

Export competitiveness in an oil and gas economy: the case of Trinidad and Tobago, 1985-2010

Indira Romero-Márquez and Juan Carlos Moreno-Brid

ABSTRACT

The oil and gas sector has led the economy of Trinidad and Tobago since the late 1970s and, more pronouncedly, since 2000, accounting for a large share of GDP, total exports and tax revenue. Its prospects in the medium term could be negatively affected, however, if oil and gas extraction expands in other countries, and if the United States attains energy self-sufficiency. This paper offers an analysis of the evolution and competitiveness of its oil and non-oil exports to both the United States and global markets, based on the revealed comparative advantage (RCA) index used by ECLAC. Other foreign trade indicators are also included to determine the structure of the country's trading relations. The period from 1985 to 2010 is analysed and the results presented are intended to advocate the diversification of Trinidad and Tobago's exports into more dynamic and diversified markets.

KEYWORDS

Petroleum, liquefied natural gas, exports, competitiveness, foreign trade, export policy, export diversification, trade statistics, Trinidad and Tobago

JEL CLASSIFICATION

F14, N16, N56, O13, O54

AUTHORS

Indira Romero-Márquez is an officer at the Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters in Mexico. indira.romero@cepal.org

Juan Carlos Moreno-Brid is a full professor at the Faculty of Economics, National Autonomous University of Mexico (UNAM). mbrid@economia.unam.mx

I

Introduction

Situated in the Southern Caribbean, Trinidad and Tobago has one of the highest levels of development among the region's island States. Since the late 1960s, the oil and gas sector has been the main engine of its growth, accounting for large proportions of the country's gross domestic product (GDP) (around 40%), exports (75%) and tax revenues (40%). It is currently the world's fifth largest producer of liquefied natural gas (LNG). Between 2000 and 2012, its GDP saw average annual real-term growth of 4.3%, two percentage points above the Latin American average. In 2012, its gross national per capita income of almost US\$ 22,000 (purchasing power parity) was more than twice the average for Latin America and the Caribbean as a whole. However, the dependence of its exports and tax revenues on oil and gas makes the Trinidadian economy highly vulnerable to variations in the international market prices for petroleum products. As will be described below, the Trinidadian economy has low levels of diversification in the trading partners to which it exports and in the products it exports, and it has high levels of specialization in only a few products (most derived from non-renewable resources) which have volatile international market prices.¹ Trade is essential for development in a small, open economy such as that of Trinidad and Tobago,² and so those aspects of its trading relations pose risks that, in the near future, could have a negative impact on its economic performance and on the well-being of its population.

In addition, the country could face economic complications in the medium term, as production of oil and gas in other countries increases and as the United States progresses towards energy self-sufficiency, partially owing to the development of shale gas fields. This concern is compounded by the relatively low levels of Trinidad and Tobago's oil and gas reserves. In late 2012, its oil reserves-to-production ratio (RPR) was 18.8, which is below the global average (52.9), the average of the Organization of the Petroleum Exporting Countries (OPEC) (88.5), and that of the non-OPEC oil-producing countries (25.8).

¹ Trinidad and Tobago temporarily enjoys tariff preferences from the United States, its main trading partner, but in the near future these could be rescinded; that occurred in Jamaica, for example, and had negative repercussions on its foreign trade.

² At present, total trade in goods and services account for 103% of GDP, down from the figure of 119% recorded in 2006.

Trinidad and Tobago's RPR for natural gas was 8.9, which is lower than the figures for the United States (12.1) and for the Russian Federation (55.6). Its natural gas situation is further complicated by the recent sizable upswing in production in the United States and other countries.

This gives rise to several questions. How long can Trinidad and Tobago continue to enjoy rapid economic growth based on oil and gas? Will it have to embark, in either the medium or short term, on redirecting its production structure towards other sectors? In fact, as will be seen below, the evolution of the country's trade indicates that some structural changes may already be under way. Thus, the preponderance of oil in total exports has been falling rapidly: whereas in 1985 oil accounted for 66% of total exports, its share fell to 46% in 2000 and to 39.8% in 2010.

Abundant literature exists about the risks and potential adverse effects on long-term growth of booming economies based on exports of certain primary goods or commodities, such as mineral resources. Such booms are accompanied by the reassignment of investments and other factors to the production of commodities, to the detriment of manufacturing and other marketable sectors. This phenomenon —known as the “Dutch disease,” in reference to the events of the 1970s in the Netherlands following the North Sea oil export boom (Corden and Neary, 1982)— is of interest in understanding crucial challenges that could arise for the economies of Trinidad and Tobago and several other countries in South America. Such processes, in addition to shifting factors of production, lead to real-term currency appreciations that negatively impact growth in other export sectors, particularly manufacturing (Aguirre and Calderón, 2005). Together with those challenges, the dependence of tax revenues on the evolution of commodity exports introduces an additional vulnerability, given the high levels of volatility in their international market prices associated with low price elasticity of supply in the short term. In Trinidad and Tobago, as in Mexico and other countries where this sector accounts for a large percentage of tax revenue, government spending may be subject to sharp fluctuations with negative repercussions for economic growth (see, for example, Loayza and others, 2007).

In light of the foregoing, the aim of this paper is to analyse how the competitiveness of Trinidad and Tobago's goods exports —both oil and non-oil— has

evolved over the past 25 years. The analytical framework is based on the revealed comparative advantage (RCA) approach introduced by Balassa (1965, 1977, 1986).³

³ Various ECLAC documents (see footnote 5) offer a series of concepts and a methodology for comparative measurements of competitiveness between countries or groups of countries. Thus, competitiveness is defined as the ex post dynamic integration process of countries and products into international markets, depending on the conditions of both supply and demand. By means of the main tools used in this document —Competitive Analysis of Nations (CAN) and Module for the Analysis of Growth of International Commerce (MAGIC)— competitiveness is analysed in terms of the capacity of a country's exports to increase their share of the international market; in other words, competitiveness as revealed on the global market. Thus, a sector gains competitiveness if its share of international trade increases, and the gain is even more pronounced if it occurs in sectors where the demand for products of that kind in the target market is dynamic. Further details on the methodology are set out in section III.

The paper is structured as follows: following this Introduction, section II describes the evolution of the country's economic growth, hydrocarbon exports and non-oil trade performance, which reveals the Trinidadian economy's vulnerability to fluctuations in the oil market. That vulnerability underscores the importance of examining the competitiveness of the country's non-oil exports. Section III describes the methodology used and examines several relevant indices. Then, section IV analyses the evolution of the technological contents of the country's exports, its main trading partners and the competitiveness of its different sectors. Section V examines the results of the construction of matrices based on the revealed comparative advantage (RCA) index. The study's conclusions are set out in section VI.

II

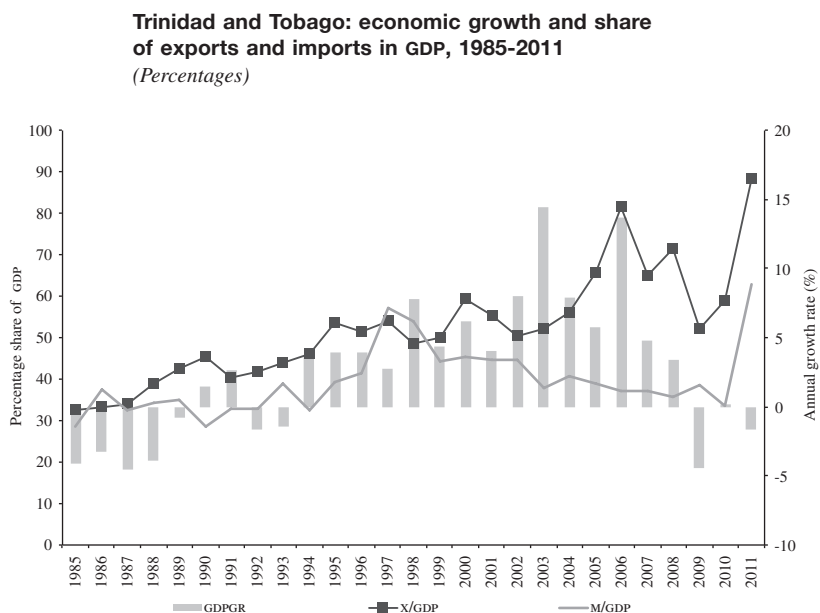
Trinidad and Tobago: economic growth and international trade

In 1994, the economy of Trinidad and Tobago finally succeeded in emerging from the long recession that hurt its performance during the 1980s, and it reported significant growth by the end of the 1990s, thanks to rising international oil prices. The impact of the favourable external context on that accelerated recovery, which led to annual growth rates of over 6% and 7%, can be seen in the surge of exports as a proportion of GDP and in the constant hefty surpluses on the balance-of-payments trade account (see figure 1). Also notable during this period was the contraction of imports as a proportion of output, the result of substituting local products for certain specific —and sizable— items in the country's overseas purchases. Since then, the recovery has displayed the typical characteristics of an export-led boom, in that economic activity has maintained robust growth commensurate with the dynamism of exports, which in turn has closely reflected the evolution of international oil prices. Thus, when export growth fell in 2007, the local economy also slowed. The close relationship between exports and economic activity appeared to break down in 2010 and 2011, when the economy stagnated in spite of an upswing in both exports and oil prices (see figure 2). Part of the explanation for this lies in the behaviour of imports which, after years of falling as a proportion of GDP, increased their share by more than ten points.

The evolution of Trinidad and Tobago's foreign trade in recent decades suggests, at first glance, that the growth of its economy was not restricted by the external sector. Thus, for two decades the —at times very rapid— expansion of its production activities was accompanied by trade surpluses.

A closer analysis of the trade balance reveals a less optimistic view regarding the role of the balance of payments as a constraint on long-term growth, since the trade surplus is notably dependent on sales of oil and gas (see figure 2). In fact, although the trade balance reports a surplus, its non-oil component has been running a deficit for some time, which has grown significantly over the past 10 years. In 2006 the non-oil deficit totalled 18% of GDP and, in 2011, it exceeded 50% of GDP (see figure 2). This deterioration of the non-oil trade balance could be a cause for concern, in that it illustrates the economy's heavy dependency on oil resources for closing its trade gap and preserving economic growth, and in that oil prices are subject to considerable short-term volatility and, perhaps, to long-term downward trends on account of pressures from the supply of alternative fuels, such as shale gas and others. This highlights the need —if not the urgency— for Trinidad and Tobago to diversify its export basket, as a preventive response to potential external oil shocks.

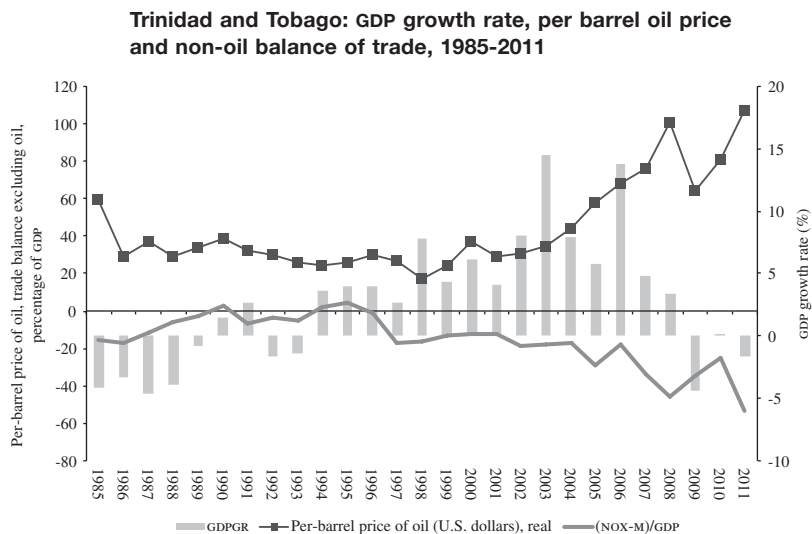
FIGURE 1



Source: Prepared by the authors, on the basis of information from the Economic Commission for Latin America and the Caribbean (ECLAC) and the World Bank.

Note: GDP: Gross domestic product; GDPGR: GDP growth rate; X/GDP: Share of total exports in GDP; M/GDP: Share of total imports in GDP.

FIGURE 2



Source: Prepared by the authors, on the basis of information from the Economic Commission for Latin America and the Caribbean (ECLAC) and the World Bank.

Note: GDPGR: GDP growth rate; (NOX-M)/GDP: Non-oil exports; M: Imports; GDP: Gross domestic product.

III

Methodologies for studying export performance⁴

1. The revealed comparative advantage (RCA) index

This indicator is calculated using data on international trade flows to determine the level of competitiveness of a given product from a specific country. Balassa (1965) used the concept of the RCA index to indicate that comparative advantages between countries can be “revealed” through trade flows in goods; those flows, in the final analysis, reflect differences in relative costs and prices and other elements that impact different countries’ comparative advantages, which can go beyond market factors.⁵

The RCA index compares a specific product’s share in a country’s total exports with the share of that product’s exports on the global market, or in a specific regional or national market used as a reference. It is calculated as follows:

$$IVCR_i^j = \frac{\frac{x_i^j}{x_i^o}}{\frac{X_o^j}{X_o^o}} \equiv \frac{\frac{x_i^j}{X_o^j}}{\frac{x_i^o}{X_o^o}}$$

where: x_i^j are the exports of sector or product i from country j ; x_i^o are the exports of product i in the reference market; X_o^j is the total exports of country j ; and X_o^o is the total of exports in the reference market. All values

are given in current dollars. The denominator of the RCA index represents the share of one sector or product’s exports in the exports of the reference market. The RCA index shows, for a product (or group of products), the comparison between the structure of a country’s exports (the numerator) and the structure of exports in a reference market (the denominator). When the RCA index is equal to one for a product (or group of products) from a particular country, the share of the country’s total exports contributed by that product (or group of products) is identical to that in the reference market. When the RCA index for a product (or group of products) is greater than one, the conclusion is that the export trade of the country in question is specialized in that product with respect to the reference market. When the RCA index is less than one, the conclusion is inverted: in other words, the country lacks a revealed comparative advantage in the trade of that product.

2. The competitive analysis of nations (CAN) approach

In order to further analyse the performance of different economies and subregions in international trade, ECLAC has extended the use of the RCA index through a methodology known as CAN (“Competitive Analysis of Nations”). CAN is used to construct a series of indicators that extend the RCA index using information from the United Nations Commodity Trade Statistics Database (COMTRADE). In its most recent version, COMTRADE records time-series information for the 1985-2010 period from a sample of 73 countries, of which 23 are industrialized and the remainder are developing nations. Its records of exports and imports now cover 90% of global trade, expressed in current United States dollars.

With the CAN methodology, data from COMTRADE are processed in several ways. First, it calculates regional aggregates of the imports of two broad groups of economies: (i) industrialized countries, and (ii) developing countries. Then, the trade information for each of those two groups is broken down into different subregions. The industrialized countries are separated into three groups: (i) North America, (ii) Western Europe, and (iii) other industrialized nations. The developing

⁴ Although most of the analyses included in this document use the Competitive Analysis of Nations (CAN) tool, some of them occasionally make use of the World Integrated Trade Solution (WITS) software, developed by the World Bank in collaboration with the United Nations Conference on Trade and Development (UNCTAD) and in consultation with several international organizations such as the International Trade Centre, the United Nations Statistical Division and the World Trade Organization (WTO). The indicators used in WITS and in this analysis include the following: the country’s share of world exports, the share of the product in global exports, the Herfindahl-Hirschman Index (a product diversification metric), the RCA index, the index of export market penetration and others. A detailed explanation of those indicators and others may be found in the program’s manual, which can be downloaded from <http://wits.worldbank.org/wits>.

⁵ For a detailed description of the methodology, see Hernández and Romero (2009). For empirical studies based on its use, see the study series of the Economic Commission for Latin America and the Caribbean (ECLAC); including: Buitelaar (1997); Mortimore, Buitelaar and Bonifaz (2000); Dussel (2001 and 2004); Martínez and Cortés (2004), and Hernández, Romero and Cordero (2006).

countries are divided into: (i) Africa; (ii) Asia, and (iii) the Americas.⁶ Import data are listed by more than 230 product groups in accordance with the Standard International Trade Classification (SITC) revision 2: in other words, broken down to the three-digit level. Then, three-year rolling averages of the comtrade data are calculated, with the exception of the figures from the most recent year (currently 2011), for which an average with the previous year is calculated.

Using descriptive statistics, CAN builds on the methodology based on revealed comparative advantage (RCA) and allows an analysis of the evolution of the sectoral structure of a country's exports of a product or groups of products, their market shares and the dynamism of the international demand for them. Those indicators are used to draw up a series of matrices that provide summarized indicators of the competitiveness of a country's exports at a given time and in a specific external reference market. A country's competitive position is determined by the evolution of its exports' share in a given external market

during a selected period of time. Similarly, it takes into account the dynamism of the demand for the different products it exports.

Compared to the RCA index, CAN represents significant progress in describing and evaluating the international competitive and comparative situations of different countries for specific sectors or products over a relatively long period. But, like the RCA index, it offers only a descriptive approach to the export competitiveness of a given economy. It does not provide an explanatory model for the factors that underlie the competitiveness it detects; it does not indicate whether the attained competitiveness is sustainable in the long term; and it fails to identify how production, transportation and other costs evolve. At the same time, by expressing figures in current dollars, the CAN analysis ignores the separation of the phenomena of price and volume. Finally, in that it is based on sales at current prices, the CAN methodology gives no information on the evolution and importance of local or foreign value added in different exported goods. Because of that, the competitiveness metrics recorded by the CAN method adopt the same approach both for economies with highly integrated production structures that add significant value to their trade and for those with production processes largely based on assembly (*maquila*), with minimal value added.

⁶ This group of countries is further broken down as follows: (i) Andean Community of Nations; (ii) Caribbean Community (CARICOM); (iii) Central American Common Market (CACM); (iv) Southern Common Market (MERCOSUR), and (v) other developing countries of the Americas.

IV

Trinidad and Tobago's international trade: performance between 1985 and 2010⁷

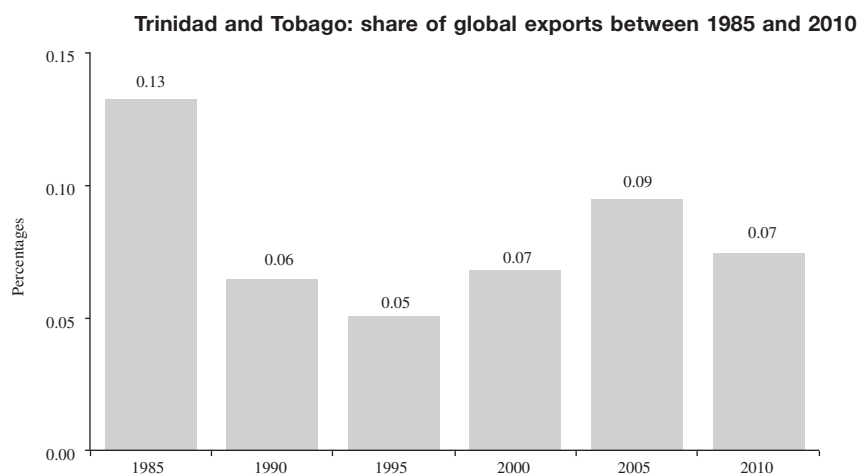
Because it is a small economy, Trinidad and Tobago's share of total global exports has systematically been very low, although—as figure 3 shows—it has seen major

fluctuations. Its 0.13% share in 1985 fell over the ensuing years to reach 0.05% in 1995. Although the following years saw a partial recovery, the country was affected by the global financial crisis of 2008-2009 and, by 2010, its share had shrunk to half the figure reported 25 years earlier.

The main destination of Trinidad and Tobago's exports over the study period was the United States, although some diversification did take place. Thus, whereas 62% of its exports went to the United States market in 1985, by 2010 that figure had fallen to 48%. Caribbean countries such as Barbados, Jamaica and Suriname appear among its trading partners, along with certain European and Central American countries. In any event, the individual share of those markets remains low (see figure 4).

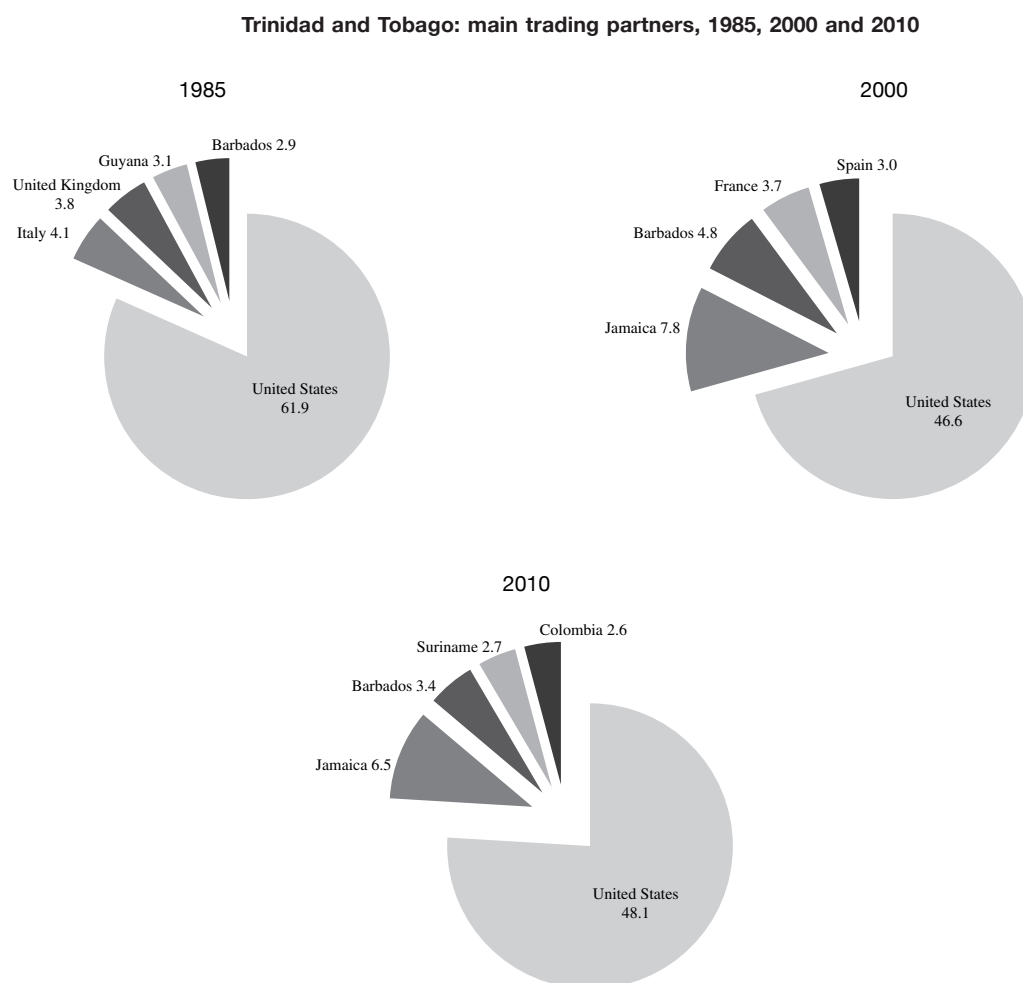
⁷ This document's period of analysis runs from 1985 to 2010. In general terms, this section provides statistics indicating that the period of analysis covers 1985 to 2010; thus, in addition to 1985 and 2010, intermediate years at five-year intervals are also included: 1990, 1995, 2000 and 2005. In several of the analyses, the period is specified in the following way: 1985/2010 or 2010/1985; in such cases, it is to be understood that the range includes only the first year (that is, 1985, or a rolling average of 1984-1986 for certain indicators) and the final year (2010, or the rolling average of 2009-2011), and that the intermediate years are not included. The competitiveness matrix and its typology cover either the 1985/2010 period as a whole or 2010/1985 and two subperiods: 1985/2000 (or 2000/1985) and 2000/2010 (or 2010/2000). Note that in these references, the most recent year is invariably the final year, regardless of its position in the expression.

FIGURE 3



Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

FIGURE 4



Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

Trinidad and Tobago is an oil-based economy and, in addition, a major producer of liquefied natural gas, as can be seen in the composition of its exports. Thus, its main exports between 1985 and 2010 came from the gas and oil sector and were highly concentrated in a few products. In 1985, oil, petroleum products and related materials⁸ accounted for 78.8% of total exports; the remainder was made up of organic and inorganic chemicals, manufactured fertilizers and iron and steel. The petroleum sector's share fell over the period, with some fluctuations due to variations in international oil prices. Although oil remained the leading export in 2010, its share in total exports had decreased to 43.7%. Notably, in 2000, exports of natural and manufactured gas⁹ attained shares of 13% in the United States market and of 9.2% in the global market, whereas in 1985 the corresponding figures were practically zero for the United States market and 0.7% globally. Other leading products among Trinidad and Tobago's exports in 2010

were ores¹⁰ and metal scrap.¹¹ By then, the country's main export goods were oil, petroleum products and related materials (43.7%), natural and manufactured gas (17.2%), inorganic chemicals (13.4%), organic chemicals (5.8%) and ores and metal scrap (5.2%). Those five product groups accounted for 85% of total exports.

Table 1 shows the breakdown of Trinidad and Tobago's exports to both the global market and to the United States (its main trading partner), classified by technology content.

During the study period, its exports to the rest of the world were concentrated in the same two categories, but with different weights: primary products (PP) and resource-based manufactures (RBM) accounted for more than 80% of total exports. The share of medium-technology manufactures (MTM) in the total rose steadily, while low-technology manufactures reported fluctuations with an overall downward trend, particularly after 2005. Exports

⁸ Division 33 of the Standard International Trade Classification (SITC).

⁹ Division 34 of the Standard International Trade Classification (SITC).

¹⁰ "Ore" refers to a mineral from which an element, generally metal, can be extracted in viable amounts. A mineral is classified as metal ore when it can be extracted from a deposit by mining and then, through metallurgy, metal can be obtained from it.

¹¹ Division 28 of the Standard International Trade Classification (SITC).

TABLE 1

Trinidad and Tobago: exports to the world and to the United States, 1985 to 2010
(Percentages of the total)

	Trinidad and Tobago: exports to the rest of the world					
	1985	1990	1995	2000	2005	2010
PP	2.33	3.66	8.30	12.9	14.36	26.79
RBM	79.75	63.82	66.26	63.93	66.75	52.56
LTM	3.11	16.2	8.54	9.59	6.5	4.54
MTM	11.9	12.4	14.16	12.65	10.88	15.67
HTM	2.4	3.08	2.44	0.39	1.02	0.21
OT	0.51	0.84	0.30	0.54	0.5	0.23
Oil and gas ^a	67.2	46.8	41	63.4	70.3	69.4
	Trinidad and Tobago: exports to the United States					
	1985	1990	1995	2000	2005	2010
PP	74.85	64.58	45.37	43.99	58.79	38.57
RBM	18.93	29.39	47.69	40.97	26.15	51.07
LTM	1.31	1.65	1.25	4.29	1.07	0.56
MTM	4.28	4.23	4.65	10.81	13.85	9.82
HTM	0.52	0.07	1.03	0.29	0.13	0.00
OT	0.12	0.09	0.02	0.05	0.01	0.00
Oil and gas ^a	86.5	82.5	56.9	67.4	70.1	62.3

Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

Note: PP: Primary products; RBM: Resource-based manufactures; LTM: Low-technology manufactures; MTM: Medium-technology manufactures; HTM: High-technology manufactures; OT: Other products.

^a Four groups from the Standard International Trade Classification (SITC) are included in this category: 333, 341, 334 and 335; the first two are included under PP and the latter two under RBM.

to the United States market were also concentrated (even more sharply so) in PP and RBM, although the importance of the former declined more swiftly and the share of resource-based manufactures increased. At the same time, medium-technology manufactures (MTM) grew in importance after 2000 and the share of LTM and HTM was almost negligible (see table 1).

As is to be expected, since Trinidad and Tobago's economy is small, very open and oil-based, the composition of its imports by technology content is more diverse than that of its exports. Thus, purchases of MTM accounted for the largest share of imports during the 1990s, but the figure had dropped by almost ten points by 2010. Imports of PP grew in importance until accounting for the majority and reaching 52.9% in 2010¹² (see table 2). Imports from the United States were concentrated in MTM, with a rising share over the period. Also worthy of note is the share in the total of both RBM and HTM, with a (relatively) greater stability in the share of RBM during the study period. Finally, the fall in the share of PP is notable, particularly after 2000; this drop was

largely due to lower imports of oil seeds, oleaginous fruits and rice.¹³

1. Revealed comparative advantage (RCA)

Using the RCA index, the figures at the two-digit level for Trinidad and Tobago's exports indicate that in 1985, only four sectors (out of a total of 67) had a revealed comparative advantage (RCA): organic chemicals (52), petroleum, petroleum products and related materials (33), manufactured fertilizers (56), and sugars, sugar preparations and honey (06). Over the following five years, the number of sectors with RCA results above one rose to between 9 and 11, although these were still only a few among the total (see figure 5). Thus, by 1990, several additional sectors had joined this group: iron and steel (67), beverages (11), miscellaneous edible products and preparations (09), feeding stuff for animals (not including unmilled cereals) and crude fertilizers

¹² The growing share of primary products in total imports from the rest of the world is due to the rising quantities of crude oil imported by Trinidad and Tobago for refining and subsequent re-export.

¹³ The import share of oil seeds and oleaginous fruits fell dramatically. In 1990 they accounted for 27.1% of total imports and, in 1995, for 23.8%; however, in 2000 they fell to almost 4%, although the figure increased over the following five-year period (12.3%). Finally, in 2010, their share of Trinidad and Tobago's total imports returned to a level very similar to the start of the decade figure.

TABLE 2

Trinidad and Tobago: imports from the rest of the world and the United States, 1985 to 2010
(Percentages of the total)

	Trinidad and Tobago: imports from the rest of the world					
	1985	1990	1995	2000	2005	2010
PP	21.25	34.36	21.80	54.79	50.95	52.85
RBM	21.49	18.98	14.07	11.86	14.87	11.75
LTM	16.60	13.15	14.81	7.64	7.88	8.19
MTM	29.89	23.59	39.59	20.47	20.66	20.79
HTM	9.35	8.42	7.48	4.61	4.95	6.01
OT	1.20	1.51	2.25	0.63	0.69	0.41
Oil and gas ^a	5.1	18.7	...	49.6	48.2	44.4
	Trinidad and Tobago: imports from the United States					
	1985	1990	1995	2000	2005	2010
PP	16.14	21.31	16.24	5.15	8.53	10.38
RBM	16.75	15.71	8.20	12.97	14.44	17.22
LTM	14.05	9.89	11.15	10.32	11.54	11.85
MTM	38.84	37.42	47.99	37.78	48.91	42.33
HTM	11.82	14.56	15.28	32.74	15.51	17.34
OT	2.40	1.11	1.14	1.03	1.07	0.88
Oil and gas ^a	0.4	0.6	0.4	0.7	2.3	4.5

Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

Note: PP: Primary products; RBM: Resource-based manufactures; LTM: Low-technology manufactures; MTM: Medium-technology manufactures; HTM: High-technology manufactures; OT: Other products.

^a Four groups from the Standard International Trade Classification (SITC) are included in this category: 333, 341, 334 and 335; the first two are included under PP and the latter two under RBM.

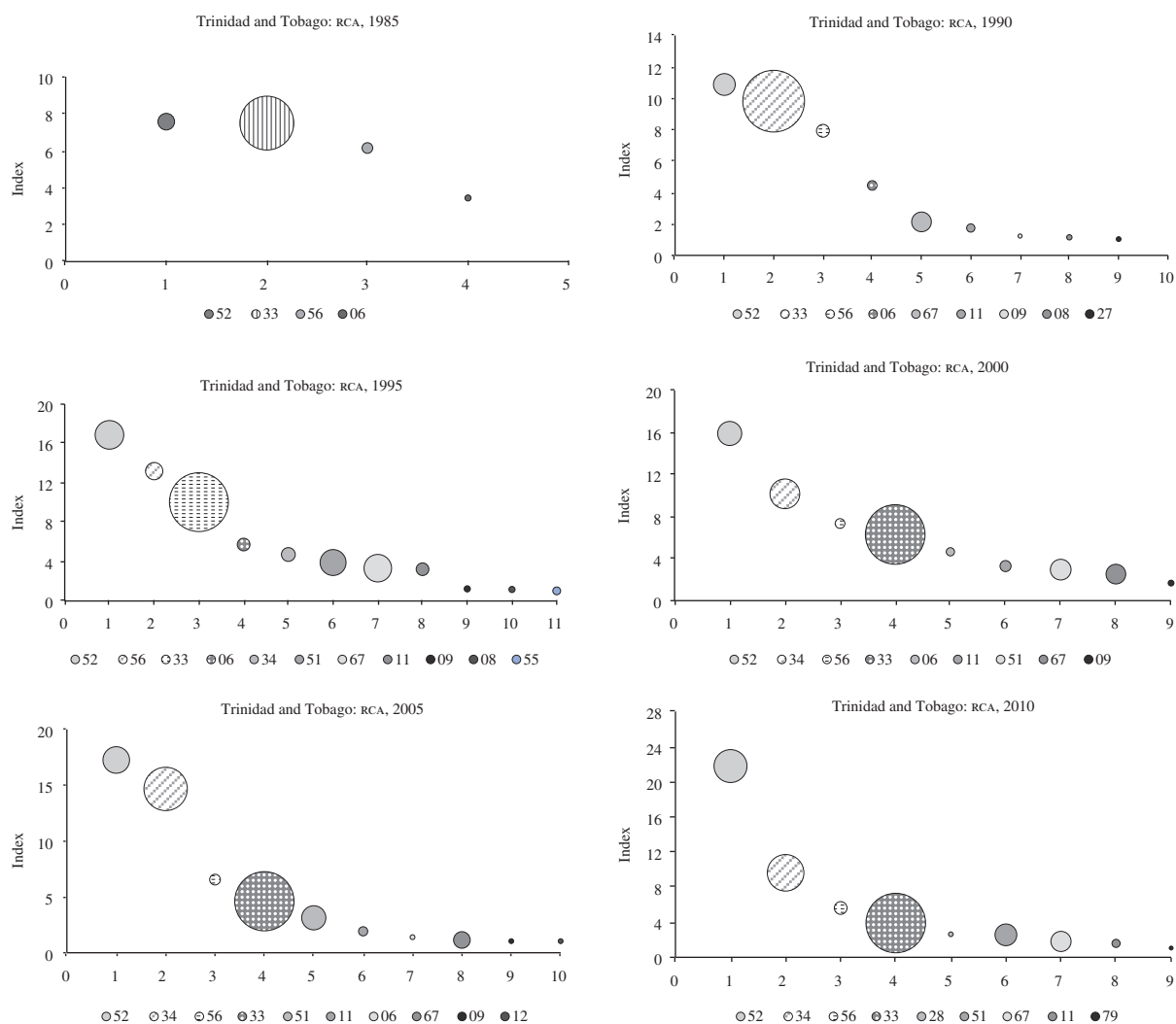
and crude minerals (excluding coal) (27). Meanwhile, in 1995, 11 sectors had an RCA (see figure 3), with the new sectors including natural and manufactured gas (34), organic chemicals (51) and essential oils and resinoids and perfume materials, and toilet, polishing and cleansing preparations (55).

In 2000, this subgroup was reduced to nine sectors, when both the animal feed (08) and essential oils and resinoids (55) sectors stopped reporting an RCA. In 2005, the sectors with the highest RCA were inorganic

chemical products (52) and natural and manufactured gas (34). The others with an index greater than one were the same as in 2000, with the addition of tobacco and its manufactures (12). In 2010, inorganic chemicals and natural gas remained the sectors with the highest RCA, and they were joined by sectors such as ores and metal scrap (28) and, surprisingly, other transport equipment (79). It should be noted that in 2010, inorganic chemicals were, by far, the sector with the highest RCA index (see figure 3).

FIGURE 5

Trinidad and Tobago: sectors with revealed comparative advantage (RCA) higher than one, 1985 to 2010
(RCA index and number of sectors)



Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

Note: The size of the circles indicates the relative weight of each sector's exports in the total exports of Trinidad and Tobago. The numbers along the horizontal axis next to the circles indicate divisions in the Standard International Trade Classification (SITC).
RCA index: Revealed comparative advantage index.

It can therefore be seen that during the analysis period (1985-2010), the economy of Trinidad and Tobago expanded and diversified the number of its sectors with RCA. However, with the exception of gas, organic and inorganic chemicals, and iron and steel, the presence of the newly competitive sectors in total exports is quite small. Figure 5 shows the sectors' relative weight in the country's total exports through the size of the circles. It can clearly be seen that over the different five-year periods, most of the new sectors with RCA have a low relative weight within Trinidad and Tobago's overall exports. Thus, oil and gas, as of the year 2000, remained the leading competitive sectors in the country's exports, although the former had lost weight in the total.

2. Complementary measurement of RCA: the Lafay index (LFI)

Lafay (1979) created an index for determining the extent to which a country has a comparative advantage in international trade in a given product or sector that is, in a certain sense, more comprehensive. In contrast to the RCA index used in the previous section, LFI incorporates information on imports and the balance of trade, and not only on exports. This indicator of specialization is defined as:

$$ILF_i^j = 100 \left[\frac{X_i^j - M_i^j}{X_i^j + M_i^j} - \frac{\sum_{i=1}^n X_i^j - M_i^j}{\sum_{i=1}^n X_i^j + M_i^j} \right] \frac{X_i^j + M_i^j}{\sum_{i=1}^n X_i^j + M_i^j}$$

where X_i^j and M_i^j are country j 's exports and imports of product or sector i to and from the rest of the world, and n is the number of groups or products traded. As indicated by the construction of the index, country j 's comparative advantage in exports of good i is measured by the deviation of the normalized balance of trade for that good in total trade with respect to the total normalized balance of trade. Then, that result is multiplied by good i 's share (exports plus imports) of total trade. Positive values in the Lafay index are taken as indicators of the existence of comparative advantages for product or good i . Negative values in the index indicate the absence of comparative advantages.

The LFI indicates that Trinidad and Tobago focuses its exports on a relatively small number of sectors, which confirms the results given above. Over the entire study period, its sectors that enjoy success in international trade are limited to three broad groups: food, beverages and tobacco; natural resources, iron and steel; and chemicals. Of a total of 67 sectors, only six had a positive LFI in the first five-year period: (i) sugars, sugar preparations and honey (06); (ii) coffee, tea, cocoa, spices, and manufactures thereof (07); (iii) petroleum, petroleum products and related materials (33); (iv) organic chemicals (51); (v) inorganic chemicals (52) and (vi) manufactured fertilizers (56). In 1990, the sectors with positive indices were practically the same, with the addition of beverages (11). In both 1995 and 2000, the number of sectors where Trinidad and Tobago was concentrated grew (see table 3) with the addition of: fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates, and preparations thereof (03),

TABLE 3

Trinidad and Tobago: sectors with a competitive advantage in international trade, 1985-2010

(According to the Lafay index (LFI))

Year	Sector with comparative advantage			
	Food and beverages	Natural resources and iron/steel	Organic and inorganic chemicals / fertilizers	Other
1985	06, 07	33	51, 52, 56	—
1990	06, 07, 11	33	51, 52, 56	—
1995	03, 06, 07, 11	28, 33, 34, 67	51, 52, 56	29
2000	03, 06, 11	28, 33, 34, 67	51, 52, 56	—
2005	—	28, 33, 34	51, 52, 56	—
2010	—	28, 33, 34	51, 52, 56	—

Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

Note: The description of the sector codes according to the Standard International Trade Classification (SITC) can be found in the annex, table A.3.

—: Products without a comparative advantage.

ores and metal scrap (28), crude animal and vegetable materials n.e.s. (29), natural and manufactured gas (34) and iron and steel (67). Over the last two five-year periods, the number of export sectors fell again to six: Ores and metal scrap (28), petroleum, petroleum products and related materials (33), natural and manufactured gas (34), organic chemicals (51), inorganic chemicals (52) and manufactured fertilizers (56).

3. Hirschman-Herfindahl concentration/ diversification index (HHI)

To complete the analysis of the country's export performance, the information on its comparative advantages obtained with the Lafay and Balassa indices was expanded with an indicator of their concentration measured with the HHI, which is calculated as follows:

$$HHI = \left(\frac{\sum_{j=1}^n p_h^2 - \frac{1}{n}}{1 - \frac{1}{n}} \right)$$

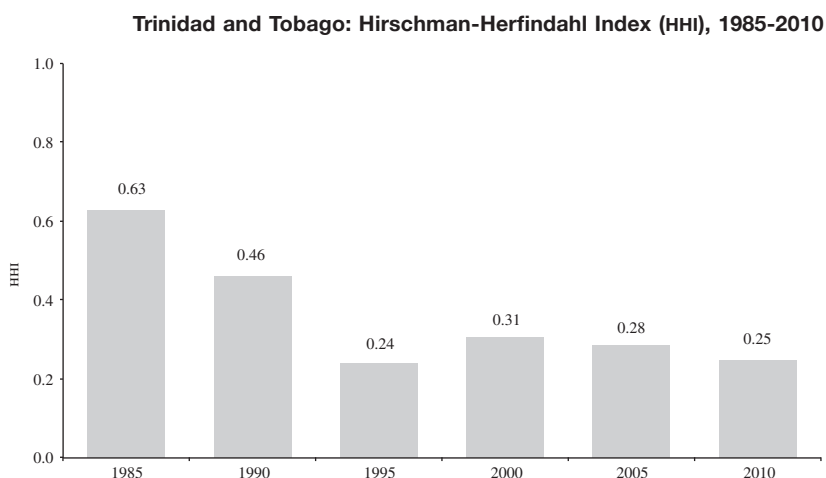
where $p_h = X_{hj}/XT_h$ is country j 's share in the exports of country h in its total exports to the world XT_h . The total of the squares of all the shares is known as the Herfindahl Index. Since this case is corrected for the number of observations, the Hirschman-Herfindahl

methodology was adopted, which allows comparisons of results between different products or sectors, export destination countries or both, by presenting them in normalized terms. Thus, a country with a perfectly diversified export portfolio would have an index of close to zero, whereas a country that exports only one product would have an index of one.

The HHI for Trinidad and Tobago's exports is high, particularly in the first five-year period, which confirms the relatively low number of sectors that account for the bulk of its exports. As described above, although the oil and gas sectors continued to dominate throughout the study period, there was some diversification of exports; this can be seen in an HHI result of around 0.25-0.30, less than half of that recorded in 1985 (see figure 6).

To conclude this section, although the country has attained a certain level of diversification in its exports, oil and gas and organic and inorganic chemicals still account for most of its overseas sales. Similarly, its number of trading partners increased during the period, although the United States remains the main purchaser of Trinidad and Tobago's exports. In addition, although the total rose, there is still a very limited number of sectors that enjoy an RCA. Thus, in 1985 only four sectors had an RCA, whereas by 1995 that figure had more than doubled (11). However, in 2010 only nine sectors had an RCA index above one and, once again, the sectors with the largest presence in total exports were still oil and its derivatives, gas and inorganic chemicals.

FIGURE 6



Source: Prepared by the authors, on the basis of information from World Integrated Trade Solution (WITS).

V

Competitiveness matrices: analysis by divisions and by technological contents

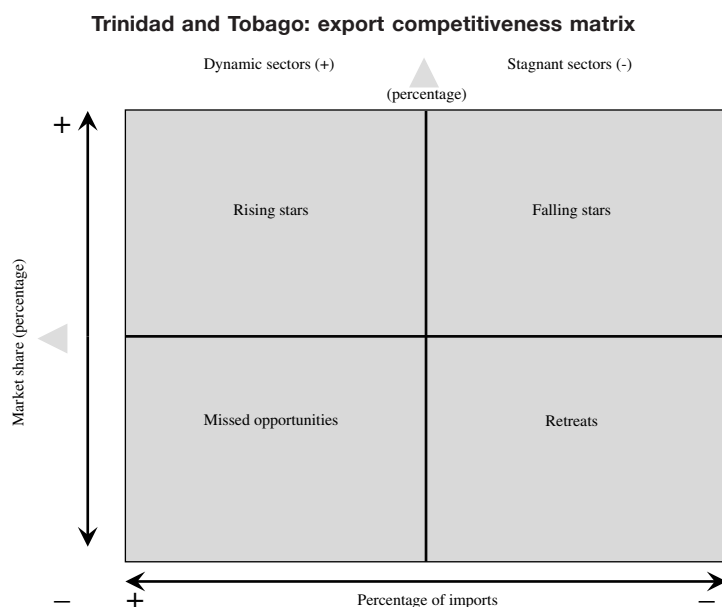
This section examines results derived from the construction of matrices that, based on the RCA index, display the export competitiveness of Trinidad and Tobago's different sectors, taking into account their insertion into dynamic—or static—niches in the global market or in selected important markets, such as the United States. The competitiveness matrix comprises a double-entry quadrant where the axes represent information on, first, the evolution of the country's exports and, second, the dynamism of their destination markets: in other words, the dynamism of global market imports or those of selected markets. Thus, the horizontal axis indicates variations in global imports and whether those variations are dynamic or stagnant. In turn, the vertical axis indicates the country's capacity to adapt the structure of its exports to international market conditions¹⁴ (see figure 7).

¹⁴ In the case of CAN, the vertical axis includes one of the following three variables: market share, percentage of exports and specialization. For the purposes of this document, only market share is included.

This matrix gives rise to four categories or quadrants whereby a product can be classified by the evolution of its exports to a given market and by the relative evolution of international demand for that product, over a specific period.

- Rising stars: Those products whose share in total imports rises during the period, and of which exports by the country—in this case, Trinidad and Tobago—gain share of the respective market: in other words, their share of the reference market increases.
- Falling stars: products that have a declining weight in the reference market's total imports but in which the exporter's market share is rising.
- Missed opportunities: those products that increase their percentage share of total imports but in which the country's market share is falling.
- Retreats: those situations in which both the percentage of total imports and the exporter's market share show a decrease.

FIGURE 7



Source: Prepared by the authors.

Using this methodology, Trinidad and Tobago's exports were analysed in two ways. First, the product's classification by technological contents was obtained, and the category of non-oil exports was added. In addition, product classifications were identified for two import markets—the world¹⁵ and the United States—and for two subperiods (1985-2000 and 2000-2010) and for the period as a whole (1985-2010). Second, the same classification (or competitiveness matrix) was obtained for the same import markets, but for all the sectors included in the Standard International Trade Classification (SITC): that is, a total of 67 sectors (or “divisions”) and for the same three periods.

The results (see table 4) indicate that on the global market, non-oil products—when the years 2010 and 1985 are compared—are “missed opportunities:” in other words, as imports of those products on the global market were rising, Trinidad and Tobago's share of that market fell over the same period. If the analysis period is divided into two and the years 2000 and 1985 are compared, then non-oil exports to the world are “rising stars:” that is, imports of them at the global level increased, as did their market share. Between 1985 and 2010, Trinidad and Tobago's main export products, PP and RBM, did not evolve favourably on the international market. Primary products (PP) behaved as “falling stars” (their market share rose, but global imports of those products did not), and resource-based manufactures (RBM) behaved as “retreats,” in that global imports of them and their market share both fell.

TABLE 4

Trinidad and Tobago: composition of exports
(By technology content and competitive position in the world market, excluding the United States)

	2000/1985	2010/2000	2010/1985
PP	FS	RS	FS
RBM	RE	MO	RE
LTM	RS	RE	RE
MTM	RS	RE	RS
HTM	MO	RE	OP
OT	MO	MO	MO
Non-oil	RS	RE	MO

Source: Prepared by the authors, on the basis of the CAN program.

Note: PP: Primary products; RBM: Resource-based manufactures; LTM: Low-technology manufactures; MTM: Medium-technology manufactures; HTM: High-technology manufactures; OT: Other products; FS: Falling stars; RE: Retreats; RS: Rising stars; MO: Missed opportunities.

¹⁵ Excluding the United States.

At the same time, for the United States market, non-oil exports were a “rising star” during the first period (2000/1985). During the second period they dropped to the “falling star” category and, as a result, that was the classification they earned for the period as a whole (1985-2010). The sectors with the greatest shares in total exports (PP and RBM) behaved differently during the two subperiods (1985/2000 and 2000/2010) and during the period as a whole (between 1985 and 2010). While PP exports classified as “missed opportunities” in both 2000-2010 and 1985-2010 (see table 5), between 1985 and 2000 they qualified as “retreats:” in other words, both their market share and their share in total imports by the United States market fell. At the same time, RBM fell into the “falling stars” category in both the 1985-2000 and 1985-2010 periods. In the intermediate period (2010/2000), both their market share and their share of total United States imports increased, and accordingly they classified as “rising stars” (see table 5).

TABLE 5

Trinidad and Tobago: sector classifications
(Import market: United States)

	2000/1985	2010/2000	2010/1985
PP	RE	MO	MO
RBM	FS	RS	FS
LTM	RS	RE	RE
MTM	FS	FS	FS
HTM	RS	FS	RS
OT	MO	FS	MO
non-oil	RS	FS	FS

Source: Prepared by the authors, on the basis of the CAN program.

Note: PP: Primary products; RBM: Resource-based manufactures; LTM: Low-technology manufactures; MTM: Medium-technology manufactures; HTM: High-technology manufactures; OT: Other products; FS: Falling stars; RE: Retreats; RS: Rising stars; MO: Missed opportunities.

Classifying exports by their technology content provides an initial approach for understanding the different dynamics of how Trinidad and Tobago's production activities are positioned in international trade, but that level of breakdown does not allow a more detailed identification of those sectors that were successful and those that were not during the period in question. That identification is particularly relevant for a country that, while its exports are concentrated on a few products, has made efforts to diversify its export mix.

1. International competitiveness: results by main export products (SITC two-digit level)

As has been noted repeatedly, Trinidad and Tobago's main export products between 1985 and 2010 were petroleum, petroleum products and related materials, natural and manufactured gas, organic chemicals, inorganic chemicals and iron and steel¹⁶ (with the latter division being of particular importance in the global market). The behaviour of those products in the competitiveness matrix varied by subperiod and destination market (the United States or the rest of the world). Thus, for the United States market, during the first period (2000/1985) oil classified as a "retreat:" that is, the change in both its market share and its share in the import structure was negative. On the global market, it classified as a "falling star:" in other words, while its market share increased, its weight in the structure of global imports declined. Over the following period (2010/2000), oil exports behaved as "falling stars" in both markets. Taking the years 1985 and 2010, the situation of this group of products in the United States market does not change (see table A.1 in the annex), but in the global market they classified as "retreats." Thus, the competitive situation of oil was relatively better in the United States market than in the world market.

Natural and manufactured gas exports tended to behave more competitively than oil in both markets. They were a "rising star" in 2000/1985 on the United States market and in 2010/2000 in the global market; over the remaining periods, they were a "falling star" on both markets.

The competitive situation of organic chemical exports to the United States was ideal, insofar as they classified as a "rising star" throughout the entire study period. Their competitive performance in the global market was similar, except that over the 2010/2000 period the variation in demand was negative (and that of supply positive) and so they were categorized as a "falling star" (see table A.2 in the annex).

Inorganic chemicals faced a generally adverse competitive situation in the global market: only during the intermediate subperiod (2010/2000) they did classify as a "rising star" and, in the 2000/1985 subperiod and the period as a whole (2010/1985), this category of products classified as "retreats." In the United States

market they enjoyed a favourable situation ("rising star") in the intermediate subperiod (2010/2000), but in the other two periods (2000/1985 and 2010/1985) they were "falling stars:" in other words, while their market share rose, their weight in the structure of United States imports declined (see table A.1 in the annex).

Finally, iron and steel did not perform favourably in the global market. Thus, during both the 2000/1985 subperiod and over the period as a whole (2010/1985), this group of products was a "falling star." Over the intermediate subperiod (2010/2000), its situation deteriorated and it became a "missed opportunity" (see table A.2 in the annex). Its performance in the United States market was no better: in the first period (2000/1985) it was a "falling star" before becoming a "missed opportunity" in the 2010/2000 period; as a result, over the entire 2010/1985 period it was a "retreat."

2. Consolidated results

With the United States as the import market, the results for the first period (2000/1985) indicate that those products with highly dynamic growth in their share of the import structure faced one of two scenarios. Thus, the products considered "rising stars" during the 1985/2000 period saw a considerable increase in their share of total exports, which rose from 2.2% in 1985 to 24.5% in 2000; meanwhile, those products in the "missed opportunities" category saw slight increases in their shares of total exports (see table 6).

In addition, the products classified as "falling stars" accounted for 74.6% of Trinidad and Tobago's total exports in 1985 and rose to 77% in 2000, although their share of the United States market is relatively low (see table 6). Products categorized as "retreats" accounted for a large proportion of Trinidad and Tobago's exports in 1985; however, the figure had fallen considerably by the year 2000. Over the following decade (2000/2010), those products with a rising weight in United States imports had a lower weight among the total exports of Trinidad and Tobago, although the percentage share of those same products was significant in both cases. These products' reduced importance in the United States' imports was accompanied, in one case ("retreats"), by a reduced weight in Trinidad and Tobago's total exports (from 5.6% to 0.2%) and, in the other ("falling stars"), by a considerable increase in their importance within the total export volume.

Over the entire period (1985-2010), Trinidad and Tobago's main exports classified as either "missed

¹⁶ Divisions Nos. 33, 34, 51, 52 and 67 of the Standard International Trade Classification (SITC).

TABLE 6

Consolidated results for Trinidad and Tobago
(Import market in percentages: United States)

		1985/2000	2000/2010	1985/2010
Rising stars	Market share	0.6/2.8	5.7/7.0	1.2/1.9
	Export structure of Trinidad and Tobago	2.2/24.5	25.1/23.2	2.2/7.1
	Import structure of the United States	24.4/34.0	3.5/5.9	3.4/6.3
Falling stars	Market share	3.6/7.9	1.7/7.2	2.6/13.8
	Export structure of Trinidad and Tobago	10.5/27.1	12.8/29.4	7.5/48.0
	Import structure of the United States	19.3/14.5	1.5/1.4	8.1/6.0
Missed opportunities	Market share	0.2/0.1	4.1/2.3	2.3/0.8
	Export structure of Trinidad and Tobago	0.6/1.1	56.5/47.2	85.8/44.4
	Import structure of the United States	13.2/18.5	26.9/39.0	39.1/51.5
Retreats	Market share	2.7/1.2	0.5/0.1	1.0/0.1
	Export structure of Trinidad and Tobago	86.7/47.4	5.6/0.2	4.4/0.5
	Import structure of the United States	35.0/25.2	59.4/45.3	41.3/26.8

Source: Prepared by the authors, on the basis of the CAN program.

Note: Market share is calculated by dividing the United States' total imports of the corresponding group of products from all countries by the volume of products in the same group exported to the United States. Export structure is calculated by dividing the share of total exports of the group of products in question to the United States market by Trinidad and Tobago's total exports. In other words, the total export structures of the different product groups should total 100%. Import structure is the result of dividing the value of the United States' imports of a given group of products by that country's total imports.

opportunities" or "falling stars" (see table 6). While it is true that the share in total exports of products classified as "missed opportunities" fell by more than half (from 85.8% to 44.4%), their weight was still the second largest. In contrast, products classified as "falling stars" saw a notable increase in their share in Trinidad and Tobago's total exports (from 7.5% to 48%). At the same time, the weight of "rising star" products in total exports increased, but their market share was also small (1.9%). Products in the "retreats" category account for a very small percentage of Trinidad and Tobago's exports to the United States and they also have a low market share (see table 6).

The competitive situation of Trinidad and Tobago's exports is relatively stronger in the United States market than in the rest of the global market as a whole, although it is not particularly good. In order to conduct the following comparison, the best approach is to concentrate on the evolution of exports between 1985 and 2010, although their performance was not necessarily equal during the two subperiods examined (1985/2000 and 2000/2010). First, and as is logical given the different sizes of the two destination markets, Trinidad and Tobago's exports

in both the "rising stars" and "falling stars" categories expanded their penetration of the United States market by more percentage points than they did in the rest of the global market. Thus, during this period (1985/2010), the "rising stars" increased their presence in the United States market by almost one percentage point (0.7%) and in the global market by only one tenth of a point (0.1%). Similarly, the "falling stars" expanded their share of those markets by 10.5 points and 0.8%, respectively. Second, in 2010 the "rising star" group accounted for 7.1% of total exports to the United States and only 6.6% of total exports to the rest of the global market. A greater contrast is provided by the performance of the "retreats" group, which had a percentage share of exports to the United States market of 0.5%, while its share of exports to the global market had risen to 46% at the end of the period (2010) (see table 7). At the same time, the difference in the "missed opportunities" category is again quite sharp, albeit with higher figures in the United States market (44%) than in the rest of the world (2.5%). Finally, the "falling stars" group recorded similar shares in the export structure, slightly below 49%.

TABLE 7

Consolidated results for Trinidad and Tobago
(Import market: world without the United States)

		1985/2000	2000/2010	1985/2010
Rising stars	Market share	0.4/0.8	0.7/1.0	0.1/0.2
	Export structure of Trinidad and Tobago	6.5/17.5	12.4/36.2	2.5/6.6
	Import structure of the world	28.3/34.9	3.5/5.9	7.3/9.1
Falling stars	Market share	0.5/1.5	0.1/0.1	0.3/1.1
	Export structure of Trinidad and Tobago	74.6/76.6	0.7/1.0	7.1/44.9
	Import structure of the world	45.7/30.4	9.3/7.6	17.3/13.1
Missed opportunities	Market share	0.1/0.0	1.4/0.6	0.2/0.1
	Export structure of Trinidad and Tobago	1.6/1.0	72.7/57.2	4.8/2.5
	Import structure of the world	14.0/27.8	41.6/49.7	33.2/49.2
Retreats	Market share	1.5/0.6	0.9/0.3	1.9/0.7
	Export structure of Trinidad and Tobago	17.3/4.8	14.2/5.7	85.5/46.0
	Import structure of the world	7.1/5.3	45.4/36.2	38.4/28.1

Source: Prepared by the authors, on the basis of the CAN program.

VI

Conclusions

This article has shown how the growth path of Trinidad and Tobago's economy and the performance of its balance of trade over recent decades were closely correlated to the evolution of hydrocarbon exports and how, although oil exports fell as a proportion of the total, exports of gas largely offset that reduction. This process was accompanied by a growing trade deficit in the non-oil sectors, which reveals a major vulnerability in the country's development path, and the potential the external sector has to act as a significant constraint on long-term economic growth. Accordingly, it is important that Trinidad and Tobago diversifies its export mix to include products other than those related to hydrocarbons. The results obtained by using different methodologies in this paper indicate that the country has already embarked on a diversification—albeit a moderate and incipient one—of its exports. In terms of its destination markets, while in 1985 the United States market accounted for 62% of its exports, in 2010 that figure had fallen to 48%. Similarly, at the start of the study period (1985), Trinidad and Tobago's exports were highly concentrated in petroleum products and natural gas, and that concentration was gradually diluted as regards the United States market. In 1985, those products accounted for 86.5% Trinidad and Tobago's total exports to the United States, compared to 62.3% in 2010. In contrast, Trinidad and Tobago's exports to the

rest of the world followed the inverse pattern. Oil and gas accounted for 67.2% of total exports in 1985, while their share in 2010 was slightly higher (69.4%). During the study period (1985-2010), the country expanded and diversified its non-oil industries that had a revealed comparative advantage. However, with the exception of a few sectors (organic and inorganic chemicals, iron and steel), the share of the new competitive sectors in total exports remains relatively low. Thus, oil and gas (after the year 2000) were still the leading competitive sectors within the country's exports, despite a reduction in their relative weight.

The analysis of the competitiveness matrix reveals that non-oil exports—to both the United States market and the rest of the world—only performed well in the 1985/2000 period, when they were classified as “rising stars.” In the United States market they qualified as “falling stars” in the other two periods examined (2000/2010 and 1985/2010): in other words, they expanded their participation in sectors that were losing weight in total United States imports. In the global market, exports of non-oil products were “retreats” in 2000/2010 and “missed opportunities” in 1985/2010. Nevertheless, their competitive performance in the United States market was relatively better than in the rest of the world.

The analysis conducted in this article indicates that the competitive situation of non-oil exports is relatively better in the United States market than in that of the rest of the world, although it is still not particularly good. In the United States market, during the 1985/2000 subperiod, most of the exports classified as “retreats:” their market share fell, as did their share of total United States imports. Over the following decade (2000/2010), the situation changed notably: most classified as “missed opportunities” and a few as “retreats.” The products categorized as “rising stars” —which is an ideal situation in terms of the competitiveness matrix— saw a considerable increase in their shares if the 1985/2000 and 2000/2010 subperiods are compared. Thus, the results of the competitiveness matrix analysis indicate that the second subperiod was better than the first.

During the first subperiod, most of Trinidad and Tobago’s exports to the rest of the world classified as “falling stars.” Over the following subperiod their competitive position deteriorated and most of them became “missed opportunities:” that is, they lost presence in dynamic markets.

In connection with the relatively better performance of its exports in the United States market, it must be noted that Trinidad and Tobago enjoys preferential access to that country under the Caribbean Basin Economic Recovery Act, periodic renewals of which require authorizations from the World Trade Organization. In May 2009, a renewal expiring in 2014 was issued;¹⁷ in other words, it is possible that this preferential access will end in the

near future and that Trinidad and Tobago’s exports will have to compete with those of many other countries on an equal footing, and that will create a greater pressure for the country to diversify its products, services or both, as well as its destination markets.

Although the results indicate that progress has been made with diversifying the country’s export basket, those efforts remain limited. Its exports are still dominated by hydrocarbons, and very few other products have gained a presence. Moreover, its competitive performance in the United States and in the rest of the world is far from successful, in that only a few sectors produce exports that have secured a presence in those markets’ dynamic niches. Trinidad and Tobago’s dependence on oil and gas is a challenge that the country will have to resolve if it is to reduce its vulnerability to fluctuations in the international oil price and if it is to address the threats posed by the emergence of new competitors on the global market and by the possible reduction of preferential tariffs by the United States. That is of particular importance, given that its balance of trade, excluding petroleum exports, has deteriorated considerably in recent years. We hope that the empirical analysis and conclusions offered herein will contribute to promoting the diversification strategy of the country’s export basket and orienting it towards dynamic markets, those identified as “rising stars.” Thus, the policy guidelines set out in the ECLAC document *Structural Change for Equality: An Integrated Approach to Development* (2012) are of particularly helpful for devising a comprehensive strategy for sustainable economic development and for a strong, diversified and competitive export sector that can support and complement the domestic market.

¹⁷ The agreement with the United States remains in force.

ANNEX

TABLE A.1

Trinidad and Tobago: classification of exports to the United States market

SITC code	Product classification			Exports, share (percentage)		
	2000/1985	2010/2000	2010/1985	1985	2000	2010
03	FS	RE	FS	0.055	0.207	0.069
04	MO	RS	MO	0.018	0.048	0.055
05	FS	MO	FS	0.004	0.165	0.043
06	RE	MO	RE	0.658	0.288	0.013
07	RE	MO	RE	0.192	0.065	0.026
09	RS	MO	MO	0.020	0.143	0.040
11	FS	MO	FS	0.052	0.380	0.257
24	FS	RE	RE	0.001	0.006	0.000
27	FS	RE	RE	0.014	0.015	0.000
28	FS	RS	FS	0.003	0.047	1.931
29	FS	RE	FS	0.001	0.065	0.012
33	RE	MO	MO	84.924	46.406	44.285
34	RS	FS	FS	0.000	12.714	29.337
51	RS	RS	RS	1.535	7.097	4.895
52	FS	RS	FS	7.414	17.905	16.296
53	MO	RE	RE	0.003	0.001	0.000
54	MO	MO	MO	0.010	0.005	0.000
55	RS	MO	RS	0.000	0.137	0.029
56	FS	MO	RS	0.681	1.934	2.090
58	RS	RS	RS	0.001	0.024	0.038
59	MO	MO	MO	0.049	0.116	0.009
62	FS	MO	MO	0.005	0.331	0.001
63	RS	RE	RE	0.004	0.016	0.000
64	FS	RE	FS	0.011	0.288	0.018
65	FS	RE	RE	0.001	0.010	0.000
66	FS	RE	RE	0.013	0.052	0.013
67	FS	MO	RE	2.259	5.519	0.371
68	FS	MO	RE	0.007	0.115	0.000
69	RS	RE	RE	0.033	0.199	0.001
71	MO	RE	MO	0.289	0.667	0.001
72	RE	RE	RE	0.784	0.574	0.046
73	RE	RE	RE	0.017	0.014	0.000
74	RS	MO	MO	0.132	0.465	0.001
75	RS	RE	MO	0.012	0.064	0.001
76	RS	MO	MO	0.015	0.092	0.002
77	MO	RE	MO	0.048	0.110	0.003
78	RE	RE	RE	0.088	0.039	0.000
79	RS	RE	RE	0.347	3.032	0.008
81	RS	FS	RS	0.003	0.087	0.057
82	RS	RE	RS	0.001	0.006	0.003
84	RS	RE	RE	0.002	0.069	0.000
87	RS	MO	MO	0.067	0.325	0.000
88	FS	RE	RE	0.004	0.017	0.000
89	MO	RE	MO	0.223	0.140	0.047
94	RE	RS	RE	0.000	0.000	0.000

Source: Prepared by the authors, on the basis of information from TradeCAN.

Note: FS: Falling stars; RE: Retreats; RS: Rising stars; MO: Missed opportunities.
SITC: Standard International Trade Classification.

TABLE A.2

Trinidad and Tobago: classification of exports to the global market (1)

SITC code	Classification			Exports, share (percentage)		
	2000/1985	2010/2000	2010/1985	1985	2000	2010
00	RE	RE	RE	0.028	0.003	0.000
01	FS	MO	FS	0.032	0.151	0.098
02	FS	RE	RE	0.056	0.224	0.033
03	RS	RE	FS	0.065	0.326	0.124
04	FS	MO	FS	0.476	1.381	0.844
05	FS	RE	FS	0.186	0.772	0.660
06	RE	RE	RE	2.396	1.481	0.093
07	FS	MO	RE	0.529	0.386	0.207
08	FS	MO	FS	0.008	0.398	0.063
09	RS	MO	RS	0.226	0.826	0.580
11	RS	RE	FS	1.335	3.071	1.758
12	FS	FS	FS	0.030	0.454	0.687
22	RE	MO	MO	0.013	0.003	0.000
23	FS	MO	RE	0.000	0.000	0.000
24	FS	FS	FS	0.006	0.027	0.024
25	FS	RE	RE	0.019	0.021	0.009
26	FS	RE	FS	0.002	0.001	0.001
27	RE	FS	RE	0.752	0.083	0.243
28	FS	RS	RS	0.023	0.055	0.444
29	FS	RE	RE	0.007	0.031	0.001
32	RE	MO	RE	0.001	0.000	0.000
33	FS	MO	RE	66.374	46.389	39.823
34	FS	RS	FS	0.745	9.173	30.824
41	FS	MO	RE	0.000	0.000	0.000
42	FS	MO	RS	0.004	0.194	0.045
43	FS	MO	FS	0.000	0.013	0.001
51	RS	MO	RS	2.209	4.254	5.208
52	RE	RS	RE	9.577	2.123	3.041
53	MO	RE	RE	0.276	0.229	0.105
54	RS	MO	MO	0.038	0.122	0.008

Source: Prepared by the authors, on the basis of information from TradeCAN.

Note: FS: Falling stars; RE: Retreats; RS: Rising stars; MO: Missed opportunities.
SITC: Standard International Trade Classification.

TABLE A.3

Trinidad and Tobago: classification of exports to the global market (2)

SITC code	Classification			Exports, share (percentage)		
	2000/1985	2010/2000	2010/1985	1985	2000	2010
55	RS	MO	MO	0.582	1.119	0.608
56	RE	RS	RE	4.474	1.048	1.874
57	RE	RE	RE	0.003	0.002	0.000
58	RS	MO	RS	0.020	0.345	0.188
59	RS	MO	MO	0.149	0.258	0.150
61	MO	RE	RE	0.002	0.000	0.000
62	MO	MO	MO	0.020	0.016	0.003
63	RS	RE	FS	0.024	0.451	0.063
64	RS	RE	FS	0.284	2.300	1.025
65	FS	RE	RE	0.226	0.460	0.022
66	FS	RE	RE	0.442	1.482	0.421
67	FS	MO	FS	3.947	6.598	8.756
68	RE	MO	MO	0.042	0.043	0.031
69	RS	MO	MO	0.372	0.851	0.237
71	MO	MO	MO	0.337	0.100	0.001
72	FS	RE	RE	0.167	0.544	0.053
73	RE	RE	RE	0.011	0.011	0.000
74	RS	MO	MO	0.203	0.931	0.046
75	MO	RE	MO	0.028	0.035	0.000
76	MO	MO	MO	0.313	0.179	0.000
77	MO	RE	MO	0.205	0.400	0.369
78	RS	FS	MO	0.119	0.185	0.025
79	FS	MO	MO	1.295	7.877	0.275
81	RS	RE	MO	0.013	0.079	0.016
82	RS	RE	RS	0.038	0.352	0.141
83	RS	RE	MO	0.006	0.011	0.002
84	RS	RE	RE	0.165	0.444	0.072
85	MO	RE	RE	0.015	0.016	0.000
87	RS	MO	MO	0.095	0.250	0.001
88	MO	RE	RE	0.016	0.011	0.000
89	RS	RE	MO	0.590	1.362	0.696
93	MO	RE	MO	0.384	0.046	0.003
94	MO	RE	RE	0.001	0.000	0.000
95	FS	RE	RE	0.000	0.000	0.000

Source: Prepared by the authors, on the basis of information from TradeCAN.

Note: FS: Falling stars; RE: Retreats; RS: Rising stars; MO: Missed opportunities.

SITC: Standard International Trade Classification.

TABLE A.4

Description of product codes (SITC)

Code	Description
00	Live animal, chiefly as foodstuffs
01	Meat and meat preparations
02	Dairy products and birds' eggs
03	Fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates and preparations thereof
04	Cereals and cereal preparations
05	Vegetables and fruit
06	Sugars, sugar preparations and honey
07	Coffee, tea, cocoa, spices, and manufactures thereof
08	Feeding stuff for animals (not including unmilled cereals)
09	Miscellaneous edible products and preparations
11	Beverages
12	Tobacco and tobacco manufactures
22	Oil-seeds and oleaginous fruits
23	Crude rubber (including synthetic and reclaimed)
24	Cork and wood
25	Pulp and waste paper
26	Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)
27	Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones)
28	Metalliferous ores and metal scrap
29	Crude animal and vegetable materials, n.e.s.
32	Coal, coke and briquettes
33	Petroleum, petroleum products and related materials
34	Gas, natural and manufactured
41	Animal oils and fats
42	Fixed vegetable fats and oils, crude, refined or fractionated
43	Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.
51	Organic chemicals
52	Inorganic chemicals
53	Dyeing, tanning and colouring materials
54	Medicinal and pharmaceutical products
55	Essential oils and resinoids and perfume materials; toilet, polishing and cleaning preparations
56	Fertilizers, manufactured
57	Plastics in primary forms
58	Plastics in non-primary forms
59	Chemical materials and products, n.e.s.
61	Leather, leather manufactures, n.e.s., and dressed furskins
62	Rubber manufactures, n.e.s.
63	Cork and wood manufactures (excluding furniture)
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard
65	Textile yarn, fabrics, made-up articles, n.e.s., and related products
66	Non-metallic mineral manufactures, n.e.s.
67	Iron and steel
68	Non-ferrous metals
69	Manufactures of metals, n.e.s.
71	Power-generating machinery and equipment
72	Machinery specialized for particular industries
73	Metalworking machinery
74	General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.
75	Office machines and automatic data-processing machines
76	Telecommunications and sound-recording and reproducing apparatus and equipment

Table A.4 (concluded)

Code	Description
77	Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including nonelectrical counterparts, n.e.s., of electrical household-type equipment)
78	Road vehicles (including air-cushion vehicles)
79	Other transport equipment
81	Prefabricated buildings; sanitary plumbing, heating and lighting fixtures and fittings, n.e.s.
82	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings
83	Travel goods, handbags and similar containers
84	Articles of apparel and clothing accessories
85	Footwear
87	Professional, scientific and controlling instruments and apparatus, n.e.s.
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks
89	Miscellaneous manufactured articles, n.e.s.
93	Special transactions and commodities not classified according to kind
94	Live animals, zoo animals, dogs, cats
95	Arms, weapons and munitions

Source: Prepared by the authors, on the basis of information from TradeCAN.

Note: SRTC: Standard International Trade Classification; n.e.s.: Not elsewhere specified.

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