ANATOLIAN TIGERS AND THE EMERGENCE OF THE DEVOUT BOURGEOISIE IN THE TURKISH MANUFACTURING INDUSTRY: AN EMPIRICAL ANALYSIS

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Abstract

It has widely been asserted that an important dimension of social dynamics that eventually carried the Justice and Development Party (Adalet ve Kalkınma Partisi, AKP) to political power is the emergence of a ''devout bourgeoisie'' especially in the new growth centers of Anatolia. In this paper, we use firm level data over the last three decades to trace the economic and especially productivity dynamics in the manufacturing industries of new growth centers in Anatolia (''Anatolian Tigers'') in comparison to the traditional growth centers (the ''West''). We observe that what happened in the 1990s in the Tigers was a significant change in the size distribution of employment with the emergence of a significant number of medium sized enterprises. In the 2000s there was a visible convergence between the labor productivity of highly productive firms in the Tigers and the West, whereas divergence occurred at the lower end of the productivity distribution. We then examine the evolution of members of religious business associations among the largest 1000 manufacturing firms in Turkey. We observe that the number of such firms increased substantially especially after mid-1990s. These firms are concentrated in relatively more labor-intensive industries, and have lower productivity than firms associated with business associations that represent the traditional industrial elite and are quite export oriented. We discuss the possible role of political connections and conclude they possibly had a more diminished role in the emergence of devout businesses in manufacturing compared to rent-thick activities such as public procurement, construction or regulated industries.

ملخص

على نطاق واسع تم التأكيد على ان بعدا هاما من الديناميات الاجتماعية التي قامت في نهاية المطاف حزب العدالة والتنمية (حزب العدالة والتنمية) إلى السلطة السياسية هو ظهور "البرجوازية المتدينة" وخصوصا في مراكز النمو الجديدة في الأناضول. في هذه الورقة، نستخدم البيانات على مستوى ثابت على مدى العقود الثلاثة الماضية لتتبع الحركة الاقتصادية وخاصة الإنتاجية في الصناعات التحويلية من مراكز النمو الجديدة في الأناضول ("الأناضول النمور") بالمقارنة مع مراكز النمو التقليدية ("الغرب"). ونلاحظ أن ما حدث في التسعينيات في النمور كان تغييرا كبيرا في توزيع حجم العمل مع ظهور عدد كبير من الشركات متوسطة الحجم. في الألفيات كان هناك تقارب واضح بين إنتاجية العمل للشركات ذات إنتاجية عالية في النمور والغرب، في حين وقع الاختلاف في الطرف الأدنى من توزيع الإنتاجية. نقوم بدراسة تطور أعضاء جمعيات رجال الأعمال الدينية بين أكبر 1000 شركة صناعية في تركيا. ونلاحظ أن عدد من هذه الشركات يزيد زيادة كبيرة خصوصا بعد منتصف التسعينيات. وتتركز هذه الشركات نسبيا من الصناعات كثيفة العمالة، ويكون انخفاض الإنتاجية من الشركات المرتبطة مع جمعيات رجال الأعمال التي تمثل النخبة الصناعية التقليدية وتكون موجهة نحو التصدير. نقوم بمناقشة الدور المحتمل للعلاقات السياسية والتي ربما كان لهم دور أكثر في تقليص ظهور الشركات وفي التصنيع مقابل استئجار أنشطة مثل المشتريات العامة والبناء أو الصناعات المنظمة.

1. Introduction

It has widely been asserted that an important dimension of social dynamics that eventually carried the Justice and Development Party (Adalet ve Kalkınma Partisi, AKP) to political power is the emergence of a "devout bourgeoisie" especially in the new growth centers of Anatolia.[1] Economic activity in Turkey has been traditionally located in major industrial cities such as Istanbul, Ankara, İzmir, Bursa and Kocaeli. The term new growth centers, by contrast, refers to Anatolian provinces (the so-called "Anatolian Tigers", see section 2 for details) that apparently have increased their share in overall economic activity as well as exports of manufactured goods.

Initial analysis carried out in Atiyas and Bakis (2013) with firm-level data confirms some of these expectations for the years 2006-2010.[2] That paper shows that the productivity gap between traditional and new growth centers ("Anatolian Tigers") narrowed over 2006-2010 and new growth centers' share in exports increased. While the traditional industrial centers still have higher productivity and still carry out most economic activity, there is evidence of catch-up.

The purpose of this paper is to examine in some detail the emergence of Anatolian Tigers and the devout industrial bourgeoisie. First, using micro data put together by the Turkish Statistical Institute (TurkStat) covering the periods 1982-2000 and 2005-2012 we examine the economic and especially productivity dynamics of Anatolian Tigers and try to find answers to the following types of questions:

- Timing: Can one identify when growth and productivity started to accelerate, if at all? What did growth dynamics look like during the reforming 1980s and the stagnant and volatile 1990s?
- What were the contributions of new plants vs. incumbents, or entry and exit?
- How was size distribution of plants affected? What can be said about the role of small and medium sized firms in overall productivity growth in the traditional and new growth centers?
- What happened to dispersion of productivity? Was increase in productivity uniform across plants or was it induced by fast growth of a small number of plants? Does this differ across traditional vs new growth centers?

Second, we will further refine our story on the emergence of the devout bourgeoisie by tracing the emergence of large firms associated with Islamic business associations. Although location and devoutness are not in one-to-one correspondence,[3] as many firms with memberships to Islamic business associations are located in Istanbul and Ankara, it is also true that some of these firms indeed started their operations in the cities of Anatolia. In fact, the city-wise distribution of members of Islamic business associations also demonstrates that the Anatolian Tiger cities are among the ones with the highest number of members following Istanbul.

In order to enrich our narrative of the emergence of the devout bourgeoisie (and develop a better understanding of the degree of concordance between regional economic dynamics and emergence of the new bourgeoisie) we make use of a second data set, namely information on largest manufacturing firms of Turkey, published by the Istanbul Chamber of Industry (İstanbul Sanayi Odası, ISO) over the period 1980-2014. The data set has information on the largest 500 firms for the period 1980-1996 and largest 1000 firms over 1997-2014. This data set has information on firm names, sales, value added, employment, profits, location, exports and

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[1] For example, Gümüşçü and Sert (2009), Müftüler-Baç and Keyman (2012).

[2] See also Chapter 4 of World Bank (2014).

[3] For instance as Buğra and Savaşkan (2010, 2014) argue, many new firms belonging to conservative families have headquarters in Istanbul and many firms in the Tiger provinces are not necessarily conservative.

composition of equity (public, domestic private and foreign), and industry (3 digit). For some variables data for the last two years is absent, the findings below are based on the last year for which data is available.

We match the names of the firms in the ISO data set with the members of the of business organizations associated with the traditional industrial elite – TUSIAD (Turkish Industry and Business Association) and TURKONFED (Turkish Enterprise and Business Confederation)[4] as well as the members of the Islamic business associations – MUSIAD (Association of Independent Industrialists and Businessmen), TUSKON (Turkish Confederation of Businessmen and Industrialists) and ASKON (Anatolian Tigers Businessmen Association) – that are well known to have had harmonic relations with the AKP majority government.[5] We call members of all these business associations as "network firms."

MUSIAD was formed in 1990 while ASKON was founded in 1998. Both associations are known to be close to "Milli Görüş" (National Vision) movement and both had close relations with the Welfare Party in the 1990s, and the AKP in the 2000s. TUSKON is generally associated with the Gulen movement, and has been a vocal opponent of the government's recent clamp down on the Gulen movement's associates.[6] Both associations have been established, operated and expanded with explicit Islamic references. For instance, the founding former president of MUSİAD stated that the establishment of MUSİAD was a "religious and national mission"[7] while the president of TUSKON indicated that they are representing "the sons of hajjis".[8] Membership in these organizations reflects membership in particular conservative networks of the business world, but it would not necessarily reflect political connections per se, as this term has been treated in the literature. Hence we will call them "religious networks" (RN) and compare them with the "secular networks" (SN), that is, TUSIAD and TURKONFED. Nevertheless, especially during the 2000s political connections are likely to be present for RN members.[9] This conjecture is strengthened by the government's recent seizure of and appointment of trustees to large holding companies allegedly close to the Gulen movement.[10]

Having identified firms, we trace their emergence into the top 500-1000 list over time. We would like to find answers to questions such as: In which industries did these large firms belonging to conservative business associations emerge and when? What percentage of such businesses come from the Anatolian Tigers? What has been their export and productivity performance? How do these compare with those of firms belonging organizations associated with the traditional industrial elite? This way we hope to provide a richer analysis of the emergence of the devout bourgeoisie.

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[4] TUSIAD was established in 1971. TURKONFED was established in 2004, as a result of efforts by TUSIAD to organize businesses at the local level

[5] Among the various conservative business associations, MUSIAD and TUSKON are possibly the most important and largest in terms of membership. We also check the top 1000 list for membership in two other well know associations, namely ASKON and TUMSIAD but these two are much smaller and substantially smaller number of firms exist in the ISO dataset.

[6] See Bugra and Savaskan (2010) for a detailed discussion of the emergence of "business associations with Islamic references" as well as of TURKONFED.

[7] http://www.milliyet.com.tr/asli-burjuva-sinifimiz-dogdu---/ekonomi/ekonomidetay/21.07.2009/1119698/default.htm

[8] http://ekonomi.haber7.com/ekonomi/haber/445867-tuskon-afrika-icin-1-koydu-3-aldi

[9] Similarly, some members of the SN network may have been politically connected in the 1980s and 1990s.

[10] See for example: Reuters August 18, 2016 "Turkey seizes assets as post-coup crackdown turns to business" at http://www.reuters.com/article/us-turkey-security-raids-idUSKCN10T0HH; Cumhuriyet daily 28 August 2016 "Topbaş'ın damadı da listede... Çok sayıda holding ve şirkete operasyon" at http://www.cumhuriyet.com.tr/haber/turkiye/586334/Topbas_in_damadi__Aydinli__Eroglu__Gulluoglu..._Cok_sayida_unlu_holding_ve_sirkete_operasyon.html; Hurriyet Daily News, August 28 2016 "Bosses, baklava kings detained in anti-Gülen probe" at http://www.hurriyetdailynews.com/bosses-baklava-kings-detained-in-anti-gulen-probe.aspx?pageID=238&nID=102995&NewsCatID=345; Daily Sabah August 18, 2016 "Trustees appointed to Boydak Holding over links to Gülenist terror-cult" at http://www.kanalahaber.com/haber/yerel/boydak-holdinge-kayyum-atandi-316865/ all accessed August 20, 2016.

In particular, we hope to be able to determine whether the emergence and ascendance to maturity of new devout industrialists and industrial centers was a phenomenon of the AKP period or whether it started earlier.

The paper is organized as follows: In section 2 we provide a general background to the Turkish economy and the emergence of conservative businesses. In Section 3 we carry out the analysis of economic and productivity performance of manufacturing industries in Anatolian Tigers using the Turkstat micro data sets. In Section 4 the ISO data set is examined and an analysis of the emergence and comparative economic performance of conservative large industrial firms. Section 5 discusses the potential role of political connections in the ascendance of the devout bourgeoisie and compares manufacturing to other industries with higher potential for rents. Section 6 concludes.

2. Background: Turkey's Economic Development and Private Sector Cleavages

In the decades following World War II up until 1980 Turkey followed an import substitution industrialization (ISI) model of development. This regime was characterized by heavy protection from imports, both through tariffs and quantitative restrictions, a repressed financial system, significant presence of state owned enterprises in industry, mining and banking, widespread price controls and overvalued exchange rates. The ISI period also witnessed the development of the private sector and the establishment of conglomerates with highly diversified production structures, benefiting from import controls, favorable allocation of import quotas, credit and foreign exchange, as well as subsidized inputs from state owned enterprises. The ISI was basically a regime where critical inputs necessary for growth was rationed, and access to them played a significant role in private firms' growth. With access to the lion's share of rents the conglomerates came to dominate highly oligopolistic industries, to the exclusion of small and medium enterprises. There was a strong regional disparity as well: The conglomerates were based mostly in Istanbul, with production units dispersed to what may be called the traditional industrial centers of Turkey which would include provinces such as Istanbul, Kocaeli, Izmir, Ankara and Adana and with little participation from the rest of Anatolia. This dominance of the traditional conglomerates as well as the regional disparities were sources of political grievances and these grievances were articulated by emerging Islamist parties as early as 1970s (Barkey, 1990; Buğra 1998).

Starting in 1980, under Ozal, first as top economic bureaucrat and after 1983 as prime minister the economic policy framework in Turkey went through a fundamental change and Turkey embarked on what is often called export oriented industrialization. The new policy regime entailed trade liberalization, real depreciation of the currency, liberalization of domestic financial markets, and after 1989, of international capital flows as well as significant repression of real wages, especially during the 1980s. Trade liberalization was then reinforced through membership in WTO and a customs Union with the EU in 1995. On the macro front, liberalization was not complemented with macroeconomic stability and especially starting with late 1980s, Turkey suffered from high inflation, high real interest rates and large budget deficits.

On the political front, after a short period of single party government, with the removal of a ban on former political leaders, political competition and fragmentation increased and the 1990s were characterized by series of short-lived coalition governments and increasing corruption. Islamist political parties re-emerged and scored electoral victories in both local and general elections. macroeconomic excesses of the 1990s were culminated by the financial crisis of 2000-2001. In 2002 the Justice and Development Party (AKP) came to power and formed the first majority government since the mid-1980s.

Liberalization on the one hand, and more sympathetic governments on the other created opportunities for the growth of new business, some of them closely associated with and

supporting Islamist parties. Ozal himself often complained about regional economic disparities as well as of the dominance of "Istanbul monopolists", themes systematically picked and promoted by Islamist parties. At least in public discourse, many new businesses groups were portrayed as the devout bourgeoisie, many of them small or medium sized, challenging the dominance of secular Istanbul monopolists, even though the growth of conservative businesses was certainly not restricted to Anatolian provinces, as will be seen below. New business associations were formed, representing conservative businesses, most of them small and medium sized, and stating support to Islamist parties. With the triumph of the AKP in November 2002 elections the business leaders of the Muslim community who provided AKP with strong support have started to serve in different ranks of the AKP cadres, a trend that is absent for TUSIAD members.[11] In the 22nd 23rd and 24th terms of the Turkish Grand National Assembly (TGNA) for instance the number of MÜSİAD-affiliated MPs was 11, 7, and 10 respectively. Though less in number, TUSKON, ASKON and TUMSIAD affiliated individuals also served as AKP MPs (Gürakar, 2016).

The literature emphasizes several factors that are likely to have helped the growth of conservative businesses both in the traditional industrial centers as well as in Anatolia:[12] Trade liberalization certainly removed significant entry barriers (especially in terms of import restrictions and allocation of foreign exchange). Public investment probably also helped: Starting in the 1980s, public investment priorities switched from manufacturing to infrastructure, including telecommunications and roads, increasing the connectivity of cities in Anatolia to the rest of the domestic market and especially urban consumption centers. Liberalization of the banking system reduced financial repression, but especially in the 1980s and 1990s likely did not reduce credit rationing in the still highly oligopolistic banking system significantly. The literature emphasizes another aspect of financial liberalization, namely the establishment of non-interest banks, the so called "Special Finance Institutions" (SFIs), which were able to mobilize the savings of conservative families (as well as workers abroad) and channel them to conservative enterprises that were hitherto rationed out of the financial system. The share of SFIs in the financial system never became very large, but they are likely to have played a role in the growth of some conservative businesses. Indeed eventually some of the conservative conglomerates bought SFIs, in effect mimicking secular/traditional conglomerates that had their own banks. The literature also emphasizes the impact of the electoral victories of Islamist parties, especially in local government, and which resulted in access to resources under the control or influence of central and local government. We return to the issue of political connections in section 5 below.

3. Anatolian Tigers Catch Up? Evidence from Three Decades of Microdata

In this section, we use firm level data compiled by the Turkish Statistical Institute (TurkStat) to gain some insights on the scope, evolution and composition of economic activity in new industrial centers as compared with traditional industrial centers in Turkey. We focus especially on changes in the size distribution of firms and employment, and ask whether there is any convergence in the productivity and whether there are discernible differences in terms of entry and exit.

3.1 The TurkStat Data

In this section, we present some results pertaining to the performance of new growth centers versus the traditional industrial centers of Turkey. The data we use come from two different micro (plant or firm level) data sets. For the period 1982-2000 we use Annual Manufacturing

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[11] "Becoming an MP is not a common practice among the TÜSİAD members. On the contrary, TÜSİAD member firms are not even allowed to have MPs or bureaucrats in their board of directors – a decision made after the recurrent corruption scandals of the 1990s that included several names from the TÜSİAD members along with the ministers, MPs and bureaucrats." (Gürakar, 2016)

[12] See, for example, Hoşgör (2015) and Demir, Acar and Toprak (2010).

Industry Statistics (AMIS) compiled by the Turkish Statistical Office (TurkStat). This data set covers private *plants* with at least 10 employees and all state-owned *plants*. For the period 2005-2012 we use the Annual Industry and Service Statistics (AISS) again compiled by TurkStat.[13] This data set covers (almost) all non-financial and non-agricultural business sectors. The data set includes all firms with at least 20 employees; firms with less than 20 employees are covered on a sampling basis, with sampling weights. The AISS data set has some peculiarities. First, that samples of firms employing less than 20 people are included in the data set is a clear advantage, since dynamics among small firms may play an important role in explaining overall productivity or employment dynamics. In what follows, we will refer to the AISS data set that includes 20- firms as the "complete" data set. However, because they are covered on a sampling basis, these firms cannot be followed over time hence any analysis that requires following firms over time will need to be carried out only for firms with at least 20 employees (henceforth called the "panel" data set). This also means that entry will need to be identified with entry into the data set which of course is different from true entry (i.e. emergence of a firm that was not alive in the previous period). There is a further complication. The sectoral classification system of the AISS data set changed from NACE Rev.1 to NACE Rev.2 in 2009. Unfortunately, there is no neat correspondence between these two systems. That has created a discontinuity since a firm classified as a manufacturing firm in one classification may be non-manufacturing under the other. Fortunately, TUIK has recently undertaken a back-casting exercise through observations for 20+ firms in the years before 2009 have been assigned a NACE Rev.2 sector code. However, no such exercise has been carried out for 20-firms. In what follows, whenever we use the complete data set, for the years 2005-2008, we identify an observation as belonging to the manufacturing sector based on its NACE Rev1 classification, whereas for 20+ firms NACE REV2 classification is used. Moreover, due to the non-correspondence of the two classification systems, a coherent system of price deflators that covers the whole period does not exist for the complete data set. That means, for example, that the evolution over time of average productivity in constant prices of the 1-19 firms cannot be calculated. What we can report is the evolution of *relative productivity,* say average productivity of the Tiger region relative to the West. By contrast, whenever we use the "panel" data set, the classification of observations as belonging to the manufacturing industry is based on the NACE Rev.2 system, and for this system a coherent set of deflators covering the whole 2003-2012 period exists. To compute real value added for the AISS data set we use domestic producer price index (2003=100) specific to 3-digit NACE Rev.2, compiled by TurkStat. For the AMIS data we use producer price index (1994=100) specific to 4-digit ISIC Rev.2.[14]

Unless indicated otherwise, and for most of the analysis below, for the 2000s we restrict our attention to the manufacturing industry for the purposes of comparability with the 1980s and 1990s. Since the AMIS is plant level and AISS is firm level, and the coverage of the two data sets are different, one should exercise serious caution when comparing results across the 1980s and 1990s on the one hand and 2000s on the other. Comparisons of dynamics across time within the two periods are likely to be more credible.

3.2 Classification of the regions

An important step in our analysis is the classification of regions. We base our classification on the vote share of the Welfare Party (Refah Partisi, RP) in the 1991 elections. The Welfare Party is an Islamist Party, often associated with its leader and co-founder Necmettin Erbakan and the National Vision movement. It was established in 1983 as the successor to National Order Party (Milli Nizam Partisi) and National Salvation Party (Milli Selamet Partisi) which were active in the 1970s and were closed down by the Constitutional Court. 1991 was the first general election

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[13] The data set actually covers the years 2003-2012. However, we exclude the years 2003 and 2004 from the analysis because TurkStat experts state that data for those years are highly unreliable.

[14] We would like to thank Prof. Kamil Yılmaz for providing 4-digit ISIC Rev.2 deflators.

in which the party won a vote share (16.9 percent) above the nationwide 10 percent threshold required to win seats in the Parliament and much higher than its share in earlier local or national elections, which hovered around 6-7 percent. Specifically, we classify a NUTS2 region as "Anatolian Tiger" if the vote share of RP is above equal or above 20 percent. The West consists of Kocaeli, Ankara, Istanbul, Izmir, Bursa, Tekirdag, Adana, Antalya, Zonguldak, Balikesir and Aydin NUTS2 regions. The "Anatolian Tigers" (or "Tigers" for short) consists of Konya, Kayseri, Hatay, Kırıkkale, Malatya, Gaziantep, Erzurum and Samsun regions. "Others" consist of Manisa, Agri, Sanliurfa, Mardin, Van, Trabzon and Kastamonu.

We should emphasize that in the classification of Anatolian Tigers, we do not attempt to make a causal claim that the economic performance of the private sector in Tiger provinces was influenced or determined by the presence or strength of Islamist parties. In fact, the opposite may be true: It could be that the emergence of the devout bourgeoisie created a favorable environment for the development and strengthening of Islamist politics. We simply would like to carry out an analysis of economic performance of regions where Islamist political presence was already strong in the beginning of the 1990s.

In earlier research (Atiyas and Bakis 2013; see also World Bank 2014) the classification of regions was inspired by Gönenç et. al (2012) and was based on regional value added in 2004 and employment growth over the period 2004-2012. Roughly, NUTS2 regions whose per capita value added was high (more specifically 60 percent of per capita value added of Istanbul or higher) in 2004 were classified as belonging to the West. Those NUTS2 regions whose per-capita value added in 2004 was relatively low but showed strong employment growth over the period 2004-2012 were classified as belonging to the Tiger region. The rest of the NUTS2 regions were classified as "Others". One problem with that classification was that the choice of Tiger provinces was already determined by one dimension of economic performance, namely employment growth. The approach we use in the paper provides a more exogenous criteria for the classification of provinces. Interestingly, and perhaps not surprisingly, there is a large degree of overlap between the classification used in this paper and that used in our previous research.[15]

The fact that due to data constraints this classification needs to be done on the basis of NUTS2 regions does impose some limitations. This is illustrated by the cases of the provinces of Aydin and Denizli. Aydin has been a historically rich province and would normally be included among the West, whereas Denizli is a more recent industrializer and is often among the provinces for which the term Tiger was used for to begin with. However both are classified in the same NUTS 2 sub-region (the sub-region Aydin). Based on the RP vote share in 1991, we have included the Aydin sub-region in the West.

3.3 Productivity and size distribution of employment

We start by tracing the regional shares in manufacturing value added and employment. Figure 1 and Figure 2 display the Tiger and Other regions' share in manufacturing employment and value added, respectively, for the 1980s and 1990s. Employment share of both Tiger and Other regions show a slight decline over the period. The regions' shares in value added by contrast, increase during the 1980s and then decline during most of the 1990s until 1997, and then start to increase again.

Next we look at productivity, defined as value added per employee. Figure 3 displays weighted (by employment) average of labor productivity in the three regions in constant 1994 prices. There is a clear upward trend in the labor productivity in all regions, but productivity increase

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[15] To be precise, in Atiyas and Bakis (2013) the Tiger region included Balikesir, Aydin and Manisa NUTS2 sub-regions. Under the classification used in this paper, Balikesir and Aydin belong to the West, and Manisa belongs to the Other region. Conversely, Erzurum and Samsun, both of which were in the Other group in Atiyas and Bakis (2013) are in the Tiger group under the current classification. These changes have no significant effects on the qualitative results.

seems to have stalled in the West in the 1990s, while both the Tiger and the Other region show an upward trend in productivity in the last few years of the 1990s. As a result, as shown in Figure 4, productivity in the Tiger and Other regions, relative to that in the West seems to have increased from about 40-50 percent of the West in the early 1980s to over 60 percent by the end of the 1990s. The calculation of the gap between the West and the Tiger region in Figure 4 is based value added in current prices, but very similar results are obtained when value added in constant prices are used instead.

Figure 5 gives an idea about the labor productivity gap between the Tigers and the West by size groups of plants. Interestingly, the gap is smaller for small and middle sized plants and larger for plants that employ more than 250 employees. The second interesting thing to note is that the productivity gap widens for most size groups, except for the smallest group and the 100-249 group. In fact, a closer look at the data reveals that the relative (to the West) productivity of the 100-249 size group of Tiger plants improves almost persistently throughout the two decades, and it is only this size group where this persistence occurs. In all other size groups Tiger relative productivity jumps around quite a bit.

Table 1 provides a different cut into the relation between productivity and size. It displays the productivity level of firms of different size groups relative to the smallest (10-19) plants. The standard expectation here is that productivity should increase with size. The table shows that this is almost true for the West, except for very large (500+) firms in the 1980s. Still, throughout the period labor productivity of very large firms in the West was more than 3 times as productive as plants with 10-19 employees. By contrast in the Tiger region, 500+ firms were only 2.4 times as productive as very small firms on average.

Finally, to complete the picture, it will be useful to look at the distribution of employment by size groups of firms and how that distribution has changed over time. Table 2 provides the relevant data. The first interesting result is the relatively high employment share in very large firms both in the West and (especially) in the Tiger region. The second interesting result is the large decline in the employment share of very large firms, especially in the Tiger region. The third interesting result is the relatively sizeable increase in the share of middle sized plants in the Tiger region. In the 1980s the share of large plants (500+) in total employment was very high: on average about 46 percent in the West and 62 percent in the Tiger region. The share of plants with 20-249 employees was 35 percent in the West and a mere 23 percent in the Tiger region. The share of these middle-sized plants increased in both regions and the increase was higher in the Tiger region: by 7 percentage points to 42 percent in the West and by 13 percentage points to 35 percent in the Tiger region. Closer look at the data reveals that the increase in the employment share of mid-sized firms was quite steady and persistent throughout the 1990s. We thus see a "thickening of the middle", especially in the Tiger region.

To summarize, then, what seems to have happened in the Tiger region during the 1980s but especially the 1990s is possibly best described as the emergence of middle sized firms, and a serious reallocation of labor from very large to middle sized firms. A similar trend appears in the West as well. But if this "thickening of the middle" is a secular trend, the West was already more advanced and the Tiger region was in the process of catching up. These were also firms whose productivity relative to their counterparts in the West were the highest. It is also possible to speak of a catch up with respect to productivity, but only in the last few years of the 1990s and seemingly limited to middle sized plants. In particular, we note that average productivity in large firms in the Tiger region was seriously behind average productivity of similarly sized

plants in the West, and there did not seem to be a convergence between the two.[16] We will return to the question of large firms when we examine the ISO top 1000 list.

For the analysis of the 2000s, we first look at the data that covers all firms (the "complete" data set). The advantage of looking at all firms is that we can capture dynamics of change among smaller firms, and indeed a lot seems to be happening there in the 2000s. Unfortunately, since firms employing less than 20 people are included on a sampling basis, they cannot be followed over time. So, any analysis that will require following firms over time must rely only on firms that employ 20 or more employees (the "panel" data set).

The share of the Tiger region in total economic activity and manufacturing continued to increase in the 2000s. Between 2005-2012 for the whole non-agricultural business sector, the share of the Tiger region in total value added increased from about 9.0 to 10.5 percent and in employment from about 14.5 to 15.0 percent. The increase in manufacturing was more pronounced, from about 8.8 to 12.8 percent in value added and 12.7 to 16.0 percent in employment.

Figure 6 displays the evolution of labor productivity in the Tiger region as a ratio of productivity in the West, for the whole (non-agricultural) economy as well as for the manufacturing industry. Both for the whole economy as well as for manufacturing the productivity gap is reduced over time: relative productivity in the Tiger region has increased from about 55 percent of the West in 2005 to about 63 percent by 2012. In manufacturing the productivity gap was smaller to begin with, but has been further reduced: relative productivity has increased from about 66 percent in 2005 to about 75 percent in 2012. Note that productivity convergence has occurred despite some reversal of the trend after 2010.

Remember that in the 1980s but especially in the 1990s change in the distribution of employment according to plant size, and in particular, "thickening of the middle", especially in the Tiger region, was an important part of the story. This is still going on in the 2000s, but the contrast between the West and the Tiger is not that dramatic. Figure 7 shows the 2005-2012 arithmetic average of the distribution of employment according to firm size in the three regions. Relative to the West, the share of small firms is higher in the Tiger and even more so in the Other region.

Table 3 reports changes in the size distribution of employment between 2005 and 2012. The figures for the West and the Tigers are quite similar: The employment share of middle sized firms (say 20-249) increased by 2.8 percentage points in the West and 4.3 percentage points in the Tiger region. One may also note that in the 1980s and 1990s thickening of the middle occurred mainly at the expense of very large firms, while in the 2005-2012 period, both small and large firms lose labor share, albeit the losses are mild.[17] Note that by contrast, changes are quite dramatic for the Other region: The share of small firms declined by almost 12 percentage points (from 44 percent to 32 percent) and the share of middle sized firms increased by 7.5 percent. [18]

Finally, we would like to ask whether the convergence in productivity between the West and the Tiger region mentioned above is particularly visible among any of the size groups. Figure 8 plots the ratio of manufacturing labor productivity in the Tiger region to that in the West for

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[16] We have examined dynamics of relative productivity at different points of the productivity distribution. We have not identified any significant patterns in terms of convergence; there was no noticeable change in the dispersion of (log of) productivity either. As will be seen below, by contrast in the 2000s, firms at the high end of productivity distribution seem to play a significant role in terms of convergence.

[17] Then again, we remind the reader that the data set for the 1980-2000 period does not include very small (1-9) firms.

[18] We might note that in the 2005-2012 period the "thickening" of the middle is much more pronounced in the Tiger region when one considers not just manufacturing but the whole non-agriculture economy. When one considers the whole economy, the employment share of very small firms is much higher in the Tiger region relative to the West (for example, 67 percent versus 52 percent in 2005) and both the decline in the employment share of small firms (10 percentage points in the West vs. 14 percentage points in the Tiger region) and the thickening of the middle (4.2 percentage points in the West vs. 12.5 percentage points in the Tiger region) is much more pronounced.

the two size groups that have the highest employment share, the smallest (1-19) and the largest (500+) firms. Relative labor productivity in the smallest groups of firms seems to show an upward trend but with a high degree of volatility. By contrast the relative labor productivity of the largest group of firms (500+) shows a more persistent increase, from about 57 percent in 2005 to 72 percent in 2012. We can summarize that the highest degree of convergence in productivity occurs among the largest manufacturing firms in the Tiger region.

Table 4 exhibits average labor productivity of different size groups of firms relative to the smallest size. We see that the productivity gap between small and large firms is quite large, the latter being about size times as productive as the smallest groups of firms. We also see that this is true not only for the West but also for the Tiger region and that in both there is a more monotonic positive relation between size and productivity relative to the 1980s and 1990s.

3.4 Insights from changes in the distribution and dispersion of labor productivity

We can gain further insights by examining the evolution of the distribution of labor productivity over time in both regions. Figure 9 shows, for enterprises with at least 20 employees, the evolution of labor productivity at different points in the distribution of labor productivity in the West and the Tiger regions over the period 2005-2012. Parts (a) to (e) of the figure plot the logarithm of labor productivity in constant prices for different percentiles of productivity distribution for firms in the West and the Tiger region (for example q_25 stands for the 25th percentile). Part (f) plots the evolution of the ratio of labor productivity in the Tiger region to that in the West region at different percentiles of the distribution. The results can be summarized as follows: First, in 2005, the gaps in the productivity of firms in the West and the Tiger region was lower at the lower end of the distribution and higher at the higher and of the distribution. Hence in 2005, the ratio of productivity at the 25th percentile of the distribution was 95 percent, while it was 88 percent at the median, 77 percent at the 75th percentile, 49 percent at the 90th percentile and 48 percent at the 95th percentile. Second, over time, the gap widens at the lower end of the distribution and narrows down at the higher end of the distribution. This is more clearly seen in part (f): For example, the ratio of productivities decline from 95 to 75 percent at the 25th percentile and from 88 to 74 percent at the median. This increase in the gap in the lower half of the distribution seems to occur both because, among these firms, productivity in the West increases, and because productivity in the Tiger region decreases. The increase in the gap seems more pronounced after2008-2009, suggesting a role for the financial crisis of 2008-2009. At the 75th percentile, the increase in the gap seems less pronounced. At both the 90th and 95th percentile, the gap narrows down significantly, and the ratio between the productivity of Tiger vs the West increases from about 48-49 percent to about 67-68 percent.

These developments are also reflected in overall measures of dispersion of labor productivity. First of all dispersion in the West is higher than that in the Tiger region: for example the arithmetic average of the variance of log labor productivity in the West is 0.83 whereas it is 0.71 in the Tiger region. Second, dispersion has either remained constant or declined slightly in the West (depending on the measure) but increased in the Tiger region. For example, one indicator often used to measure dispersion, the difference between logs of labor productivity at the 90th percentile and 10th percentile, remained almost constant in the West between 2005 and 2011 (at around 2.3 and declined to 2.1 in 2012), but increased in the Tiger region from 1.7 to 2. The increase in the Tiger is primarily due to an increase in difference in the log productivity of the 90th percentile and the median.

It was noted above that that when one examines convergence across size groups, it was the group of largest firms in the Tiger region that showed the strongest convergence in productivity with those in the West. One wonders whether those firms that are situated in the top 10 percent of the productivity distribution contain mainly large firms. Table 5 provides the answer. It

shows the distribution of firms according to size classes for firms that are situated in the top 10 percent of productivity as well as the bottom 90 percent annually for the period 2005-2012. Both in the Tiger regions and in the West, the most productive firms contain firms in all size classes; in fact, for example in the Tiger region, about 38 percent of the most productive (top 10 percent) firms employ 20-49 employees. Still, the share of small firms among the bottom 90 percent is much larger, namely 60 percent. Hence, the size distribution of the top 10 percent of firms lies to the right of the bottom 90 percent. Interestingly, similar observations can be about the most productive firms in the West. In fact, the size distribution of most productive firms in the West and the Tiger regions look quite similar.

To summarize, then, firms at the higher end of the productivity distribution in the Tigersz seem to have experienced a surge in productivity in the second half of the 2000s. If there is a productivity convergence between the West and the Tiger region in the 2000s, it is mainly due to the productivity jump in the high-productivity firms in the Tiger region. By contrast, low-productivity firms in the Tiger region seem to have experienced further productivity losses both in absolute terms, and relative to their peers in the West. While more research would be necessary to find the reasons for this further deterioration in the performance of low productivity firms, one possibility is the financial crisis of 2008-09. In Turkey the crisis resulted in a serious credit retrenchment and it is possible that low productivity firms in the Tiger region may be more adversely affected than their peers in the West or high productivity firms in the Tiger region.

3.5 Entry and exit

We next look at entry and exit dynamics. Table 6 provides data on entry and exit characteristics of the regions. The table covers all manufacturing plants with at least 10 employees for the period 1983-2000 and all manufacturing firms with at least 20 employees for the period 2006-2012. The first part of the table is computed using the AMIS data which covers plants with at least 10 employees in the manufacturing sector. The second part uses AISS data which covers all manufacturing firms with at least 20 employees, between 2006-2012. The reported numbers are averages of annual figures over the respective periods. The variables are defined as in Dunne et. al. (1988). Entry rate is defined as the number of entering firms in the current period (t) over the number of firms in the previous period (t-1). Exit rate is defined as the number of exiting firms between t-1 and t, over the number of firms in the previous period (t-1). Several interesting patterns emerge. First, entry rates are higher in the Tiger relative to the West in both periods. Exit rates are generally higher in the West. Second, value added relative size of entrants, defined as the average value added of an entrant divided by the average value added of enterprises that existed one period earlier, is higher in Tigers relative to the West. We also note that relative sizes defined in terms of employment are higher in the West in both periods.

3.6 Gazelles

In this subsection, we compare the performance of "fast growing firms" (in terms of employment) across regions. For this, we look at "gazelles", defined as firms which increase their employment two-fold or more in a time span of 3 years, that is, $L_{t+3} \geq 2L_t$. Non-gazelles are formed by continuing firms between t and t+3 that do not double their employment and new entries. A question we would like to address is whether gazelles exist and whether they start distinguishing themselves already in the 1980s and 1990s in the Tigers region. Table 7 provides data on these fast-growing firms/plants. Again, the first part of the table is computed using the AMIS data (10+ plants), and the second part uses AISS data (20+ firms). The reported numbers are averages of annual figures over the periods 1983-1998 and 2005-2009. In the 1980s and 1990s the West seems to have a larger share of gazelles relative to the Tiger region and their share in employment and value added are higher than those in the Tiger region. This suggests that there is no gazelle spurt in the 1980s and 1990s in the Tiger region relative to the

West. But, in the last decade, there are relatively more gazelles in the Tiger region relative to the West. Relative to the West, the employment and value added shares of gazelles in the Tiger region, as well as their average employment are higher.

3.7 Decomposing productivity: The efficiency of resource allocation

In this section we analyze decompositions of productivity and productivity growth to get some further insights. The first decomposition, due to Olley-Pakes (1996) is useful to examine static efficiency in the allocation of resources among enterprises. The underlying equation can be written as:

$$P_t = p_t + \sum_i (s_{it} - s_t)(p_{it} - p_t)$$

where $p_t = \frac{\sum_i p_{it}}{N}$ is the unweighted average firm labor productivity, $s_t = 1/N$ is the mean employment share, p_{it} is firm productivity and s_{it} is the employment share of the enterprise. The equation states that the weighted mean of productivity is the sum of unweighted mean of productivity and a covariance term that captures the distribution of employment across firms of different productivity levels. If firms with higher productivity levels have higher market shares, then, the covariance component will contribute positively to the aggregate productivity level. This is why the literature (see Bartelsman et al., 2013 for a recent example) interprets this covariance term as an efficiency measure of allocation of employment. The smaller this term the bigger is the distortion in allocation of resources.

Figure 10 shows the evolution of the Olley Pakes covariance term between 1982-2000 and 2005-2012 for labor productivity. In terms of the evolution of the covariance term over time, the similarity between the West and the Tiger region is quite striking. Between 1982 and 2000, the covariance term has an inverse-U shape, which can be interpreted as an amelioration in resource allocation followed by a deterioration. This is somewhat consistent with the hypothesis that reforms in 1980s improved resource allocation and the absence of reforms and increased macroeconomic instability in the 1990s led to increased misallocation. In the 2000s, there seems to be an overall improvement in the covariance term until about 2008, then a relative stability and decline in 2012. The last decade is almost trendless in terms of resource allocation as captured by OP covariance term. Comparing the Tiger region and West, overall it seems that resource allocation is more efficient in the West, though the gap between the two regions look smaller in the 2000s.

3.8 Exports

An important dimension of the discourse about of the emergence of the Tigers is that they are export oriented. Data in Figure 11 supports these claims. The data is based on exports by provinces compiled by TurkStat, and aggregated according to regional definitions used in this paper. It shows that the share of Tiger region in total exports increased during the 2000s, from a low of about 5 percent in 2002 to slightly over 10 percent in 2015.

One major factor that triggered this increase was the new roadmap that was drawn for Turkey's new export strategy. With the Exports Strategic Plan a more dynamic role has been assigned to chambers of commerce, trade associations, and the official trade liaison offices in Turkish embassies whose number increased from 163 in 2002 to 228 in 2015. Moreover, a widespread network of bilateral trade relations has been established via governmental and private initiatives. The increase in the number of countries to which the citizens of Turkey can travel visa-free has also increased from 42 in 2002 to 69 in 2015. These developments have been supported by more than 60 new routes that were opened by the national flagship carrier Turkish Airlines (THY).

The reason why the new exports strategy most probably opened new "opportunity spaces" for the Anatolian Tigers firms is that the government and the RNs worked in collaboration. The majority of the visa-free travel agreements, new routes opened by the THY, and the Turkish embassies founded elsewhere were results of collaborative work among the government and the RNs. As the president of TUSKON stated: "The state crossed the ball from the wing and we scored the goal."[19]

4. The New Devout Bourgeoisie: Evidence from the Largest 1000 Industrial Firms

In this section, we use the data set of the largest manufacturing firms of Turkey, put together by the Istanbul Chamber of Industry (Istanbul Sanayi Odasi, ISO), to trace the emergence of large firms associated with conservative business associations. This data set covers largest 500 firms between 1983-2012. Since 1997, ISO has been publishing data on the second largest 500 firms as well. Hence the analysis in this section pertains to the top 500 firms for the years 1983-1996 and top 1000 firms for the years 1997-2012. For the sake of brevity, we will refer to the list as the top 1000 list. Firms are selected into the list on the basis of sales from production.

We have classified firms in the top 1000 list as belonging to a "religious network (RN)", or "secular network" (SN) according to their membership to business associations in 2013, the year for which we have lists of members of the different business associations. The classification was done in the following way: A firm that is a member of Musiad, Tuskon or Askon is classified as belonging to the RN. A firm that is a member of TUSIAD or Turkonfed is classified as belonging to the SN. Firms that can be classified as both religious or secular (for example, those which are members of both Tusiad and Musiad) are classified as belonging to the RN.[20] The rest are called "others". In all years, there are a number of firms which have chosen to remain anonymous. For these firms the top 1000 list does not have any data. We have dropped these observations from the list.[21] We still refer to the list as the "Top 1000 list".

The fact that we have membership lists only for 2013 causes are a number of obvious weaknesses in our analysis. Most importantly we cannot identify when a firm becomes a member of a network and we have to assume that they belong to the network since they were born (or whenever they appear in the top 1000 list). This is probably ok since presumably membership in a network is a proxy for the degree of religiosity of the owners and immediate stakeholders of the firm and one would expect that this characteristic would precedence over membership to the network. Similarly, if actual membership in networks provides spillovers, then identification of spillovers would require information on membership dates.

Many enterprises that were publicly owned have been privatized in the last two decades. These have been treated in the "other category" until they are privatized. Once privatized, if they appear as a member of a network in 2013, they are classified as belonging to that network, after the date of privatization. One example is Tüpraş, a refinery, the firm ranking first in all years in the ISO data set. This was majority publicly owned until 2005, when it was privatized and acquired by Koç Holding, a member of the traditional industrial elite. Tüpraş was a member of Tusiad in 2013. Hence this company is listed as "other" until 2005 and as a member of SN thereafter. In fact the "other" category contains many state owned enterprises in the 1980s and 1990s. Almost all of these enterprises have been privatized by the end of the 2000s, some taken over by members of the SN and other by the members of the RN (and some have remained

independent). This is possibly one of the reasons why in some of the statistics discussed below, the Other category displays wide fluctuations.

With these caveats in mind, we proceed with the analysis. Figure 12 plots the share of firms belonging to the RN, SN and others in total number of firms. The share of firms belonging to religious networks seems to have remained constant at around 4 percent until the beginning of the 1990s, with an upward trend starting in 1992. Indeed, the number of RN firms increases from 22 in 1992 to 34 in 1996. The ratio jumps from about 6 to 10 percent between 1996 and 1997, suggesting that perhaps some RN firms would have been in the second 500 list if the data had been available for the pre-1997 period. The RN share increases faster in the 2000s, reaching a maximum of just over 20 percent (more than 200 firms) in 2009. We note that by the end of the 2000s, about half of a total of around 200-210 RN firms are in the group of largest 500 firms and half in the second 500 largest firms in the ISO data set. By contrast, the share of the members of the secular network in total number of firms is almost constant in the 2000s. It is the class of other firms whose share declines significantly over time.

It may be useful to comment on the regional composition of RN firms. In 1990, for example, of the 22 firms that are classified as belonging to RN, 13 are located in Istanbul.[22] Of the remaining 9, 3 would also be classified as in the West (Aydin and Balikesir), 5 would be in the Tiger region and 1 in the Other region. In 2012, of 205 firms 117 are in the West and 77 are in the Tiger region.

RN firms are relatively young. Some data on age is provided in Table 8. Out of 370 firms that appear at least once in the ISO 1000 list, about 135 were established before 1980. Inspection of corporate histories reveals that except for a handful, many of these firms were established as small workshops and some were engaged in trade until in 1980s. Many firms experienced a spurt in growth after the liberalization of the 1980s. About 60 percent of the firms were established after the 1980s and about 35 percent after the 1990s.

Table 9 shows the sectoral composition of members of SN and RN for the years 1998 and 2012. In the year 1998, the value added employment shares of the RN network is highest in traditional sectors such as food and beverages, textile and garments and wood and furniture. These three sectors accounted for about 68 percent of VA and 64 percent of employment of RN firms. By contrast, for the SN these shares were 31 and 37 respectively. Food and beverages is also an important industry for the SN firms, but the similarity ends there: compared to RN firms, SN firms had higher presence in medium technology industries such as chemicals and machinery and equipment. Interestingly, the value added and employment composition of RN firms in 2012 is quite similar to that in 1998, except for a reduction in the share of textiles and garments and an increase in the share of wood products. The sectoral distribution of SN firms in 2012 continue to be dominated by food and beverages, chemicals and fabricated metal products, machinery and equipment, accounting for 76 percent of value added and 67 percent of employment.[23] Overall, we can say compared to SN firms that RN firms are more concentrated in industries that display lower capital intensity and are traditionally more export oriented.

Figure 13 displays the average size (in terms of employment) of the firms of the two networks. In general, we note that members of RN are smaller than the members of SN. This is seen more clearly in Figure 14 which displays the evolution of average size of the members of the RN and others, relative to average employment of members of SN. During the 1990s average size of a member of RN was around 85-95 percent of secular firms. Towards the end of the

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[22] The ISO data set provides information on the provincial chamber of commerce that the business is a member of. It is possible that the headquarters of a company is located in Istanbul, and therefore is a member of the Istanbul Chamber of Industry, whereas the production plant of the business is located in another province.

[23] For 2012, Tupras is not included in the calculation of composition of SN value added and employment. Tupras has extremely high sales and value added and including it provides a rather distorted picture of sectoral composition of value added for SN firms.

2000s, this ratio declines to around 75 percent. It can be seen in Figure 13 that during the 2000s average size grews both in the RN and SN networks, but employment growth on average was higher in the SN.. While the average size of RN firms has grown from about 520 to 735, among the SN firms grew from an average employment of 675 in 2000 to 1060 in 2012. We also make note of the decline in the relative size of RN firms between 1996-1997 to about 75 percent, suggesting that the gap in average size of RN vs SN firms was larger in the list of second largest 500 firms. Note also that in Figure 13 and Figure 14 firms in the Other category experience much larger declines in 1997. It seems that expanding the ISO list from the largest 500 to largest 1000 firms affected average employment of firms in the Other category much more than those in the SN and RN.

Figure 15 shows export orientation, defined as the ratio of exports to total sales for the different networks. Interestingly, until the 2000s, members of the RN were much more export oriented than firms in the SN.[24] The latter become more export oriented in the 2000s, though the difference in the degree of export orientation of the two groups is not very large during this period.

In Figure 16 we present the evolution of labor productivity of RN and Other firms, relative to that of firms belonging to the SN. Relative labor productivity is defined as the ratio of nominal weighted average of group (RN and Other) labor productivity to that of the SN. Relative labor productivity of RN firms fluctuate quite a bit but the figure shows that as the number of RN firms in the top 1000 increased RN productivity relative to SN has persistently declined over time, especially between late 1990s and early 2000s. Indeed while in the period 1982-2000 on average labor productivity in RN was about 58 percent of SN, this ratio has declined to about 26 percent in the period 2001-2012. Relative productivity of the RN improves after 2005, and increase from about 20 percent in 2005 to about 28 percent in 2012, mimicking the improvement in productivity of Tiger regions relative to the West in described above.

The divergence in LP could be reflecting different sectoral compositions; that is, it could be that RN firms' labor productivity is lower because these firms are relatively more concentrated in traditional sectors that have lower levels of capital intensity. This does not seem to be the case, as shown in Figure 17. The figure shows "constant composition" relative labor productivity and is calculated in the following way: first (average weighted) labor productivity is calculated for RN firms at the 2 digit sector level, then aggregated to the whole of industry using 2 digit employment shares of the SN. The basic story does not seem to change: There is a steep decline in relative productivity between late 1990s and early 2000s, and relative productivity shows a slight upward trend after 2005.

The decline in the relative average productivity of RN firms could be due to two factors: It could represent a decline in real productivity of existing RN firms, or it could reflect lower productivity or negative productivity growth among firms that entered the ISO list in the late 1990s and early 2000s. A closer look at real productivity growth reveals that the divergence between the productivity of the two groups occurs during the crisis years of 2000-2002 when RN firms exhibit low or negative productivity growth and by contrast SN firms exhibit high positive productivity growth.[25] Moreover, the decline in productivity is not due to lower productivity of new RN firms entering the ISO list but because of negative productivity growth of existing RN firms. This finding suggests that RN firms were highly adversely affected from the macroeconomic crisis Turkey experienced during those years, while the crisis created an opportunity of high productivity growth for SN firms. It is well known that Turkey experienced

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[24] One reason is that the RN firms are mostly active in the textile sector which has been export oriented since the 1980s, whereas some of the industries where SN firms exhibit a higher degree of presence, such as the automotive industry, have become export oriented in the late 1990s and early 2000s.

[25] TurkStat consumer price index (2003=100) was used to obtain productivity in constant prices.

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a major credit crunch during the macroeconomic crisis of 2000-2001; the contrasting productivity performance of RN vs SN firms suggests that the impact of the credit crunch was highly asymmetric across these two groups of firms.

The story that emerges from the analysis of the ISO largest 1000 list is the following: In the 1980s and early 1990s there were already a handful of firms (around 20-25 of the largest 500 firms) belonging to the RN network that were relatively large (with average employment coming close to 80-90 percent of SN), relatively highly export oriented (at least compared to the SN), whose labor productivity that was around 60 percent of their counterparts in the SN. In comparative terms these were quite competitive firms but they were only a handful. The number of firms belonging to the RN started to increase in the second half of the 1990s and accelerated during the 2000s. We posit that the most important finding is that the share of RN firms increased from less than 5 percent (of largest 500 firms) in the early 1980s to more than 20 percent (of largest 1000 firms, against a share of about 35 percent for SN firms) in the late 2000s. New additions are generally smaller than but as export oriented as the incumbent RN firms. Firms belonging to the RN network are concentrated in more traditional industries such as food and beverages, textiles and garments and furniture. By contrast, firms belonging to the SN network have relatively more presence in more capital intensive industries such as machinery and equipment and chemicals. On average RN firms are smaller than SN firms and the gap is size has increased in the 2000s.

The analysis of the ISO data set also suggests that the group of firms belonging to the RN experienced a significant loss of productivity during the late 1990s and early 2000s, possibly reflecting asymmetric impact of the macroeconomic crisis. Productivity gaps between RN and SN in the ISO data set modestly decline over the second half of the 2000s.

5. Discussion: The Role of Political Connections

One interesting question raised by the analysis presented above is whether the growth of devout bourgeoisie was aided by the presence of Islamist parties. More concretely, was growth of Tiger provinces or of conservative businesses supported by favorable allocation of rents by political authorities? A full answer to that question is beyond the scope of this paper, but we try to provide some tentative observations. Overall, the answer seems to depend on which industry one is talking about. The analysis presented above is focused on the manufacturing industry. By the 2000s, discretionary allocation of rents to manufacturing was limited due to rules associated with the customs union with the European Union as well as membership in the World Trade Organization. Indeed, an analysis of industrial and incentive policy reveals that starting with the second half of the 1990s, investment incentives in Turkey did not contain instruments that would allow governments to easily pick individual industries or firms (Atiyas and Bakis, 2014). Incentives were generally either "horizontal" (that is, available to all firms that fit eligibility criteria, such as Research and Development incentives) or regional, that is available to all firms situated in specific regions which were classified as underdeveloped according to more or less objective economic and social criteria (see Betcherman et. al. 2010 for a detailed analysis of regional subsidies). Many provinces classified in the Tiger region in this paper did benefit from regional subsidies (though the more prominent Tiger provinces such as Kayseri, Konya Gaziantep and Hatay were not among the provinces identified for support).[26] Hence the regional convergence reported in section 3 may have benefited from regional subsidies however, there seems to be no reason to suspect that the implementation of regional subsidies was subject to firm level discrimination or favoritism.

A further piece of evidence from public procurement in the period 2004-2011 is provided in Gurakar (2016): Gurakar shows that while politically connected firms won a relatively large

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[26] We remind the reader that unfortunately our micro data from TurkStat does not allow us to identify individual provinces within NUTS2 sub regions.

portion of public procurement contracts in construction and services (more than 40 percent in the case of firms directly connected to AKP and more than 60 percent if one includes firms more weakly affiliated with the AKP and firms connected to opposition parties) the share of such firms in procurement contracts for manufactured goods was significantly lower (20 percent in the case of firms directly connected to AKP, 30 percent if one includes firms more weakly affiliated with the AKP and firms connected to opposition parties). The share of TUSIAD members which were awarded contracts in construction and services was less than 10 percent but was more than 30 percent for procurement of manufactured goods, presumably the relatively high competitiveness of TUSIAD members. This suggests that favoritism in the award of public procurement contracts was less of a problem in the case of manufactured goods, relative to services or construction.

At the same time, conservative business benefited from "soft" support, especially with regards to export markets. Tuskon (2007) reports that the Prime Ministry, the Foreign Affairs Ministry and the Ministry of Industry and Trade as well as the Undersecretariat of Foreign Trade have provided technical and bureaucratic support to Tuskon has been noteworthy and that such collaboration has enabled Tuskon members to develop access to African countries where they do not have offices. Recep Tayyip Erdoğan and the other AKP leading figures frequently appeared as keynote speakers at major events of these associations such as the foreign trade symposiums as well as their annual meetings and the Ramadan dinners (TUSKON, 2007; İlhan, 2014). It would be reasonable to assume that such support is quite benign in the sense that it has created new opportunity spaces without leading to the exclusion of incumbents.

Of course, there may be more subtle ways to distribute rents to favored firms in the manufacturing industry. For example, regulations may be implemented in discriminatory ways (Hallward-Driemeier and Pritchett 2015). There may be favoritism or discrimination in the granting of construction permits or import licenses. Evaluating this possibility requires further research.

Based on the discussion above, one may conclude that as far as manufacturing is concerned, and at least for the period covered, rent allocation does not seem to have played a major role in the growth of conservative businesses. The story is different in rent-thick sectors. Buğra and Savaşkan provide a detailed analysis of "new entrepreneurs" that came into existence with state support during the AKP rule. [27] There is empirical evidence (Gurakar, 2016; Gurakar and Meyerssonn, 2016) that firms with connections to the AKP were favored in public procurement contracts in the construction industry. Aside from public procurement, in the construction industry the Housing Development Administration of Turkey (TOKI) has a number of discretionary instruments that it has used to transfer resources to politically connected contractors (Atiyas, Bakis and Gurakar 2016). There is evidence that connections with the AKP matter in regulated industries such as telecommunications (Atiyas, Levy and Walton 2016) and energy (Özcan and Gündüz, 2015). Hence in rent-thick industries political connections did matter: firms with political connections had a much higher degree of access to resources controlled or distributed by the government and firms that did not have such connections either had to endure higher costs or were excluded.

6. Conclusion

In this paper we have undertaken an empirical analysis of the emergence of the so-called Anatolian Tigers and the devout bourgeoisie in Turkey since the 1980s. We concentrate on the manufacturing industry. We use various and somewhat disconnected data sets to create the narrative. We first examine the regional dimension, using micro data sets on the manufacturing

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[27] Among the 10 new entrepreneurs that emerged under the AKP period discussed by Buğra and Savaşkan (2014) only one had any significant investment in manufacturing. It should also be noted that some connected firms active in rent thick industries were initially active in manufacturing.

industry from TurkStat. We classify regions according to election results in 1991: specifically we classify NUTS2 regions where the vote share of the Welfare Party was equal or above 20 percent as belonging to the region of Anatolian Tigers. We then compare the evolution of size distribution of employment and of labor productivity in the traditional industrial centers (the "West") and the Tiger region to see if there is any evidence of convergence.

The main findings from the microdata are as follows: During the 1980s and 1990s, while there is some mild evidence of convergence in productivity, there is more robust evidence of what we have called the "thickening of the middle", that is, employment shares of smallest and largest firms have declined and that of middle sized firms have increased. It is middle sized firms that also seem to catch up in terms of productivity with similarly sized firms in the West. Interestingly, during these two decades productivity gap between largest (500+) firms in the Tiger region and the West was both larger than that of middle sized firms and further increased over time.

During the period 2005-2012, we find stronger evidence of convergence in productivity. A closer look at the evolution of distribution of productivity suggests that there was a jump in the productivity of firms which were in 2005 at the higher end of the distribution, and this is where catch up is strongest. By contrast, real productivity in the lower end of the distribution of the Tiger region actually declines over time, especially after the global crisis. As a result, dispersion of productivity in the Tiger region actually increases.[28] We show that during the 2000s there was a significant increase in the exports of the Tiger region. We also inquire about whether employment growth in the Tiger region was driven by gazelles, i.e. firms that exhibit high employment growth in several consecutive years. We find no such evidence.

We then use the data set of largest 1000 firms put together by the Istanbul Chamber of Industry to examine the evolution and performance of firms which are members of religious business associations that are known to be religious. We have several interesting findings. First, already back in the 1980s and 1990s, there were a handful of firms (namely around 20) among the largest 500 firms in Turkey which were later to be associated with the RN. The average productivity of these firms was about 60-70 percent of SN firms during the early 1980s, and they were more export oriented then SN firms . But this was a very small number of firms and in fact the majority of them were located in the West. The number of RN firms started to increase after mid 1990s and accelerated in the 2000s. By 2012 their numbers increased to over 200. The export oriented nature of RN firms continued. Labor productivity of the RN group in the ISO data set showed a substantial decline in late 1990s and early 2000s, only to recover slightly in the second half of the 2000s. We conjecture that reflected the effect of increased macroeconomic uncertainty and the financial crisis of 2000-2001.[29] The increase in the share of RN firms in the top 1000 list is quite impressive. The ratio of SN firms has almost remained constant. At the same time, as of 2012, the productivity gap between the groups still remains high. RN firms were concentrated in relatively labor intensive traditional sectors such as food processing, textiles and garments and wood products and furniture whereas SN firms had relatively higher presence in capital intensive mid-technology industries such as chemicals and machinery and equipment.

The findings in this paper suggest that emergence of the devout bourgeoisie in manufacturing is primarily a story of inclusion initiated first by liberalization and then relatively benign economic support from the government in the sense that they did not imply exclusion of the

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[28] The catch up between Tigers and the West has been characterized as an example of inclusive growth. As described above, a closer look at the evidence suggests that there was increased heterogeneity among the Tiger manufacturing firms as well.

[29] It is interesting to note the parallel in decline in productivity of RN firms and that of the large firms in the Tiger region in the TurkStat micro data set. It is unfortunate that the large TurkStat micro data sets do not cover the period 2001-2004, which would have allowed us to measure if the impact of the crisis was asymmetric across regions.

incumbents. The analysis also suggests the limits of inclusion in the sense that productivity convergence occurred among Tiger firms that were already relatively more productive.

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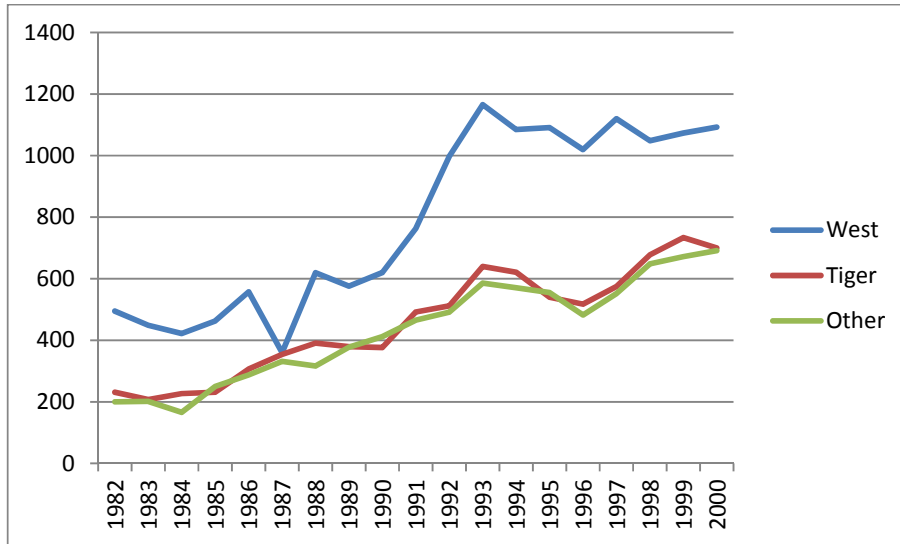**Figure 1: Share in Manufacturing Employment (%, 1982-2000)**
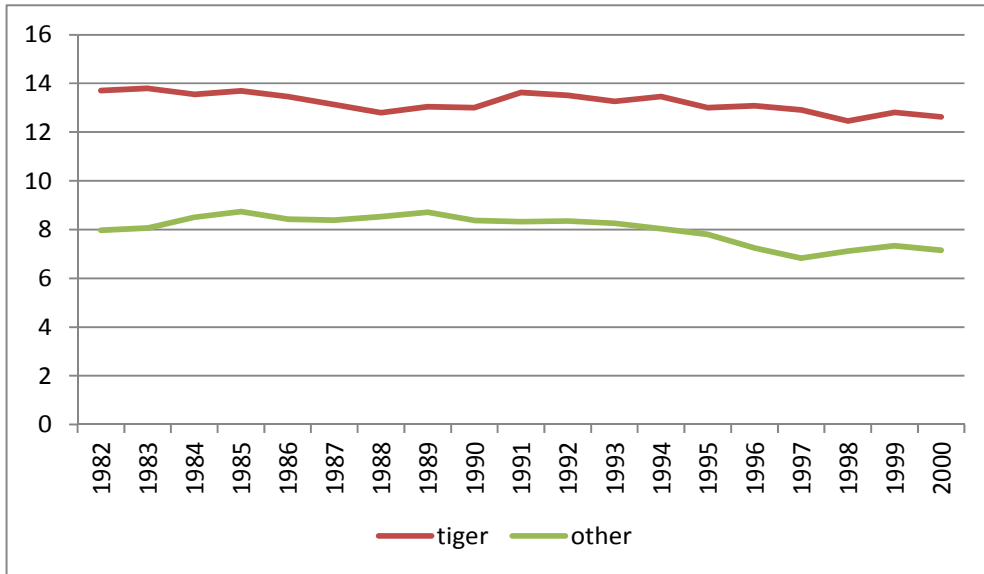
Source: Authors' calculations using AMIS.

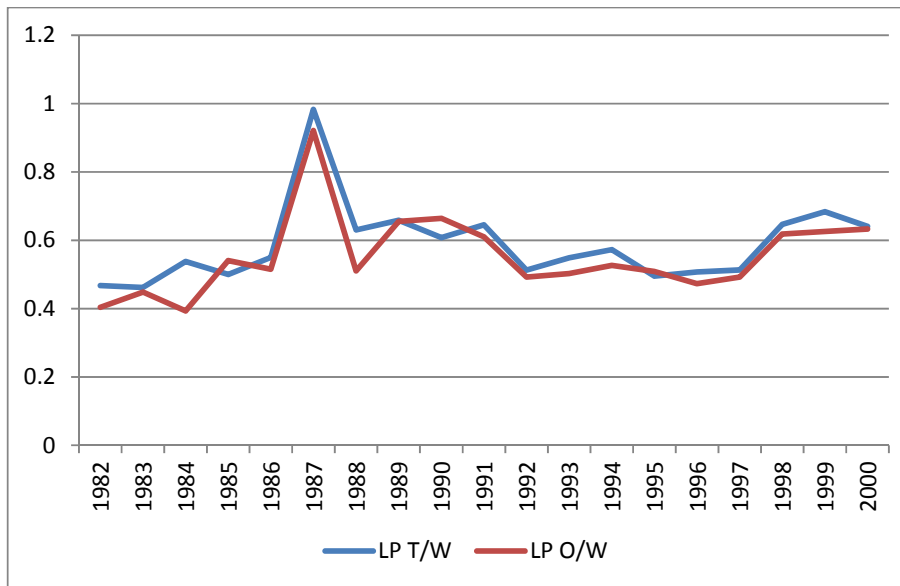**Figure 2: Share in Manufacturing Value Added (%, 1982-2000)**
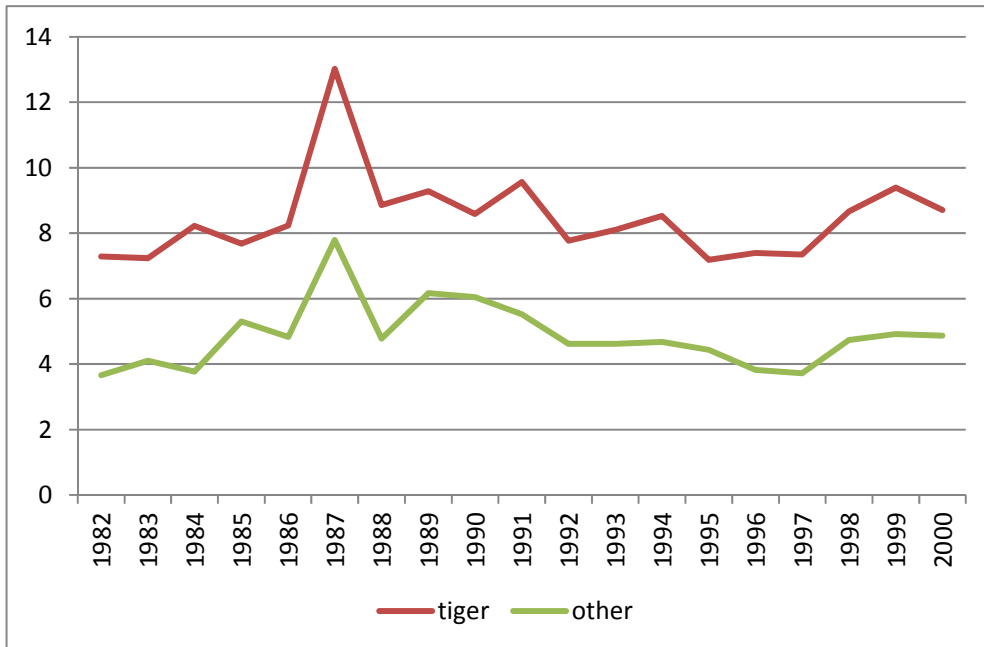
Source: Authors' calculations using AMIS.

**Figure 3: Labor Productivity 1982-2000 (constant 1994 prices)**

Source: Authors' calculations using AMIS. Labor productivity is defined as value added divided by the number of employees.

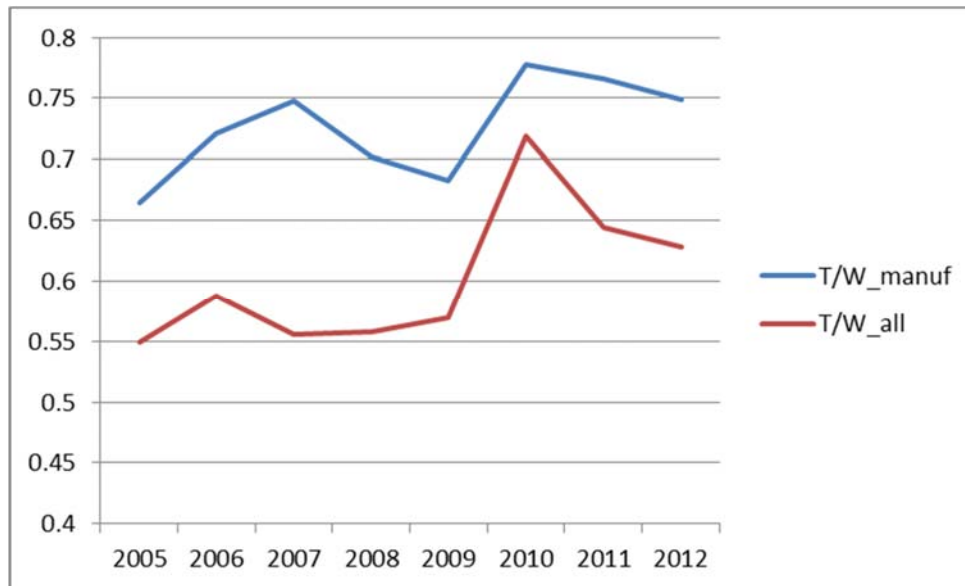**Figure 4: Relative Labor Productivity (West=1)**

Source: Authors' calculations using AMIS. Ratio of labor productivity (LP) in the Tiger region (T/W) and the Other region (O/W) to that of the West, respectively.

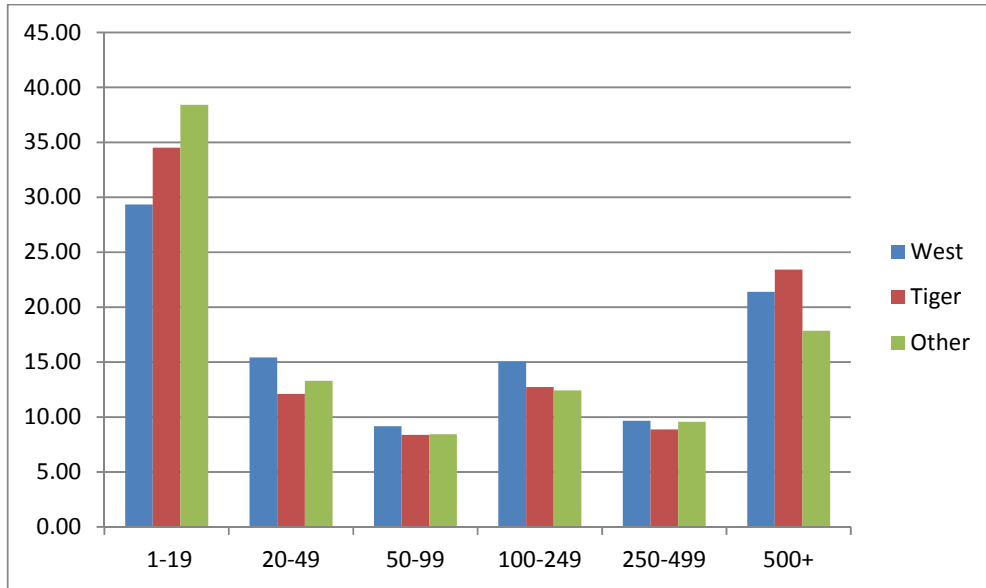**Figure 5: Relative Labor Productivity in the Tiger Region by Size Groups (West=1)**
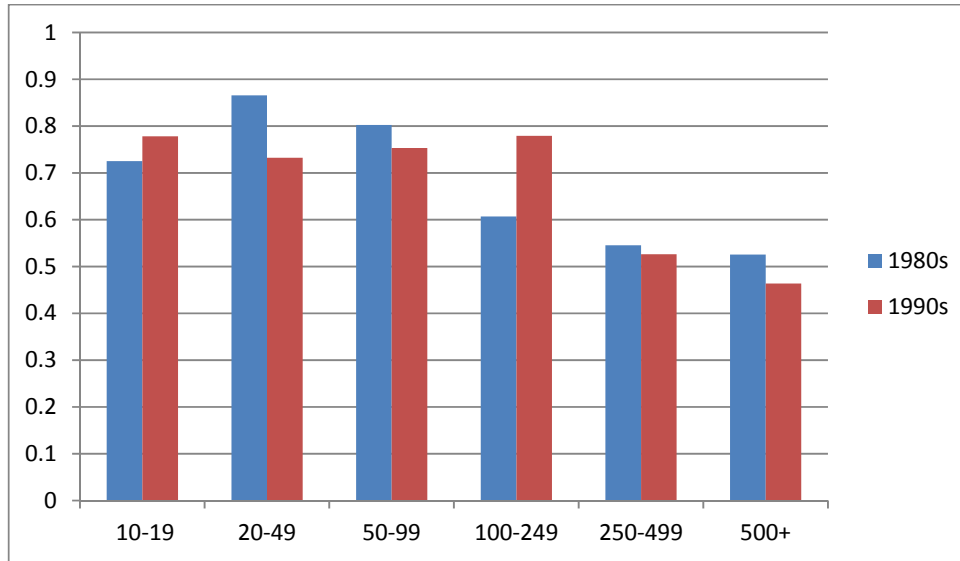
Source: Authors' calculations using AMIS.

Figure 6: Relative Productivity in the Tiger Region, 2005-2012 (West=1)
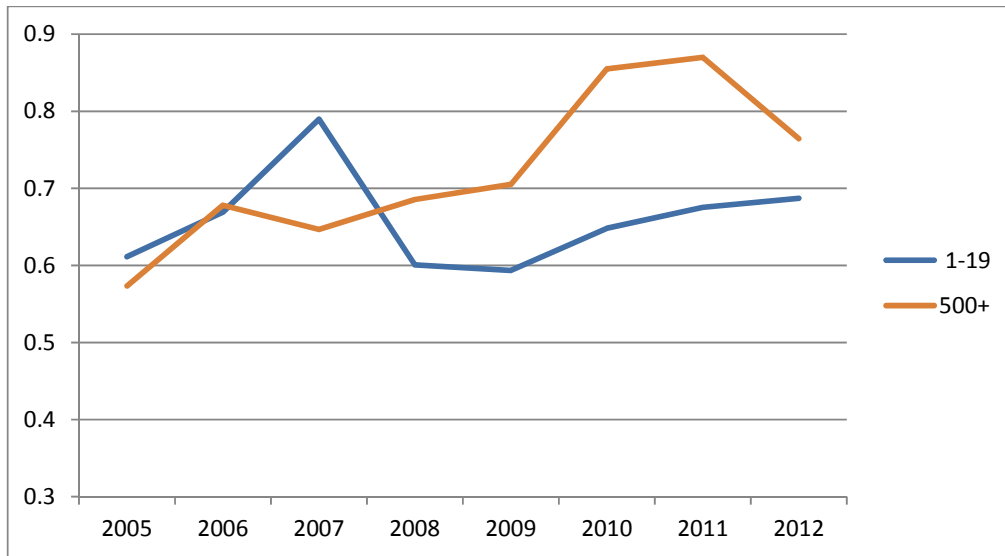

Source: Authors' calculations using AISS.

Figure 7: Distribution of Employment according to Firm Size (2005-2012 average)

Source: Authors' calculations using AISS.
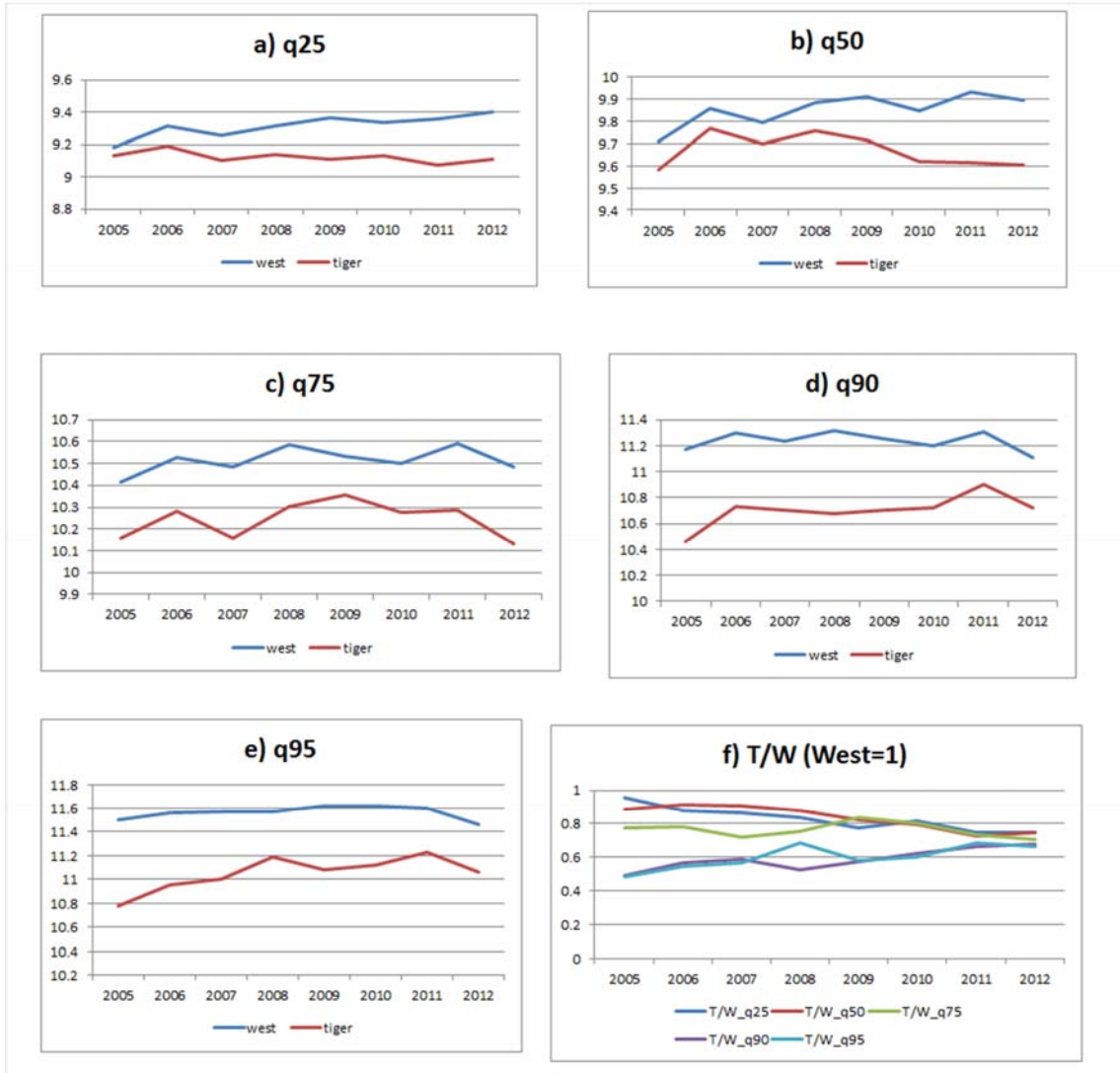
Figure 8: Relative Labor Productivity in the Tiger Region by Size Groups (West=1)

Source: Authors' calculations using AISS.

Figure 9: Evolution of Distribution of Labor Productivity in The West and Tiger Regions 2005-2012

Source: Authors' calculations using AISS.

Figure 10: Olley Pakes Covariance Term
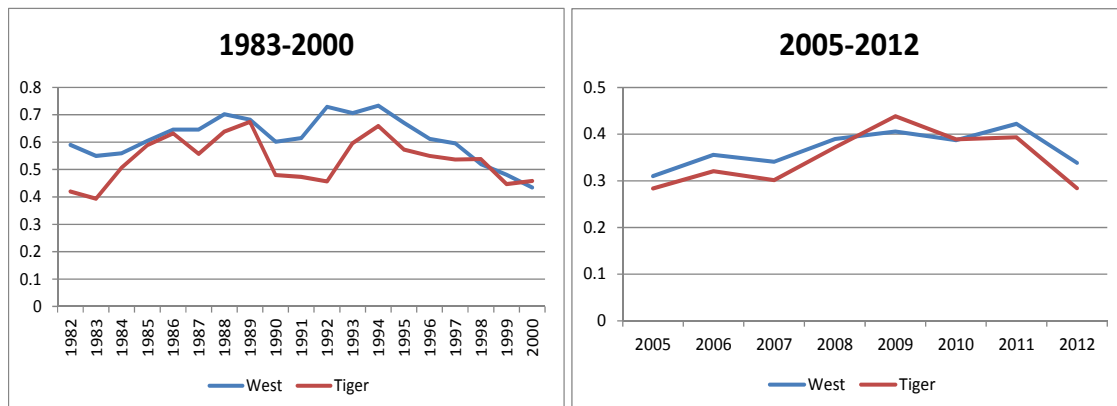
Source: Authors' calculations using AMIS and AISS.

Figure 11: Share of the Tiger and Other Region in Total Exports (%)
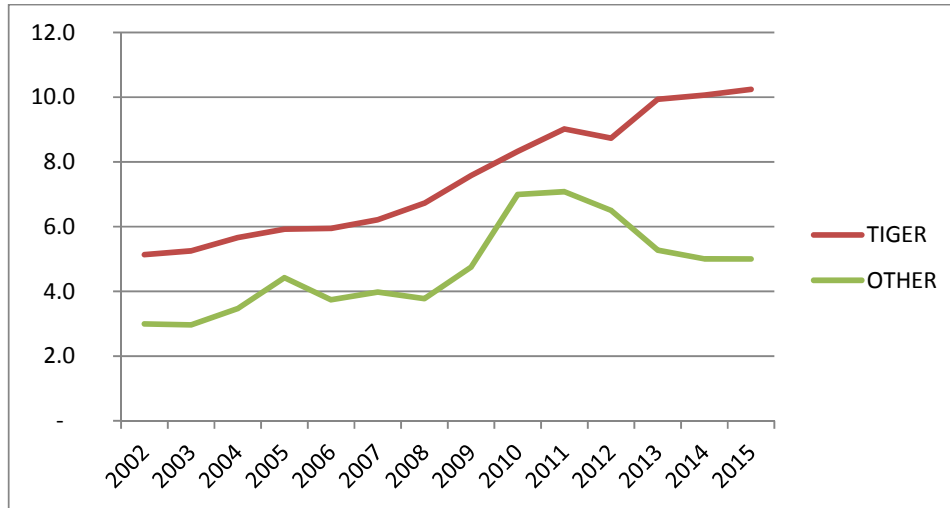
Source: Authors' calculations using online TurkStat Foreign Trade Statistics.

Figure 12: Network Composition of Top 1000 Firms
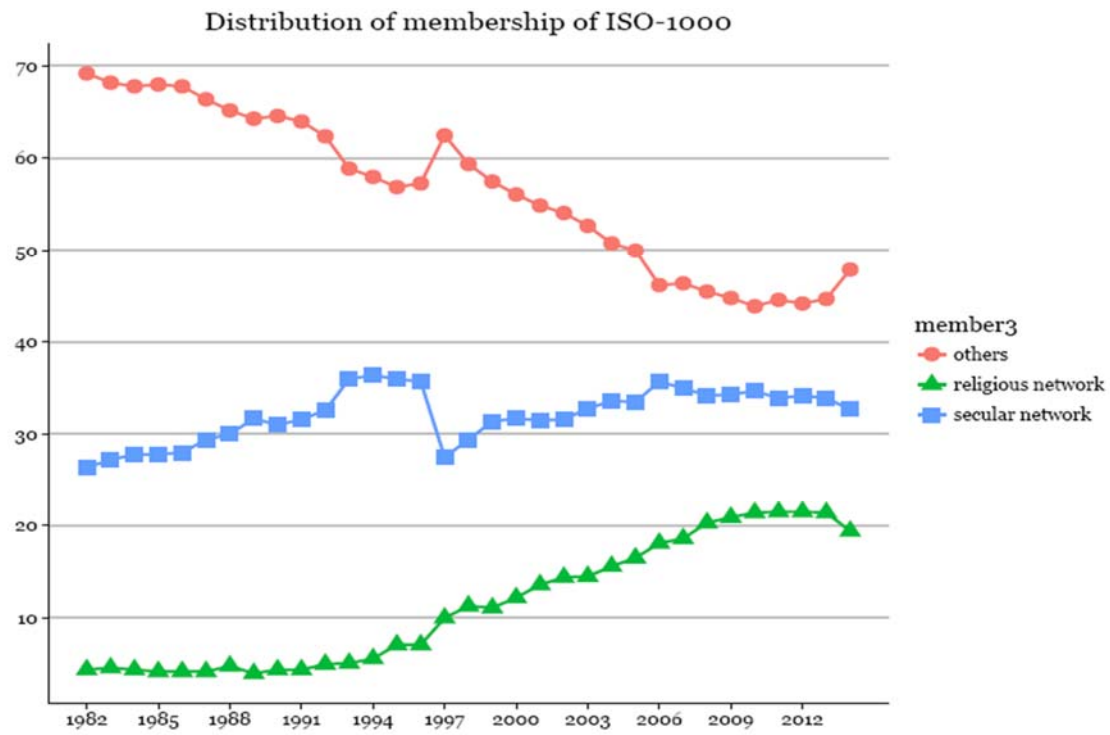
Source: Authors' calculations using ISO data.

Figure 13: Average employment by membership in the ISO top 1000 list

Average employment by membership in ISO-1000
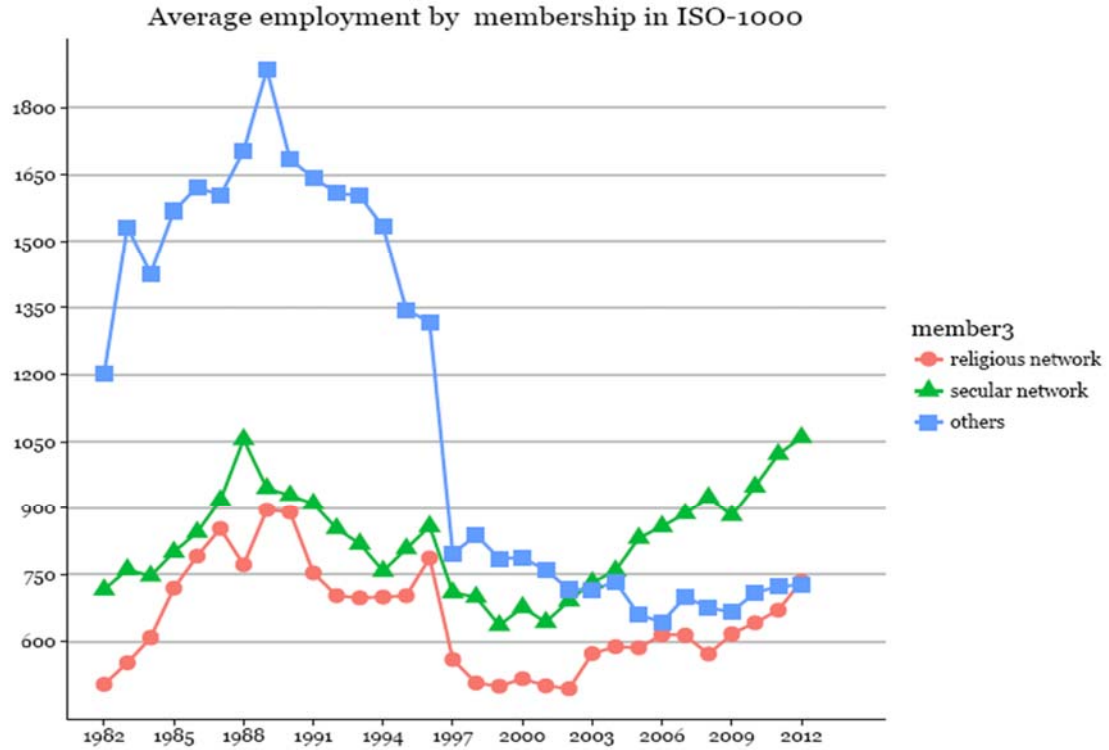
Figure 14: Average Size of Network Members (secular = 1.0)
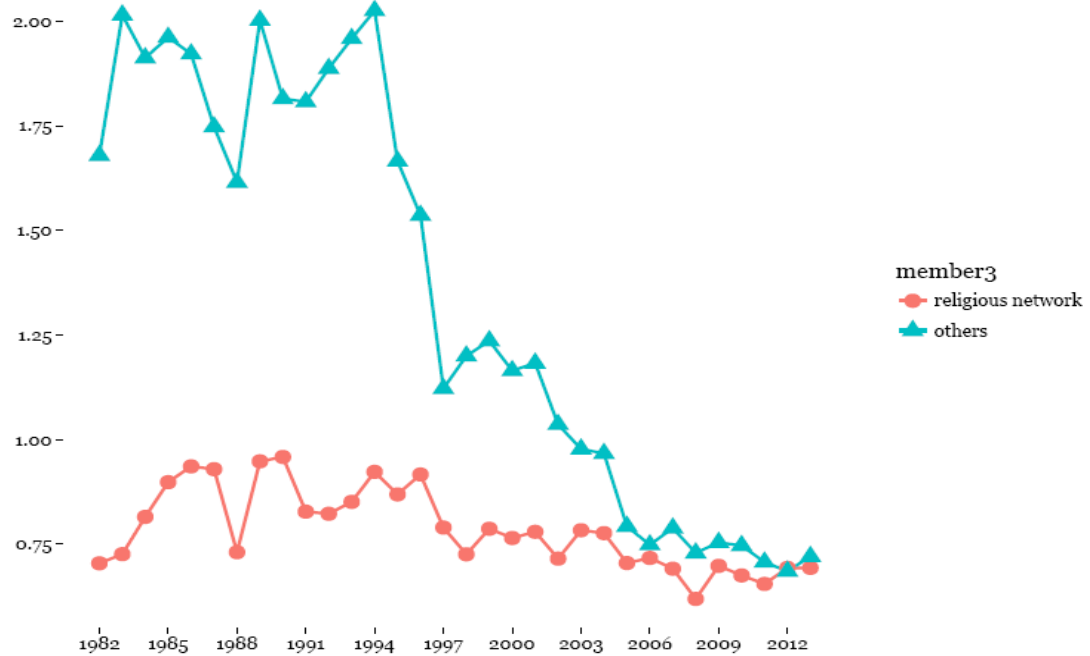
Figure 15: Export Orientation (exports over sales, %)
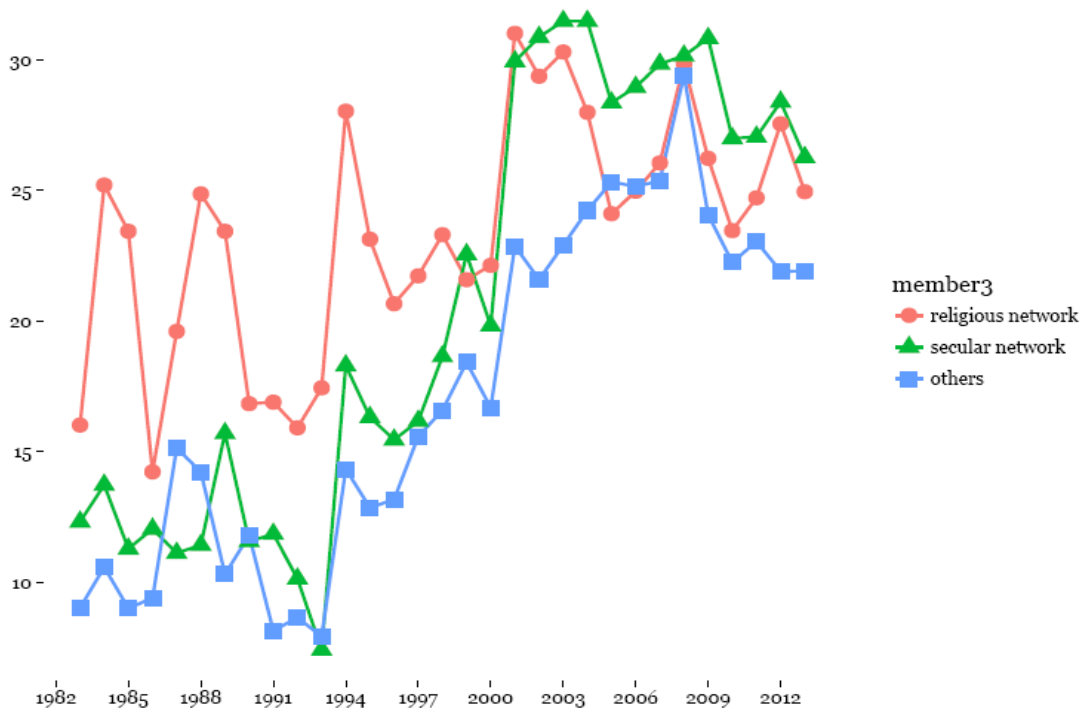
Source: Authors' calculations using ISO data. Export orientation defined as (the weighted average of) the ratio of value of exports to sales.

Figure 16: Relative Labor Productivity of Network Firms (Secular Network=1)
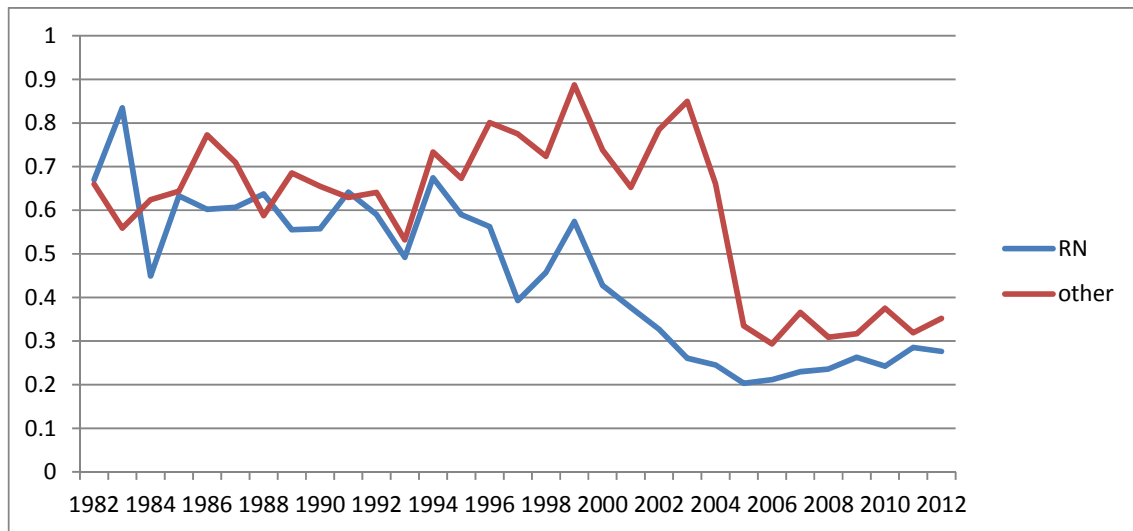
Source: Authors' calculations using ISO data.

Figure 17: Relative Productivity of the RN, with SN Sectoral Employment Shares

Source: Authors' calculations using ISO data.

Table 1: Relative Labor Productivity in the 1980s and 1990s (size group 10-19 =1)

		20-49	50-99	100-249	250-499	500+
West	1980s	1.4	1.8	2.4	4.0	3.6
	1990s	1.3	1.6	2.2	3.6	4.0
Tiger	1980s	1.6	2.0	2.1	2.8	2.4
	1990s	1.2	1.6	2.2	2.4	2.4

Source: Authors' calculations using AMIS.

Table 2: Distribution of Employment by Plant Size (%)

		10-19	20-49	50-99	100-249	250-499	500+
West	1980s	5.4	11.2	9.3	14.3	14.0	45.9
	1990s	4.0	12.5	11.0	18.6	16.2	37.8
Tiger	1980s	3.6	8.4	6.2	8.9	11.4	61.5
	1990s	4.0	10.7	8.7	15.2	12.5	48.9

Source: Authors' calculations using AMIS.

Table 3: Changes in the Employment Share of Firm Size Classes between 2005 and 2012 (%)

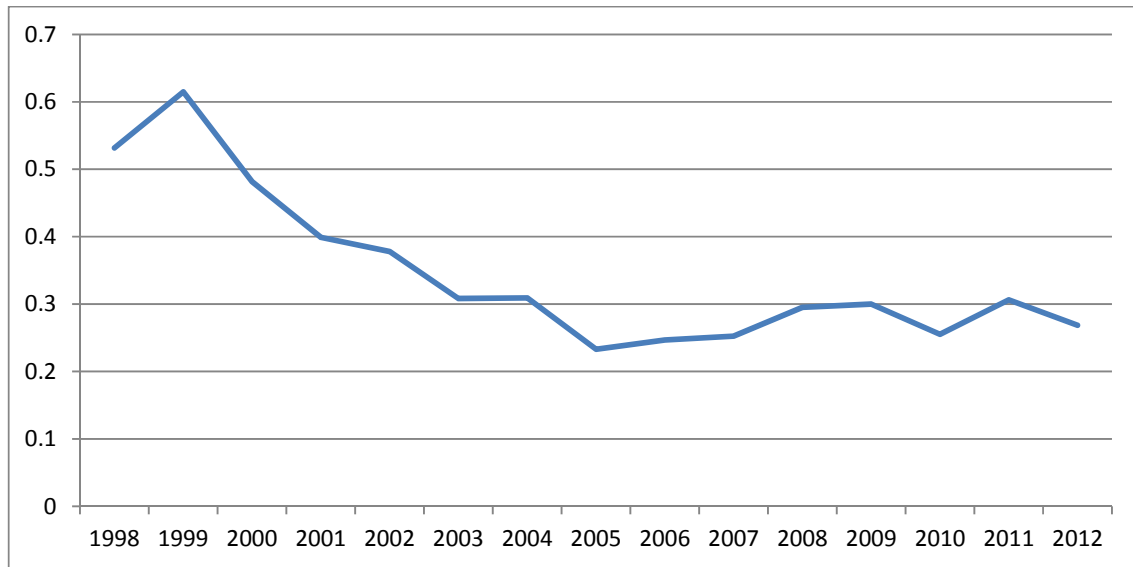|	1-19	20-49	50-99	100-249	250-499	500+
West	-2.47	0.94	1.13	0.76	0.72	-1.08
Tiger	-4.31	1.10	1.65	1.56	0.92	-0.93
Other	-11.57	3.21	2.23	2.10	-0.60	4.63

Source: Authors' calculations using AISS.

Table 4: Relative Labor Productivity, 2005-2012 Averages (size group 1-19 =1)

	20-49	50-99	100-249	250-499	500+
West	2.06	2.44	2.98	4.00	6.04
Tiger	2.07	2.47	3.00	3.98	6.01

Source: Authors' calculations using AISS.

Table 5: Size Distribution of High Productivity Firms (% of number of firms, 2005-2012 total)

	Size Class (no. of Employees)				
	20-49	50-99	100-249	250-499	500+
Tigers					
Top 10 percent	37.8	19.4	23.2	8.2	11.4
Bottom 10 percent	59.9	20.3	13.0	4.2	2.6
West					
Top 10 percent	40.5	18.5	20.4	10.2	10.4
Bottom 10 percent	64.3	17.9	12.8	3.2	1.7

Note: Top 10 (bottom 90) percent refers to firms that lie in the top 10 (bottom 90) percent of productivity distribution in each year. The percentages in the table refer to averages across years. Source: Authors' calculations using AISS.

Table 6: Entry and Exit Characteristics

	Period	Entry rate	Exit rate	Entrants' Relative Size - Value added	Exitors' Relative Size - Value added	Entrants' Relative Size - Employment	Exitors' Relative Size - Employment
West		14.87	13.70	27.09	24.43	38.63	36.29
Tiger	1983-2000	15.86	12.78	35.03	22.32	35.70	27.27
Other		13.04	10.72	37.39	37.31	42.96	36.75
West		18.61	14.55	19.56	21.08	40.21	47.56
Tiger	2006-2012	21.08	10.68	19.74	20.43	34.55	44.10
Other		24.13	12.84	13.87	14.70	37.44	44.89

Source: Authors' calculations using AMIS and AISS.

Table 7: Gazelles

	Period	Share in no. of enterprises	Share in employment	Share in value added	Average age	Average employment
West		5.00	2.79	2.74	6.47	40.09
Tiger	1980-1998	4.10	1.83	1.84	6.81	39.19
Other		3.83	2.07	3.77	8.30	57.48
West		4.52	3.04	3.43	11.05	58.27
Tiger	2005-2009	6.38	4.13	6.22	10.72	66.76
Other		4.72	3.61	4.82	10.29	47.02

Source: Authors' calculations using AMIS and AISS.

Table 8: RN Firms - Establishment Years

Total	before 1970	1970-79	1980-89	1990-1999	2000 and after
370	64	71	104	94	37

Source: Authors' calculations using ISO data.

Table 9: Sectoral Distribution of Network Members (%)

	1998						2012					
	SN			RN			SN			RN		
	# firms	va	emp	# firms	va	emp	# firms	va	emp	# firms	va	emp
Coal Mining	1	0.2	0.2	3	2.3	2.3	3	0.7	0.1	3	15.3	1.8
Food, Beverages & Tobacco	36	19.6	10.2	20	18.9	11.2	59	26.8	14.6	56	13.0	20.3
Textile, Wearing Apparel & Leather	43	10.8	26.2	31	27.9	42.3	28	3.1	10.2	44	18.6	34.4
Wood & Wood Products, Incl.Furniture	2	0.5	0.4	7	10.7	10.4	2	0.1	0.3	15	19.4	12.4
Paper & Paper Products, Printing & Publishing	14	2.0	2.0	3	5.4	5.7	17	2.2	2.4	5	0.7	0.8
Chemicals & Chemical, Petroleum, Coal, Rubber & Plastic	52	15.5	11.1	14	9.3	11.2	53	27.4	9.7	21	5.9	10.0
Non-Metallic Mineral Products, except Petroleum & Coal	43	14.3	12.4	4	5.8	3.0	50	8.6	8.9	6	3.4	4.0
Basic Metal Industries	20	3.6	3.6	10	9.4	4.5	27	8.6	10.2	24	12.5	6.2
Fabricated Metal Products, Machinery & Equipment	71	33.0	33.7	16	10.2	9.2	77	22.3	43.0	29	10.9	10.0
Other				1	0.1	0.1	1	0.0	0.0	2	0.3	0.2
Electricity, Gas & Water	2	0.6	0.1				9	0.2	0.6			
total	284	100	100	109	100	100	326	100	100	205	100	100