

Food-For-Work versus Cash-For-Work: Emergency Assistance in Palestine¹

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1. Introduction

The most recent years of the Palestinian history, those of the second *intifada* and the so-called "closure" - i.e. the Government of Israel's imposition of restrictions on the movement of Palestinian goods and people across borders and within the West Bank and Gaza (WBG) – have witnessed a dramatic decline in all Palestinian economic and social indicators. Since October 2000, when the violent confrontations started, conditions for a normal life have nearly disappeared and the economic situation has steadily disintegrated. Table 1 illustrates the declining performance of the Palestinian economy over the last four years.

Table 1: West Bank and Gaza Macro Economic Trends and Projections

	1999	2000	2001	2002
Gross National Income (GNI), US\$ mill.	5,166	5,419	4,501	3,273
Gross Domestic Product (GDI), US\$ mill.	4,289	4,607	4,012	2,951
<i>Real annual change (%)</i>				
GNI per capita	3.9	-7.5	-23.2	-26.4
GDP per capita	3.1	-5.3	-19.5	-25.5
Private Consumption	7.5	-5.6	-15.5	-17.0
Public Consumption	20.3	31.0	-2.1	-7.7
Total Fixed Investment	-8.3	-28.3	-76.9	-84.2
Exports	2.3	-8.8	-13.4	-34.8
Imports	5.4	-16.2	-29.0	-17.3
<i>Other items</i>				
Poverty, percentage of population below the poverty line	20.1	30.7	45.7	60.0
NIS/US\$, annual average	4.14	4.08	4.21	4.75
CPI, annual change (%)	5.5	2.7	2.1	7.6
Population, mid-year (1,000)	2,842	2,966	3,096	3,231

All data exclude East Jerusalem. Sources: World Bank Staff Estimates and Palestinian Central Bureau of Statistics (PCBS)

Among these impressive data, the most impressive concerns poverty. Using a poverty line of US\$ 2 per day, the World Bank (WB) estimated that 60 percent of the population was poor in 2002, which is three times as many as on the eve of the *intifada*. Many discussions are ongoing on the so-called "final status", or Phase III of the recently proposed *Road Map*. These discussions are mainly concerned with the regulation of those issues that can only be regulated once a permanent, two-state solution (or in any case a solution whatsoever) is finally agreed upon, namely the regulation of trade regime, labor flows, investment support, etc. In this paper we do not want to add to this already very rich debate². Rather, we want to

² Trade options for the future are analyzed at length by Astrup and Dessus (2001) and the World Bank (2002b). Labor policy options are investigated by Ruppert Bulmer (2001).

analyze a somewhat more urgent problem, the provision of emergency assistance to a country whose economy has been decimated since the start of the second *intifada*.

Emergency assistance may take a number of forms: budget support, food assistance, cash transfers, employment programs. The latter, in turn, may be organized as Food-for-Work (FFW) or Cash-For-Work (CFW) programs. In this paper we want to analyze the different potential effects brought about by these different relief policies and, especially, to draw some policy lessons concerning the FFW versus CFW debate: should the workers participating in an employment program be paid in food and other essentials or in cash? We are perfectly aware this is not a purely economic issue: psychological benefits or damages are clearly to be considered for an overall assessment of such policy measures (for instance, people may dislike getting a voucher rather than a cash transfer), and the political preferences of the donors should be put into the picture as well. For instance, the donors - due to internal reasons of political economy (farmers' support and *similia*) - could dispose of excess food and then prefer to fund a FFW rather than a CFW program. However, in this paper we will disregard these non-economic (or non purely economic) aspects and concentrate on the economic dimensions of emergency relief provision.

In order to simulate the effects associated with different policies we use a CGE (Computable General Equilibrium) model. The idea of looking at the FFW versus CFW issue as a general equilibrium topic was originally developed by Basu (1996). In his paper, Basu underlines the circumstances that can make the FFW a better option than the CFW. In particular, he claims that cash payments (as well as pure cash distribution) exert a stronger upward pressure on the price of foodstuff and, through this channel, makes those poor who are left out of the CFW program worse off. This way, he weakens the traditional arguments in favor of CFW schemes. We will briefly come back to this point in section 4.

We will proceed as follows. Section 2 clarifies some aspects of the SAM (Social Accounting Matrix) for 1998 which has been used to calibrate the model and illustrates how a counterfactual SAM is obtained to get a more realistic picture of the Palestinian economy after a couple of years of violent confrontation and economic destruction. In section 4, starting from this modified database, the results of some relevant policy experiments are presented.

As a final remark: all elasticities used in our simulation, as well as the equations of the model and the glossary of symbols can be obtained from the authors upon request (pmdeboer@few.eur.nl). Here we just remark that sensitivity analysis shows that the sign and order of magnitude of our results are robust.

2. The 1998 Social Accounting Matrix and the counterfactual SAM

2.1. *The 1998 SAM*

The CGE model used in this paper is calibrated around the SAM provided by the PCBS (Palestinian Central Bureau of Statistics) for 1998 (a reduced SAM is reported in Appendix 1). Compared to this original version, we aggregate the several sectors and sub-sectors included in it into eight main sectors: Food, Other Agriculture, Manufacturing, Construction, Transport, Trade, Private Services and Public Services, each of them producing one good. The food sector is an aggregation of the food producing agricultural activities and of those activities that, although belonging to the Manufacturing sector in the PCBS SAM, produce food items as well (for instance the "food and beverages" activity). Clearly, this is a way of producing a database well suited for simulating a FFW intervention.

The data in the PCBS SAM are organized in a way that implicitly separates the role of the Palestinian Authority (PA) as a consumer from its role as a producer. More precisely, in the SAM the PA does not buy intermediate goods, labor and capital services. It only buys consumption goods. The role of the PA as a producer is captured by the sector "Public Services", which is considered in the SAM as any other producing sector of the economy. In the model, we follow this convention and therefore the reader must be aware that this is not a way of disregarding the overwhelmingly important role of the PA as a producer and, above all, labor demander. If one looks at the "Public Services" column of the SAM, the extremely important role the PA plays as a producer will be immediately apparent.

Our model is a standard one, where each producing sector maximizes its profits under a technological constraint (see section 3.2). This assumption might seem inadequate to describe the behavior of the "Public Services" sectors, i.e. of the PA as a producer. Indeed, it is inadequate. One of the key reasons that the Palestinian economy still functions and did not collapse after the tremendous shocks of the last three or four years, lies in the fact that the PA, thanks to donors' budget support, has been regularly paying salaries and providing basic services to the population. It is very difficult to label this behavior as "profit maximization": the PA hired (or did not fire) people in order to provide a sort of social insurance. To overcome this problem - the inadequacy of the profit maximization assumption of the "Public Services" sector - we simply assume that the "PA as a consumer", i.e. the government collecting taxes and receiving donors' support, pays labor subsidies to the "PA as a producer", i.e. the "Public Services" sector. This way, we can rationalize the employment level in this sector as being mainly determined by socio-political reasons.

2.2. The counterfactual SAM

As already stated, the objective of this paper is to simulate the effects on the Palestinian economy of alternative policies of emergency relief provision. To this purpose, we cannot take the 1998 SAM as a credible base for running our simulations. In general, four years is a rather short period for an economy: its structure changes slowly and using a four-year-old SAM may be justifiable. In our case, however, the four years 1998-2002 cannot be considered a "short period" at all. Everything has changed: the capital stock has markedly declined, people are not allowed anymore to get a job on a regular basis in Israel or in the settlements and those lucky enough to get one are most probably attaching a higher risk premium (due to higher transaction and psychological costs) to the same job; donors' intervention, however welcome usually, is significantly increasing the already high dependency of the Palestinian economy on the vagaries of external, international factors; the Israeli demand for Palestinian products has collapsed due to the crisis that Israel and the settlements is suffering as well, etc., etc.

These are the reasons why we want to make our exercise of policy simulations start from a different, more "realistic" picture than that offered by the 1998 SAM. But the latter is the most recent available SAM for Palestine. For this reason, we built a "counterfactual" SAM, by giving a big "*intifada* shock", to the 1998 benchmark. What are the ingredients of this "*intifada* shock"?

a) A reduction in the capital stock. According to the World Bank (2003), physical damages resulting from the conflict (private and public buildings, infrastructure, productive trees and soils, etc.) amounted to 14% of 1998 GNI (Gross National Income) by the end of August 2002. Assuming, according to a well established practice (see for instance Easterly, 2002, chapter 2), an ICOR (Incremental Capital Output Ratio) of 4, this means that 3.5% of 1998 capital stock has been destroyed over the last years. Of course, this is not the whole story. What we are mainly interested in is the reduction in capital income rather than in the capital stock. The reduction in capital income may be thought of as the sum of the variation in the rate of return to capital and in the capital stock. The latter has been already dealt with, the former is difficult to evaluate because we do not dispose of any estimate. Indirectly, however, we can guess that the return on capital has lowered, since, due to the rapidly rising unemployment level, the labor-capital ratio has declined. According to our calculations, capital income decreased by at least 30% during the last three years.

- b) A dramatic fall in the level of labor income earned in Israel or in the settlements. If one looks at the official figures³, it would make sense to assume a 75% reduction in this source of income, but, taking into consideration the quite large number of Palestinians who manage to cross into Israel or its settlements illegally, we give this variable a 50% shock.
- c) An increase in donors' disbursements, that more than doubled over the period 1998-2002. According to World Bank staff calculations (2003), total disbursements increased from around US\$ 400 million to around US\$ 1 billion.
- d) A sharp reduction in the propensity to save of the Palestinians. As it can be seen in Table 1, the reduction in per capita GNI has always outpaced the reduction in private consumption, which is a normal and predictable reaction to a negative shock.
- e) A reduction in government saving, defined as the difference between revenues (including donors' assistance) and expenditures.
- f) An increase in the transfers paid by the PA to the households and in the labor subsidies handed out to the "Public Services" sector. More precisely, we assumed that the bulk of the increase in foreign aid was used by the PA to fund social transfers to the households, whereas the remaining fraction was devoted to the payment of labor subsidies. As discussed in section 2.1, these subsidies are a convenient way of modeling the intervention of the PA aimed at absorbing, however partially, the labor market shock suffered by the Palestinian economy.
- g) An increase in the labor force. The rise of the population between 1998 and 2002 was almost 15%, but, according to the PCBS data (www.pcbs.org), the labor force growth was around 8%, a fact that witnesses the sharp increase of the dependency ratio.
- h) An increase in the parameter that, as explained in section 3.3, describes both (the inverse of) the probability of getting a job in Palestine, as the risk premium attached by people to transaction and psychological costs associated with a job in Israel or in the settlements. It makes sense, looking at the data on unemployment in West Bank and Gaza, to assume that over the last years the probability of getting a job in Palestine has fallen remarkably. This decline is likely to be more important in the minds of the Palestinian workers than the increase in transaction and psychological costs of looking for a job or working in Israel or in the settlements. To put it in other words: however sad, one must recognize that Palestinian workers are getting used to these risks, as witnessed by the growing number of people trying to cross into Israel and its settlements illegally. The combined effect of all the ingredients of the "*intifada* shock", as predicted by our model, is summarized in Table 2.

³ According to the World Bank (2003), from September 2000 to the end of 2002, the number of permits was reduced from 128,000 to 32,000.

Table 2: Selected economic indicators (in real terms) of the effects of violent confrontation (simulation; 1998 = 100)				
Gross national income	Unemployment	Unemployment rate	Tax revenues	Welfare
70.7	219.8	35.6	99.4	91.4
Sector	Domestic production	Consumption	Exports	Imports
Food	91.3	95.3	64.9	106.4
Other agriculture	83.9	98.5	96.5	75.8
Manufacturing	83.2	90.9	65.9	88.8
Construction	80.5	94.9	76.1	89.2
Trade	79.1	95.2	77.8	81.8
Transport	88.6	90.4	81.3	94.8
Private services	84.4	79.4	75.4	90.7
Public services	114.8	99.1	120.4	111.1

The figures in Table 2 deserve some comment. First of all, real production declines in each sector of the economy but in the "Public Services" sector. The reason is that in our simulation of the "*intifada* shock" a portion of the increase in donors' assistance is used to subsidize labor input in that sector. As already explained, this is a way of capturing the political choice of the PA to support employment and provide a sort of insurance against the increasing risk of being unemployed. The consumption of "Public Services" decreases less than other items; this time, the reason is demand-driven: the income elasticity for these services is low and one could even legitimately take a negative value for it, i.e. treat them as an inferior good.

The simulated value for the unemployment rate, 35.6 percent, is very reasonable, even prudent. Indeed, according to the most recent World Bank study on Palestine (World Bank, 2003), the current unemployment rate is estimated at 42 percent, whereas the PCBS puts it at a lower level (36.8 percent).

The reduction in the level of GNI is more optimistic than the World Bank estimate (minus 30 percent instead of 40). The reason can be found in our relatively optimistic assumption concerning the fall in the labor income earned by the commuters (Palestinians working in Israel or in the settlements and living in the Territories). Obviously, a tougher shock could easily reproduce the World Bank result.

Again, it is worth noticing that the surge in foreign aid less than compensates the fall in other revenue sources for the PA and the overall tax revenues decrease, which is consistent with the available data.

These data, together with all the remaining figures we have omitted for brevity, are put together in our counterfactual SAM, the base on which we build our simulations of the

different policies of emergency assistance. Before turning to them, let us take a closer look at the CGE model employed in this paper.

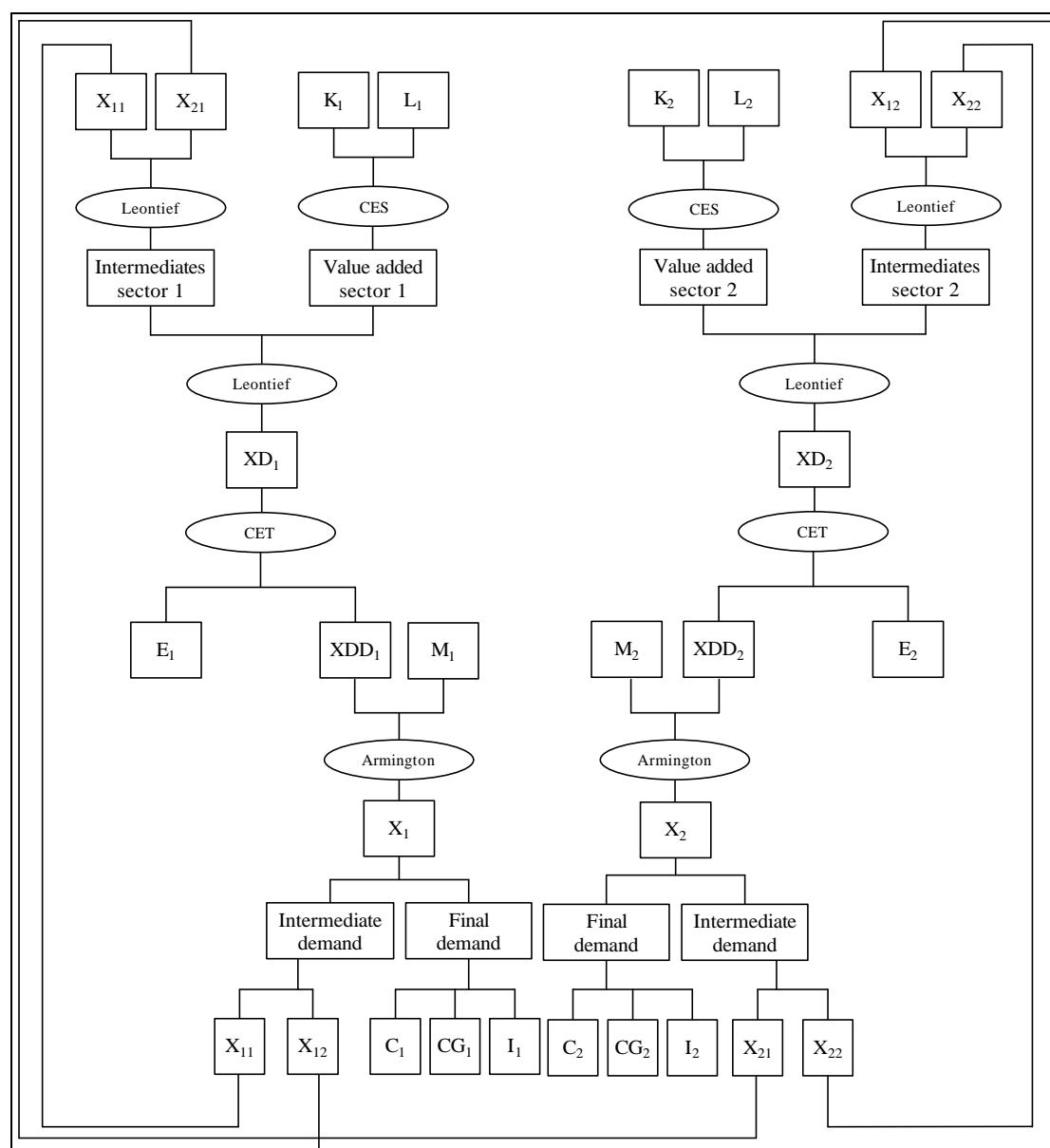
3. Description of the model

3.1. Introduction

In the model we have five economic agents: n firms, one household, a bank that allocates savings over investments, the Palestinian Authority (PA) and the rest of the world (RoW).

3.2. The firms

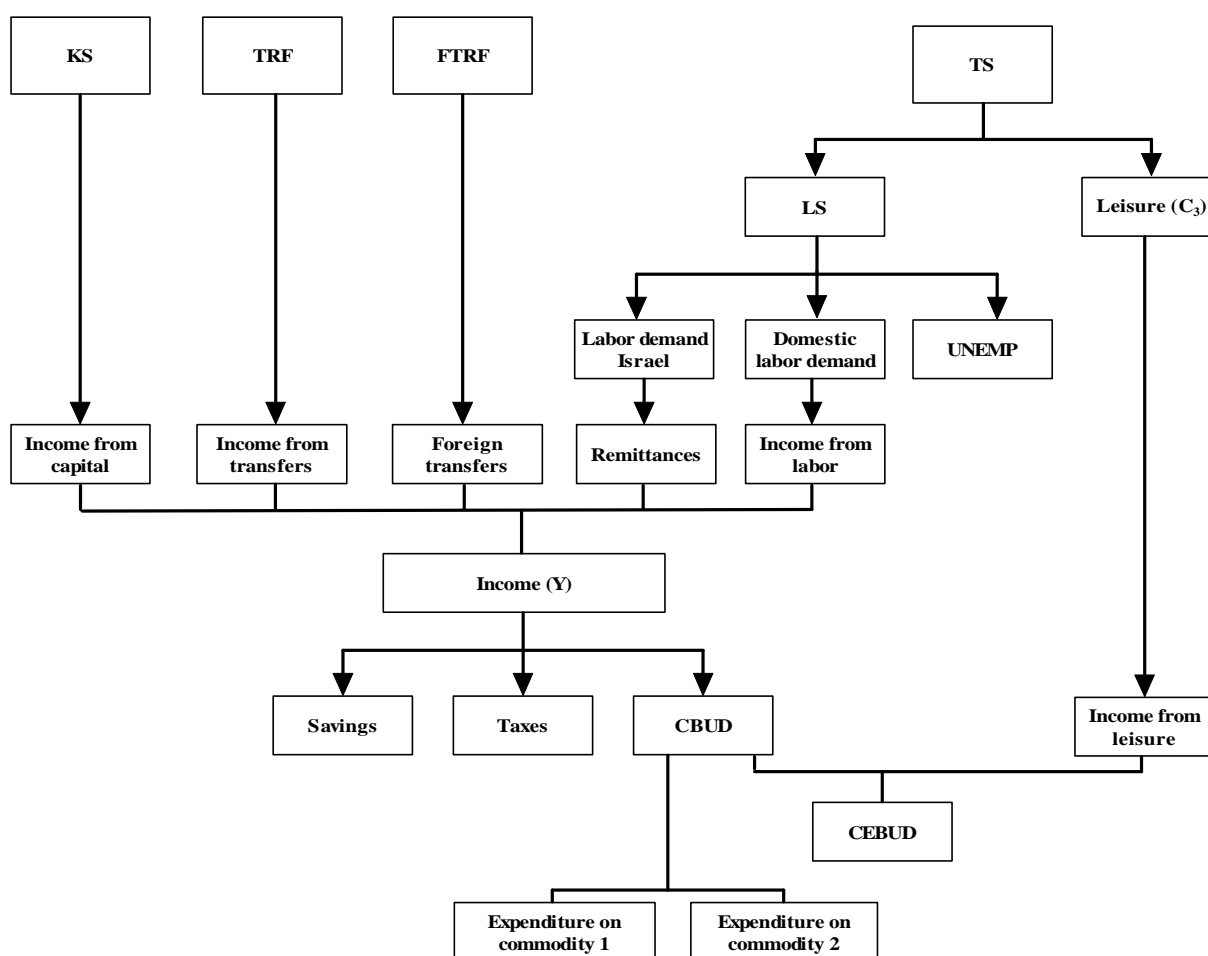
Figure1. Production of the domestic commodity, domestic supply, production of the composite commodity and domestic demand



In Figure 1, where for ease of exposition we have only dealt with two firms (sectors), we summarize the production structure. At the top, on the one hand intermediate inputs are combined into the intermediates by means of a Leontief technology, whereas on the other hand capital and labor are combined into value added by means of a CES technology. Both aggregates are, using the Leontief assumption, combined into XD, the supply of the domestically produced commodity. This commodity is transformed via a CET function into an export commodity, E, and into a domestic commodity supplied to the domestic market (XDD). This commodity is combined with imports to produce the composite commodity X. To that end we adopt the Armington assumption by using a CES functional form. This commodity is either used in the production process (intermediate demand) or for final purposes: consumption, consumption of the PA and investment.

3.3. The household

Figure 2. The decisions of the Household



The household owns the capital (KS), receives transfers from the PA (TRF) and from the rest of the world (FTRF), and it disposes of a time endowment (TS). The household is

assumed to maximize its utility in two stages: in the first one it allocates its time endowment over labor supply (LS) and leisure (C_3). We allow for unemployment so that the labor demand is smaller than the labor supply. We assume that the unemployed do not receive unemployment benefits.

In the model we use the unemployment theory delineated in the migration literature by Harris and Todaro (1970) to describe the wage gap between rural and urban jobs. Compared to the modified version proposed by Ruppert Bulmer (2001), we stay closer to the original Harris-Todaro model. The core of the theory is described by the following arbitrage condition (acting as a wage curve):

$$PL = \left(\frac{LF}{UNEMP + LF} \right) \cdot b \cdot ER \cdot PLF$$

The wage rate paid by Palestinian firms to Palestinian workers, PL, must be equal, in equilibrium, to the expected wage rate of the Palestinian workers employed in Israel or in the settlements. The latter is equal to the wage rate prevailing in Israel and the settlements, ER.PLF (ER being the exchange rate⁴), multiplied by the probability of getting a job in Israel or in the settlements (the bracketed term) and a factor, b, whose meaning will be immediately clarified. The probability of getting a job in Israel or the settlements is simply given by the ratio of the Palestinian workers actually employed in Israel or the settlements (LF) to the workers who look for a job there: those who manage (LF) and those who do not (UNEMP). The factor b can be given different interpretations. It could be thought of either as the inverse of the probability of getting a job in Palestine (and in this case the arbitrage condition states nothing but the equality between two expected wages) or as the risk premium attached by Palestinians workers to a job in Israel: the higher the transaction and psychological costs associated with such a job, the lower b. In other words: for each given level of the wage in Israel and the settlements, the Palestinian workers accept a lower wage at home when the risk of closure, the social stigma exerted by the settlers, the difficulties of reaching the workplace in Israel or in the settlements, etc. increase. The overall effect of the “*intifada* shock” on b is therefore uncertain: on the one hand, getting a job in Palestine is more unlikely than before (b increases); on the other, transaction and psychological costs are clearly on the rise (b decreases).

All five sources of income together yield the household income (Y).

⁴ Of course in the model we fixed ER = 1, since Palestine and Israel have the same currency and we do not consider the Palestinians working in foreign countries other than Israel.

It pays income taxes and saves a fixed fraction out of its net income. Subtracting taxes and savings from income yields the budget (CBUD) that it devotes to the purchase of commodities 1 and 2. In the second stage the household maximizes a utility function, with the consumption of these commodities as arguments, subject to its budget constraint.

For both stages we use a Linear Expenditure System (LES). This is equivalent to the maximization of an Extended LES utility function, with the consumption of the two commodities, and of leisure as arguments, subject to the extended budget, in which the income for leisure is included (CEBUD).

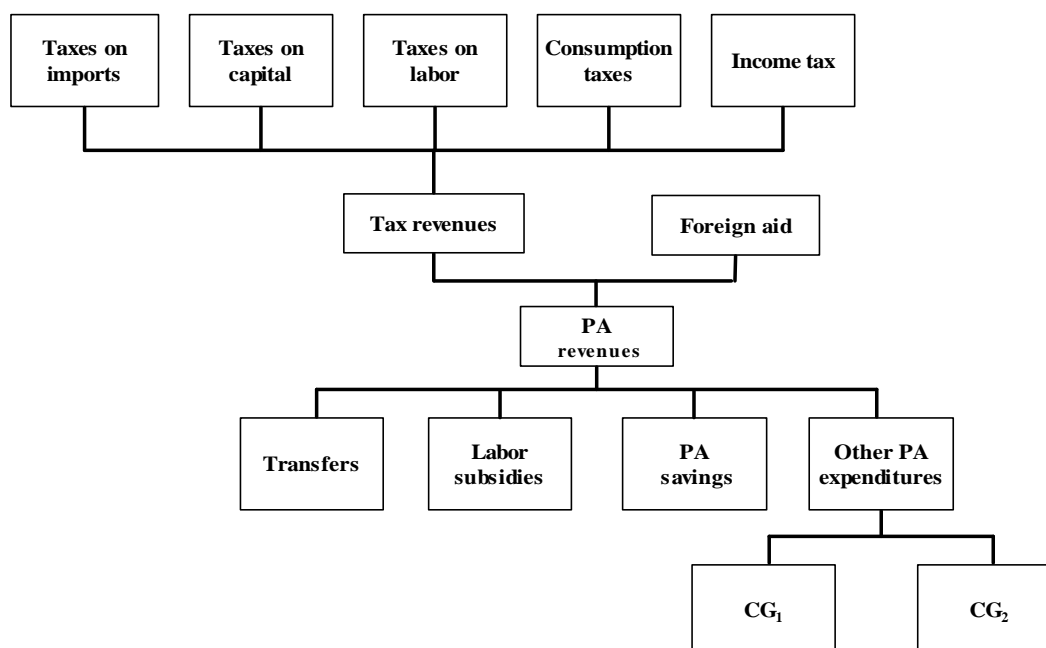
3.4. *The Palestinian Authority (PA)*

The PA derives its revenues from two sources: taxes (on imports, capital, labor, consumption commodities and on household's income) and foreign aid⁵. These revenues are spent on transfers, savings and on other expenditures. With respect to the latter we assume that the PA maximizes a Cobb-Douglas utility function with its purchases of the two commodities "Private Services" (CG_1) and "Public Services" (CG_2) as arguments subject to the expenditure constraint. To come back to our discussion in section 2.1, Figure 3 only describes the role of the PA as a consumer, but the reader should remind that the "Public services" sector basically includes the activities of the PA as a producer.

Obviously, CG_1 and CG_2 , i.e. individual final government consumption (schools, clinics, etc.) and collective final consumption (defense, security, public administration) are not included as arguments in the household utility function, since these items are not chosen by the household. However, it does benefit from them. Hence, the welfare index calculated in the model takes them into account.

⁵ Rising unemployment, reduced demand and the withholding by the Government of Israel of taxes collected on the PA's behalf made the total tax revenue fall by over 300 percent in less than two years, from late 2000 to mid-2002. In the model, the *de facto* power of Israel to withhold taxes that *de jure* should accrue to the PA is captured by attaching an exogenous (politically determined), multiplicative factor to the import duties revenue of the PA.

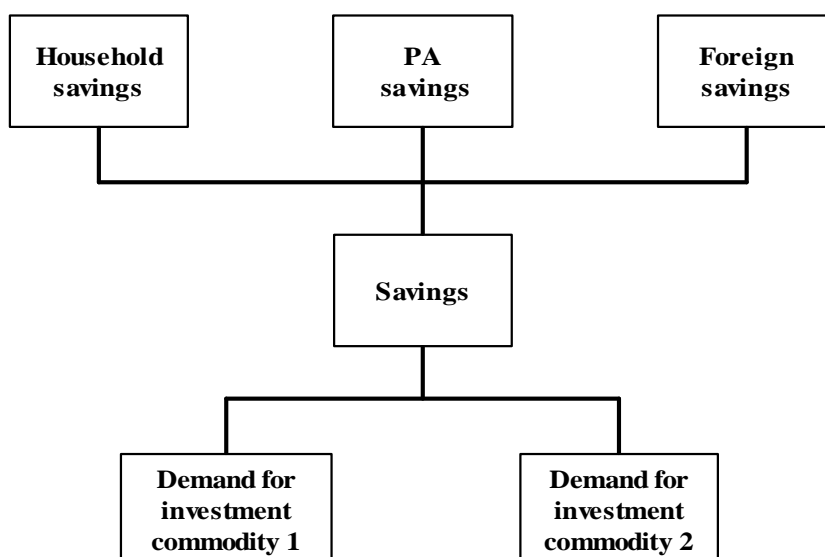
Figure 3. The decisions of the Palestinian Authority



3.5. The bank

In Figure 4 we summarize the decisions of the bank.

Figure 4. The decisions of the bank



The household savings (SH), the PA savings (SG) and the foreign savings (SF) are allocated over the investment demand for commodities 1 and 2. To that end the bank

assumed to maximize a Cobb-Douglas utility function with arguments I_1 and I_2 subject to the constraint that savings are equal to total investments.

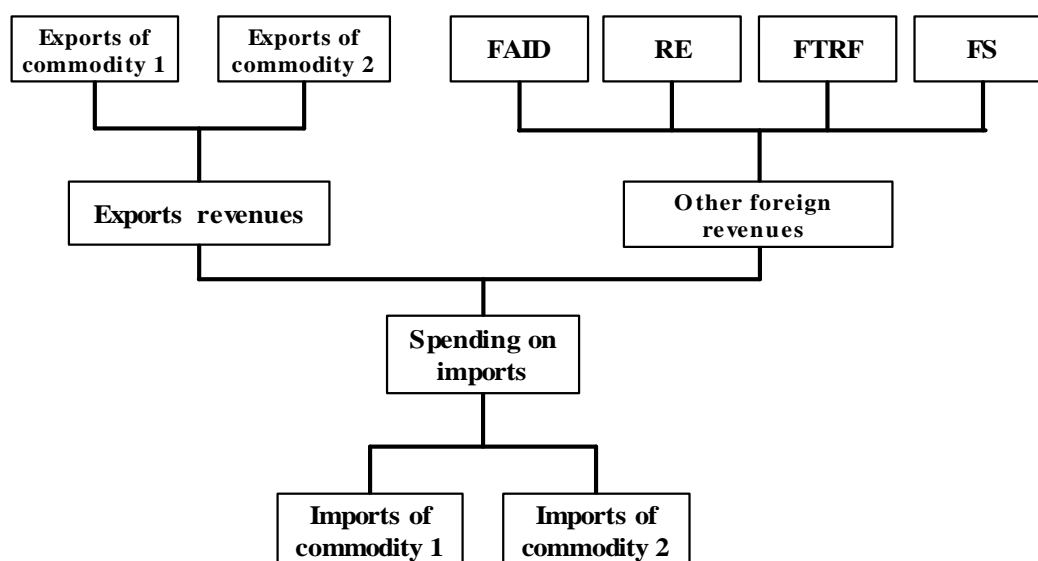
A word of caution is needed. Since we are interested in a short run issue here, the provision of emergency assistance to Palestine, our model is a static CGE model; however, investment decisions are intrinsically dynamic, dictated by expectations on the future and some process of intertemporal maximization. So, as in any other static model, the only meaningful reason for incorporating investments is basically accountancy: the SAM reproduces a picture of a given economy in a given point of time and, looking at that picture, one sees that people save and invest. But the reader must be warned that a static model has nothing to say as to the effects of any policy simulation on the level and composition of investments. This is the reason why in the next sections we will not consider these effects at all, concentrating on what a static model can seriously say.

3.6. The rest of the world

In Figure 5, finally, we summarize the RoW. Before briefly illustrating Figure 5, let us say that when one considers the Palestinian economy, the RoW basically coincides with Israel and its settlements, at least as far as foreign trade is considered. In 1998, 76 percent of imports and 96 percent of exports came from and were directed toward Israel and its settlements (Astrup and Dessus, 2001). Obviously, the picture is different if one looks at foreign aid disbursements. For instance, out of a total of US\$ 1.1 billion by the end of 2002, US\$ 840 million came from Arab League countries and US\$ 230 million from the EU (World Bank, 2003).

In Figure 5, Palestine earns revenues from the RoW via exports and other sources: foreign aid (FAID) accruing to the PA, remittances from the workers employed in Israel or in the settlements (RE), foreign transfers directly accruing to the households (FTRF) and foreign savings (FS), i.e. the deficit in the current account balance. These revenues are spent on imports of goods 1 and 2. Imports and exports are treated in a rather standard way, through, respectively, an Armington-CES and a CET assumption. In this analytical framework an external demand shock (for instance a reduction in the Israeli demand for Palestinian products prompted by the economic contraction Israel and the settlements is suffering) may be modeled by changing the elasticities of transformation so that it becomes more difficult to transform domestic production delivered to the domestic market into exports. Alternatively, one could use a standard export demand instead of the CET assumption.

Figure 5. The rest of the world



4. FFW versus CFW

4.1. A methodological note

Our empirical investigation reaches three main conclusions. Two of them are well-known results in economics – first: food and cash payments are basically equivalent when they are funded from *monetary* assistance from abroad; second: they are not equivalent when food payments are funded out of *food aid* from abroad – whereas our third result has not received much attention: food-for-work and cash-for work should be regarded and evaluated not just on the “food” or “cash” side, but on the “work” side as well. Food for which work? Cash for which work?

Before looking in more detail at these results, let us briefly illustrate a methodological point. In order to run our FFW and CFW simulations, the model has been slightly modified with respect to the basic version presented in section 3. In particular, the consumption variable was replaced by two new variables for each good: desired consumption (DC in Diagram 1) and actual consumption (AC in Diagram 1). When people are given too much food (with respect to their desired consumption: in Diagram 1 they are given OF, but they would like to consume OC), either they are allowed to sell the food in excess (the market for the vouchers) or, if they are not, they simply have to use their vouchers. In this latter case, given the monetary value of their income (in food and in cash), they will also have to reduce their expenditure devoted to other items correspondingly. There will be therefore a gap, for each good, between what they wish to consume and what they actually consume. Potentially, this

gap could prompt serious general equilibrium consequences, via its influence on the price system.

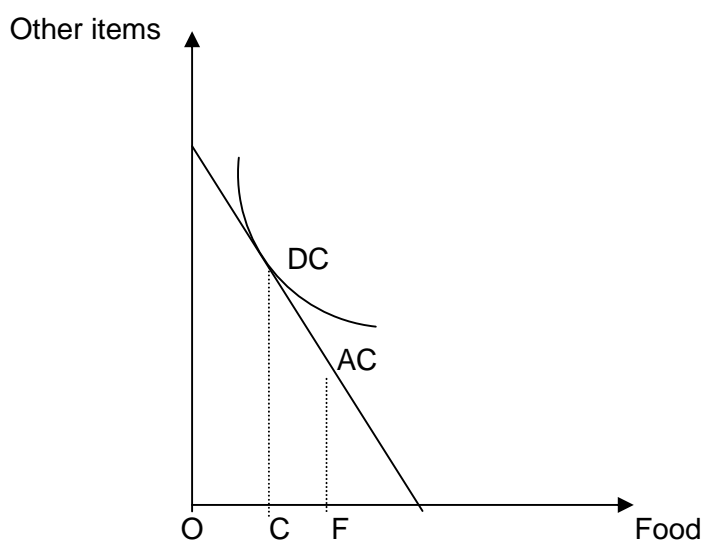


Diagram 1: the economics of in-kind transfers

In our simulations we abstracted from the possibility for people to resell their vouchers. Indeed, in the model there is just one representative household, and it's difficult to think he can resell his vouchers to the government or abroad.

4.2. Simulation results

4.2.1. FFW versus CFW: monetary assistance from abroad

According to the WB (World Bank, 2003), out of US\$ 1.1 billion of predictable donors' assistance for 2003, US\$ 375 million are needed for emergency and humanitarian programs. Hence, starting from our counterfactual SAM, we give the model the following shocks:

FFW shock:

- further increase in the level of foreign aid, so as to reach the WB predicted assistance
- separation of foreign aid into two items: general budget support for the PA and FFW programs (US\$ 375 million)
- FFW programs are modeled as follows: the government pays a uniform labor subsidy (the same subsidy *rate*) **in-kind** to each sector in the economy. Workers must spend the amount of the subsidy on food items and are not allowed to resell their vouchers.

CFW shock:

- further increase in the level of foreign aid, so as to reach the WB predicted assistance

- separation of foreign aid into two items: general budget support for the PA and CFW programs (US\$ 375 million)
- CFW programs are modeled as follows: the government pays a uniform labor subsidy (the same subsidy *rate*) **in cash** to each sector in the economy.

The two programs produce the same outcomes that are reported in Table 3. This is not surprising at all. We do not fall into the case described in section 4.1 because the size of the FFW program, however relevant, is barely enough to restore the pre-*intifada* level of food consumption. In the case of Palestine, the interesting case described in section 4.1 remains purely theoretical.

Gross national income	Unemployment	Unemployment rate	Tax revenues	Welfare
111.9	89.1	31.4	100.1	109.8
Sector	Domestic production	Consumption		
Food	101.9	106.5		
Other agriculture	112.6	106.1		
Manufacturing	100.5	113.8		
Construction	99.6	104.6		
Trade	102.2	109.0		
Transport	108.0	114.0		
Private services	108.4	118.7		
Public services	97.1	98.1		

The meaning of these results will be clarified in the next sub-section. Here, let us remind Basu's argument: in some circumstances FFW is to be preferred because CFW exerts a stronger upward pressure on the price level and thus people left out on the emergency scheme can suffer a loss. Our model is not perfectly suited to analyze the point, but we can guess that in the Palestinian context this argument does not apply. Who are those "left out" of the relief scheme in our model? Basically, those who remain unemployed. Well, in our FFW and CFW simulations we kept the amount of *real* transfers to the household fixed (from the PA and from abroad). Given that real transfers (a portion of them) coincide with the real income of the unemployed fraction of the household and that the reduction in the unemployment rate under the two schemes is the same, we are inclined to conclude that the household should be indifferent between them. Again, the reason is apparent from Diagram 1: if a FFW scheme does not force the household to relocate his choice from DC to AC, there is no reason to think CFW as a more inflationary scheme than FFW.

4.2.2 FFW vs. CFW: food aid from abroad

Here, we want to compare an experiment of CFW along the lines already described, with a different experiment of FFW. This time, food itself comes from abroad in the form of food aid. In order to make this FFW experiment comparable with the previous FFW and CFW “monetary” experiments, it must be ensured that the size of the program is the same (US\$ 375 million). This kind of FFW program may be conceptualized as follows:

- the level of foreign aid falls by US\$ 375 million
- this amount of money is used by the donors to pay a part of the world price of food to the world producers; only the remaining part is paid by Palestinian importers
- as before, the PA pays a uniform labor subsidy (the same subsidy *rate*) in-kind to each sector in the economy. Workers must spend the amount of the subsidy on food items and are not allowed to resell their vouchers.

The main results of the experiment are summarized in Table 4

Gross national income	Unemployment	Unemployment rate	Tax revenues	Welfare
104.9	94.4	32.9	90.5	113.9
Sector	Domestic production	Consumption		
Food	86.5	118.6		
Other agriculture	100.0	106.3		
Manufacturing	103.0	112.0		
Construction	101.6	104.7		
Trade	100.9	111.9		
Transport	106.3	113.0		
Private services	106.0	119.8		
Public services	83.5	92.0		

Comparing Table 3 with Table 4 one can see that the main difference is the reaction of domestic food production. Under the FFW program it falls significantly, which is exactly what is expected from such a program: the household simply substitutes domestic production with cheaper, imported food. However, it is worth stressing that other responses of the economy are less obvious. Nevertheless, they should be carefully considered when taking into account the relative merits of different emergency programs. Notably, food production (in the extended but more realistic definition we adopted for this sector, see section 2.1) accounts for almost 20% of the economy: it is a large sector. The decline in its production level is therefore the main reason behind the smaller increase of GNI under the FFW program (around 5%) than under the pure FFW or CFW programs (12%; by “pure” CFW or FFW programs, we mean lack of food aid from abroad).

In turn, this is the reason why, despite the relevant reduction in the price level prompted by a FFW program, real consumption does not grow faster under such a program. The only item whose consumption grows faster is food, and this is obvious: the reduction in the world price of food paid by the Palestinian importers produces a standard substitution effect.

Why does the price level fall under a FFW program whereas it is basically stable under a pure FFW or CFW program (which is the reason why the welfare index improves with a FFW scheme)? Because food products are not only a relevant portion of the consumption basket, but also an important input in the production process of those goods and services that are largely consumed by the households (see the benchmark SAM in Appendix 1).

And why does the production level of the “Public Services” sector contract so heavily under a FFW scheme? However obvious it may be, the reason is often forgotten by the proponents of food aid schemes. If the donors spend their money to subsidize world food producers, the government of the beneficiary country can get less for budget support. This simple trade-off must be kept in mind and to us it constitutes a further valid argument against these emergency schemes. In an economy whose productive base has been eroded by a conflict, an emergency program should never let the producers pay the price of an increasing welfare to the advantage of the consumers: it would be a short-sighted strategy.

Back to Basu’s point again. It is true that food aid from abroad can make the unemployed (those left out of the relief schemes) better off, since the fall in the general price level would make it possible to increase the real transfers to them (in the simulations, this is done by fixing the *nominal* instead of the real transfers). But, as usual, there is no free lunch. This choice would erode the real fiscal position of the PA and consequently it would negatively affect the production level of the “Public Services” sector, by far the most labor intensive sector.

4.3. For which work?

If we exclude the case of food aid from abroad, especially for their negative impact on agricultural GDP, we are left with pure FFW and CFW programs. But for which work? This kind of programs is generally thought of as social instruments; basically, it is believed that the ultimate beneficiary should be the household and the problem is to provide it with some income. In our view this is the reason why in the economic literature there are plenty of contributions on the issue of in-kind versus cash transfers, whereas much less attention has been paid on the “for-work” side of the story.

Here, to conclude our paper, we want to present the results of a simulation that clearly points to the “for-work” side as a crucial one. In this simulation we basically consider the same programs already illustrated in section 4.2.1, with only one, relevant difference. We

abstract from the hypothesis of a uniform labor subsidy paid to each sector of the economy and, keeping fixed the size of the program (US\$ 375 million), we try different possible allocations of these funds following two criteria. On the one hand, it could be argued that in a relief program the sectors to be privileged (to be given the largest amount of subsidy) are those producing the goods that dominate the consumption basket of the household. This could be labeled as a “welfare-oriented” approach. On the other hand, one could legitimately think that the sectors to be preferred are the most labor-intensive, those which are in a good position to absorb as much unemployed as possible. Let us call this view the “labor-oriented approach”.

According to the Palestinian data, adopting a welfare-oriented approach entails a privilege for the sectors “Food”, “Manufacturing”, “Private Services” and “Public Services”. A labor-oriented approach would accord a preference to the sectors “Trade”, “Construction”, “Transport” and “Public Services”. Table 5 summarizes the results.

Table 5: Labor-oriented and Welfare-oriented Approach				
Selected economic indicators (in real terms)				
(Counterfactual SAM = 100)				
Gross national income	Unemployment	Unemployment rate	Tax revenues	Welfare
Labor-oriented 109.6	91.0	32.0	101.4	107.2
Welfare-oriented 110.8	88.5	31.2	100.6	109.0
Sector	Domestic production Labor-oriented	Domestic production Welfare-oriented	Consumption Labor-oriented	Consumption Welfare-oriented
Food	103.0	97.7	105.9	105.5
Other agriculture	92.0	90.0	102.7	102.5
Manufacturing	98.3	102.9	110.7	112.6
Construction	101.5	98.1	105.0	103.1
Commerce	103.6	99.8	111.8	102.9
Transportation	115.4	98.2	116.5	107.3
Private services	100.9	110.9	107.8	121.6
Public services	105.9	101.9	108.5	109.6

The results are as expected. Under the welfare-oriented approach the performance of the different sectoral GDP is, on average, a bit more disappointing. However, the household is better off. It is worth noticing that unemployment falls faster under the welfare-oriented

approach: firms are producing less but, due to the upward pressures on the price of capital⁶, with less capital and more labor.

What is the “optimum”? Of course, it is very difficult to say. But, as already stressed, we believe that in an economy almost disintegrated by a violent and persistent conflict, the rebuilding of the productive capacity is an absolute priority. Pursuing a route where firms produce less with less capital in the name of a “plus one percent” in the welfare index, could be a dangerous mistake. Emergency assistance should never compromise development perspectives. All the more so, when a labor-oriented approach is, in any case, a way of increasing the current welfare level of the Palestinian population.

Appendix 1: The Palestinian SAM for 1998

Input-output structure and primary income (US\$, million)

	Food	Oth Agr	Manuf	Const	Comm	Trans.	Priv Svc	Pub Svc
Food	195	6	23	0	229	0	0	4
Oth Agr	46	1	28	0	0	0	0	0
Manuf	489	23	445	829	78	73	84	135
Const	4	0	6	113	7	0	22	36
Comm	507	0	512	3	263	9	13	58
Transp	21	4	25	4	45	7	14	40
Priv Svc	61	8	39	20	119	19	225	67
Pub Svc	0	0	0	0	0	0	15	0
Labor	89	38	205	179	473	103	426	349
Capital	177	4	321	245	214	80	546	18

Imports and final demand (US\$, million)

	Import	Private Cons	Govt Cons	Invest	Export
Food	733	1,736	0	117	219
Other Agr	34	40	0	0	8
Manuf	1,793	821	0	382	450
Const	1	61	0	1,108	38
Comm	64	126	0	1	10
Transp	135	249	0	33	1
Private Svc	264	84	215	33	2
Public Svc	29	7	761	1	1

Other data (US\$, million):

Foreign aid	390
Factor payments from abroad	779
Transfers from abroad	140
Foreign Saving	1,015

⁶ The reason why GNI growth is higher under the welfare-oriented approach lies in the behaviour of the price of capital (the rental rate of capital). Indeed, when labor subsidies are paid to some relatively capital-intensive sectors, as is the case in this simulation, their expansion causes a pressure on the given capital stock and then increases its price.

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