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Palestine Economic Policy Research Institute (MAS)

A Macroeconomic Narrative for the Palestinian Economy

David Cobham

2012

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معهد أبحاث السياسات الاقتصادية الفلسطيني (ماس)

أثر الهزات النقدية وغير النقدية على الاقتصاد الفلسطيني

ديفيد كوبهام

2012

معهد أبحاث السياسات الاقتصادية الفلسطيني (ماس)

تأسس في القدس عام 1994 كمؤسسة مستقلة، غير ربحية متخصصة في أبحاث السياسات الاقتصادية والاجتماعية. يوجه عمل ماس من قبل مجلس أمناء يضم شخصيات مرموقة من أكاديميين ورجال أعمال من فلسطين والدول العربية.

رسالة المعهد

معهد أبحاث السياسات الاقتصادية الفلسطيني (ماس)، ملتزم بعمل أبحاث السياسات الاقتصادية والاجتماعية وفق أولويات التنمية في فلسطين بهدف المساعدة في صناعة السياسات الاقتصادية والاجتماعية وتعزيز المشاركة العامة في مناقشتها وصياغتها.

الأهداف الاستراتيجية

- عمل أبحاث ودراسات وفق أولويات واحتياجات صانعي القرار للمساعدة في اتخاذ قرارات ورسم سياسات مستندة للمعرفة.
- تقييم السياسات الاقتصادية والاجتماعية وتبيان تأثيرها على مختلف المستويات، وذلك لمراجعة وتصحيح السياسات المطبقة.
- توفير منبر حر للنقاش العام والديمقراطي حول قضايا السياسات الاقتصادية والاجتماعية للمهتمين وأصحاب الشأن.
- تقديم ونشر معلومات ونتائج الأبحاث الحديثة عن القضايا الاقتصادية والاجتماعية.
- تقديم الدعم الفني والمشورة المتخصصة لمؤسسات السلطة الوطنية الفلسطينية، والقطاع الخاص والمنظمات غير الحكومية لدعم مشاركتهم وانخراطهم في عملية صياغة السياسات.
- تقوية القدرات والمصادر لعمل أبحاث السياسات الاقتصادية والاجتماعية في فلسطين.

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الباحث: **د. ديفيد كوبهام، جامعة هاريوت وات**

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التمويل: تم إنجاز هذه الدراسة بدعم مشكور من قبل المصرف العربي للتنمية الاقتصادية في إفريقيا (BADEA) – البنك الأسلامي للتنمية (IDB) – صندوق الاقصى

معهد أبحاث السياسات الاقتصادية الفلسطيني (ماس)
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Foreword

The Palestinian economy witnessed, since 1995, very strong economic shocks rarely experienced by any country or economy in the world. These shocks have been carefully analyzed in connection with the severity of the restrictions imposed by the Israeli occupying army on movement of Palestinian labor force. They were also studied in association with Israel's "closure" policy (i.e. the prohibition of movement of goods and people between Palestinian cities and villages as well as with the outside world). Furthermore, the shocks have also been analyzed in relation with the strong fluctuations in the flow of international aid. These studies exposed the sensitivity of the Palestinian economy to exogenous shocks and put forward some useful recommendations to policy makers.

The present study by Professor David Cobham aims to explain the effect of the shifts in the monitory policies in the three countries whose currencies are used in the Palestinian Territory, on the performance of the economy in the West Bank and Gaza. The effect of the monetary variables has received little attention in the past. The study also refers to the effects of the real (i.e. non monetary) variables and designs a simple index to express the effects of both type of shocks, monetary and real, on the macroeconomic variables of the West Bank and Gaza.

The study is enlightening and necessary. It will hopefully encourage further research in this area. Further work is needed to investigate and go deeper in analyzing the transmission mechanism to enable the Palestinian Monetary Authority to better design protective policies and to help reach a conclusion regarding the future monitory system in the Palestine State.

I would like to thank Professor Cobham for this valuable contribution which opens the way for better understanding of the risks of current monetary arrangements and the options of a better and more stable monetary system in the future. I would also like to thank the Governor of, and experts at, the Palestine Monetary Authority for their interest and valuable feedback on the study.

Dr. Samir Abdullah
Director General

Abstract

The macroeconomic environment in which the Palestinian economy operates involves monetary forces in the form of the policy decisions taken in the US and in Jordan as well as in Israel, and the exchange rate of the Israeli currency, together with a range of non-monetary factors: the varying restrictions Israel has placed over the years on Palestinian trade (both internal and external closures) and on the employment of Palestinian labour in Israel and the settlements, the growth and level of demand in the Israeli economy (as the Palestinian economy's dominant trade partner), and the fluctuating external aid flows. Here a narrative approach is used to discuss these different elements, together with quantitative analysis where the data will bear its weight. After discussing these different outside influences, the paper looks at the year to year changes in Palestinian economic activity and considers whether any useful conclusions can be drawn about the relative influence of the monetary and non-monetary forces. It argues that both monetary and non-monetary factors are essential for any explanation of the short-run fluctuations in the Palestinian economy.

Contents

1. Introduction

The Palestinian economy, that is the economy of the Palestinians in the West Bank and the Gaza Strip (WBG), is in many respects an anomaly: it exists in a small area cut and divided by settlements, Israeli military installations, checkpoints and settler-only roads. It is also an economy which has no currency or monetary policy of its own,[1] and where the official (Palestinian Authority) budgetary policy is both subject to severe financing constraints and taken up largely with priorities other than standard macro objectives.

Researchers at the IMF and elsewhere have analysed the strategic choices in macroeconomic and monetary policy for a future Palestinian state (see, for example, Arnon and Spivak, 1996; Erickson von Allmen and Fischer, 2001; Cobham, 2004; Beidas and Kandil, 2005; Wazir, Atallah and Sarsour, 2011). With respect to the past and present, on the other hand, researchers have tended to focus on the way in which the varying border closures and other trade restrictions imposed by Israel on the WBG affect trade, investment and economic growth (see, for example, Kanaan, 1998; Diwan and Shaban, 1999; World Bank, 2006; IMF, 2001). Short run fluctuations in Palestinian GDP are also typically analysed in terms of these restrictions, with almost no reference to the fluctuations in the broader macroeconomic and monetary environment which the Palestinian economy faces. This neglect of the macro dimension is strange, since economists would conventionally assume that an economy is affected by its environment and by the specific macro and monetary impulses operating within it. However, the abundance of other factors affecting economic activity, on the one hand, and the limited amount of data available (essentially 14-15 annual observations), on the other, make it difficult to pinpoint these effects.

[1] Under the Economic (Paris) Protocol of the Oslo Agreements, the introduction of a new Palestinian currency needs to be mutually agreed in the Joint (Israeli-Palestinian) Economic Committee.

This paper presents an attempt to identify the totality of the factors affecting the macroeconomic fluctuations of the Palestinian economy from the Oslo accords to the present day. It aims to provide both a basic historical account and a reference that can be used by future researchers working, for example, on the monetary transmission mechanism in Palestine in order to inform policymaking if and when a Palestinian currency is introduced. It also aims to shed some light on the relative importance of the external monetary forces affecting the Palestinian economy and the exogenous non-monetary factors such as border closures, although the paucity of the data make it impossible to draw a clear conclusion.

The paper starts by constructing a narrative record of the changing monetary environment of the economy, that is of the monetary policy developments in the three countries that 'host' the currencies used in the WBG – Israel, the US and Jordan – and of the movements in the key exchange rate between the Israeli shekel (NIS) and the US dollar (USD, to which the Jordanian dinar, JD, has been firmly tied throughout this period). Section 2 looks at each of these in turn, and then pulls the various elements together, first in a series of graphs and then in a summary table which condenses everything down into a simple index of the external monetary forces bearing on the Palestinian economy. This index, like other indices used in the paper, is a whole number index whose scale reflects a judgment about how fine (or coarse) an assessment can reliably be made: in this case the index goes from -3 (maximum tightness of the monetary forces) to +3 (maximum looseness).

Section 3 discusses the exogenous non-monetary factors affecting the Palestinian economy. It starts by discussing the variations in external aid to the Palestinian Authority, together with variations in the PA's budget deficit net of external aid (financed by the domestic commercial banking system). It then turns to the closures and other restrictions which Israel has imposed at different times on external and internal trade, on the one hand, and on the employment of Palestinian labour in Israel and the settlements, on the other. Direct effects on the Palestinian economy from Israeli aggregate demand as measured by the Israeli output gap (as opposed to the indirect effects of Israeli monetary policy) are also included here, partly because those effects depend heavily on the degree of closures and restrictions in place. This discussion is also summarised in a simple index, which ranges in principle from -5 to +5, but in this case has a minimum at -3 and a maximum at +1. Section 4 discusses the development of economic activity in the Palestinian economy in the light of both the external monetary forces identified in section 2 and the non-monetary factors identified in section 3, drawing mainly on the limited data that exist for GDP and its demand and output components. It ends by considering briefly whether economic activity in the WBG responds to the external monetary forces as well as the other exogenous factors. Section 5 concludes.

2. External monetary forces

This section discusses in turn the developments in US monetary policy, Israeli monetary policy, Jordanian monetary policy, and the NIS exchange rate over the period, constructs some quantitative measures of monetary conditions, and then summarises the monetary environment in a simple index. Data are taken from *International Financial Statistics* and from central bank websites.

US monetary policy[2]

The US economy had emerged from the 1990-91 recession with a rather weak recovery, but interest rates were lowered from 6% in mid-1991 to 3% in October 1992 and a stronger recovery began to develop in 1993. However, the Federal Reserve Board's credibility was still (at least by later standards) relatively weak, and long bond rates rose some 2% from late 1993 in a minor inflation scare. The Fed began to raise rates from February 1994 although inflation itself had not risen significantly. The outcome was that inflation was contained without a major rise in unemployment: this '1994 tightening demonstrated that a well-timed preemptive increase in real short-term interest rates is nothing to be feared' (Goodfriend 2002: 5).

This laid the basis for the 'long boom' from January 1996 to May 1999, during which the Federal Reserve Board had to deal with both 'near full credibility for low inflation' and rising productivity growth (Goodfriend 2002: 7). It did so by keeping the federal funds rate constant at 5.25% through 1996 and early 1997 and then at 5.5% until September 1998. Policy might have been tightened by more if it had not been for the Asian financial crisis in the second half of 1997, and then not cut as much if it had not been for the Russian crisis in 1998 (the federal funds rate was cut by 75 bps in the fourth quarter), but Goodfriend (2002: 12) suggests that even without these crises the Fed would have been very reluctant to raise interest rates, given the low level of inflation and the uncertainties

2 This discussion draws on Goodfriend (2002, but see also 1993 and 2007) and Hetzel (2008).

associated with the apparently exceptional growth of productivity which strongly influenced Chairman Greenspan's thinking (Meyer 2004).

By mid-1999, however, there was a strong boom in the US economy and the Fed started raising interest rates. By November 1999 the federal funds rate was back to 5.5%, and by May 2000 it was up to 6.5%. In late 2000 and 2001 equity prices fell as the dotcom bubble burst, growth turned down and even went negative in 2001, investment collapsed, and unemployment rose (from 4% at end-2000 to 6% in mid-2002).

The Fed cut interest rates heavily from early 2001, so that the federal funds rate fell to 3.5% in August and 1.75% in December 2001; it was cut again to 1.25% in November 2002 and 1% in June 2003, where it remained for the next year. Hetzel (2008: chapter 20) has emphasised the Fed's concern over 2003 with the possibility of deflation and the difficulties posed by the zero lower bound to interest rates. This is also the main period for which Taylor (2009) has pointed out that the federal funds rate was kept well below the rate indicated by the Fed's previous behaviour as captured in the basic Taylor rule. With recovery developing in 2004 and a small inflation scare (Hetzel 2008: 248), the Fed began to raise rates from June, but in a gradual way: the federal funds rate reached 4% in November 2005 and peaked at 5.25% in June 2006 (at which point it could be argued to have finally returned to the Taylor-rule level).

As the financial crisis began to gather force in September 2007, the Fed brought its rate down again, to 4.25% in December 2007 and then more rapidly to 1% in October 2008 and 0.25% in December 2008. The federal funds rate remained at that level throughout 2009.

Israeli monetary policy[3]

While the hyper-inflation which Israel, and the Palestinian Territory with it, had experienced in the mid-1980s had been largely brought

[3] This discussion draws on Barkai and Liviatan (2007).

under control by late 1986, inflation remained around 20% for some years. The Bank of Israel (BoI) had formally adopted an inflation target at the end of 1991, but it was still using a crawling band for the exchange rate as its main monetary anchor. Speculative attacks on the shekel in late 1991 led to a sharp but temporary hike in interest rates, and then there was a (long sought) step fall in inflation, from 18-20% in 1989-91 to 10-12% in 1992-93, which Barkai and Liviatan (2007: 216) attribute mainly to 'the decline in wage inflation due to excess supply in the labor market' which was associated in turn with the wave of immigration in the early 1990s, while fiscal and monetary policy played only supporting roles.

In response to this step fall in inflation, the inflation target for 1994 was reduced in the course of 1993, and the upward crawl of the exchange rate band was lowered. But the associated cut in the BoI's policy rate seems to have been too large: inflation went back up to 14.5% in 1994, though the exchange rate remained within its band. This experience led the BoI to a fundamental change in its monetary strategy which involved a switch of emphasis from the exchange rate as nominal anchor supported by an inflation target to the inflation target as nominal anchor supported by the exchange rate bands (which were widened progressively over time). The change was signalled most clearly by the rise in the discount rate from 10.5% in the first half of 1994 to 17% in December, which meant a significant rise in the real rate. This set Israeli monetary policy on a gradual but sustained and successful path towards price stability, which was punctuated, however, by a number of inflation or exchange rate scares and consequent interest rate hikes.

The first of these was in mid-1996, when a jump in inflation to 12.3% (from an average of 8.8% in the three previous quarters) led to a 300 bps rise in the BoI's 'headline' rate. By mid-1997 inflation was back to its previous level, and then in early 1998 it fell even further, to a low of 3.6% in 1998Q3. However, a sharp cut in interest rates in July followed by the outbreak of the Russian financial crisis led to a sharp depreciation of the exchange rate, by 13.7% between Q3 and Q4 in nominal effective terms (10.3% against the dollar), and then to a surge in inflation which hit 7.8% in 1998Q4. This combination triggered a second hike in the headline rate, from 9.5% in October to 13.5% in December 1998. The exchange rate recovered part of its fall within months, and inflation fell back quite quickly. By the end of 1999 inflation was under 2%, but interest rates were only back to 11.2%.

During 2000 and 2001 interest rates continued to fall gradually, with the headline rate reaching 5.8% in December 2001, while inflation hit zero in 2001Q4. During December, however, there was a sharp 200 bps cut in policy rates, as part of a deal between the BoI and the government under which the government committed to further fiscal consolidation, lifted the quota on the short-term MAKAM bonds which the BoI used for open market operations, and made the exchange rate band horizontal (instead of the crawl it had had for the previous decade or more). While this package could be defended as giving the BoI greater instrument independence and in terms of the conjunctural stance of policy (the economy was moving strongly into recession), it 'was premature, partly because of uncertainty about the government's ability to deliver its part of the deal and partly due to underestimation of the risk premium that was needed to keep the "mountain of sheqels" from leaving the country. Yet, the public perceived this step as an infringement of the central bank's independence because it entailed a drastic rate cut that clashed with the BoI's previous stance' (Barkai and Liviatan 2007: 232). The result was another sharp fall in the exchange rate by 13.3% in nominal effective terms between 2001Q4 and 2002Q2 (10.2% against the dollar, and 17% against the euro, which was now appreciating relative to the dollar). This also pushed inflation up, to reach 6.7% in 2002Q4. Again the BoI responded by raising interest rates sharply, from 3.8% in February to 9.1% in July 2002. Inflation fell to 1.4% by 2003Q2 and then to a negative low of -2.5% in 2004Q1. The shekel exchange rate recovered some of its lost ground against the dollar, but depreciated further in effective terms and against the euro before stabilising in 2004. The headline interest rate came down to 4.1% in April 2004.

There was a smaller cycle of this kind from late 2005, when the dollar rose temporarily against the euro and the shekel went largely with the euro, but the extent of the depreciation (3.4% in effective terms between 2005Q2 and 2006Q1), the rise in inflation (from under 1% in the first half of 2005 to a peak of 3.6% in 2006 Q2) and the rise in the headline interest rate (from 3.5 to 5.5%) were all rather smaller.

Finally, Israel was relatively little affected by the financial crisis. The headline rate was reduced from 4.25 in September 2008 to 0.5% in April 2009, but it was back to 1% by the end of that year.

Jordanian monetary policy[4]

Jordan had suffered a severe foreign exchange crisis in 1988-89, which led to a devaluation of over 100% against the dollar before the parity stabilised in 1990, and a very hard peg of JD0.71/USD from 1995. The discount rate, which had been 6.25% before the crisis, was raised to 8.5% and remained at that level until 1997. By then, however, the Central Bank of Jordan (CBJ) had started issuing its own certificates of deposit (CDs) with three and six month maturities, and the 3-month CD rate is often taken to be the key policy rate from the mid-1990s (Poddar et al. 2006). In 2008, however, these CDs were replaced as the main monetary policy instrument by Treasury bills, and the CD rate is no longer available. The most consistent policy rate available over the whole period is the discount rate, and it is therefore the discount rate that is used in the weighted policy rate presented below.

Over the period 1995-2009 the Jordanian dinar was very closely aligned with the dollar, and Jordanian interest rates moved largely in step with dollar rates. However, Jordan had some limited monetary independence in the sense that it was able to adjust its interest rate in response to the differentials between Jordanian and US inflation rates and output gaps (Maziad, 2011).

In the first half of the 1990s Jordanian monetary policy was particularly tight, but a reduction in the interest rate in 1997 was

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[4] This discussion draws on Poddar et al. (2006) and Maziad (2011).

followed by an upward blip in inflation, to a peak of just over 5% in late 1997/early 1998 and a temporary widening of the Jordanian-US interest rate differential. By 2000 the 3-month CD rate had come down and it dipped temporarily below the federal funds rate. This was followed by a further (smaller) upward blip in inflation, to a peak of 3.9% in 2001Q4. Inflation began to rise again from late 2003 but the interest rate differential did not widen until 2005. Inflation rose erratically with peaks of 7.9% in 2006Q2, 8.2% in 2007Q1 and 19.3% in 2008Q3, but fell sharply in 2008Q4 and went negative in 2009. Jordan, like Israel, was relatively unaffected by the financial crisis and recession. Jordanian interest rates remained well above US rates at the end of 2009: the discount rate which had reached a peak of 7.5% between 2006Q3 and 2007Q2 came down only to 6.25% in 2008Q4 and 4.75% in 2009Q4.

The exchange rate

In an economy where three currencies are in use it is not immediately obvious which exchange rate or rates constitute potential sources of shocks. Here we focus on the shekel (rather than the dollar or the dinar) because the shekel is the dominant currency in everyday retail transactions and the currency in which probably most workers are paid,[5] and because the data on Palestinian inflation (which will be implicitly or explicitly important at several points below) refer to prices in shekels; and we consider both the shekel-dollar rate and the (real and nominal) effective exchange rates of the shekel. The latter use weights appropriate to the Israeli economy rather than the WBG economy, but that is all that is available at present.

These rates (quarterly averages) are shown in Figure 1. We can distinguish five phases, separated by the dotted vertical lines, and some shorter fluctuations. Between the start of 1995 (and in fact since several years before) and the end of 1998 the shekel was gradually depreciating against the dollar and in nominal effective terms, but in real effective terms, particularly in 1996 and 1997, it

5 Palestinian workers in Israel and in the settlements are paid in shekels, as are employees of the Palestinian Authority, but employees of large private sector firms tend to be paid in dollars.

slowly appreciated; this was the predictable result of the crawling peg against the dollar which was operating in tandem with, but losing out to, inflation targeting. Over the following two and a half years, the shekel was broadly stable against the dollar, which meant that it appreciated against the euro and in effective terms. From mid-2001 to early 2005 it was again stable on balance against the dollar, which meant that it depreciated against the euro and in effective terms. From early 2005 to the end of 2007, however, it was on balance stable against the euro and in effective terms, but appreciated somewhat against the dollar. Finally, in 2008 and 2009 the shekel was more volatile.

The shorter, sharper movements visible in the figure (all mentioned above under Israeli monetary policy) include the depreciation in the second half of 1998, the sharp depreciation of the first half of 2002, and the smaller depreciation of late 2005. In addition the last two years, 2008 and 2009, saw first a significant appreciation (both effective and against the two major currencies) up to mid-2008, followed by a slightly smaller depreciation up to 2009Q2, then some recovery (more against the dollar than against the now strengthening euro) in the rest of 2009.

Quantitative measures and summary

An alternative way of looking at these different external monetary influences is to combine the interest rate and exchange rate data in a single index. This can be done as follows: first, we create a 'policy rate' which is a weighted average of the policy interest rates affecting the Palestinian economy, that is, the interest rates set by the monetary authorities which regulate the currencies used in Palestine: the Israeli 'headline' rate, the US federal funds rate and the Jordanian discount rate; next we use this (nominal) weighted policy rate together with data on inflation to create a 'real' policy rate; and finally, we combine this real policy rate with a measure of the real (adjusted for relative inflation) exchange rate affecting the Palestinian economy in a 'monetary conditions index' (MCI).

Figure 2 presents two series for the nominal policy rate, based on the (moving) weights of the three currencies in lending and in (total) deposits.[6] It is clear that the two series move very closely together most of the time, so that the choice of weights is not important. The weighted interest rates show a long gradual decline, from 8-10% in 1996 to around 2% in 2004, then rise to peaks of 5.5-6% in late 2006 before declining to lows of 1.7% (deposit weighted) and 0.7% (loan-weighted) in mid-2009.

Next, we construct a 'real' policy rate for the Palestinian economy, by using this composite policy rate with inflation data. The Palestinian consumer price index (CPI) data, which measure inflation in shekel prices, are available on a four quarter basis from 1997Q1. These are also shown in Figure 2, together with the Israeli CPI data (which are available over a longer period). The two inflation measures move closely together much of the time, but there are important divergences in 1997, 2004-5 and 2008. The latter two episodes cover periods when – as the result of the intifada and subsequent closures – the Palestinian economy was partly insulated from the Israeli one, so that the higher Palestinian inflation is perhaps not surprising. But the much lower level of Palestinian inflation in 1997 is hard to explain, and might reflect some problem in the data, so it is useful to use both series.

A proper derivation of the real policy rate requires data on inflation expectations, which do not exist for the Palestinian economy. One alternative is to use entirely backward looking data, that is to calculate the real rate as the nominal rate minus the rate of inflation over the four preceding quarters. But in an economy such as this, where inflation is much more volatile than in developed countries during the Great Moderation, this seems inappropriate: economic agents are unlikely to assume that future inflation is just the same as past inflation. A second alternative is to assume perfect foresight, that is to calculate the real rate as the nominal rate minus the rate of inflation which actually occurred over the following four quarters.

[6] Over the period the weights on the dinar decline on balance from around 49% (loans) and 44% (deposits) to around 9% and 30% respectively; those on the shekel fluctuate within the ranges 16-33% (loans) and 13-24% (deposits); those on the dollar rise on balance but vary between 14% and 72% (loans) and between 35% and 64% (deposits).

However, this would attribute to agents a forecasting ability which is implausible. Instead, we calculate the real rate as the nominal rate (weighted by lending ratios) minus the average of the backward looking and perfect foresight inflation measures, i.e. as the average of the current (four quarter) inflation rate and the four quarters ahead inflation rate. The real policy rate derived on this basis, for both the Israeli and the Palestinian CPI, is shown in Figure 3 together with the nominal rate. The Israeli CPI-based real policy rate rises from around zero in 1996 to about 6% in 2000, falls sharply to a low of -2% in early 2002 (when the policy rate had been cut and inflation had not yet reacted), rises to around 2.5% in 2003, dips to 1% in 2005 before rising to 4% in 2006, and then falls to -1.25% in the early part of the financial crisis. The Palestinian CPI-based real policy rate is much higher in 1997 (when Palestinian inflation is apparently well below Israeli), but is close to the Israeli-based rate between 1998 and early 2002. It then rises much more slowly, to a peak of less than 3% in 2006, before falling to a low of -4% in mid-2008.

This real policy rate can now be combined with the real exchange rate in a monetary conditions index (MCI) which weights the deviations of interest and exchange rates from some ‘normal’ base period. The weights used are usually derived econometrically, for example from regressions of aggregate demand on these and other determinants, or from VAR exercises. Since convincing regressions are not possible in this case because of the poor quality and limited sample period of the data and the plethora of other influences affecting aggregate demand, we construct an index on the basis of the weights typically found for other economies (see Mayes and Viren, 2000): we assume that the weight on the exchange rate is one third that on the interest rate. Since it is hard to see what could be taken as a ‘normal’ level of the MCI in this case, we take deviations from the average for 1999-2006 (which excludes the odd period for Palestinian CPI data at the beginning and the unusual period of the financial crisis at the other end). This means that the index can be discussed only in relative, not absolute, terms. The exchange rate used is the real effective exchange rate for Israel, which represents the trade-weighted average of shekel exchange rates against other currencies, with trade weights based on the Israeli trade pattern (and using relative consumer prices rather than unit labour costs). The latter is not obviously appropriate for Palestine, but no better alternative exists.[7]

Figure 4 shows the components of the MCI in the form of the relative real policy rates, based on Israeli and Palestinian CPI inflation, and the real effective exchange rate, together with the two versions of the MCI (based on the two CPI rates). The exchange rate moves more widely than the policy rates, but broadly in the same direction, so that the MCIs move more widely than the real policy rates. The MCIs are relatively high, indicating contractionary conditions, in 2000, but relatively low – indicating more expansionary conditions – in 2004 and 2005, and again in 2007. But the appreciation of the exchange rate in 2008 partly offsets the low interest rates during the crisis period.

Table 1 provides a broad summary of the monetary forces affecting the Palestinian economy as discussed above. For US monetary policy the focus is on trends, but for Israeli and Jordanian monetary policy and the exchange rate the table distinguishes between the trends and the shocks that punctuated those trends. The table then gives the (calendar year) averages of a 'composite' real policy rate and MCI. These composites use Israeli inflation data for 1995-6 (when Palestinian data are not available) and 1997 (for which the Palestinian data are so low as to be suspect), but Palestinian CPI data from 1998.[8] These composite rates, and the corresponding nominal policy rate, are the obvious candidates to be used by researchers trying to analyse the monetary transmission mechanism in the Palestinian economy in quantitative (econometric) terms (when more data is available).

The final row of Table 4 condenses this all into a simple (subjective) index, Index A, with an integer-only scale from -3 to +3, based

7 Moreover, the existing trade pattern of the Palestinian economy is heavily constrained by Israeli restrictions of one kind or another, so it is not obvious that a real effective exchange rate for Palestine based on its existing trade pattern would be useful.

8 The currency weights used are those for lending. In the absence of data on currency shares for 1995, those or 1996Q1 are used for each quarter in 1995.

mainly on the real policy rate but with some influence also from the MCI. The reason for constructing this index is that it will be used later in conjunction with indices for the other exogenous influences on the Palestinian economy, where the data do not permit much precision. What Index A (and the rest of the table) shows is that the external monetary influences on the Palestinian economy tightened successively from 1996 to 2000, eased sharply in 2001, were broadly positive from 2002 to 2005, tightened a little in 2006 but were easier again in 2007 and even more in 2008 (but probably less so in 2009).

3. Exogenous non-monetary factors

The Palestinian economy is also subject to an unusual range of exogenous influences of different kinds, ranging from border closures to external aid flows. It is convenient to distinguish between budgetary and other factors affecting economic activity; we also discuss under the latter heading the state of economic activity in Israel since its influence on the Palestinian economy depends crucially on the state of border closures and other restrictions (the tighter those restrictions are, the less the level of economic activity in Israel will affect the demand for Palestinian exports, or the employment of Palestinian labour in Israel and the settlements).

Budgetary factors

The first two rows of Table 2 provide data on (disbursed) aid flows into Palestine and on the PA's budget surplus after external support (which reflects the PA's borrowing from the domestic banking system). The PA's borrowing rose sharply during the second intifada (which started in late 2000) as it tried to mitigate the economic effects of closures and conflict, and aid flows were particularly high in 2002. Aid dropped a little but then rose to new heights in 2006-7 while some of the PA's borrowing was paid off in the last years of the period. In row 3 of Table 2 these budgetary factors are brought together in Index B, on a scale from 0 to 5, with budgetary factors making positive contributions to growth throughout, but particularly in 2002 and 2007-9.

Other non-monetary factors

For many years Israel has been operating restrictions of varying kinds and degrees on trade between different Palestinian areas and between the Palestinian economy and Israel (which also means trade between the Palestinian economy and the outside world since the Palestinians do not control their own border and nearly all exports are obliged to pass through Israel).[9] In addition, since 1991 Israel

[9] World Bank (2007: 12) described the closure policy and its effects as follows: "The policy of closure, which broadly consists of comprehensive restrictions on the movement of people and

has used a system of labour permits to regulate the amount of Palestinian labour which is employed in Israel itself or in the Israeli settlements in the West Bank and (before 2005) the Gaza strip. The importance of these labour flows for the Palestinian economy is enormous: in the 1980s and the very early 1990s some 35-40% of the Palestinian labour force was employed in Israel and the settlements, but since then the numbers involved have fluctuated widely and often been held much lower.[10] These Israeli restrictions and controls, which are presented by Israeli governments as an appropriate response to 'terrorist' activity, make many economic activities impossible, significantly raise the transactions costs of others and greatly increase uncertainty about the future. They have had dire effects both on current activity and, via their effects on investment, on longer term economic growth in the Palestinian economy. These effects have been widely documented in Diwan and Shaban (1999, especially chapter 4), in successive reports from the World Bank (e.g. 2001, 2003, 2004, 2006, 2007) and the IMF (e.g. 1998 (especially chapter 3 by Kanaan), 1999, 2001, 2003) and by other writers such as Farsakh (2005) and Roy (2007).

Table 2 provides a range of relevant data. Rows 4 and 5 show the number of days of closure in the West Bank and the Gaza Strip. There were significant closures in 1995-7 but things were easier in the next three years; the outbreak of the second intifada in late 2000 led to a much higher level of closure in the West Bank, in particular, in 2001-2; in the West Bank restrictions were eased in 2003 and 2004 but tightened again from 2006, while in the Gaza Strip they were tight in every year from 2003, with full closure from January 2007. Row 6 gives the number of Palestinians working in Israel and the settlements. While the average number in 1987-92 had been

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goods within the West Bank, highly constricted movement of goods across the border with Israel, and a near total separation of economic and social interaction between the territories of Gaza and the West Bank, has resulted in a highly fragmented Palestinian economy. In economic terms, the restrictions arising from closure have not only increased transaction costs, but have also led to a level of uncertainty and inefficiency which has made the conduct of business difficult and therefore has stymied the growth and investment which is necessary to fuel economic revival."

[10] The basic phenomenon of these labour flows is an indirect result of the restrictions which Israel has always imposed on both economic activity and external trade in the occupied territories, which have severely limited the development of autonomous Palestinian economic activity since 1967.

107,000, over 1993-7 it was only 71,000. Labour flows were back to preceding levels for most of 1998-2000, then cut back drastically from 2001, but eased marginally in 2005 and again marginally in 2008.

The next row of the table presents the annual averages for the Israeli output gap, calculated from a simple linear and quadratic trend on quarterly data, while Figure 5 plots the gap in quarterly data together with the four quarter growth rate. The output gap had fallen sharply in response to the late 1998 interest rate hike to -2.1%, but this was followed by a strong upswing in the Israeli economy from 1999Q1 with the output gap rising to 7.2% in 2000Q3, and then a strong downswing to the level of -6.4% in 2003Q4. The Israeli output gap recovered to around zero in 2006 and then rose a positive level of around 3% in early 2008, after which it declined gently, becoming slightly negative in 2009.

Row 8 of Table 2 brings together the information of these four rows in a simple summary index of the non-budgetary exogenous factors. Index C is on a scale from 0 (no impediments to Palestinian economic activity) to -5 (very strong impediments). The calibration of this index is intended to be comparable to that of Index B above: the fact that Index B never rises above 3 whereas Index C is in some years at its trough of -5 reflects the fact that aid flows are, almost inevitably and certainly in the Palestinian case, an inadequate substitute for proper economic activity and an inadequate offset to the impediments coming from the negative exogenous factors.

Index C shows the negative effect of these factors as strong in 1995-96, much weaker in 1998-9, very strong in 2001 and 2002, and strong from 2003 all the way through to 2008 and 2009. It is worth noting that Israeli economic activity plays only a small role here: moderate Israeli activity and growth in 1995-6 coincided with strong direct restrictions (closures and labour controls) so there would have been little expansionary effect from Israeli activity; the fall in direct restrictions in the next few years coincided with weaker Israeli activity; and the poor Israeli activity of 2001-5 coincided with the peak levels of direct restrictions. On the other hand, there may have been some small positive effect from Israeli expansion under lower direct restrictions in 1998-2000; and the growth of the Israeli economy in 2007-8 coincided with a minor easing of restrictions in the West Bank (but full closure of Gaza).

The net effect

We can now add Indexes B and C to obtain the net effect of the non-monetary factors in Index D, in row 9 of Table 2. In brief, this is strongly negative for 1995-6, 2001-2, 2004-6 and 2009, weakly negative or zero in 1998, 2000, 2003, and 2007-8, and positive at 1 only in 1999.

4. Economic activity in the WBG

Palestinian macroeconomic data are limited: the expenditure components of GDP are available only at an annual frequency, quarterly data on GDP by output exist only from 2000, and the use of different base years is not always conducive to clarity. The discussion that follows relies largely on annual demand and output data, supplemented by some other indicators for the later years. Tables 3 and 4 show the growth of GDP and the contribution to that growth of its main components, Table 3 for expenditure and Table 4 for output (the discussion that follows refers on occasion to more disaggregated data on the components).

1995-6

In these two years the exogenous non-monetary factors were adverse, with significant closures and (by recent historical standards) low Palestinian employment in Israel and the settlements, offset by a moderate (by the standards of the period as a whole) flow of donor funds, leading to a net non-monetary index of -2. The external monetary forces were not strongly propitious either: US interest rates were rather higher in 1995 than in the preceding two years but eased back in 1996, Israeli interest rates were declining in 1995 from the spike of December 1994 but rose again in 1996, while inflation (on the Israeli CPI) was lower in 1995, and Israel's real effective exchange rate was stable in 1995 but appreciated gently in 1996. Index A is at 0 in both 1995 and 1996.

In the event, Palestinian GDP grew by 6% in 1995 and 2.9% in 1996, both rates below the rates of population growth for the years concerned, so that GDP per capita (and GNI per capita) fell.[11] On the output side, manufacturing, construction and services declined, but public administration grew and there was a large positive contribution from the customs duties and VAT receipts now coming through. On the demand side, there was some growth of exports and,

[11] There seems to have been a particularly large growth in the population in 1996, possibly associated with the return of PLO members and their families from Tunis and elsewhere.

especially in 1996, of government final consumption, and gross capital formation (GCF) (particularly non-building gross fixed capital formation) grew strongly in 1996, but so did imports (even more strongly).

1997-9

The Israeli restrictions began to be lifted in 1997, so that by 1999 closures were at their minimum and the number of Palestinian workers employed in Israel and the settlements was at its maximum for the period; on the other hand Israeli economic activity was weak. Donor funding continued largely unchanged, so that Index D was at -1, 0 and +1 for 1997, 1998 and 1999 respectively. On the monetary side, real policy rates rose through the period (there was an Israeli interest rate hike in late 1998 and US policy was tightened from mid-1999) and the real exchange rate appreciated for much of the period, so the MCI was continuously high (i.e. contractionary). Index A stood at -1, -2 and -2 for the three years respectively.

Palestinian GDP grew rapidly in 1997 and 1998 and a bit less rapidly in 1999. Much of this must have been a rebound from the constrained growth of 1995-6 when the negative exogenous factors were much stronger. The most rapidly growing expenditure components were household final consumption and (with a negative effect on GDP) imports. There was also an important rise in GCF, mainly in non-building investment. In terms of output there was a particularly large contribution to growth from the rise in construction in 1998 and 1999.

2000-2

2000 was a turning point in many respects. GDP (by output) was growing in the first three quarters but collapsed in the fourth quarter with the outbreak of the second intifada, as is shown clearly in Figure 6, which presents the quarterly data for GDP (by output only) which are available from 2000. The external monetary influences initially became more adverse with the real policy rate and the MCI both peaking in 2000, and Index A falling from -2 in 1999 to -3 in 2000. From 2001 these influences became more positive, with US interest rates cut to historically low levels but a short-lived depreciation scare and interest rate hike in Israel from December 2001. Thus Index A went from -3 in 2000 to -1 in 2001 and +1 in 2002. At the same time the non-monetary factors turned down, with a sharp rise in closures: closure days in the West Bank, for example, had fallen to 12 in 1999 but rose to 64 in 2000, 234 in 2001 and 209 in 2002, while Israeli economic activity which had been stagnant in 1999 boomed in 2000 and then fall back in 2001. Thus Index D falls from +1 to -1 in 2000, -3 in 2001 and -2 in 2002.

Palestinian GDP fell sharply in each year, by 8.7% in 2000, 8.6% in 2001 and 13.3% in 2002. On the demand side there were particularly large falls in household final consumption and in GCF; imports also fell, especially in 2001, which made a positive contribution to GDP. On the output side construction fell sharply in 2000 and again in 2001 and 2002; agriculture and fishing fell in each year, as did manufacturing (particularly in 2000 and 2002); public administration rose in 2001 but fell back in 2002.

2003-5

Over these years the external monetary forces were more supportive of growth, with US interest rates low and then rising only slowly, Israeli interest rates typically lower and the NIS exchange rate depreciating a little. Index A was at 1 in each of the three years. Data on West Bank closures is not available for 2003 and 2004, but overall it seems that restrictions (including those on Palestinians employed in Israel and the settlements) were marginally eased in 2003 but tightened again in 2004; on the other hand there was a more significant easing in 2005. Meanwhile, the Israeli output gap was negative throughout but rising slowly. Index D was at -2, -3 and -1.

Palestinian GDP bounced back strongly in 2003 and grew well in 2004 and 2005. On the demand side this growth was dominated by household final consumption, while on the output side manufacturing, construction and, in 2003, public administration and defence made the larger contributions.

2006-9

These were the years in which the financial crisis developed and then began to be addressed. US interest rates had been rising since mid-2004, reached 5.25% in June 2006 and did not fall until September 2007, and the real policy rate followed a broadly similar pattern while the NIS was stable in 2006-7 but appreciated in 2008. Overall, Index A went from 0 in 2006 to 1 in 2007, 2 in 2008 (courtesy of the recession-induced interest rate cuts), and 1 (estimated) in 2009 as Israeli interest rates rose again and the NIS appreciated. The non-monetary factors were also more propitious in the West Bank in this period, for there was little change in Israeli restrictions there, external aid increased and Israeli economic activity was stronger in 2007-8. On the other hand, Gaza was subjected to ever more rigorous closure, first after Hamas took control in June 2007 and then after the war in late 2008-early 2009, in the course of which Israel destroyed large amounts of infrastructure and productive assets in Gaza. Israeli economic activity was stronger and aid inflows (to the West Bank) rose. Given the larger weight of the West Bank, Index D went from -2 in 2006 to 0 in 2007 and 2008, and -1 in 2009.

Palestinian GDP fell in 2006 but recovered somewhat in 2007 and continued to grow moderately in 2008 and 2009. In 2006 and 2007 there were parallel changes in household final consumption, buildings investment and imports, but opposite changes in non-buildings investment. In 2008 GCF rose, household final consumption rose less fast but imports also rose. In terms of output, manufacturing fell in 2006 and stagnated in 2007 and 2008, while other services fell sharply in 2006 and rose in 2007 and 2008.

Relative importance

An obvious question is the relative importance of the monetary forces and the non-monetary factors for the short run evolution of the Palestinian economy. It would be particularly important to have some understanding of this if a separate Palestinian currency were to be introduced, since such a currency would need to be controlled by a well-judged monetary policy so that it contributed to the stabilisation of the economy without creating risks of inflation. As stated earlier, given that there is only annual data for many series and relatively short runs of data, it is difficult to undertake serious econometric analysis of the evolution of the Palestinian economy.[12] Instead, this paper tries to use a 'narrative' approach, and for this purpose has created simple indices of the monetary influences affecting the Palestinian economy, on the one hand, and the non-monetary influences, on the other. Figure 7 brings these indices face to face with the corresponding annual data for the growth of GDP and GDP per capita. It is important to bear in mind that the factors summarised in Index D can be expected to have a more or less immediate impact on GDP (given the data here are annual), whereas those summarised in Index A should be expected to affect the Palestinian economy with a lag of around a year.

If we were to try to explain the broad evolution of growth purely in terms of the monetary forces, we might suggest that the higher growth of 1997-8 followed the easier monetary conditions of 1995-6; the downturn in 2000-2002 followed the tightening of monetary conditions in 1998-2000; the upturn in 2003-4 might be due to the monetary easing of 2001-3; the downturn of 2006 coincides with a small monetary tightening (only); and the small upturn of 2007-9 coincides with a monetary expansion. Clearly the fit here is far from perfect, but it is not insignificant either.

On the other hand if we were to try to explain the broad evolution in terms purely of the non-monetary factors, we might suggest that the higher growth of 1997-9 was a response to the easing of restrictions in 1997 and 1998-9; the downturn in 2000-2 reflected the tightening of restrictions from late 2000; the upturn of 2003-4 and downturn of 2005-6 are hard to explain; but the upturn of 2007-8 could reflect the pronounced improvement in the non-monetary factors. Clearly the fit is not perfect here either.

Table 5 presents the results of simple OLS regressions on these data. These results should not be given much weight because we have only 15 annual observations and index data which is coarse and

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12 But see Sarsour (2010) for a sustained attempt to do this.

approximate. Nevertheless, they seem to indicate that it is essential to take account of both monetary and non-monetary factors in trying to explain the short run macro fluctuations of the Palestinian economy. When both are included (the monetary forces with a one-year lag) in column (1), the monetary forces are significant at the 6% significance level and the non-monetary factors only at the 16% level, but if the latter are omitted as in column (2) the monetary factors are significant only at the 8% level, while if the former are omitted as in column (3) the non-monetary factors are not significant. As a check, columns (4) to (5) use the real policy rate in place of the monetary forces index; since this is a continuous series rather than a discrete index a better fit can be expected. It turns out that the real policy rate regression has the same broad pattern as that of the monetary forces index, but with a somewhat better fit. On the other hand, the MCI as used in columns (6) and (7) performs poorly with neither the MCI in either regression nor the non-monetary index in (6) significant at the 10% level.

5. Conclusions

The aim of this paper was to set out a record of the factors affecting the macroeconomic evolution of the Palestinian economy from 1995, and to link that with data on its actual evolution insofar as they are available. It is relatively straightforward to identify the external monetary forces affecting the Palestinian economy, but more difficult to quantify the impediments to it in the form of Israeli border closures and labour flow controls. It is difficult to say anything conclusive about the relative influence of external monetary and other exogenous factors. However, while the non-monetary factors can be expected to have had more (negative) influence on long term economic growth, the evidence presented here suggests that both sets of factors are needed to explain the short run macro fluctuations in the Palestinian economy.

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Annexes

Table 1: Summary of external monetary influences

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. US	long low inflation expansion, small interest rate variations					policy tightened	policy loosened, very low interest rates, waiting for recovery				strong recovery, interest rates raised only slowly			financial crisis, interest rates to near zero	
2. Israel trends	long gradual but successful move towards price stability underpinned by more serious IT with interest rate used to target inflation directly (rather than via effects on exchange rate)										price and more general stability			crisis, Israel moderately affected	
2. Israel shocks	*r* down after 1994 spike	96Q2-Q4 π scare, *r* spike		98Q4-99Q4 π scare, *r* spike			Dec 01 interest rate cut triggers depreciation + π scare, => int rate spike				05Q4-06 depreciation + global prices rises => smaller int rate spike			08Q4 crisis + π fall => int rates down to 0.5 by April 09, back to 0.75 Sept 09	
3. Jordan trends	monetary policy largely follows of US, particularly after late 1990s when policy comes to be effected through interest rates in CD market														
4. Jordan shocks			late 97/early 98 π rise, Jord-US int differential wider				early 01-02 π rise, int diff wider			π rising, int rates rise in line with US		higher π => int rates rising more than in line with US		int rates remain above US	
5. NIS ER trends	nominal depreciation, real appreciation				stable vs $, nom and real effective rates fluctuate		nominal and real depreciation				little change, effective or vs euro			volatility	
6. NIS ER blips				98Q4 deprec				02Q1-2 depr							
7. RPR	-0.55	-0.19	1.39	2.27	3.22	4.99	1.17	-1.97	-1.20	-1.02	-0.07	2.04	-1.16	-3.55	
8. MCI	0.95	2.92	6.19	6.01	5.14	8.80	4.66	-2.13	-3.16	-4.94	-4.59	-2.49	-5.15	-3.83	
9.Index A (-3 to +3)	0	0	-1	-2	-2	-3	-1	1	1	1	1	0	1	2	1*

Note: RPR (real policy rate) and MCI based on composite CPI (Israeli CPI 1995-97, then Palestinian CPI); Index A: see text; * estimate.

Table 2: Non-monetary factors

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. donor funding ($m)	498	548	603	607	516	637	869	1616	972	1116	1116	1449	1868	n.a.	n.a.
2. PA budget surplus after external support ($m)	n.a.	n.a.	-35	40	28	-219	-313	-259	-268	-125	-275	34	61	270	144
3. Index B: budgetary factors (0 to 5)	1	1	1	1	1	1	2	3	2	2	2	2	3	3*	3*
4. closure days WB	84	132	85	48	12	64	234	209	n.a.	n.a.	95	83	70	n.a.	n.a.
5. closure days GS	104	122	77	22	19	89	142	77	147	218	141	270	n.a.	n.a.	n.a.
6. workers in Israel and settlements (1000s)	67.6	60.5	82.3	119.1	134.7	117.6	69.7	49.1	54.7	50.3	62.7	59.7	62.6	75.2	73.2
7. Israeli output gap (%)	2.07	3.21	1.78	1.79	0.93	5.75	1.87	-2.57	-4.77	-3.49	-2.01	-0.25	1.52	2.23	-0.17
8. Index C: non-budgetary factors (-5 to 0)	-3	-3	-2	-1	0	-2	-5	-5	-4	-5	-3	-4	-3	-3*	-4*
9. Index D: 'net' non-monet factors [=Index B+Ind C]	-2	-2	-1	0	1	-1	-3	-2	-2	-3	-1	-2	0	0*	-1*

Sources: row 1 World Bank database; rows 2, 4-6 – PCBS, row 7 – author's calculation; rows 3, 8, 9 - author's judgments. Note * estimates.

Table 3: Growth of GDP (%) and contributions to that growth, by expenditure component

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
GDP	**6.01**	**2.91**	**12.65**	**12.06**	**8.77**	**-8.72**	**-8.58**	**-13.31**	**14.87**	**11.97**	**8.60**	**-5.20**	**5.36**	**5.86**	**6.77**
Household and NPISH) final consumption	0.49	0.66	10.82	8.15	9.29	-4.62	-1.29	-6.76	15.02	6.97	2.66	-6.09	9.04	5.97	n.a.
Government final consumption	1.35	3.97	2.40	2.96	2.08	2.00	-1.89	-1.99	-1.37	3.89	-5.14	0.81	0.52	1.55	n.a.
GCF	0.45	3.00	4.56	5.96	13.26	-11.53	-10.71	-4.41	7.66	-4.85	5.80	1.79	-5.19	4.22	n.a.
Exports	1.84	1.74	1.02	3.70	0.21	0.29	-7.27	-1.01	1.55	0.67	2.71	0.69	1.65	1.69	n.a.
Imports	1.88	-6.45	-6.16	-8.71	-16.07	5.14	12.59	0.86	-7.99	5.28	2.57	-2.40	-0.65	-7.58	n.a.

Source: PCBS

Table 4: Growth of GDP (%) and contributions to that growth, by output component

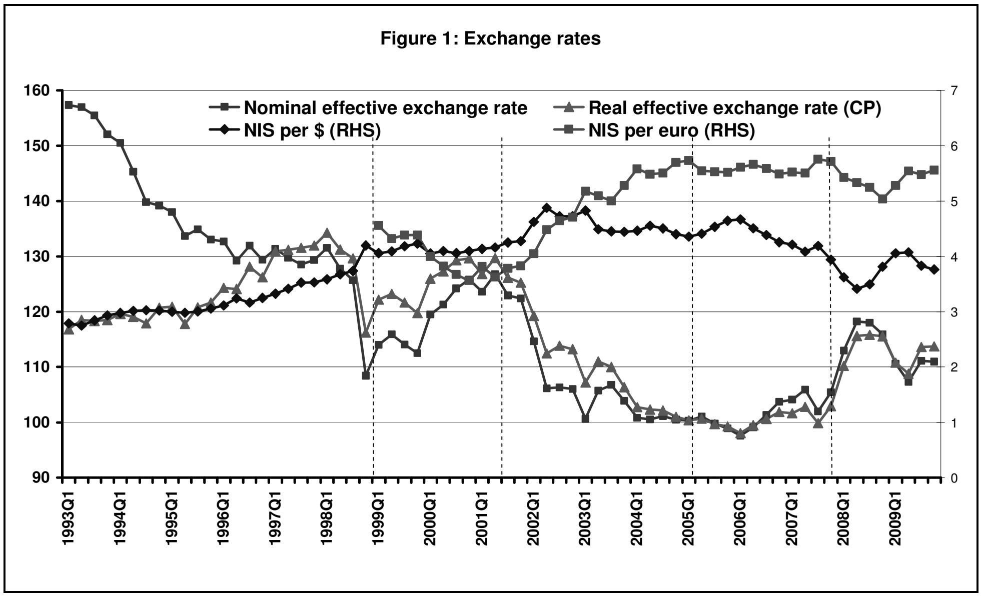
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
GDP	6.01	2.91	12.65	12.06	8.77	-8.72	-8.58	-13.31	14.87	11.97	8.60	-5.20	5.36	5.86	6.77
Agriculture and fishing	0.58	2.13	-1.63	1.40	-0.29	-1.45	-1.48	-2.42	1.38	0.05	-1.45	0.11	0.19	0.75	
Mining, manuf, electric, water	-0.37	-3.21	0.44	1.28	1.08	-2.55	1.79	-2.18	3.13	2.15	1.36	-2.78	1.12	0.47	
Construction	-1.59	1.74	0.39	2.17	6.00	-5.58	-3.87	-2.12	1.84	1.38	1.68	0.03	-0.25	0.28	
Wholesale and retail trade	-1.79	-3.98	1.94	0.37	1.46	-0.68	-2.52	0.72	-0.64	1.17	0.41	-0.30	0.62	1.20	
Transport, storage and Communicatns	-0.01	-0.11	1.39	1.25	0.95	-0.17	-0.28	-0.75	-0.32	2.23	0.20	0.46	1.20	0.22	
Financial intermediation	0.92	0.26	0.84	0.89	0.82	0.32	-1.11	0.04	0.51	-0.07	1.18	-0.32	2.02	0.14	
Other services	-1.44	-0.32	3.11	2.15	0.91	0.40	-2.14	-1.13	2.69	2.73	2.18	-4.42	1.89	1.72	
Public admin and defense	2.68	1.57	0.81	0.31	1.06	0.50	3.49	-3.12	2.71	-0.89	1.01	0.78	-0.42	0.53	
Households with employed persons	0.01	0.01	0.03	0.02	0.02	-0.02	-0.02	-0.03	0.03	-0.09	-0.10	0.09	0.01	0.01	
Publicly owned enterprises	0.00	1.03	1.70	0.74	1.01	0.79	-2.14	0.32	1.57	-0.36	-0.01	0.87	-0.18	0.24	
Less: FISIM	-0.57	-0.86	-0.59	-0.50	-0.65	-0.57	0.97	0.41	-0.35	-0.14	-0.02	-0.24	-2.90	-0.43	
Plus: Customs duties	1.80	4.17	2.30	1.08	-2.30	-0.22	-0.69	-2.16	2.35	0.97	1.61	0.45	-0.27	0.25	
Plus: VAT on imports, net	5.77	0.49	1.94	0.89	-1.31	0.52	-0.57	-0.89	-0.04	2.82	0.55	0.08	2.33	0.47	

Source: PCBS and author's calculations

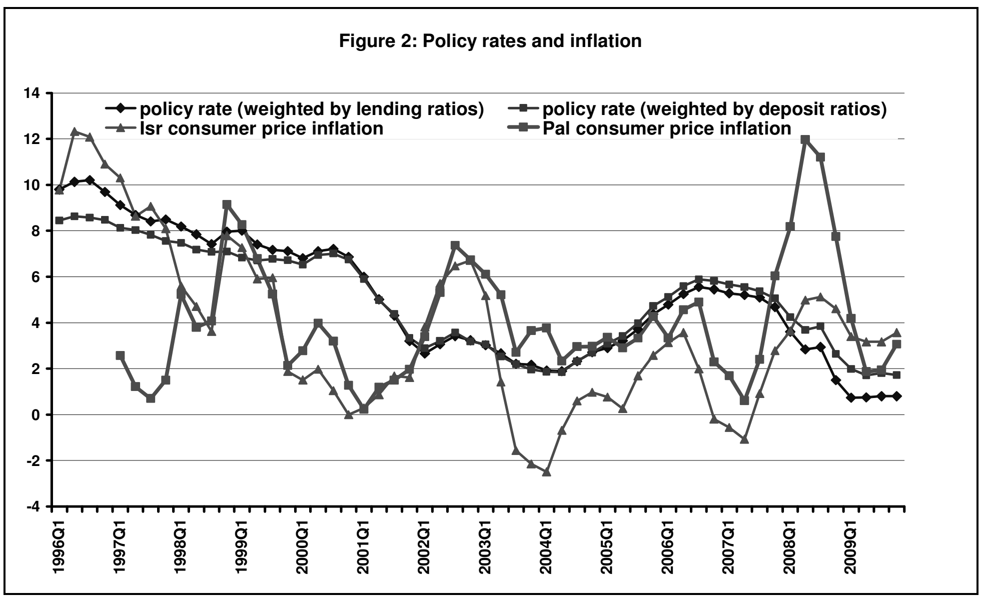
Table 5: OLS regression results, dependent variable GDP growth, 1995-2009

	1	2	3	4	5	6	7
constant	7.68 (0.031)	4.29 (0.079)	7.00 (0.059)	8.07 (0.019)	4.69 (0.051)	7.43 (0.051)	4.25 (0.101)
Index A (monetary)(-1)	3.18 (0.058)	3.04 (0.078)					
Index B (non-monetary)	2.78 (0.161)		2.37 (0.257)	2.75 (0.145		2.61 (0.223)	
real policy rate(-1)				-2.28 (0.031)	-2.20 (0.044)		
monetary conditions index(-1)						-0.68 (0.196)	-0.66 (0.216)
Adjusted R^2	0.25	0.17	0.03	0.32	0.24	0.10	0.05
DW	1.78	1.73	1.40	2.04	1.89	1.55	1.53

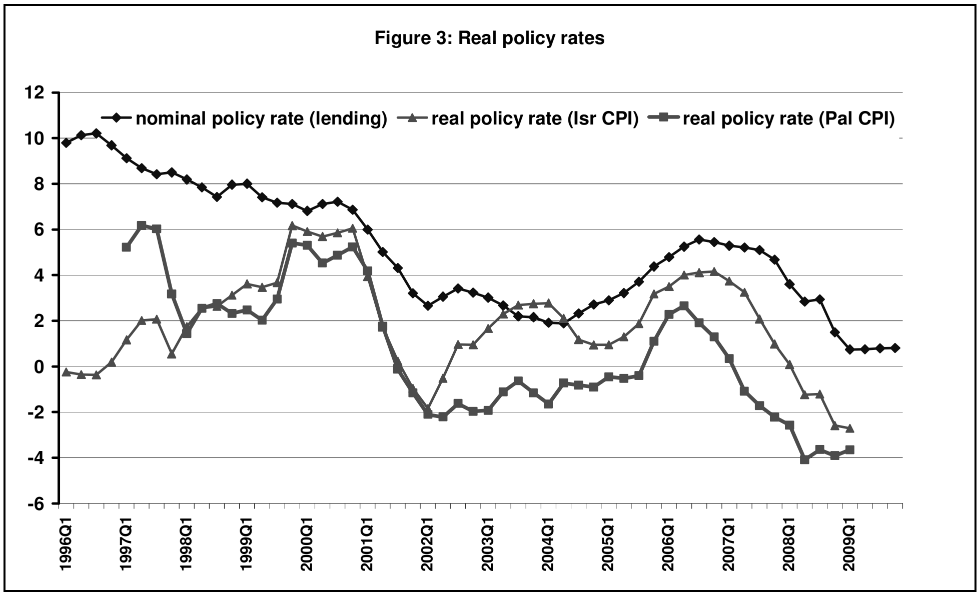
Note: probability values in brackets.



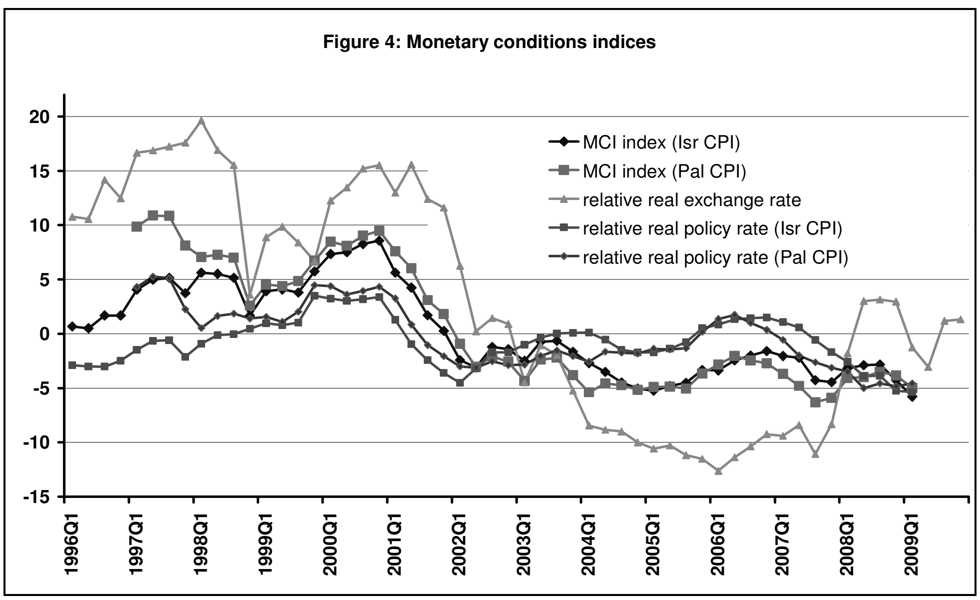
Source: *International Financial Statistics* (IFS)



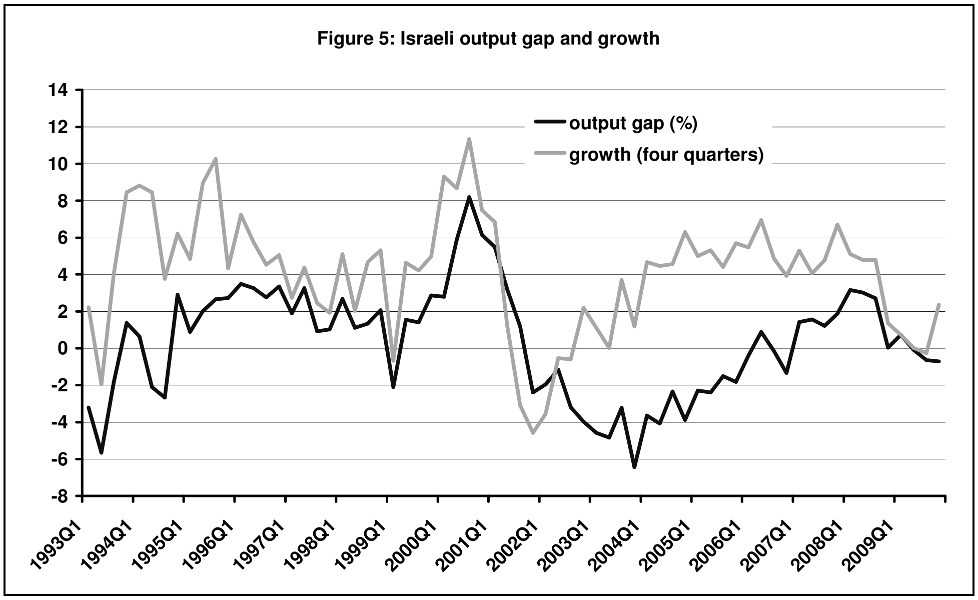
Sources: IFS, central bank websites, Palestinian Central Bureau of Statistics (PCBS), author's calculations



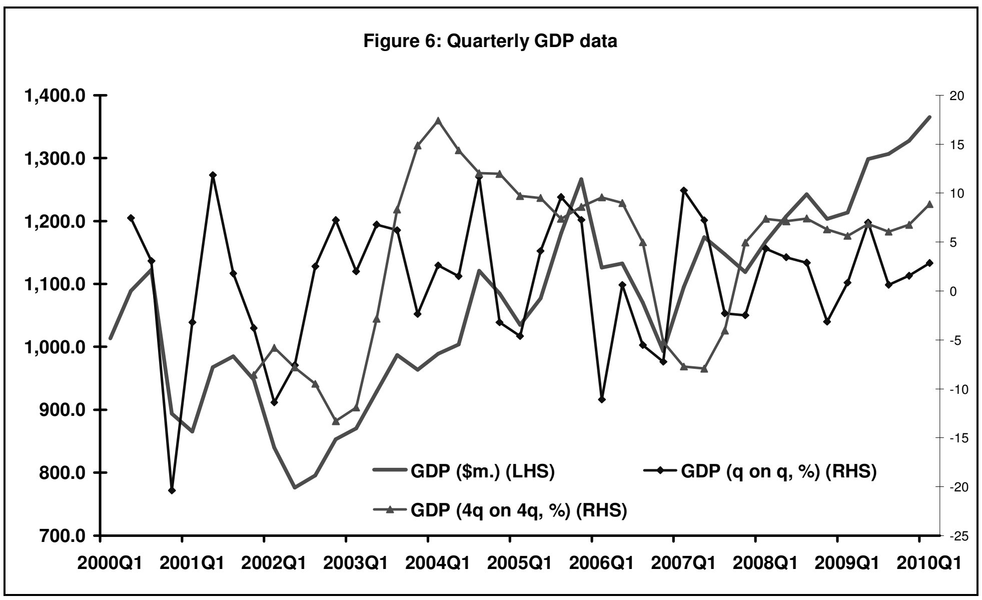
Sources: Figure 2, author's calculations



Sources: Figure 3, IFS, author's calculations

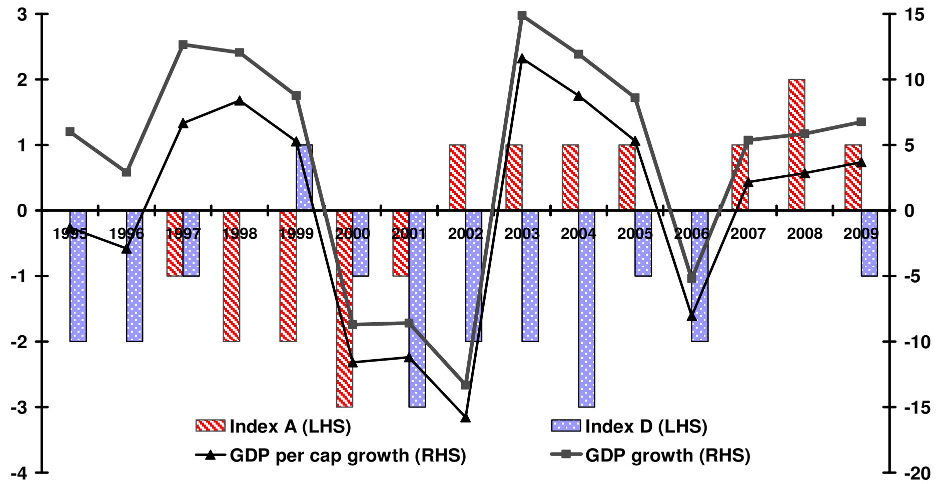


Sources: *IFS* and author's calculations



Source: PCBS

Figure 7: Inputs and outputs



Sources: PCBS for GDP, Tables 1 and 2 for indexes A and D