

Trade integration and export diversification: El Salvador's trade with the United States and Central America¹

Raúl Vázquez and Rodrigo Alfonso Morales

Abstract

This article conducts a comparative analysis of the diversification of El Salvador's baskets of exports to the United States and Central America. It uses the most detailed level of disaggregation available and organizes products by technology intensity. The results show greater export diversification and sophistication in trade with Central America. Evidence is also found that, where El Salvador is concerned, it is more advisable to strengthen South-South integration, especially within Central America, than North-South integration.

Keywords

Economic integration, economic relations, international trade, intraregional trade, exports, export diversification, comparative analysis, trade statistics, El Salvador, United States, Central America

JEL classification

F15, F13, F43, F14

Authors

Raúl Vázquez is a senior researcher at the Industrial Economics Unit of the Institute of Economic Research of the National Autonomous University of Mexico. Email: rvazquez@unam.mx.

Rodrigo Alfonso Morales is a PhD student in International Economics at the Institute of Economic Research of the National Autonomous University of Mexico. Email: ramorales88@gmail.com.

¹ Research project undertaken with the support of the Technology Research and Innovation Projects Support Programme (PAPIIT) <IN302815>.

I. Introduction

Since the 1980s, most developing countries have implemented a number of policies inspired by the economic guidelines of the Washington Consensus. In El Salvador, government policies have sought to implement these guidelines since 1989. As in a number of other developing countries, this has included the pursuit of trade liberalization, openness to inward foreign direct investment, privatization and economic deregulation of various kinds in the belief that these measures would lift economic growth and thence living standards. In the area of trade, the strategy has been to open up the economy through tariff reductions, the removal of non-tariff barriers and the signing of various free trade treaties (Lara, 2003).

The cornerstone of trade policy has been the negotiation and implementation of different free trade treaties, of which the most emblematic is the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR). In December 2004, El Salvador became the first country in the region to ratify this agreement, which came into force on 1 March 2006. The first goal in the original treaty document was to “encourage expansion and diversification of trade between the Parties” (Calderón, González and Sanabria, 2008).

Another important trade measure adopted in the region in the early 1990s was the relaunching of Central American integration in pursuit of full economic union between the member countries.² One preliminary phase on the way to this goal was to be a customs union. Owing to domestic and external factors, however, particularly the recent downgrading of the issue because of bilateral free trade, the customs union has yet to be fully implemented (Guerra-Borges, 2009). Indeed, the Central American integration agreements are subordinated to free trade treaties such as CAFTA-DR (Caldentey del Pozo, 2010).

Given this situation, the present study sets out to do two things. The first is to study the links between North-South and South-South trade integration and degrees of export diversification and sophistication. The second is to identify the factors behind the differences in North-South and South-South export diversification and sophistication. With these two purposes in view, El Salvador’s trade relations with Central America (South-South integration) and the United States (North-South integration) are examined over the period from 2005 to 2015. The main contribution of this study is to compare the diversification and sophistication of Salvadoran exports to the United States and Central America, using the greatest level of detail available in the country’s official statistics and organizing products by technology content. The findings yield important implications for the official trade policy of El Salvador and potentially other developing countries, particularly in the Central America region.

This article is organized as follows. Section II analyses the theoretical linkages between trade integration and export diversification and summarizes the main findings of some earlier research on the subject. Section III provides the requisite information on the methodological approach used and details the data sources, international trade nomenclatures, levels of disaggregation, correspondences and indicators employed. Section IV carries out a comparative analysis of the degree of diversification of exports to the United States and to Central America. Section V, lastly, presents the main conclusions of the study and makes some suggestions for policy in this area.

II. Elements of analysis for trade integration and export diversification

Economic globalization has manifested itself in new ways of organizing production that have led to geographical relocation and fragmentation of industrial tasks. This has given rise to an international division of labour between countries that ultimately limits the development options of less developed

² For the purposes of this study, the Central America region is deemed to comprise Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica.

countries, whose characteristics make them likely to be at the low value added end of global production (Gereffi, 1996). It is usually multinationals that decide where each production segment of global value chains are to be located, in consideration of labour costs or geographical location (Ernst, 2003). Gereffi (1996) argues that a developing country's prospects of moving up global value chains largely depend on the export roles it adopts and its ability to position itself in more sophisticated niches. The Central American economy's position and importance in these chains are heavily determined by the operations of the maquila industry in the region.

This is the background to the different trade integration agreements that now exist, be they North-South or South-South in character. This study uses Cohen Orantes's (1981) definition of integration: "Integration is defined as the process by which two or more governments, with the support of common institutions, adopt joint measures to strengthen their interdependence and thus obtain mutual benefits". According to Caldentey del Pozo (2000), integration is not an end in itself but should be an instrument of economic and social development for member countries. Like any process, integration can be divided into different phases or stages: a free trade zone or area, a customs union, a common market and economic union (Balassa, 1961).

The effects of integration on an economy are classified as static or dynamic. Static analysis is based on Viner's (1950) pioneering work on customs unions. These effects are analysed in terms of trade creation (welfare gains) and trade diversion (welfare losses). The main dynamic effects, meanwhile, are: improved economic efficiency, the creation of economies of scale, higher investment, stimulation of technological development and improved terms of trade (Caldentey del Pozo, 2000). According to Requeijo (1995), it is the dynamic aspects that justify policies to promote South-South integration.

However, Schweickert (1994) argues that North-South integration is more effective for a developing country because the static effects allow for greater short-run gains. Regarding the dynamic effects, a number of authors have noted that there are greater technology spillovers in North-South integration than in South-South integration, which encourages the development of knowledge-intensive industries (Schiff, Wang and Olarreaga, 2002; Coe and Helpman, 1995). These ideas about North-South integration are the ones that have shaped El Salvador's trade policy since the 1990s, as most clearly embodied in CAFTA-DR. However, belief in the benefits of North-South integration is rooted in orthodox foreign trade theory, which has traditionally emphasized the importance of specializing in sectors where a factor of production is relatively abundant and thus does not take account of the recent developments in international trade mentioned earlier, which concern the workings of global value chains and are part of intraindustry trade.

The benefits of integration between developing countries have also been documented by a number of authors. Of these benefits, the one most relevant to this study is the positive link between South-South integration and export diversification.

Here, Regolo (2013) argues that exports to countries with similar factor endowments are more diversified than exports to countries with different endowments. He also argues that the lower the costs associated with trade, the higher the degree of diversification. Sanguinetti, Pantano and Posadas (2004) find that another possible explanation for the positive causal relationship between the horizontal integration of developing countries and greater export diversification is the way economies of scale are fostered in the countries involved. Bekerman and Rikap (2010) find that, in the regional integration environment of MERCOSUR, Argentina and Brazil succeeded in diversifying their export baskets by creating new comparative advantages. This effect is attributed to MERCOSUR having offered an initial platform for developing organizational and production innovation processes that provided a basis for learning and economies of scale, all of which then led to export diversification both within the integration bloc and externally. In the theoretical apparatus used by Bell and Pavitt (1992), horizontal South-South integration benefits the development not only of production capabilities but of technological capabilities too.

The transmission channels between South-South integration and export diversification are the lower costs associated with trade (in the case of countries that are geographically close), economies of scale between the integrated countries, the creation of new comparative advantages and the development of technological and production capabilities. These mechanisms are closely related to the dynamic effects of integration on the economy and of export diversification on economic growth in developing countries.³ Consequently, according to this school of thought, South-South integration schemes pursuing export diversification are desirable. The expectation is, in short, that a developing country's export basket will be more diversified in its trade with other developing countries than with more developed economies.

The necessary condition for transmission mechanisms between South-South integration and export diversification to work is the existence of technological spillovers conducive to the spread of knowledge. A number of authors working in the area of economic geography argue that related diversification effectively fosters technological spillovers (Boschma and Iammarino, 2009; Frenkel, Van Oort and Verburg, 2007), thereby enhancing the technological and production capabilities of developing countries and helping them move up global value chains.⁴ Nonetheless, in the area of economic geography there is also recognition of the importance of unrelated diversification as a mechanism for cushioning any possible crisis within a related sector or sectors, as this improves long-run economic stability (Essletzbichler, 2005).

It can be established from this that South-South integration (like that between El Salvador and Central America) could favour export diversification more than North-South integration (like that between El Salvador and the United States) by creating dynamic effects that would have positive repercussions on growth. In developing countries, indeed, North-South integration has been promoted with the idea of the less developed country specializing in the factor it has in abundance rather than diversifying its export basket.

In the case of El Salvador, there are no studies employing the theoretical concepts and empirical methodology of this study. However, there are similar studies of export diversification and technology intensity using similar methodologies or analysing the Central America region as a whole.

Martínez and Cortés (2004) use specialized programmes (TradeCAN and MAGIC) to analyse the international competitiveness of Central American exports during the period 1990–2002. One of their main findings is that intraregional trade is mainly in industrial sectors. Likewise, they find that most of the 20 sectors accounting for the largest shares of Central American exports to the intraregional market are dynamic.⁵ As regards trade with the United States, they argue that, although dynamic industrial goods have a greater export presence, what predominate overall are textiles, mainly associated with the maquila industry (Martínez and Cortés, 2004).

Beteta and Moreno-Brid (2014) suggest that structural change is needed in Central America to foster a virtuous circle of growth by creating a denser and more diverse production structure, fostering innovation and bringing about a more egalitarian distribution of income. They also argue that, to benefit more from the integration process, the countries of Central America need to produce and export more local value added, create high-quality jobs, harness the dynamism of the service sector, promote local

³ The dynamic effects of export diversification on the growth of developing countries can be summarized as higher productivity, improved technological and production capabilities, the ability to independently discover new products, linkage of manufacturing activities, increasingly sophisticated production and the creation and enhancement of scale economies and externalities (Samen, 2010; Agosin, 2009).

⁴ The term originally used in economic geography is “related variety”, and it refers to export diversification within a group of products which present complementarities with one another and whose production calls for similar capabilities.

⁵ Martínez and Cortés (2004) used the MAGIC software, taking the four-digit Harmonized Commodity Description and Coding Systems (HS) classification. In the TradeCAN methodology, exports of a good are deemed dynamic when the exporting country has a growing share of a market where demand for that good is rising.

production linkages, strengthen the intraregional market and improve coordination between the region's public policies. The authors briefly acknowledge the importance of moving forward with Central American economic integration and pursuing a policy of diversification for the production and export structure. They also note that the involvement of Central America in global value chains has lacked the dynamism seen in other parts of the world and attribute this to participation being largely confined to the maquila industry and export processing free trade zones.

Schatan and others (2008) set out to analyse whether Central American regional integration and CAFTA-DR are mutually complementary or whether, conversely, the treaty is weakening the regional integration process. According to their study, intraregional trade mainly involves non-maquila manufactures and thus contributes more value added and creates greater opportunities for small and medium-sized enterprises (SMEs) than extraregional exports, including those within the purview of CAFTA-DR.

Amaya and Cabrera (2013) use the so-called “product space” technique and calculate the proximity, complexity and productivity of the products exported by El Salvador, using the two-digit Standard International Trade Classification (SITC) Revision 2 (SITC Rev. 2). Emulating pioneering research that employs this methodological approach, the authors take the number of products with a revealed comparative advantage as an indicator of export diversification (see Hausmann, Hwang and Rodrik, 2007). They argue from their empirical work that El Salvador needs to diversify its export basket to create stronger links between export industries and the rest of the economy and achieve inclusive economic growth.

III. Methodology

The information source used to carry out this study was the Trade Balance Data Base of the Central Reserve Bank of El Salvador. Eight-digit data from the Central American Tariff System (SAC) were employed. The SAC is based on the Harmonized Commodity Description and Coding Systems (HS) of the World Customs Organization, although the revisions the latter makes to the system are not implemented immediately in the SAC, which in practice is a combination of different revisions of the HS.

The information obtained was reduced to a six-digit level with a view to using the correspondences of the World Integrated Trade Solution (WITS, 2016) and transfer the six-digit SAC (combined from the six-digit HS) to the six-digit HS 1988/92. This was done by using the correspondences developed via WITS (2016), namely:

- HS 1996 → HS 1988/92
- HS 2002 → HS 1988/92
- HS 2007 → HS 1988/92
- HS 2012 → HS 1988/92
- Combined HS → HS 1988/92

All the information was consolidated using the SA 1988/92 classification to obtain 5,017 products (six-digit codes of HS 1988/92). An additional correspondence downloaded from WITS (2016) was then used to transfer the data to SITC Rev. 2. This correspondence enabled the six digits of HS 1988/92 to be transferred to the four- or five-digit level of SITC Rev. 2, which was then reduced to three digits with a view to using the table supplied by the Economic Commission for Latin America and the Caribbean (ECLAC) to regroup goods by technology intensity (see table 1). This table was extracted from Durán Lima and Álvarez (2011), and it classifies the three-digit codes of SITC Rev. 2 into 6 categories and 11 groups.

Table 1
Classification of trade by technology intensity

Category	Three-digit codes of the Standard International Trade Classification, Revision 2
1. Commodities	001, 011, 022, 025, 034, 036, 041, 042, 043, 044, 045, 054, 057, 071, 072, 074, 075, 081, 091, 121, 211, 212, 222, 223, 232, 244, 245, 246, 261, 263, 268, 271, 273, 274, 277, 278, 281, 286, 287, 289, 291, 292, 322, 333, 341.
2. Natural resource-based manufactures	2.1. Industrialized agricultural and forestry products 012, 014, 023, 024, 035, 037, 046, 047, 048, 056, 058, 061, 062, 073, 098, 111, 112, 122, 233, 247, 248, 251, 264, 265, 269, 423, 424, 431, 621, 625, 628, 633, 634, 635, 641.
	2.2. Other natural resource-based products 282, 288, 323, 334, 335, 411, 511, 514, 515, 516, 522, 523, 531, 532, 551, 592, 661, 662, 663, 664, 667, 681, 682, 683, 684, 685, 686, 687, 688, 689.
3. Low-technology manufactures	3.1. Textile and fashion products 611, 612, 613, 651, 652, 654, 655, 656, 657, 658, 659, 831, 842, 843, 844, 845, 846, 847, 848, 851.
	3.2. Other low-technology products 642, 665, 666, 673, 674, 675, 676, 677, 679, 691, 692, 693, 694, 695, 696, 697, 699, 821, 893, 894, 895, 897, 898, 899.
4. Medium-technology manufactures	4.1. Automotive products 781, 782, 783, 784, 785.
	4.2. Medium-technology process industries 266, 267, 512, 513, 533, 553, 554, 562, 572, 582, 583, 584, 585, 591, 598, 653, 671, 672, 678, 786, 791, 882.
	4.3. Medium-technology engineering industries 711, 713, 714, 721, 722, 723, 724, 725, 726, 727, 728, 736, 737, 741, 742, 743, 744, 745, 749, 762, 763, 772, 773, 775, 793, 812, 872, 873, 884, 885, 951.
5. High-technology manufactures	5.1. Electrical and electronic products 716, 718, 751, 752, 759, 761, 764, 771, 774, 776, 778.
	5.2. Other high-technology products 524, 541, 712, 792, 871, 874, 881.
6. Other transactions	351, 883, 892, 896, 911, 931, 941, 961, 971.

Source: J. Durán Lima and M. Álvarez, "Manual on foreign trade and trade policy: basics, classifications and indicators of trade patterns and trade dynamics", *Project Documents* (LC/W.430), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2011.

The procedures relating to the classifications and correspondences used in this study will now be systematized and summarized:

SAC (eight digits) → SAC (six digits) → HS 1988/92 (six digits) → SITC Rev. 2 (three digits) → ECLAC table (technology intensity).

Lastly, the 5,017 product codes of the HS 1988/92 classification are distributed in accordance with their technology intensity as indicated in table 2.

Table 2
Distribution of six-digit codes in the Harmonized Commodity Description and Coding Systems 1988/92 by technology intensity
(Numbers of products)

Categories and groups	
Commodities	619
Natural resource-based manufactures	1 191
Industrialized agricultural and forestry products	476
Other natural resource-based products	715
Low-technology manufactures	1 416
Textile and fashion products	737
Other low-technology products	679
Medium-technology manufactures	1 356
Automotive products	61
Medium-technology process industries	615
Medium-technology engineering industries	680

Table 2 (concluded)

Categories and groups	
High-technology manufactures	398
Electrical and electronic products	205
Other high-technology products	193
Other transactions	37
Total	5 017

Source: Prepared by the authors, on the basis of World Integrated Trade Solutions (WITS), 9 September 2016 [online] <http://wits.worldbank.org/>; J. Durán Lima and M. Álvarez, "Manual on foreign trade and trade policy: basics, classifications and indicators of trade patterns and trade dynamics", *Project Documents* (LC/W.430), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2011.

The general trade indicators used are the trade balance, the export to import ratio, the share of exports in the country total and the shares of El Salvador's trade that are with the United States and Central America.

The diversification indicators used are the number of products exported and export shares by technology intensity. To obtain robust findings, two concentration indicators are used to calculate the level of diversification of El Salvador's basket of exports to Central America and the United States: the normalized Herfindahl-Hirschman Index (*HHI*) and the Theil Index (*TI*). Both indices use the six-digit nomenclature of the HS 1988/92 and group products in accordance with the table of technology intensity (see table 1).

We study the period from 2005 to 2015, examining specifically the years 2005 and 2015 and total trade with the United States and Central America between those years. This period of study was chosen because 2015 is the last year for which final information is available and because international trade data for the maquila industry have been disaggregated by destination or origin and by product in El Salvador's national statistics since 2005.

The *HHI* concentration indicator is calculated as follows:

$$HHI_j = \sum \left(\frac{x_{ij}}{\sum x_{ij}} \right)^2 \quad (1)$$

where HHI_j is the Herfindahl-Hirschman Index for the group of goods j , which may include all goods or a group of them, and x_{ij} is equivalent to good i belonging to j .

To compare the results, this index is normalized as follows:

$$HHIn_j = \left(\frac{HHI_j - 1/n_j}{1 - 1/n_j} \right) * 100 \quad (2)$$

where $HHIn_j$ is the normalized Herfindahl-Hirschman Index for the group of goods j and n_j is the number of products making up j .

The range of values yielded by the *HHI* calculation is from 0 to 100, and the scale proposed by Durán Lima and Álvarez (2011) is used to interpret them:

- Over 18: concentration
- Between 10 and 18: moderate concentration
- Between 0 and 10: diversification

The Theil Index of concentration (*TI*) is calculated as follows:

$$TI_j = \frac{1}{n_j} \sum_{i=1}^{n_j} \left[\frac{x_{ij}}{P_j} * \left(\ln \frac{x_{ij}}{P_j} \right) \right] \quad (3)$$

where TI_j is the Theil Index for the group of goods j , x_{ij} is good i belonging to j , n_j is the number of products in j and $P_j = \frac{\sum_{i=1}^{n_j} x_{ij}}{n_j}$, i.e., the average exports of each of the goods in group j . The range of values of the TI varies depending on the number of products, from 0 to $\ln n_j$. Consequently, to compare the results, the TI will be calculated using the following formula:

$$TI_j = \left\{ \frac{\frac{1}{n_j} \sum_{i=1}^{n_j} \left[\frac{x_{ij}}{P_j} * \left(\ln \frac{x_{ij}}{P_j} \right) \right]}{\ln n_j} \right\} * 100 \quad (4)$$

where the variables have the values that were indicated for formula (3).

In implementing formula (4), the values of the TI range from 0 to 100. Durán Lima and Álvarez (2011) use formula (3) and suggest that, in the case of the five-digit SITC Rev. 2 (1,777 product codes), values above 4 represent concentration and those below 2.5 diversification. Consequently, this case is used to generate a typology as follows: $\left(\frac{4}{\ln 1.777} \right) * 100 \approx 53$; $\left(\frac{2.5}{\ln 1.777} \right) * 100 \approx 33$, and the following scale is used to interpret the results:

- Over 53: concentration
- Between 33 and 53: moderate concentration
- Between 0 and 33: diversification

As can be observed in formulas (3) and (4), if x_{ij} were equal to 0, the calculation of the TI would be undetermined. L'Hôpital's mathematical law is accordingly applied:

$$\lim_{x_{ij} \rightarrow 0} \left(\ln \frac{x_{ij}}{P} \right) = 0 \quad (5)$$

Cadot, Carrère and Strauss-Kahn (2011) argue that one of the advantages of using the TI is that it can be broken down into two parts: one corresponding to the degree of diversification between groups (intergroup) and one showing the degree of diversification within each group (intragroup). This is useful because it indicates whether diversification or concentration is within the groups analysed or between them.

The present study carries out this decomposition for all 5,017 products (TI^T), divided into 11 groups j by technology intensity (see table 1). The TI decomposition was carried out as follows:

$$TI^T = TI^W + TI^B \quad (6)$$

$$TI^W = \sum_{j=1}^J s^j TI_j \quad (7)$$

$$TI^B = \sum_{j=1}^J s^j \left(\ln \frac{P_j}{P} \right) \quad (8)$$

where TI^T is the Theil Index for all 5,017 products analysed, TI^W is the intragroup Theil Index, TI^B is the intergroup Theil Index, s^j is exports of j as a share of total exports, TI^j is the Theil Index for j , P_j is the average export amount of each of the goods in j and P is the average export amount of each of the 5,017 products analysed.

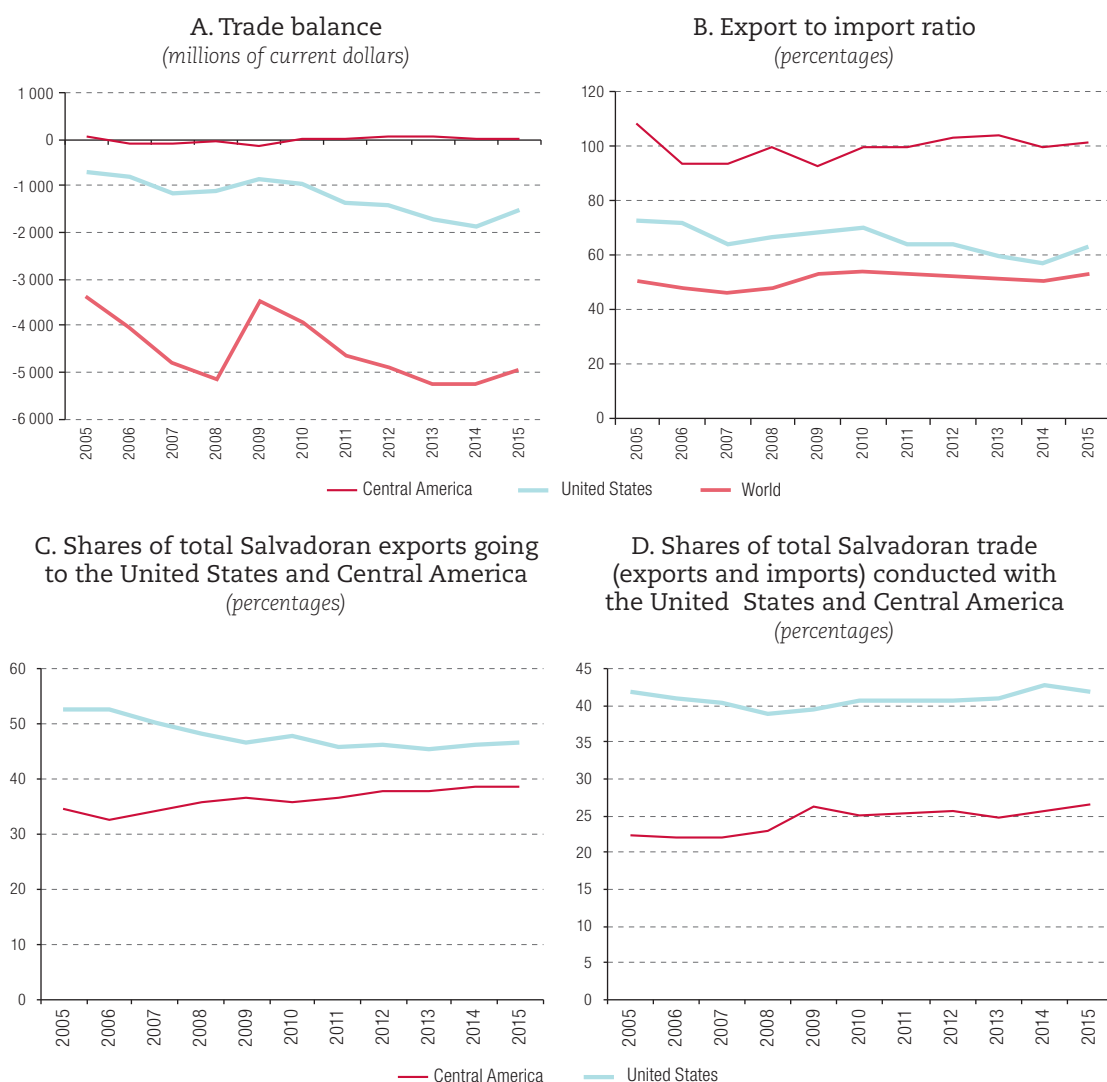
Decomposing the Theil Index is important for interpreting the results, as the intragroup TI is associated with related diversification and the intergroup TI with unrelated diversification.

IV. Results

This section compares the results obtained by calculating the diversification of El Salvador's exports to Central America and to the United States. By way of background, figure 1 presents a comparison of some important trade indicators. Since 2005, El Salvador's trade with Central America has been virtually in balance, whereas the country has been running a growing trade deficit with the United States, much as it has with the world as a whole (see figures 1A and 1B). This is a symptom of the ongoing loss of competitiveness sustained by the Salvadoran export machinery. El Salvador has managed to finance this growing trade deficit thanks to the contribution of family remittances, foreign direct investment and external borrowing.⁶

Figure 1

El Salvador: indicators of trade with the United States and Central America, 2005–2015



Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: The export to import ratio denotes a trade surplus when it is over 100% (balance) and a trade deficit when it is below this.

⁶ According to the Central Reserve Bank of El Salvador database, family remittances covered 82.51% of the total trade deficit between 2005 and 2015.

The data in figures 1C and 1D reveal that El Salvador trades more with the United States than with Central America, with the former accounting for 40.89% of the total between 2005 and 2015 and the latter for 24.58%. Of exports in the period, 36.51% went to Central America and 47.71% to the United States. If maquila is excluded, Central America becomes the leading destination for Salvadoran exports, with 47.47%, while the United States is in second place with 32.36%. This shows that, despite the implementation of CAFTA-DR, maquila exports still account for the bulk of the total, while intraregional trade is the main driver of El Salvador's non-maquila exports.

Heavy dependence on maquila industry has given rise to a dual economy within the country. This economy is characterized by rising labour productivity in the free trade zones that has not spilt over to the rest of the economy (Ugarteche, 1997). Pérez-Caldentey and Vernengo (2008) argue that the problem of countries with a dual economy is that they export cheap labour, either directly via immigration or indirectly via free trade zone regimes. According to Vernengo (2015), this creates problems similar to those the South American economies have with commodity exports, namely recurrent balance-of-payments crises because in the long run imports cannot be financed by exports.

Beteta and Moreno-Brid (2014) argue that the Central American countries participate in global value chains mainly through the maquila industry and export processing free trade zones. Because of this, the dynamism of foreign direct investment in free trade zones is counteracted by the net outward flow of capital and remittances in the form of profits and royalties. In the particular case of El Salvador, Vega, Morales and Ayala (2012) argue that maquila plants have few linkages with the local economy, operate mainly in the textile sector, benefit from tax exemptions and expatriate their profits.

As regards the number of products exported, table 3 shows that in all the categories of goods classified by technology content (with the exception of "other transactions" in 2015 and 2005–2015), a larger number of products are exported to Central America than to the United States. It can be inferred from this that there are more exporting firms, since the literature on intra-Central American trade maintains that most firms operating in intraregional trade are SMEs (see Castillo, Aguilera and García, 2013; Caldentey del Pozo, 2010; Schatan and others, 2008). Consequently, in the context of South-South Central American integration, intraregional trade has greater potential to foster local linkages that strengthen the domestic economy. Conversely, trade with the United States only entrenches a dual economy in which the local production structure is left ever further behind the maquila industry.

The number of products exported grew more quickly between 2005 and 2015 in trade with the United States (16.5%) than with Central America (5.11%). This growth was inadequate, however, for in 2015 El Salvador exported just 21.11% of the maximum possible number of products that could potentially be exported to the United States,⁷ in contrast to a figure of 47.58% for its transactions with Central America. Even so, the diversity of products exported to both the United States and Central America is very low compared to the number of products exported from Guatemala to these same destinations, as the latter exports 5.56% more to the United States and 10.76% more to Central America relative to the maximum number of exportable products.⁸

⁷ The maximum number of exportable products is 5,017, i.e., the 5,017 codes of the six-digit Harmonized Commodity Description and Coding Systems 1988/92.

⁸ This calculation was carried out using statistical information on Guatemalan exports from the United Nations Commodity Trade Statistics Database (COMTRADE) (WITS, 2016).

Table 3
El Salvador: products exported to the United States and Central America,
by technology intensity group, 2005–2015
(Number of products)

Categories and groups	United States			Central America		
	2005	2015	2005–2015	2005	2015	2005–2015
Commodities	62	67	150	137	200	314
Natural resource-based manufactures	119	140	331	450	457	714
Industrialized agricultural and forestry products	92	102	204	219	239	325
Other natural resource-based products	27	38	127	231	218	389
Low-technology manufactures	415	471	791	784	782	1 067
Textile and fashion products	259	267	442	388	386	541
Other low-technology products	156	204	349	396	396	526
Medium-technology manufactures	204	254	623	687	710	1 030
Automotive products	14	19	38	34	37	55
Medium-technology process industries	65	84	201	276	273	413
Medium-technology engineering industries	125	151	384	377	400	562
High-technology manufactures	92	103	233	190	215	303
Electrical and electronic products	62	59	131	114	124	160
Other high-technology products	30	44	102	76	91	143
Other transactions	17	24	30	23	23	29
Total exports	909	1 059	2 158	2 271	2 387	3 457

Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: Use was made of the six-digit Harmonized Commodity Description and Coding Systems 1988/92, which contains 5,017 categories.

Another point that should be emphasized is the unsustainability of the Salvadoran export pattern. The number of products exported was considerably lower in 2015 than in the period studied as a whole, and this was true of transactions both with Central America and, particularly, the United States.⁹ Córcoles, Díaz-Mora and Gandoy (2015) argue that export diversification is one of the factors influencing the survival of export products, which would explain the differences between the country's trade with the United States and with Central America. Likewise, a number of studies indicate that low export survival is one of the main causes of the poor export performance of developing countries (Besedes and Prusa, 2007; Besedes and Blyde, 2010).

In the case of exports to the United States, most of the value is in low-technology manufactures, chiefly from the textile sector (see table 4). This finding matches that obtained by Martínez and Cortés (2004), who calculated from data up to 2002 that the textile sector was the basis of Central American exports to the United States. The main reason for this is the presence of the maquila industry, which operates mainly with the United States. In the period 2005–2015, meanwhile, medium- and high-technology exports to the United States accounted for just 11.48% of all exports to that destination, as compared to 17.63% of exports to Central America. This indicates that the technology intensity of Salvadoran exports is low.

⁹ The number of products exported to the United States in 2015 represented 49.08% of the number of products exported to that country over the whole of the period between 2005 and 2015. In the case of exports to Central America, the figure rises to 69.05%.

Table 4
El Salvador: share of technology-intensive groups in exports to the United States
and Central America, 2005–2015
(Percentages)

Categories and groups	United States			Central America		
	2005	2015	2005–2015	2005	2015	2005–2015
Commodities	4.12	3.94	5.06	2.15	2.94	3.07
Natural resource-based manufactures	4.14	7.22	6.78	24.21	26.47	27.86
Industrialized agricultural and forestry products	3.24	5.35	5.07	17.78	20.77	20.94
Other natural resource-based products	0.90	1.87	1.71	6.43	5.70	6.92
Low-technology manufactures	82.30	79.82	74.86	53.17	51.52	49.18
Textile and fashion products	80.82	78.26	73.56	26.52	22.12	20.05
Other low-technology products	1.48	1.56	1.30	26.65	29.41	29.13
Medium-technology manufactures	2.26	2.00	4.12	12.82	12.20	12.16
Automotive products	0.01	0.07	0.08	0.50	0.19	0.23
Medium-technology process industries	2.00	0.29	3.35	9.26	10.14	9.84
Medium-technology engineering industries	0.25	1.63	0.70	3.06	1.87	2.09
High-technology manufactures	6.91	6.42	7.36	6.10	5.22	5.47
Electrical and electronic products	6.85	6.33	7.28	1.32	0.92	1.16
Other high-technology products	0.06	0.09	0.08	4.79	4.30	4.31
Other transactions	0.26	0.60	1.82	1.54	1.64	2.25
Total exports	100	100	100	100	100	100

Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: Use was made of the six-digit Harmonized Commodity Description and Coding Systems 1988/92, which contains 5,017 categories.

El Salvador's intraregional trade, as opposed to its trade with the United States, is characterized by greater diversity and a larger share of medium- and high-technology exports in the export total, the presence of SMEs and better export survival. This indicates that intraregional trade is a better stage on which to develop the technological and production capabilities needed to move up in global value chains by enhancing export roles.

The distribution of exports in monetary terms has likewise been less heavily concentrated in trade with Central America, with low-technology manufactures the foremost category. Nonetheless, the share of textile and fashion products in El Salvador's intraregional exports is considerably lower, suggesting a more diversified distribution of exports as measured by value. One explanation for this is the small role played by the textile maquila industry in intraregional trade.

In comparative terms, the structure of exports to the United States by value in the different technology intensity categories was much the same in 2015 as in 2005 (see table 4). This may be explained by two factors. The first is the predominance of the textiles sector, encouraged by El Salvador's Free Trade Zones and Bonded Warehouses Regime Act, which came into force in September 1998, before CAFTA-DR. The second is the very limited amount of technological spillover associated with Salvadoran exports to the United States during the study period, so that the structure of exports by value hardly changed. It needs to be emphasized that knowledge transfers via technological spillovers, an expected effect of North-South integration (Schiff, Wang and Olarreaga, 2002), have not occurred in the case of trade between El Salvador and the United States.¹⁰

¹⁰ According to orthodox international trade theory, North-South integration encourages technological spillovers via imports of capital goods. In El Salvador, according to the COMTRADE database consulted in WITS (2016), imports of capital goods from the United States fell from 20.53% of total imports by value in 2005 to 15.30% in 2015. These imports declined every year in the period except 2006, 2009 and 2015. The average annual rate of decline was 2.13% during the study period, and 2008 and 2010 were the years with the highest rates: 17.44% and 10.60%, respectively.

Table 5 uses the *HHI* and *TI* to measure export concentration in 2005 and 2015.¹¹ Although there are large differences in magnitudes, it can be seen that the two indicators confirm the existence of a concentrated export pattern in most of the categories and product groups exported to the United States in both years. In the case of exports to Central America, although the export pattern is moderately concentrated, it looks more diversified when the *TI* data are interpreted.

Table 5
El Salvador: diversification indicators for exports to the United States and Central America, by technology intensity group, 2005 and 2015

Categories and groups	2005							
	United States				Central America			
	<i>HHI</i>	<i>HHI</i> typology	<i>TI</i>	<i>TI</i> typology	<i>HHI</i>	<i>HHI</i> typology	<i>TI</i>	<i>TI</i> typology
Commodities	47.74	C	78.61	C	9.15	D	54.24	C
Natural resource-based manufactures	20.23	C	68.91	C	4.89	D	49.54	MC
Industrialized agricultural and forestry products	28.13	C	68.53	C	6.67	D	48.35	MC
Other natural resource-based products	62.74	C	88.78	C	17.81	MC	62.41	C
Low-technology manufactures	11.52	MC	56.51	C	7.99	D	47.86	MC
Textile and fashion products	11.89	MC	53.46	C	27.36	C	62.46	C
Other low-technology products	10.55	MC	58.81	C	4.73	D	43.28	MC
Medium-technology manufactures	53.15	C	79.93	C	4.69	D	41.21	MC
Automotive products	23.13	C	57.32	C	52.49	C	70.23	C
Medium-technology process industries	24.27	C	87.73	C	53.20	C	45.00	MC
Medium-technology engineering industries	27.38	C	51.33	MC	5.16	D	39.81	MC
High-technology manufactures	39.48	C	80.38	C	26.45	C	65.21	C
Electrical and electronic products	40.07	C	79.06	C	19.86	C	53.45	C
Other high-technology products	18.02	C	62.44	C	41.44	C	75.12	C
Other transactions	41.79	C	66.60	C	19.72	C	47.01	MC
Total exports	8.16	D	58.08	C	2.74	D	42.49	MC
Categories and groups	2015							
	United States				Central America			
	<i>HHI</i>	<i>HHI</i> typology	<i>TI</i>	<i>TI</i> typology	<i>HHI</i>	<i>HHI</i> typology	<i>TI</i>	<i>TI</i> typology
Commodities	49.12	C	79.18	C	7.75	D	54.82	C
Natural resource-based manufactures	10.46	MC	60.93	C	4.91	D	49.12	MC
Industrialized agricultural and forestry products	15.32	MC	60.06	C	6.31	D	47.40	MC
Other natural resource-based products	30.14	C	78.23	C	21.02	C	61.96	C
Low-technology manufactures	10.34	MC	56.52	C	3.31	D	43.51	MC
Textile and fashion products	10.70	MC	53.69	C	7.43	D	50.94	MC
Other low-technology products	6.48	D	52.64	MC	5.97	D	45.58	MC
Medium-technology manufactures	51.36	C	76.47	C	3.21	D	41.56	MC
Automotive products	41.08	C	71.26	C	9.71	D	37.44	MC
Medium-technology process industries	41.96	C	55.57	C	11.05	MC	42.96	MC
Medium-technology engineering industries	76.53	C	87.44	C	4.39	D	37.61	MC
High-technology manufactures	62.25	C	85.81	C	29.95	C	65.70	C
Electrical and electronic products	63.99	C	85.89	C	9.51	D	44.86	MC
Other high-technology products	12.69	MC	54.88	C	43.72	C	75.36	C
Other transactions	54.61	C	75.57	C	17.21	MC	45.62	MC
Total exports	7.02	D	64.84	C	1.37	D	45.77	MC

Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: Use was made of the six-digit Harmonized Commodity Description and Coding Systems 1988/92, which contains 5,017 categories. *HHI* is the normalized Herfindahl-Hirschman Index and *TI* is the Theil Index, while C stands for concentrated, MC for moderately concentrated and D for diversified.

¹¹ The *HHI* tends to produce overestimates when calculated for a large number of products. Consequently, preference will be given to the *TI* values when analysing the diversification of all products exported.

Going by the *HHI* and *TI* values, there were three groups of products whose exports to the United States were more diversified in 2005: textile and fashion products, automotive products and other high-technology products. In 2015, on the other hand, only the other high-technology products group exhibited greater diversification in the case of the United States than of Central America, and that group of products represents only a small proportion of the country's total exports.¹² This confirms that the profile of exports to the United States is undynamic and based on static comparative advantages, such as abundant low-skilled labour.

Taking all products together, there was a loss of export diversification between 2005 and 2015, and this was greater in transactions with the United States than with Central America (see table 6). Nonetheless, there were improvements in the diversification of some product categories and groups. Going by the *HHI* and the *TI*, diversification improved in two product categories and five groups in the case of trade with the United States and in two product categories and seven groups in that of intraregional trade. Where exports to Central America were concerned, however, diversification increased most in the high- and medium-technology groups, while in the case of exports to the United States it increased most in the low-technology and natural resource-based manufactures groups.¹³

Table 6

El Salvador: differences between diversification indicators for exports to the United States and Central America, by technology intensity group, 2005 and 2015

Categories and groups	United States		Central America	
	<i>HHI</i>	<i>TI</i>	<i>HHI</i>	<i>TI</i>
Commodities	1.38	0.57	-1.41	0.58
Natural resource-based manufactures	-9.77	-7.98	0.02	-0.42
Industrialized agricultural and forestry products	-12.81	-8.47	-0.36	-0.94
Other natural resource-based products	-32.59	-10.56	3.20	-0.45
Low-technology manufactures	-1.19	0.02	-4.68	-4.35
Textile and fashion products	-1.20	0.23	-19.93	-11.51
Other low-technology products	-4.07	-6.17	1.23	2.31
Medium-technology manufactures	-1.79	-3.46	-1.49	0.35
Automotive products	17.95	13.95	-42.78	-32.80
Medium-technology process industries	17.69	-32.16	-42.15	-2.04
Medium-technology engineering industries	49.15	36.11	-0.77	-2.19
High-technology manufactures	22.77	5.43	3.50	0.48
Electrical and electronic products	23.92	6.83	-10.35	-8.59
Other high-technology products	-5.33	-7.56	2.28	0.24
Other transactions	12.82	8.96	-2.51	-1.39
Total exports	-1.14	6.76	-1.37	3.28

Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: Use was made of the six-digit Harmonized Commodity Description and Coding Systems 1988/92, which contains 5,017 categories. The *HHI* is the normalized Herfindahl-Hirschman Index and the *TI* is the Theil Index. The differences were obtained by subtracting the value of the 2005 indicator from that of the 2015 indicator. Thus, these different indicators show export diversification improving in the categories and groups that present negative numbers (shaded).

El Salvador's basket of exports to the United States became less diverse overall, with increased diversification in low-technology product groups being inadequate to offset this. The reason is that non-maquila sectors have languished in exports to that country, with the result that few products are exported and exports are heavily concentrated by value.

¹² Table 4 shows that other high-technology products accounted for a mere 0.08% of exports between 2005 and 2015.

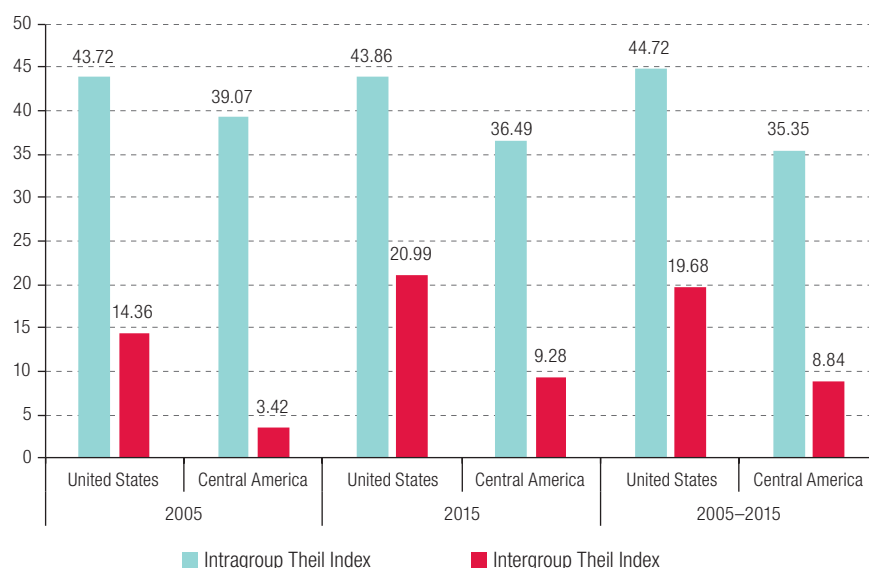
¹³ In the case of trade with the United States, the level of diversification only increased in one high- or medium-technology group (other high-technology products), while in the case of trade with Central America it increased in four groups (all the medium-technology groups plus electrical and electronic products).

By contrast, although regional integration has been neglected in Salvadoran trade policy (Caldentey del Pozo, 2010), the increased diversification of El Salvador's export basket in intraregional trade between 2005 and 2015 took place in medium- and high-technology groups. Thus, trade within the framework of South-South Central American integration has greater potential to generate the dynamic effects of export diversification (see Agosin, 2009). Besides presenting greater diversification, the regional context favours exports of non-assembled manufactures, which contribute greater value added to the economy as a whole and generate more growth opportunities for SMEs (Schatan and others, 2008).

According to Samen (2010), export concentration entails economic and political risks. The economic risks are associated with export volatility and instability, which affect export earnings, growth, employment, investment, the trade balance and inflation, among other things. In the long run, there are also risks associated with the deterioration of the terms of trade, resulting in a low level of production linkage. From the political point of view, Collier (2002) argues that economic risks can lead to lawlessness and even armed conflicts.

To evaluate related and unrelated diversification, the *TI* is broken down into intragroup *TI* (associated with the former) and intergroup *TI* (associated with the latter). Figure 2 shows that the level of concentration of exports to both Central America and the United States is mostly explained by intragroup concentration. This reveals a lack of related diversification, which is a hindrance to efforts to move up in global value chains because there are few technological spillovers contributing to the spread of knowledge (Boschma and Iammarino, 2009). Concentration as measured by the intergroup *TI* also grew between 2005 and 2015, reducing unrelated diversification and increasing vulnerability to any crisis within a related production sector or sectors (Essletzbichler, 2005).

Figure 2
El Salvador: decomposition of the Theil Index for exports to the United States and Central America, 2005–2015



Source: Prepared by the authors, on the basis of information from the Trade Balance Data Base of the Central Reserve Bank of El Salvador.

Note: Use was made of the six-digit Harmonized Commodity Description and Coding Systems 1988/92, which contains 5,017 categories.

Over all the periods analysed in figure 2, related and unrelated diversification is greatest in the case of exports to Central America. Accordingly, it is suggested that Central American trade integration should be promoted as a mechanism for developing the technological and production capabilities of El Salvador through greater technological spillovers and a more stable macroeconomic environment.

According to Amaya and Cabrera (2013), El Salvador needs to diversify its export basket to achieve greater technology content in its exports, enhance production linkages and thus attain a higher level of economic growth that is sustainable over time. In addition, intraregional trade is presented as an opportunity to counteract the negative effects of the dual economy created by the maquila industry and thereby bring about structural change that helps create the virtuous growth circle suggested by Beteta and Moreno-Brid (2014), reduce dependence on specific products and mitigate the adverse developments that are a recurring feature of international markets. This opportunity can be taken up by strengthening intraregional trade and improving Central American economic integration mechanisms.

V. Conclusions

The virtues of intraregional trade as identified by research into Central America are reflected in the empirical analysis of this study. It has been found that El Salvador's trade with Central America presents higher levels of diversification, sophistication and commercial performance than the country's trade with the United States.

This is demonstrated by the fact that in trade with Central America the number of products exported is greater, production is more sophisticated (going by the value of medium- and high-technology exports) and the number of sophisticated products is greater. There is also greater export diversification generally and in all technology content groups, with the exception of other high-technology products. The main reason why exports to Central America are more diverse concerns the characteristics of the firms participating in El Salvador's international trade. Firms exporting to the United States are mainly part of the maquila industry system, which is operated by large multinationals from that country, while those operating in intraregional trade are mainly SMEs that have greater production linkages with the local economy.

The present study has found evidence that, in the case of El Salvador, it is more advisable to strengthen South-South integration (Central American integration) than North-South integration (integration with the United States). Although a more detailed study of the subject is needed, the findings suggest that there are greater opportunities for technological spillovers with South-South integration than with North-South integration. This assertion is supported by the fact that, between 2005 and 2015, the structure of the amounts exported to the United States by technology intensity was static, imports of capital goods from that country fell and exports to it exhibited little related diversification.

This paper proposes that strengthening trade relations with Central America is a better mechanism for capitalizing on the dynamic effects of trade integration and export diversification in the case of El Salvador. Concerted intraregional integration among Central American countries could enable them to move up global value chains together, while also helping to ensure greater participation by SMEs in international trade, diversification of the export basket, greater survival of exported products, strengthening of local production linkages, development of technological capabilities through technological spillovers (greater related diversification), reduction of fragility in the face of crises that may arise in a production sector or sectors (greater unrelated diversification) and a lessening of vulnerability to speculative movements in international markets.

There is a degree of consensus among different groups in Salvadoran society about the need to design an export diversification strategy. In fact, concrete steps are already being taken in that direction and the best example is the National Policy for Development, Diversification and Productive Transformation of El Salvador. There is also consensus regarding the importance of intraregional trade and Central American economic integration for the economic development of El Salvador and

Central America in general. However, as Caldentey del Pozo (2010) points out, El Salvador's bilateral trade agreements, especially those of a North-South character, such as CAFTA-DR, have relegated the promotion of intraregional trade and Central American economic integration to the background.

Within the framework of a strategic country vision, unifying national development policy and diversifying and transforming the economic structure of El Salvador with a trade policy focused on intraregional trade could, in combination with Central American economic integration, create the synergies needed to promote the competitiveness of the Salvadoran production apparatus, increase technological capabilities and generate sustainable and growing incomes that would ultimately improve the living standards of the population.

Bibliography

- Agosin, M. (2009), "Export diversification and growth in emerging economies", *CEPAL Review*, No. 97 (LC/G.2400-P), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Amaya, P. and O. Cabrera (2013), "La transformación estructural: una solución a la trampa de bajo crecimiento económico en El Salvador", *Working Paper*, No. 2013-01, San Salvador, Central Reserve Bank of El Salvador.
- Balassa, B. (1961), *The Theory of Economic Integration*, London, George Allen & Unwin.
- Bekerman, M. and C. Rikap (2010), "Regional integration and export diversification in MERCOSUR: the case of Argentina and Brazil", *CEPAL Review*, No. 100, Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Bell, M. and K. Pavitt (1992), "Accumulating technological capability in developing countries", *Proceedings of the World Bank Annual Conference on Development Economics*, Washington, D.C., World Bank.
- Besedes, T. and J. Blyde (2010), "What drives export survival?: an analysis of export duration in Latin America" [online] http://siteresources.worldbank.org/INTRANETTRADE/Resources/Internal-Training/287823-1256848879189/Besedes_Mar16_2010.pdf.
- Besedes, T. and T. Prusa (2007), "The role of extensive and intensive margins and export growth", *NBER Working Paper*, No. 13628, Cambridge, Massachusetts, National Bureau of Economic Research (NBER).
- Beteta, H. and J. Moreno-Brid (2014), *Structural change and growth in Central America and the Dominican Republic: an overview of two decades, 1990-2011*, ECLAC Books, No. 122 (LC/G.2600-P), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Boschma, R. and S. Iammarino (2009), "Related variety, trade linkages, and regional growth in Italy", *Economic Geography*, vol. 85, No. 3.
- Cadot, O., C. Carrère and V. Strauss-Kahn (2011), "Export diversification: what's behind the hump?", *The Review of Economics and Statistics*, vol. 93, No. 2, Cambridge, Massachusetts, The MIT Press.
- Caldentey del Pozo, P. (2010), "Panorama de la integración centroamericana: dinámica, intereses y actores", *El SICA y la UE: la integración regional en una perspectiva comparada*, P. Caldentey and J. J. Romero Rodríguez (eds.), Córdoba, ETEA Foundation for Development and Cooperation.
- _____(2000), *El desarrollo económico de Centroamérica en el marco de la integración regional*, Tegucigalpa, Central American Bank for Economic Integration (CABEI).
- Calderón, C., D. González and C. Sanabria (2008), "Efecto exportador y tratado comercial con Estados Unidos: una evaluación coyuntural", *Working Paper*, No. 2008-02, San Salvador, Central Reserve Bank of El Salvador.
- Castillo, J., E. Aguilera and C. García (2013), "Centroamérica: lo impostergable de una diversificación comercial coherente", *Problemas del Desarrollo*, vol. 44, No. 174, Mexico City, National Autonomous University of Mexico.
- Coe, D. and E. Helpman (1995), "International R&D spillovers", *European Economic Review*, vol. 39, No. 5, Amsterdam, Elsevier.
- Cohen Orantes, I. (1981), "The concept of integration", *CEPAL Review*, No. 15 (E/CEPAL/G.1187), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Collier, P. (2002), "Primary commodity dependence and Africa's future", *Annual Bank Conference on Development Economics*, B. Pleskovic and N. Stern (eds.), New York, Oxford University Press.

- Córcoles, D., C. Díaz-Mora and R. Gandoy (2015), "Export survival in global value chains", *World Economy*, vol. 38, No. 10, Wiley.
- Durán Lima, J. and M. Álvarez (2011), "Manual on foreign trade and trade policy: basics, classifications and indicators of trade patterns and trade dynamics", *Project Documents* (LC/W.430), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Ernst, D. (2003), "Redes globales de producción, difusión de conocimiento y formación de capacidades locales: un marco conceptual", *La industria electrónica en México: problemática, perspectivas y propuestas*, E. Dussel, J. Palacios and G. Woo (coords.), Guadalajara, University of Guadalajara.
- Essletzbichler, J. (2005), "Diversity, stability and regional growth in the U.S. (1975-2002)", *Papers in Evolutionary Economic Geography*, No. 0513, Utrecht, Utrecht University.
- Frenkel, K., F. van Oort and T. Verburg (2007), "Related variety, unrelated variety and regional economic growth", *Regional Studies*, vol. 41, No. 5, Taylor & Francis.
- Gereffi, G. (1996), "Global commodity chains: new forms of coordination and control among nations and firms in international industries", *Competition and Changes*, vol. 1, No. 4, SAGE.
- Guerra-Borges, A. (2009), "La integración centroamericana en los noventa", *Fin de época: de la integración tradicional al regionalismo estratégico*, A. Guerra-Borges (coord.), Mexico City, Siglo XXI.
- Hausmann, R., J. Hwang and D. Rodrik (2007), "What you export matters", *Journal of Economic Growth*, vol. 12, No. 1, Springer.
- Lara, E. (2003), "El Salvador a trece años de políticas de ajuste y estabilización económica", *Teoría y Praxis*, No. 2, San Salvador, Editorial Universidad Don Bosco.
- Martínez, J. and E. Cortés (2004), "Competitividad centroamericana", *Studies and Perspectives series*, No. 21 (LC/L.2153-P), Mexico City, ECLAC subregional headquarters in Mexico.
- Pérez Caldentey, E. and M. Vernengo (2008), "Back to the future: Latin America's current development strategy", *The IDEA's Working Paper Series*, No. 07/2008.
- Regolo, J. (2013), "Export diversification: how much does the choice of the trading partner matter?", *Journal of International Economics*, vol. 91, No. 2, Amsterdam, Elsevier.
- Requeijo, J. (1995), *Economía mundial: un análisis entre dos siglos*, Madrid, McGraw-Hill.
- Samen, S. (2010), "A primer on export diversification: key concepts, theoretical underpinnings and empirical evidence", *Working Paper*, Washington, D.C., World Bank Institute.
- Sanguinetti, P., J. Pantano and J. Posadas (2004), "Regional integration and trade diversification in South-South agreements: evidence from MERCOSUR", *Working Paper*, Buenos Aires, Torcuato Di Tella University.
- Schatan, C. and others (2008), "Integración regional e integración con Estados Unidos: el rumbo de las exportaciones centroamericanas y de República Dominicana", *Studies and Perspectives series*, No. 93 (LC/L.2862-P), Mexico City, ECLAC subregional headquarters in Mexico.
- Schiff, M., Y. Wang and M. Olarreaga (2002), "Trade-related technology diffusion and the dynamics of North-South and South-South integration", *Policy Research Working Paper*, No. 2861, Washington, D.C., World Bank.
- Schweickert, R. (1994), "Regional integration: a worthwhile strategy for catching up?", *Kiel Working Papers*, No. 623, Kiel, Kiel Institute for the World Economy.
- Ugarteche, O. (1997), *El falso dilema: América Latina en la economía global*, Lima, Friedrich Ebert Foundation.
- Vega, L., R. Morales and R. Ayala (2012), "La violencia e inseguridad económica de los veinte años de paz", *Estudios Centroamericanos (ECA)*, vol. 67, No. 728, José Simeón Cañas Central American University.
- Vernengo, M. (2015), "Una lectura crítica al modelo de Thirlwall", *Investigación Económica*, vol. 74, No. 292, Mexico City, National Autonomous University of Mexico.
- Viner, J. (1950), *The Customs Union Issue*, New York, Carnegie Endowment for International Peace.
- WITS (World Integrated Trade Solutions) (2016), 9 September [online] <http://wits.worldbank.org/>.