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# How has "Turkey's Africa Strategy" been Affecting Turkey's Exports to Africa?

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Evidence from Firm-Level Data for 2003-2012

**Abdullah Emre Akel\***

## **Abstract**

The main objective of this paper is to examine whether "Turkey's Africa Strategy" has significant contributions to Turkey's exports to Africa in the last decade or not. In this context, a descriptive firm-level analysis, which uses a number of definitions such as "Firm Entry, Exit and Survival Rates", as well as the breakdown of Turkey's exports to Africa by "Intensive and Extensive Margins of Exports" using annual firm-product-country level data for 2003-2012 is implemented to bring out characteristics of Turkish exports to Africa in detail. The results suggest that although Turkey's Africa Strategy has been successful in creating awareness among Turkish SMEs to direct their attention to Africa, Turkish exporters cannot survive in the African market. In addition, new exporters' contribution to Turkey's exports to Africa is limited in each year, while the main source of the exports growth are the changes in intensive margin, where short-term survivors have the key role. Concerning most of the exporters to Africa, share of exports to Africa in their total exports is below 20%, while their main exports destinations are the EU and Middle East countries. Besides, exporters' interest in Africa is still concentrated into the North African countries, although there is an increasing market diversification into the South. It turns out that increasing interest and activities of Turkey's competitors in Africa, especially those of China and India, makes it harder for Turkish exporters to survive in the market. Hence, Turkey needs to reconsider its Africa Strategy while taking into account its competitors' strategies for sustainable economic relations in the continent.

**JEL-Code:** D22, F14.

**Key Words:** Turkey, Africa, Exports, Firm-Level, Decomposition of Exports.

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# **How has "Turkey's Africa Strategy" been Affecting Turkey's Exports to Africa?**

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## **I. Introduction**

Turkey's willingness to become a regional power in terms of politics and economy has been increasing in recent years. Coherently, Turkey's interest in Africa, which was very limited since early 21th century, has been increasing gradually. In this context, Turkey is trying to expand her existing relations with the North African countries, where Turkey has historical ties from the Ottoman Empire, to Africa continent as a whole and enhancing her relations with the African Union (AU) to meet this goal. Turkey began to participate in the AU Summits as a guest country after 2002 and obtained "observer status" in the AU in 2005, where the AU demonstrated its intention to strengthen the relations with Turkey by declaring Turkey as the strategic partner of the continent in 2008<sup>1</sup>. Soon afterwards, in 2010, Turkey formally announced its Africa Strategy, which has special focus on increasing humanitarian activities in Africa, to accelerate relations with African countries. Supported with increasing financial aid to the continent, Turkey has been trying to build a sustainable path for the relations with African countries.

Undoubtedly, Turkey is not the only economy that has interest in Africa and developing relationships with African countries. Due to the rise of emerging economies, especially in the last decade, demand for some key raw materials has led many countries to strengthen their economic ties with African countries. In this context, between 2004 and 2008, in addition to Africa-Turkey partnership, the AU developed a number of partnerships including the Africa-South America Africa-India and Africa-South Korea partnerships. During the same period, existing cooperation between Africa and its traditional partners, such as the US, the EU, China and Japan were re-defined and invigorated<sup>2</sup>. In consistence with the vision and development strategy of the AU, all of these partnerships have emphasis on speeding up industrialization, development of infrastructure, development and acquisition of technology and know-how and development of

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<sup>1</sup> For detailed information, please visit [http://www.mfa.gov.tr/the-united-nations-organization-and-turkey\\_.en.mfa](http://www.mfa.gov.tr/the-united-nations-organization-and-turkey_.en.mfa), October 17, 2013.

<sup>2</sup> For detailed information, please visit <http://www.au.int/en/sites/default/files/Partnerships.pdf>, October 17, 2013.

human capital in Africa. Therefore, obviously, Turkey's competitors' activities in Africa would affect prospective outcomes of Turkey's Africa Strategy and imply that Turkey would need to adopt its own strategy taking into account recent developments in the continent.

Unlike Turkey's humanitarian activities oriented approach, many countries' increasing interest in Africa mostly shares a common perspective that is to secure access to raw materials, especially *oil products* and *rare earth elements*. For example, concerning "rare earth elements", which are mainly used for green and/or high-tech products, where China controls approximately 97% of global production and implements exports restriction on most of them (Hurst, 2010), developed economies begin to realize new types of raw materials strategies<sup>3</sup>. In addition, China's and India's increasing demand for raw materials played a significant role in shaping the developments in world supply and demand in 2000s, while developed economies were trying to secure access to necessary amount of resources for their future production. Therefore, interest in Africa, which has *about 12% of the world's oil reserves, 42% of its gold, 80–90 % of chromium and platinum group metals, and 60 % of arable land in addition to vast timber resources* (UN et al.,2013), increased tremendously since the beginning of the new century.

Hence, the shifting global economic balance began to restructure the relationship between African countries and their traditional trading partners. Currently, the US, the EU and Japan have a comprehensive Africa Strategy that covers a wide range of areas including legislative issues, financial aid, health, technical assistance, improving infrastructure, maintaining sustainable growth, etc. In addition, China and India have been pursuing aggressive strategies in the last decade that turned them into major players in Africa, especially concerning trade and investment<sup>4</sup>. For example, China, thanks to her aggressive Africa Strategy<sup>5</sup>, has become Africa's largest trade partner, and Africa is now China's major import source, second largest overseas

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<sup>3</sup> For detailed information on major economies' raw material and Africa strategies, please see U.S. Department of Energy (2010), Ramdoo (2011), European Commission (2008, 2011) and visit the website of "Focus Africa Programme" of India at [http://www.commerce.nic.in/trade/international\\_tpp\\_africa.asp](http://www.commerce.nic.in/trade/international_tpp_africa.asp), October 17, 2013.

<sup>4</sup> Please see Appendix Table 1 and Table 2 for details.

<sup>5</sup> For detailed information, please see China-Africa Economic and Trade Cooperation (2013).

construction project contract market and fourth largest investment destination. Similarly, thanks to its “Focus Africa Programme” since 2002<sup>6</sup>, India advanced to the fourth place in exports and the fifth place in imports of Africa in 2012, despite the fact that India was not in the top ten trading partner list of Africa at the beginning of 2000s<sup>78</sup>.

Given the globally increasing interest in Africa, the main objective of this paper is to examine whether "Turkey's Africa Strategy" has significant contributions to Turkey’s exports to Africa in the last decade or not. In this context, a descriptive firm-level analysis, which uses a number of definitions such as “Firm Entry, Exit and Survival Rates”, as well as the breakdown of Turkey’s exports to Africa by “Intensive and Extensive Margins of Exports” using annual firm-product-country level data for 2003-2012 is implemented to bring out characteristics of Turkish exports to the continent in detail.

Although there are some studies<sup>9</sup> and many resources on the web<sup>10</sup> that gives detailed information on Turkey’s Africa Policy and interest in Africa, there is no paper that focuses on firm-level exporter dynamics of Turkey’s exports to Africa or empirically assesses the effects of Turkey’s Africa Strategy on Turkey’s exports to Africa. Therefore, this study will be the first of its kind according to our knowledge.

The results suggest that although Turkey’s Africa Strategy has been successful in creating awareness among Turkish SMEs to direct their attention to Africa, Turkish exporters cannot survive in the African market. In addition, new exporters’ contribution to Turkey’s exports to the

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<sup>6</sup> For detailed information, please visit [http://www.commerce.nic.in/trade/international\\_tpp\\_africa.asp](http://www.commerce.nic.in/trade/international_tpp_africa.asp), October 17,2013.

<sup>7</sup> Although both China and India have success stories in Africa, Broadman (2008) implies that they are not using similar tools due to differences in their culture, political systems and economic policies, which directly influence their ways of doing business in China. Broadman (2008) points out that most Chinese businesses on the continent are medium-sized or large state-owned or state-controlled enterprises, whereas Indian companies vary more in size and are typically either privately owned or under mixed private-public ownership. In addition, Broadman (2008) states that Chinese firms tend to enter new markets in Africa by building new facilities, creating business entities that are vertically integrated, buying supplies from China rather than local markets, and selling in Africa mostly to government entities by outbidding competitors for procurement contracts from local governments; while most Indian firms in Africa acquire established businesses, are less vertically integrated, prefer to procure supplies locally or from international markets (rather than from Indian suppliers), engage in far more sales to private African entities, and encourage the local integration of their workers. Meanwhile, commercial activities of Chinese and Indian companies in Africa has been significantly backed by their public support programs for trade and investment.

<sup>8</sup> For detailed information on India’s investments in Africa, please see CII/WTO (2013).

<sup>9</sup> Such as Afacan (2013) and Hazar (2013).

<sup>10</sup> The websites of the Ministry of Foreign Affairs and ORSAM(Center for Middle Eastern Strategic Studies) have a number of e-resources regarding Turkey’s relations and interest in Africa.

continent in each year is limited, while the main source of the exports growth are the changes in intensive margin, where short-term survivors have the key role. Concerning most of the exporters to the region, share of exports to Africa in their total exports is below 20%, while their main exports destinations are the EU and Middle East countries. Besides, exporters' interest in Africa is still concentrated into the North African countries, although there is an increasing market diversification into the South. It turns out that increasing interest and activities of Turkey's competitors in Africa, especially those of China and India, makes it harder for Turkish exporters to survive in the market. Hence, Turkey needs to reconsider its Africa Strategy while taking into account its competitors' strategies for sustainable economic relations in the continent.

The flow of the paper will be as follows: After this introduction, Turkey's relations with Africa in 2000s will be summarized in Section 2. In section 3, data and methodology for firm-level analysis will be presented. Stylized facts from the firm-level analysis will take place in Section 4, which will be followed by some policy suggestions and conclusion remarks in the final section.

## **II. Overview of Turkey's Relations with Africa in 2000s**

Turkey's first serious attempt to develop sustainable relations with African countries dates back to 1998. In 1998, the Ministry of Foreign Affairs prepared an Action Plan that aims at "*Opening up to Africa*" in order to improve Turkey's relations with the continent in every possible area<sup>11</sup>. However, due to the political instabilities and financial crises of 1998 and 2001 in Turkey, opening to Africa became a secondary issue, until when a single-party government established in 2002 and the economic fluctuations began to stabilize in 2003. In the same year, the Undersecretariat for Foreign Trade (which was turned into the Ministry of Economy in 2011) prepared "Developing Economic Relations with Africa Strategy", in which trade missions and fairs were used as the main tools to increase awareness among the firms in Turkey regarding

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<sup>11</sup> For detailed information, please visit <http://www.mfa.gov.tr/turkey-africa-relations.en.mfa>, October 17, 2013.



Africa (DTM, 2008). In addition, Turkey announced the year 2005 as “the Year of Africa”, in which reciprocal high-level visits were made to sign economic and commercial agreements<sup>12</sup>. In response to the eager attempts of Turkey to increase economic relations, most African countries were open for cooperation, yet vigilant.

## **II-A) Turkey’s Developing Relations with Africa and Africa Strategy**

The First Turkey-Africa Cooperation Summit, which was held on 18-21 August 2008 in İstanbul, can be regarded as the milestone of the new era for Turkey-Africa relations. “The İstanbul Declaration on Turkey-Africa Partnership: Solidarity and Partnership for a Common Future” and its annex “Framework of Cooperation for Turkey-Africa Partnership” were adopted at this Summit<sup>13</sup>. In this context, “Inter-governmental Cooperation”, “Trade and Investment”, “Agriculture, Agribusiness, Rural Development, Water Resources Management and Small and Medium Scale Enterprises (SMEs)”, “Health”, “Peace and Security”, “Infrastructure, Energy and Transport”, “Culture, Tourism and Education”, “Media and Information and Communication Technology” and “Environment” were determined as the areas of cooperation<sup>14</sup>.

Since the new approach to relations with Africa included many different areas, an inevitable need for collaborative set of actions among many institutions in Turkey emerged. Therefore, as announced in the Official Gazette in July 2010 in a Circular from the Prime Ministry<sup>15</sup>, which is also known as the “Africa Strategy Document”, “Africa Strategy Coordination Committee” was established, where the Ministry of Foreign Affairs was assigned as the coordinator institution.

In this context, within the framework of the follow-up mechanism adopted at the Summit in 2008, first High Level Officials Meetings between Turkey and the AU took place in İstanbul in 2010. The primary outcome of the meeting was the “Joint Implementation Plan of the Turkey-

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<sup>12</sup> For detailed information, please visit <http://www.mfa.gov.tr/turkiye-afrika-iliskileri.tr.mfa>, October 17, 2013.

<sup>13</sup> For detailed information, please visit [http://www.mfa.gov.tr/the-united-nations-organization-and-turkey\\_.en.mfa](http://www.mfa.gov.tr/the-united-nations-organization-and-turkey_.en.mfa), October 17, 2013.

<sup>14</sup> The İstanbul Declaration on Africa - Turkey Partnership: “Solidarity and Partnership for a Common Future” (2008)

<sup>15</sup> For detailed information, please visit <http://www.resmigazete.gov.tr/eskiler/2010/03/20100326-16.htm>, October 17, 2013

Africa Partnership 2010-2014”, in which priority areas were determined as agriculture, education, health, trade and investment, energy, peace and security among others, as had been defined at the 2008 Turkey-Africa Cooperation Summit. In 2011, a Ministerial Review Conference was realized to evaluate the developments since 2008 and to share ideas on how to enhance the Turkish-African partnership<sup>16</sup>, in which 2010-2014 Joint Implementation Plan was also adopted. The most recent event was the Second High Level Officials Meeting in Addis Ababa in June 2013<sup>17</sup>, in which developments since the first meeting in 2010 were reviewed and preparations for the Second Africa-Turkey-Partnership Summit were discussed.

In the Second High Level Officials Meeting, Turkey announced that the “Opening up to Africa Policy” has been replaced by “Turkey’s African Partnership Policy”<sup>18</sup>. In this context, Turkey declared to pursue a multilayered policy in Africa as follows:

- *Establishing close political relations by intensifying bilateral high level visits and, by acting as the voice of Africa, defending the rights of African nations at the bilateral and multilateral level,*
- *Partnering with African countries in the economic sphere to overcome their difficulties through trade, investment and humanitarian assistance,*
- *When requested, playing a role through diplomacy in the settlement of conflicts and disputes in Africa,*
- *Working together with African countries to make progress in areas such as democracy and good governance,*
- *Cooperating with the international and regional organizations such as African Union (AU), Economic Community of West African States (ECOWAS), Intergovernmental*

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<sup>16</sup> For detailed information, please visit, [http://www.mfa.gov.tr/the-united-nations-organization-and-turkey\\_.en.mfa](http://www.mfa.gov.tr/the-united-nations-organization-and-turkey_.en.mfa), October 17, 2013.

<sup>17</sup> For detailed information, please visit, <http://www.au.int/en/content/africa-turkey-high-level-officials-meeting>, October 17, 2013.

<sup>18</sup> For detailed information, please visit, <http://www.au.int/ar/sites/default/files/Turkey-Africa%20Partnership%20High%20Level%20Officials%20Meeting.pdf>, October 17, 2013.

*Authority on Development (IGAD), The East African Community (EAC), The Common Market for Eastern and Southern Africa (COMESA), The Southern African Development Community (SADC), UN and others to increase dialogue, understanding and peace in the region,*

- *Participation in peacekeeping missions in Africa.*

Although there is no official publicly available paper from the Ministry of Foreign Affairs that clearly describes Turkey's Africa Strategy, in his speech at the "African Strategies Sectoral Review Meeting" in September 2013, the Minister of Foreign Affairs, Mr. Ahmet DAVUTOĞLU, stated that Turkey's Africa Strategy has three main dimensions: philosophy, methodology and strategy<sup>19</sup>. In terms of philosophy, humanitarian aspect of this initiative is presented as much important as its economic and political aspects, which shows the distinctive stance of Turkey compared to any other countries that have interest in the continent. Concerning the methodology, thanks to the collaborative mechanism in Turkey among all public institutions, NGO's and some strategic enterprises such as Turkish Airlines (THY), the Africa Strategy is expected to be more fruitful than the attempts that were made to Latin America and some African countries in the past, where the projects were planned and tried to be implemented only by the Ministry of Foreign Affairs. Finally, combined with the philosophy and methodology, strategic goal of the opening is described as to turn Turkey into a global power that shows its presence in every part of the world as a global actor.

In the same speech, some opportunities for Turkey in Africa were highlighted as:

- *Rich natural resources of the continent,*
- *Rich human resources with increasing young population in the continent,*
- *Need for higher levels of urbanization in many countries in the continent,*
- *Need for better infrastructure in many countries in the continent,*

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<sup>19</sup> For detailed information, please visit <http://www.mfa.gov.tr/disisleri-bakani-sayin-ahmet-davutoglu-nun-afrika-stratejileri-sektorel-degerlendirme-toplantisinin-acilisinda-yaptiklari-konusm.tr.mfa>, October 17, 2013.

- *Thanks to the activities under the AU in search for political and economic stability, the promising structure of the continent in the long run.*

In addition, the tools to be used concerning the strategy were defined as:

- *Humanitarian activities via the Turkish International Cooperation Agency (TICA)<sup>20</sup>,*
- *Increasing the number of Embassies and Commercial Counselors,*
- *Increasing the number of bilateral trade and investment agreements,*
- *Increasing the number of destinations of THY in Africa,*
- *Increasing the number of scholarships given to African students to study in Turkey,*
- *Encouraging Turkish businessmen to invest and increase activities in Africa.*

Taking into account the pillars and the tools of Turkey's Africa Strategy, it seems that main goal of the strategy is to create awareness among African countries about Turkey using High-Level Meetings, bilateral agreements and humanitarian aid activities; while creating awareness among Turkish firms about African countries by showing the determination of Turkish Government to increase relations with African countries by increasing the number of High-Level Meetings, Embassies and Commercial Counselors in the continent. Therefore, the strategy seems to be aiming at taking attention of both supply and demand, outcomes of which will be presented in the following sub-section.

## **II-B) Recent Outcomes of Turkey's Africa Strategy**

Thanks to the collaborative efforts since 2008, Turkey's relations with African countries begin to accelerate and pay dividends. In line with the decisions taken since 2008<sup>21</sup>,

- *Turkey has opened 19 new Embassies in Africa and increased the number of Commercial Counselors to 25 since May 2009, where there are plans to open additional Embassies in the coming few years. Turkey currently has 34 Embassies in the continent of which 29 are*

<sup>20</sup> The key governmental agency carrying out humanitarian and development assistance, <http://www.tika.gov.tr>, October 17, 2013.

<sup>21</sup> For detailed information, please visit <http://www.au.int/ar/sites/default/files/Turkey-Africa%20Partnership%20High%20Level%20Officials%20Meeting.pdf>, October 17, 2013.

*in Sub-Saharan Africa. On the African side, 25 African countries have Embassies in Turkey and 10 African countries have declared their decisions to open Embassies in Ankara.*

- *Turkey has established 23 Joint Economic Commissions, 4 Free Trade Agreements, 8 Double Taxation Prevention Agreements, 17 Business Councils with African countries.*
- *The value of the Turkish direct investments to Sub-Saharan African countries is steadily increasing, where the value of Turkish direct investments is around 3,2 billion USD in Ethiopia, 500 million USD in South Africa, 160 million USD in Sudan and 60 million USD in Nigeria by the end of 2012<sup>22</sup>.*
- *The total amount of Turkey's humanitarian and development assistance to African countries increased from 28 million USD in 2006 to 750 million USD by the end of 2012.*
- *TICA has been active in 37 African countries with its projects in various fields, while it operates 9 Programme Coordination Offices in Africa.*
- *The Turkish Ministry of Health (MoH) provided many vocational trainings in Africa, while Turkish doctors have taken part in numerous health screening campaigns organized by Turkish NGOs in cooperation with MoH and TICA.*
- *Turkish Airlines commenced flights to Mogadishu, Kigali, Abidjan, Kinshasa, Djibouti, Nouakchott, Mombasa, Niamey, Ouagadougou and Libreville in Sub-Saharan Africa, bringing the total number of THY flights in the Continent to 34 destinations. In addition, THY is expected to reach 40 destinations in the next few years with an aim to be the first airline out of the Continent to have the highest number of flights in Africa.*
- *Within the 2012-2013 education year, Turkey has provided 561 scholarships for students from Sub-Saharan Africa and 142 scholarships for students from North African countries.*

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<sup>22</sup> The total amount of Turkish direct investments in Africa is around 6 billion USD.

*This signifies around a 60 % increase compared with the scholarships allocated the previous year.*

- *Turkey has started to implement visa facilitation to African countries' businesspersons and other eligible citizens who have fulfilled valid passport and visa requirements, while increasing the number of visa exemption agreements for diplomatic and official passport holders with African countries.*

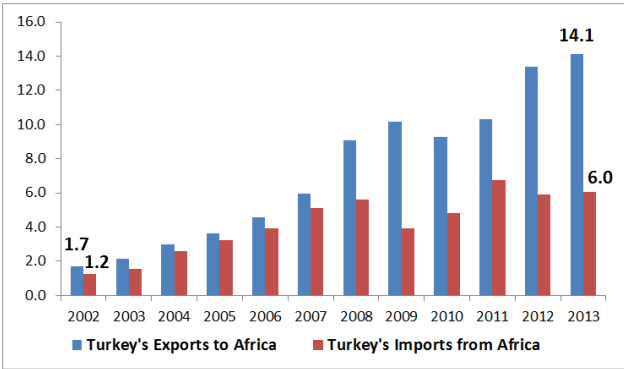
Turkish-African trade relations also accelerated since 2008. Especially due to the world financial crises and coherently decreasing demand from the EU, which is Turkey's main trading partner, Turkish exporters began to search for new markets for their products. Thanks to the geographical proximity and steady foreign demand of Africa, together with the increasing activities of Turkish constructing sector in the region and rising awareness about African countries, Turkey's exports to Africa increased significantly in the recent years.

According to the Graph 1, Turkey's exports to Africa increased from 1.7 billion USD in 2002 to 14.1 billion USD in 2013, thanks to an almost steady increase throughout the last decade. Meanwhile, Africa's total imports increased from 144.9 billion USD in 2002 to 599.5 billion USD in 2013, which implies that share of Turkey in Africa's total imports increased from 1.17% in 2002 to 2.3% in 2013. On the other hand, Turkey's imports from Africa increased from 1.2 billion USD in 2002 to 6 billion USD in 2013, which is still below its peak level in 2011 with 6.8 billion USD. As a result, trade volume between the regions increased from 2.9 billion USD in 2002 to 20.1 billion USD in 2013. In the Second High Level Officials Meeting, Turkey stated that these developments in bilateral trade are clear indications of "*Turkey's desire to make trade relations with Africa 5 times higher in 2023*", so that Turkey can achieve its goal of 100 billion USD trade volume with Africa in 2023<sup>23</sup>.

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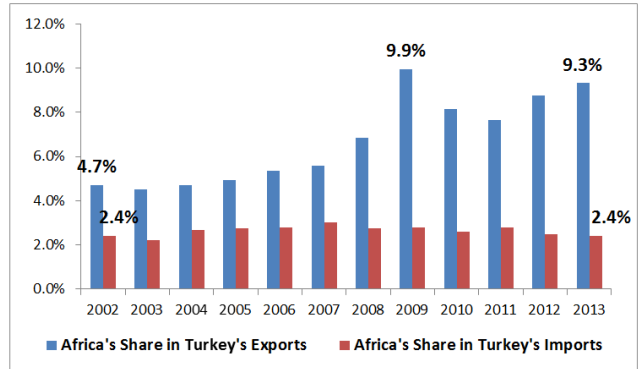
<sup>23</sup> For detailed information, please visit <http://www.au.int/ar/sites/default/files/Turkey-Africa%20Partnership%20High%20Level%20Officials%20Meeting.pdf>, October 17, 2013.

**Graph 1. Turkey's Trade with Africa (billion \$)**



Source: TUIK

**Graph 2. Share of Africa in Turkey's Foreign Trade**



Source: Author's Calculations Using TUIK

These developments in bilateral trade also changed the share of Africa in Turkey's foreign trade. As presented in Graph 2, Africa's share in Turkey's total exports has an increasing trend in the recent years, where it was 4.7% in 2002 and realized at 9.3% in 2013, which reached its peak with 9.9% in 2009. On the other hand, Africa's share in Turkey's imports has an almost steady rate around 2.5% since 2002. These figures imply that Africa has an increasing importance in Turkey's exports, while Turkey's demand from Africa has a parallel trend with Turkey's overall imports demand.

An undeniable fact is that thanks to the efforts to enhance relations with African countries, especially after 2008, Turkey's relations with African countries have come to their peak levels. Collaborative efforts from both sides established mutual understanding and trust that are clearly presented after each High-Level Meeting. In addition, thanks to increasing bilateral relations, trade between the regions increased significantly, where Turkey set an ambitious goal to quintuple the trade volume until 2023. At this point, main challenge is to answer whether Turkey can achieve a sustainable exports growth path to Africa, while Turkey's competitors such as China and India are implementing very aggressive strategies to strengthen their ties with African countries<sup>24</sup>. In this context, a detailed evaluation of Turkey's exports to Africa will be presented in the following sections.

<sup>24</sup> Please see Broadman (2010) for detailed information.

### III. Data and Methodology

Due to absence, low quality or confidentiality of firm-level data for many countries, most of the studies related to foreign trade analysis mainly deals with country-level data at as much disaggregated sectoral level as possible. Thanks to the TUIK data, this study uses annual firm-product-country level data for 2003-2012, where products are defined at HS 6-digit breakdown<sup>25</sup>. On the other hand, concerning structural data such as “*number of employees*”, “*cities that exporters are operating in*” or “*whether an exporter is also a producer or not*”, a dataset from 2005 to 2012 is used due to availability of TUIK data.

The size of the firms are determined by the number of employees they have, where there are 4 main categories namely micro-sized (1-9 employees), small-sized (10-49 employees), medium-sized (50-249 employees) and large-sized (more than 249 employees) firms. In addition, the firms that have less than 250 employees will be referred as SMEs (Small and Medium-Sized Enterprises).

To determine whether an exporter is also a producer or not, two different classifications are taken into account due to the availability of TUIK data. For 2005-2008, exporters that declared their main activity between the chapters 1-41 of 2 digit NACE Rev 1.1 activity codes are regarded as producer-exporters; while for 2009-2012, exporters that declared their main activity between the chapters 1-39 of 2 digit NACE Rev 2 activity codes are regarded as producer-exporters.

Following the definitions in Akel (2014), which are also based on firm-product-country level data, a number of definitions that focuses on examining Turkey’s exports to Africa are introduced. In addition, to assess the contribution of “*intensive and extensive margins of exports*”<sup>26</sup>, the decomposition method suggested by Akel (2014) is used. In this context, let  $X_t$

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<sup>25</sup> To deal with the compatibility issue between HS2002, HS2007 and HS2012 6-digit codes, all the exports goods are defined in terms of HS2002 products using the correlation tables obtained from the UN.

<sup>26</sup> STATA 10 and MS Excel 2010 were used for data manipulation.



denotes Turkey's total exports value in year  $t \in T: \{2003, 2004, \dots, 2012\}$  and  $X_{i,t}$  denotes total exports value of a Turkish exporter (*firm i*) in year  $t$ , where  $X_t = \sum_i X_{i,t}$ . To analyze characteristics of  $X_{i,t}$ , we can use the notation  $X_{i,t}^{\{\Pi\},\{\rho\},\{\mu\}}$  where,  $\Pi$  defines whether *firm i* is a “New Exporter” or not (Old Exporter),  $\rho$  refers to an “HS-6 digit product” and  $\mu$  refers to an “exports destination country”. Hence, possible characteristics of *firm i* and its exports in year  $t$  can be summarized as in Chart 1 and explained in detail using the definitions below.

**Definition 1: Portfolios**

There are 3 types of *portfolio* definitions used in this study:

a) “Turkey’s Exporters Portfolio in year  $t$  ( $EP_t$ )” is defined as,

$EP_t: \{firms\ that\ exported\ at\ least\ once\ between\ 2003\ and\ year\ t\}, t \in T.$

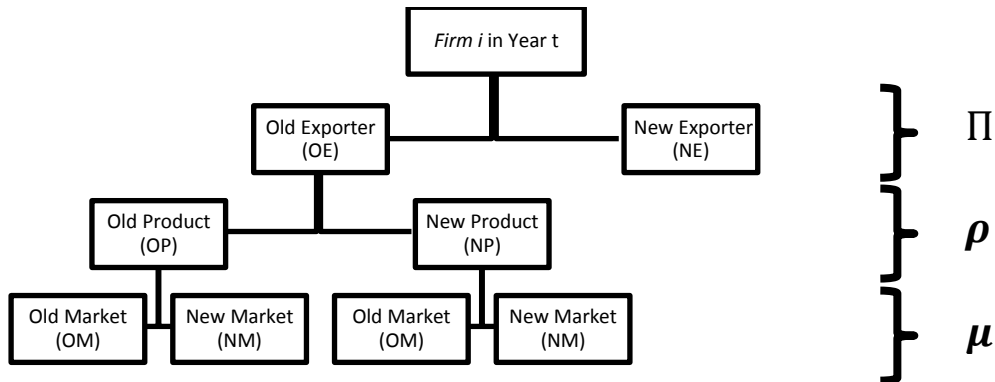
b) “Firm  $i$ ’s Product Portfolio in year  $t$  ( $PP_{i,t}$ )” is defined as,

$PP_{i,t}: \{Different\ products\ exported\ by\ firm\ i\ from\ 2003\ to\ year\ t\}, t \in T.$

c) “Firm  $i$ ’s Market Portfolio in year  $t$  ( $MP_{i,t}$ )” is defined as,

$MP_{i,t}: \{Different\ destination\ countries\ of\ firm\ i\ from\ 2003\ to\ year\ t\}, t \in T.$

**Chart 1. Possible Characteristics of an Exporter and Its Exports in Year  $t$**



$EP_t$  implies the set of all of the firms that exported between 2003 and year  $t$ , where the firms that exported in 2003 constitute the base of the portfolio; while the portfolio extends with entry of new exporters after 2003. Similarly,  $EP_t^{Africa}$  implies the set of all of the firms that exported to Africa between 2003 and year  $t$ . Hence, this study will bring out not only exports structure of an exporter to Africa but also the structure of its exports to world.

$PP_{i,t}$  implies the set of different products that *firm i* has exported between 2003 and year  $t$ , whereas  $MP_{i,t}$  implies the set of different countries that *firm i* has exported to between 2003 and year  $t$ . Similar to the case of  $EP_t$ , both  $PP_{i,t}$  and  $MP_{i,t}$  enhance with new entries throughout the years. Moreover,  $PP_{i,t}^{Africa}$  implies the set of different products that *firm i* has exported to Africa between 2003 and year  $t$ , while  $MP_{i,t}^{Africa}$  reflects the set of different countries that *firm i* has exported to within Africa between 2003 and year  $t$ . Using these definitions, this study will bring out if there are any differences between “the structure of firm *i*’s overall product and market portfolios” and “the structure of firm *i*’s product and market portfolios related to Africa”.

**Definition 2: New Exporter / Old Exporter**

Let us pick any exporter firm (*firm i*) in any  $t \in T$ . Then *firm i* is a **New Exporter (NE) in year  $t$**  if  $firm\ i \notin EP_{t-1}$  and  $firm\ i \in EP_t$ . Therefore,  $NE_t$ : {All of the NEs in year  $t$ } is the set of firms that reflects the difference between  $EP_t$  and  $EP_{t-1}$ . If  $firm\ i \in EP_{t-1}$  and  $firm\ i \in EP_t$ , then *firm i* is an **Old Exporter (OE) in year  $t$** . Hence, *firm i* must be either a **NE** or an **OE** in year  $t$  ( $NE_t, OE_t \in EP_t$ ) as shown in the Chart 1 above. In addition, these definitions imply that once a NE enters the portfolio in year  $t$ , then it will be regarded as an OE in year  $t'$ , where  $t' > t, t' \in T$ .

Hence, we can decompose  $X_t$  as,

$$X_t = X_t^{NE} + X_t^{OE}, \tag{3.1}$$

$$\text{where } X_t^{NE} = \sum_i X_{i,t}^{NE}; X_t^{OE} = \sum_i X_{i,t}^{OE}.$$

It should be noted that once a NE’s exports value is recorded in  $X_{i,t}^{NE}$  in year  $t$ , then its exports value in year  $t'$  will always be recorded as exports value of an OE, where  $t' > t; t, t' \in T$ . Similarly to the case in Definition 1, *firm i* is a **New Exporter to Africa ( $NE^{Africa}$ )** if  $firm\ i \notin EP_{t-1}^{Africa}$  and  $firm\ i \in EP_t^{Africa}$ ; whereas if  $firm\ i \in EP_{t-1}^{Africa}$  and  $firm\ i \in EP_t^{Africa}$ , then *firm i* is an **Old Exporter to Africa ( $OE^{Africa}$ ) in year  $t$** . These definitions will help us to examine the role of

NE<sup>Africa</sup>s in Turkey's exports to Africa and bring out whether NEs or NE<sup>Africa</sup>s play a significant role in Turkey's exports to Africa or not.

**Definition 3: New Product / Old Product**

Let firm  $i \in EP_{t-1}$  and  $X_{i,t} > 0$ . Then firm  $i$  should be exporting either a product  $G \in PP_{i,t-1}$  or product  $G \notin PP_{i,t-1}$  in year  $t$ . If product  $G \in PP_{i,t-1}$ , then it is called an **Old Product (OP) in year  $t$**  for firm  $i$ . If product  $G \notin PP_{i,t-1}$ , then product  $G$  is a **New Product (NP) in year  $t$**  for firm  $i$ .

Using these definitions, we can decompose  $X_t^{OE}$  into,

$$X_t^{OE} = X_t^{OE,OP} + X_t^{OE,NP}, \quad (3.2)$$

$$\text{where } X_t^{OE,OP} = \sum_i X_{i,t}^{OE,OP}; \quad X_t^{OE,NP} = \sum_i X_{i,t}^{OE,NP}.$$

If firm  $i$  exports a new product (product  $G$ ) in year  $t$  and exports it again in year  $t'$ , then exports value of product  $G$  in year  $t'$  is regarded as exports value of an old product for firm  $i$ . It should be noted that, if firm  $i$  was a NE and exported product  $G$  in year  $t$ , then firm  $i$ 's exports value of product  $G$  in year  $t'$  is also regarded as exports value of an OE that exported an OP.

**Definition 4: New Market / Old Market**

In year  $t$ , firm  $i$  should be exporting a product (new or old) to either country  $M \in MP_{i,t-1}$  or country  $M \notin MP_{i,t-1}$ . If country  $M \in MP_{i,t-1}$ , then it is called an **Old Market (OM) in year  $t$**  for firm  $i$ . If country  $M \notin MP_{i,t-1}$ , then it is called a **New Market (NM) in year  $t$**  for firm  $i$ . Hence,

we can decompose  $X_t^{OE,OP}$  and  $X_t^{OE,NP}$  into

$$X_t^{OE,OP} = X_t^{OE,OP,OM} + X_t^{OE,OP,NM} \quad (3.3)$$

$$X_t^{OE,NP} = X_t^{OE,NP,OM} + X_t^{OE,NP,NM} \quad (3.4)$$

where

$$X_t^{OE,OP,OM} = \sum_i X_{i,t}^{OE,OP,OM}; \quad X_t^{OE,OP,NM} = \sum_i X_{i,t}^{OE,OP,NM}$$

$$X_t^{OE,NP,OM} = \sum_i X_{i,t}^{OE,NP,OM}; \quad X_t^{OE,NP,NM} = \sum_i X_{i,t}^{OE,NP,NM}$$

If *firm i* exports to a new market (country M) in year *t* and exports there again in year *t'*, then *firm i's* exports value to country M in year *t'* is regarded as *exports value to an old market for firm i*. In addition, it should be noted that if *firm i* was a NE and exported to country M in year *t*, then value of *firm i's* exports to country M in year *t'* is also regarded as *exports value of an OE to an OM*.

Equations (3.2), (3.3) and (3.4) imply that

$$X_t^{OE} = X_t^{OE,OP,OM} + X_t^{OE,OP,NM} + X_t^{OE,NP,OM} + X_t^{OE,NP,NM} \quad (3.5)$$

and if we plug equation (3.5) into equation (3.1), we get,

$$X_t = X_t^{NE} + X_t^{OE,OP,OM} + X_t^{OE,OP,NM} + X_t^{OE,NP,OM} + X_t^{OE,NP,NM} \quad (3.6)$$

Therefore, we can decompose Turkey's total exports in year *t* ( $X_t$ ) into 5 different parts, all of which are composed of firm-product-market level information and enable us to clearly identify firm-level market and product diversification, market intensification and contribution of new exporters to total exports in each year.

**Definition 5: Product Diversification / Market Diversification**

Given equations (3.3) and (3.4), the value of ***Product Diversification in year t*** ( $PD_t$ ) is

$$PD_t = X_t^{OE,NP,OM} + X_t^{OE,NP,NM} \quad (3.7)$$

and the value of ***Market Diversification in year t*** ( $MD_t$ ) is

$$MD_t = X_t^{OE,OP,NM} + X_t^{OE,NP,NM} \quad (3.8)$$

In other words, *the value of product diversification for Turkey in year t* is equal to *summation of firm-level product diversification values in year t*, whereas *the value of market diversification for Turkey in year t* is equal to *summation of firm-level market diversification values in year t*. Using these definitions and tracking exports related to Africa, this study will also bring out contributions of exports to Africa to Turkey's overall  $PD_t$  and  $MD_t$ .

**Definition 6: Intensive Margin of Exports / Extensive Margin of Exports**

Using Definitions 1-5, for year  $t$ , exports value for **Intensive Margin of Exports** ( $IM_t$ ) and **Extensive Margin of Exports** ( $EM_t$ ) can be described as,

$$IM_t = X_t^{OE,OP,OM} \quad (3.9)$$

$$EM_t = PD_t + MD_t + X_t^{NE} - X_t^{OE,NP,NM} \quad (3.10)$$

$$X_t = IM_t + EM_t \quad (3.11)$$

Equation (3.9) implies that *if an old exporter exports an old product to an old market in year  $t$ , then the related exports value is recorded in intensive margin of exports in year  $t$ .* On the other hand, (3.10) implies that *an old exporter's exports values related to a product diversification or market diversification in year  $t$ , as well as exports of a new firm in year  $t$  are recorded in extensive margin of exports in year  $t$* <sup>27</sup>. Using (3.9) and (3.10), we reach (3.11) which confirms that total exports value in year  $t$  can be decomposed into extensive and intensive margins. Similarly to the case in Definition 5, using these definitions and tracking exports related to Africa, this study will also bring out contributions of exports to Africa to Turkey's overall intensive and extensive margin of exports.

**Definition 7: Exports Frequency and Survivors**

If firm  $i$  exported to Africa in only one year during 2003-2012, then its **Exports Frequency to Africa** ( $EF^{Africa}$ ) is 1. Similarly, if firm  $i$  exported to Africa in any three years during 2003-2012, then its  $EF^{Africa}$  is 3. On the other hand, Let  $\exists X_{i,t}^{Africa} > 0, t \in T$ . Then,

- If  $\exists X_{i,t+1}^{Africa} > 0$  where  $t+1 \in T$ , then firm  $i$  is called a **2-year-survivor in Africa**.
- If  $\exists X_{i,t+1}^{Africa} > 0$  and  $\exists X_{i,t+2}^{Africa} > 0$  where  $t+1, t+2 \in T$ , then firm  $i$  is called a **3-year-survivor in Africa**.

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<sup>27</sup> Note that to define  $EM_t$  in terms of  $PD_t$  and  $MD_t$ , we need to subtract  $X_t^{OE,NP,NM}$  on the right-hand side of (3.10), since it exists in definitions of both  $PD_t$  and  $MD_t$ .

- If  $\exists X_{i,t+1}^{Africa} > 0, \exists X_{i,t+2}^{Africa} > 0, \dots, \exists X_{i,t+9}^{Africa}$ , where  $t+1, t+2, \dots, t+9 \in T$ , then *firm i* is called a **10-year-survivor in Africa**<sup>28</sup>.

These definitions for exports frequency and survivors will help us to examine if there exists any role for “*survivors in Africa*” in explaining Turkey’s exports to Africa, or a number of discontinuous exporters are the main source of the increase in Turkey’s exports to Africa.

**Definition 8: Last-Time and One-Time Exporters**

If  $\exists X_{i,t} > 0$  for any  $t \in T$  and  $\nexists X_{i,t'} > 0 \forall t' > t$  and  $t, t' \in T$ , then *firm i* is called a **last-time exporter in year t (LTE<sub>t</sub>)**. More specifically, if *firm i*  $\in NE_t$  and *firm i*  $\in LTE_t$ , then *firm i* is a **one-time exporter (OTE<sub>t</sub>)** that exported in *year t*. In a similar context, **LTE<sub>t</sub><sup>Africa</sup>** implies a last-time exporter to Africa in *year t* and **OTE<sub>t</sub><sup>Africa</sup>** refers to a one-time exporter to Africa that exported to Africa only in *year t*.

**IV. Stylized Facts from Firm-Level Analysis**

**a) Exporters Portfolio:**

- Between 2003 and 2012, 29,247 different firms exported from Turkey to Africa<sup>29</sup>.
- Taking into account the number of exporters and exports values, North African countries are the main export destinations for Turkey. In 2012, 4617 out of 12988 exporters to Africa exported to Egypt, while 4440 firms exported to Libya and 2610 firms exported to Morocco<sup>30</sup>.
- Each year, on average, 93% of the exporters were SMEs, where 33% were micro-sized, 36% were small-sized and 18% were medium-sized SMEs<sup>31</sup>. In addition, around 52% of the exporters each year were producer-exporters.

<sup>28</sup> Note that, if *firm i*’s EFA is 10, then *firm i* is a ten-year-survivor.

<sup>29</sup> Please see Appendix Table 3 for details.

<sup>30</sup> Please see Appendix Table 4 for details.

<sup>31</sup> Please see Appendix Table 5 for details.

- Share of SMEs in Turkey's exports to Africa decreased from 63.2% in 2005 to 53.7 in 2012, while share of producer-exporters has increased from 57% in 2005 to 63.7% in 2012<sup>32</sup>.
- Each year, almost 90% of the exporters had an annual exports value below 1 million USD to Africa<sup>33</sup>. 41% of the exporters exported between 10 thousand USD and 100 thousand USD, while those exported between 100 thousand USD and 1 million USD constituted almost 30% of the exporters in each year. On the other hand, those exported below 1 million USD constituted only 15% of Turkey's total exports to Africa on average in each year, with a decreasing share from 22.5% in 2003 to 12.4% in 2012<sup>34</sup>. In addition, a limited number of firms that had an annual export value over 100 million USD to Africa began to play a significantly more important role, increasing their share from 5% in 2003 to 25.3% in 2012.
- Taking into account the cities that Turkish exporters are operating in, exporters from İstanbul, Bursa, İzmir, Ankara and Konya constituted almost 75% of total exporters that exported to Africa in each year, where exporters from İstanbul constituted more than 50% of the exporters to Africa itself<sup>35</sup>. In addition, exports from İstanbul, Kocaeli, İzmir, Gaziantep and Ankara constituted almost 77% of Turkey's exports to Africa in each year, while exports from İstanbul had 50% annually share on average<sup>36</sup>.

***b) Exports Frequency, Firm Entry, Firm Exit and Survival Rates of the Exporters:***

- Firms that exported to Africa at most in 4 years out of 10 years constituted more than 80% of the total portfolio<sup>37</sup>. Besides, 13056<sup>38</sup> (44.7%) of the portfolio exported to Africa

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<sup>32</sup> Please see Appendix Table 6 for details.

<sup>33</sup> Please see Appendix Table 7 for details.

<sup>34</sup> Please see Appendix Table 8 for details.

<sup>35</sup> Please see Appendix Table 9 for details.

<sup>36</sup> Please see Appendix Table 10 for details.

<sup>37</sup> Please see Appendix Table 3 for details.

<sup>38</sup> It should be noted that 4081 new exporters to Africa in 2012 are also included in this value. Therefore, it can be concluded that there were 38062 one-time exporters in Turkey's exporter portfolio between 2003 and 2012.

only once in the same period. Hence, on average, a Turkish exporter survived in Africa for only 2.7 years and stopped exporting after then.

- Breakdown of exports frequency of Turkish exporters to Africa by countries imply that in most of the cases, an average Turkish exporter exported to a African country only once in the last decade, while there are only a few number of long-time survivors in many of the African countries<sup>39</sup>. For example, during 2003-2012, 11374 different firms exported to Egypt where 5227 of them (%46) exported in only a single year, while only 322 of them (2.8%) exported in all years.
- There were 1038 10-year-survivors during 2003-2012. These firms constituted 57.5% of Turkey's exports to Africa in 2003, while their share gradually reduced to 37% in 2012. Therefore, long-term survivors' share in Turkey's exports to Africa has a declining trend in the last decade.
- Although the share of 2-year survivors in total exporters to Africa is 66% annually on average, their share in Turkey's exports to Africa is around 92% each year. Similarly, the share of 3-year survivors in total exporters is 51% annually on average, while their share in Turkey's exports to Africa is around 84% each year<sup>40</sup>. Hence, it can be claimed that Turkey's exports to Africa is driven by short-term survivors while most of the exporters' contribution to Turkey's exports to Africa is very limited.
- Since the share of N-Year Survivors in total number of exporters and exports to Africa in each year is very close to their average values for the entire analysis period, we can generate expectations for the future of Turkey's exports to Africa. For example, we can expect 66% of the firms that exported to Africa in 2012 to export again in 2013 and have a 92% share in Turkey's exports to Africa in 2013. Similarly, we can expect 51% of the

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<sup>39</sup> Please see Appendix Table 11 for details.

<sup>40</sup> Please see Appendix Table 12 and Table 13 for details.



firms that exported to Africa in 2012 to export again in 2013 and 2014, while taking 84% share of Turkey's exports to Africa in each related year.

- During 2004-2006,  $NE^{Africa}$  were around 2200 firms each year<sup>41</sup>. In the following years, it increased significantly and reached its peak level in 2012 with 4081 firms. On the other hand,  $LTE^{Africa}$  increased gradually, reaching its peak level also in 2012 with 2880 firms, while almost half of those were  $OTE^{Africa}$  each year. Almost all of  $NE^{Africa}$  and  $LTE^{Africa}$  are SMEs, most of which are micro-sized or small-sized exporters. Hence, the share of new exporters and last-time exporters in Turkey's exports to Africa are very limited in each year.

**c) Breakdown of Turkey's Exports with respect to Margins of Exports**

- The annual changes in Turkey's exports to Africa were dominated by the changes in intensive margin, whereas the share of intensive margin increased from 70% in 2004 to 77% in 2012<sup>42</sup>. The main source of the increase in the share of intensive margin is increasing exports to North Africa, especially to Egypt, Libya and Algeria<sup>43</sup>.
- The share of exports in extensive margin to Africa decreased from 30% in 2004 to 23% in 2012, while it reached its peak levels in 2008 and 2009 with 36% and 32% respectively<sup>44</sup>. The change in extensive margin contributed significantly with 1.7 billion USD to 3.1 billion USD increase in Turkey's exports to Africa in 2008, 1.41 billion of which was due to increase in market diversification that was originated from exports to South Africa (654 million USD), Libya (169.6 million USD) and Egypt (166.5 million USD)<sup>45</sup>.
- Exports thanks to market diversification of Turkish exporters constituted almost 21% of Turkey's exports to Africa in each year on average. The annual share of market diversification to Africa reached its peak levels in 2008 and 2009, with 29% (2.6 billion

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<sup>41</sup> Please see Appendix Table 5 for details.

<sup>42</sup> Please see Appendix Table 6 for details.

<sup>43</sup> Please see Appendix Table 14 for details.

<sup>44</sup> Please see Appendix Table 6 for details.

<sup>45</sup> Please see Appendix Table 15 for details.

USD) and 27% (2.7 billion USD) respectively, whereas share of market diversification has been around 18% of annual exports to Africa since 2010<sup>46</sup>. The regional breakdown of market diversification values for 2004-2012 shows that Turkish firms extended their market portfolio mainly to North African countries, while diversification to rest of the African countries is also in an increasing trend since 2010.

- Exports related to product diversification of Turkish exporters constituted 9% of Turkey's total exports in each year on average<sup>47</sup>. *Electronic Machinery* (HS 85), *Articles of Iron and Steel* (HS 73) and *Iron and Steel* (HS 72) products have been the main source of the product diversification for Turkish firm while accessing the African market during 2004-2012; while *Electrical Machinery* (HS 84), *Preparations of Cereals, Flour, Starch or Milk; Bakers Wares* (HS 19) and *Electronic Machinery* (HS 85) were the main source of the product diversification in Turkey's exports to Africa in 2012.
- Share of new exporters to Africa ( $NE^{Africa}$ ) in Turkey's exports to Africa has decreased from 9% in 2004 to 5.3% in 2012, while share of new exporters (NE) realized as 3% of Turkey's exports to Africa annually on average<sup>48</sup>. Hence, contribution of both "new exporters" and "new exporters to Africa" to Turkey's annual exports to Africa is limited in each year.

**d) Developments in Market and Product Portfolios:**

- Within Africa, average market portfolio of a Turkish exporter increased from 1.87 countries to 2.14 countries from 2003 to 2012<sup>49</sup>. Meanwhile, the same exporters' total market portfolio increased from 10.7 countries to 10.94 countries from 2003 to 2012<sup>50</sup>.
- Within Africa, average product portfolio of a Turkish exporter increased from 6.14 products to 7.42 products from 2003 to 2012<sup>51</sup>. Meanwhile, the same exporters' total

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<sup>46</sup> Please see Appendix Table 15 for details.

<sup>47</sup> Please see Appendix Table 16 for details.

<sup>48</sup> Please see Appendix Table 6 for details.

<sup>49</sup> Please see Appendix Table 17 for details.

<sup>50</sup> Please see Appendix Table 18 for details.

product portfolio increased from 17.14 products to 17.67 products from 2003 to 2012<sup>52</sup>.

In other words, exporters to Africa do not export all the products in their product portfolio to Africa.

- During 2005-2012, annually on average, regarding 18% of total exporters to Africa, exports to Africa constituted more 90% of their total exports<sup>53</sup>. In other words, 18% of the exporters to Africa had a highly Africa-concentrated exports structure. Meanwhile, firms whose exports to Africa have more than 50% share in their total exports constituted 29% of total exporters to Africa. In other words, each year, almost one-third of the exporters to Africa realized more than 50% of their total exports to African countries. On the other hand, firms whose exports to Africa were less than 10% of their total exports in 2012 constituted 37.5% of total exporters to Africa, which was 45% in 2005. In addition, firms whose exports to Africa have less than 20% share in their total exports constituted more than 50% of total exporters to Africa in each year. Moreover, main exports destinations of the firms that export to Africa are the EU and Middle East countries<sup>54</sup>. In other words, market portfolio of most of the exporters to Africa is diversified and Africa is not the main destination region for most of them.

## **V. Conclusions and Recommendations**

The results suggest that Turkey's Africa Strategy has been successful in creating awareness among Turkish SMEs to direct their attention to Africa, where number of exporters that exported to Africa increased from 8110 in 2008 to 12988 in 2012, while the number of new exporters to Africa has been increasing significantly. Although exports to North African countries still have been the driving force of the changes in Turkey's exports to Africa, exports thanks to extensive margin had almost 25% share in total exports to Africa in the same period in

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<sup>51</sup> Please see Appendix Table 19 for details.

<sup>52</sup> Please see Appendix Table 20 for details.

<sup>53</sup> Please see Appendix Table 21 for details.

<sup>54</sup> Please see Appendix Table 22 for details.

each year, while there has been an increasing trend in market diversification into the South African countries. In addition, exports related to construction activities of Turkish contractors in the North African countries seem to be the main reason behind the developments concerning product diversification, while contribution of new firms to Turkey's exports to Africa has been limited since 2003.

On the other hand, 2.7 years of existence period for an average Turkish exporter in African market imply that most of the Turkish exporters neither export frequently to Africa nor survive in the African market, while results show that many firms exported to an African country only once and did not export again in the analysis period. Besides, exporters to Africa use only one-fifth of their product portfolio while exporting to Africa, where more than one-third of the total exporters in each year exports only a single product to Africa. Moreover, Turkish exporters' market diversification within Africa is also very limited, where more than half of the exporters in each year exports only to a single country in Africa. Furthermore, share of exports to Africa in total exports of an average Turkish exporter to Africa implies that Africa still is not the main destination region for many of the Turkish exporters. Hence, survival in the African market, diversifying markets within African countries and increasing the number of products exported to Africa still remains as the major problems of Turkish exporters.

. The results suggest that increasing interest and activities of Turkey's competitors in Africa, especially those of China and India, makes it harder for Turkish exporters survive in the market. Consequently, Turkey would better off by reconsidering its Africa Strategy while taking into account its competitors' strategies for sustainable economic relations in the continent.

In this context, this study suggests that Turkey should show determination by restructuring its Africa Strategy with respect to realities of Africa and global developments in line with its primary needs. Hence,

- Since Turkey's resources that can be assigned to enhance relations with Africa are not as much as that of its competitors in Africa, such as China or India, Turkey neither can speak to the Continent as a whole nor can be effective in a comprehensive agenda. Therefore, Turkey has to be selective on countries to focus on and areas to increase relations with, which is partly realized via existing strategy. The selection for the time being is "humanitarian activities" oriented, but needs to be turned into "creating trade and investment opportunities" oriented.
- Turkey needs to take its competitors' strategies seriously and design its own strategy concerning prospective developments in the Continent and global economy. If Turkey ignores its competitors' input supply strategies and carry on with existing framework that undermines the role of Africa as an important source of inputs, most of which are very scarce around the world but necessary for producing many high-tech and green-energy products, Turkey would be out of feasible opportunities to move its production structure to a more sophisticated level in the long run.
- Turkey has to develop a support mechanism that encourages Turkish firms to invest and to increase their local presence in Africa, while taking measures to increase Turkish firms' competitiveness in the region, especially against state-owned Chinese and Indian firms. The support can either be in form of "incentives" that will be able to attract large-scale Turkish firms to invest and/or increase their local presence in Africa or "Private-Public Partnership Investments" in some key sectors such as "*mining, banking and telecommunication*" that will enable competition with state-owned or highly subsidized Chinese and Indian firms.

Although this study is aware of the difficulties in implementation of some of the suggestions made, such as private-public partnership investments in some key sectors such as mining, banking and telecommunication, it is an inevitable fact that Turkish firms, most of which

are SME's, will be dealing with either state-owned or highly subsidized Chinese or Indian firms to compete with when they try to access and survive in African market. Therefore, if Turkey will be implementing a determined African Strategy, then it cannot ignore the disadvantages of Turkish firms in the region and need to take necessary measures for success as much as possible.

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## APPENDIX TABLES

**TABLE 1. Africa's Top 10 Exports Destinations (billion dollars)**

Country	2001		Country	2012	
	Value	Share		Value	Share
USA	26.8	18.0%	China	113.2	17.7%
France	13.6	9.1%	USA	68.5	10.7%
Italy	12.9	8.7%	Italy	45.2	7.1%
Spain	11.3	7.6%	India	43.0	6.7%
United Kingdom	9.9	6.7%	France	37.0	5.8%
Germany	9.9	6.7%	Spain	35.5	5.5%
Belgium	5.0	3.4%	United Kingdom	32.4	5.1%
Netherlands	5.0	3.3%	Germany	30.2	4.7%
China	4.8	3.2%	Japan	21.3	3.3%
Japan	4.5	3.0%	Netherlands	20.9	3.3%

Source: TradeMap and Author's Calculations

**TABLE 2. Africa's Top 10 Imports Sources (billion dollars)**

Country	2001		Country	2012	
	Value	Share		Value	Share
France	16.5	12.8%	China	85.1	15.8%
USA	12.4	9.6%	France	36.3	6.7%
Germany	10.6	8.2%	USA	32.8	6.1%
Italy	9.0	7.0%	Germany	28.4	5.3%
United Kingdom	6.9	5.4%	India	27.3	5.1%
China	6.0	4.6%	Italy	24.2	4.5%
Japan	4.3	3.4%	Spain	19.5	3.6%
Spain	4.1	3.2%	Netherlands	18.8	3.5%
South Africa	4.0	3.1%	United Kingdom	18.3	3.4%
South Korea	4.0	3.1%	South Africa	16.1	3.0%

Source: TradeMap and Author's Calculations

**TABLE 3. Exports Frequency of Turkish Exporters to Africa**

EF Africa	# of Firms	% Share (Cum. )	2003-2012 Annual Average Share in Exports (%)
1	13,056	44.64	2.6
2	5,549	18.97	3.5
3	3,104	10.61	5.3
4	2,036	6.96	3.8
5	1,502	5.14	5.9
6	1,060	3.62	6.3
7	836	2.86	6.7
8	583	1.99	4.9
9	483	1.65	12.4
10	1,038	3.55	48.6
<b>Total</b>	<b>29,247</b>	<b>100</b>	<b>100.0</b>

Source: Author's Calculations Using TUIK Data



**TABLE 5. Main Characteristics of Turkish Exporters to Africa**

Year	# of Exporters	# of PEs	# of SMEs	# of LSEs	# of NE <sup>Africa</sup>	# of LTE <sup>Africa</sup>	# of OTE <sup>Africa</sup>	Average MP <sup>Africa</sup>	Average MP	Average PP <sup>Africa</sup>	Average PP
2003	4617	-	-	-	-	888	888	1.87	10.70	6.14	17.14
2004	5323	-	-	-	2267	1107	727	1.85	10.82	6.11	17.45
2005	5950	3398	5498	452	2180	1247	731	1.89	11.17	5.96	17.69
2006	6542	3685	5992	550	2189	1469	785	1.90	11.41	5.80	17.61
2007	7295	3798	6734	561	2481	1589	881	1.92	11.42	6.05	17.63
2008	8190	4290	7610	580	2626	1932	1027	1.93	11.37	6.77	18.26
2009	9276	4642	8625	651	2994	2222	1180	2.00	10.93	7.20	17.88
2010	10319	4858	9690	629	3066	2925	1450	2.05	11.03	7.45	18.14
2011	10223	4999	9540	683	2746	2880	1306	2.14	11.85	7.03	18.15
2012	12988	6754	12200	788	4081	-	-	2.14	10.94	7.42	17.67

Source: Author's Calculations Using TUIK Data

\*PE: Producer-Exporter; SME: Small and Medium-Sized Enterprise; LSE: Large-Sized Enterprise; NE<sup>Africa</sup>: New Exporter to Africa; LTE<sup>Africa</sup>: Last-Time-Exporter to Africa; OTE<sup>Africa</sup>: One-Time Exporter to Africa; MP: Market Portfolio; PP: Product Portfolio.

**TABLE 6. Main Characteristics of Turkey's Exports to Africa (Billion USD)**

Year	Total Exports	Exports of						Exports By					
		PEs	SMEs	LSEs	NE <sup>Africa</sup>	LTE <sup>Africa</sup>	OTE <sup>Africa</sup>	IM	EM	PD	MD	NE	OE-NP-NM
2003	2.13	-	-	-	-	0.08	0.08	-	-	-	-	-	-
2004	2.97	-	-	-	0.27	0.18	0.08	2.07	0.90	0.25	0.63	0.13	0.12
2005	3.63	2.07	2.30	1.33	0.29	0.16	0.07	2.56	1.07	0.36	0.86	0.11	0.25
2006	4.57	2.70	2.69	1.88	0.30	0.19	0.08	3.36	1.20	0.41	0.93	0.14	0.27
2007	5.98	3.62	3.59	2.39	0.52	0.31	0.11	4.13	1.85	0.74	1.22	0.27	0.39
2008	9.06	5.40	5.63	3.43	1.43	0.45	0.28	5.82	3.24	1.01	2.63	0.29	0.68
2009	10.17	5.53	6.02	4.15	0.69	0.58	0.24	6.87	3.30	0.92	2.72	0.27	0.61
2010	9.30	5.27	5.61	3.69	0.54	0.62	0.14	7.11	2.19	0.79	1.59	0.30	0.49
2011	10.35	6.58	5.55	4.80	0.57	0.53	0.16	7.96	2.38	0.86	1.93	0.20	0.60
2012	13.36	8.51	7.18	6.19	0.72	-	-	10.29	3.07	1.03	2.36	0.41	0.73

Source: Author's Calculations Using TUIK Data

\*PE: Producer-Exporter; SME: Small and Medium-Sized Enterprise; LSE: Large-Sized Enterprise; NE<sup>Africa</sup>: New Exporters to Africa; LTE<sup>Africa</sup>: Last-Time-Exporters to Africa; OTE<sup>Africa</sup>: One-Time Exporters to Africa; IM: Intensive Margin; EM: Extensive Margin; MD: Market Diversification; PD: Product Diversification; NE: New Exporter; OE: Old Exporter; NP: New Product; NM: New Market.

**TABLE 7. Number of Turkish Exporters to Africa Concerning Their Exports Values (X= Exports in USD)**

Value Range	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
X<100	0	0	0	0	0	0	0	0	0	0
100≤X<1,000	160	158	172	193	195	191	235	238	238	236
1,000≤X<10,000	903	1008	1033	1079	1083	1157	1341	1511	1483	1784
10,000≤X<100,000	2006	2244	2522	2719	3007	3217	3657	4109	4134	5140
100,000≤X<1,000,000	1220	1470	1707	1969	2288	2686	2991	3338	3220	4301
1,000,000≤X<10,000,000	295	399	466	519	625	798	909	981	992	1349
10,000,000≤X<100,000,000	32	42	47	59	94	132	132	135	150	170
100,000,000≤X<1,000,000,000	1	2	3	4	3	9	11	7	5	7
1,000,000,000≤X<10,000,000,000	0	0	0	0	0	0	0	0	1	1
<b>TOTAL</b>	<b>4617</b>	<b>5323</b>	<b>5950</b>	<b>6542</b>	<b>7295</b>	<b>8190</b>	<b>9276</b>	<b>10319</b>	<b>10223</b>	<b>12988</b>

Source: Author's Calculations Using TUIK Data

**TABLE 8. Exports of Turkish Exporters to Africa Concerning Their Exports Values (X= Exports in USD; million USD)**

Value Range	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
X<100	0	0	0	0	0	0	0	0	0	0
100≤X<1,000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,000≤X<10,000	4.5	5.0	5.1	5.3	5.3	5.8	6.6	7.6	7.3	9.0
10,000≤X<100,000	79.2	91.1	103.1	110.0	121.6	136.9	149.6	170.7	167.7	215.4
100,000≤X<1,000,000	396.6	478.3	532.1	639.3	767.4	900.6	1014.3	1119.1	1078.6	1435.7
1,000,000≤X<10,000,000	874.6	1170.2	1366.2	1424.8	1781.4	2239.6	2540.2	2754.6	2743.1	3845.0
10,000,000≤X<100,000,000	670.5	971.6	1174.4	1466.7	2377.4	3347.5	3456.4	3552.2	3750.4	4477.1
100,000,000≤X<1,000,000,000	105.8	252.0	452.2	920.1	923.6	2432.6	2999.4	1698.1	1341.3	1601.8
1,000,000,000≤X<10,000,000,000	0	0	0	0	0	0	0	0	1258.5	1776.9
<b>TOTAL</b>	<b>2131.3</b>	<b>2968.4</b>	<b>3633.2</b>	<b>4566.3</b>	<b>5976.8</b>	<b>9063.1</b>	<b>10166.6</b>	<b>9302.5</b>	<b>10347.0</b>	<b>13360.9</b>

Source: Author's Calculations Using TUIK Data

**TABLE 9. Breakdown of Number of Exporters to Africa by the Cities that the Exporters are Operating in Turkey**

City	2005	2006	2007	2008	2009	2010	2011	2012
İstanbul	3,513	3,756	3,919	4,291	4,698	5,059	5,122	6,891
Bursa	370	412	409	492	523	543	554	934
İzmir	414	429	496	546	615	645	681	872
Ankara	295	347	401	496	565	617	598	738
Konya	158	172	204	229	277	294	323	466
Kocaeli	160	189	205	231	292	315	324	428
Gaziantep	133	145	158	204	223	234	256	343
Kayseri	93	104	106	123	152	155	175	269
Adana	61	72	87	103	106	108	109	180
Denizli	75	91	101	103	133	134	131	174
<b>SUBTOTAL</b>	<b>5,272</b>	<b>5,717</b>	<b>6,086</b>	<b>6,818</b>	<b>7,584</b>	<b>8,104</b>	<b>8,273</b>	<b>11,295</b>
<b>TOTAL</b>	<b>5,950</b>	<b>6,542</b>	<b>7,295</b>	<b>8,190</b>	<b>9,276</b>	<b>10,319</b>	<b>10,223</b>	<b>12,988</b>

Source: Author's Calculations Using TUIK Data

**TABLE 10. Breakdown of Exports to Africa by the Cities that the Exporters are Operating in Turkey (Billion USD)**

	2005	2006	2007	2008	2009	2010	2011	2012
İstanbul	2.02	2.40	3.30	4.59	5.50	4.63	4.47	5.65
Kocaeli	0.28	0.68	0.81	0.99	0.80	0.83	1.64	2.43
İzmir	0.14	0.17	0.25	0.32	0.81	0.57	0.93	1.05
Gaziantep	0.07	0.09	0.15	0.27	0.23	0.30	0.46	0.72
Ankara	0.18	0.27	0.33	0.52	0.66	0.64	0.50	0.57
Bursa	0.27	0.27	0.12	0.19	0.20	0.24	0.28	0.52
Hatay	0.07	0.08	0.11	0.23	0.31	0.27	0.20	0.32
Kayseri	0.08	0.05	0.09	0.10	0.11	0.13	0.16	0.25
Konya	0.05	0.06	0.08	0.11	0.11	0.12	0.18	0.21
Denizli	0.05	0.07	0.10	0.16	0.13	0.16	0.19	0.19
<b>SUBTOTAL</b>	<b>3.20</b>	<b>4.13</b>	<b>5.35</b>	<b>7.48</b>	<b>8.86</b>	<b>7.89</b>	<b>8.99</b>	<b>11.91</b>
<b>TOTAL</b>	<b>3.63</b>	<b>4.57</b>	<b>5.98</b>	<b>9.06</b>	<b>10.17</b>	<b>9.30</b>	<b>10.35</b>	<b>13.36</b>

Source: Author's Calculations Using TUIK Data

**TABLE 11. Exports Frequency of Turkish Exporters to Africa by Country**

	1	2	3	4	5	6	7	8	9	10	TOTAL
Egypt	5227	2132	1283	792	550	402	288	213	165	322	11374
Libya	5042	1649	875	537	308	204	127	89	66	88	8985
Morocco	3225	1344	678	489	284	204	161	118	86	111	6700
Algeria	3097	1250	624	397	250	189	139	97	86	143	6272
Tunis	2860	1069	569	374	257	173	130	84	82	80	5678
South Africa	2318	969	469	323	229	157	104	64	64	126	4823
Sudan	1578	561	271	162	101	66	51	34	23	33	2880
Nigeria	1471	465	268	146	81	68	33	17	16	28	2593
Kenya	832	285	160	91	57	39	29	21	11	19	1544
Ghana	894	270	138	72	50	41	22	9	16	22	1534
Ethiopia	763	220	114	73	56	41	31	23	5	11	1337
Senegal	684	250	129	55	48	29	20	13	8	18	1254
Tanzania	602	205	99	47	34	25	18	8	13	11	1062
Angola	540	185	82	43	39	20	14	12	5	12	952
Mauritius	499	170	85	46	30	33	15	14	12	10	914
Congo	496	176	70	59	26	21	8	7	10	10	883
Ivory Coast	494	175	70	43	33	29	11	7	7	11	880
Cameroon	458	175	65	62	24	26	13	13	8	13	857
Mauritania	350	132	54	41	25	9	9	6	6	3	635
Uganda	400	112	54	31	9	9	5	2	0	8	630
Liberia	299	100	67	31	24	9	9	7	5	12	563
Guinea	299	89	49	27	12	9	8	4	2	4	503
Gabon	276	83	50	35	20	13	7	4	2	10	500
Togo	285	102	38	30	13	7	6	4	2	1	488
Benin	288	84	37	25	17	7	6	5	2	4	475
Mozambique	283	79	49	24	15	6	3	5	3	3	470
Madagascar	219	91	49	23	16	12	11	1	2	8	432
Equatorial Guinea	220	85	34	16	4	4	3	2	1	1	370
Gambia	199	75	39	24	12	5	1	3	6	4	368
Sierra Leone	211	76	27	17	11	7	8	4	0	3	364
Djibouti	228	56	26	19	8	10	2	4	6	4	363
Burkina Faso	215	52	34	16	11	5	3	1	3	2	342
Niger	221	65	26	13	8	3	2	2	0	1	341
Mali	180	61	41	9	15	9	2	2	4	3	326
Zambia	156	53	18	11	7	2	2	1	2	2	254
Somalia	142	28	7	5	1	1	2	1	0	1	188
Zimbabwe	116	32	15	5	4	4	2	1	0	0	179
Comoros	85	36	19	15	3	4	6	0	5	3	176
Chad	114	32	14	2	2	2	1	0	1	0	168
Seychelles	105	34	15	5	6	3	0	0	0	0	168
Rwanda	99	22	10	7	3	4	0	3	0	1	149
Eritrea	95	16	9	7	6	1	1	0	0	0	135
Namibia	83	19	10	6	3	1	2	2	0	0	126
Malawi	83	16	5	3	2	4	0	0	1	1	115
Cape Verde	52	25	12	4	5	0	3	2	4	2	109
Burundi	59	21	3	3	1	0	2	2	0	1	92
Guinea-Bissau	47	21	9	5	3	0	0	0	0	0	85
Central African Republic	59	19	4	0	0	0	0	1	0	0	83
Botswana	61	11	6	0	2	2	0	0	0	0	82
Myanmar	52	12	6	4	1	4	0	0	0	0	79
Seychelles	71	0	0	0	0	0	0	0	0	0	71
Mayotte	34	18	7	4	5	0	0	0	0	1	69
Sao Tome and Principe	45	10	7	1	0	1	0	1	1	0	66
Ceuta and Mellila	23	7	0	0	0	0	0	0	0	0	30
Lesotho	14	4	2	2	0	2	0	0	0	0	24
Swaziland	15	6	0	0	0	0	0	0	0	1	22
British Indian Ocean islands	8	1	0	0	0	0	0	0	0	0	9
St. Helena	4	0	0	0	0	0	0	0	0	0	4
Mellila	2	1	0	0	0	0	0	0	0	0	3

Source: Author's Calculations Using TUIK Data

**TABLE 12. Share of “N-Year Survivors” in Turkey’s Exports to Africa in Year t (%)**

Year	2-Year Survivors	3-Year Survivors	4-Year Survivors	5-Year Survivors	6-Year Survivors	7-Year Survivors	8-Year Survivors	9-Year Survivors	10-Year Survivors
2003	90.4	83.9	78.3	74.0	69.5	64.7	61.2	58.9	57.5
2004	91.5	84.2	78.8	72.9	68.6	64.7	62.7	60.8	-
2005	92.3	85.0	78.1	73.6	69.5	67.1	65.3	-	-
2006	92.9	86.1	81.7	76.7	73.9	71.6	-	-	-
2007	92.8	86.9	80.6	76.9	73.7	-	-	-	-
2008	92.9	86.3	75.5	71.6	-	-	-	-	-
2009	92.9	79.8	75.2	-	-	-	-	-	-
2010	91.3	85.3	-	-	-	-	-	-	-
2011	94.8	-	-	-	-	-	-	-	-

Source: Author's Calculations Using TUIK Data

**TABLE 13. Share of “N-Year Survivors” in Turkey’s Exporters to Africa in Year t (%)**

Year	2-Year Survivors	3-Year Survivors	4-Year Survivors	5-Year Survivors	6-Year Survivors	7-Year Survivors	8-Year Survivors	9-Year Survivors	10-Year Survivors
2003	66.2	52.0	43.8	36.8	32.0	28.4	25.7	23.8	22.5
2004	65.1	50.6	41.1	35.2	30.8	27.7	25.2	23.6	-
2005	66.0	50.0	41.5	35.6	31.4	28.3	26.1	-	-
2006	64.6	50.6	42.4	36.9	32.3	29.9	-	-	-
2007	66.8	51.7	43.7	37.4	34.1	-	-	-	-
2008	65.9	52.2	43.0	38.4	-	-	-	-	-
2009	67.5	50.9	44.0	-	-	-	-	-	-
2010	63.1	51.8	-	-	-	-	-	-	-
2011	71.8	-	-	-	-	-	-	-	-

Source: Author's Calculations Using TUIK Data

**TABLE 14. Breakdown of Exports in Intensive Margin by Country (million USD)**

Country	2005	2006	2007	2008	2009	2010	2011	2012
<b>Egypt</b>	535.5	590.0	632.9	974.1	1545.6	1934.2	2401.6	3283.4
<b>Libya</b>	227.1	295.0	379.6	602.7	985.8	1312.3	487.0	1525.7
<b>Algeria</b>	563.9	726.3	831.6	1299.3	1389.2	1278.1	1203.1	1400.3
<b>Morocco</b>	305.0	423.6	555.2	652.4	465.4	514.4	710.4	810.0
<b>Tunis</b>	246.4	222.5	430.7	576.3	530.8	546.9	561.5	580.6
<b>Nigeria</b>	70.5	50.6	68.5	159.2	155.7	163.9	296.3	332.3
<b>South Africa</b>	207.9	546.6	598.2	536.7	822.9	315.5	417.4	318.0
<b>Ethiopia</b>	85.4	78.3	87.1	118.5	127.9	92.3	191.7	291.3
<b>Sudan</b>	104.7	136.6	106.8	127.6	161.0	169.1	164.2	190.4
<b>Angola</b>	18.5	18.3	25.5	82.8	89.3	89.1	193.3	188.1
<b>SUBTOTAL</b>	<b>2364.9</b>	<b>3087.9</b>	<b>3716.0</b>	<b>5129.9</b>	<b>6273.6</b>	<b>6415.8</b>	<b>6626.4</b>	<b>8919.9</b>
<b>TOTAL</b>	<b>2561.0</b>	<b>3363.6</b>	<b>4130.9</b>	<b>5820.1</b>	<b>6870.2</b>	<b>7113.7</b>	<b>7957.5</b>	<b>10288.4</b>

Source: Author's Calculations Using TUIK Data

**TABLE 15. Breakdown of Market Diversification to Africa by Country (million USD)**

Country	2005	2006	2007	2008	2009	2010	2011	2012
<b>Egypt</b>	126.7	85.3	195.3	361.8	999.1	224.0	263.6	321.5
<b>Libya</b>	102.4	154.0	147.2	316.9	598.8	426.8	208.5	408.4
<b>Algeria</b>	170.9	215.1	144.8	185.6	212.6	140.6	176.8	327.0
<b>Morocco</b>	54.4	112.8	139.8	246.8	108.4	84.7	182.2	160.9
<b>South Africa</b>	97.8	34.1	39.2	693.7	37.3	44.6	82.3	53.9
<b>Tunis</b>	39.8	84.6	64.6	177.0	84.9	120.9	200.2	169.4
<b>Nigeria</b>	23.4	24.9	54.0	93.0	84.9	71.4	79.4	74.9
<b>Sudan</b>	31.0	47.1	48.7	62.4	64.1	39.1	55.7	57.6
<b>Ethiopia</b>	21.4	9.9	51.2	21.9	92.0	39.5	60.0	43.5
<b>Liberia</b>	38.1	2.9	59.2	82.8	56.3	33.1	7.2	6.5
<b>SUBTOTAL</b>	<b>706.0</b>	<b>770.6</b>	<b>944.1</b>	<b>2241.9</b>	<b>2338.3</b>	<b>1224.8</b>	<b>1316.0</b>	<b>1623.7</b>
<b>TOTAL</b>	<b>860.4</b>	<b>928.1</b>	<b>1217.8</b>	<b>2625.3</b>	<b>2715.7</b>	<b>1587.0</b>	<b>1926.3</b>	<b>2361.0</b>

Source: Author's Calculations Using TUIK Data



**TABLE 16. Breakdown of Product Diversification to Africa by Top 10 HS 2-Digit Codes (million USD)**

Year	HS Code	Product Diversification	Year	HS Code	Product Diversification
2004	73 (Articles of iron or steel)	53.9	2009	84 (Machinery, nuclear react	137.8
	62 (Articles of apparel, acces	32.2		72 (Iron and steel)	103.3
	84 (Machinery, nuclear react	30.3		87 (Vehicles other than railw	64.8
	72 (Iron and steel)	21.9		85 (Electrical, electronic equi	62.8
	87 (Vehicles other than railw	14.1		62 (Articles of apparel, acces	60.9
	85 (Electrical, electronic equi	9.2		73 (Articles of iron or steel)	54.1
	39 (Plastics and articles there	7.4		61 (Articles of apparel, acces	37.9
	60 (Knitted or crocheted fabr	6.8		25 (Salt, sulphur, earth, stone	36.5
	19 (Cereal, flour, starch, milk	6.5		94 (Furniture, lighting, signs,	35.8
	55 (Manmade staple fibres)	6.3		39 (Plastics and articles there	31.1
	Subtotal	188.8		Subtotal	625.0
TOTAL	254.9	TOTAL	918.7		
2005	62 (Articles of apparel, acces	42.2	2010	84 (Machinery, nuclear react	115.0
	84 (Machinery, nuclear react	39.8		85 (Electrical, electronic equi	60.0
	10 (Cereals)	30.0		72 (Iron and steel)	51.3
	73 (Articles of iron or steel)	28.0		62 (Articles of apparel, acces	49.9
	89 (Ships, boats and other flo	26.8		73 (Articles of iron or steel)	49.6
	54 (Manmade filaments)	16.1		94 (Furniture, lighting, signs,	43.2
	72 (Iron and steel)	15.9		25 (Salt, sulphur, earth, stone	35.7
	85 (Electrical, electronic equi	12.7		87 (Vehicles other than railw	33.0
	15 (Animal,vegetable fats an	11.1		39 (Plastics and articles there	32.5
	87 (Vehicles other than railw	9.8		61 (Articles of apparel, acces	29.0
	Subtotal	232.4		Subtotal	499.2
TOTAL	356.5	TOTAL	792.9		
2006	84 (Machinery, nuclear react	65.7	2011	72 (Iron and steel)	165.8
	62 (Articles of apparel, acces	39.4		84 (Machinery, nuclear react	123.2
	72 (Iron and steel)	32.3		62 (Articles of apparel, acces	74.8
	89 (Ships, boats and other flo	30.7		73 (Articles of iron or steel)	65.6
	87 (Vehicles other than railw	27.3		21 (Miscellaneous edible pre	54.7
	73 (Articles of iron or steel)	24.3		61 (Articles of apparel, acces	45.6
	85 (Electrical, electronic equi	21.1		85 (Electrical, electronic equi	30.1
	61 (Articles of apparel, acces	18.9		87 (Vehicles other than railw	22.6
	52 (Cotton)	15.3		39 (Plastics and articles there	22.5
	39 (Plastics and articles there	12.4		52 (Cotton)	22.3
	Subtotal	287.4		Subtotal	627.1
TOTAL	411.2	TOTAL	860.9		
2007	73 (Articles of iron or steel)	209.9	2012	84 (Machinery, nuclear react	173.5
	84 (Machinery, nuclear react	80.7		19 (Cereal, flour, starch, milk	107.3
	72 (Iron and steel)	48.4		85 (Electrical, electronic equi	99.7
	85 (Electrical, electronic equi	44.7		62 (Articles of apparel, acces	96.7
	21 (Miscellaneous edible pre	33.2		73 (Articles of iron or steel)	70.3
	39 (Plastics and articles there	29.9		61 (Articles of apparel, acces	50.3
	87 (Vehicles other than railw	26.4		94 (Furniture, lighting, signs,	47.8
	62 (Articles of apparel, acces	26.2		39 (Plastics and articles there	35.1
	27 (Mineral fuels, oils, distill	18.9		87 (Vehicles other than railw	27.7
	52 (Cotton)	18.6		52 (Cotton)	26.3
	Subtotal	536.9		Subtotal	734.7
TOTAL	742.3	TOTAL	1026.0		
2008	84 (Machinery, nuclear react	149.4			
	73 (Articles of iron or steel)	89.6			
	72 (Iron and steel)	66.0			
	85 (Electrical, electronic equi	63.9			
	52 (Cotton)	62.5			
	39 (Plastics and articles there	62.0			
	87 (Vehicles other than railw	47.0			
	70 (Glass and glassware)	41.6			
	62 (Articles of apparel, acces	38.3			
	25 (Salt, sulphur, earth, stone	36.7			
	Subtotal	656.8			
TOTAL	1005.7				

Source: Author's Calculations Using TUIK Data

**TABLE 17. Number of Firms that Exported to Africa with respect to "Different Market Portfolio Sizes within Africa"**

Year t	$MP_t^{Africa} = 1$	$2 \leq MP_t^{Africa} \leq 3$	$4 \leq MP_t^{Africa} \leq 6$	$7 \leq MP_t^{Africa} \leq 9$	$10 \leq MP_t^{Africa} \leq 20$	$21 \leq MP_t^{Africa}$	TOTAL
2003	3024	1152	305	72	50	14	4617
2004	3561	1257	359	69	64	13	5323
2005	3923	1425	417	104	67	14	5950
2006	4256	1626	445	122	79	14	6542
2007	4704	1822	532	133	84	20	7295
2008	5246	2101	578	134	112	19	8190
2009	5760	2483	710	161	134	28	9276
2010	6395	2706	822	213	145	38	10319
2011	6222	2664	879	239	171	48	10223
2012	7805	3433	1176	314	207	53	12988

Source: Author's Calculations Using TUIK Data

**TABLE 18. Number of Firms that Exported to Africa with respect to "Different Total Market Portfolio Sizes"**

Year t	$MP_t=1$	$2 \leq MP_t \leq 3$	$4 \leq MP_t \leq 6$	$7 \leq MP_t \leq 9$	$10 \leq MP_t \leq 20$	$21 \leq MP_t$	TOTAL
2003	628	838	839	574	1052	686	4617
2004	704	982	964	631	1245	797	5323
2005	781	1037	1054	738	1366	974	5950
2006	805	1171	1059	806	1597	1104	6542
2007	954	1257	1263	856	1760	1205	7295
2008	1076	1436	1413	970	1932	1363	8190
2009	1238	1685	1667	1165	2098	1423	9276
2010	1418	1937	1803	1260	2260	1641	10319
2011	1248	1776	1800	1216	2340	1843	10223
2012	1758	2501	2397	1511	2789	2032	12988

Source: Author's Calculations Using TUIK Data

**TABLE 19. Number of Firms that Exported to Africa with respect to "Different Product Portfolio Sizes within Africa"**

Year t	$PP_t^{Africa} = 1$	$2 \leq PP_t^{Africa} \leq 5$	$6 \leq PP_t^{Africa} \leq 10$	$11 \leq PP_t^{Africa} \leq 20$	$21 \leq PP_t^{Africa} \leq 50$	$51 \leq PP_t^{Africa} \leq 100$	$101 \leq PP_t^{Africa}$	TOTAL
2003	1928	1715	438	281	165	62	28	4617
2004	2194	2001	510	315	200	71	32	5323
2005	2473	2209	571	360	241	66	30	5950
2006	2739	2404	640	387	268	77	27	6542
2007	3014	2637	706	508	309	85	36	7295
2008	3254	2965	853	558	388	114	58	8190
2009	3594	3435	946	671	421	127	82	9276
2010	3945	3805	1101	738	477	165	88	10319
2011	3854	3917	1078	717	419	151	87	10223
2012	4618	4928	1568	943	640	170	121	12988

Source: Author's Calculations Using TUIK Data

**TABLE 20. Number of Firms that Exported to Africa with respect to "Different Total Product Portfolio Sizes"**

Year t	$PP_t = 1$	$2 \leq PP_t \leq 5$	$6 \leq PP_t \leq 10$	$11 \leq PP_t \leq 20$	$21 \leq PP_t \leq 50$	$51 \leq PP_t \leq 100$	$101 \leq PP_t$	TOTAL
2003	562	1413	883	800	624	219	116	4617
2004	675	1651	997	868	759	234	139	5323
2005	737	1786	1114	1037	829	297	150	5950
2006	826	1994	1230	1091	927	306	168	6542
2007	850	2289	1306	1297	1006	366	181	7295
2008	962	2446	1549	1425	1179	393	236	8190
2009	1096	2838	1797	1610	1266	415	254	9276
2010	1247	3182	1934	1718	1460	494	284	10319
2011	1149	3123	1900	1831	1431	500	289	10223
2012	1527	3925	2555	2251	1796	600	334	12988

Source: Author's Calculations Using TUIK Data

**TABLE 21. Breakdown of the Number of Exporters by the Share of Africa in Their Total Exports to World**

	2005	2006	2007	2008	2009	2010	2011	2012
<b>Share ≥90%</b>	1059	1117	1254	1448	1707	1954	1748	2465
<b>Share ≥50%</b>	1685	1786	2020	2298	2798	3162	2807	4101
<b>Share ≤10%</b>	2700	2997	3299	3638	3720	4145	4454	4875
<b>TOTAL</b>	5950	6542	7295	8190	9276	10319	10223	12988

Source: Author's Calculations Using TUIK Data

**TABLE 22. Exports Destinations of Firms that Exported to Africa (Billion USD)**

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>EUROPE</b>	<b>19.29</b>	<b>26.84</b>	<b>32.21</b>	<b>37.99</b>	<b>46.88</b>	<b>51.99</b>	<b>36.06</b>	<b>41.94</b>	<b>49.43</b>	<b>48.28</b>
EU(27)	17.50	24.40	28.80	33.30	40.50	43.70	31.30	36.20	41.90	40.50
Rest of Europe	1.79	2.44	3.41	4.69	6.38	8.29	4.76	5.74	7.53	7.78
<b>ASIA</b>	<b>4.87</b>	<b>6.02</b>	<b>8.26</b>	<b>9.42</b>	<b>11.98</b>	<b>22.66</b>	<b>15.82</b>	<b>20.14</b>	<b>23.02</b>	<b>25.95</b>
Near and Middle East	3.58	4.53	6.48	7.17	9.25	18.60	11.90	14.90	17.10	19.70
Rest of Asia	1.29	1.49	1.78	2.25	2.73	4.06	3.92	5.24	5.92	6.25
<b>ARFICA</b>	<b>2.13</b>	<b>2.97</b>	<b>3.63</b>	<b>4.57</b>	<b>5.98</b>	<b>9.06</b>	<b>10.17</b>	<b>9.31</b>	<b>10.35</b>	<b>13.36</b>
North Africa	1.58	2.20	2.54	3.10	4.03	5.85	7.42	7.03	6.70	9.45
Rest of Africa	0.55	0.77	1.09	1.47	1.95	3.21	2.75	2.28	3.65	3.91
<b>AMERICAS</b>	<b>2.46</b>	<b>3.37</b>	<b>3.98</b>	<b>4.24</b>	<b>3.39</b>	<b>4.38</b>	<b>3.10</b>	<b>4.52</b>	<b>5.88</b>	<b>7.29</b>
North America	2.25	2.99	3.52	3.70	2.66	3.09	2.24	3.01	3.77	4.66
South America	0.12	0.16	0.23	0.30	0.42	0.81	0.60	1.09	1.65	2.01
Central America and Caribbeans	0.10	0.22	0.23	0.24	0.31	0.48	0.26	0.42	0.46	0.62
<b>TURKISH FREE ZONES</b>	<b>1.02</b>	<b>1.38</b>	<b>1.61</b>	<b>1.50</b>	<b>1.56</b>	<b>1.68</b>	<b>0.95</b>	<b>1.17</b>	<b>1.52</b>	<b>1.31</b>
<b>AUSTRALIA AND NEW ZELAND</b>	<b>0.11</b>	<b>0.21</b>	<b>0.22</b>	<b>0.28</b>	<b>0.27</b>	<b>0.35</b>	<b>0.28</b>	<b>0.31</b>	<b>0.37</b>	<b>0.40</b>
<b>OTHER REGIONS</b>	<b>0.09</b>	<b>0.02</b>	<b>0.05</b>	<b>0.03</b>	<b>0.67</b>	<b>1.13</b>	<b>0.50</b>	<b>0.03</b>	<b>0.04</b>	<b>0.04</b>
<b>TOTAL</b>	<b>29.98</b>	<b>40.81</b>	<b>49.96</b>	<b>58.02</b>	<b>70.73</b>	<b>91.25</b>	<b>66.87</b>	<b>77.43</b>	<b>90.60</b>	<b>96.63</b>

Source: Author's Calculations Using TUIK Data