Sectoral Transformation of Turkish Free Zones

Article in İktisat İşletme ve Finans · January 2011

Derya Gültekin-Karakaş
Istanbul Technical University

BİLGESEL

İktisat İşletme ve Finans 26 (305) 2011 : 57-84

www.iif.com.tr
doi: 10.3848/iif.2011.305.3066

İKTİSAT İŞLETME VE FİNANS

Sectoral Transformation of Turkish Free Zones[*]

Derya Gültekin-Karakaş[**], *Sevil Acar*[***]

Received 26 January 2011; received in revised from 27 January 2011;
accepted 01 April 2011

Abstract .
Free zones (FZs) have been used to promote export-orientation of Turkey after 1980. These zones initially focused on labour and resource-intensive manufacturing goods. In time, sectoral diversification took place accompanying the deepening industrialization in the country. This paper examines the sectoral restructuring of Turkish FZs. The analysis shows that Turkish zones have supported domestic accumulation via mainly the provision of cheaper foreign inputs to Turkey. Besides, the zones have served to global opening-up of Turkish capital by containing export-oriented production. In terms of sectoral transformation, the analysis finds that medium-tech industries dominate Turkish FZs rather than low-tech industries. Moreover, high-tech industries have a rising importance in the FZ exports. These findings indicate that the zones have been integrated to Turkey's new industry policies which aim a higher share of medium- and high-tech industries in Turkish manufacturing production and export.
Keywords: *Free zones, Export processing zones, Turkish economy, sectoral diversification*
JEL Classification: *F14, L60, O19.*

Özet. Türkiye'de Serbest Bölgelerin Sektörel Dönüşümü
Serbest Bölgeler (SB'ler) 1980 sonrasında Türkye'nin ihracata yönelimini desteklemede işlevsel olmuşlardır. Bu bölgeler başlangıçta emek ve kaynak yoğun imalat sanayi ürünlerine yoğunlaşmışlardır. Zamanla, ülkede sanayileşmenin derinleşmesine koşut olarak SB'lerde de sektörel çeşitlenme gerçekleşmiştir. Bu çalışma, Türkiye'de SB'lerin sektörel yeniden yapılanmalarını incelemektedir. Analiz, Türkiye'de SB'lerin yurtiçi birikimi esas olarak ülkeye ucuz yabancı girdi temini yoluyla desteklediklerini göstermektedir. Ayrıca bölgeler, ihracata yönelik üretim faaliyetleri ile Türk sermayesinin küresel açılımına hizmet etmektedirler. Sektörel çeşitlenme açısından ise analiz sonuçları, düşük-teknolojiden ziyade orta-teknolojiye dayalı sektörlerin Türk SB'lerinde baskın olduğuna işaret etmektedir. Üstelik yüksek teknolojiye dayalı sektörler SB'lerin ihracatında giderek artan bir önem kazanmaktadır. Söz konusu bulgular bölgelerin, Türkiye'nin imalat sanayi üretimi ve ihracatı içinde orta ve yüksek teknolojiye dayalı sektörlerin payını arttırmayı amaçlayan yeni sanayi politikalarına entegre olduklarını göstermektedir.
Anahtar Kelimeler: *Serbest bölgeler, Serbest üretim bölgeleri, Turkiye ekonomisi, sektörel çeşitlenme*
JEL Sınıflaması: *F14, L60, O19*

---

[*] Acknowledgements: The early version of the paper was presented at the 9th International Conference of MEEA, June 24-26 2010, ITU, Istanbul, Turkey and EuroConference 2010 of the Society for the Study of Emerging Markets, July 16-18, 2010, Milas, Turkey. The authors would like to thank the participants of both conferences. We also thank Fatma Dogruel and Fuat Ercan for their contributions.
[**] Faculty of Management, Istanbul Technical University, Istanbul, Turkey. E-mail: dkaraka@itu.edu.tr

[**]Marmara University, Department of Economics, Istanbul, Turkey Visiting Scholar, CERE (Centre for Environmental & Resource Economics), Umeå University, Sweden, E-mail: sevil.acar@econ.umu.se

1. Introduction

Overaccumulation of capital and the associated crisis in advanced capitalist economies since the late 1960s have led to the formation of isolated zones in developing countries. Incentives such as cheap and repressed labour, tax and tariff exemptions, developed infrastructure, subsidized gas and electricity and free profit transfer have made these free zones attractive investment locations for capital. While transnational corporations (TNCs) have increasingly relocated their production particularly in labour- and resource-intensive industries to developing countries, some of these shifts have been to FZs. Meanwhile, FZs started to mushroom in developing countries as being integral to export-oriented industrialization. Foreign exchange scarcity associated with the import substituting industrialization (ISI) forced many developing countries to leave this policy option and to adopt export-oriented strategies in the 1960s and 1970s.

As a developing country, Turkey also adopted export-led growth strategy after 1980 and established around 20 free zones. While some of these are free trading zones, some are export processing zones (EPZs) which include export-oriented production activities. Among the EPZs, there are also specialized ones set up to meet the needs of specific industries.

As the spread of FZs has been a response to the changing dynamics of world capitalism, one can expect that FZs which initially specialized in low-value added sectors might shift their foci towards higher-value added industries through time. However, the international literature has not widely discussed sectoral evolution of the FZs, but rather their macroeconomic outcomes have been focused on. Regarding the literature on Turkey, the macroeconomic effects of Turkish FZs have not been deeply analyzed, not even considering sectoral impacts. Therefore, the place of the Turkish FZs in the overall industrialization of Turkey remains a question to be explored.

This paper examines the sectoral transformation of Turkish FZs analyzing the shifts in the export and import composition of the FZs at sectoral and sub-sectoral levels. The analysis not only shows to what extent these zones have served to manufacturing production but also sheds light on the degree of the shift of this production from low- and medium-tech industries to high-tech ones. This focus is particularly important given the fact that Turkey aims to enhance industrialization by increasing the share of higher-value added sectors in Turkish manufacturing production and exports.

Besides, we aim to discover the extent of the use of local inputs vis-à-vis imported inputs. Given the low skill levels, if the import composition of exports is high, it may suggest that technology diffusion from the Turkish zones is low. Conversely, if the use of local inputs is high, we expect that it will be a sign of the existence of backward linkages.

Furthermore, the participation of foreign capital in Turkish FZs is examined in order to see if Turkish FZs were able to attract foreign capital or they mainly helped to global opening-up of domestic capital.

An important point to note here is that aggregated evaluations may preclude a deeper understanding of the varying effects of the zones on different fractions of capital within a country. Yet, fractions of capital including foreign capital may have conflicting as well as common interests in the FZs. Therefore, in order to point out these various effects each country case needs to be discussed separately. To this end, sectoral analyses must be completed with firm-level analyses which are beyond the scope of this paper. However, it is here sufficient to stress that large TNCs benefit from FZs easing their profit chase across the globe. As well, the Turkish case shows that FZs serves to the interests of domestic fractions of capital which seek further integration into global accumulation. Therefore, foreign as well as large scale domestic companies can gain advantage over small-to-medium scale domestic companies which may have limited or no access to the opportunities offered by the FZs.

The plan of the paper is as follows: The second section employs a general look at the FZs in the world focusing on their historical development and a summary of the findings in the world literature. The third section outlines the development of the Turkish FZs including their historical evolution and the related literature that examines their characteristics. The fourth section undertakes an analysis of the Turkish FZs regarding the sectoral transformation they have gone through. Finally, the fifth section concludes.

2. FZs in the World

2.1 The Development of FZs

FZs are named differently in various places of the world. For instance, they are named ‘industrial free zones’ or ‘export free zones’ in Ireland; ‘maquiladoras’ in Mexico; ‘duty free EPZ’ or ‘free export zone’ in the Republic of Korea and ‘investment promotion zone’ in Sri Lanka. In China, where zones have been engaged into more wide-ranging activities embracing various sectors simultaneously (Wang, Appelbaum, Degiuli and Lichtenstein, 2009), they are called ‘special economic zones (SEZs)’ (Chen, 1994). However, despite the different names, free zones share the basic characteristics given in the definitions below.

In developed countries, mostly free trade zones and free ports have been preferred in order to increase competitiveness of domestic capital and local employment. However, developing countries have mostly preferred EPZs. ILO (2003) defines EPZs as ‘industrial zones with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being (re)exported'. Balasubramanyam (1988) defines EPZs as 'an enclave outside the customs territory of a country'. Being offered the ease of not paying any custom duties and local taxes, firms can penetrate into EPZs to process, manufacture or store their goods and afterwards they are allowed to export them again not being charged with any duties. With the opportunity to use low-cost labour and the availability of several financial incentives, EPZs serve the efficiency-seeking desires of transnational enterprises in a larger scale and play their role in accelerating export-oriented industrialization (Pearce, 2008).

The first EPZ was established in Ireland (Shannon) in the mid-1950s. In East Asia, the first EPZ was set up in Taiwan in 1966. The successful East Asian examples of the 1970s led also other developing countries to establish similar zones. The number of EPZs dramatically increased after the 1990s. Table 1 shows the progress of the zones in numbers.

Table 1: Development of Export Processing Zones in the World

Years	1975	1986	1997	2002	2006
Number of countries with EPZs	25	47	93	116	130
Number of EPZs or similar types of zones	79	176	845	3000	3500
Employment (millions)	n.a.	n.a.	22,5	43	66
-of which China	n.a.	n.a.	18	30	40
-of which other countries with figures available	0,8	1,9	4,5	13	26

Note: n.a.: not available
Source: ILO Database (2007)

TNCs which could easily enter FZs in the past have been seeking to penetrate into host economies much more easily. Given the rising competition among developing counties to attract FDI since the 1980s, the following question arises: may FZs lose their privileges in time? The answer for this question is negative, at least for the foreseeable future. First of all, subsidies and exemptions in FZs continue to be more than in domestic economies. As well, FZs are not restricted only to developing countries. The expansion in the zones in OECD countries suggest that they may be much more than tools for developing countries with 'bad policy environments' – they may be critical to firm-level competitiveness in a globalized economic environment (World Bank (WB), 2008, p. 13).

To what extent have FZs been successful in terms of developing and diversifying exports, creating jobs and income for the host countries? WB (2008, p. 1) answers this question as follows:

> The [30 years of] experience shows that while zones have been effective in addressing economic growth and development objectives they have not been uniformly successful; successes in East Asia and Latin America have been difficult to replicate, particularly in Africa, and many zones have failed. Moreover, since the onset of zone development in developing countries, concerns have been raised about the impact of zones on employment (in terms of gender, wage levels and benefits, worker rights and work conditions), the environment, and related social factors.

What led even the WB to admit the adverse effects of FZs on labour is related to the *raison d'être* of the zones. Free zones have been used by developing countries to increase export competitiveness of their industries. To this end, they have made use of the availability of cheap labour and this explains why the majority of zone enterprises worldwide focused on labour-intensive, assembly-oriented activities such as apparel, textiles, and electrical and electronic goods.[1] This also led to the high share of women in zone workforce worldwide. However, as will be indicated below, today output has become more diversified in the zones requiring also skilled labour rather than only cheap labour. Furthermore, specialized zones have evolved to serve to the needs of specific industries (WB, 2008, pp. 21-25).

Approaching to FZs as isolated enclaves or parts of domestic economies is an important issue to consider. It is clear that FZs offer 'a better investment climate' than domestic economies. In a way, they represent an ideal towards which national economies are envisioned to evolve in line with the neo-liberal vision of the world. In the process, zones have risen as *enclaves* within domestic economies as it has been much easier to put into effect the favouring policies that capital seeks for in these areas.

After nearly four decades of practice, there is a new emphasis on FZs which refers to a further step in the zone implementation. Zones are now seen as bridges for the dissemination of neo-liberal policies into domestic economies. FZs offer a ground to pilot new policies on customs, legal, labour and public-private ownership (WB, 2008, p. 1) Therefore, they function as experimental laboratories for the application of new policies, as WB (2008, p. 12) rightly put it; 'financial, legal, labour, and even pricing policies were introduced and tested first within the free ports before being extended to the rest of the economy'. According to the World Bank, FZs need to be used 'as a supplement to countrywide reform, as opposed to creating isolated free market enclaves'. The benefits of FZs are multiplied when they are accompanied by countrywide structural reforms that enhance competiveness of domestic firms (WB, 2008, p. 51). This emphasis indicates that FZs, which contributed to

[1] For a discussion of how FZs and global outsourcing arrangements in the garment industry have affected labour and have given rise to labour struggles, see J Merk, 'Jumping Scale and Bridging Space in the Era of Corporate Social Responsibility: Cross-border Labour Struggles in the Global Garment Industry', *Third World Quarterly*, Vol. 30, No. 3, 2009, pp 599–615.

global accumulation of capital initially via favouring investment conditions, today fulfil the same mission by accelerating the dissemination of neo-liberal reforms to domestic economies.

This emphasis on FZs as bridges to countrywide reforms indicates that FZs need to be evaluated as being integral to their domestic economies rather than as isolated enclaves. This argument is verified in the sectoral analysis of Turkish FZs. It will be seen that the state policies aiming sectoral diversification of production in the zones have been in line with the overall path projected for Turkish manufacturing industry.

In what follows, the world literature on sectoral dimension of FZ development will be reviewed before proceeding to the discussion of the Turkish case.

2.2. World Literature

The world literature has mainly focused on macroeconomic outcomes of FZs. The effects on job creation, wage levels, foreign investment, and trade expansion make up the bulks of the analyses. Sectoral impacts of FZs, on the other hand, have not been widely discussed. A limited number of studies drew attention to the questions whether zones stimulate new forms of production or maintain reliance on low-skill requiring, low-technology, assembly-type production forms; whether they perpetuate a non-desirable dependence on one sector (such as textiles) and whether zones help to accelerate industrial upgrading and product diversification.

As an early work, Chen (1994) considers the relationship between the nature of activities and transfer of technology in the three zones in Taiwan, South Korea and China. He finds that there is not enough room for technology transfer because of the high reliance of the TNCs on their home countries in research and development activities as well as the unsophisticated and routine nature of assembly operations.

With a sectoral twist, Burns (1995) links specialization of EPZs to the level of industrial development of the host country. The manufacture of textiles and clothing are mostly located in the poorest developing countries whereas electronics are predominant in more developed ones. For example, the EPZs in Madagascar, the Dominican Republic and Sri Lanka employ textile and clothing production whereas Malaysia, Mexico, South Korea and Taiwan produce mostly electronics. Similarly, Mathews (1996) finds that the most important sector in the EPZs of the Dominican Republic was clothing between 1975 and 1990. Other sectors such as electronics, jewellery, footwear, tobacco, agro-processing and leather goods had lower shares in manufactures when employment in those sectors is concerned. As well, Pigato, Farah, Itakura, Jun, Martin, Murrell, and Srinivasan (1997) find out that textile makes the largest share in the EPZs of Bangladesh and Pakistan whereas electric/electronic parts and metal products have the second highest share.

Examining several developing countries, Cling and Letilly (2001) draw attention to the contribution of FZs to the sectoral diversification of host economies. They note that the share of the EPZs in the exports of manufactured goods is apparently high in the Dominican Republic, Madagascar, Mauritius[2] and Mexico, making a contribution to the diversification of exports to some extent. While those regions had exported only tropical goods such as coffee and bananas, after the establishment of the zones, they started to export labour-intensive manufactured goods such as textiles, clothing, electrical and electronic goods. However the authors point out that this diversification remains very limited in general.

Meanwhile, FZs have not been restricted only to trading and manufacturing. Accompanying the global expansion of TNCs, service sector activities such as banking, telecommunication and computer technology have increasingly penetrated into EPZs (Pigato et al, 1997; Cling and Letilly, 2001).

3. FZs in Turkey

In this section, firstly the development of the FZs in Turkey is briefly mentioned. Then, the literature on Turkish FZs is reviewed with a particular emphasis on the sectoral dimension. These discussions provide a ground for the sectoral analysis of Section 4. Despite the common criticism that Turkish FZs remained to be insignificant within the overall economy, the analysis shows that in the 2000s, the FZs have become part of the structural shift in Turkish manufacturing towards higher-value added production.

3.1. History of Turkish FZs

After many failed attempts for the establishments of FZs back in the early 19th century,[3] Turkey has been able to facilitate the zones since the mid-1980s. Given capital scarcity in Turkey and the search for ways to increase foreign exchange earnings, business associations and local capitals were increasingly demanding the foundations of the FZs in the early 1980s. They knew that the FZs could support their external orientation by lowering costs of production and increasing productivity.[4] In the midst of the competition among local

---

[2] See Sandbrook and Romano (2004, p. 1017) for a discussion of the development path of FZs in Mauritius, which, establishing an EPZ in 1970, channeled sugar revenues to diversify and industrialize the economy through state incentives. R Sandbrook and D Romano, 'Globalisation, extremism and violence in poor countries', *Third World Quarterly*, 25(6), 2004, pp. 1007–1030.

[3] For the reasons of the failed attempts in the pre-1980 period, see I Tekeli and S Ilkin, *Dünyada ve Türkiye'de Serbest Üretim Bölgelerinin Doğuş ve Dönüşümü*, Ankara: Yurt Publications, 1987.

[4] FZs were seen as tools that could increase international competitiveness of Turkish manufacturing vis-a-vis both high-tech based advanced countries and low wage-based East Asian countries. For such an evaluation of Mersin FZ

capitals for the establishment of the FZs in their cities, due to their developed facilities as well as key locations in trade roads, Mersin and Antalya free zones were the first established ones (Tekeli and Ilkin, 1987).

The location choice for the FZs in Turkey has been mainly affected by the closeness of the zones to the large markets of the European Union (EU), Turkish speaking Commonwealth of Independent States (CIS) countries and the Middle East, as stressed by the Undersecretariat of Foreign Trade. Therefore, the zones are mostly linked to the well-developed seaports, airports and networks of highways. The location choice has been also affected by the kinds of activities that are projected to take place in the zones. Similar to other developing country cases, Turkish FZs have also initially attracted mainly labour-intensive manufacturing production that seeks for cheap labour and incentive schemes have been designed to invite this kind of activities. Therefore, the FZs needed to be close to main cities that could supply needed cheap labour power (Tekeli and Ilkin, 1987, p. 159).

As of 2010, there are 19 operational FZs in Turkey (see Figure 1). East Anatolia Free Zone, founded in Erzurum in 1995, was later closed down as it could not be improved. In fact, there is a huge developmental gap between the zones in the Western regions in which industry and urbanization have developed and the ones in the East of the country. While the zones in the West have achieved a rising performance, the Eastern ones have not been efficient so that only a few firms were established in some of them as in the cases of the East Anatolian and Mardin Free Zones.[5] There has also been a tendency for specialization among Turkish FZs. Some FZs have increasingly specialized in particular areas such as mega yacht construction (Antalya FZ), ship and yacht construction (Adana-Yumurtalık and Kocaeli FZs), software and R&D (İstanbul Atatürk Airport and TÜBİTAK MRC FZs) and defence, space and aviation (Aegean FZ). This specialization which brings together all the components of specific industries in the same zone aims to increase competitiveness of those industries. According to Table 2, the dominant type of activity in the zones is purchasing and selling. Production makes up the second highest share followed by renting and storage activities.

---

regarding textile and apparel industries see K Tüzmen, "Mersin Serbest Bölgesi ve Tekstil Konfeksiyon Sektörü", *İktisat, İşletme ve Finans*, 7 (75), 1992, pp.39-47.

[5] See the statements by the General Director of Free Zones, Mehmet Demirel in 'Teknoloji Üreten Yabancıların Tercihi Ege Serbest Bölgesi', *Dünya Daily,* 1 February 2006; in 'Talep Gelirse Serbest Bölge Sayısı Artabilir', *Dünya Daily*, 1 May 2003; and Can, M., 'Serbest Bölgelere Vergi, Ticareti Azalttı Yatırımcıları Kaçırdı', *Referans Daily*, 22 August 2005.

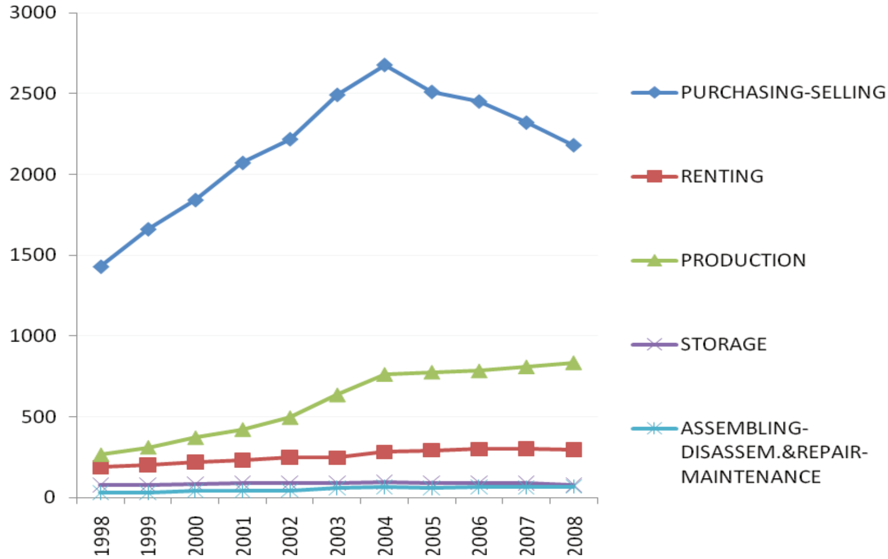
Source: DTM (Undersecretariat of Prime Ministry for Foreign Trade), http://www.dtm.gov.tr/dtmadmin/upload/SB/ABIliskilerDb/General_nfo.pdf (access on 29 February, 2010)

Figure 1: Operational FZs in Turkey

Table 2: Breakdown of the Types of Activities in Turkish FZs (number of firms)

Types of Activities	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OPERATOR & FOUNDER-PERATOR	14		15	18	22	24	25	25	24	20	20
PURCHASING-SELLING	1428	1660	1841	2071	2218	2493	2678	2511	2452	2321	2181
BANKING-INSURANCE	69	71	73	67	59	78	58	58	57	51	47
RENTING	187	200	221	232	250	246	282	293	300	301	296
PRODUCTION	264	310	370	421	495	636	763	777	785	810	836
STORAGE	76	77	84	89	90	88	95	92	92	91	79
ASSEMBLING-DISASSEM. & REPAIR-MAINTENANCE	29	32	42	42	45	61	65	60	66	64	68
ISE-UNDERWRITING	70	70	70	70	70	70	19	19	0	0	0
OTHERS	46	77	59	58	80	142	84	97	100	95	92
Total	2183	2497	2775	3068	3329	3838	4069	3932	3876	3753	3619

Source: The Turkey General Directorate of Free Zones (GDFZ) Statistics



Source: Data compiled from GDFZ Statistics

Figure 2: The Allocation of Activities in Turkish FZs (number of firms)

Figure 2 shows the trends in the allocation of FZ activities in time. Purchasing- selling had a tendency to rise until 2004 and then fell sharply. The reason for this change is related to the tax amendements introduced at that year as part of the 6th Review of Turkey's Stand-by Arrangement with the International Monetary Fund (IMF). The Fund demanded the taxation of FZ activities in order to prevent tax evasion. [6]

In 6 June 2004, corporate and income tax exemptions in Turkish FZs were removed for non-production firms and restricted to only production companies. The implementation differed for the old and new users. The tax exemptions still continued for those users (both trade and production companies) already operating in Turkish FZs based on the operation license obtained prior to 6 February 2004. While they were allowed to benefit from the corporate tax exemption until the end of their operation licenses, they continued to be exempt from income withholding tax on the salaries they were going to pay their employees only until 31 December 2008.

[6] Firms in the domestic market might involve in tax evasion via their affiliates or branches in the FZs by under-invoicing their exports or over-invoicing their imports. Such implementations allow some parts of income to be untaxed. Hence, international institutions such as the IMF have seen the FZs as contributing to an unfair playing field for foreign companies and insist on the taxation of the FZ activities (See Karanfil, N., 'Serbest Atışma Sürüyor', *Finansal Forum Daily*, 7 October 2003; S Yüksel, 'Cari Açığın Faili Bulundu', *Yeni Para*, 4-10/9, 2005, pp.34-35). The IMF (2003) applauded the tax changes (See IMF, "IMF Completes Sixth Review, Grants Waivers, and Approves Disbursement of US$502 Million under Stand-By Arrangement with Turkey", Press Release No. 03/223, December 18, 2003, http://www.imf.org/external/np/sec/pr/2003/pr03223.htm, access on 25 April 2010).

Among those users that obtained an operation license for production activities on 6 February 2004 or thereafter, only the earnings of such users which were generated from the sales of goods produced in Turkish FZs shall be exempt from income and corporation tax until the end of the year in which Turkey becomes full member of the EU (Deloitte, 2006). However, incomes other than the sale of produced goods (e.g. income from purchasing/selling, interest income and income from sales of affiliates etc.) would be subject to corporate and income taxes. [7]

As for the employed personnel in the zones income tax would need to be paid, the lost tax advantage led to cancelled investment projects; hence, while the rise in the number of newly-established firms was 15% in 2003, it was only 6% in 2004. Also, established investors in Turkish zones had concerns about the forthcoming rise in labour costs. For example, the General Director of Mersin FZ, Edvar Mum (2004) criticized the changes as they ended the attractiveness of the zones and pointed out that the users who obtained operation licenses before 6 February 2004 and dealt with labour-intensive production would face bottlenecks because of rising labour costs. Mum added that given that all the entries and exits of goods in the zones were also subject to fund payments (0,5 %), the rising tax burden meant that the zones would become disadvantageous vis-à-vis domestic operations. Some other FZ directories also criticized the new changes as they discouraged foreign investment and led capital flight to the neighbouring countries' zones which offered cheap labour, tax exemptions and low cost energy such as Romania, Bulgaria, Syria, Egypt and Jordan. It was argued that at the end of the duration of operation licenses, they would not be renewed and most of the 20 zones would become idle. Hence, the FZs could not be utilized as a tool for foreign trade and development.[8] The Union of Chambers and Commodity Exchanges of Turkey (TOBB) contended that Turkey would become a rubbish bin for free zones (Can, 2005). However, some FZs, which are mainly production-oriented, welcomed the changes by arguing that they would encourage production activities and thereby alleviate unemployment and enhance exportation-based production.[9]

[7] Through the changes on the Law No. 5084 in 6 February 2004, it was aimed to avoid tax evasions as well as to achieve harmony with the EU regulations. The changes were criticized by the directories of many FZs such as İstanbul Atatürk Airport, Antalya and Mersin Free Zones. It was argued that there was no guarantee for Turkey to become a full member of the EU. Also, even within the EU, there have been member countries whose free zones offer tax exemptions such as Ireland and Portugal. Therefore, in the EU membership process, similar to other countries a smooth transition must be implemented for Turkish FZs (See 'Serbest Bölgelerde Vergi Uygulaması Ertelenmeli', *Dünya Daily*, 25 March 2005; Fikri Bayhan, 'Serbest Bölgelerde Son Durum', *Dünya Daily*, 16 April 2004).

[8] See the criticisms by the General Director of İstanbul Leather and Industry Free Zone, İlhan Baltacıoğlu in *Referans Daily*, 19 April 2007; the General Director of Antalya Free Zone in 'Antalya, Doğu Akdeniz'in Lüks Tekne Üretim Merkezi Olma Yolunda', *Dünya Daily*, 25 March 2005; the General Director of Europe Free Zone in KobiÉfor, March, 2007, p.150; and the Manager in Aegean Free Zone, Ertuğrul Işıksoy in Alp, S., 'Serbest Bölgelere Yabancı İlgisi Yatırıma Dönüşemiyor', *Referans Daily*, 27 April 2006.

[9] See the views of the Head of Board of Directors of Bursa FZ, Celal Sönmez in 'BUSEB, 2005 İşlem Hacmi ile Türkiye 4üncüsü', *Dünya Daily*, 11 April 2006, p.6; and the Head of Board of Directors of European FZ, Kemal

In fact, the FZs in Turkey have been a matter of debate as they have been mostly occupied by firms that heavily import rather than export even though the main reason for their establishment has been export promotion. The reasons for the allegedly 'abuse' of the FZs were indicated as the corporate and income tax exemptions that they offered. Hence, as the diminished tax exemptions in 2004 for the old users were valid for also exporters, it was argued that the FZs would lose their attractiveness for exporters, as well. [10]

The criticism found the response in state policies. The legal change in 2008 re-arranged the tax exemption, but with a precondition that only the firms that export more than 85 percent of their production could benefit from the advantage. Given that production has been already export-oriented, the legal change has covered all the production companies in the zones whether established or new. Being still subject to income taxes, purchasing-selling activities are expected to decline in the FZs. The tax amendments indicate that production activities rather than purchasing/selling have been encouraged in the zones. Given the long-term criticism that the goal of export-oriented production and investment could not be achieved by Turkish zones, the legal amendments can lead to a structural change in the zones. The FZs that are trade rather than production-oriented would need to shift their foci towards export-based production in time. [11]

The encouragement of export-oriented production in the FZs shows that the harmonization with the EU did not bring about convergence between Turkish FZs and European zones. It had been argued that the harmonization could end production activities in Turkish FZs as the EU's FZs mostly do not contain production. [12]

3.2. Findings Related to Turkish FZs

Regarding Turkish zones, the literature has been mostly restricted to the depiction of the chronologies of the individual FZs with an emphasis on the details of their establishment and management aspects. Those studies also draw attention to the effects of Turkish zones on national economy. There is a common thought that the FZs could not fulfil the employment, export and foreign capital objectives expected from them (Kocaman, 2007; Üçışık, 1999; Organ, 2006). Organ (2006) stresses that the FZs have served to rising imports rather than exports which is an inconsistent outcome with the export-oriented strategy. It is argued that political as well as economic reasons

---

Şahin in R Baş-Uçar, 'Fazla Havaya Girmiyorum', *Para Ekonomi*, 3-9 October, 2004, p 33.

[10] See Çınar, H., 'Türkiye'de Serbest Bölgeler', *Dünya Daily*, 16 April 2004.

[11] For example, Kocaeli FZ started to put much emphasis on production after the tax changes in order to survive ('Kocaeli Serbest Bölgesi, Geleceğe Hazırlanıyor', *Dünya* Daily, 25 March 2005).

[12] For this kind of arguments see for example Avcı, Z., 'Serbest Bölgeler AB ile Yapı Değiştirecek', *Dünya Daily*, 25 March 2005.

account for this failure. According to Üçışık (1999), wrong location choices and the use of the FZs by domestic firms as only warehouses were among the reasons. Some authors point out the contribution of the FZs to enhancing export capacity (Arslan and Yapraklı, 2007; Karaduman and Yıldız, 2002). Yet they also contend that the zones were not successful enough.

In one of the early studies, Kocaman (1994) argues that FZs have increasingly become part of export-oriented industrialization strategies rather than being used as tools for regional economic development. Looking at the early performances of the then existent Turkish FZs, she argues that their failures in attracting foreign capital, engaging in high-technology production and for some, even accommodating any production activity bring in the need to discuss whether FZs can be a valid tool of development or not. By opposing to the then discussed plans of opening new zones in the Eastern part of Turkey, Kocaman contends that specific comparative advantages, location factors and agglomeration advantages should be taken into consideration in location decisions if FZs are aimed to form successful development outcomes.

Regarding the sectoral distribution of the zone activities which is the focus of this paper, there is a limited number of studies. As an earlier study, Kibritçioğlu (1995) finds that while agriculture had a share of 26 per cent in the zone trade, industry‘s share was 76 per cent as of the early 1995. Cotton, textiles and garments had the highest trade volume among the FZs (Kibritçioğlu, 1995). Here, even though the sectoral distribution of the FZ activities is mentioned, the study cannot contribute to the analysis of sectoral changes of the FZ activities given their short history in Turkey then.
Similarly, the recent study by Erdoğan and Ener (2009) mentions the sectoral foci of the individual zones. However, there is not an overall analysis of the sectoral evolution that Turkish FZs have passed through. Therefore, the place of Turkish FZs within the context of the structural shifts in Turkish manufacturing remains a question to be explored.

4. Analysis

By attracting foreign and domestic capital, Turkish FZs have initially specialized in the production and exportation of labour and resource-intensive manufacturing goods similar to their country peers. This paper questions whether there has been any sectoral diversification in the FZs accompanying the deepening industrialization in Turkey.

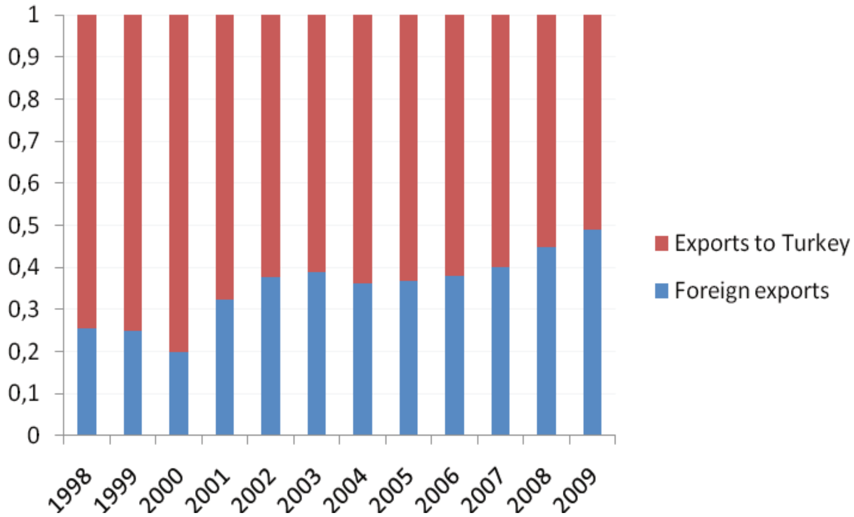
As a matter of fact, in the early 2000s, the Turkish government did project sectoral shifts in Turkish zones. In 2003, Kürşat Tüzmen, the State Minister Responsible for Foreign Trade, stressed that the FZs should gain new missions and the most important goal would be their contribution to changing the export profile of the country. If the FZs, he added, would be used to develop high-tech goods, Turkey could take place among technology-exporting countries. Tüzmen also drew attention to the dominance of domestic firms in Turkish FZs and contended that the zones should be transformed in a way that they would be preferred mostly by foreign rather than domestic capital (Tüzmen, 2003, pp. 4-6). On this basis, Tüzmen added that despite numerous applications for new FZ establishments, the governmental authorities would not allow these as they aimed the transformation of the FZs to technology zones (Dünya Daily, 2003, p. 3).

The emphasis on the need for a changing sectoral focus in the FZs was indeed in parallel to the desired overall transformation in Turkish manufacturing in the 2000s. As Turkey has lost its competitiveness in low-value added sectors in the face of the fierce competition by low-cost China, India, Egypt and the Eastern Bloc countries, the diversification of manufacturing exportation has been a must. In 2003, the General Director of Free Zones, Mehmet Demirel also pointed out the need for a new model for Turkey's FZs which was away from East Asia's EPZs which have mainly relied on cheap labour (Dünya Daily, 2003, p. 4). The important question is here whether zone activities that have initially concentrated on low-value added, low-tech industries have shifted towards high-tech industries in Turkey.

Below, we analyze the sectoral transformation of Turkish FZs since 1998 when the earliest data is available. The main data source for the study is the Turkey General Directorate of Free Zones (GDFZ) governed by the Undersecretariat of Foreign Trade. Also, we collected the data on the trade of high-tech industries from the directories of 19 free zones. In order to evaluate sectoral evolution of Turkish zones, export composition of the zones will be analyzed at sector and sub-sector levels. The sectoral focus of the analysis will be enriched by also considering foreign participation, use of local versus foreign inputs as well as main export markets of the zones. The analysis will allow us to have a more comprehensive understanding of the evolution of the Turkish FZs.

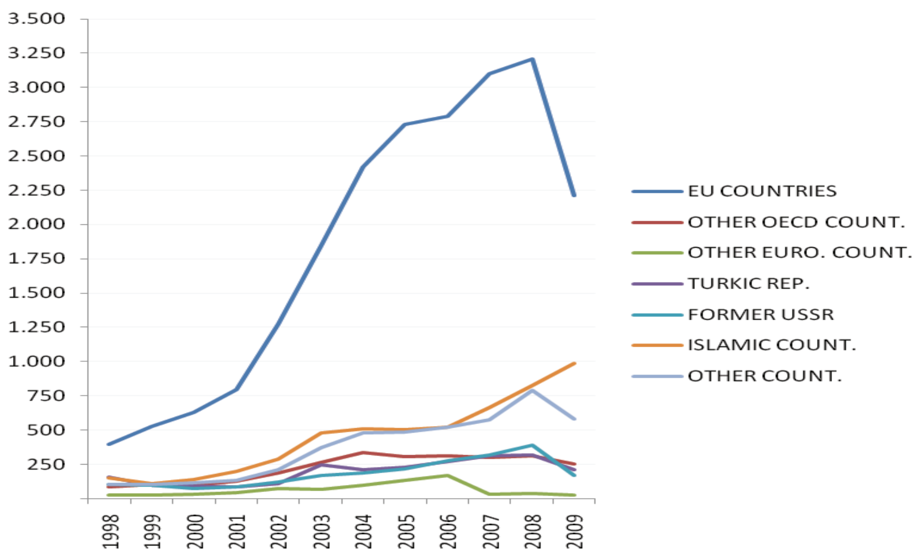
To begin with, on the basis of the distribution of the countries as the destination of the goods produced in the FZs, some remarks can be made about the geographical dimension of the global integration of Turkish capitalism through the zones.

Figure 3 points out Turkey as the main export market for the FZs. Yet the share of foreign countries in total exports started to slightly increase in the last few years. In 2009, the shares of exports to Turkey and other countries became almost equal.



Source: Data compiled from GDFZ Statistics

Figure 3: Shares of FZ Exports to Turkey and Other Countries



Note: Other countries mainly include P. Republic of China, Hong Kong, India, Israel, Singapore, Taiwan, Argentine and Brazil.
Source: Data compiled from GDFZ Statistics

Figure 4: Foreign Export Markets of Turkish FZs (million dollars)

As a further note, the distribution of foreign export markets of the zones is graphed in Figure 4. It shows that European countries make the bulk of the exportation despite the sharp contraction in this market during the recent global crisis. Interestingly, Islamic countries have had a rising share in the exportation of Turkish FZs not showing a sign of being negatively affected by the crisis contrary to other groups of countries.

The previous literature mostly points out the adverse or minimal effects of the FZs. We argue that these zones had better to be discussed according to their varying effects on fractions of capital rather than at an aggregated level. For example, the FZs have helped to those domestic firms that rely on imported inputs. That is why Halit Narin, the Head of the Board of Directors of Textile Employer Union, complained about the high level of textile importation from China. He argued that Turkey had been importing Chinese goods rather than producing domestically as the Inward Processing Regime opened up this door. This regime, came into operation in 1996, allows the importation of intermediate goods for export-oriented production free of taxes at the expense of domestically produced inputs (Tekstil İşveren, 2004, p. 4). In this context, Narin said that these zones must operate in a way that they should be isolated from Turkey. The goods should arrive freely to the zones, but not in a way as if circulating within Turkey. '... This is the situation in all countries. But this is not the case in Turkey. Hence, there is a need for restructuring...' (Tekstil İşveren, 2004, p. 5).

Contrary to other developing countries in which FZs are used for export promotion, sales from the FZs to Turkey are not prohibited. This allows exporting-producing firms in Turkey can benefit from the eased importation of inputs from the FZs. This arrangement affects those capitals that heavily use imported inputs positively while the others that engage with the domestic production of inputs can be harmed in the face of the competition by the imported foreign inputs. Also, as exemplified in the words of Narin above, capital that operates in low-value added, labour-intensive industries cannot compete with the importation of cheap final goods from countries such as China and India. On these respects, free zones become the areas that the conflicting interests between fractions of capital in Turkey come to the surface.

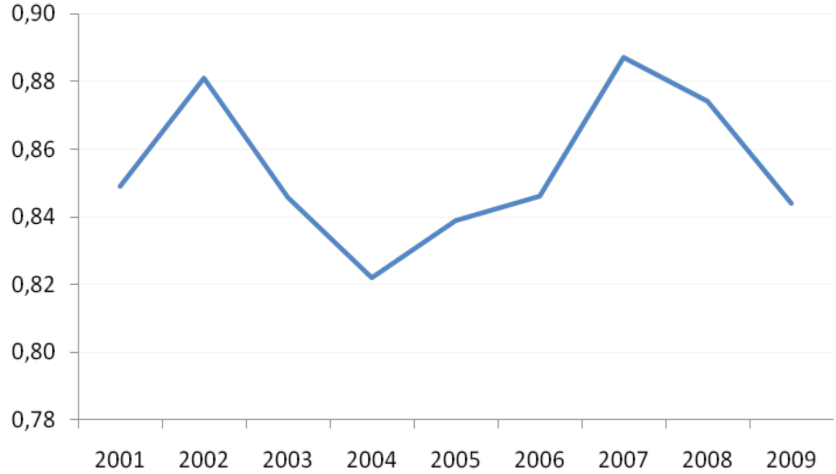
Consistent with the arguments mentioned above, the analysis indicates that while the FZs are net importers with foreign countries, they continue to be net exporters with Turkey. This could be attributed to the fact that the direction of trade in the FZs have been from foreign countries to the domestic economy. [13] This does not mean that they contribute to the rising importation of

[13] Turkish Statistical Institute (TÜİK) started to include the FZs in national income statistics in 2008. In line with this change, the Central Bank of Turkey also started to record the export and import of the FZs with foreign countries in the balance of payment statistics while excluding the exports and imports of Turkey with the FZs. Previously, the exports and imports of the FZs with foreign countries were excluded in Turkey's foreign trade statistics while the trade

Turkey at the expense of deindustrialization. On the contrary, as the majority of importation from the zones is raw materials and intermediate goods, the FZs do support export-oriented production in Turkey, as the General Director of Free Zones, Mehmet Demirel also argued (Dünya Daily, 2004).

At this point we need to look at the trends in the share of capital and intermediate goods in the export of the FZs to Turkey.

Inputs as the sum of capital and intermediate goods dominate the imports of Turkey from the FZs.[14] The share was always above 80% in the 2000s (see Figure 5). This proves the fact that the FZs have been used to increase international competitiveness of Turkish capital mainly via the provision of cheaper inputs for domestic production besides export-oriented production contained in the zones.[15]



Source: Data compiled from GDFZ Statistics

Figure 5: Share of Inputs in Total FZ Exports to Turkey

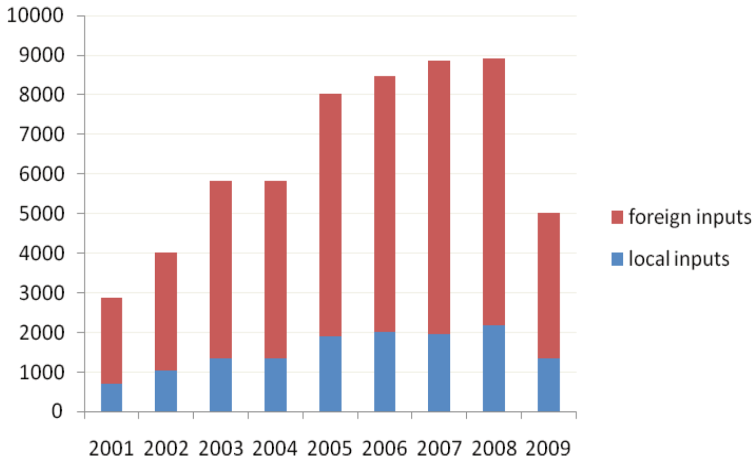
of Turkey with the FZs were included (TÜSİAD, *Türkiye'nin Üretim ve Dış Ticaret Yapısında Dönüşüm*, February, Publication No: TÜSİAD-T/2008-02/453, 2008, p 95). As Turkey's export to the FZs had been lower than the FZs' export to foreign countries, current account deficits of Turkey have decreased (Uyanık, C. 'Serbest Bölge Hesabı Değişti Cari Açık Azaldı', *Referans Daily*, 7 July 2008). This change indeed was demanded by the leading exporters in the FZs. For example, a leading producer in home appliances, Vestel of Zorlu Group had opposed to the exclusion of the FZ exports to foreign countries from Turkey's total export figures. Vestel argued that if the company's export figures from the FZ had been included in 2004, then it could have been the export champion in Turkey (Sandık, U., 'Serbest Bölge Tepkisi İhracat Sıralamasını Geciktiriyor', *Sabah Daily*, 18 January 2006).

[14] Turkey General Directorate of Free Zones classifies imports of Turkey from the FZs as follows: investment goods, intermediate goods, consumption goods and others that are not classified anywhere.

[15] This finding is consistent with the overall structure of Turkish manufacturing industry in the 2000s. Turkish manufacturing firms have relied on the use of imported inputs as a cushion for the adverse effects of the overvalued Turkish Lira on the export performance (see F Dogruel, S Dogruel and U Izmen, 'Changes in Exchange Rates and the Performance of the Manufacturing Sectors in Turkey', paper presented at the 30th Annual Meetings of the Middle East Economic Association, Allied Social Science Associations, January 3-6, 2010, Atlanta.

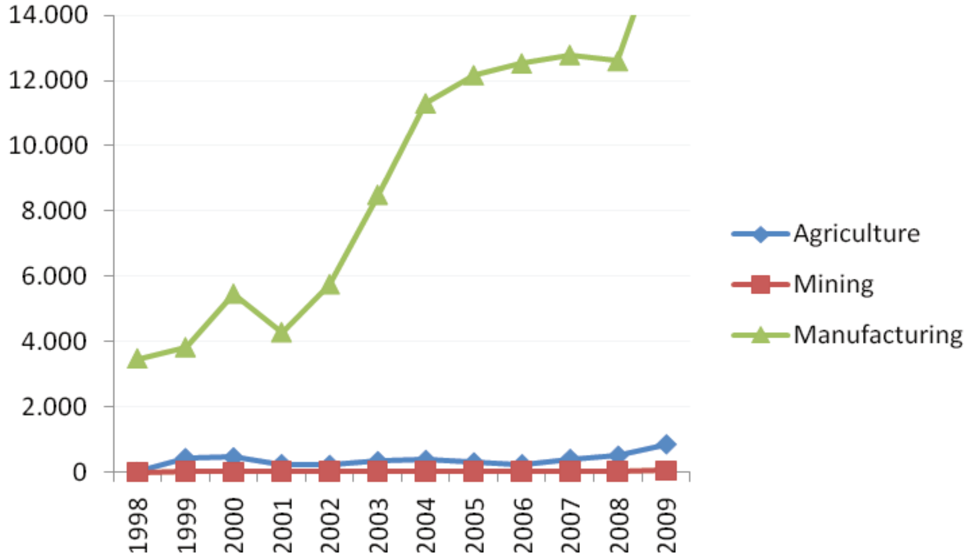
Furthermore, we aim to discover the extent of the use of local inputs vis-à-vis imported inputs in the FZs. Given the low skill levels, if the import composition of exports is high, it may suggest that technology diffusion from Turkish zones is low. Conversely, if the use of local inputs is high, we expect that it will be a sign of the existence of backward linkages and indirect employment effect. From the discussions above one can expect that the FZs have not relied much on the use of local inputs given that they have already become a main source of imported inputs for domestic production. Therefore, technology diffusion from Turkish zones must be low. Figure 6 indicates that Turkish zones mainly use foreign inputs. The preference for foreign inputs continued to rise throughout the 2000s. The global crisis has sharply reduced the use of both foreign and local inputs, albeit the contraction is more acute for foreign inputs. Given the high use of inputs purchased from the FZs in Turkey, we can expect that most of the foreign inputs have been sold later to Turkey.

Since there is no production data available for the Turkish FZs, it is not possible to distinguish production activities from trade activities. The WB (2008, p. 37) states that export earnings can be approximated by tracking net exports (gross exports minus gross imports) as an indicator of the local value added activity. Hence, when we use the difference between the total exports and total imports of the FZs since 1991 as a proxy for value added created in the zones, the exports of the FZs have increasingly exceeded their imports since the mid-1990s and this may give a hint that the FZs add value to what they purchase albeit remaining in low levels.



Source: Data compiled from GDFZ Statistics

Figure 6: Use of Local versus Foreign Inputs in Turkish FZs (million dollars)

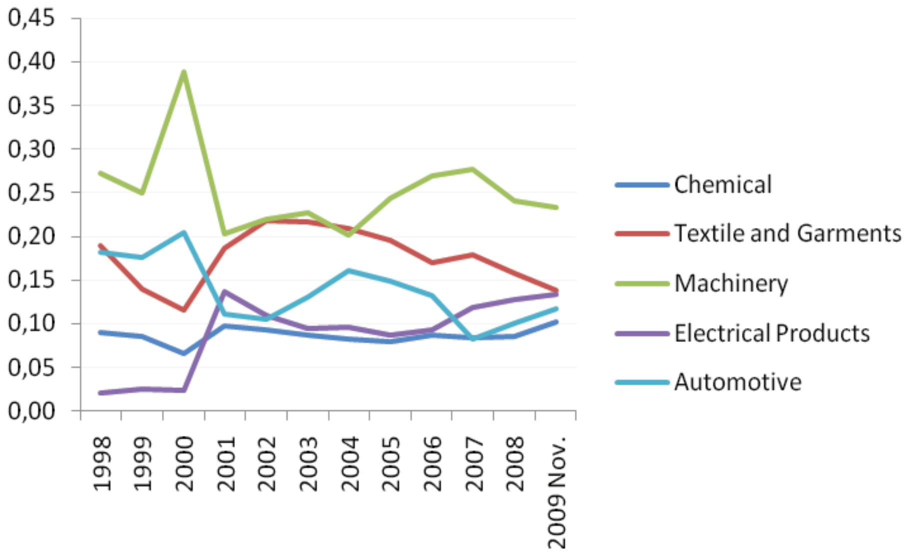


Source: Data compiled from GDFZ Statistics

Figure 7: Sectoral Composition of the FZ Exports (million dollars)

In order to detect whether industrial activities are diversified or not, we need to see the sectoral distribution of manufacturing exports for the period 1998-2009. To this end, we first need to see whether manufactured exports account for a significant share of the FZs' exports. As Figure 7 displays, manufacturing dominates the exports of Turkish FZs with a rising trend. Agriculture and mining historically sum up to a very small share of FZ exports. The manufacturing exports rose significantly in the 2000s after the fall during the 2001 financial crisis. The rising trend also continued in the mid-2000s albeit with a much lower acceleration probably due to the unfavoured tax changes. With the rearrangement of tax exemptions in 2008 with a focus on export-oriented production, manufacturing exports started to rise sharply again in spite of the global crisis.

To see the evolution of the main exporting industries in Turkish FZs, yearly shares of export values of the chemical, textile and garments, machinery, electrical products and automotive sectors in total FZ industry exports are plotted in Figure 8.



Source: Data compiled from GDFZ Statistics

Figure 8: Main Industrial Exports of the FZs

Machinery industry has always had the highest share in total industry exports in spite of the temporary decline during the 2001 crisis. Textile and garments industry has had the second share in total FZ industry exports. However, after the tax changes in 2004, it is reported that many textile and garment factories have left Turkish FZs and moved to the neighbouring countries such as Egypt. This phenomenon is reflected by the declining export share of the textile and garment industry in total FZ exports since then. Electrical products, from a low level of exportation, have sharply increased its share in total FZ industry export in the early 2000s and then in 2007 when the sector gained a new momentum in exportation. On the other hand, automotive sector, from the second position in industry exports, has fallen to the fourth place with a generally falling trend in the level of exports. Lastly, chemical sector has showed up as a more stable sector during the last decade. Its share ranges between 5% and 10% through the years.

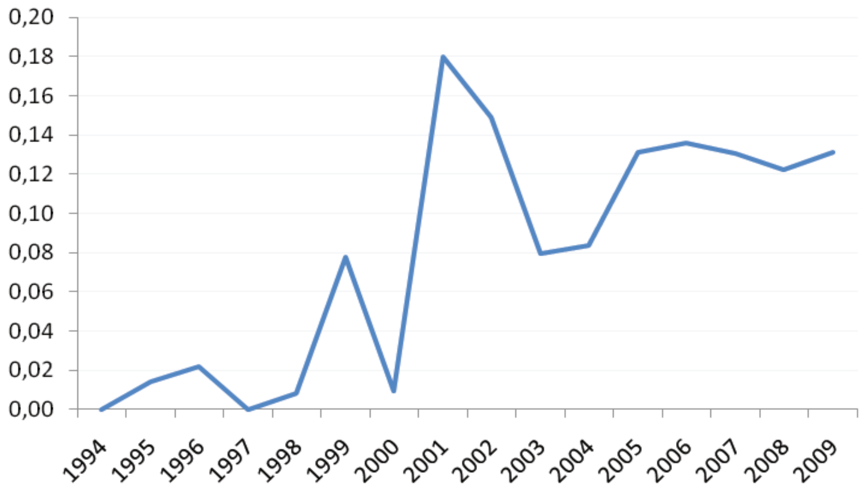
The data indicates that among the main exporter sectors of the FZs, only the textile and garment industry belongs to low-value added industry classification. The rest is classified mainly under medium-tech, and to a minimal extent under high-tech industry classifications.[16] This is an interesting finding which shows that Turkish FZs are not dominated by low-tech industries anymore.

---

[16] Only some parts of chemical industry exportation belong to high-tech industry.

At this point, the important question is to what extent production activities have shifted towards high-tech industries. The General Director of Free Zones, Mehmet Demirel (2004) stated that in some zones there has been a tendency to shift towards high-tech, activities and this signalled that FZs would become such centres in which advanced technology would be produced (Dünya Daily, 2004).

Figure 9 displays well the higher share of high-tech exportation in total exports of the FZs in the 2000s reaching around14%. The adverse effects of the tax changes also led to a sharp decline in 2004 in the share of this kind of exportation but since then there has been a rising trend again. Besides, the analysis indicates that except the negative net exports in these industries during the 2004 tax changes and 2007 global crisis, high-tech industries in the FZs have continued to create value-added. Among the zones that came to the front in containing high-tech based industries, we can note Atatürk Airport, Istanbul Leather, Aegean and Adana Yumurtalık Free Zones.[17]

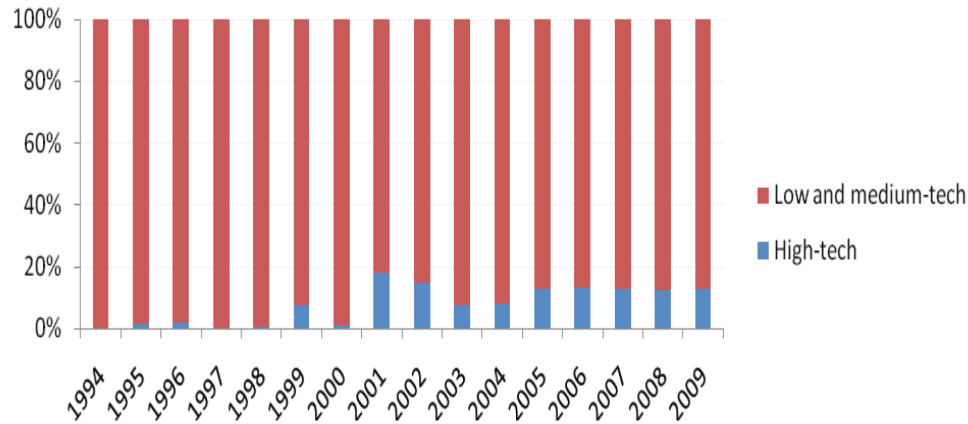


Notes: 1) High-tech industries: office, accounting and computing machinery; radio, television and communication equipment and apparatus; medical, precision and optical instruments, watches and clocks; aircraft and spacecraft; pharmaceuticals, medicinal chemicals and botanical products. 2) Among all the Turkish FZs, high-tech export activities are included only in the following: Ataturk Airport, Adana Yumurtalık, Aegean, Istanbul Leather, Izmir Menemen, Kocaeli, Mersin and Thrace FZs. 3) High-tech exports data in 2003 is unavailable for Istanbul Leather FZ.
Sources: Data compiled from GDFZ Statistics and Individual FZ Statistics

Figure 9: Share of High-Tech Exports in Total FZ Exports in Turkey

[17] See 'Teknoloji Üreten Yabancıların Tercihi Ege Serbest Bölgesi', *Dünya Daily*, 1 February 2006.

Figure 10 shows the low, but slowly rising share of high-tech industries in total FZ exports. It indicates that despite the dominance of manufacturing in the FZ exports, medium-tech rather than high-tech industries continue to be at the centre of FZs' activities.[18] However, the rising importance of high-tech industries in the FZ exports is striking. Given the much lower share of high-tech industries in Turkey total exports, this trend is particularly important (Ercan, Gültekin-Karakaş and Tanyılmaz, 2008).

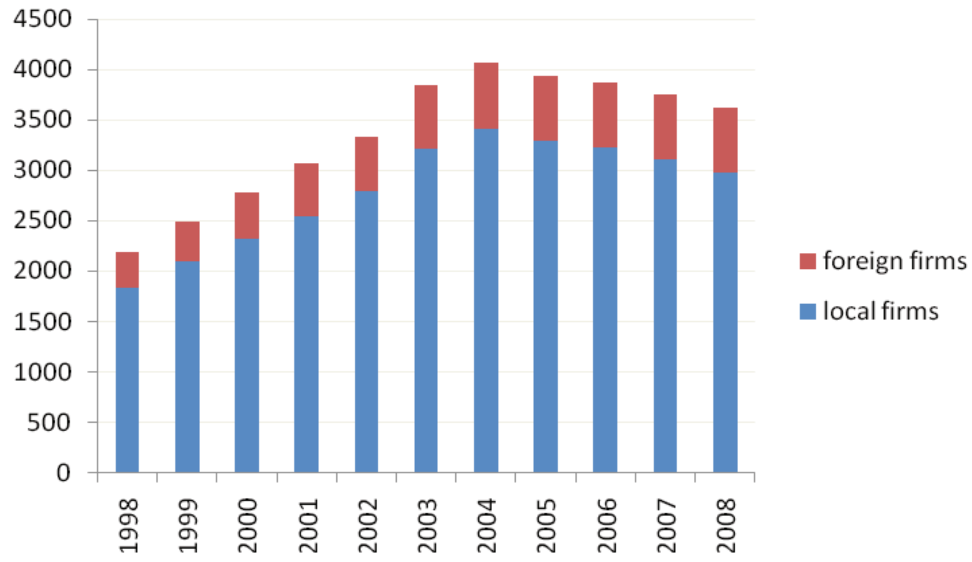


Sources: Data compiled from GDFZ Statistics and Individual FZ Statistics

Figure 10: Distribution of FZ Exports According to the Technology Level

Furthermore, as a developing country, to what extent Turkish FZs have become an important destination of FDI due to their advantages is a crucial question given that TNCs have not had much willingness to invest in Turkey even during the external orientation of the economy in the post-1980 period. To this end, we examine the composition of the zone firms (local versus foreign) and the shifts in this composition over time in Figure 11. This will show us whether there is a change in the early dominance of domestic firms in the FZs.

[18] It is not possible to distinguish the export data of low-tech industries from the medium-tech ones as the data is unreliable for this purpose. Hence, we plotted low- and medium-tech industries' exports together. However, as the medium-tech industries are the leading exporters (see Figure 8), we can conclude that medium-tech ones dominate Turkish FZs.



Source: Data compiled from GDFZ Statistics

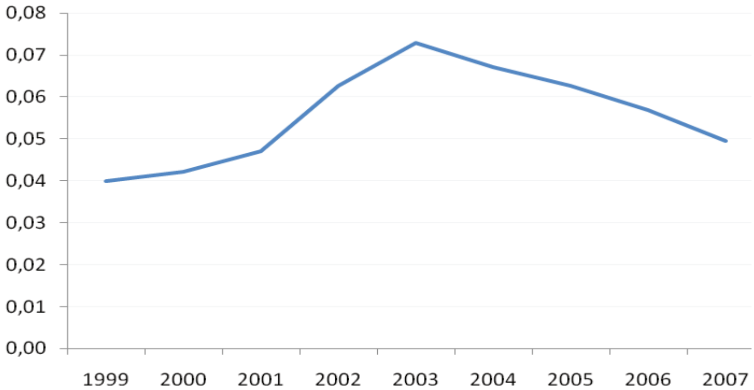
Figure 11: Number of Local and Foreign Firms in Turkish FZs

Historically, foreign investments in Turkish zones have not reached to high levels and domestic rather than foreign capital mostly invested in the zones. Cheap labour, continuous tax exemptions and closeness to the EU and the Middle East have not been enough to convince foreign capital who followed 'a wait and see policy' for the Turkish zones (Tekeli and Ilkin, 1987, pp. 155-156). The situation was such that the zones turned out to be areas providing new incentives to mainly domestic rather than foreign capital. Tekeli and Ilkin (1987) point out to the fact that since the zones could not attract enough number of foreign firms, the State Planning Organization had to choose local firms.

The dominance of local firms in the zones continued also in the 2000s in which unprecedented FDI has flowed to Turkey.[19] Figure 12 further displays that the share of FZ exports to other countries in Turkey's total exports remained low, reaching maximum at 7% in 2004. The decline after 2004 might be becasue of the adverse tax changes. Hence, considering also the dominance of input exportation from the FZs to Turkey, we can conclude that Turkish zones did not contribute much to capital accumulation in Turkey

[19] Most of the FDI flows to Turkey have been to banking and financial services besides telecommunication and other service-related sectors (see M Hisarcıklılar, D Gültekin-Karakaş and A Aşıcı, 'Can FDI be a Panacea for Unemployment?: The Turkish Case', paper presented at the "Workshop on Labour Markets, Trade and FDI", Istanbul Technical University in collaboration with University of Nottingham, October. SSRN Working paper series, http://ssrn.com/abstract=1725779, 2009).

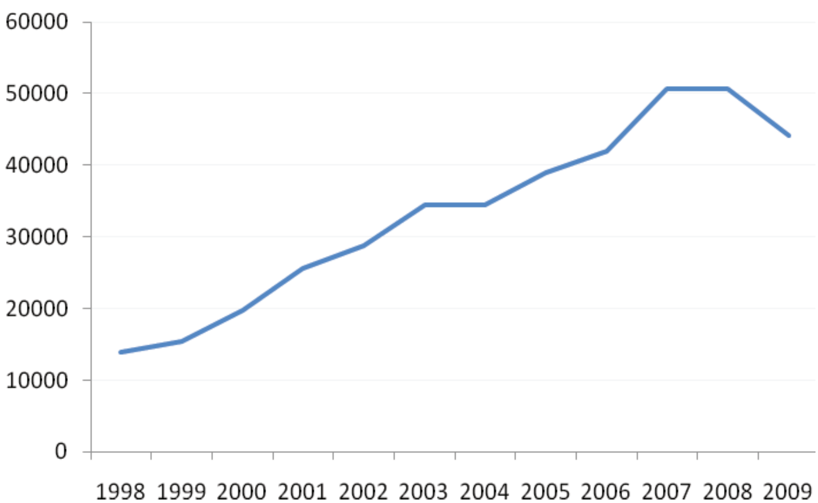
through attraction of FDI. On the contrary, the zones supported domestic accumulation mainly through the provision of cheaper inputs besides export-oriented production contained in the zones.



Source: Data compiled from TÜSİAD (2008, p. 95)

Figure 12: Share of FZ Exports to Other Countries in Turkey's Total Exports

Lastly, we need to mention the employment performance of the FZs given the persistently high unemployment rate in Turkey. Figure 13 displays the low employment performance of Turkish FZs in time.



Source: Data compiled from GDFZ Statistics

Figure 13: Employment Levels in the FZs

Obviously, along with the rising number of the FZs, the number of people employed has continuously increased until 2007. However, as of May 2010, the overall employment level in Turkey was 23,055,000 and unemployment level was as high as 2,846,000. Hence, the FZs are far from being a panacea for the chronic high unemployment problem in Turkey given the number of employed personnel (including workers and the other staff) reached at most 50,000.

5. Policy Implications and Conclusion

The FZs have been put into effect in various countries with expectations such as employment creation, income generation, export growth and diversification. The FZs are also expected to lead to skills upgrading, female employment, technology transfer and regional development. In general, the main beneficiaries of free zones are externally-oriented large scale domestic capital as well as TNCs. While they get support from the authorities setting up and subsidizing the FZs, small-to-medium scale local capital cannot have equal access to the offered benefits. This general expectation on free zones needs to be tested in specific country cases. Being beyond the limits of this paper, for an in-depth discussion of Turkish FZs in terms of fractional conflicts, firm-level studies are also required. An evaluation of these companies in terms of their scales, origins of ownership, sectoral foci and forms of integration with domestic as well as global accumulation (export/import; production/trade etc.) will allow developing a finer level of analysis.

On this basis, we can summarize the findings of our analysis as follows: First, the geographical distribution of FZ exports has shown that Turkey captures a higher share of the FZ exports than foreign countries. She has been net importer with the zones. Second, Turkish zones have been dominated by domestic rather than foreign capital.

Third, the high share of capital and intermediate goods in FZ exports to Turkey compared to the low share of FZ exports in Turkey's total exports prove the fact that the zones have been used to increase international competitiveness of Turkish capital mainly via the provision of cheaper inputs for domestic production, while export-oriented manufacturing production remains secondary.

Fourth, Turkish zones mainly use foreign inputs indicating a low level of backward linkages and indirect employment effect.

Fifth, the exports of the FZs have increasingly exceeded their imports since the mid-1990s which may be a sign of adding value (though in low levels) to what FZs purchase.

Sixth, state policies encourage export-oriented production in the zones instead of purchasing and selling. This indicates a need for a structural shift for the zones that have been trade-focused.

Seventh, in order to answer whether industrial activities are diversified or not, we examined the sectoral distribution of manufacturing exports. What comes to the front is that manufacturing dominates the exports of Turkish FZs with a rising trend. The focus on the distribution of manufacturing exports in the FZ shows that medium-tech industries continue to be at the centre of FZs' activities. Machinery makes the bulk of the manufacturing exports.

The analysis has also revealed to what extent the Turkish zones have served to a shift from low-value added to high-tech industries. This focus is particularly important given the fact that Turkey aims to enhance industrialization by increasing the share of higher-value added sectors in Turkish manufacturing production and exports. Turkey specialized in labour- and resource-intensive sectors during the post-1980 export orientation period. After exploiting low real wages and export subsidies as the basis of the export orientation of the industry, Turkish capital needed enhanced mechanization and higher-value added production if it was to achieve a higher level of capitalist development (Gültekin-Karakaş, 2009). Therefore, a structural transformation has been increasingly required to increase the shares of medium and high technology-based sectors in the manufacturing industry's production and export. Indeed, the signs of this change have already been observed in Turkey since the late 1990s. While the share of the medium and high technology sectors in total export almost doubled between 1996 and 2006, the share of low technology sectors decreased. However, the share of high technology sectors is still very low at around 4% (Ercan, Gültekin-Karakaş and Tanyılmaz, 2008). This study sheds light on to what extent Turkish free zones have been integrated into the shift in Turkish manufacturing. While many of the zones have continued to be oriented towards low- and medium-tech industries, some of them have succeeded to engage in high-tech based industries. This indicates that FZs in Turkey have become a part of Turkey's new industry policies that aim to enhance high-tech production.[20]

[20] The Turkish government has recently taken some measures in order to increase the efficiency of the zones so that they can be attractive to global companies. The legal changes in 1 January 2009 encouraged export-oriented production in the FZs by allowing the extension of operation licenses up until 49 years. This meant that wage income tax exemption in the zones would be valid until the end of the maturities of licenses. Furthermore, Eximbank credits which have been used to support domestic exporter firms started to be allocated also to the exporter firms in the FZs (see Kantarcı, M.A. 'Serbest Bölge ve Turizme Eximbank Kredisi Müjdesi', *Referans Daily*, 8 April 2009). The exclusion of the FZs from Eximbank's support had been continuously criticised by the FZs' directories (see the statement by Zahit Oğurlu, the General Secretary of KOSTBİR- the Association of Kocaeli FZ Shipbuilders, in 'Biz de Türkiye'nin Gemi İnşa Tersaneleriyiz', http://www.denizhaber.com , 20 February 2009).

References

Arslan, I., & Yapraklı, S. (2007). Serbest Bölgelerin Ekonomik Etkileri: Gaziantep Serbest Bölgesi'nin Etkilerine İlişkin Bir Saha Araştırması. *Gaziantep Üniversitesi Sosyal Bilimler Dergisi*, 6(2), 91-102.

Balasubramanyam, V. N. (1988). Export processing zones in developing countries: theory and empirical evidence, in David Greenaway (ed.) *Economic Development and International Trade,* London: Macmillan, 157-165.

Baş-Uçar, R. (2004). Fazla Havaya Girmiyorum. *Para Ekonomi*, October, 32-33.

Brenner, R. (2001). The World Economy at the Turn of the Millennium Toward Boom or Crisis. *Review of International Political Economy*, 8(1), 6-44. doi:10.1080/09692290010013828

Burns, J. G. (1995). Free Trade Zones: Global Overview and Future Prospects. *Industry Trade and Technology Review*, September, 35-47.

Chen, X. (1994). The Changing Role of Free Economic Zones in Development: A Comparative Analysis of Capitalist and Socialist Cases in East Asia. *Studies in Comparative International Development*, 29(3), 3-25. doi:10.1007/BF02687146

Cling, J., & Letilly, G. (2001). *Export Processing Zones: A Threatened Instrument For Global Economy Insertion?* (DIAL Document de Travail No. 17). Retrieved 2011, May 11, from http://ideas.repec.org/p/dia/wpaper/dt200117.html#download

Deloitte (2006). *Free Trade Zones of Turkey*, July, Retrieved 2010, February 29, from http://www.deloitte.com/assets/Dcom-Turkey/Local%20Assets/Documents/turkey-en_corser_ftz_310 107.pdf

Demirel, M. (2004). Ticaret Hacmindeki Trend Güçlenerek Devam Edecek. *Dünya Daily*, 16 April.

Dogruel, F., Dogruel, S. and Izmen, U. (2010). Changes in Exchange Rates and the Performance of the Manufacturing Sectors in Turkey. Paper presented at the 30th Annual Meetings of the Middle East Economic Association, Allied Social Science Associations, January 3-6, 2010, Atlanta.

DTM (Undersecretariat of Prime Ministry for Foreign Trade), General Information on Turkish Free Zones, http://www.dtm.gov.tr/dtmadmin/upload/SB/ABIliskilerDb/General_nfo.pdf (access on 29.02.2010)

Ercan, F., Gültekin-Karakaş, D. and Tanyılmaz, K. (2008). Türkiye'de Sermaye Birikimi, Sanayileşme Politikaları ve Sektörel Değişimler (Capital Accumulation, Industrial Policies and Sectoral Shifts in Turkey), in *Çeşitli Yönleriyle Cumhuriyetin 85'inci Yılında Türkiye Ekonomisi*, Gazi University Publications.

Erdoğan, E. and Ener M. (2009). The Place and Importance of Turkish Free Trade Zones in the Process of EU Membership. Paper presented at EconAnadolu 2009: Anadolu International Conference in Economics, 17-19 June, Eskişehir, Turkey.

Gültekin-Karakaş, D. (2009). *Global Integration of Turkish Finance Capital: State, Capital and Banking Reform in Turkey*. Saarbrücken , Almanya: Vdm Verlag Dr. Müller Aktiengesellschaft & Co. Kg.

Hisarcıklılar, M., Gültekin-Karakaş, D. and Aşıcı, A. A. (2009). Can FDI be a Panacea for Unemployment?: The Turkish Case. Paper presented at the "Workshop on Labour Markets, Trade and FDI", Istanbul Technical University in collaboration with University of Nottingham, October. SSRN Working paper series, http://ssrn.com/abstract=1725779

ILO (1996). *Globalisation of the Footwear, Textiles and Clothing Industries: Effects on Employment and Working Conditions*, Geneva.

ILO (2002). Employment and Social Policy in Respect of Export Processing Zones (EPZs), Report by Committee on Employment and Social Policy.

ILO (2003). ILO Database on Export Processing Zones, Retrieved 2010, February 29, from http://www.ilo.org/public/english/dialogue/sector/themes/epz/epz-db.pdf

IMF (2003). IMF Completes Sixth Review, Grants Waivers, and Approves Disbursement of US$502 Million under Stand-By Arrangement with Turkey. Press Release No. 03/223, December 18, Retrieved 2010, April 25, from http://www.imf.org/external/np/sec/pr/2003/pr03223.htm

Johansson, H., & Nilsson, L. (1997). Export Processing Zones as Catalysts. *World Development*, 25(12), 2115-2128. doi:10.1016/S0305-750X(97)00103-4

Kibritçioğlu, A. (1996). Free Zones in Turkey and Their Macroeconomıc Effects. Revised version of the paper for Seminar on the Concepts and Instruments of the Economic Development in Turkey: A Model for Palestine?, 26-30 October 1995, Antalya, Turkey, Retrieved 2010, February 29, from http://ideas.repec.org/p/wpa/wuwpit/0301001.html

Kocaman, B. (1994). Serbest Bölgeler ve Bölgesel Kalkınma . *İktisat İşletme ve Finans*, 9(103), 25-29.

Kocaman, Ç. B. (2007). Serbest Bölgelerin Makroekonomik Etkilerinin Değerlendirilmesi: Türkiye Örneği [The Evaluation Of Macroeconomic Impact of Free Zones: Turkey Case]. *Ankara Üniversitesi Hukuk Fakültesi Dergisi*, 56(3), 99-135.

Madani, D. (1999). *A Review of the Role and Impact of Export Processing Zones.* Washington, DC: World Bank. doi:10.1596/1813-9450-2238

Mathews, J. A. (1996). High Technology Industrialization in East Asia. *Journal of Industry Studies*, 3(2), 1-77.

Merk, J. (2009). Jumping Scale and Bridging Space in the Era of Corporate Social Responsibility: Cross-border Labour Struggles in the Global Garment Industry. *Third World Quarterly*, 30(3), 599-615. doi:10.1080/01436590902742354

Mum, E. (2004). Vergi Uygulamasının Serbest Bölgelere Etkisi. *Dünya Daily*, 16 April.

Organ, I. (2006). Do Tax-Free Zones Create Employment? The Case of Turkish Free Zones. *SEER South East Europe Review for Labour and Social Affairs*, (04), 127-140.

Pearce, R. (2008). Strategies and the Economic Development of Small Economies: A Tale of Two Transitions. *Management International Review*, 49(1), 81-94. doi:10.1007/s11575-008-0126-5

Pigato, M., Farah, C., Itakura, K., Jun, K., Martin, W., Murrell, K. and Srinivasan, T.G. (1997). *South Asia's Integration into the World Economy*, Washington, DC: World Bank. doi:10.1596/0-8213-4039-5

Sandbrook, R., & Romano, D. (2004). Globalisation, extremism and violence in poor countries. *Third World Quarterly*, 25(6), 1007-1030. doi:10.1080/0143659042000256869

Tekeli, I., & Ilkin, S. (2011). *Dünyada ve Türkiye'de Serbest Üretim Bölgelerinin Doğuş ve Dönüşümü*. Ankara, Türkiye: Yurt Yayınları.

TÜSİAD (2008). *Türkiye'nin Üretim ve Dış Ticaret Yapısında Dönüşüm*, February, Publication No: TÜSİAD-T/2008-02/453.

Tüzmen, K. (1992). Mersin Serbest Bölgesi ve Tekstil Konfeksiyon . *İşletme ve Finans*, 7(75), 39-47.

Tüzmen, K. (2003). Serbest Bölgelerin Ekonomiye Katkısı Artacak. *Free Zone*, İstanbul Trakya Free Zone Publication, Winter, 4-6.

Üçışık, S. (1999). Türkiye'de Serbest Bölgeler. *Marmara Coğrafya Dergisi*, No:2, İstanbul, 243-254.

World Bank (2008). *Special Economic Zones — Performance, Lessons Learned, and Implications for Zone Development*, Washington, DC, April

Yüksel, S. (2005). Cari Açığın Faili Bulundu. *Yeni Para*, 4-10/9, 34-35.