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Economics of 'Policy-Induced' Fragmentation

The Costs of Closures Regime to West Bank and Gaza

by
Sebnem Akkaya
Norbert Fiess
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ABBREVIATIONS AND ACRONYMS

ARDL	Autoregressive Distributed Lag
DAIS	Development Alternatives, Inc
ECM	Error Correction Model
EU	European Union
GDP	Gross Domestic Product
NIS	New Israeli Shekel
PCBS	Palestinian Central Bureau of Statistics
UNSCO	United Nations Special Coordinator Office
WBG	West Bank and Gaza

ABSTRACT

Israeli security measures, which were increased in response to the Intifada in 2000, have imposed a major cost on the economy of the West Bank and Gaza, and are heavily undercutting its current and future developmental capacity. The closures regime - the multi-faceted system of restrictions on the movement of goods and people both within the West Bank and Gaza and through Israel to the rest of the world - along with construction of the "Separation Barrier" have fragmented the West Bank's and Gaza's economic space, and have further reduced their productive potential. The aim of this paper is to estimate the economic costs of the closures regime on the Palestinian economy.

Key words: Paris Protocol, Palestine, Economic Integration, Closures Regime, Remittances, Border, Trade.

AVANT-PROPOS

Les mesures de sécurité israéliennes, qui ont été intensifiées en 2000 en réponse à l'Intifada, ont imposé un coût majeur à l'économie de la Cisjordanie et Gaza et constituent un obstacle de poids à leur capacité actuelle et future de développement. Le régime de fermeture - système multi-facettes de restrictions sur le mouvement de biens et de personnes tant en Cisjordanie et Gaza que par le biais d'Israël au reste du monde - joint à la construction de la "Barrière de séparation" ont fragmenté l'espace économique de la Cisjordanie et Gaza et ont encore réduit leur potentiel productif. Le présent document vise à estimer les coûts économiques du régime de fermeture sur l'économie palestinienne.

Mots clés : Protocole de Paris, Palestine, Intégration économique, Régime de fermeture, Envois de fonds de l'étranger, Frontière, Commerce.

خلاصة

أدت التدابير الأمنية الإسرائيلية، التي ازدادت نتيجة لاندلاع الانتفاضة في عام 2000، إلى فرض أعباء كبيرة على الاقتصاد في الضفة الغربية وقطاع غزة، مما يؤدي بدوره إلى تحجيم القدرات الإنمائية الحالية والمستقبلية لهذا الاقتصاد على نحو بالغ. وقد أدى نظام الإغلاق - وهو عبارة عن نظام متعدد الأوجه من القيود المفروضة على حركة البضائع والأفراد داخل الضفة الغربية وقطاع غزة وعن طريق إسرائيل إلى باقي أنحاء العالم - إلى جانب بناء "جدار الفصل" إلى تفتيت الحيز الاقتصادي للضفة الغربية وقطاع غزة، وتقليص قدرتهما الإنتاجية. تهدف هذه الورقة إلى تقدير التكاليف الاقتصادية الناجمة عن نظام الإغلاق على الاقتصاد الفلسطيني.

كلمات أساسية: بروتوكول باريس، فلسطين، التكامل الاقتصادي، نظام الإغلاق، التحويلات، الحدود، التجارة.

INTRODUCTION

The signing of the peace treaty under the Oslo accord in 1993 generated high expectations for economic development of Palestine (World Bank, 1993). Peace and stability were seen as key for domestic economic activity to attract foreign direct investment and to foster regional coordination and integration. In addition, a broad commitment by the international community to underwrite part of the cost of the Palestinian reconstruction program was seen as supplying much needed capital and foreign exchange. The Protocol on Economic Relations (the Paris Protocol) signed in 1994 set the stage for a higher level of economic integration than that implicit in a standard customs union.¹ The Paris Protocol aimed to correct some of the development disparities by eliminating Israeli trade barriers on Palestinian agricultural products; removing restrictions on economic activities; developing financial institutions; creating a legal and regulatory framework and reducing political and economic uncertainty.

Unfortunately, these hopes have never fully materialized. The tensions in Israeli-Palestinian relations have led to the emergence of the closures regime, which is the multi-faceted system of restrictions on the movement of goods and people both within the West Bank and Gaza (WBG) and through Israel to the rest of the world. This has prevented any serious movement toward reconstruction and development of the Palestinian economy (Cobham 2001; Fisher et al. 2001). The second Palestinian Intifada that began on 28 September, 2000 prompted a re-invasion of most of the West Bank by the Israeli Army in March 2002 as well the intensification of a highly restrictive closures regime, reinforced by Israel's construction of the "Separation Barrier."

The closures regime has created barriers to trade and to labor mobility for Palestinian workers into Israel, it has also prevented foreign providers of technical services from entering WBG. These barriers stem from external closures combined with fixed and mobile security checkpoints inside the West Bank; the tightening of Israeli permit policies and the security risks of traveling to WBG to provide services on site. Together they inflict substantial economic costs, both current and future.

The closures regime has further led to increased fragmentation of the West Bank Economy. WBG is effectively a landlocked economy today. In the case of Gaza this is

¹ Arnon and Weinblatt (2001) provide a summary of the Paris Protocol negotiations.

solely due to political arrangements following the Israeli disengagement in September 2004 that has restricted external access to land-crossing points. The economic space of the West Bank has become divided into small pieces via an elaborate system of internal fixed and mobile checkpoints. Checkpoints and internal closures within the West Bank in particular hurt rural communities and the agricultural sector. Rural communities in the West Bank have traditionally depended on urban areas for trading, employment, food and household supplies, and for access to services. Closures have affected these ties and their negative impact is particularly visible in transportation costs and price differentials for perishable agricultural goods.²

Closures are exerting both a direct and an indirect effect on Palestinian income. Closures reduce labor incomes; they also disrupt trade flows, investment and domestic production. The economic cost of the closures regime, which amounts to the 'policy-induced' fragmentation of the West Bank and Gaza economic space, has been the subject of several studies. Diwan and Shaban (1999) and Fisher et al. (2001) demonstrate the devastating impact of the closures regime on the Palestinian economy. While Fisher et al. (2001) show that both external and internal factors have contributed to the disappointing performance of the Palestinian economy in the first five years after the Oslo agreement (1994-99), they argue that among external factors accountable for the poor performance the closures regime dominates. Fisher et al. (2001) considered the variations in labor income and put the economic costs of closure (in terms of GDP) between -9.7 % in 1994 and -1% in 1995.

Following the outbreak of the second Intifada in 2000, both the frequency and duration of closures increased dramatically. This motivates us to attempt a more comprehensive analysis of the economic costs of closure.

The combined negative impact of barriers to trade and to movement of people is more than their simple sum. The direct loss of income by Palestinian workers in Israel can be approximated through restrictions in permits issued to Palestinian workers, but other effects are more difficult to estimate. The loss of income by Palestinian workers indirectly affects the economy through reduced expenditure on total production. Security concerns often prevent specialists from Israel and other countries from providing

² Arnon and Weinblatt (2001)

essential services. Similarly, in the absence of barriers to trade in goods and services, downward pressure on both wages and prices of non-tradable goods should have created new business opportunities for exports and should also have enhanced international competitiveness. In the presence of barriers, these opportunities cannot materialize.

The objective of the paper is to assess the combined impact of closures on the West Bank and Gaza (WBG) economy. In contrast to earlier studies, we take a comprehensive approach combining econometric modeling with estimates derived from the fall in the number of work permits; increased transportation costs and deviations from trends in foreign trade, etc. Using unpublished data, we quantify the impact of closures on WBG economy. Due to the absence of a counterfactual as well as lack of data, estimating the costs of closures is difficult and we acknowledge that our estimates are likely to be highly conservative as they abstract from multiplier effects. At the same time, our analysis corroborates earlier results which demonstrate a negative impact of the closures regime on the growth dynamics of the WBG economy.

The remainder of this paper is organized as follows. Section 1 documents trends in closures and the resulting fragmentation of the West Bank and Gaza economic space. Section 2 estimates linkages between closures and growth using a dynamic macro econometric model. Section 3 quantifies losses due to the contraction in labor flows and workers' remittances from employment in Israel. Section 4 identifies changes in trading costs that may be directly attributable to the fragmentation of economic space both within the WBG and with Israel. Section 5 estimates the impact of closures on exports. Section 6 discusses areas of economic activity that the closures regime effectively precludes. Section 7 concludes. Annex 1 presents a case study of adjustment problems faced by a furniture firm. Annex 2 lists problems faced by Palestinian firms that comparable Israeli firms do not encounter.

1. The closures regime

1.1 The extent of closures

The closures regime has its roots in the Six-Day war of 1967, when the West Bank and the Gaza Strip were declared closed military areas. In 1972 Israel issued general exit orders, allowing free mobility into Israel and East Jerusalem, as well as between the Gaza Strip and the West Bank outside the hours of 1am and 5am.

In June 1989, Israel introduced a magnetic card system for border crossing which excluded released prisoners, former administrative detainees, or residents who had been detained but not charged.

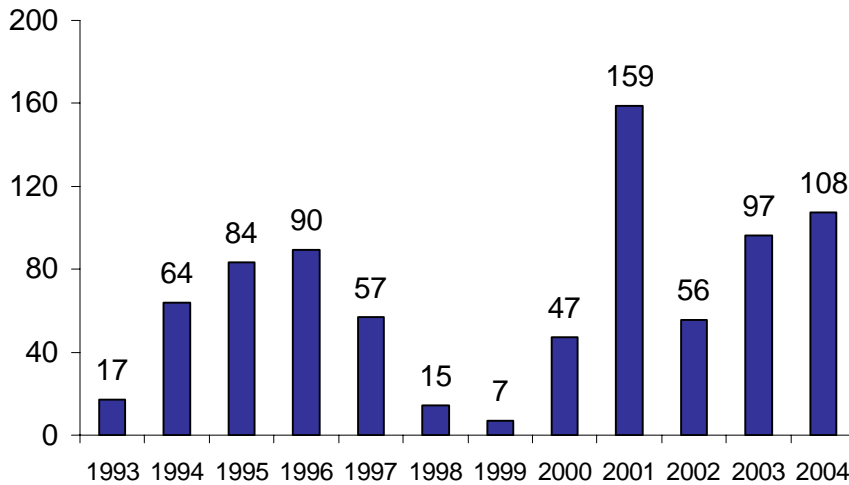
General exit permits were revoked in January 1991 (first Gulf War) and replaced with a personal exit permit scheme. Following a series of stabbings in 1993, Israel introduced a system of general closure, which effectively sealed off access to Israel and East Jerusalem to non-permit holders. Enforced by a series of checkpoints both at the border to Israel as well as inside the Occupied Territories, this system is still in place to day. In response to the violence, Israel has also at times imposed total closure, where even permit holders are not allowed to clear internal or external checkpoints.

Israel's closures policy consists of:

- Internal closures: free mobility inside the West Bank and Gaza are restricted.
- External closures: access from West Bank and Gaza to Israel and East Jerusalem is restricted.
- External international closures: access from West Bank to Jordan and access from Gaza to Egypt is restricted.

Data from OCHAoPt (2005) for November 2004 illustrates the extent of the closures regime. During that month, free movement of goods and labor in the West Bank was restricted by more than 600 physical barriers (more than 10 per square kilometer), consisting of 61 full-time and 6 partially staffed checkpoints, 102 roadblocks, 48 road gates, 374 earth mounds, 28 earth walls and 61 trenches. Physical mobility was further restricted by the construction of the "Separation Barrier" and the creation of a network of "Forbidden Roads", which only allows access to Jewish settlers.

Figure 1: Effective closure days(1993-2004)



Source: UNSCO database on closures.

Closures have been a constant feature of the WBG's economy since they were first introduced back in 1993. Since the outbreak of the Second Intifada in September 2000 the frequency and duration of closures have dramatically increased (Figure 1). Between September 1997 and September 2000 closures were rare and occurred on average only once every three months. The probability of a closure lasting at least one day per month increased from 33 percent in pre-Intifada times (1997Q1 to 2000Q2) to 78 percent after the outbreak of the Intifada.³ During the pre-Intifada years between 1997 and 2000, there was only one single incidence of a month-long closure, however since September 2000, closures have lasted a full month on twelve occasions.

³ During the 48 months between September 2000 and September 2004, there were only 10 months in which closures did not occur, whereas during the period 1997 - 2000, 32 months were unaffected by closures.

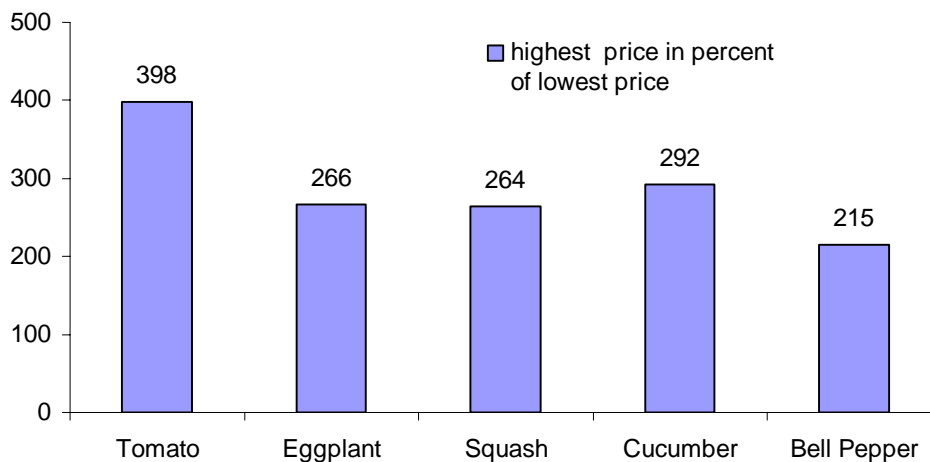
1.2. Fragmentation of economic space

Closures, Jewish settlements and the construction of the “Separation Barrier” have contributed to a significant fragmentation of the economic space in WBG. The West Bank and Gaza are today a *de facto* landlocked country as Gaza’s port and airports were bombed and the only crossing-point between Gaza and Israel, Karni, is frequently closed for days and sometimes weeks at a time. Internal fixed and mobile checkpoints have chopped the economic space of the West Bank into small pieces.

The economic costs of fragmentation are clearly visible in price differentials between local mini markets in the West Bank. A price comparison of selected agricultural products in several localities in the West Bank on February 15, 2006 reveals substantial price differentials. As closures were not particularly severe on that particular day, these price gaps are indicative of the extent to which agricultural markets in the West Bank have been subject to the uncertainties of closures.

Figure 2 shows that differences between the highest and lowest retail price for tomatoes, eggplants, squash, cucumbers and bell peppers ranged between 215 and 400 percent. Prices in Ramallah were on average 79 percent higher than in Nablus, even though Ramallah and Nablus are only about 40 kilometers apart.

Figure 2: Retail prices per kilogram on February 15, 2006 in 11 towns and cities in West Bank (in percent)



Source: World Bank

Due to communication technology, traders are well aware of these price differences. However, they do not act on this information as the risks of a shipment being tied up at an internal crossing point outweigh any benefit of price arbitrage. The stakes are highest for fresh produce, as the whole shipment could spoil if not delivered on time.

Although transport costs also affect these price differentials, the uncertainty of closures is clearly the dominant factor. According to the Ministry of Agriculture, transport costs ranged from 4 percent and 17 percent of the retail value of vegetable consignments in February 2006. Even the cost of transporting a consignment from Bethlehem to Gaza amounted to only 13 percent of its retail value. Had transport costs been the only factor taken into account by traders, they clearly would have moved products between markets lowering price differentials in the process.

While transportation costs pale in comparison to the uncertainties of closure, altered transport costs have changed geographical patterns of internal trade. Higher transportation costs, together with the prohibition on Israeli traders to buy directly from Palestinians within the West Bank, in addition to other internal restrictions, have led to a relocation of wholesale agricultural trade from Nablus to Beta, Farah and Badan in the West Bank.

2. Closures and growth dynamics

Economic activity in WBG is heavily influenced by external factors. WBG has been one of the largest recipients of foreign aid; in addition, “imposed, incomplete economic integration” (Arnon and Weinblatt, 2001) with Israel ties it closely to economic activity there and to developments in Israeli-WBG security relations, as reflected in the closures regime.

To investigate the impact of the closures regime on growth dynamics in Palestine more formally, we model growth in WBG, ΔY_{pa} , as an autoregressive process adding a measure of closure alongside other variables controlling for internal and external determinants of growth. The impact of the closures regime is proxied by the ratio of days worked net of closure (effective working days) to the number of potential working days, eff/pot . The rate of unemployment in the West Bank and Gaza, U_{pa} , GDP growth in

Israel, ΔY_{Isr} and international aid flows, Aid_t , are included to control for internal and external determinants of growth. The latter two variables account for Palestine's close dependency on Israel and on international aid flows.

We explore the behavior of growth in Palestine starting from the following log-level specification:

$$\ln Y_{PA,t} = \alpha_0 + \alpha_1 \ln U_{PA,t} + \alpha_2 \ln Y_{Isr,t} + \alpha_3 \ln eff / pot_t + \alpha_4 \ln Aid_t + \varepsilon_t \quad (1)$$

The model is estimated *via* the autoregressive distributed lag (ARDL) approach of Pesaran et al. (2001) based on quarterly data from 1993Q1 to 2005Q4. The ARDL approach has a number of appealing features. For one, it is applicable independent of whether the underlying variables are stationary, non-stationary and/or mutually cointegrated. This makes the ARDL approach less restrictive than comparable approaches. The ARDL also produces robust results in small samples (Pesaran and Shin, 1999), which is highly appealing in our setting. In addition, the inclusion of a significant number of lags resolves the endogeneity problem, and finally, a dynamic error correction model (ECM) can be derived from the ARDL to integrate short-run dynamics with the long-run relationship without losing any long-run information.

An ARDL representation of (1) is formulated as:

$$\Delta \ln Y_{PA,t} = \beta_0 + \beta_2 \ln Y_{PA,t-i} + \sum_{i=1}^n \beta_2 \Delta \ln X_{t-i} + \sum_{i=1}^n \beta_1 \Delta \ln Y_{PA,t-i} + \varepsilon_t \quad (2)$$

where X is a vector of exogenous variables consisting of U_{Pa} , Y_{Isr} , eff/pot and Aid .

The ARDL procedure involves bounds testing of (2). These bounds tests involve an F-test on the joint null hypothesis that the coefficients on the level variables are jointly equal to zero (see Pesaran and Shin, 1999 and Pesaran et al., 2001). Instead of the conventional critical values, these tests involve two asymptotic critical value bounds, depending on whether the variables are I(0) or I(1) or a mixture of both. If the test statistic exceeds their respective upper critical values, then there is evidence of a long-run relationship. If the test statistic exceeds its upper bound, then the null of no cointegration

can be rejected regardless of the order of integration of the variables. Inference is only inconclusive if the test statistic lies between the bounds.

If cointegration cannot be rejected, the conditional long-run model is then produced from the reduced form solution of (2), when the first-differenced variables jointly equal zero. The long-run coefficients and error correction model are estimated by the ARDL approach to cointegration, where the conditional ECM is estimated using OLS and the lag structure for the ARDL specification of the short-run dynamics is determined by the Schwarz-Bayesian criteria.

Our econometric analysis of WBG growth dynamics confirms that the level of economic activity in WBG are closely tied to economic activity in Israel; foreign aid; and developments in Israeli-WBG security relations, as reflected in the closures regime (Table 1). The impact of foreign aid on the GDP, as captured in our growth equation, is positive, but smaller than that of closures: a 10 percent increase in aid raises the real GDP of WBG around 0.9 percent.

Table 1: Key determinants of WBG economic activity

ARDL			Error correction representation		
Dependent Variable: $\ln Y_{PA,t}$			Dependent Variable: $\Delta \ln Y_{PA,t}$		
Regressor	Coefficient	T-Ratio[Prob]	Regressor	Coefficient	T-Ratio[Prob]
$\ln Y_{PA,t-1}$	0.53831	3.7100[.003]	$\Delta \ln Y_{IS,t}$	0.95832	3.8419[.002]
$\ln Y_{IS,t}$	0.95832	3.8419[.003]	$\Delta U_{PA,t}$	-0.91289	-2.8304[.015]
$\ln Y_{IS,t-1}$	-0.73068	-3.3034[.007]	$\Delta \text{eff}/\text{pot}_t$	0.05466	1.9169[.079]
$U_{PA,t}$	-0.91289	-2.8304[.016]	ΔAid_t	0.03914	1.8290[.092]
eff/pot_t	0.05466	1.9169[.082]	$\text{Ecm}(-1)$	-0.46169	-3.1820[.008]
Aid_t	0.03914	1.8290[.095]			
<i>Constant</i>	0.91322	.41379[.687]			

with error correction term, $\text{ecm}_t = \ln Y_{PA,t} - .493 * \ln Y_{IS,t} + 1.9773 * U_{PA,t} - .118 * \text{eff}/\text{pot}_t - 0.0848 * \text{Aid}_t - 1.97$

Based on the coefficient estimates of our model, we estimate that a ten percentage-point increase in the ratio of effective to potential working days, equivalent to about 30 more days worked due to the removal of closure restrictions, increases the real GDP by 1.2 percent, or about 0.17 percent per day worked. In other words, one day of closure is estimated to cost WBG about US\$7 million in terms of lost income. These estimates are broadly in line with UNSCO estimates, which put the economic costs of one day of closure at around US\$ 8 million to the WBG economy.

While estimates in this section are based on an economy-wide macro model, the following sections try to provide some micro evidence of the direct and indirect impact of closures from labour earnings; transportation costs; trade and investment activity.

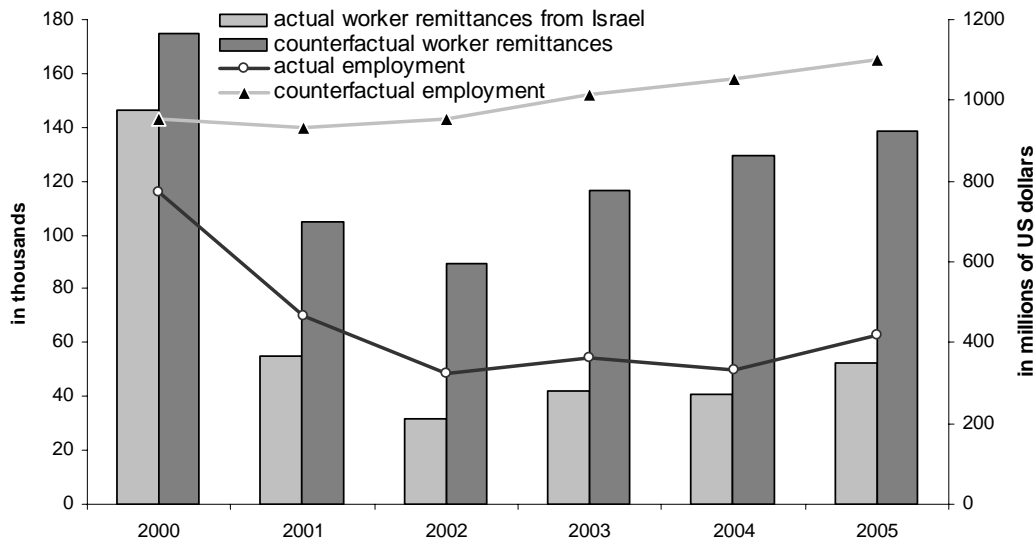
3. The impact of closures on labour earnings

Israel's security policy impacts the WBG labor market via a reduction in work permits and direct closures. Both have reduced the number of days that Palestinians can work in Israel and have therefore brought down earnings and remittances flows. To assess the impact of closures on labor incomes, we first estimate the effect of a reduction in work permits and then add the impact of closures.

Since the outbreak of the latest *Intifada* in September 2000, Israel has significantly tightened its policy of issuing work permits to Palestinians. As a result, the Palestinian workforce in Israel has roughly halved since then. From 2000Q3 in 2000Q4, the Palestinian workforce in Israel fell from 146,000 to 43,000, equivalent to a decline from 22 percent to 9 percent in terms of total Palestinian employment (both in Israel and WBG). 2001 witnessed a limited recovery and the number of Palestinians working in Israel rose to 15 percent of total WBG employment during the first two quarters of 2001. This increase however, did not last and since 2002Q4 the number of Palestinians working in Israel has stabilized at around 10 percent, approximately 65,000.

The loss of access to Israeli labor markets has significantly reduced the income of Palestinian workers: in 2005 WBG income reached only 36 percent of its pre-Intifada level. For a counterfactual estimate of workers' earnings in the absence of closures, we apply the following reasoning: had the relative share of Palestinians employed in Israel (of total WBG employment) remained at its 1999-2000 level, then in 2005 Palestinian employment in Israel would have amounted to 165,000 and earnings would have totaled US\$922 million. This stands in stark contrast to observed figures of 63,000 workers and earnings of US\$351 million (Figure 4). The difference between actual and counterfactual earnings provides an estimate for remittances lost due to a reduction in work permits of US\$571 million for 2005 alone.

Figure 3: Employment and workers' remittances from Israel in 2000–05



Source: Authors' calculations based on remittances reported by Israeli Central Bureau of Statistics and employment reported by Palestinian Central Bureau of Statistics.

External closures have added to the negative impact of a reduction in work permits. This impact can be gauged by the strong contraction in workers' earnings since 2000. As wages have remained fairly constant during this period, it seems reasonable to attribute the fall in earnings to a decline in working days due to external closures; had Palestinians worked in 2005 the same number of days and for the same average wage as in 2000, their earnings would have been US\$179 million higher in 2005 than they actually were.⁴

Table 2 brings together the combined impact of a relative decline in Palestinian employment in Israel and a fall in remittances per employee due to the closure-related reduction in number of days worked. For 2001-05, the employment-related loss is estimated at US\$2.4 billion and the closure-related loss at US\$928 million; equivalent to total losses of US\$3.3 billion (Table 2). In 2005, employment- and closure-related losses are estimated at US\$750 million - the equivalent of 58 percent of total foreign aid

⁴ This is based on the following reasoning: Total annual workers' remittances per number of employed fell from US\$8,400 in 2000 to US\$4,300 in 2002, this rebounded to US\$5,400 and US\$5,600 in 2004 and 2005 respectively. Since wages of Palestinians employed in Israel did not fall, the drop in remittances per employee can be attributed to the loss of days worked in Israel due to closures. The estimate is based on remittances per employee in 2000.

(US\$1.3 billion) provided to the Palestinian Authority in that year.⁵

Table 2: Estimated losses in workers' remittances from Israel because of cuts in employment and closures in 2001–05 (in millions of U.S. dollars)

	2001	2002	2003	2004	2005	Total in 2001–05
Losses because of the fall in employment	342	385	500	588	571	2,386
Losses because of closures	222	200	178	149	179	928
Total losses	564	585	678	737	750	3,314

Source: Remittances from Israeli Central Bureau of Statistics and employment as reported by Palestinian Central Bureau of Statistics (PCBS).

These estimates are likely to represent a lower bound estimate of the income lost to external closures. The overall income effect of the reduction in Palestinian employment in Israel is expected to be much higher as indirect effects of reduced expenditures on total production would also need to be factored in, but cannot readily be quantified.

The adverse impact of the Israeli security regime on economic welfare in WBG is further exacerbated by the fact that wages in Israel are generally higher and dependency ratios in WBG are very high. For example, average wages earned by Palestinians in Israel are about two-thirds higher than in WBG. Dependency ratios of 5.5 for the West Bank and 8.2 for Gaza imply that 600,000 to 800,000 individuals, i.e., 18 to 24 percent of the total population in WBG, were affected by 100,000 closure-related job losses.

4. The impact of closures on trading costs

Closures raise the costs of doing business in WBG. The uncertainty of closures implies higher transaction costs for production and trade; these are because of higher transport costs and shipment delays. In addition, the high probability of outright closures makes shipments both within and outside the WBG extremely risky. Potential losses depend on product specifics and can range from the loss of the entire shipment (e.g., in the case of perishable agricultural products) to the cost of capital tied up in a shipment (see Annex 1). The uncertainty of in-time delivery (both on the demand and the supply side) further completely eliminates WBG producers from participating in supply chains with short response times - for example, specialized garments or automobile parts.

Back-to-back transit arrangements further add to transportation costs. As trucks

⁵ See *West Bank and Gaza Update*, A Quarterly Publication of the West Bank and Gaza Office (World Bank, April 2006).

are generally not allowed to enter Palestinian urban areas, upon arrival at a checkpoint cargo is unloaded and then re-loaded onto another truck at entry point. Back-to-back transport is not only costly in terms of additional handling charges, delivery delays and lost time; quality also often suffers due to handling. Khatib (2005) estimates that around 50 trucks per day and per city pass through commercial checkpoints in this back-to-back manner.

The back-to-back system increases the cost of transportation for both finished products and raw materials. It is estimated that the added costs of transport are as follows⁶:

- The transfer of raw materials from one trailer to another costs about US\$75 - US\$86 because of additional handling and increased trailer costs.
- Waiting in line at the checkpoint; demurrage; delays because of closure and security checks.
- In the case of bulk materials, associated costs are even more important because of product damage during the loading and unloading process.
- Vegetable exporters from the West Bank state that the back-to-back transit arrangements imposed on them since October 2005 has introduced regular 24-hour delays.⁷

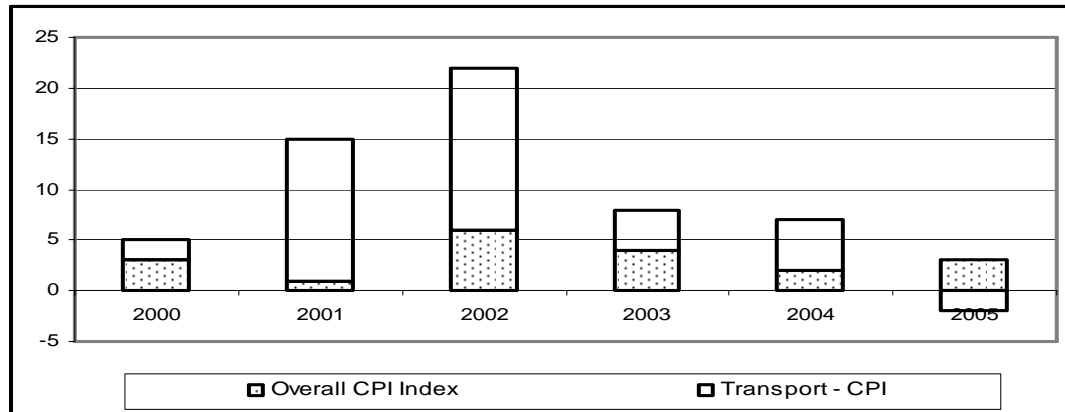
Since the increase in transportation costs has taken effect over five years of extensive closures, higher transport costs have been gradually “internalized”. Relative to 2001 and 2002, the difference between transport price inflation (a proxy for transaction costs) and overall consumer price inflation declined in 2003 and 2004 and was negative in 2005, suggesting no further aggravation to movement restrictions in that year (Figure 4).⁸

⁶ Data from Khatib (2005) complemented by interviews.

⁷ World Bank (2006a) and World Bank (2006b) and World Bank (2006c).

⁸ World Bank (2006d).

Figure 4: Change in CPI index and in transportation costs relative to CPI 2000–05 (in percent)



Source: PCBS and ICBS.

The change in transportation costs relative to CPI does not take into account the closures-induced decline in the (total factor) productivity level of the transport sector. The estimated decline has amounted to about 33 percent since the outbreak of the Intifada. For example, a truck that was able to make three rotations per day before the Intifada now makes only two rotations.⁹ This has significantly raised unit transportation costs.

Interviews with two major Ramallah-based transport companies provide further evidence of substantial increases in transportation costs along major trading routes in the West Bank since the outbreak of the Intifada. Table 3 presents cost estimates of increased travel distance during the Intifada years. To provide proxy costs for extra travel distance (abstracting from other transportation costs, i.e., increases in fuel prices, labor costs), we apply the same fuel and labor costs as in 2005 to both pre- and post-Intifada years. Fuel cost estimates are based on NIS4.4 per liter and a fuel consumption of 5 km per liter per truck. Labor costs include additional time spent by one driver, assuming a monthly salary of NIS 2,200 and a workweek of 48 hours (192 hrs a month).

⁹ World Bank (2006d).

Table 3: Increase in transport costs along major trade routes because of larger distances in Dec. 2005

From Ramallah	Pre-September 2000			December 2005 Alternative Route # 1				December 2005 Alternative Route #2			
	Time	Distance	Cost	Time	Distance	Cost	% change in cost over pre- Sept. 2000	Time	Distance	Cost	% change in cost over pre- Sept. 2000
To:											
Bethlehem	35	25	29.1	90	80	86.0	195%	210	105	130.4	348%
Nablus	60	50	54.4	90	60	68.6	26%	180	90	111.8	105%
Jenin	90	90	94.6	210	140	160.5	70%	420	200	252.2	167%

Source: Interviews conducted by Nithya Nagarajan.

The back-to-back system, longer waiting times, and higher uncertainties often prompt companies to send more than just one driver. These additional labor costs are however not factored into our above estimates, as they are related with higher uncertainty that is distinct from costs associated with extra travel distance. The estimates presented here also do not account for the resulting drop in total factor productivity of the transport sector.

A series of interviews with transport companies further indicate that restricting access to major agricultural trading centers such as Nablus, Jenin, and Jerusalem, closures have raised transportation costs more than 100 percent along major trading routes, compared to the pre-Intifada period. This suggests that our data-driven estimates are very conservative.

Although both Palestinian and Israeli firms operate in the same trading zone, (the Israeli customs envelope), closures are not the only differentiating factor between them. For security reasons, shipments originating in WBG face different border procedures and Israeli firms do not confront “internal economic” borders. As a consequence, WBG businesses experience significantly larger transaction costs, although their impact on the cost of imported goods varies depending on their unit values. Low value, bulky products are more affected (see Annex 2).

An Israeli firm operating in the same sector as its WBG counterpart is better situated to compete both externally and internally. An Israeli firm has one important advantage over a WBG firm: even if it has higher costs, it can compete in WBG markets, whereas a WBG firm with a similar cost structure would be unable to compete in Israel because of higher trading costs owing to discriminatory procedures at the crossing points

and back-to-back operations. The disadvantage of a WBG firm in terms of its capacity to compete in Israel rises again when production requires imported inputs.

5. The impact of closures on external trade

While back-to-back transit arrangements increase transports costs inside West Bank and Gaza, transport costs for external trade are further inflated by special security requirements for Palestinian firms at the external border. Both exporters and importers from WBG are confined to the use of Israeli transport companies when goods are destined for WBG or leaving WBG through Israel. Furthermore, shipments have to be reloaded at the crossing points with Israel and are subjected to screening procedures.¹⁰ In this section we attempt to estimate the impact of closures on external trade.

Estimating the impact of closures on trade is a complicated endeavor. For one, it is almost impossible to fully isolate these impacts from other effects, such as supply-side disruptions due to civil unrest;¹¹ breakdowns in output; and a shift in preferences of foreigners away from WBG exports, due to uncertainties about contract fulfillments.¹² For imports, it seems reasonable to assume that, with the exception of perishable goods, all contracted imports were honored, although possibly at a premium. For exports, the picture is even more complicated since WBG firms have to compete with firms not affected by the closures regime and therefore faces higher transaction costs.

We focus on closure-related losses of exports and apply a similar strategy as for labor income losses: we assume that in the absence of the latest *Intifada*, exports would have grown at historical rates. The difference between these extrapolated exports and observed exports provide a first proxy of the impact of closures, although this measure does not attempt to separate closures from disruptions. Figure 5 shows actual exports and

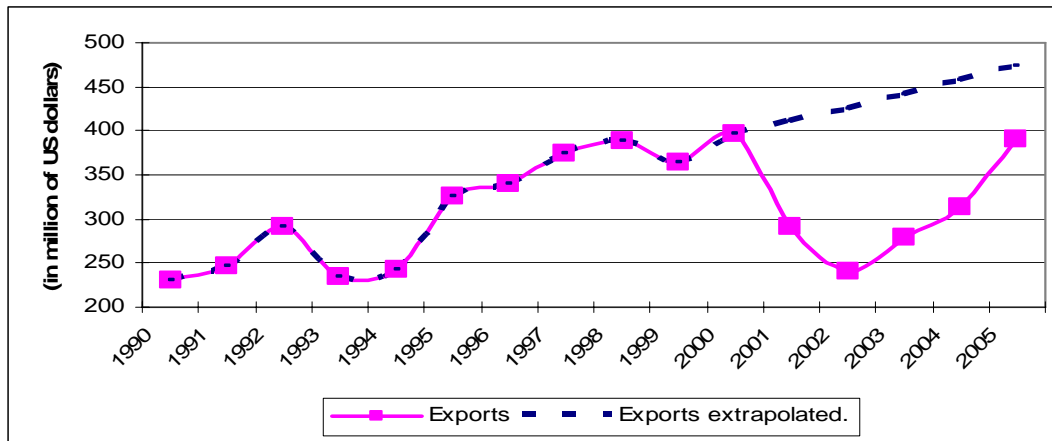
¹⁰ Khatib (2005) further alludes to less favorable treatment of Palestinian firms at the border.

¹¹ The contraction in exports was not only due to closures but also to difficulties in sustaining production activity during the civil unrest. Furthermore, many industrial sites were either damaged or destroyed. Thus, the supply side was also negatively affected not only by closures but an overall unstable business environment.

¹² Foreign importers of WBG products can choose from a wide range of suppliers. There is no data available on the number and value of contracts cancelled by foreign importers due to the unpredictability of deliveries. One can only speculate as to the value of contracts not awarded because of uncertainty concerning deliveries.

extrapolated exports, based on an observed 3.5 percent annual average growth rate from 1997 to 2000. To illustrate, the difference between cumulative extrapolated and actual values of exports from 2001 to 2005 amounted to US\$693 million.

Figure 5: Total and extrapolated exports in current prices in 1990 - 2005 (in million of current US dollars)



Source: Based on data provided by PCBS.

To arrive at a more precise measure of closures-induced export losses, we consider the impact on exports either already shipped, or about to be shipped, but never delivered due to closures. This analysis builds on earlier work at the World Bank by Diwan and Shaban (1999). Using 1999 as a benchmark,¹³ we compare exports in 1999 and in 2003 by month and take these differences as a proxy for closure-related losses. We find that exports in 2003 were on average 30 percent lower than in 1999. Furthermore, we assume that portions of exports were lost, either because of delayed shipment, or because foreign importers cancelled because of continual delays. When terminals were open more frequently, as happened in 2003 and in 2004, some export activities resumed. Nevertheless, we estimate that at least 30 percent of export capacity disappeared between 1999 and 2003.

¹³ 1999 is used as a benchmark as it immediately precedes the Intifada and is also the year with the lowest number of closure days.

Table 4: Exports lost because of closures in relation to actual and hypothetical exports during 1999–2003 (in millions of US dollars, and percent)

	1999	2000	2001	2002	2003
Lost exports (in millions of U.S. dollars)	3	20	67	23	41
Lost and actual exports in percent of actual exports	100.8	105.0	123.1	109.7	114.5
Export loss in percent of actual exports	0.8	4.8	18.7	8.9	12.7
Export loss in percent of difference between extrapolated and actual exports	0	0	55.4	12.6	25.2

Source: Based on data from UNSCO database on closures, and PCBS for exports.

While very conservative, these estimates show a significant loss in exports. Without closures, exports would have been 5 percent higher in 2000, 23 percent higher in 2001 and 15 percent higher in 2003 (table 4).

Uncertainties associated with closures impact merchandise trade in the short- and medium-terms through three channels: firstly, closures erode competitiveness since WBG exporters must include higher transportation costs and extra transaction costs in their end price, and these prices may become uncompetitive in external markets.¹⁴ Secondly, closures may compel producers of agricultural products to shift from higher value-added perishable exports to lower value-added products produced for domestic markets. Thirdly, prolonged closures erode further existing export capacity by leading to bankruptcies of WBG companies.

6. Hypothetical impact on future investment activity

The main difficulty with quantifying the economic costs of the closures regime is that its major impact is on activities that are unlikely to occur as long as these policies are in place. We do not know what would have happened without the closures regime but we can be certain what will not happen while it is in place. This section presents the likely impact of the closures regime on investment activity; it is expected that the closures regime suppresses new investments and erodes the competitiveness of existing firms simply because closures make the following extremely difficult:

¹⁴ According to textiles and garments producers, the cost of using Israeli ship forwarders adds 10–25 percent to the cost of raw materials (see World Bank, 2006a)

- The shift from a currently dominant type of inter-industry trade to intra-industry or intra-product trade, associated with a more sophisticated division of labor based on narrow industrial specialization within global value chains.¹⁵
- Attracting foreign and domestic investment to more sophisticated manufacturing, which requires imported inputs.
- Expansion of existing firms through economies of scale.
- Effectively coping with competition from imports.

We have alluded throughout this paper that our estimates are likely to be highly conservative, as they do not capture all aspects of closures on both current as well as future economic activity. The true costs of closures is likely to be much higher as besides economic multiplier effects it also includes large social costs, which are not directly included in our analysis, for example, patients not receiving timely medical treatment or children missing out on education.

7. Conclusion

Israeli security measures, increased in response to the Intifada, have imposed a major cost on the WBG, heavily undercutting its current and future developmental capacity. The direct current cost relates to the reduction in the number of work permits issued by the Israeli authorities to Palestinians for work in Israel; the reduced number of days worked in Israel; the uncertainty of closures, and other measures affecting Palestinian imports (back-to-back arrangements, extra security measures). Cumulative losses between 2001 and 2005 run to billions of dollars: income forgone by Palestinian workers in Israel is estimated at more than US\$3 billion, greater than any other financial loss due to the closures regime. Cumulative loss in export earnings over this period is estimated at approximately US\$693 million. Other current losses are more difficult to capture, although it can be safely assumed that the costs of imports increased considerably as a result of Israeli security measures.

¹⁵ Global value chains usually require short, predictable delivery schedules unattainable under the closures regime.

More importantly, the current security regime eats away at the capacity for growth. It not only undercuts the competitiveness of existing businesses but also dramatically curtails the range of feasible investment opportunities in WBG. In the absence of security measures, unfettered access to markets of such a highly developed economy as Israel would be a powerful magnet for domestic and foreign investments alike.

The closures regime affects the WBG through three distinct channels: workers' remittances, current movement of goods and services, and future capacity to export. In this paper we have attempted to quantify the impact of closures within the first two channels. But the losses associated with forgone future capacity to export are impossible to assess - except that these are likely to be substantial, as the tight and unpredictable closures regime rules out the participation of WBG firms in the modern division of labor based on in-time production and inventory management. It also removes incentives to invest in these sectors, as well as in those critically dependent on economies of scale.

Hence, although much remains to be done to improve the quality of governance and business climate, reforms as well as foreign aid will have limited impact on WBG economic development unless they simultaneously remove security measures affecting movements of goods and persons between Israel and WBG, and within the West Bank.

Suspension of closures in 1998 - 2000 coincided with an almost three-year-long economic recovery in WBG, with real GDP growing 5 percent in 1998 and 6 percent in 1999 before coming to a grinding halt in the last quarter of 2000 after the outbreak of violence. In a similar vein, for the first time in more than a decade exports of goods showed some signs of growth in the second half of the 1990s, expanding in current prices at an average (least square) rate of 3.5 percent per year from 1996 to 2000.

Five years into the second Intifada which started in 2000, both the frequency and duration of closures have been extensive and the cost to the Palestinian economy, in terms of current and future income, is enormous.

While economic theory leaves little doubt that North-South integration is beneficial for a less developed economy, Israeli-Palestinian integration strongly indicates that such benefits will only materialize with an accommodating political economy. As

long as closures remain an instrument of Israeli security policy, there will be further disintegration of WBG and divergence between the two economies.

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ANNEX 1: CASE STUDY: A FURNITURE PRODUCER IN WBG

Our case study highlights the adverse impact of uncertainty in delivery and shipment on transport cost and the profitability of furniture exports. The particular case of the furniture industry has wider implications for at least three reasons: First, the furniture industry has developed significantly in Gaza, accounting for a relatively large sector of Gaza's economy today. In 2005, it included more than 600 firms employing more than 5,500 people. Second, the sector is highly dependent on imports and, to a lesser extent, on exports. Imported inputs account for almost 98 percent of raw materials, whereas exports make up an estimated 15.5 percent of production, most of which is destined to Israeli markets. But overall, fewer than 50 furniture manufacturers are engaged in export activities, and very few have successfully exported to markets outside Israel. Third, it shows the lack of prospects for future development. Furniture production is increasingly organized around large multinational retailers (for example, Ikea) establishing value chains across continents and countries. Prolonged closures forestall participation in global value chains and increase the costs of doing business in this sector.

Annex Table 1 presents data assessing the impact of closure of the Karni crossing point on a producer of furniture in Gaza, which relies on imported inputs from Slovenia and exports to the EU. When the Karni crossing is open, total transport costs of imports from Slovenia to Gaza are 17 percent of import value; total transport costs of exports amount to 9 percent of the value of exports. On balance, total transport costs (NIS12,905) amount to 40 percent of the difference between the value of exports and the value of imported inputs (NIS32,500), which approximates the value-added created in Gaza.

The profitability picture changes rather significantly when the Karni crossing is closed. Traders estimate that in the case of closures lasting more than a week, land transport cost increases up to four times of the "normal" cost, as importers and exporters have to pay extra charges for shipments stuck at the terminal. The computations presented in table Annex Table 1, assuming a four-time increase in transport charges because of a one-week closure, demonstrate the degree to which prolonged closures cut into the value-added remaining in Gaza. These extra costs amount to 77 percent of the value added in the Gaza Strip. This drastically reduces profit margins, especially since higher land transportation costs are not the only costs incurred by a producer of furniture

because of a closure. Part of the uncertainty is absorbed by raising inventories of imported inputs, but this comes at a price.

Annex Table 1: The impact of uncertainty on transport costs: An example from the wood industry in Gaza

Furniture parts	IMPORTS OPEN		IMPORTS CLOSED	
	Costs (in NIS)	In % of Load Value	Costs (in NIS)	In % of Load Value
Total Transport Costs	6,355	16.9	10,855	28.9
<i>of which:</i>				
Maritime transport	2,600	6.9	2,600	6.9
Port charges	1,875	5.0	1,875	5.0
Insurance	140	0.4	140	0.4
Ashdod-Gaza	1,500	4.0	6,000	16.0
Costs at Karni	240	0.6	240	0.6
Truckload value	37,500	100.0	37,500	100.0
Furniture	EXPORTS OPEN		EXPORTS CLOSED	
	Costs (in NIS)	In % of Load Value	Costs (in NIS)	In % of Load Value
Total Transport Costs	6,550	9.4	14,050	20.1
<i>of which:</i>				
Maritime transport	3,600	5.1	3,600	5.1
Port charges	0	0.0		0.0
Insurance	210	0.3	210	0.3
Gaza-Ashdod	2,500	3.6	10,000	14.3
Costs at Karni	240	0.3	240	0.3
Truckload value	70,000	100.0	70,000	100.0

Source: DAI (Development Alternatives, Inc.) Gaza.

ANNEX 2: DIFFERENTIAL TREATMENT WITHIN THE “CUSTOMS ENVELOPE”: PORTS OF ENTRY AND EXIT

Although Article III (13) of the Paris Protocol states that “the import and export of Palestinians through the points of exit and entry in Israel will be given equal trade and economic treatment,” reality is different, as the security regime puts Israeli firms in an advantageous position vis-à-vis their WBG counterparts.

For imports, different treatment starts at Israel’s external border. Although shipments destined for Israel and WBG are subject to the same procedures by the virtue of a customs envelope, they tend to be treated differently already at the port of entry into Israel. Higher costs do not depend on the mode of transportation—that is, by sea or air: clearance of shipments usually takes longer time due to security. Israeli imports face a “risk” of security checks amounting to 15–20 percent, whereas WBG importers face a “certainty” of security checks: all shipments destined for WBG are subject to security procedures. Cargo dwell time is one or two days for Israeli importers and at least one week for a WBG importer. According to a study by the Federation of Palestinian Chambers of Commerce, Palestinian companies exporting through the port of Haifa (as well as at Ashdod Port) faced higher costs (18 percent) and longer delays (20 percent) than comparable Israeli companies, whereas importers incurred higher costs (11 percent) and experienced much longer delays (52 percent) than Israeli companies in 2001 (FIAS 2002). Nothing indicates that the situation has changed for the better since the survey was conducted.

At Ben Gurion airport, WBG importers and exporters also face rather costly discrimination: In contrast to their Israeli counterparts, they must use dedicated cargo planes, as they are banned from using passenger planes (with some space dedicated to cargo). This is significantly more expensive, as wide-bodied passenger planes have large (often not fully used) cargo space available at attractive freight rates.

On top of the opportunity cost of capital tied up in a shipment, other expenses add up to extra costs. Containers and partial shipments weighing up to 10 tons landed in Israel may be stored free of charge at the port, or placed in public bonded warehouses or other places approved by customs for a period up to four days only. Subsequently, they are subject to a port storage fee with additional charges applied after 30 days. Containers

weighing more than 10 tons are charged after six days. Other places approved by customs often include the premises of an importing firm, but only if the firm is in Israel.

Another form of asymmetrical treatment regarding WBG importers is that they are precluded not allowed to run wholesale operations in either Israeli or WBG markets. In contrast to Israeli importers, WBG importers are required by Israeli authorities to sign a pledge that they will not sell their imported goods in Israel.

In sum, the security arrangements discriminate against WBG shipments in points of entry and exit in Israel, wiping away benefits that would be usually associated with deeper integration with a much more developed economy. They not only curb the capacity of WBG firms to compete in international markets but also subject them to competition from Israeli firms on an unequal footing. These conditions discourage entry of new firms and investments in WBG.

In addition, they also provide incentive to imports through Israeli intermediaries, although the scope of these indirect imports resulting in customs revenue losses to the WBG is difficult to estimate. To avoid paying extra costs because of border security measures, many firms directly purchase goods imported into Israel by Israeli firms. Palestinian importers of telecommunications and other high technology products resort to Israeli intermediaries. The cost of use of Israeli middlemen is some indication of extra costs incurred by importers because of security measures. Garment producers buying through these channels estimate that these costs amount to 10 to 25 percent of the value of imported materials. Since freight forwarding is highly competitive sector in Israel, this is probably a fairly accurate estimate of these costs.¹⁶

¹⁶ For detailed discussion on selected industries, see the second volume of World Bank (2006a).

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