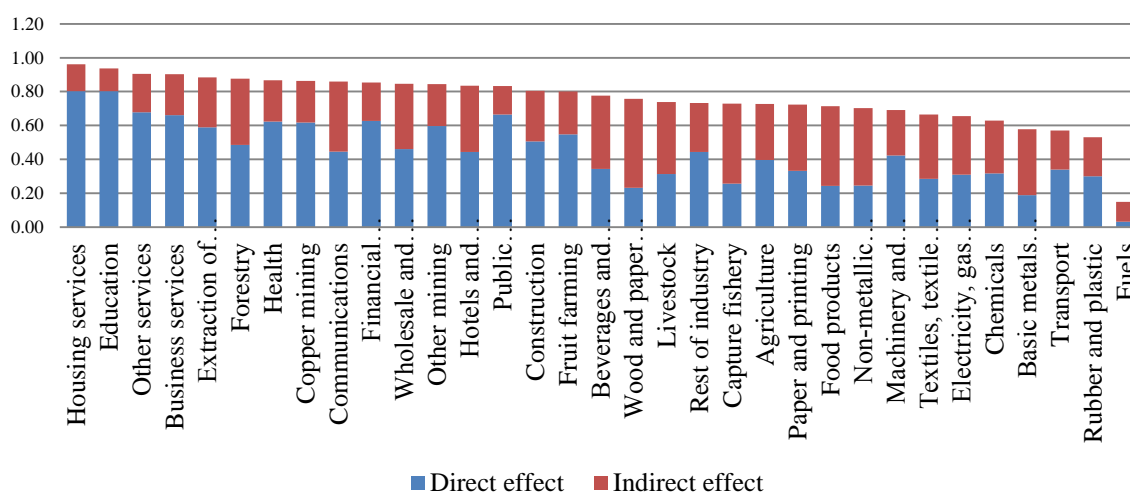
Figure 5
Contribution to value-added in exports by industry, 2012
 (millions of US\$)



Decomposition of indirect effect by industry

According to the above, we separate the value-added generated directly and indirectly in production of an exported good. If the industry j produces certain output to satisfy an increase in the final demand, its contribution (direct effect) will be the ratio of the value-added to the total value of the production of the industry. Nevertheless, if this industry purchases other inputs from domestic producers, who in turn generate value-added in their production process, those value-added will be included in the contribution of exports to total economy value-added.

Figure 6
Value-added in exports by sector: direct and indirect effect
 (average 2008-2012)



To illustrate this point, we use three relevant industries in total exports of Chile: “Copper Mining”, “Food products” and “Transport”².

In the case of “Copper mining”, the results show that with an increase in exports of copper, the backward linkage (BL) is significant in the value-added of “Business services” and self-input of mining copper. A relatively meaningful effect of “Electricity, gas and water” is also observed.

Furthermore, “Food products” shows a greater linkage with the rest of economy. However, “Business services” is again the most important in relative terms, followed by “Livestock”, self-input and “Fisheries”.

Finally, “Transport” shows a more concentrated linkage due to 37% of its indirect effect focuses on “Business services”. It is followed by, in order of importance, self-input, “Wholesale and retail trade” and “Financial intermediation” .

This allows us to verify that “Business services” is the industry with the highest forward linkage (FL) in the Chilean economy. In other words, it is the sector with the largest value-added in total exports of the country.

² For more detailed estimations, see annex 3.

Decomposition of growth net exports in direct and indirect effect

Table 4 shows the growth of net exports decomposed in direct and indirect effects mentioned above. Intuitively this determines how much of the value-added was produced directly by sectors, as well as the value-added generated indirectly in total exports of goods and services.

The results show significant differences in the analyzed period, especially in the dynamics of net exports. However, although the most important contribution is generated in direct terms (4.1), the linkage of total exports over other sectors reached 31% of total value-added in the Chilean economy.

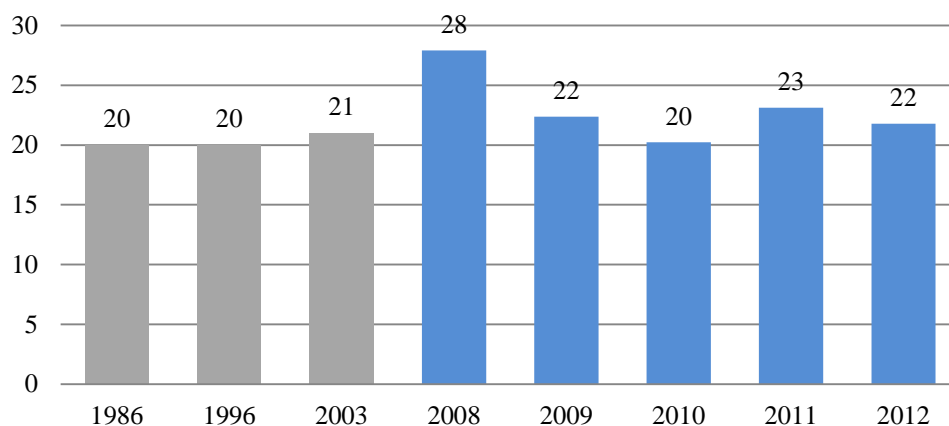
Table 4
Net exports and its components, 2009-2012
(nominal annual rate of growth, %)

	Net Exports	Direct effect	Indirect effect
2009	-1.2	-2.6 (-1.6)	1.0 (0.4)
2010	24.5	35.6 (21.4)	7.9 (3.1)
2011	5.3	3.5 (2.3)	8.7 (3.0)
2012	-3.1	-6.1 (-3.9)	2.4 (0.8)
2009-12	5.9	6.4 (4.1)	4.9 (1.8)

Import content of export by industry

Looking at the whole economy, the import content on total gross export has experimented a fall from 28% in 2008 to 22% in 2012. Previous studies (Henriquez and Venegas, 2007) show figures of 20% in 1986, 20% in 1996, and 21% in 2003. It is not clear that imported inputs embodied on exports have experienced an increase in recent years as the international evidence suggests.

Figure 7
Imported content of export
(% of gross exports)



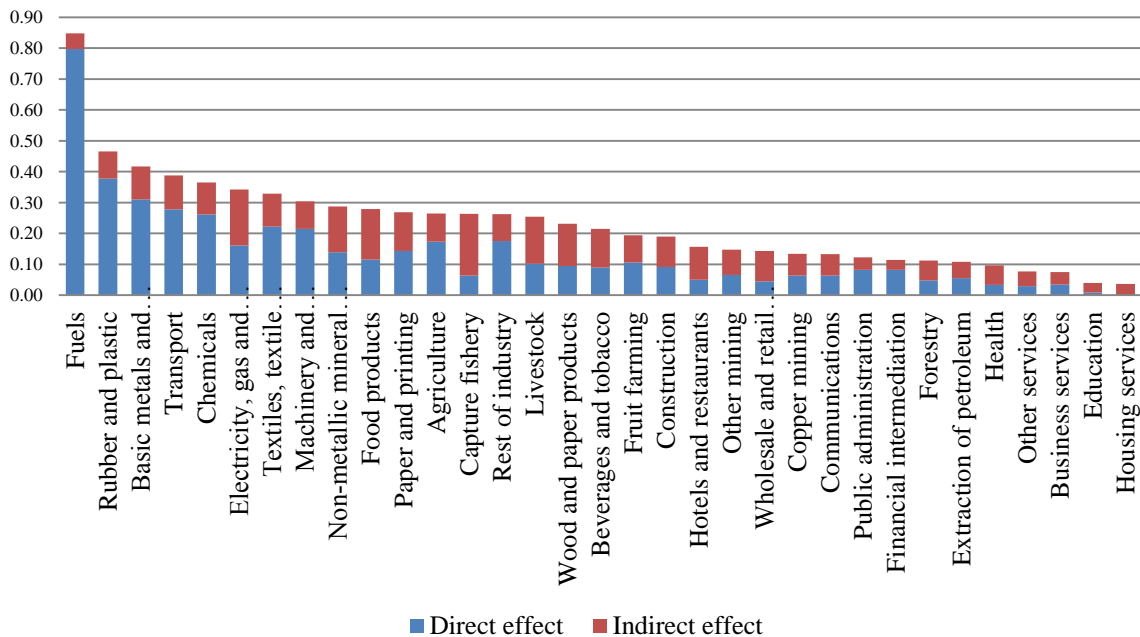
At industries level, in the period 2008-2012 the Figure 8 shows that “Fuels” is the industry with the highest import content on export in the Chilean economy. Roughly 94% of this content corresponds to a direct requirement of import due to the lack of domestic extraction of petroleum, the main input of this industry. In second place there is a group of industries with a coefficient around 0.41 of import content (Chilean pesos by 1 exported Chilean peso), “Rubber and plastic”, “Basic metals and fabricated metal products”, “Transport” and “Chemicals”. The coefficients of this group are highly influenced by direct requirement of imported products, many of them self-inputs, revealing a basic transformation process in these industries. For instance, “Chemicals” industry is highly dependent of imported chemicals for its own production.

The industries that have a strong indirect effect of import content, detected by the Leontief matrix, are “Electricity, gas and water supply”, “Non-metallic mineral products”, “Food products” and “Capture fishery”. These industries are more intensive in domestic inputs, which mean that their import content come from the imports embodied in the production of their input supplier industries.

³ In this paper we don't analyze the effect of real exchange rate and relative prices of exports and imports. Obviously, these variables can affect the interpretation of the evolution of import content.

⁴ 1986, 1996 and 2003 correspond to benchmark compilation years.

Figure 8
Import content of export: direct and indirect effect
 (average 2008-2012)



From the perspective of the industry contribution to the total import content on the whole economy exports (Figure 9), “Transport”, “Copper mining” and “Fuels” contribute nearly 50% of the total import content on exports, either directly on its own exports or indirectly through exports of other industries. Leaving aside the case of “Copper mining”, which represents 49% of exports in the period 2008-20125, the import content embodied in the production of “Transport” and “Fuels” has a high spread power to the rest of the economy as the output of these industries is used as input in almost all of the economy production. This relates with the imported products embodied on exports (production), where “Crude petroleum” and “Refined petroleum products” appears as the most important (Figure 10).

⁵ The contribution of “Mining of Copper” to the total import content on exports is important because the high level of its exports.

Figure 9
Contribution to the total import content of export: Direct and indirect effects
 (average 2008-2012)

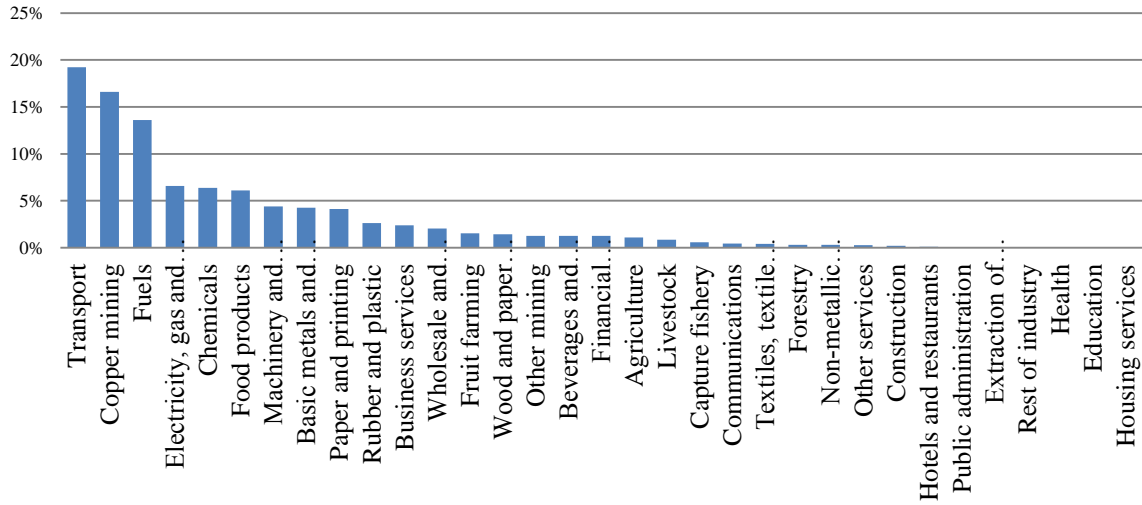
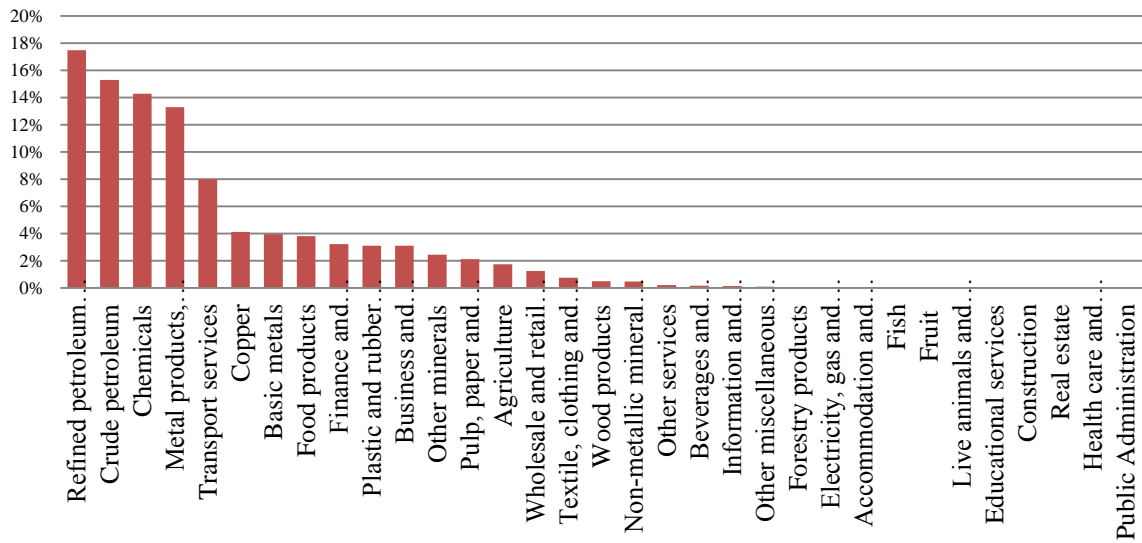


Figure 10
Imported products embodied in total exports
 (average 2008-2012)



Import dependence of major exported products

The most important export good, “Copper”, shows less dependence on import for the period 2008-2012 than the average of the economy (23%), namely 13% of the gross export of this product contain foreign inputs. The relatively low technical coefficient and weak backward linkages of “Copper mining” explain the low contribution of inputs supplied from abroad in its exports. Indirect contribution of imported inputs to “Copper mining” exports come mainly from “Electricity, gas and water supply” and “Fuel”.

Far below in importance “Food products” exports contain 28% of imported inputs, as the average of the economy, 12% directly required by the industry and 16% contributed indirectly by the supplier industries, mainly “Livestock”, “Fuels”, “Transport” and “Food products” as self-input.

Looking at “Transport” exports, the third product, 12% of its exports are direct requirements of foreign inputs while 13% of the import content is explained indirectly by almost the same industries, namely “Fuels” and “Transport” as self-input⁶.

5. Conclusions

International evidence suggests globalization and the vertical specialization in production processes have increased foreign trade across countries, incrementing the awareness that traditional figures of foreign trade may give a misleading perspective of the importance of exports to economic growth. To address this problem input-output tables are used to compute the domestic value-added of exports (or net exports) and therefore the import content of them.

According to the results for Chile, net exports fell from 31.5% of GDP in 2008 to 29.2% in 2012 at current prices, accounting in average 31% of GDP for this period. Excluding “Copper mining”, “Business services” and “Transport” are the sectors that contribute most to the total value-added of exports.

On the other hand, the imported input content by industry for the period 2008-2012 indicates that Chilean economy is highly dependent on energy commodities and products with low technological content, which are involved in exports of commodities and basic manufacturing products. In this respect, Chile has a low participation in the “circular” trade of technological products, where inputs are shipped abroad and then come back as more processed products to be used again as input.

For future research, it would be important to incorporate the effect of prices (real exchange rate and relative prices of exports and imports) in the results. This will allow a more rigorous analysis of contribution of exports to economic growth.

⁶ For more detailed estimations, see annex 4.

References

Central Bank of Chile: “National Accounts of Chile 2008-2014” (Input-Output tables 2008-2012)
http://www.bcentral.cl/estadisticas-economicas/publicaciones-digitales/anuario_ccnn/index_anuario_CCNN_2014.htm

ECLAC (2010). “La hora de la igualdad. Brechas por cerrar, caminos por abrir”. Third session, Brasilia.

Ffrench-Davis, R (2005). “Reforming Latin America’s Economies: After Washington Consensus”, Palgrave Macmillan.

Henriquez, C., Venegas, J. (2007), “Contenido de Importaciones en las Exportaciones Chilenas 1986-2005: Análisis de Insumo Producto”, Estudios económicos estadísticos n° 58 - Julio 2007, Banco Central de Chile.

Hummels, D., J. Ishi and K. Yi (2001). “The nature of growth of vertical specialization in world trade”, Journal of international economics 75-96.

Koopman, R., Z. Wang and S. Wei (2008). “How much Chinese exports is really made in China – Assessing foreign and domestic valued-added in gross exports”, NBER Working paper No.14109

Lanz, R., S. Mirodout and A. Ragoussis (2009). “Trade in intermediate goods and services”, OECD Trade Policy Working Paper No.93, OECD.

Trade in Value-Added (TiVA): Concepts, Methodologies and Challenges (Joint OECD-WTO note)
<http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm>

Annex 1

Direct and indirect effect: Net exports (Xn) and import content (Mx): 2008-12

	2008				2009				2010				2011				2012				Average			
	Xn		Mx		Xn		Mx		Xn		Mx		Xn		Mx		Xn		Mx		Xn		Mx	
	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE	DE	IE
1	0,37	0,31	0,22	0,10	0,41	0,36	0,13	0,09	0,38	0,37	0,15	0,09	0,42	0,32	0,16	0,09	0,40	0,31	0,20	0,08	0,40	0,33	0,17	0,09
2	0,52	0,24	0,12	0,11	0,56	0,26	0,09	0,09	0,58	0,24	0,09	0,07	0,54	0,25	0,11	0,09	0,53	0,27	0,11	0,09	0,55	0,25	0,11	0,09
3	0,26	0,42	0,13	0,19	0,28	0,47	0,09	0,15	0,35	0,42	0,09	0,13	0,35	0,41	0,09	0,14	0,32	0,42	0,10	0,15	0,31	0,43	0,10	0,15
4	0,50	0,37	0,05	0,07	0,47	0,41	0,04	0,06	0,49	0,40	0,04	0,06	0,48	0,39	0,05	0,07	0,48	0,40	0,05	0,06	0,48	0,39	0,05	0,06
5	0,22	0,47	0,06	0,25	0,30	0,45	0,07	0,17	0,29	0,47	0,06	0,18	0,27	0,46	0,07	0,20	0,20	0,51	0,06	0,21	0,26	0,47	0,06	0,20
6	0,60	0,24	0,07	0,09	0,59	0,27	0,06	0,07	0,66	0,23	0,05	0,06	0,63	0,23	0,07	0,07	0,61	0,25	0,07	0,07	0,62	0,25	0,06	0,07
7	0,65	0,24	0,05	0,05	0,57	0,32	0,06	0,05	0,59	0,30	0,06	0,05	0,58	0,30	0,06	0,06	0,56	0,32	0,06	0,05	0,59	0,29	0,06	0,05
8	0,55	0,26	0,08	0,11	0,56	0,30	0,05	0,09	0,61	0,24	0,07	0,07	0,65	0,21	0,06	0,07	0,62	0,23	0,07	0,07	0,60	0,25	0,07	0,08
9	0,20	0,46	0,13	0,20	0,26	0,48	0,10	0,15	0,26	0,48	0,11	0,15	0,24	0,47	0,12	0,16	0,24	0,47	0,12	0,16	0,24	0,47	0,12	0,16
10	0,35	0,41	0,09	0,14	0,36	0,43	0,08	0,12	0,33	0,45	0,09	0,12	0,34	0,43	0,09	0,13	0,34	0,44	0,09	0,12	0,34	0,43	0,09	0,13
11	0,30	0,35	0,22	0,11	0,27	0,40	0,21	0,11	0,30	0,38	0,22	0,10	0,28	0,37	0,23	0,11	0,27	0,39	0,23	0,10	0,29	0,38	0,22	0,11
12	0,24	0,50	0,10	0,15	0,23	0,55	0,08	0,13	0,23	0,53	0,10	0,13	0,23	0,52	0,09	0,14	0,23	0,53	0,09	0,13	0,23	0,53	0,09	0,14
13	0,34	0,36	0,15	0,14	0,32	0,40	0,15	0,12	0,36	0,37	0,15	0,11	0,34	0,38	0,14	0,12	0,29	0,44	0,13	0,13	0,33	0,39	0,14	0,13
14	0,02	0,08	0,87	0,03	0,04	0,11	0,80	0,05	0,05	0,14	0,75	0,06	0,03	0,13	0,78	0,06	0,03	0,13	0,78	0,06	0,03	0,12	0,80	0,05
15	0,30	0,29	0,28	0,12	0,32	0,34	0,23	0,10	0,31	0,33	0,26	0,10	0,32	0,30	0,27	0,10	0,34	0,30	0,26	0,09	0,32	0,31	0,26	0,10
16	0,26	0,25	0,38	0,11	0,29	0,26	0,35	0,09	0,31	0,22	0,38	0,08	0,31	0,22	0,38	0,09	0,32	0,20	0,40	0,07	0,30	0,23	0,38	0,09
17	0,23	0,44	0,15	0,17	0,25	0,46	0,14	0,14	0,27	0,45	0,13	0,14	0,25	0,46	0,13	0,15	0,24	0,47	0,14	0,14	0,25	0,46	0,14	0,15
18	0,18	0,37	0,32	0,12	0,17	0,40	0,30	0,12	0,21	0,38	0,32	0,09	0,20	0,39	0,30	0,10	0,18	0,40	0,31	0,10	0,19	0,39	0,31	0,11
19	0,35	0,28	0,26	0,11	0,43	0,29	0,18	0,09	0,43	0,27	0,22	0,08	0,44	0,26	0,21	0,08	0,46	0,25	0,21	0,07	0,42	0,27	0,21	0,09
20	0,36	0,33	0,20	0,11	0,46	0,31	0,14	0,08	0,47	0,27	0,18	0,08	0,46	0,27	0,18	0,08	0,46	0,28	0,18	0,08	0,44	0,29	0,18	0,09
21	0,27	0,31	0,17	0,24	0,35	0,34	0,15	0,16	0,33	0,36	0,15	0,16	0,31	0,35	0,17	0,17	0,30	0,37	0,16	0,17	0,31	0,35	0,16	0,18
22	0,47	0,30	0,10	0,12	0,51	0,31	0,08	0,10	0,51	0,30	0,09	0,09	0,51	0,29	0,09	0,10	0,52	0,29	0,09	0,09	0,51	0,30	0,09	0,10
23	0,46	0,37	0,04	0,11	0,46	0,39	0,04	0,09	0,47	0,39	0,04	0,09	0,45	0,39	0,05	0,10	0,46	0,39	0,05	0,09	0,46	0,38	0,04	0,10
24	0,42	0,39	0,05	0,13	0,44	0,41	0,04	0,10	0,44	0,40	0,05	0,10	0,45	0,38	0,05	0,11	0,46	0,37	0,06	0,10	0,44	0,39	0,05	0,11
25	0,33	0,21	0,30	0,12	0,36	0,24	0,26	0,10	0,36	0,23	0,27	0,10	0,31	0,22	0,30	0,11	0,34	0,24	0,25	0,11	0,34	0,23	0,28	0,11
26	0,39	0,45	0,06	0,09	0,43	0,43	0,06	0,07	0,47	0,40	0,06	0,06	0,48	0,40	0,06	0,06	0,46	0,39	0,08	0,07	0,44	0,42	0,06	0,07
27	0,64	0,22	0,07	0,04	0,63	0,23	0,08	0,03	0,62	0,23	0,09	0,03	0,62	0,22	0,09	0,03	0,64	0,23	0,07	0,03	0,63	0,23	0,08	0,03
28	0,65	0,24	0,04	0,05	0,66	0,24	0,03	0,04	0,66	0,24	0,03	0,04	0,66	0,24	0,03	0,04	0,67	0,24	0,03	0,04	0,66	0,24	0,03	0,04
29	0,78	0,17	0,00	0,04	0,80	0,16	0,00	0,03	0,79	0,17	0,00	0,04	0,81	0,15	0,00	0,03	0,83	0,14	0,00	0,03	0,80	0,16	0,00	0,04
30	0,80	0,13	0,01	0,04	0,80	0,14	0,01	0,03	0,80	0,14	0,01	0,03	0,80	0,13	0,01	0,03	0,81	0,13	0,01	0,03	0,80	0,13	0,01	0,03
31	0,62	0,24	0,03	0,07	0,62	0,25	0,03	0,06	0,62	0,25	0,03	0,06	0,62	0,24	0,04	0,06	0,63	0,24	0,04	0,06	0,62	0,24	0,03	0,06
32	0,66	0,23	0,03	0,06	0,67	0,23	0,03	0,05	0,68	0,23	0,03	0,04	0,69	0,22	0,03	0,05	0,69	0,22	0,03	0,04	0,68	0,23	0,03	0,05
33	0,67	0,17	0,06	0,05	0,68	0,17	0,07	0,04	0,66	0,16	0,09	0,04	0,65	0,16	0,11	0,04	0,66	0,17	0,08	0,04	0,67	0,17	0,08	0,04

Annex 2

Net exports (Xn) and import content (Mx) (millions of US\$)

	2008		2009		2010		2011		2012	
	Xn	Mx	Xn	Mx	Xn	Mx	Xn	Mx	Xn	Mx
1	207	100	282	86	277	92	318	113	333	136
2	1.390	422	1.421	310	1.745	365	1.884	493	1.877	485
3	32	15	36	12	41	12	38	12	34	12
4	23	4	18	2	28	4	32	5	30	4
5	41	19	45	15	52	16	58	21	64	26
6	27.418	5.230	26.198	4.086	37.622	4.744	40.185	6.347	37.506	6.105
7	2	0	2	0	3	0	3	0	3	0
8	1.396	341	1.447	251	2.205	379	3.095	514	3.075	512
9	4.478	2.300	4.476	1.566	4.381	1.523	5.484	2.172	5.392	2.197
10	1.340	423	1.401	371	1.551	437	1.708	511	1.815	518
11	138	72	108	52	132	64	137	72	149	77
12	1.613	570	1.220	355	1.442	455	1.689	562	1.633	515
13	2.242	961	1.932	726	2.272	819	2.611	976	2.352	880
14	137	1.328	115	654	122	537	134	749	122	652
15	1.743	1.208	1.392	721	1.647	964	1.883	1.144	2.006	1.127
16	270	263	239	192	336	292	453	397	466	426
17	90	46	72	29	65	25	80	33	69	29
18	1.184	941	600	448	859	605	1.117	770	916	655
19	817	485	800	307	877	385	1.009	432	1.121	458
20	14	7	22	6	14	5	15	6	15	6
21	11	8	14	7	21	9	18	10	20	10
22	0	0	0	0	0	0	0	0	0	0
23	2.314	469	1.945	335	2.526	431	2.911	553	3.203	573
24	60	14	45	8	50	9	61	12	54	11
25	3.977	3.396	3.123	2.124	4.272	2.963	4.470	3.863	4.182	2.951
26	206	38	148	23	154	23	187	27	188	33
27	292	46	262	45	321	59	397	75	390	60
28	824	101	794	83	1.082	113	1.330	142	1.300	135
29	0	0	0	0	0	0	0	0	0	0
30	6	0	5	0	8	0	9	1	9	1
31	1	0	1	0	2	0	3	0	3	0
32	22	3	17	2	1.690	166	1.837	184	2.082	213
33	33	6	30	5	29	6	37	9	38	8
TOTAL	52.320	18.814	48.212	12.822	65.821	15.506	73.195	20.205	70.448	18.812

Annex 5
Industries

1	Agriculture
2	Fruit farming
3	Livestock
4	Forestry
5	Capture fishery
6	Copper mining
7	Extraction of petroleum
8	Other mining
9	Food products
10	Beverages and tobacco
11	Textiles, textile products, leather and footwear
12	Wood and paper products
13	Paper and printing
14	Fuels
15	Chemicals
16	Rubber and plastic
17	Non-metallic mineral products
18	Basic metals and fabricated metal products
19	Machinery and equipment
20	Rest of industry
21	Electricity, gas and water supply
22	Construction
23	Wholesale and retail trade
24	Hotels and restaurants
25	Transport
26	Communications
27	Financial intermediation
28	Business services
29	Housing services
30	Education
31	Health
32	Other services
33	Public administration