

A Post-Keynesian Model of the Palestinian Economy: Political Economy and Distribution

Abstract

The paper formally examines the economic impact of Israeli movement restrictions on the Palestinian economy, taking into account the distribution of economic burden among Palestinian workers and capitalists. The paper utilizes the model by Botta and Vaggi (2012) which postulates restrictions as an external third claimant on income (together with wages and profits). However, unlike the authors, the paper highlights the importance of a political economy lens that takes class into consideration, both in the presented stylized facts and in the formal model. Formally, instead of assuming that capitalists passively bear the full burden of the restrictions on their profitability, I assume capitalists channel the burden to workers via the nominal wage. I also adjust the authors assumption that the savings rate is homogeneous between Palestinian workers and capitalists. The paper derives the new specifications for the profit rate, capacity utilization and capital accumulation, and finds that shifting the distributional impact of movement restrictions has a clear impact on the short run equilibrium levels of capacity utilization and capital accumulation.

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1 Introduction

In recent years, the impact of the Israeli occupation on the Palestinian economy has been well-documented by international organizations. In 2016, the United Nations Conference on Trade and Development (UNCTAD) reported on the ‘staggering’ economic cost to the Palestinian economy, stating that the ‘Occupation imposes a heavy cost on the economy of the Occupied Palestinian Territory, which might otherwise reach twice its current size’ (UNCTAD 2016, p.1).

Since then, UNCTAD released reports on the fiscal ‘leakage’ due to the occupation during the 2000-2017 period, estimated to be \$48 billion, or three times the Palestinian GDP in 2017 (UNCTAD 2019a), and on the costs of unrealized oil and natural gas potential (UNCTAD 2019b). Similarly, the World Bank concluded that Israeli-imposed movement restrictions ‘have been the *main* constraint to Palestinian economic competitiveness and have pushed private investment levels to amongst the lowest in the world’ (World Bank 2016, p.5 emphasis added).

Whilst these recent reports and others document the empirical ramifications, very few have incorporated the economic impact from a theoretical or modeling perspective. The report on the forgone revenue of oil and natural gas (UNCTAD 2019b) attempts to conceptualize the economic costs using elements of New Institutional Economics and the Kaldor-Hicks potential compensation principle of welfare analysis. However, both theories are bound by the marginalist, neoclassical utility-theory, and lack a political economy perspective. In contrast, the work of Botta and Vaggi (2012) provides a sensible start for an alternative by utilizing a heterodox, Post-Keynesian model.

Heterodox models, namely Post-Keynesian growth models in the Neo-Kaleckian tradition share common features that better suits stylized facts of contemporary economies. First, unemployment is a persistent feature in both the short and long runs; as such, labor supply is not a constraint for growth. Second, firms operate in a monopolistic competition framework where they have certain price setting powers, and the mark-up pricing above costs determines the functional distribution of income between workers and capitalists. Third, firms operate with excess capacity in both short and long runs. Finally, fourth, investment determines savings via income, capacity utilization and growth effects.

The paper by Botta and Vaggi encapsulates the economic impact of the occupation via the higher transaction costs (and market fragmentation) that accompany Israeli restrictions on movement. The model incorporates transaction costs as a variable (θ) that estimates the percentage loss of output through its effect on the mark-up and profitability of firms and capitalists. This paper argues that because of the weak bargaining power of Palestinian labor, it is more likely that capitalists channel the impact to workers via the nominal wage rather than passively bear the burden, and modifies the formal model as such.

This introductory section is followed section two that profiles the key structural features of the Palestinian economy and its class transformation process. Section three discusses the suitability of Post-Keynesian models for the Palestinian economy. Section four briefly presents the key components of the original model presented in (Botta and Vaggi 2012). Section five delves into modifying the model by shifting the burden of Israeli restrictions from capitalists (profits) to workers (wages), and adjusting assumptions regarding the savings rates of workers and capitalists. Section six concludes.

2 A Political Economy Profile of the Palestinian Economy

2.1 1967: Occupation and Dependency

After the military occupation of 1967, Israel issued hundreds of military orders that would become the law of the land in the West Bank and Gaza Strip (WBG). Some of the very first military orders would capitulate the economy of WBG to the Israeli military commander and stifle economic activity. For example, military orders (10, 11 and 12) outlawed all import-export activities (Samara 1989), while orders (7, 18, 26 and 30) effectively shut down all the 30 bank branches in the WBG (UNCTAD 1989). These and other orders were coupled with an abrupt increase in prices (and costs) from opening up the economy to the Israeli one, which put many small employers, the self-employed and unpaid family workers out of work.

Furthermore, restricted access to agriculture lands and the relatively higher wage in the Israeli econ-

omy eventually lead to an influx of Palestinian workers from the WBG to the Israeli economy, in a phenomenon that would entrench the dependency on the Israeli labor market and would define the shape of the Palestinian economy until the current time. The resulting movement of Palestinian labor into the Israeli economy was massive. Israel was facing a shortage of unskilled labor, particularly in the construction sector, which would eventually employ at least 50 percent of Palestinian workers in Israel. In the first twenty years after 1967, the percentage of the Palestinian labor force working in Israel jumped from virtually 0% to a whopping 39% in 1987.

Figures from the period (1970-1985) illustrate the scale of this dependency. The number of workers in the domestic economy was virtually stagnant during the 15 year period. In 1970 the domestic economy employed 152,677 workers compared to 152,881 workers including in 1985. During the same period, the number of Palestinian workers in the Israeli economy increased from 20,500 to 89,200 in 1985, a 335% increase (Shikaki 2020). Furthermore, while those in the domestic economy were not working in the Israeli economy *per se*, subcontracting became a leading feature in which Palestinians assembled and finished semi-processed Israeli material. The phenomenon would do little to enhance local productive capacity as ‘subcontracting shifted from one branch to another in line with the changing trade dynamism of a liberalizing Israeli economy, while technology transfer was minimal’ (UNCTAD 2009, p.4). The domestic economy was never able to rid-itself of this dependency or absorb its growing labor force internally. Figure 1 shows the visual correlation between the availability of work in Israel and the level of unemployment in the domestic economy.

Figure 1. Work in Israel vs. Palestinian unemployment rate

Source: Calculated by author from (CBS 1993a) and (PCBS 1995-2019).

But it would not only be the Palestinian labor force that would forcefully morph to suit the needs of the Israeli economy. In parallel, structural shifts in domestic economic sectors would follow. Prior to 1967 Agriculture had been the backbone of the Palestinian economy, both in terms of employment as well as contribution to GDP. Agricultural products satisfied domestic needs and surplus was exported to neighboring Arab countries. After 1967, the contribution of agriculture in economic activity and employment gradually declined, making place for the ever-growing services sector that would serve to satisfy the demand from the Israeli economy, particularly trade and transportation services. Figure 2 traces the evolution of employment in agriculture and services for the domestic economy, excluding employment in Israel. Manufacturing would remain around 10%, albeit almost solely focused on subcontracting in light manufacturing such as textiles and footwear.

Figure 2. Contribution of agriculture and services to employment in the domestic economy

Source: Calculated by author from (Farsakh 2005, table A5)

As a result, the productive sectors were weakened and local production severely held back. At the same time, Palestinians were not short on purchasing power due to the remittances-like transfers from workers in Israel. The logical conclusion of work in Israel and a dwindling productive base was an increasing trade deficit that jumped 18 fold in the first 20 years since 1967 (UNCTAD 1993). Although Israel eventually allowed Palestinians to export part of their limited production to Jordan, the challenges of customs, transportation and infrastructure as well as the skewed incentives

Israel promoted through its ‘open bridges’ policy would keep the Palestinian economy completely dominated by trade with Israel (Hilal 1975; Shikaki 2020), and would drive Palestinian manufacturing towards “low value-added, uncompetitive, labour-intensive production processes” (UNCTAD 2009, p.3).

To summarize, in the first 20 years of the occupation, the Palestinian economy had gradually become dependent on the Israeli labor and goods market. Half of the labor force worked in or for the Israeli economy which had become the undisputed trade partner for the WBG. The substantial level of remittances, and the trade deficit with Israel will be used to justify the assumptions of the formal model.

2.2 1993: Old and New Dependencies

The dependency on the Israeli labor and goods markets persisted following the signing of the Oslo accords and the establishment of the Palestinian Authority (PA) in 1993. In fact, several of these dependencies were formalized by the economic agreements, most notably the semi-custom union that existed. This was ‘disastrous’ for the Palestinians because it meant the Palestinian economy was forced to ‘remain under the high Israeli cost structure, even though income and per capita levels were completely on different scales’ (Samhuri 2017). In terms of job-creation, neither the newly formed public sector, nor the availability of jobs in the NGO sector and other professional services were able to compensate for the structural distortions, the lack of investment and the sheer destruction caused by the second Intifada in 2000.

As a result, unemployment still seemed to rely on external factors, namely Israeli issuing work permits for Palestinians. As figure 1 above showed, in the last 20 years, the corridor of unemployment rate had a floor of 20%. In the meanwhile, the Israeli economy was becoming more diversified arranged to replace the dependency on low-skilled Palestinian labor through workers from in Romania, Thailand and the Philippines. Non-Palestinian foreign workers increased from less than 20,000 in 1993, to 60,000 in 1994 and more than 100,000 in 1996 (Diwan and Shaban 1999). Israel would also diversify its trade partners. The WBG had been one of Israel’s main trade partner in the 1970s, second only to the US. As recent as 2018 the share of Israeli exports absorbed by the Palestinian goods market was around 5%, which is not insignificant, but much less than it absorbed earlier. On the other hand Israel is still the main trade partner of the WBG, accounting for 80% of Palestinian exports and 58% of imports (UNCTAD 2019c).

It is no surprise that after 50 years of occupation and forced open trade with the Israeli economy, trade dominates the economic activity in the WBG. In 2018, wholesale and retail trade accounted for 22% of GDP, followed by manufacturing (12%), public administration and defense (8.5%) and agriculture (7%) (PCBS 2019).¹ The recent data from the 2017 establishment census provides another angle: out of 166,486 economic establishments operating in the WBG, more than half (51%) operated in trade. The all-encompassing services sector provided 35% and another 13% operated in manufacturing. Going deeper in the ISIC classification, the predominant establishment in the WBG operated in ‘retail sale in non-specialized stores with food, beverages or tobacco predominating’ (12%), followed by retail sale of food (7%) and clothing (7%). Maintenance and repair of motor vehicles is also prevalent with (5%), while hairdressers accounted for 6% of economic

¹Although services as a whole contributed to 20% of output, the largest sub-sector was education (5.9%) followed by real estate activities (4.6%) and health and social work (3.4%)

establishment. As the reader can imagine, many of economic units are very small. 89% of establishments employed 1-4 workers, while only 1.5% reemployed 20 or more. The majority are legally registered as sole proprietorship (88%), and only 677 or (0.5%) are public shareholding companies (PCBS 2018).

This period would also witness new forms of dependencies on international aid and private debt, the former will feature critically in the external sector of the formal model. In its early days, the PA would face a fiscal gap to finance both its developmental and recurrent expenditures, i.e. the public wage bill. While the responsibility over the Palestinian population in WBG transferred from Israel to the PA (at least *de facto*), the Israeli government did not transfer the control over natural resources, borders or monetary policy to the PA. International donors stepped in and committed \$2.9 billion for the period 1994-1998, but that amount was clearly insufficient. By 1996 as one quarter of the labor force was unemployed, and a quarter of the population poor, donors committed an additional \$845 million in 1996. The additional aid, expansion of the public sector, and the easing of restrictions on movement by Israel alleviated the overall macroeconomic situation until the eruption of the second Intifada in 2000. The largest spike in international aid ever since the inception of the PA, however, was that under Prime Minister Salam Fayyad (2007-2013), a character widely accepted to have brought in a new wave of neoliberal policies and practices to the WBG (Khalidi and Samour 2011). In the Paris donor meeting in 2007, donors pledged an estimated \$7.4 billion for the PA under Fayyad. Figure 3 traces the overall development assistance per capita together with GDP per capita for the period (1994-2018). Despite billions of dollars of aid, it only proved to give a temporary boost and not surprisingly, could not resolve the underlying structural distortions of dependency on the Israeli economy. Data on gross fixed capital formation in the last 25 years is evidence that the political process and international aid were not able to entice the animal spirits of investors, the form of investment in the WBG has remained mostly constant: the overwhelming portion of gross fixed capital formation is in the non-tradable, buildings sector (figure 5).

Figure 3. Official Development Assistance and GDP per capita

Source: (World Bank 2020) and (PMA 2020a)

Figure 4. Gross Fixed Capital Formation

Source: Calculated by author from (PMA 2020a)

On average, from 1994-2018 the ratio of final household consumption to GDP was more than 90%, one of the highest levels on a global scale. One way in which Palestinians were able to fuel that consumption, particularly after the second Intifada, is the abrupt availability of credit. After 2008, many of the strict requirements on private credit were removed, and a new law required banks operating in the WBG to extend 40% of their credit locally. Banks started promoting credit on a large scale and total credit facilities skyrocketed from \$1.3 billion in 2008 to \$7.1 billion in 2018, a 450% increase (PMA 2020b). More significantly, very little of credit is directed towards productive sectors. In 2018 only 1% and 6% of credit was allocated for agriculture and manufacturing, respectively. Real estate financing and trade financing accounted for approximately 22% of credit facilities each, while cars, credit cards, and consumption goods totalled 33% (calculated by author from (PMA 2020b)).

To summarize, most structural distortions persisted in the (1994-2020) period after the establishment of the PA, and would become worse with the eruption of the second Intifada in 2000. The dependency relationship continued in one direction, as Israel minimized its reliance on the Palestinian labor and goods markets. Furthermore, new types of dependencies on international aid and private credit emerged, in parallel with a neoliberal turn in PA policies.

2.3 Class Transformation

The final section of this profile involves a summary of class transformation since 1967. This section is necessary not only to justify using a two-class model, but also to explain why it is sensible to adjust the formal model presented in the work of Botta and Vaggi. Some of the very first signals of agrarian and class transformation in the Palestinian society date back to the mid-19th century. The debt crisis of the Ottoman Empire forced it to change certain land laws, allowing for gradual land concentration. New immigration laws followed that allowed immigrants, including Jews fleeing antisemitism in Europe and Tsarist Russia to resettle. In their efforts to buy land and property, Zionist organizations including the Jewish Colonization Association (1891) and the Jewish National Fund (1901) distorted land prices by paying above-market prices and effectively removing them from the market (Naqib 2001). Later on, in the early 20th century, the excessive taxes imposed by the colonial British mandate and its one sided economic policies exacerbated these tendencies, forcing more farmers to sell their smaller plots of land (Farsoun and Aruri 2006). Finally, the 750,000 Palestinians who were forcibly removed from their lands after the establishment of the state of Israel in 1948 lost their means of production and would later become either unemployed or wage workers.

More recently however, the occupation of 1967 would play the primary role in the completion of the proletarianization process. To assume that the shift to wage work in Israel after 1967 was a “rational” decision, in other words that the Palestinian peasant choosing wage work in Israel was a purely economic phenomenon due to higher wages, is hollowed out from the political and social context. Rather, to understand this political economy development, one must understand the the demise of the prevalent, self-employed petty bourgeoisie and their transformation to wage workers in Israel. The petty bourgeoisie class was divided into three groups: the agriculture component of this class bore the most severe impact. Instead of Marx’s ‘primitive accumulation’ (Marx 1976) or Harvey’s ‘accumulation by dispossession’ (Harvey 2004), Palestinians faced a more direct dispossession through land confiscation, leaving them with only their labor to sell. Land confiscation for Israeli settlements in the WBG was at its highest levels between the mid- 1970s and mid-1980s. Palestinian work in Israel jumped from 66,000 to 89,000 in in the 1975-1985 period, a 35% increase. Many of those who shifted to work in Israel used to be employed in agriculture: during that same period, the number of Palestinians working in agriculture within the domestic economy decreased from 45,000 to 37,000 workers (Farsakh 2005, table A5).

The industrial component of the petty bourgeoisie class faced a similar fate. Israel controlled all the borders and the entry of machinery, intermediate goods and raw material. Moreover, Israeli producers used capital-intensive production and benefited from state subsidies. Hence they were able to dump their goods in the Palestinian market with at low prices that Palestinian small producers could not compete with. Finally, smaller-scaled industrial producers were unable to compete with the higher wages paid by Israeli capitalists or Palestinian large producers who were paid hefty incentives to sell their products outside the local market and open the market to Israeli products.

As a result, many of the workers, the self-employed and the unpaid family members in these small enterprises were forced to seek wage labor in Israel. The third and final component is the trade component, smaller merchants, traders, and craftsmen had to turn to wage labor as well. They were unable to cope with Israeli taxes and the ever-increasing cost of living that accompanied the opening up to the Israel economy. To sum, the prevalent petty bourgeoisie class was unable to cope with increasing costs and occupation policies, and were forced to seek wage labor in the Israeli market, intensifying the proletarianization process. As one indicator of the demise of the petty bourgeoisie, self-employment fell from 45% in 1969 to a mere 25% in 1987 and would remain around 20% until today. Figure 5 compares work in Israel and the shift from self-employment to wage work during the first 20 years of the occupation.

Figure 5. Wage workers vs. work in Israel

Source: Calculated by author from (Farsakh 2004) and (CBS 1993b)

As the section above showed, the post-1994 era did not exhibit any structural break in terms of economic activity or the dependency relationship. However, developments in the institutional framework would have an impact on the dynamism of class formation. This era would witness the rise of a new ‘professional’ middle class fueled by the creation of the PA public sector, the establishment of local and international NGOs, and the availability of professional private-sector employment opportunities made possible through the arrival of a segment of Palestinian capital from the Gulf countries. Following the method by (Hilal 2006) we identify the new professional middle class as those who occupy the following two types of occupation: ‘legislators, senior officials & managers’ and ‘professionals, technicians, associates & clerks’. During the last 20 years, the weight of this new middle class amplified from 20.6% in 1997 to 36.9% in 2017. In comparison, before the political process and the establishment of the PA, the professional class was significantly smaller (10.8% of the labor force in 1989)². For a detailed composition in the years covered by the population census, see table 1 below.

Table (1): Distribution of labor force according to type of occupation

Source: (Shikaki 2020)

The other important class development after 1994 was within the capitalistic class. As early as 1948 the capitalistic class had already started to flee and moved their capital to neighboring Arab and Gulf countries. The remaining capitalists accounted for a small segment of society: as a proxy, the category of ‘employers’ in labor force surveys fluctuated around 2% during the 1967-1991 period, and grew after the establishment of the PA to around 7%. Part of what explains this, is that after 1994, a number of Palestinian capitalists and businessmen would return and ‘dominate’ the Palestinian economy, despite that the main source of their capital accumulation would remain predominantly in the Gulf states. The holding companies controlled by them invested in a wide array of sectors, including financial institutions to the extent that it was ‘almost impossible to find a large

²Calculated by author from Israeli CBS Quarterly Statistics of Judea Samaria and the Gaza Area, volume XXI, March 1993. There are three corresponding categories named slightly differently: “scientific and academic workers”; “other professional, technical and related workers”; “administrators and managers, clerical and related workers”.

or medium-sized company in which they do not own a significant stake' (Hanieh 2011, p.95). Part of this dominance was facilitated by the public and private monopolies that came about through 'crony capitalism' relations between these capitalists, the PA and Israeli political and security officials (Dana 2020). As early as the mid 1990s, a few years after the establishment of the PA, US officials had pointed that five members of the PA upper echelons had already secured control over thirteen of those monopolies (Samara 2000).

To sum, the post Oslo era would see the rise of a new "professional" middle class fueled by the creation of the PA public sector, the establishment of local and international NGOs, and the availability of professional private-sector employment opportunities made possible through the arrival of a segment of Palestinian capital from the Gulf countries. As a result of the latter, a new form of capitalistic class would arise.

3 A Kaleckian, Post-Keynesian Growth Model of the Palestinian economy?

In his introduction to a special volume on Kaleckian modelling, Amitava Dutt remarks that Kalecki's work has been an inspiration 'for those who take the view that the unemployment of resources, such as labor and capital, can persist in the economy over long periods of time and who seek to develop models that take into account important behavioral and institutional features of real economies, rather than relying on the optimizing agent as a basis for analysis' (Dutt 2012, p.1).

The economic, political and class context of the Palestinian economy detailed in the previous section requires a more nuanced approach than the neoclassical one currently adopted by international institutions (Astrup and Dessus 2005; World Bank 2017) or presented in earlier development models such as (Lewis 1954) and (Harris and Todaro 1970). The development models are subject to the same line of criticism as other neoclassical models; they equate savings with investment, assuming away any problems with inducing investment, and explain the economic context of developing countries as an instance of optimizing decision-making (Chakravarty 1987).

Instead, heterodox growth modelling that presents stylized facts akin to (Kaldor 1957) and respects the structural and institutional peculiarities of developing countries *a la* (Taylor 1983; 1990) is better suited for the task. In the spirit of the quote from (Dutt 2012) above, Foley and Taylor (2006) note that heterodox models in general, including Post-Keynesian variants, share several core insights. Unlike neoclassical models, heterodox models focus on the functional distribution of income, avoid model closures that imply full employment; present differential modeling of consumption and savings decisions for workers and capitalists; and adopt an investment demand function independent of savings decisions.

In particular, Neo-Kaleckian variants of Post-Keynesian growth models posit a steady-state rate of accumulation simultaneously with a steady-state degree of capacity utilization *differing* from its normal, and suggest investment decisions of firms are captured by a separate investment function, which normally entail a variable representing animal spirits.³ Some of the earliest contributions

³In contrast with earlier Neo-Keynesian work (Robinson 1956; 1962; Kaldor 1966), Kalecki's work, (Kalecki 1954; 1971) argued that: i) firms operate with excess capacity even in the long run; ii) the appropriate framework is one of monopolistic competition in which prices are set by firms' mark-up above costs, and functional distribution of income is derived from these mark-up decisions.

to this strand were (Asimakopulos 1975) and (Harris 1975). However, the first model to present an endogenous investment function was (Rowthorn 1981), followed by contributions from (Dutt 1984; Taylor 1985; Amadeo 1986) among others.⁴ Similar to (Steindl 1952), the previous authors present ‘stagnationist’, wage-led growth models in which higher mark-up of firms, i.e. larger profit shares, decrease the overall capacity utilization, general profit rate and accumulation rates, and lead to stagnation in the economy. The works of (Blecker 1989) and (Bhaduri and Marglin 1990) propose a specification for the investment function that includes the profit share instead of the profit rate. This alteration allows for results that are not necessarily wage-led but can also be profit-led or ‘exhilarationist’. Further clarifications and additions to the simple closed economy were introduced by (Lavioe 1992; Hein 2006; Lima & Setterfield 2010), among others.

The model below follows the aforementioned literature. Utilizing different variants of Post-Keynesian, two-class, one sector growth models is popular with scholars interested in the impact of distribution on growth. Furthermore, many economists in developing countries, especially in Latin America have adopted a ‘structuralist’ approach described as ‘a combination of abstract descriptions of the structures that Third World scholars have always emphasized with analytical models largely developed by Keynes, Michal Kalecki, and their followers of the Cambridge School’ (Taylor 1983, p.4). An industrial, one-sector model is employed in many structural models for developing countries. While it is understood that manufacturing only accounts for a small percentage of total value added and employment in developing countries, including the Palestinian economy, the manufacturing sector and related activities play a central macroeconomic role (Taylor 1983): the industrial sector often grows faster than the rest of the system and is more responsive to policy tools. Moreover, it is normally characterized by excess capacity, and as such its adjustments take place on the quantity side, following Keynesian reasoning. Finally, prices in the industrial sector are likely to be fixed in the short run by relatively stable markups over variable cost, similar to the Kaleckian cost-plus approach. As noted above, after the early 1990s a significant amount of new capital coming from Gulf countries was directed towards trade and services, not manufacturing. Still, while large scale industrial enterprises did not materialize, the highly adaptive manufacturing private sector managed to survive. According to the 2017 establishment census, 12.5% of economic enterprises in the WBG worked in manufacturing (food processing and light manufacturing), second only to wholesale and retail trade (51%).

A two-class model is not a foreign concept to the current Palestinian economy. On the one hand, as we detailed in the above section, the Palestinian society underwent an intensified process of proletarianization after 1967. In the current state of the economy, 71% of the labor force are wage workers. It is true that a portion of that figure are part of the ‘new’ middle class, but more than half of the labor force occupies jobs that are classified as elementary occupations, trade and market workers, and assemblers (PCBS 2018). On the other hand, after the establishment of the PA in 1994, Palestinian capitalists, especially those with closer ties to the political ruling class, became a more differentiated and prevalent class. The total number of Palestinian ‘employers’ increased from 5,748 (2% labor force) in 1991 to 32,970 (6%) in 1995, and 65,845 (6.5%) in 2019. The recovery is chiefly attributed to heightened ‘animal spirits’ and expectations following a series of developments. Licensing for businesses in areas under control of the PA became considerably easier after 1994. The Palestinian Investment Promotion Agency (PIPA) was created and an investment promotion

⁴(Del Monte 1975) had presented an endogenous investment function before the mentioned authors, albeit he was writing in Italian

law was enacted to encourage domestic investment and FDI. Banking and other credit institutions became more widespread. Moreover, international aid was channeled to various economic sectors and loan guarantee program from international institutions such as the World Bank's Multilateral Investment Guarantee Agency (MIGA) became available. This enthusiasm, however, was short-lived, and capital formation remained extremely low compared to expectations. This was partly because of the continuation of Israeli control over natural resources, borders and policies, and partly due to the corruption, nepotism and lack of transparency on part of the PA.

Aside from the previous criterion for utilizing a one-sector, two class type of model, many of the long standing economic issues facing the oPt are Keynesian in nature. Botta and Vaggi (2012) argue that 'the depressed domestic investment climate is, by far, the main problem Palestine has to tackle in order to unleash its growth potential' and that 'low levels of investment in Palestine do not seem to be the result of lack of savings' (Botta and Vaggi 2012, p.204). Instead they stipulate that chronic Palestinian unemployment is strongly connected to a problem of effective demand in which case 'neo-classical-type relative price adjustments are unlikely to be useful for restoring full employment (...) 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 economy' (Ibid pp. 207-208).

4 The Botta-Vaggi Model

The model describes the Palestinian economy as a 'demand-driven economy' and attempts to understand how the Israeli occupation impacts profitability, capacity utilization, investment and ultimately how growth is impacted. The model incorporates transaction costs due to *movement restrictions* as a variable (θ) that estimates the 'percentage loss of output' through its impact on the mark-up and as such on profitability.⁵ In the last 20 years, movement restrictions have been identified as one of the key impediments to investment and growth. The occupation-imposed restrictions were scaled up since the early 1990s, and re-envisioned completely after the second Intifada into a sophisticated web of geographical control.⁶ The impact of these long-lasting restrictions is far more than temporary. Rather it they affected the structure of investment and growth as as they create 'a high risk of disruption in projects or trade and have kept investment levels low, resulting in a bias towards non-traded services which have less potential for productivity growth' (World Bank 2020, p.5).

In the West Bank alone, there were more than 700 obstacles to movement in 2018 (UNOCHA 2018). These range from large-scale checkpoints, to road ditches, road gates as well as the system attached to the illegal Separation Wall. Moreover, Israel imposes an inefficient 'back-to-back' system in order to move Palestinian goods across trade borders, increasing transportation costs significantly. In the Gaza Strip, a siege that has been in place since 2007 suffocated most economic activity, and led the capacity utilization of Gaza's economic units to contract to an all-time low of 20%. In a special report on the impact of Israeli movement restrictions, the Applied Research Institute of

⁵Moreover, the model also incorporates market fragmentation as a variable (λ) that impacts animals spirits, and thus investment.

⁶The recent maps published by the UN can be accessed here <https://www.ochaopt.org/content/west-bank-access-restrictions-june-2020>

Jerusalem, (ARIJ) employed 70 vehicles and installed tracking devices in them for a period of 6 months, collecting 18 million records during 2018. The impact of restrictions (delays and closure) on labor force hours only was an estimated 60 million labor forces hours, or approximately \$274 million annually (ARIJ 2019).

This section presents the basic components of the model, the results of the model's short run equilibrium, together with brief notes of clarification on their choices of variables.

4.1 Model Components

Assuming a small, open economy that produces a single tradable good, the authors present the income distribution in a manner that depicts the transactions costs from movement restriction as an external claimant on income, together with wages and profits. More precisely, they introduce a variable that accounts for the loss in output/income:

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

Where (\bar{P}) is the price of total output and is considered exogenous, (θ) is introduced as the percentage loss of output resulting from transactions costs, (X) is total output, (w) is the nominal money wage (in the domestic economy), (L) is total labor, (r) is the profit rate, (P_I) is the price of capital stock and (K) is the total capital stock.⁷

Pricing decisions follow a Kaleckian mark-up or cost-plus function. As in equation (1), the domestic price (\bar{P}) is considered exogenous according to the 'small economy' assumption. In other words, since Palestinian firms are exposed to strong competition from foreign firms, they become price takers:

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

or

$$\tau = \frac{\bar{P}(1 - \theta)}{wb} - 1$$

Where (τ) is the mark up, (b) is the labor output coefficient ($b = \frac{L}{X}$) such that ($\frac{1}{b}$) represents labor productivity. Introducing the variable (θ) allows us to consider two related outcomes. First, as the level of (θ) increases, the mark-up, and hence profitability, will decrease. And second, that the "ex-post" *effective* value added per worker can be represented as $\frac{(1-\theta)}{b}$, such that $\frac{(1-\theta)}{b} < \frac{1}{b}$ when $\theta > 0$.

The profit rate as well as the mark-up are considered residual variables. This is because the authors assume that the domestic money wage (w) is fixed 'according to a Lewis-type argument, i.e. due to the existence of both open and disguised unemployment' (Botta and Vaggi 2012, p.210). The profit rate is denoted as follows

$$r = [p(1 - \theta) - \omega pb] u \quad (3)$$

⁷Given that the majority of capital goods are imported, the model, correctly so, assumes that the price of capital stock P_I is an average of domestic price \bar{P} with weight β and foreign price P_F with a larger weight $(1 - \beta)$ representing the share of capital stock imported. Analytically it assumes that $P_I = \beta\bar{P} + (1 - \beta)P_F$.

where (ω) is the real wage ($\omega = \frac{w}{P}$), (p) is the price *index* of capital goods ($p = \frac{\bar{P}}{P_I}$), and (u) is a measure of capacity utilization ($u = \frac{X}{K}$).⁸

Unlike the tradition in Neo-Kaleckian models, which either assume that workers do not save or that they save less than capitalists, the authors assume a homogeneous saving propensity for both wage and profit earners.⁹ The savings equation is presented below:

$$S = S_\pi + S_w \quad (4)$$

$$S = s(rP_I K) + s(wL) = s(rP_I K + wL) = s(1 - \theta) \bar{P} X$$

Where (S) is total savings, and (s) is the savings rate that is assumed *homogeneous* between capitalists and workers.

By dividing both sides of the last equation by $(P_I K)$ we get the equation for the growth rate g^s when $S = I$.

$$g^s = \frac{S}{P_I K} = s(1 - \theta) pu \quad (5)$$

The specification of the investment function is an ‘ad hoc’ one that describes investment decisions ‘in an open economy characterized by a high degree of uncertainty and by social and political instability’ (Ibid 2012, p.212).

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

Here (ρ) represents animal spirit of Palestinian entrepreneurs which is linked to average growth sales and is a function of population (n) , expected market sales vis-a-vis foreign products (sh^e) , and potential markets effectively reached (λ) . The ‘normal’ measure of capacity utilization and the expected profit rate are denoted by (u_n) and (r_n) respectively.

Finally, the external account reflects the high levels of remittances and current transfers that help offset the large trade deficit, as well as international loans and foreign aid:

$$(EX - M) + \Omega = -S_f \quad (7)$$

Where (EX) is exports, (M) is imports, (Ω) is the sizable foreign remittances and current transfers that help offset the large trade deficit. (S_f) is foreign savings which mostly includes loans and foreign aid.

⁸In the original model, the authors substitute the term $p(1 - \theta)$ with x_p and define it as ‘the value of effective output in terms of price of capital goods’. The intuition is not clear (aside from notation simplicity). In this paper I keep the fleshed-out term which will be useful later in the algebraic manipulation and finding the partial derivatives.

⁹They claim that the small average size of enterprises makes it ‘hard to distinguish between different social classes, workers and capitalists in particular, as far as consumption and saving decisions are concerned’ (Ibid p.211). This claim has been critically challenged in section 2.3 and section 3 above.

4.2 Short run equilibrium

The model follows (Taylor 1983), as such the authors take three steps, first they normalize equation (7) by the capital stock. Second, they define (Δ) as (CA/KP_I) where $CA = (EX - M) + \Omega$, and third, given that in an open economy domestic investment is equal to domestic saving minus the current account balance, present equation (8) as the equilibrium condition:

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

The equilibrium levels of (u) and (g) are found by substituting equations (3), (5) and (6) in equation (8) and rearranging:

$$u^* = \frac{\rho + [\gamma(p(1 - \theta) - \omega pb) - \alpha] u_n + \Delta}{[sp(1 - \theta) - \alpha]} \quad (9)$$

and

$$g^* = sp(1 - \theta) u^* - \Delta \quad (10)$$

If we keep in mind that the term $[p(1 - \theta) - \omega pb] u_n$ reflects the expected profitability from equation (3), then the numerator in equation (9) explains that the measure of capacity utilization is positively influenced by animal spirits (ρ), the response of desired investment to the domestic expected rate of profit (γ), and expected profitability. On the other hand, capacity utilization is negatively affected by the high current account deficit (assuming $\Delta < 0$). Finally, the normal capacity utilization has an ambiguous effect.¹⁰

Analytically the short-run effects of (θ) , i.e. $\frac{du^*}{d\theta}$, is ambiguous (see section below for details). In a previous version of the paper (Botta and Vaggi 2011), the authors formally set the *necessary* conditions to demonstrate that an increase in (θ) leads to a sufficiently large contraction in desired investment such that the final sign of $\frac{du^*}{d\theta}$ is negative. As such, the authors choose to show the effects graphically (Figure 6) while stating that without the necessary conditions, the final outcome wouldn't be clear. A rising value of (θ) rotates the savings supply function downwards, at the same time it also shifts the investment demand function downwards. If desired investment sufficiently contracts, the economy would move from point 1 to point 2.

Figure 6. The short-run effects of increasing transaction costs

Source (Botta and Vaggi 2012, p.216).

5 Adjusting the Model: A Political Economy Lens

What this model misses is a political economy lens. This is understood not only as an intersection of politics and economics, but one that takes into account class and power in the surplus-generating

¹⁰On the one hand, the higher u_n , the higher the expected profitability and investment demand. On the other hand, equation (6) shows that a larger gap between (u_n) and (u) will depress investment and economic activity via (α)

relationship. Two shortcomings in the Botta and Vaggi model arise. First, uncharacteristic with the literature and with a tenet of Post-Keynesian modelling, the authors assume a homogeneous savings rate, claiming that in the Palestinian society one cannot distinguish between different social classes in terms of savings and consumption. And second, the way (θ) is presented conveys only part of the story, particularly the impact on Palestinian capitalists. It does *not* take into consideration that transaction costs might be channeled to Palestinian workers through wages. I will start with the second shortcoming.

Before adjusting, it is useful to imagine total income before and after the impact of the Israeli measures analytically. Equation (11) represents total income *without* the restrictions.

$$\bar{P}X = W + \Pi \quad (11)$$

Where $(\bar{P}X)$ is the value of total income, (W) is total wages or the wage bill and (Π) is total profits. If we now take into account the impact of Israeli movement restrictions on output and income, we can represent the new effective income as:

$$\bar{P}X (1 - \theta) = W + \Pi - \theta \bar{P}X \quad (12)$$

Where $\bar{P}X (1 - \theta)$ is the effective income after the restrictions, and $(\theta \bar{P}X)$ is the portion of output (and corresponding income) that is forgone due to the restrictions. In treating profit as a residual, the original model assumes the mark-up firms desire is not the realized mark-up, rather, firms passively accept the cost consequences of the restrictions. Hence, capitalists bear the burden and face a diminished total profits relayed through the mark-up and the profit rate. Rearranging equation (12) makes it more clear analytically

$$\bar{P}X = W + \Pi^N + \theta \bar{P}X \quad (13)$$

Where $(\Pi^N = \Pi - \theta \bar{P}X)$ is the ‘new’ total profits after the impact of the Israeli measures is relayed from the mark-up to the profit rate and then to total profits, as a result $\Pi^N < \Pi$.

This paper argues that while the original model presents one case, an extreme where all the burden is borne by capitalists profits. The other (extreme) case to be explored is one where rather than passively accepting this hit to profits, capitalists will channel the whole burden to workers via the nominal wage.¹¹ This alternative scenario is not unlikely in light of the weak bargaining power of Palestinian labor. First, the high unemployment rate ranging from (20%-30%) in the last 20 years tilts bargaining power heavily to the side of capitalists. Second, Palestinian workers face extremely low legal and other protections in view of the widespread informal work even within the industrial sector. Figures from the recent labor force survey indicate that only 32% of wage workers have a written contract, 29% receive employer contributions to their pension funds, and 16% receive contribution to private health insurance (PCBS 2020). Third, data shows that during the time of heightened movement restrictions (2002-2006) nominal wage stagnated or decreased slightly (PCBS 1995-2019). Fourth, it was not only nominal wages that went down, but also the wage share, an important indicator of labor bargaining power. While no official wage share series on the Palestinian economy is published, one proxy can be calculated from the Economic Survey Series published by the Palestinian Central Bureau of Statistics (PCBS). While the series does not

¹¹In reality of course, a weighted average is more likely rather than any of the two extremes.

cover all economic sectors, it includes the compensation of employees and gross value added for the majority of economic establishments. Calculating the wage share as the ratio of compensation over value added shows the wage share falls significantly, from 35% to 26% during the years of heightened Israeli movement restrictions (2002-2006).

5.1 The new structure

To present our model analytically, it is prudent to imagine how income distribution would change. While total income ($\bar{P}X$) and the value lost ($\theta\bar{P}X$) do not change, the new distribution of income can now be presented as

$$\bar{P}X = W^N + \Pi + \theta\bar{P}X \quad (14)$$

Where ($W^N = W - \theta\bar{P}X$) is the ‘new’ total wages after the impact of the Israeli restrictions is channeled to workers via the nominal wage to total wages, as a result $W^N < W$.

After setting the new income distribution, the next step in the structure of the model is to define the profit rate. The new profit rate (r^N) is derived from (14) as follows

$$\begin{aligned} \Pi &= \bar{P}X - \theta\bar{P}X - W^N \\ &= \bar{P}X(1 - \theta) - W + \theta\bar{P}X \end{aligned}$$

dividing both sides by $P_I K$

$$\begin{aligned} r^N &= \frac{\Pi}{P_I K} = \frac{\bar{P}X}{P_I K} (1 - \theta) - \frac{w}{\bar{P}} \frac{\bar{P}}{P_I} \frac{L}{X} \frac{X}{K} + \theta \frac{\bar{P}X}{P_I K} \\ &= pu(1 - \theta) - \omega pbu + \theta pu \end{aligned}$$

$$r^N = p(1 - \omega b)u \quad (15)$$

This modification however, is incomplete, and equation (15) does not accurately represent the new profit rate. The original model assumes the mark-up shrinks while workers are paid normally (nominal and real wages are fixed). As a result, in the second line of equation (2), the nominal wage is constant and the mark up adjusts. In our version, this will completely flip. We assume that capitalists see the impact of (θ) coming and exercise their bargaining power *vis-a-vis* labor to recover the value appropriated by Israeli restrictions from the wage bill. Analytically, we assume that it is the mark-up which will remain fixed, and the nominal (and real) wage will bear the full burden and hence will change. Consequently, the real wage (ω) in equation (15) *must* reflect this assumption, as captured by equation (2). By simple rearrangement of equation (2) we can now represent real wages as:

$$\omega = \frac{w}{\bar{P}} = \frac{(1 - \theta)}{(1 + \tau)b} \quad (16)$$

By substituting (16) in (15)

$$\begin{aligned}
 r^N &= p(1 - \omega b)u \\
 r^N &= p \left(1 - \frac{(1 - \theta)}{(1 + \tau)} \right) u \\
 r^N &= p \left(\frac{\tau + \theta}{1 + \tau} \right) u
 \end{aligned} \tag{17}$$

The next step is to specify the savings equation and unsurprisingly, the savings equation (4) and equation (5) representing the growth rate at $S = I$ will *not* change. This is due to the fact that i) the *total* effective income has not changed compared to the original model and more importantly that ii) the assumption in the original model of a homogeneous savings rate implies that while the share of income that flows to workers and capitalists has changed, total savings (S) and hence (g^s) does not¹². We can show this analytically as follows

$$\begin{aligned}
 S &= S_\pi + S_w \\
 &= s [\Pi + W^N]
 \end{aligned} \tag{4}$$

Substituting (II) with the term from equation (14)

$$\begin{aligned}
 &= s [(\bar{P}X - \theta\bar{P}X - W^N) + W^N] \\
 &= s (\bar{P}X - \theta\bar{P}X)
 \end{aligned}$$

$$S = s(1 - \theta)\bar{P}X$$

identical to the original model we divide by $P_I K$

$$\begin{aligned}
 g^s &= \frac{S}{P_I K} = s(1 - \theta) \frac{\bar{P} X}{P_I K} \\
 g^s &= s(1 - \theta) pu
 \end{aligned} \tag{5}$$

The investment function changes insofar as it reflects the new specification of the profit rate (r^N). As such, equation (6) is rewritten as

$$\dot{g}^i = \rho + \alpha(u - u_n) + \gamma r_n^N \tag{18}$$

The external account specifications don't change and so we use the same equation (7) below

$$(EX - M) + \Omega = -S_f \tag{7}$$

¹²We modify these assumptions in the section (5.3)

5.2 Short run equilibrium and comparative statics

Following the original model, in an open economy domestic investment is equal to domestic saving minus the current account balance. Equation (8) is rewritten as

$$\dot{g}^i = g^s - \Delta \quad (19)$$

(\dot{g}^i) is found by substituting (17) into (18)

$$\dot{g}^i = \rho + \alpha(u - u_n) + \gamma \left[p \left(\frac{\tau + \theta}{1 + \tau} \right) u_n \right] \quad (20)$$

By substituting equation (20) and (5) into (19) we are able to find the equilibrium levels of (u^*) , (r^*) and (g^*)

$$\dot{g}^i = g^s - \Delta$$

$$\rho + \alpha(u - u_n) + \gamma \left[p \left(\frac{\tau + \theta}{1 + \tau} \right) u_n \right] = s(1 - \theta)pu - \Delta$$

$$\rho + \left[\gamma p \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right] u_n = s(1 - \theta)pu - \Delta - \alpha u$$

$$u^* = \frac{\rho + \left[\gamma p \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right] u_n + \Delta}{[s(1 - \theta)p - \alpha]} \quad (21)$$

$$r^* = p \left(\frac{\tau + \theta}{1 + \tau} \right) u^*$$

$$g^* = s(1 - \theta)pu^*$$

$$g^* = s(1 - \theta)p \left(\frac{\rho + \left[\gamma p \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right] u_n + \Delta}{[s(1 - \theta)p - \alpha]} \right) - \Delta \quad (22)$$

In order to study the impact of (θ) on the short run equilibrium levels of capacity utilization, and how the results is different (or not) from the original model, we attempt to find the sign of $\frac{du^*}{d\theta}$

$$u^* = \frac{\rho + \left[\gamma p \left(\frac{\theta + \tau}{1 + \tau} \right) - \alpha \right] u_n + \Delta}{[s(1 - \theta)p - \alpha]}$$

$$\frac{du^*}{d\theta} = \frac{\left\{ \rho + \left[\gamma p \left(\frac{\theta + \tau}{1 + \tau} \right) - \alpha \right] u_n + \Delta \right\}' [s(1 - \theta)p - \alpha]}{[s(1 - \theta)p - \alpha]^2} - \frac{[s(1 - \theta)p - \alpha]'}{[s(1 - \theta)p - \alpha]^2} \left\{ \rho + \left[\gamma p \left(\frac{\theta + \tau}{1 + \tau} \right) - \alpha \right] u_n + \Delta \right\}$$

$$\frac{du^*}{d\theta} = \frac{\left\{ \frac{u_n \gamma p}{1+\tau} \right\} [s(1-\theta)p - \alpha]}{[s(1-\theta)p - \alpha]^2} - \frac{[-sp] \left\{ \rho + \left[\gamma p \left(\frac{\theta+\tau}{1+\tau} \right) - \alpha \right] u_n + \Delta \right\}}{[s(1-\theta)p - \alpha]^2}$$

We can infer about the sign of the derivative without needing to simplify further.

- The term $\left(\frac{u_n \gamma p}{1+\tau} \right)$ is positive by definition since $(u_n, \gamma, p, \tau) > 0$.
- The term $[s(1-\theta)p - \alpha]$ is positive because it represents the Keynesian stability condition: the sensitivity of savings to capacity utilization, represented by the slope of g^s or $s(1-\theta)p$, is larger than sensitivity of investment to capacity utilization, represented by the slope of g^i or (α) .
- The term $(- * -sp = sp)$ is positive by definition.
- The term $\left\{ \rho + \left[\gamma p \left(\frac{\theta+\tau}{1+\tau} \right) - \alpha \right] u_n + \Delta \right\}$ is positive because it represents the numerator of the equilibrium level of capacity utilization in our model.

As such we can conclude that $\frac{du}{d\theta} > 0$. We can also observe the results graphically. If we assume our original equilibrium levels of u_1^* and g_1^* , then an increase in the movement restrictions (θ) will have two impacts graphically. First, the slope of g^s which is $s(1-\theta)p$ will decrease rotating the curve downwards, and second, the new specification of r^N in equation (17) indicates that the intercept of g^i will increase as (θ) increases, shifting the curve upwards. The unambiguous result is an increase in the short run equilibrium level of capacity utilization and capital accumulation (Figure 7).

Figure 7. The short-run effects of increasing transaction costs in the new model

Intuitively, what the analytical and graphical results are showing are the results of the two channels (savings and investment) in which higher transaction costs impact the model. In terms of savings, the higher the level (θ) will decrease total income and as a result domestic savings (see second line of equation 4). All other constant, this would increase capacity utilization that would operate to ‘fill the savings gap between savings supply and the investment demand’ (Botta and Vaggi 2011, p.15). As for investment, the new expected profitability (equation 17) that features in the new investment demand function (equation 18) explains that if the full burden of the transaction costs can be channeled to the workers via the nominal and real wages, expected profitability, and hence investment demand would increase. The result of both these channels is an increase in short run equilibrium levels of capacity utilization and capital accumulation.

5.3 Comparing with the original model

It is clear that the short run results of the model contrast with the results of (Botta and Vaggi 2012). The graphical representation of the short run impact in the original model are shown in Figure (6) above. The paper, however, does not include the algebraic work that determines the sign of $\left(\frac{du}{d\theta} \right)$, and so we attempt to show how they reach their result analytically. We start with the equilibrium level of (u^*) as the authors state in page (215):

$$u^* = \frac{\{\rho + [\gamma(p(1-\theta) - \omega pb) - \alpha]u_n + \Delta\}}{(sp(1-\theta) - \alpha)}$$

$$\frac{du^*}{d\theta} = \frac{\{\rho + [\gamma(p(1-\theta) - \omega pb) - \alpha]u_n + \Delta\}' [sp(1-\theta) - \alpha]}{[sp(1-\theta) - \alpha]^2} - \frac{[sp(1-\theta) - \alpha]' \{\rho + [\gamma(p(1-\theta) - \omega pb) - \alpha]u_n + \Delta\}}{[sp(1-\theta) - \alpha]^2}$$

$$\frac{du^*}{d\theta} = \frac{\{-u_n \gamma p\} [sp(1-\theta) - \alpha]}{[sp(1-\theta) - \alpha]^2} - \frac{[-sp] \{\rho + [\gamma(p(1-\theta) - \omega pb) - \alpha]u_n + \Delta\}}{[sp(1-\theta) - \alpha]^2}$$

The term $\{-u_n \gamma p\}$ in the original model is what leads to an ambiguous sign for the derivative. Even after simplifying further, the sign is still ambiguous:

$$\frac{du^*}{d\theta} = \frac{u_n \gamma p \alpha + sp \Delta + sp \rho - sp^2 u_n \gamma \omega b - sp u_n \alpha}{[sp(1-\theta) - \alpha]^2}$$

As previously mentioned, this ambiguous result is recognized by the authors who state that the outcome is in fact ‘not clear’. While the the analysis for the impact on savings is identical to our analysis above, in the original model expected profitability and investment demand contract. The authors state that ‘if the contraction of desired investment (g^i) is sufficiently large, the increase in transaction costs will negatively affect both the short-run equilibrium values of current capacity use and capital formation’ (Botta and Vaggi 2012, p.216, emphasis added). In an earlier version of the paper in which the authors explain part of the mathematical passages used, the authors make it clear that to reach their results they ‘define a sufficient but not necessary condition for higher transaction costs to curtail current capacity use and capital formation’ (Botta and Vaggi 2011, p.16).

The results of the modified model is evidence that which class bears the burden of this external claimant can have a direct impact on equilibrium levels of capacity utilization and growth. Obviously, the new result does not suggest a positive impact of restrictions, but that the interplay is in fact between *three* players (workers, capitalists, and the external claimant on income). Ultimately the final outcome will rely on the weight that is borne by each class, whether the Palestinian economy can be described as wage-led or profit-led, the decisions of capitalists to opt for capital-deepening versus capital-widening techniques (Marglin 2017), and finally the savings rate assumptions. The subsection below discusses the latter briefly.

5.4 Adjusting the savings rate assumptions

The canonical Kaleckian model, as is the case with most heterodox models, starts with the assumption that the marginal propensity to save out of wages is zero, and that savings originate from non-wage income. When this assumption is relaxed it is normally replaced with positive savings of wages which is still less than savings out of profits. The authors of the original model claim that since most Palestinian enterprises are small in size ‘it is often hard to distinguish between different social classes, workers and capitalists in particular, as far as consumption and saving decisions are concerned’ (Botta and Vaggi 2012, p.211). Subsection 2.3 above provides a historical and empirical argument that ignoring the class differentiation in the formal model does not reflect a ‘stylized facts’ approach.¹³

¹³Another anecdotal piece of information published recently shows that in 2019, 52% of wage workers in the private sector received less than the government-set minimum wage (PCBS 2020). The minimum wage was set in in 2012 at

In the various Neo-Kaleckian models, any positive rate of savings out of wages makes that model susceptible to profit-led results, in which an increase in the profit share would increase levels of capacity utilization and even capital accumulation (Blecker 2002). When the savings rate is identical, adjustments in income shares will only impact one channel (investment) while the other (consumption) will remain idle. To investigate this further, this subsection entertains the ‘original’ Kaleckian assumption of zero savings out of wages. This assumption ensures our model is stock-flow consistent and is not susceptible to the infamous Pasinetti critique (Pasinetti 1962): if workers are saving and the only asset in the model is capital then workers should be earning part of their income as profits as well. The authors ignore this key issue in their model.

In this final modification, workers bear the full burden of movement restrictions *and* there is zero savings out of wages. To represent the latter analytically, we assume ($S_w = 0$) and as a result the savings equation and (g^s) will change as follows:

$$S = S_\pi = s(r_N P_I K)$$

We divide by ($P_I K$)

$$\dot{g}^s = \frac{S}{P_I K} = sr_N$$

We use the r_N from the new adjusted model (equation 17) where workers bear the burden:

$$\dot{g}^s = sp(1 - \omega b)u$$

$$\dot{g}^s = sp \left(\frac{\tau + \theta}{1 + \tau} \right) u \quad (23)$$

Given the new equation \dot{g}^s we can represent the steady state and the equilibrium rate of capacity utilization as follows (to make it easier for the algebraic manipulation, we use the term (ω) as a constant until the final step, in other words we use $\dot{g}^s = sp(1 - \omega b)u$

$$\dot{g}^i = \dot{g}^s - \Delta \quad (24)$$

$$\rho + \alpha u - \alpha u_n + \gamma [p(1 - \omega b)u_n] = sp(1 - \omega b)u - \Delta$$

$$\rho + [\gamma p(1 - \omega b) - \alpha]u_n = sp(1 - \omega b)u - \Delta - \alpha u$$

$$u^* = \frac{\rho + [\gamma p(1 - \omega b) - \alpha]u_n + \Delta}{[\gamma p(1 - \omega b) - \alpha]}$$

the dismal level of \$420. The average monthly salary of those earning less than the minimum wage was \$215 (ibid). At these levels of wage income, one would expect at least some level of differentiation in terms of consumption and saving with the middle and capitalistic class.

$$u^* = \frac{\rho + \left[\gamma p \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right] u_n + \Delta}{\left[sp \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right]} \quad (25)$$

After mathematical manipulation the sign of $\left(\frac{du^*}{d\theta} \right)$ remains ambiguous

$$\frac{du^*}{d\theta} = \frac{\frac{sp}{(1+\tau)} \left(\frac{-u_n \gamma \alpha}{s} - \rho + \alpha u_n - \Delta \right)}{\left[sp \left(\frac{\tau + \theta}{1 + \tau} \right) - \alpha \right]^2}$$

Graphically, it is easy to understand the reason for the ambiguous sign. Increasing (θ) will rotate the savings function upward (unlike the original model and the first modification), and the investment demand function will shift upward. Figure (8) shows the case in which the burden is fully absorbed by workers and the short-run equilibrium values of current capacity use and capital formation are negatively impacted. While this is not necessarily the only possible outcome, the larger the upward rotation in the slope of the savings supply function and the smaller the upward shift in the investment demand function, the more likely this result will be the final outcome.

Figure 8. The short-run effects of increasing transaction costs in the new model with zero savings out of wages

6 Conclusion

This paper examined the model by Botta and Vaggi (2012) which postulates Israeli movement restrictions as an external third claimant on Palestinian income (after wages and profit). Unlike the authors, who assume that capitalists passively accept the full burden of the restrictions on their profitability, I suggest capitalists channel the burden to workers via the nominal wage. Moreover, I modify the assumption of the authors that workers and capitalists have a homogeneous savings rate. As such, this paper articulates a fundamental political economy, distributional lens that is missing in the original model. Shifting the distributional impact of movement restrictions to the workers and assuming zero savings out of wages has a clear influence on the short run equilibrium levels of capacity utilization and growth rates.

While the paper addressed the impact of movement restrictions as an external claimant on income, the applications of this method can include any economic or political measure that hinders workers and capitalists from claiming their full level of wages and profits respectively. More importantly, what this paper shows is that the extent to how (and how much) this external claimant will impact short run dynamics is dependent on which class bears the income burden, and on the the savings assumptions of the two classes. Finally, this model opens up the door for more empirical and econometric work on the profit-led versus wage-led question in the Palestinian economy.

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Figure 1. Work in Israel vs. Palestinian unemployment



Figure 2. Contribution of agriculture and services to employment in the domestic economy

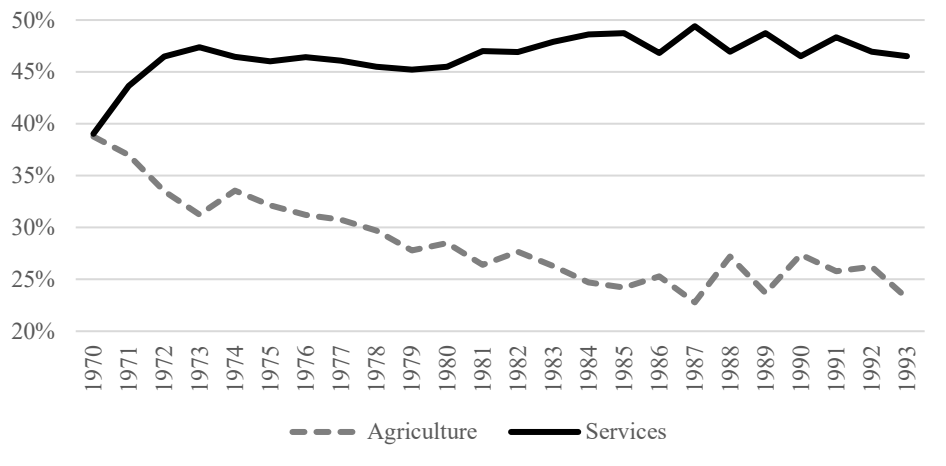


Figure 3. Official Development Assistance and GDP per capita

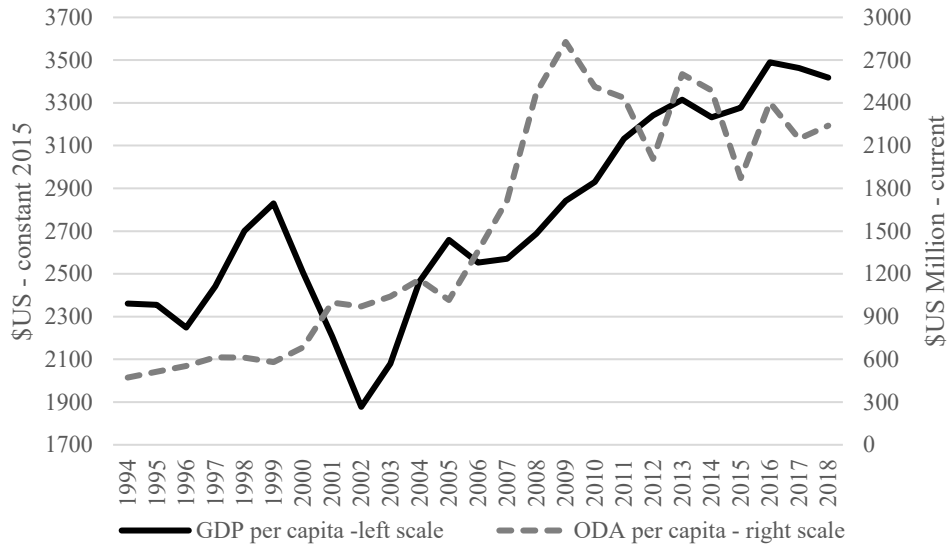


Figure 4. Gross Fixed Capital Formation

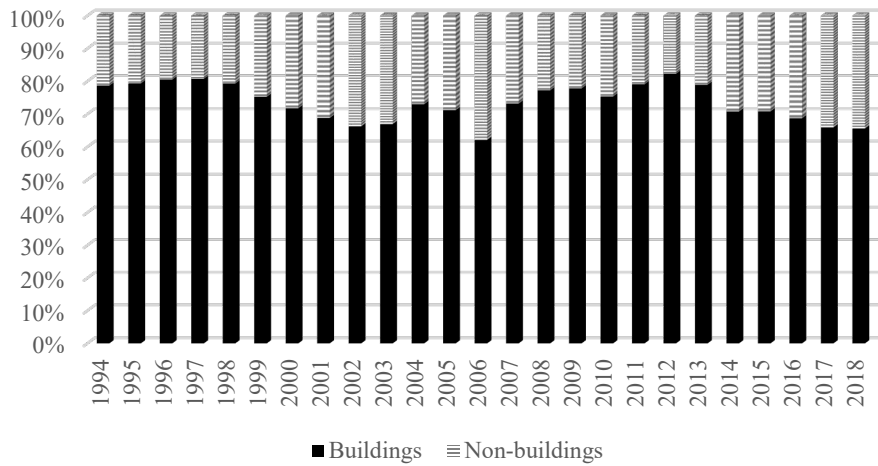




Figure 6. The short-run effects of increasing transaction costs

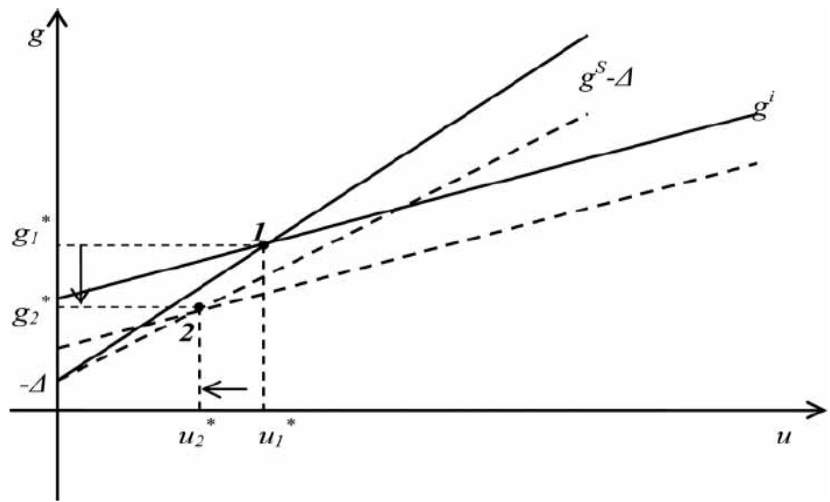


Figure 7. The short-run effects of increasing transaction costs in the new model

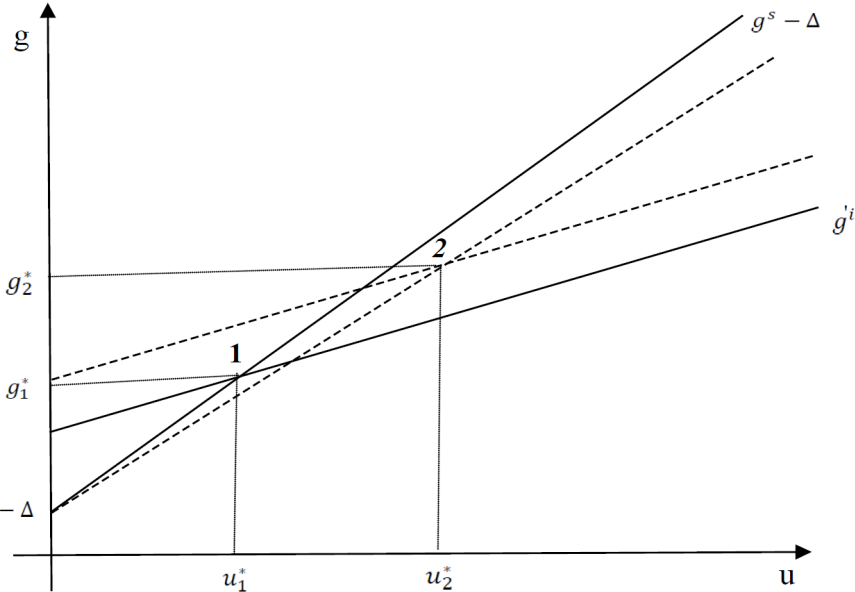


Figure 8. The short-run effects of increasing transaction costs in the new model and zero savings out of wages

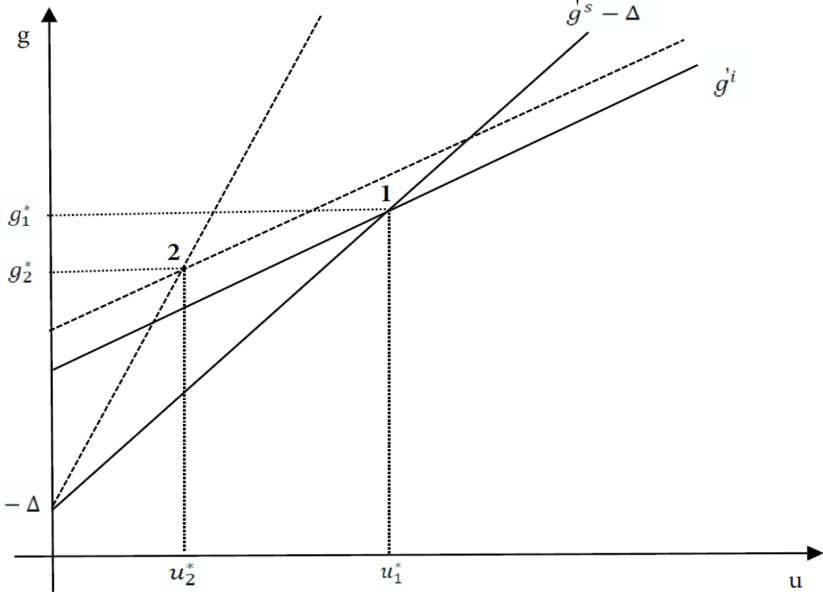


Table 1. Distribution of labor force according to type of occupation

Year	Legislators, Senior Officials & Managers (%)	Professionals, Technicians, Associates & Clerks (%)	Total “New” Middle Class (%)	Craft & Related Trade Workers (%)	Service, Shop & Market Workers (%)	Elementary Occupations (%)	Plant & Machine Operators & Assemblers (%)	Skilled Agriculture & Fishery Workers (%)
1997	2.6	18	20.6	22.8	17.6	25.3	7.6	5.9
2007	2.9	27.8	30.7	18.8	22.9	16.3	7.3	3.5
2017	6.5	30.4	36.9	19.4	16.9	18.3	6	1.6