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Palestine: a theoretical model of an Investment-Constrained Economy

Alberto Botta and Gianni Vaggi**

Abstract

The sixty-year-old Israeli-Palestinian conflict has deeply influenced the evolution of the Palestinian economy. In the last two decades persisting political instability and the Israeli closure policy have been sources of protracted economic stagnation and poor capital formation. The paper describes the consequences on the Palestinian economy of two particular conditions: high transaction costs and market fragmentation. We use a simple one-sector model which describes Palestine as a demand-driven economy and Palestinian capital accumulation as linked to desired investments by Palestinian firms. Into this framework, we show that high transaction costs discourage capital formation by curtailing expected profitability. Market fragmentation further reduces domestic investments by reducing the size of the market and depressing entrepreneurs' animal spirits. We show that in the short-run, where expectations are given, the two above facts induce low levels of capacity utilization and of capital accumulation. The situation is even more worrying in the long-run when entrepreneurs can adapt their expectations. Depressed animal spirits and low levels of capacity use feed back into each other and give rise to a low-growth trap from which Palestine can hardly escape. We also highlight the possible positive impact of the removal of high transaction cost and of market fragmentation and the ensuing benefits on the long run equilibrium values of both capital accumulation and capacity utilization. The conclusions try to set this analytical results into the historical situation of the Palestinian economy and to envisage the roles of economics and politics in order to establish a sustained process of development.

JEL Classification: O53, O11, E12.

Keywords: Palestine, low-growth trap, post-Keynesian models.

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That the division of labour is limited by the extent of the market,

(Adam Smith , Wealth of Nations, Book I, chapter III)

1. Introduction

From the Six-Day War until the beginning of the nineties, Palestine has been exposed to the direct Israeli military, economic and administrative control. Since 2000 movement restrictions have continued to affect Palestinian economic activities. Needless to say, such a peculiar environment has deeply influenced the Palestinian economy.

If we look at trade issues Palestine appears as a province of Israel, however goods' movements are not free and markets are not perfectly integrated due to Israeli restrictions. Palestine does not have a complete economic sovereignty. Since the Paris Protocol of 1994 there is a spurious custom union. Foreign trade policy is out of control of the Palestinian government and is unilaterally determined by Israel. The Palestinian Monetary Authority, although in charge of regulating domestic financial institutions, cannot run an independent monetary policy due to the lack of a Palestinian currency, thus there is also a *de facto* monetary union. The tax system is largely absent; most indirect tax revenues are collected by Israel and subsequently transferred to the Palestinian National Authority.

From the Oslo Treaty on, Palestine has recorded disappointing economic results (Fischer et al., 2001; UNCTAD, 2009) and in the last decade Palestinian income per-capita has decreased (World Bank, 2006a; UNCTAD, 2008). Potential output has been persistently higher than effective output and lack of effective demand for Palestinian goods has induced mass unemployment and protracted economic stagnation (World Bank, 2004). When the attention shifts to the long run and to the expansion of productive capacity, poor capital formation stands out. The reason does not seem to be a lack of savings, productive investments are low because of the absence of profitable investments opportunities and entrepreneurs' reluctance to invest in the Palestinian economy (World Bank, 2007a). The depressed domestic investment climate is by far the most relevant problem Palestine has to tackle in order to unleash its growth potential.

There is general agreement among economists that most of these problems depend on tight direct and indirect impediments to Palestinian business activities (Naqib, 2002; Akkay et al., 2008; UNCTAD, 2008). Israeli security controls and check-point procedures have hugely increased transaction costs. Moreover, closures and movement restrictions have fragmented the domestic Palestinian economy and forced Palestinian firms into small local enclaves. Both facts have wide economic repercussions. First, high transaction costs reduce the competitiveness of existing activities. Second, the impossibility to access large markets depresses entrepreneurs' animal spirits, further curbs investments and causes economic stagnation by constraining effective demand for Palestinian goods.

Several authors have described the effects of such an economic environment on Palestinian development. In 2001, Astrup and Dessus (2001) have implemented a neoclassical CGE model on Palestine. UNCTAD (2009) has developed a complex macro framework to simulate the effects of a wide range of institutional and political changes. However, these models fail to give due relevance to the demand side of the problem and to the role of investments.

In the present work, we try to fill this gap; in particular we build a simple model which allows a theoretical analysis of the core issue in the Palestinian economy, i.e. the consequences on investments of cumbersome transaction costs and of market fragmentation. We do this through a simple one-sector macro model which describes a demand-driven Palestinian economy; given fixed or sticky prices, the level of economic activity emerges from effective demand. Moreover, we model the lack of profitable investment opportunities by considering an ad-hoc investment demand function for the Palestinian economy. Whilst this modelling strategy is grounded on well-established features of most Keynesian models, it allows us to get the effects that high transaction costs and small and fragmented markets induce on Palestinian capital accumulation by affecting expected profitability and entrepreneurs' animal spirits.

As to the long run, we show that improving or worsening economic conditions may alter the dynamics of economic expectations, this way generating diverging growth paths. Depressed entrepreneurs' animal spirits and low levels of capacity use can give rise to a low-growth trap from which Palestine can hardly escape should existing adverse economic conditions persist.

The paper is organized as follows. Section two enlightens some stylized facts about Palestine. Section three introduces the theoretical model. Section four presents some comparative static exercises through which we assess the short-run effects of high transaction costs and market fragmentation on Palestinian economic activity and capacity utilization. Section five discusses the long-run issues, capital accumulation in particular, and examines the adaptations in entrepreneur's expectations; it also shows that there could be different long-run equilibria. Because of the existing economic restrictions Palestine is likely to be stuck in a low growth trap. Section six highlights how the removal of high transaction costs and of market fragmentation could unleash the growth potential of the Palestinian economy. Section seven concludes by drawing some political implications.

2. Some stylized facts on Palestine and the role of demand

2.1. Some facts

Palestine is a middle income economy whose functioning has been distorted by the extraordinary conditions set by the sixty-year old Israeli-Palestinian conflict. Below is a short list of the main features of the Palestinian economy.

1) Palestine is a small open economy, whose import flows amount to more than 70 percent of its GDP whilst exports account to a mere 14 percent. Palestine directs to Israel almost all exported goods and receives from it more than 70 percent of all imports. This “geographical” bias of Palestinian trade flows is partly explained by the *de-facto* custom union with Israel.

2) From 1996 to 2007 the Palestinian trade deficit has averaged 50 percent of GDP. Such an extraordinary trade deficit has been financed in two ways. First, a relevant amount of foreign remittances yearly flows into Palestine¹. This reflects the considerable gap between Palestinian Gross Domestic Product and Gross National Product, the latter amounting to 112 percent of the former in 2007 (PCBS, 2009a). Second, international organizations and foreign governments have so far provided the bulk of international aid to Palestine. According to Valensisi and Missaglia (2009), total international aid to Palestine covered more than 70 percent of its trade deficit in 2007.

3) The Palestinian economy is chronically stuck in a less-than-full-employment equilibrium. According to the World Bank (2007a), industrial capacity utilization is generally around 50 percent in almost all productive sectors, being equal (on average) to 57 percent in West Bank and 47 percent in Gaza. Moreover, from 1996 to 2007, the unemployment rate has averaged to 20 percent of total labour force (PCBS, 2009b). Massive open unemployment goes hand-in-hand with the contraction of the employment share of the industrial sector and with the expansion of a large informal sector. Due to the lack of formal employment opportunities, an increasing proportions of Palestinian people is involved in low-productive agricultural and service activities, petty trade in particular.

4) According to the World Bank (2007a), “the size of the average industrial [Palestinian] enterprise is about four workers, no larger than it was in 1927”(World Bank, 2007a, p.1). Domestic firms terribly need physical investments to improve their competitiveness. However, despite great expectations in the aftermath of the Oslo agreement, capital formation has been extremely weak. From 1994 to 2007, investments in the non-building sector have been around a mere 15 percent of domestic GDP (PCBS, 2003, 2008, 2009a). This share falls far below the 23 percent recorded by UNCTAD for the Least Developed Countries in the period 1990-2003. Moreover, it is 20 percentage points lower than the threshold level considered necessary to feed fast economic growth and catching-up with developed countries (see UNCTAD, 2006, p.91).

2.2. Prices and wages

These stylized facts need a theoretical scheme to interpret them. Actually, most of the economic pathologies affecting Palestine seem to have a Keynesian nature. As far as Palestinian unemployment is

¹ For instance, remittances in 1998 to Palestinian households amounts to the 16.4 per cent of GNI (Dessus, 2004, p. 458, note 22).

concerned, the World Bank (2004) states that it “reflects the fact that demand for Palestinian goods is insufficient for the economy to function at full-employment”(World Bank, 2004, p.10). Other way around, a problem of *effective* demand may be at the base of chronic Palestinian mass unemployment. In such a context the neoclassical-type (relative) price adjustment does not seem to be useful to restore full employment. According to some analyses, “the Palestinian dependence on Israel pervades almost every aspect of economic life, including prices and other major monetary variables”(Peres Centre for Peace and Paltrade, 2006, p.12). “Prices in Palestine follow closely those prevailing in Israel”(Femise Network, 2006, p.77). While this picture does not apply to all prices, in particular to those of home-produced services and non-tradable goods, yet it is relevant in case of tradable goods. According to the stylized fact 1 and to the “small-country assumption”, the prices of tradable goods can be assumed as exogenous. More in general several prices in Palestine are fixed or at least sticky and the Palestinian price system only partially responds to macroeconomic imbalances. As a consequence, quantity-driven adjustments instead of price-driven adjustments may take place inside the economy².

According to Dessus and Ruppert Bulmer (2004, p.19) the low competitiveness of Palestinian firms and the low investment rates depend on the relatively high cost of Palestinian labour, due to very high reservation wages of employment opportunities in Israel. Such a situation however has changed abruptly after 2000, Palestinian wages increasingly departing from those prevailing in Israel, so that any type of cost approach can only partly explain the low level of investments in tradable goods and in manufacturing in particular.

2.3. Investments and savings

The “two gaps” approach highlights the main macroeconomic features limiting growth potential in open developing economies. Scholars have concentrated mainly on the saving constraint and the foreign exchange constraint. As far as Palestine is concerned, we believe that neither the foreign exchange nor the saving constraint are binding.

The first constraint will be discussed in the following section, but it is worth noting that households and banks have a net asset position abroad, and there are relevant foreign exchanges flows arriving into the country mainly in the form of remittances and aid.

As to the saving constraint, low levels of investments in Palestine do not seem to be the result of lack of savings. Actually, Palestinian banks’ deposits have constantly increased from 2003 to 2008 and domestic banks “have been successful in attracting public savings”(World Bank, 2009, p.4). The domestic financial system appears highly liquid and seems to dispose of a large amount of resources to

² On the adjustment mechanisms taking place inside the Palestinian economy see Arnon et al. (1997).

support domestic investments. However, financial institutions often prefer investing their resources abroad and to acquire more secure foreign assets instead of investing in the unstable Palestinian economy.

For sure the saving ratios have decreased since 2000 but savings are still relatively high in comparison to economies with similar income per capita or in the same region, Middle East and North Africa. Even though Palestinian firms sometimes cite credit restriction as an obstacle to investment projects, credit restriction does not appear as the most relevant constraint to investments (UNCTAD, 2004; World Bank, 2007a). Saving restrictions may rather imply lack of *effective* demand for credit, a well-know problem in the post-Keynesian theory of endogenous money.

Therefore the representation of Palestinian investments as being constrained by the lack of savings would probably be misleading. In Palestine there are few profitable investment opportunities so that domestic and foreign entrepreneurs are reluctant to invest in Palestine. We think that a description of the saving-investment link along Keynesian lines may be far more appealing to get the peculiarities or, better the pathologies, of the Palestinian investment climate. In this paper, the introduction of an ad hoc investment demand function allows to pinpoint the factors that make domestic and foreign entrepreneurs reluctant to invest in Palestine. This function is a central issue in our analysis and will help to understand the mechanisms through which high transaction costs and market segmentation, by reducing expected profitability and capacity utilization, eventually curtail domestic capital formation.

Palestinian investments seem to be strongly jeopardized by high transaction costs, market fragmentation and the denial of secure access to large markets. A World Bank sample study finds that only 41 per cent of establishments of West Bank are selling more than 25 per cent of their products outside their specific area and in another area of the West Bank. Market fragmentation determines lack of market access but also lack of competitive prime (see World Bank, 2007a, pp. 25-26). Palestinian firms have been damaged by the fact that ‘because of non-tariff-barriers’, they do not have direct access to the largest and closest market available: the Israeli one. This is particularly bad for those tradable products which could compete with the Israeli ones: food, pharmaceutical, IT products (World Bank, 2007a, p. 30)³.

According to the World Bank (2007a), “shrinking market access and the lack of free movement are the main constraints to growth for Palestinian firms [...] They know that they need to invest and have access to the necessary resources. However, they are unwilling to do so unless they are assure secure

³ This does not mean that any type of economic integration with Israel would be beneficial for the Palestinian economy. Many times Palestine has been analyzed in relation to Israel and the effects of their integration is at least controversial (Aix Group, 2004). For sure, the existing links with Israel have not helped structural transformations in the Palestinian economy, namely an increase in the share of industry, apart from construction, and of manufacturing in particular. In recent years, integration with Israel has got even more problematic due to the Israeli accession to WTO and the opening up of that economy to imports from Asia, mainly in low-skilled products, where in principle WBG could have an opportunity in the Israeli market. In this paper, therefore, we do not focus on the issues concerning the economic links of WBG and Israel, but rather on the Palestinian economy as such.

and predictable access to both domestic and international markets”(World Bank, 2007a, p. 2). Given persistent economic stagnation, “most Palestinian firms are operating at low capacity and because of the closure are steadily losing markets. Thus, they have little need to invest”(World Bank, 2007a, p. 23).

In 1990 Bacha introduced a third constraint: the so-called fiscal constraint⁴. This makes some sense in the case of Palestine, because of the lack of public saving due to the small tax base and the fiscal leakages to Israel. Moreover, the fiscal constraint highlights some elements of an investment constrained economy in so far as it relies on the crowding-in effect of public investment, mainly infrastructure, on private investment. Clearly Palestine lacks of fundamental infrastructures and they are costly and unreliable when provided by Israel. As for the budget, part of the infrastructures is provided by international aid, but in the case of Palestine this particular way of supporting public investments does not seem to have a significant positive impact on private investments. The fiscal constraint picks up some elements of the Palestinian economy, but we prefer to concentrate more directly on the impediments to private investments and on the explanation of the lack of investment opportunities, due to the situation on the ground⁵.

3. A simple theoretical model on Palestine

In the last decade, protracted economic stagnation has induced a dualistic economy to emerge in Palestine. On the one hand, a small formal sector, which largely overlaps with industrial activities producing tradable goods, has shrunk even further. On the other hand, an expanding informal sector based on agriculture and service activities producing non-tradable goods has provided an alternative to open unemployment. Despite this fact, here we assume a simple one-sector economy and concentrate on investments opportunities in the formal sector. Actually, rising informality in Palestine is a side-product of declining formal activities or of the impossibility for Palestinian people to find formal employment in Israel⁶.

Let’s assume a small open economy which produces a single tradable good through a Leontief production function using capital and labour. X is total Palestinian output, \bar{P} is the corresponding price, which is exogenous due to the small-country assumption. Accordingly, equation (1) defines cost decomposition of domestic production.

$$\bar{P} X = wL + rP_c K + \theta \bar{P} X \quad (1)$$

⁴ Other definitions such as capacity and investment constraint have also been used, see Ros (2000).

⁵ 2006 was a case of fiscal constraint because of the aid squeeze following Hamas’ victory in the elections.

⁶ See Cimoli, Primi and Pugno (2006) on economic growth, the dynamics of a small formal sector and widespread informality.

$$\bar{P} = (1 + \tau) \frac{wb}{(1 - \theta)} \text{ so that } \tau = \frac{\bar{P}(1 - \theta)}{wb} - 1 \quad (2)$$

$$r = (x_p - \omega pb)u \quad (3)$$

$x_p = (1 - \theta)p$ is the value of a unit of “*effective*” output in terms of the price of the capital good, $p = (\bar{P} / P_t)$ and $\omega = (w / \bar{P})$ is the real wage in terms of the domestic product.

In equation (1), w stands for the domestic monetary wage, which is assumed to be fixed according to a Lewis-type argument⁷, r is the profit rate, K is the installed capital stock and $P_t = \beta\bar{P} + (1 - \beta)P_F$ its price⁸.

Although Palestine is involved in a de-facto custom union with Israel and it is open to free trade relationships with several third countries, Palestinian goods do not move freely inside and outside Palestine. The Palestinian economy faces very high transaction costs⁹; Palestinian goods are usually subjected to extensive check-point procedures. Time-consuming security and technical controls imply time delays for Palestinian goods to reach markets and quite often part of the output gets lost due to the perishable nature of traded goods and to the discretion of borders authorities. In this paper we catch immediate output losses by introducing parameter θ in equation (1) and by modelling transaction costs as *iceberg* costs which reduce the quantity of output Palestinian firms actually bring to markets¹⁰. Ceteris paribus, being X the total amount of output produced, a fixed share θ of it is irremediably lost due to movement restrictions. Only a fraction $(1 - \theta)$ of domestic output (and of the ensuing revenues) has to be taken into account to get the “net” total income that is effectively distributed among productive inputs.

In equation (2) we use a simple Kaleckian cost-plus function to describe price formation in Palestine; we assume the domestic price \bar{P} , the labour/output coefficient b and the wage rate w to be exogenous. And the mark-up rate τ is endogenous. Equation (2) shows the negative effects of high transaction costs on the profitability of Palestinian firms. Whilst $((1/b)=X/L)$ stands for labour productivity at the end of the production process, $((1 - \theta)/b)$ is the ex-post *effective* value added per unit of labour once output losses are considered. It goes without saying that high transaction costs, by reducing

⁷ According to PCBS (2009b), besides open unemployment, disguised unemployment largely affects agriculture and service activities. It thus appear reasonable to assume a perfectly-elastic labour supply in the Palestinian formal sector.

⁸ Palestinian capital goods are largely imported from abroad. In this paper, we assume the Palestinian capital stock to be made up by both imported and home-produced goods. We assume a fixed share $(1 - \beta)$ of the domestic capital stock and domestic investments to be imported, the remaining (small) share β being produced domestically. Accordingly, the price P_t of each unit of the capital stock K is an average of the domestic price \bar{P} and of the foreign price P_F with weights β and $(1 - \beta)$, respectively.

⁹ Palestinian truck drivers who have to follow uncomfortable roads in order to reach customers or complex and protracted back-to-back procedures at check points.

¹⁰ Administrative inefficiencies would have an effect on the value of output similar to that of transaction costs.

Palestinian labour productivity, increase unit costs¹¹ and reduce the mark-up rate τ . The ensuing negative effect on the profit rate r is set in equation (3); for any given level of capacity use $u (=X/K)$, the higher θ , the lower is r and the profit rate of Palestinian firms.

With prices established on international markets, effective demand for Palestinian goods determines the level of economic activity and capacity use. Effective demand, in turn, comes from demand injections, which in our model are given by desired investments and net exports, and demand leakages, that is to say domestic savings. According to the stylized facts above, all these variables assume specific features in Palestine. Let us examine them in more details.

We assume a homogeneous saving propensity between wage earners and profit earners, both social classes saving a constant fraction “ s ” out of their income¹². Equation (4) defines total domestic savings:

$$S = S_{\pi} + S_w = srP_l K + swL = s[rP_l K + wL] = s(1 - \theta)\bar{P}X \quad (4)$$

Dividing both sides of equation (4) for the value of the capital stock $P_l K$, we get:

$$g^s = \frac{S}{P_l K} = sx_p u \quad (5)$$

Equation (5) defines the growth rate of the domestic capital stock as it is allowed by the available domestic savings. g^s is a positive function of capacity utilization u , and of the saving propensity, whilst it is negatively influenced by transaction costs θ , because they curtail the net income to be distributed to productive inputs.

Investment demand in Palestine is influenced by the obstacles and the uncertainty domestic firms have to face. In this paper we propose an ad-hoc investment demand function in order to represent the specific Palestinian investment climate. This is modelled in equation (6) below:

$$g^i = \rho + \alpha(u - u_n) + \gamma_n \quad (6)$$

With $\alpha, \gamma > 0$; $\gamma = f(r_n / r_f)$ and $(\partial\gamma / \partial(r_n / r_f)) > 0$

¹¹ Akkay et al. (2008) and World Bank (2006b) describe how high transaction costs reduce labour productivity and increase unit costs of Palestinian firms. Besides direct output losses due to back-to-back procedures and handling of transported goods at check points, Palestinian transport firms cope with uncertainty at check points by using more than one driver per journey. After the Second Intifada check-point controls allow trucks in the West Bank to make only two rotations per day instead of three rotations as in the pre-Intifada period. Akkaya et al. (2008) estimate labour productivity in the transport sector to have diminished by 33 percent in the aftermath of the Second Intifada.

¹² The Palestinian productive system is mostly composed by family-owned small-medium size firms. As a consequence, it is often hard to distinguish between different social classes, workers and capitalists in particular, as far as consumption and saving decisions are concerned.

Equation (6) includes three elements and requires a detailed explanation. First, take parameter ρ which represents entrepreneurs' animal spirits, which are always very difficult to model. Following Lavoie (1992, 1995), let assume them to be linked to the *expected average growth rate* of Palestinian sales over the planning horizon of Palestinian entrepreneurs. Economic theory generally agrees on the idea that a potentially large market is a pre-condition to undertake investments in industrial activities. Palestine is a typical case of a market constrained economy. Palestinian firms are close to and might potentially benefit of easy access to pretty large markets, but they are confined into small local enclaves (see World Bank, 2007b). Small local markets obviously dampen firms expectations about sale dynamics and make productive investments worthless.

In this paper, we try to improve on previous works; as a matter of fact we attempt to specify in more detail entrepreneurs' expectations about the future changes in sales as follows:

$$\rho = f(n, sh^e, \lambda) \text{ with } (sh^e)', n', \lambda' > 0 \text{ and } 0 < \lambda < 1$$

Parameter ρ firstly depends on market dimension. Following Krugman (1991), let assume market dimension to be captured by total population composing both the domestic economy and foreign trading partners. Ceteris Paribus, if n is the natural growth rate of market size due to, let's say, population growth, the higher n , the larger the expected average growth rate of Palestinian sales and Palestinian entrepreneurs' willingness to expand production capacity.

Expected average changes in Palestinian sales respond positively also to the market share (sb^e) Palestinian firms expect to capture *vis-a-vis* foreign products on domestic and foreign markets. Given n , the higher sb^e , the higher is the expected trend growth rate of Palestinian sales and therefore domestic entrepreneurs' desire to invest.

In the case of Palestine, besides the "natural" growth rate of the market and expected market shares, the expected average growth rate of Palestinian sales may vary due to better economic integration among now separated areas in West Bank and Gaza. Let's take the candy industry in Nablus, for instance. It makes a big difference to serve the nine hundred thousand people in North West Bank instead of producing for the four million Palestinians living in West Bank and Gaza Strip plus, hopefully, for the six million Israelis. Even without changes in Palestinian (expected) market shares or in the natural growth rate of domestic and foreign markets, market integration can considerably boost the expected average growth rate of Palestinian sales by simply giving Palestinian firms' the opportunity to have secure access to large markets. Accordingly, Palestinian firms may revise and remarkably raise their investment plans.

In our model, parameter λ gets the degree of market integration inside Palestine and between Palestine and foreign countries and represents which part of existing potential markets and of its

natural growth rate can effectively be reached by Palestinian firms. Values of λ close to 1 mean advanced economic integration and the possibility for Palestinian firms to access domestic and foreign markets without restrictions. On the opposite, values of λ close to zero stand for Palestinian firms excluded from foreign markets and de-facto forced into very small local areas. Higher values of λ , i.e. a better economic integration, positively affect the expected average growth rate of Palestinian sales, improve entrepreneurs' animal spirits and raise capital accumulation in equation (6).

The second element in equation (6) concerns capacity utilization. Apart from the expected changes in sales, entrepreneurs plan investments according to the degree at which the existing capital stock is used. The lower is u the higher is idle capacity and the less firms' need to expand their production base (see World Bank, 2007a). In equation (6), we assume a positive relationship between investment demand g^j and current capacity use u . According to Committeri (1986), investment decisions respond positively to the difference between the current rate of capacity use u and the *normal* rate of capacity use u_n . Parameter α gets the sensitivity of Palestinian investment plans to such a discrepancy. We define the normal rate of capacity use as "the percentage of total practical capacity at which firms can expect to operate on the average of the business cycle" (Lavoie, 1992, p. 122). If current capacity use falls lower than the normal one, entrepreneurs curtail investments. Vice versa, values of u higher than u_n may be perceived as a sign of booming economic activity and of the need to scale up production capacity through additional investments.

The different description of Keynesian animal spirits and the third element in equation (6) make our investment demand function a bit different from those proposed in the past in some post-Keynesian contributions (Hein, Lavoie and van Treeck, 2008, Skott, 2008). This term tries to get the relevance of expected profitability for investment decisions in Palestine. High transaction costs, besides affecting current profitability, also reduce *expected* profitability (to be defined below), which in turn hampers entrepreneurs' willingness to invest. Low expected profitability is a fundamental factor behind poor capital formation in Palestine.

Let's define expected profitability as the normal profit rate r_n , i.e. the profit rate evaluated at the normal level of capacity use. There are at least two ways through which r_n influences Palestinian capital formation. First, expected profitability has an immediate positive effect on investment demand g^j . Other things being constant, the higher r_n , the higher expected returns from domestic investments and firms' propensity to invest. Second, expected profitability influences investment decisions by altering the "profit-gap" with respect to investments abroad. Due to the existing discrepancies between domestic expected profitability and that of foreign investments, most Palestinian people and financial institutions prefer keeping capital abroad instead of employing it at home (World Bank, 2008; Valensisi and Missaglia, 2009). In equation (6) we assume parameter γ to represent the sensitiveness of Palestinian

entrepreneurs to the profit gap and to depend positively on the ratio between r_n and the foreign exogenous profit rate r_f .

We now need to take into account the foreign exchange dimension of the Palestinian economy. Equation (7) describes the Palestinian Balance of Payment equilibrium.

$$\underbrace{\underbrace{(EX - M)}_{TB}}_{CA} + \Omega = - \underbrace{S_f}_{KA} \quad (7)$$

In equation (7), EX and M stands for Palestinian exports and imports respectively, their difference being net exports or the trade balance account (TB). On the left-hand-side of equation (7), Ω represents foreign remittances and current transfers entering the current account balance (CA). On the right-hand-side, S_f are foreign savings, i.e. foreign aids targeting long-run economic development and international loans inflowing into the Palestinian economy.

According to stylized fact 2, Palestine chronically records dramatic trade deficits, which are due to structural causes and are rooted in the backwardness of the domestic productive system. This fact has important short-term consequences. As a matter of fact the pathological Palestinian dependence on imported goods makes demand *stimuli* useless to sustain economic activity, because they are likely to increase imports instead of generating additional domestic production.

Despite the very high trade deficit of around 50 percent of domestic GDP, this does not seem to be a binding constraint to growth. International concerns about the political situation in Palestine play a fundamental role to stimulate generous aid, thus relaxing the external constraint. In equation (7) Ω stands for the considerable foreign remittances and current transfers which yearly flow into Palestine and partially offset its enormous and structural trade deficit. S_f , in turn, represents foreign savings. Besides international loans to Palestinian public and private agents, they also consist of capital transfers aiming at supporting investment projects and the long-run economic development of Palestine (Missaglia and Valensisi, 2009)¹³. Abundant remittances, current and capital transfers as well as foreign loans all help to compensate the huge Palestinian trade imbalance. It could become a major obstacle to economic development in the future, but for the time being it does not play a major role. In this model, we therefore neglects the external constraint.

¹³ After the signing of the Oslo Treaty in 1993, international financial support to the Palestinian National Authority (PNA) was mainly directed to foster long-term investment projects (see Adam, Cobhan and Kanafani, 2004). The outbreak of the Second Intifadah and the liquidity crisis following the Hamas' electoral win in 2006, however, have subsequently forced international aids to be temporally redirected towards current budget support. In the most recent years, according to the IMF (2007), capital transfers from abroad have returned to be and are expected to remain relevant sources for investment financing in Palestine .

4. The Short-run equilibrium and the effects of high transaction costs and market fragmentation

4.1. Short-run macroeconomic equilibrium

We define the short run as the time horizon in which agents' expectations are given and not subjected to revision. Entrepreneurs' animal spirits and the normal rate of capacity use are taken as exogenous. In order to set the conditions for macroeconomic equilibrium in Palestine, let's first take equation (7) and normalize both sides by the value of Palestinian capital stock. Following Taylor (1983), define $\Delta = (CA/P_tK)$ as the ratio between the current account balance and the domestic capital stock and, according to the Palestinian context, let assume it is given and negative (i.e. $\Delta < 0$).

According to the National Accounting of open economies, domestic investments must be equal to the disposal of domestic savings minus the current account balance. In terms of our model we have:

$$P_t I = S - CA$$

Normalizing both sides of such a relationship for the value of the Palestinian capital stock ($P_t K$), we obtain:

$$g^i = g^S - \Delta \quad (8)$$

Equation (8) sets the condition for macroeconomic equilibrium in Palestine. Substituting equations (3), (5) and (6) in (8) and rearranging we can therefore get the short-run equilibrium levels of capacity use u^* and of the capital accumulation g^* .

$$u^* = \frac{\rho + [\gamma(x_p - \omega pb) - \alpha]u_n + \Delta}{(sx_p - \alpha)} \quad (9)$$

$$g^* = sx_p u^* - \Delta \quad (10)$$

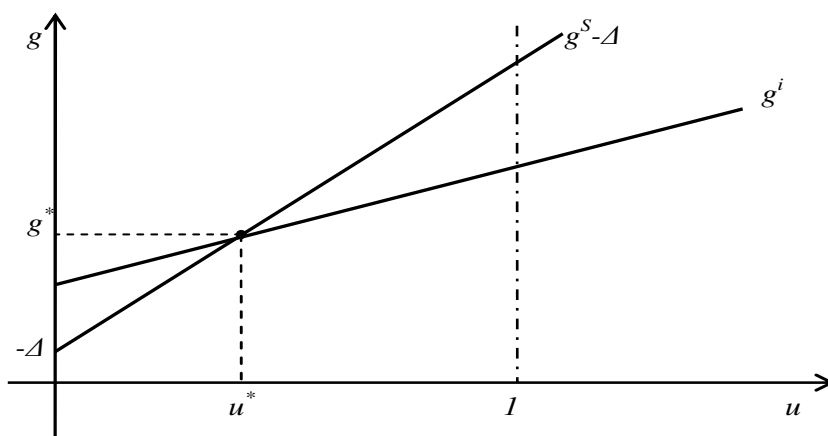
Equation (9) defines the short-run equilibrium level of capacity use u^* according to demand leakages and injections composing effective demand for Palestinian goods. At the numerator, u^* is positively influenced by entrepreneurs' animal spirits ρ as well as the response of desired investments to domestic expected profitability which depends on the level of γ and the expected profit rate $r_n = (x_p - \omega pb)u_n$. According to our assumptions, relevant Palestinian current account deficits (i.e. $\Delta < 0$) due to large and structural trade imbalances depress economic activity and capacity use. A higher normal

capacity use, by increasing the gap with current capacity, may discourage investment plans and lower economic activity through parameter α . At the denominator, we assume the well-known Keynesian stability condition $sx_p > \alpha$ to hold true, sx_p representing ‘demand leakages’ linked to savings whilst α gives the sensitiveness of the entrepreneurs to current capacity use and their response in terms of domestic investments. Other way around, we assume parameter α to be sufficiently small and domestic investments not to overreact to changes in current capacity use so as to ensure a stable short-run equilibrium.

Equation (10) resembles the well-known Cambridge equation in open economies; sx_p and Δ depend on domestic and foreign saving disposal while u^* affects capital formation from the demand side.

In figure 1 we represent the Palestinian short-run macroeconomic equilibrium by plotting the ‘investment demand’ function (6) and the right-hand-side of equation (8), here labelled ‘saving supply’ function. Figure 1 shows the contractionary effects of the Palestinian trade deficits on economic activity and capacity use. Trade balance, by affecting the current account balance, acts on the intercept of the ‘saving supply’ function, shifting it up or down. The Palestinian trade deficit, in particular, by generating a negative current account balance, gives rise to a *positive* intercept of the “saving supply” function and moves the “saving supply” function up. Given the investment demand function, both the equilibrium levels of capacity utilization and capital accumulation fall much smaller than in case of an economy with positive trade ad current accounts (a negative intercept in figure 1).

Figure 1: The short-run equilibrium in Palestine.



Two mechanisms are at work. First, the Palestinian trade deficit stands out as a relevant ‘demand leakage’ that curbs economic activity. Huge foreign savings, aid and remittances, definitely alleviate the every-day life of the Palestinian people, by stimulating domestic consumption and public expenditures. However they do not eradicate the structural productive weaknesses of the economy, that is to say the

large dependence on imported goods, therefore the higher demand generates more imports and a deeper trade deficit. Palestine risks becoming addicted to the economic pathologies which foreign aid can produce.

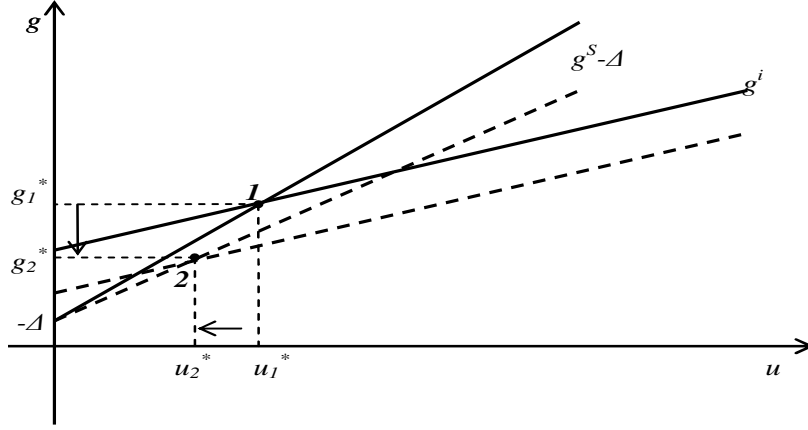
Quite apart from this structural weakness, our paper highlights another negative mechanism: foreign capital inflows stimulate domestic demand and in principle this could have a very positive impact on domestic production, however high transaction costs and market fragmentation reduce the ‘effective demand’ confronting the Palestinian firms.

4.2. Short-run effects of high transaction costs

In our model rising transaction costs, i.e. higher values of parameter θ , affect capacity utilization and capital accumulation in two different ways. First, rising transaction costs reduce the *effective* income to be distributed to productive inputs. According to equation (4), this reduces domestic savings so that, for any given level of the investment demand, capacity utilization u paradoxically increases to fill the saving gap between saving supply and investment demand. In the post-Keynesian rubric, this effect goes under the title of “cost paradox” (Lavoie, 1992). Second, rising transaction costs reduce investment demand through other two main channels. On the one hand, rising transaction costs reduce expected profitability. Other things being equal, lower values of r_n , discourage domestic entrepreneurs from enlarging existing plants so that investment demand and capacity use decrease. On the other hand, the lower r_n the higher the profit gap between domestic and foreign investment opportunities. Domestic entrepreneurs prefer to invest their capitals abroad; in equation (6), parameter γ decreases, so that an additional negative effect on investment demand and capacity utilization emerges.

In figure 2, rising values of θ reduce the slope of the ‘saving supply’ function because of the “the cost paradox”. Simultaneously, the ‘investment demand’ function shifts downward, due to the reduction in the normal profit rate r_n and in parameter γ . The final outcome is not clear. Quite reasonably, according to the evidence above, if the contraction of desired investments g^j is sufficiently large, an overall negative effect of increasing transaction costs on capacity use and capital formation emerges. The Palestinian economy moves from point 1 to point 2 in figure 2.

Figure 2: The short-run effects of increasing transaction costs



It is possible to define a sufficient but not necessary condition for higher transaction costs to curtail current capacity use and capital formation. Let's take the short-run equilibrium value of the growth rate of the capital stock and derive it with respect to θ . From equation (6) we get:

$$\frac{\partial g^*}{\partial \theta} = \alpha(\partial u^* / \partial \theta) + \gamma(\partial r_n / \partial \theta) + (\partial \gamma / \partial \theta)r_n$$

Given that $(\partial r_n / \partial \theta)$ and $(\partial \gamma / \partial \theta)$ are both negative, attention can focus on term $(\partial u^* / \partial \theta)$:

After some mathematical passages and reminding that $((\partial x_p / \partial \theta) / \xi) = -1/(1 - \theta)$, we get:

$$|\hat{\gamma}_\theta| > -\frac{(\eta - \mu)\theta}{(\eta - \nu)(1 - \theta)} \quad (C.1)$$

With: $\eta = \gamma x_p u_n / \{\rho + [\gamma(x_p - \omega p b) - \alpha]u_n - \Delta\}$;

$$\nu = \gamma \omega p b u_n / \{\rho + [\gamma(x_p - \omega p b) - \alpha]u_n - \Delta\}$$

$$\mu = s x_p / (s x_p - \alpha)$$

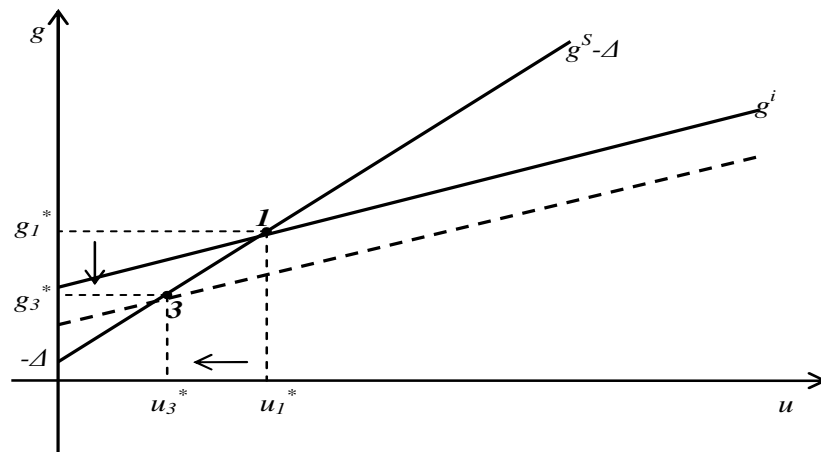
In condition (C.1), $\hat{\gamma}_\theta$ is the (negative) elasticity of parameter γ with respect to transaction costs θ . $\hat{\gamma}_\theta$ describes the intensiveness of Palestinian entrepreneurs' response to changes in transaction costs, that is to say the vigour of their willingness to invest at home, and therefore the intensiveness of the response to the gap between domestic expected profitability and the foreign one.

Condition (C.1) establishes the case for $(\partial u^* / \partial \theta)$ and $(\partial g^* / \partial \theta)$ to be negative. At the denominator of condition (C.1), η is higher than ν in order to have positive profits inside the Palestinian economy. On the right-hand side of condition (C.1), η gets the negative effects that higher transaction costs induce on capacity use and capital accumulation by cutting expected profitability and therefore desired investments. On the contrary, μ comes from the cost paradox. It represents decreasing saving disposal and lower demand leakages due to lower net income out of transaction costs. Condition (C.1) undoubtedly applies if η is higher than μ and the left-hand-side of condition (C.1) turns out to be negative. Alternatively, condition (C.1) still holds true in case of μ higher than η but the right-hand-side lower than the left-hand-side $|\hat{\gamma}_\theta|$.

4.3. Short-run effects of market fragmentation

Israeli security measures effectively divide Palestine in small enclaves and isolate Palestinian firms from foreign markets (World Bank, 2007b). In this case there is an unambiguously negative impact on short run market equilibrium. The decline in the expected market size leads to a decrease of parameter λ , which immediately hurts entrepreneurs' animal spirits ρ , thus discouraging investments. The final outcome will be a reduction in capacity utilization and capital accumulation. In figure 3 the 'investment demand' function shifts downward; the Palestinian economy moves from point 1 to point 3, capacity utilization decreases from u_1^* to u_3^* and capital accumulation from g_1^* to g_3^* .

Figure 3: Short-run economic consequences of market fragmentation in Palestine.



Quite a consistent body of literature confirms these findings. Shaban (1999) states that “closure interrupts the production processes (Shaban, 1999, p. 58)” and that Palestinian firms’ sales have declined steeply, ranging from 9 to 90 percent after the 1996 closures, “due to the impossibility to

deliver goods to customer”(Shaban, 1999, p. 59). Even further, he stresses that “the demand for investment has diminished under closure policy because of an overall decline in aggregate demand [and because] closures generally interrupt sales and increase operation costs, thus reducing overall profitability as well as the incentive for new investments (Shaban, 1999, p. 62)”. Akkaya et al. (2008) present an economic picture of Palestine close to that of Shaban: “closures disrupt trade flows, investments and domestic productions”(Akkaya et al., 2008, p. 2). Finally UNCTAD (2009) evaluates that “the cumulative economic cost of six-years (2000 – 2005) of tight closure policy is around 8.4 billion dollars...twice the size of [Palestinian] GDP in 1999”(UNCTAD, 2009, p. 7). More in general, it can be affirmed that “these conditions [i.e. the imposed restrictions to Palestinian firms] have intensified an economic and social stress, causing a sharp fall in real investments, unprecedented rates of unemployment and poverty and a rapid decline in all economic indicators”(UNCTAD, 2009, p. 1).

5. The long-run economic dynamics

5.1. The changing expectations of the entrepreneurs

The short-term analysis above takes agents’ expectations as given, in the long time horizon economic actors can adjust expectations. We will see that high transaction costs and market fragmentation may trigger off vicious processes in the way economic agents revise their expectations about the future. In the long run, the depressed investment climate emerging from low values of entrepreneurs’ animal spirits ρ and of normal capacity use u_n may induce poor capital formation to become a pathological feature of Palestine.

Let’s assume a medium/long-run perspective in which economic expectations are periodically revised, the entrepreneurs adjust their own animal spirits and normal capacity use. In an uncertain economic environment the normal rate of capacity use is a convention emerging from entrepreneurs’ conjectures about the average degree of capacity use over the business cycle (see Lavoie, 1992). The normal rate of capacity use may either come from past experience or be the result of strategic considerations about the desired level of spare capacity needed to prevent competitive entries. Depending on the interpretation chosen, u_n may follow different adjusting mechanisms (see Dutt, 1997 and Skott, 2008).

In the case of Palestine u_n can be better thought as a history-based convention. Palestine is a deeply unstable environment and the effective rate of capacity use may vary due to conditions, which are out of control of domestic entrepreneurs. Therefore the normal rate at which domestic firms expect to work may emerge from the revision of past experience rather than from strategic decisions. In line with this perspective, equation (11) assumes u_n to evolve according to an *adaptive* mechanism in which Palestinian firms revise their expected level of capacity use u_n on the base of the existing gap with

respect to the current level of capacity use u . Following Lavoie (1995), Dutt (1997) and Taylor (2004) we assume:

$$\dot{u}_n = \psi(u - u_n) = l(\rho, u_n) \quad (11)$$

According to equation (11), if u is higher than u_n economic agents increase their ‘expected degree of capacity use’ and $l(\rho, u_n)$ is positive. If the current capacity use is lower than the normal one, Palestinian firms revise downward their ‘expected degree of capacity use’ according to the adjustment speed ψ .

As to entrepreneurs animal spirits, given the “natural” growth rate of market size due to population growth, adjustments in expected sale changes and in entrepreneurs’ animal spirits result from changes in expected market share s^e and in the surrounding political/economic climate. This is formally stated in equation (12):

$$\dot{\rho} = z(u(u_n, \rho)) - \zeta(\theta, \lambda)\rho = m(\rho, u_n) \quad (12)$$

With $z' > 0$ and $z'' > 0$ if $u(u_n) < \bar{u}(\bar{u}_n)$;

$$z'' < 0 \text{ if } u(u_n) > \bar{u}(\bar{u}_n)$$

Let us examine this relationship. There is widespread consensus among economists that a strong positive link exists between economic activity, technological improvements, the evolution of firms’ competitiveness and of their market shares (see Verspagen (1995)). Technological improvements based on increasing experience and deeper technological knowledge “occur as a by-product of productive activity”(see Rosenberg, 1982). This is the case of “learning-by-doing” and “learning-by-using” as well as of the economy-wide diffusion of the improvements deriving from them. As to learning-by-doing, given K , the higher u , the higher total output and the possibility to accumulate technological knowledge by producing goods in larger quantity. As to “learning-by-using”, the higher u , the more intensively we use the existing capital goods and the faster we learn to improve them. Last but not least, “when learning takes place, the innovation is improved and adapted to different environments, thus making it more attractive to a wider set of adopter”(Hall, 2005, p. 470). Therefore, technological improvements and the accumulation of technological knowledge appear as the ultimate sources of increasing competitiveness and of rising market shares.

These mechanisms could be particularly effective in the case of the Palestinian economy in which there is large scope for introducing technological progress and improving competitiveness of domestic firms (see World Bank, 2007a). A higher capacity use u will make it more likely that Palestinian firms

introduce technological improvements, work at more efficient production scales, thus increasing their market share. In equation (12) we assume a positive relationship between the dynamics of entrepreneurs' animal spirits, the evolution of expected Palestinian market share and capacity utilization u . If Palestinian entrepreneurs expect market shares to increase and sale flows to grow faster they will be convinced to expand production capacity and to upward revise their animal spirits¹⁴.

More precisely, we assume such a relation to follow a S-shaped curve(see Figure 4). At low-medium level of capacity use, with $u < \bar{u}$, increasing capacity use may give momentum to technological improvements, domestic firms competitiveness and the connected economic expectations. At more advanced stages, when $u > \bar{u}$, the scope for learning processes to carry out further improvements may narrow, so that the link between u and $m(\rho, u_n)$ progressively runs out and the process of technological improvements and rising expectations meets an upper ceiling¹⁵.

The second element in equation (12) establishes a negative relationship between adjustments in entrepreneurs' animal spirits and their current level. This is a simple self-stabilizing process in the expectations about the growth rates of market shares and future sales. The higher sb^e and ρ , the lower the scope for further increases in Palestinian expected sales' growth rate and entrepreneurs' animal spirits. In equation (12), such a negative relationship between ρ and its own dynamics is mediated by parameter ζ , which captures what Fontana and Marchionatti (2007) label the "political atmosphere" component in the formation of entrepreneurs' animal spirits. Of course these factors are extremely relevant in Palestine, given that stable improvements in the conditions on the ground and in the political situation can have deep repercussions on the economic sphere. They might ease market conditions, reduce transaction costs and allow Palestinian goods to move freely inside and outside Palestine, this way leading Palestinian firms to permanently improve their expectations about future sales and scale up investment projects.

We assume parameter ζ to depend positively on transaction costs θ and negatively on the degree of market integration λ . Ceteris paribus, higher(lower) transaction costs and market fragmentation induce the Palestinian investment climate to deteriorate(improve). This leads Palestinian firms to revise their expectations; they will perceive current animal spirits, ρ , to be too optimistic(pessimistic). In equation (12), parameter ζ will increase(decrease), so that Palestinian firms will opportunely downward(upward) adjust their expectations about future sale dynamics.

¹⁴ Here we do not explicitly model technological progress but we stress the relationship between the scope for technological progress and entrepreneurs' expectations. Palestinian entrepreneurs will effectively get technological opportunities only if they can believe in improving market sales in the long run.

¹⁵ This picture is close to that presented by Sachs et al. (2004) on Africa's development, but the theoretical framework is completely different. In this model, we follow a demand-led approach which rests on cumulative mechanisms between lack of *effective* demand, depressed economic activity and poor capital accumulation.

5.2. Possible long-run scenarios in an expectation-driven Palestinian economy

In order to analyze the long-run dynamics of Palestine, let consider the two loci for constant values of u_n and ρ . From equation (11), substituting in it the short-run equilibrium value of current capacity use u^* , the condition for u_n to be stable reads:

$$F_{l=0} = \frac{\rho + [\gamma(x_p - \omega pb) - \alpha]u_n - \Delta}{(sx_p - \alpha)} - u_n = 0 \quad (13)$$

According to the implicit function theorem, we get:

$$\left. \frac{\partial \rho}{\partial u_n} \right|_{l=0} = sx_p - \gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] > 0 \text{ if } sx_p > \gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] \quad (C.2)$$

Where $\hat{\gamma}_{r_n}$ is the positive elasticity of parameter γ with respect to the normal profit rate r_n . Again, this term gives an idea on the intensity with which domestic entrepreneurs want to scale up investments at home when domestic expected profitability improves compared to foreign expected profitability.

The slope of equation (13) can be either positive or negative depending on the effects normal capacity use has on its own dynamics. Given the positive effect ρ undoubtedly has on u and $l(\rho, u_n)$, should normal capacity use present a stable dynamics, the slope of equation (13) will be positive. Such a scenario holds true if condition (C.2) applies. Alternatively, should higher values of u_n lead to further increases in normal capacity use and generate a destabilizing process, the slope of equation (13) will turn out to be negative. This happens when condition (C.2) is not met.

As to the locus for steady values of ρ , we have:

$$F_{m=0} = z \left(\frac{\rho + [\gamma(x_p - \omega pb) - \alpha]u_n - \Delta}{sx_p - \alpha} \right) - \zeta \rho = 0 \quad (14)$$

On the base of the implicit function theorem, we get:

$$\left. \frac{\partial \rho}{\partial u_n} \right|_{m=0} = - \frac{z' \left\{ \frac{\gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] - \alpha}{(sx_p - \alpha)} \right\}}{\frac{z' - \zeta(sx_p - \alpha)}{(sx_p - \alpha)}} = - \frac{z' \{ \gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] - \alpha \}}{z' - \zeta(sx_p - \alpha)} \quad (15)$$

Several possibilities arise. The signs of both numerator and denominator are uncertain and the denominator's sign may vary depending on (z'). In order to keep things as simple as possible, here we restrict our attention to the case of an upward-sloping S-shaped locus for $m(\rho, u_n)=0$. In particular, we assume a positive effect of u_n on current capacity use u and therefore on $\dot{\rho}$. Moreover, we imagine entrepreneurs' animal spirits not to follow an explosive dynamics, so that there is an overall negative relationship between ρ and its own adjustment process. Mathematically, we have:

$$\gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] > \alpha \quad (C.3)$$

and

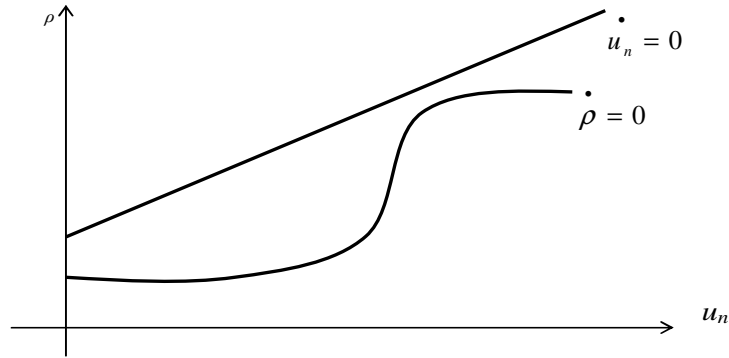
$$z' - \zeta(sx_p - \alpha) < 0 \quad (C.4)$$

Condition (C.3), simply states that the numerator of equation (15) is positive. Its fulfilment is empirically grounded on the relevance that expected profitability plays to stimulate investment projects in Palestine as caught by term $\hat{\gamma}_{r_n}$ in condition (C.3). Higher values of u_n bid up domestic expected profitability and reduce the profit-gap with investments abroad. This stimulate Palestinian firms to increase domestic investments. If such an effect is sufficiently strong, i.e. term $\hat{\gamma}_{r_n}$ is sufficiently high, economic activity and capacity use increase. Entrepreneurs will revise upward their animal spirits thanks to better expectations on technological improvements and future sale dynamics.

Condition (C.4) ensures Harrodian instability, i.e. explosive dynamics in the evolution of entrepreneurs animal spirits ρ , not to take place. Entrepreneurs' animal spirits ρ , on the contrary, follow a self-stabilizing process. On the one hand, condition (C.4) is grounded on previous contributions which show Harrodian instability not to be empirically relevant or tamed by several stabilizing mechanisms (Lavoie, 1995; Hein, Lavoie and van Treek, 2008). On the other hand, and perhaps more interesting, its fulfilment opens up space for multiple equilibria to describe long-run development in Palestine.

On the base of this analysis, many different scenarios can describe the long-run economic development of Palestine. First, the two loci for stable values of ρ and u_n may not intersect, so that no long-run equilibria exist. This is portrayed in figure 4 below.

Figure 4: The case for no long-run equilibria



Second, a unique-equilibrium scenario may apply having different stability properties depending on the slope of the locus for $\mathcal{L}(\rho, u_n) = 0$ and on its intersection with the locus for $m(\rho, u_n) = 0$. In figure 5, we represent a downward-sloping locus for $\mathcal{L}(\rho, u_n) = 0$ (condition C.2 does not hold true) and a unique saddle-path long-run equilibrium in Palestine. In figure 6, on the contrary, we portray an upward-sloping locus for $\mathcal{L}(\rho, u_n) = 0$ (condition C.2 holds true) intersecting the locus for $m(\rho, u_n) = 0$ in a unique stable equilibrium point.

Figure 5: A unique long-run equilibrium: the saddle-path equilibrium.

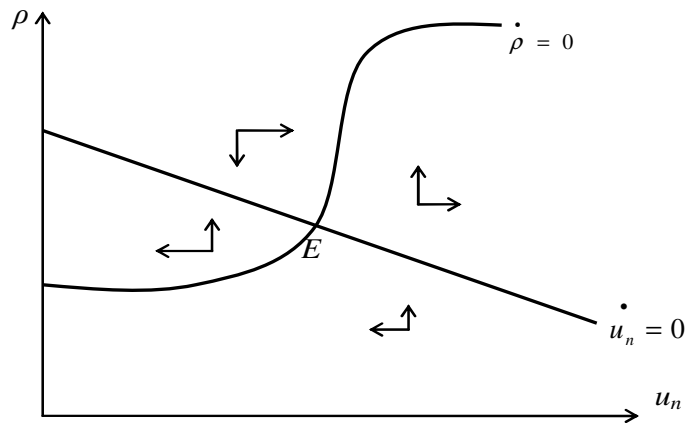
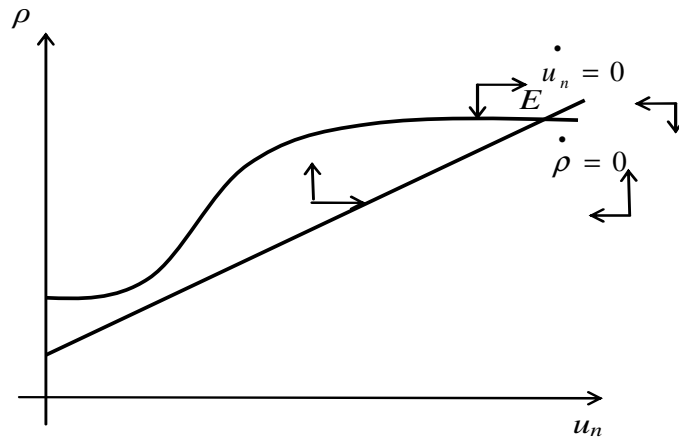


Figure 6: A unique long-run stable equilibrium.



Finally, different multiple equilibria may emerge should the locus for $l(\rho, u_n) = 0$ slopes positively (condition (C.2) is met so that $sx_p > \gamma[(x_p - \omega pb) + \hat{\gamma}_{r_n}] > \alpha$) and intersects the locus for $m(\rho, u_n) = 0$ twice or more. From our point of view, this is by far the most relevant situation because it shows a wide range of opportunities and constraints to Palestinian economy development. We treat in details the case for multiple long-run equilibria in the next section.

5.3. Economic restrictions, multiple equilibria and the Palestinian low-growth trap

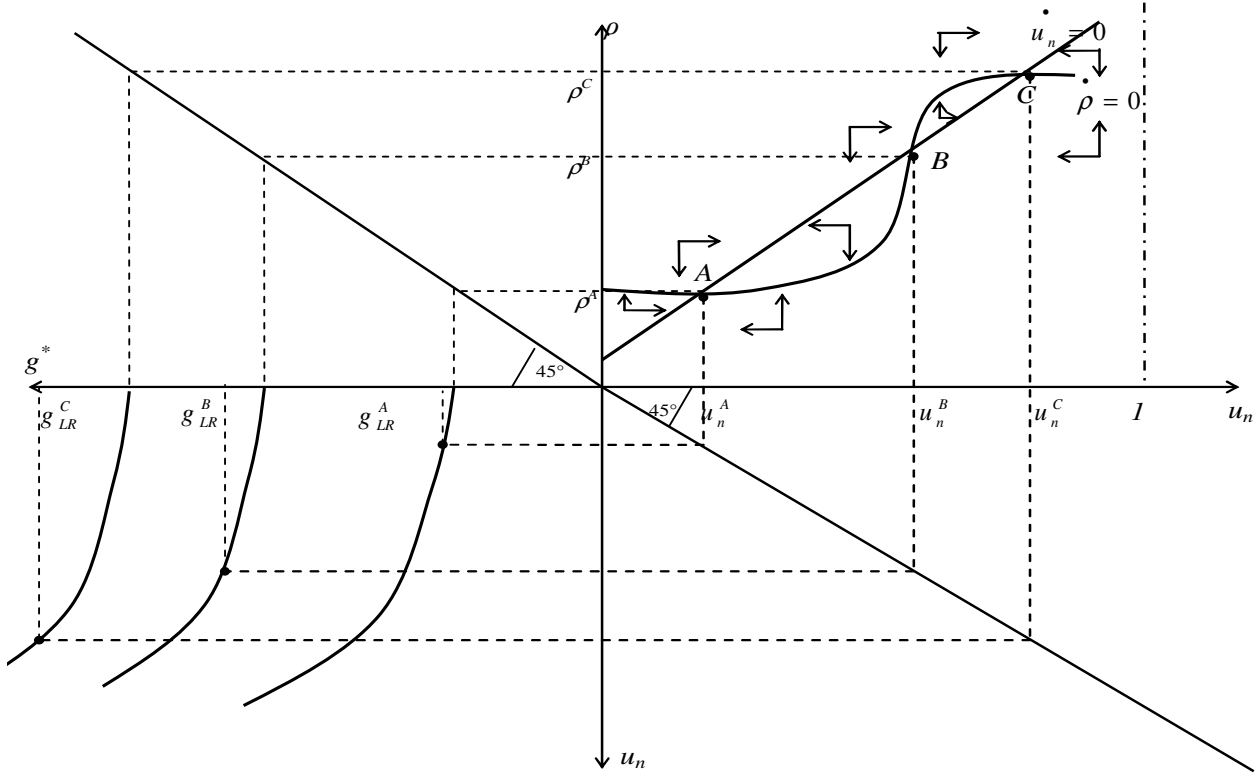
Let assume the two loci for $m(\rho, u_n) = 0$ and $l(\rho, u_n) = 0$ to intersect thrice so that three equilibria exist in the north-east quadrant of figure 7. Points A and C are two locally stable equilibria, point B is a locally unstable saddle-path equilibrium. At any equilibrium point, economic expectations are confirmed and not revised any longer, entrepreneurs' animal spirits ρ assume a constant value and current capacity use u gets equal to normal capacity use u_n . Equilibrium A features persistently low values of both ρ and u_n . Equilibrium C shows sustained economic activity with optimistic entrepreneurs' animal spirits. Equilibrium B lies in the middle. Accordingly, three different steady state growth paths of capital stock arise. Let's substitute the long-run values of ρ , u_n and $\gamma(r_n(u_n))$ in equation (6) :

$$g_{LR}^i = \rho^{LR} + \gamma^{LR} r_n^{LR} \quad (6LR)$$

$$\text{With: } r_n^{LR} = (x_p - \omega pb)u_n^{LR} \text{ and } \gamma^{LR} = \gamma\left(\frac{r_n^{LR}(u_n^{LR})}{r_f}\right)$$

Where ρ^{LR} , r_n^{LR} , u_n^{LR} and γ^{LR} are the long-run values assumed by entrepreneurs' animal spirits, domestic expected profitability, normal capacity use and domestic investment sensitivity to the profit gap.

Figure 7: Multiple long-run equilibria and alternative development paths in Palestine.



According to equation (6LR), high levels of capacity use u^{LR} ($=u_n^{LR}$) increase long-run expected profitability and reduce the profit gap with respect to foreign investments. Both r_n^{LR} and γ^{LR} increase in equation (6LR) and capital accumulation follows closely. Optimistic long-run animal spirits, i.e. high values of ρ^{LR} , further raise the steady state growth rate of capital stock. This fact emerges clearly in the south-west quadrant of figure 7, where we plot equation (6LR) and the long-run growth paths arising from equilibria A, B and C. The accumulation path associated to point C (g_{LR}^C) is faster than capital accumulation in point B (g_{LR}^B), which in turn outstrips the capital stock growth rate connected to equilibrium A (g_{LR}^A): $g_{LR}^C > g_{LR}^B > g_{LR}^A$.

In Palestine high transaction costs and market fragmentation curb economic activity, reduce capacity utilization and frustrate entrepreneurs' animal spirits. Such a gloomy scenario does not appear as a temporary condition. On the contrary, it appears like a well-established feature of the Palestinian economy. Low levels of current capacity use and chronically depressed entrepreneurs' animal spirits

generate perverse cycles in the adjustment process of economic expectations so that Palestinian development is permanently frustrated.

In terms of figure 7 Palestine appears stuck in the low equilibrium point A. According to equation (11), low levels of current capacity use lead Palestinian firms to downward revise their opinions about the normal level of capacity use and to maintain it unusually low, quite likely below u_n^B . Moreover, from equation (12), economic stagnation negatively affects the way in which Palestinian entrepreneurs' adjust their animal spirits. They are likely to be lower than ρ^B , due to the lack of opportunities to introduce technological changes, to the enormous difficulties to gain market shares and to impossibility to have significant increases in sales. With these vicious mechanisms at work, Palestine ends up and remains locked in the *low-growth trap* equilibrium A. Palestinian firms' current and normal capacity use persist to be abnormally low. The Palestinian long-run growth potential and capital accumulation get irremediably curtailed to the disappointing level g_{LR}^A . Actually, such a *low-growth trap* closely resembles to the long-run scenario prospected by Shaban (1999): without dramatic breakthrough in the Israeli-Palestinian relationships, "border closures [will] have a detrimental impact on long-run economic development by instigating lower levels of investments and reduced efficiency of investment"(Shaban, 1999, p. 61).

6. Policy measures to unleash Palestinian growth potential

With Palestine stuck in the low-growth equilibrium A, economic policy measures should aim to unleash Palestinian growth potential. A first and immediate measure may aim to provide Palestine with huge financial resources, let's say a Marshall Plan for Palestine. Strong and prolonged financial support, it might be argued, might stimulate economic activity so as to induce domestic agents to upward revise their expectations, to increase normal capacity use and entrepreneurs' animal spirits above threshold levels u_n^B and ρ^B (see figure 7) and to generate virtuous mechanisms among improving expectations, economic growth and fast capital accumulation.

However, such a strategy may turn out to be useless and ineffective both in the short and in the long run. Palestine already benefits of considerable external support but its impact on economic development has been extremely weak so far. Of course, external financing has improved Palestinian daily life standards, which is obviously important; yet, it has not led to faster capital accumulation, neither it has eliminated the structural weaknesses of the Palestinian productive system. With high transaction costs and market fragmentation still on the field, Palestinian firms will probably continue to be uncompetitive and reluctant to invest. Financial support will mostly result in worsening trade deficits, without stimulating demand for domestic products; economic expectations will hardly improve and existing constraints to growth will not be removed. Palestine might experience a perverse Dutch

disease effect, which further deteriorates the competitiveness of Palestinian firms and lowers Palestinian growth potential.

The above considerations do not imply that financial support is not needed, but clearly is not enough and it is not the crucial element to support the long run development of the Palestinian economy. Notwithstanding all its problems, Palestine has a high growth potential. Before the second intifada there were good saving ratios by the households, Palestinian firms are close to large and rich markets and can dispose of a well-educated labour force (Dessus, 2004; World Bank, 2006c). Therefore, the most promising development strategy should reduce transaction costs, remove market segmentation and let Palestinian firms to do their business freely.

Suppose that thanks to a substantial progress in the Israeli-Palestinian peace process market fragmentation is removed and transaction costs are cut. Lower values of θ increase current capacity use u . The same effect results from increasing market integration, a higher level of λ . Both facts stimulate capital accumulation.

Such immediate consequences could entail much more important long-lasting changes, by influencing the adjustments process of entrepreneurs' expectations. Increasing current capacity use induce Palestinian firms to upward revise their conjectures about u_n . Lower transaction costs and market fragmentation allow Palestinian firms to better provide domestic and foreign markets. Expected sale dynamics and animal spirits are scaled up; if sufficiently strong, these facts could persistently raise long-run capital formation.

Analytically, take the two loci for $l(\rho, u_n)=0$ and $m(\rho, u_n)=0$ and differentiate them with respect to θ ¹⁶:

$$\left. \frac{\partial u_n}{\partial \theta} \right|_{l(\rho, u_n)=0} = -\frac{\partial l / \partial \theta}{\partial l / \partial u_n} = -\frac{(\partial l / \partial u^*)(\partial u^* / \partial \theta)}{(\partial l / \partial u_n)} < 0$$

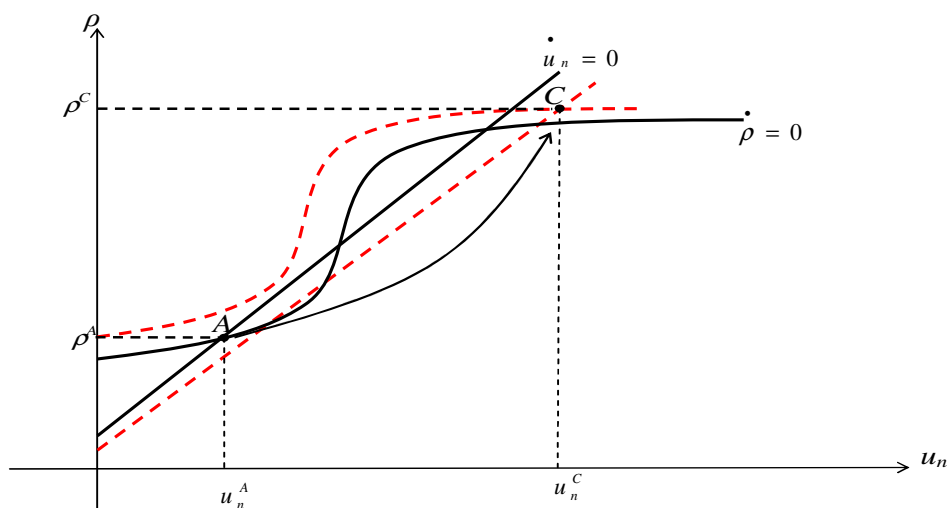
$$\left. \frac{\partial u_n}{\partial \theta} \right|_{m(\rho, u_n)=0} = -\frac{\partial m / \partial \theta}{\partial m / \partial u_n} = -\frac{z'(\partial u^* / \partial \theta) - (\partial \zeta / \partial \theta)\rho}{z'(\partial u^* / \partial u_n)} < 0$$

In figure 8, the locus for $\dot{u}_n = 0$ moves downward. Given the positive effects of lower transaction costs on current capacity use u^* , an increase in u_n is required to maintain $l(\rho, u_n)$ equal to zero. At the same time, the locus for $m(\rho, u_n)=0$ moves up. Decreasing transaction costs and higher current capacity use favour technological improvements, Palestinian firms' competitiveness and their expectations about

¹⁶ On the base of the short-run analysis above, our findings do not change much in case we consider the long-run effects of market integration, i.e. an increase in parameter λ .

future sales. According to equation (12), a reduction in normal capacity use is needed to counterbalance more optimistic entrepreneurs animal spirits and to keep ρ constant.

Figure 8 – Long-run effects of restriction removal and unleashed Palestinian growth potential



If the removal of market fragmentation and the reduction in transaction costs are strong and convincing, the Palestinian low-growth trap may simply disappear. Mounting investments from confident entrepreneurs may sustain economic activity and capacity use, which in turn stimulate entrepreneurs' confidence and their propensity to invest. In figure 8, Palestine may autonomously move towards the high, stable and unique equilibrium C, in which economic growth would be much higher than the disappointing results recorded so far and capital accumulation would outstrip the mere 15 percent (of domestic GDP) averaged between 1994 and 2007. Palestine would enter in a sustained steady state long-run growth path.

Two important observations have to be done about this scenario. First, several problems may still persist, the structural Palestinian trade deficit above all, thus a foreign exchange constraint might arise. Nevertheless, fast and sustained capital accumulation may be a source of structural change so that the Palestinian dependence on imported goods may be reduced¹⁷.

Second, it is important to remark that in the long-run perspective there is a major difference between peace talks and the establishing of an independent Palestinian State with complete economic sovereignty. In the long-run scenario Palestinian entrepreneurs will improve their expectations about future sale changes only if they will be fully convinced that: a) high transaction costs will not be

¹⁷ Structural changes in Palestine may imply an increasing share of domestic capital goods to be produced at home. This change can reduce the price P_I of the investment good (provided that \bar{P} is lower than P_I) and increase the relative price p , which in Palestine resembles the 'terms of trade', due to the lack of the exchange rate. According to equation (3), this fact increases domestic profits and further stimulates domestic investments. Moreover, structural changes may be a source of additional demand injections for home-produced goods.

reintroduced; b) the larger and more integrated markets they can serve will last in the future. There have already been too many occasions in which long run expectations about a positive solution to the conflict have been disappointed. On the other hand, it must be remembered that there has been a period in which political climate and entrepreneurs' expectations seemed to become definitely more optimistic. Following the Oslo agreement and the idea that Palestinian sovereignty would have been gradually extended from zone A to zone B and C some notable investments took place in Palestine, in particular in the industrial zone of the Gaza Strip.

The best way to favour Palestinian economic development is both easy and difficult to implement at the same time. On the one hand, stable market integration and reduction in transaction costs are cheap pro-growth interventions which do not require generous disbursements of financial resources. On the other hand, the political conditions to introduce these changes may be too far away.

7. Conclusions

This paper draws two main conclusions about the Palestinian economy.

First, Palestine is characterized by high transaction costs which reduce the expected profitability, moreover market fragmentation considerably limits the size of the market and the expected sales by Palestinian firms. In the short-run these facts discourage entrepreneurs which are reluctant to invest so that Palestinian capital formation never takes off; an investment-constrained economy emerges. Poor investment demand causes extremely low values of capacity utilization, slightly above fifty percent on average. Capacity utilization turns out to be further curbed by an enormous trade deficit and the Palestinian structural dependence on imported goods.

Second, in the long run low levels of capacity utilization and capital formation have become pathological features of the Palestinian economy. A vicious self-reinforcing process between frustrated economic activity and pessimistic adjustments in entrepreneurs expectations may give rise to a long-run low-growth trap. Low levels of economic activity and capacity utilization may induce domestic agents to downward revise their conjectures about normal capacity use and expected profitability. This situation reduces the incentives of Palestinian firms' to introduce technological progress and the possibilities to exploit the scale externalities of larger markets. High transaction costs and the small market size due to its fragmentation lead to permanent reduction in Palestinian long-run growth potential.

In this paper we highlight some conditions to overcome this gloomy situation and to unleash the growth potential of the Palestinian economy.

In the short-run peace talks and some progress on the situation on the ground may help to increase current capacity utilization, u , and the growth rate of capital accumulation, g , two very

important aspects, which might improve the economic climate and the living conditions of the Palestinian people. However, the process of economic development can be triggered off only if the short run improvements are sufficiently strong; this means a drastic reduction of transaction cost, a marked decrease of θ , and an important expansion in the markets facing Palestinian firms, a substantial increase of λ . Economic growth can be sustained in the long run only if the prospects of higher future sales are permanently incorporated into the process of entrepreneurs' adaptation of their expectations about the dynamic of future sales. This implies that the entrepreneurs must be convinced that the lower transaction costs and the larger market size are permanent changes with respect to the existing conditions¹⁸.

Improvements in Israeli-Palestinian peace talks may reduce transaction costs and favour economic integration and may even induce a more optimistic investment climate. However Palestine has already seen temporary improvements in the economic situation and the removal of some check-points, although useful to encourage Palestinian recovery, will not eliminate the low-growth trap Palestine is stuck in. In the north-east quadrant of figure 7 the low-growth trap will slightly move to the right but it won't disappear. *Per se* they will not give rise to the structural shifts, the radical changes and the sustained development process described in figure 8. These radical changes can only derive from a permanent improvement in the way in which the entrepreneurs adapt their sale expectations; they foresee a sustained process of market expansion which can lead to recurring expansion of their future sales. To use a somehow symbolic expression: the Palestinian entrepreneurs must 'see these larger and rising market', which justifies the increase in the existing productive capacity.

It is difficult to have a permanent improvement in the investment climate without the creation of an independent Palestinian State with complete economic sovereignty; a state which may give a sense of permanence to the larger market. An independent state can also negotiate trade agreements with its neighbours and run independent fiscal, monetary and also industrial policies. The Asian growth experiences show how important these aspects are in order to achieve strong and sustained economic growth. A Palestinian state may be a necessary, though not sufficient, condition to achieve higher growth rates of capital accumulation and to move out of a low growth equilibrium, characterized by poor investment opportunities.

¹⁸ Of course the same will apply to foreign direct investments.

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