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AID AND TRADE

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Akiko Suwa Eisenmann, Paris School of Economics
Thierry Verdier, Paris School of Economics and CEPR

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Centre for Economic Policy Research
90–98 Goswell Rd, London EC1V 7RR, UK
Tel: (44 20) 7878 2900, Fax: (44 20) 7878 2999
Email: cepr@cepr.org, Website: www.cepr.org

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ABSTRACT

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The paper surveys the interactions between aid and trade, distinguishing between policies and outcomes as well as between various instruments. It first discusses the theoretical literature, focusing on the causal impact of aid on the recipient's welfare via the trade channel, before turning to the empirical and institutional literature on the topic. It identifies the main conclusions that are suggested by the literature and discusses the gaps that need to be filled out in order to get plausible policy recommendations.

JEL Classification: F13, F35 and O10

Keywords: aid, development and trade

Akiko Suwa Eisenmann
INRA-LEA
Paris-Jourdan Sciences Economiques
(PSE)
48 boulevard Jourdan
75014 Paris
FRANCE
Email: akiko.suwa@ens.fr

Thierry Verdier
Director
Paris-Jourdan Sciences Economiques
(PSE)
48 Boulevard Jourdan
75014 Paris
FRANCE
Email: verdier@pse.ens.fr

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AID AND TRADE

(July 2007)

Akiko Suwa-Eisenmann (Paris School of Economics)
Thierry Verdier (Paris School of Economics, CEPR)¹

Abstract: The paper surveys the interactions between aid and trade, distinguishing between policies and outcomes as well as between various instruments. It first discusses the theoretical literature, focusing on the causal impact of aid on the recipient's welfare via the trade channel, before turning to the empirical and institutional literature on the topic. It identifies the main conclusions that are suggested by the literature and discusses the gaps that need to be filled out in order to get plausible policy recommendations.

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1 Introduction

The Doha Round that started in 2001 was based on the recognition that trade liberalization was not enough for the development prospects of many low-income countries. Some developing countries could not benefit from a multilateral liberalization based on reciprocal market access, because they had little to offer. Among these developing countries, some could even not benefit from a preferential scheme because they lacked the infrastructure necessary in order to deliver reliable and safe products to Northern consumers. Moreover, trade-related adjustment costs and social impact was running high on the political agenda, not only in the South but also in the North. Domestic issues, such as competition policy, public subsidies or labor laws were increasingly mixing with international issues. In that context, it was all the more important to ensure that trade agreements make sense from a development perspective.

¹ Akiko Suwa-Eisenmann is researcher at Institut National de la Recherche Agronomique (INRA). Thierry Verdier is researcher at Paris-Jourdan Sciences Economiques, professor at EHESS and Associate researcher with CEPR. INRA, Paris-Jourdan Sciences Economiques and EHESS are founders of the Paris School of Economics. Authors contact : thierry.verdier@ens.fr;akiko.suwa@ens.fr. Address : Ecole Normale Supérieure, 48 bd Jourdan, 75014 Paris, France

A first version of this paper (June 2005) was prepared as a background paper for the OECD development centre project on 'Policy coherence for development' under the supervision of Jeff Dayton-Johnson.

The convergence of views between the development and trade communities resulted in the rising concept of “aid for trade”: what developing countries needed was not only technical assistance to trade, but more generally, aid designed at reducing transactions costs of various kinds, many of them “behind the border” and at alleviating the social cost of trade liberalization (see for instance the UN Millenium Taskforce report on Trade, 2005 or World Bank global economic prospects, 2005).

However, the likely impact of more aid for trade is not precisely known. This paper is a first step in this direction. Its purpose is to provide a theoretical and empirical background overview of the interactions between aid policies and trade flows and policies, taking the perspective of outcomes (on growth or welfare) for the recipient developing country.

This survey is not meant to be exhaustive. A significant issue that is set aside is the linkage between aid and trade policies of the donor country that goes through the political economy of bargaining between the government and lobbying groups.

The paper starts with a brief sketch of the interactions between aid and trade, distinguishing between policies and outcomes as well as between various instruments (section 2). It then discusses the theoretical literature related to the issue, focusing on the causal impact of aid on the recipient’s welfare via the trade channel (section 3) before turning to the empirical and institutional literature on the topic (section 4). Finally, we try to identify the main conclusions that are suggested by the literature and discuss the gaps that need to be filled out in order to get plausible policy recommendations (section 5).

2. Interactions between aid and trade ; an overview

The convergence of the trade and development agenda took place only recently. Traditionnally, aid and trade policies were promoted by different constituencies, who were represented in different institutions, GATT and the WTO on the one hand, and development agencies on the other hand (Hoekman, 2007). As a result, the current state of the world is still one where aid and trade are targeted towards different countries. Thus aid and trade in the data appear largely as substitutes. Figure 1, taken from Cogneau and Lambert (2005) shows the cumulative curves of aid, exports, FDI and migration, for 140 countries ranked by their per capita GDP in 2000. More precisely, the concentration curve of Official development aid/official aid (ODA/OA) commitments and FDI received by the developing countries are compared to the concentration curve of exports flows of the same developing countries to the OECD and the concentration curve of the number of migrants originating in these developing countries living in the OECD. Figure 1 reads like a Lorenz curve for income inequality. The redistributive impact of aid appears clearly, as its curve lies above the 45 degree line, at least for the poorest countries. All other flows are regressive. The curves of exports and FDI are very close to each other and both are more regressive than migration. What figure 1 tells us is that aid was directed to the poorest countries and compensated them for the lack of market access in the North and the lack of FDI coming from the North. Back in the seventies, the substitution between aid and trade was even more pronounced, because the order of magnitude of the different types of flows were similar. Nowadays, aid alone can no more

compensate the poor countries. Net ODA/OA received by low and middle income countries amounted to 84 USD billion in 2004 while exports from the same group of countries to high income countries represented more than 1 985 billion (World Development indicators 2006). For these low and middle income countries, aid represented even less than FDI inflows (211 USD billions) or workers remittances (161 USD billions).

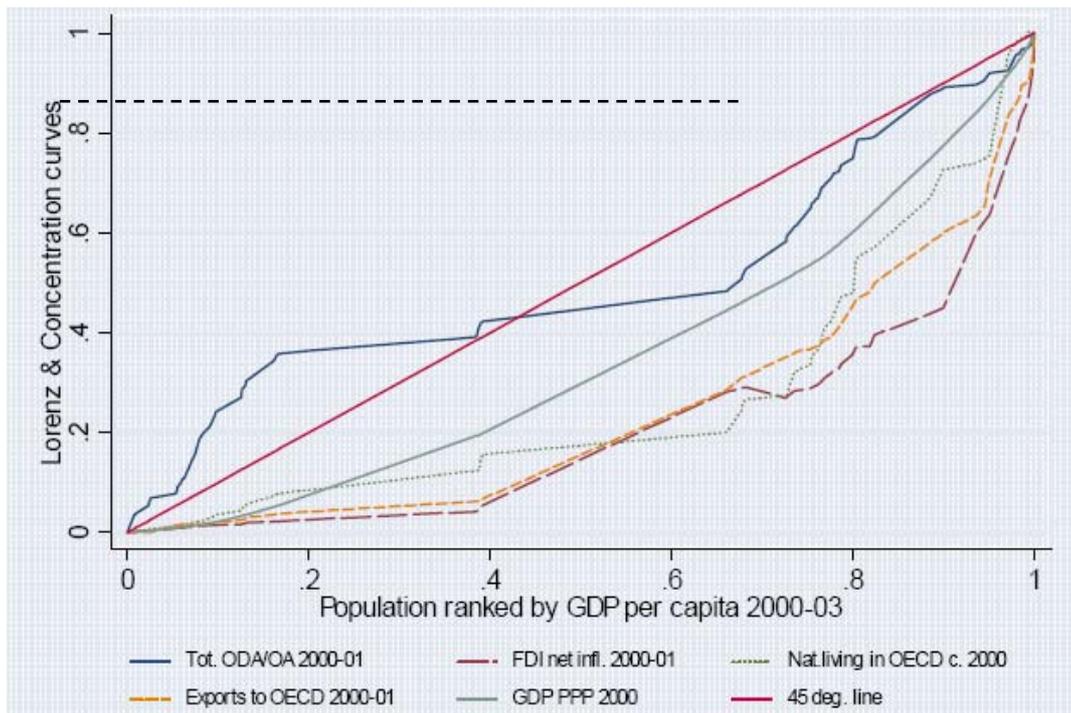


Figure 1. Concentration curves of Aid, Exports, FDI and migration (Cogneau, Lambert 2005)

The dominance of trade and private capital flows in today’s globalization may also explain the quest for a new role for aid, hence the efforts to mobilize “aid for trade”.

Assessing the role of aid for trade means that we would like to understand whether Aid policy (denoted as A) act as complements or substitutes with trade policy (denoted as T for trade policy reform) on a target welfare objective (denoted as W) in the recipient economy. This target $W(\cdot)$ can be a static or dynamic long run aggregate welfare indicator like national real income or growth or it can be related to the degree of heterogeneity inside the recipient country (poverty, inequality, distributive concerns). In mathematical terms, we would ideally want to obtain some information on the sign of the cross derivative:

$$\frac{\partial^2 W}{\partial T \partial A}$$

At this point, a distinction must be made between aid and trade *policies* and their outcomes, aid and trade *flows*. The types of links that we wish to discuss can be usefully summarized in figure 2.

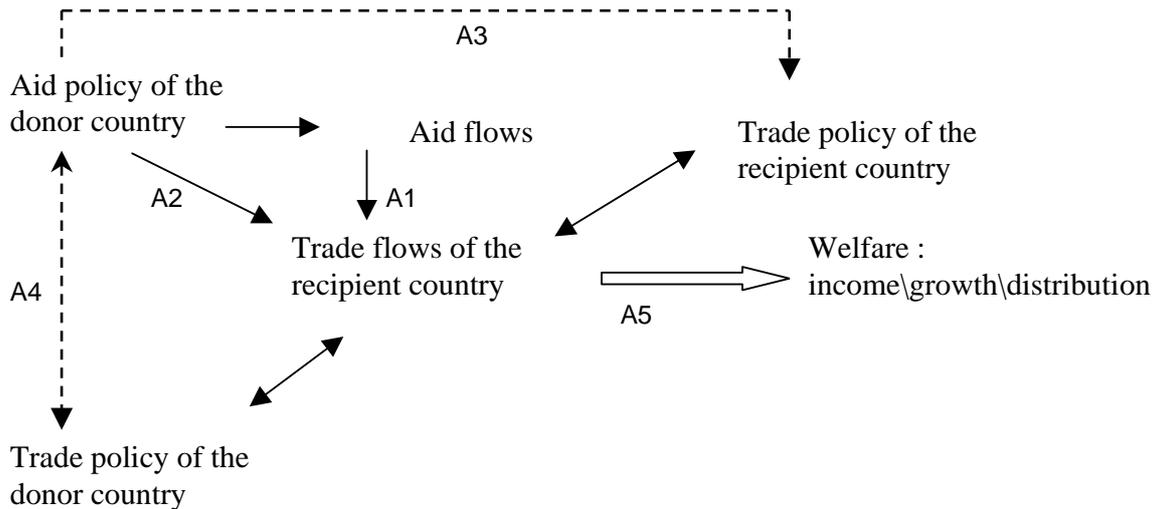


FIGURE 2. Aid and trade interactions

First, the linkage may relate aid and trade flows (arrow A1 in Figure 2). It can also go from aid *policy* to trade *flow* (A2). A last possibility is an aid policy intending to influence trade policy in the South (A3) and in the North (A4). All these linkages determine together the joint impact of aid/trade policies on the welfare of the developing country (A5).

Thus, the typical channels through which we may expect complementarities or substitutions between aid and trade, go from policy instruments to economic flows, generating interactions between Aid flows and Trade flows. These interactions in turn are supposed to affect the welfare objective inside the country under consideration. Policies can also be directly linked when they reflect conditionality or additionality dimensions. As it turns out, the literature has often more focused on discussing the relationships between flows than between policies as measures of the former are more easily obtained than measures of the latter .

Before getting into the heart of the paper, two important policy dimensions need to be acknowledged. The first one concerns the definition and analytical content of what is a Trade or an Aid policy. In practice, each of these policy areas is likely to be a finely grained multi-dimensional vector of policy instruments. For instance the trade policy vector may contain various instruments like trade tariffs and taxes, quantitative restrictions, rules of origins, protective administrative procedures (antidumping, countervailing duties, custom delays), trade restraints, or various domestic discriminatory policies (subsidies, barriers to entry, standards and regulations). Similarly, the Aid policy vector typically includes an array of

bilateral and multilateral aid instruments including conditional and tied aid, targeted versus general funds, safety nets, etc. While most of the literature surveyed generally considers an aggregate view of these policy vectors, it is important to keep in mind that from a policy perspective, each of these areas will be implemented by the interplay of the various instruments of these policy vectors. We will return more precisely to this in the conclusion.

The second element that needs to be acknowledged is the important political economy dimension related to these policy areas. Typically in most cases, without appropriate compensation, the implementation of Trade or Aid policy vectors generates gainers and losers within and across countries. These distributive impacts in turn stimulate rent seeking and rent sharing responses among groups or coalitions of agents. Clearly, these aspects are crucial to understand the internal and external political constraints within which policy coherence or incoherence can occur. While we will return briefly on this again in our conclusion, we however abstract from these dimensions in most of this present piece of work and therefore neither formally model the political decision-making process nor exhaustively review the political-economy literature related to these issues.

3. Conceptual aspects on the interactions between Aid and Trade

We now turn to the theoretical literature on Aid and Trade.

3.1. The relationship between Aid flows and Trade flows

A first approach to the discussion of the interaction between aid and trade is to consider the possible causal relationships between aid flows and trade flows (A1 in figure 2). Aid flows may affect trade flows either because of the general economic effects they induce in the recipient country, or because aid is directly tied to trade, or because it reinforces bilateral economic and political links (or a combination of all three).

The first plausible impact of aid on trade goes through the traditional macroeconomic view that aid supplements domestic saving, leading to increased investment which contributes to higher rates of economic growth than would be possible without aid (White 1992). The induced growth implies a greater capacity of the recipient country to absorb foreign products including actually those originating from donors. Along this line, aid flows are likely, in the medium run, to generate more international trade flows in the recipient country. A related mechanism is the fact that aid is often associated with conditionality of structural economic reforms in the recipient country. When the reform targeted by aid is trade liberalization, the effect of aid on trade is direct. But it could also be indirect as long as reforms stimulate growth, which in turn may increase the import capacity of the recipient economy.

It should be noted however that this line of reasoning provides also good arguments for a negative rather than a positive relationship between aid and trade. First it can be the case that aid has in fact a negligible macroeconomic effect due to fungibility (Heller 1975). Even if all aid is saved and invested, it may simply crowd out other domestic investments by increasing

the price of investment goods. Also a similar result may apply if aid is tied to counterpart funds. In order to raise these funds, the recipient government may have to levy distortionary taxes and/or issue public debt, which can increase interest rates and crowd out private sector investment.

Aid-dependency

In the same macroeconomic tradition, the most celebrated argument of a relationship between aid and trade flows is probably the so-called “Dutch disease” and “aid dependency” effects in the recipient economy, illustrating the potential conflict between aid flows and the export competitiveness of the recipient country. The story is quite well known: aid flows will be used to finance expenditures on non-tradable goods and services. With the price of tradable goods given, there will be a relative price shift in favor of non-tradable sectors (a real appreciation of the exchange rate). The immediate effect is on the demand side, where more of the cheaper tradable good (especially imports) will be demanded, leading to a deterioration of the external balance, which in turn will require more aid flows (“aid dependency” effect). At the same time, the real appreciation of the real exchange rate leads to an intersectoral resource transfer from the tradable to the non-tradable sector, causing a significant squeeze on the export producing sectors (“Dutch disease” effect). The impact of aid on trade flows of the recipient country occurs therefore in two steps. First, imports tend to increase in the short run while in the medium run, domestic export capacity tends to decrease. If there is an intertemporal effect (like an intertemporal learning externality effect of exports on domestic productivity), the Dutch disease phenomenon may have long run negative implications for the trade flows of the recipient country. However, if the country has idle capacity, the income effect of aid might not translate in real appreciation as both tradable and non-tradable sectors might rise. Moreover, a LDC might even benefit from a real appreciation because of the low substitutability between domestic production and imported inputs (Nkusu, 2004). Still, if idle capacity originates from rigidities on the production side, such as, for instance, a price or a wage indexation, it is not obvious that the tradable sector might gain in all cases from an aid transfer.

The tying of aid

The most direct and obvious link between aid and trade is formal tying, where the provision of aid is dependent upon the recipient purchasing goods from the donor. As this is generally done by having aid in the form of goods procured by the donor, aid is itself trade (in the form of donor exports). Tied aid may also induce dynamic effects as they increase recipient exposure to donor export goods which in turn may encourage follow-up orders and expand future exports. Aid in this way is an instrument of trade policy (Morrissey 1991). Tying can also be informal and the result of political goodwill from the recipient to the donor, such that the recipient may feel more inclined, if not obliged, to buy donor’s goods.

Again, tying may generate important allocative inefficiencies inside the recipient economy. As mentioned by Jepma (1991), exports under tied aid are often overpriced compared to prevailing world price, by between 10 to 40 %. When capital goods imports are priced so costly, this may retard growth and therefore the subsequent capacity of the country to trade

with the rest of the world. In this case tied aid may have differential temporal impacts on trade flows: it increases trade flows in the short run and reduces them in the long run.

Another possibility is aid-induced trade dependency. For instance, even when aid is not tied, it may fund project requiring the import of capital goods that are only produced in the source country. Another example is food aid. It has been argued that food aid, by reducing local prices, tends to distort the allocation of resources in recipient countries away from local food production. Overtime, this can exacerbate and prolong the very shortages it is intended to solve. The outcome can be lasting trade dependence and trade flows from donor countries.

Reverse causality

As is widely recognized by several authors (see the survey in Lloyd, McGillivray, Morrissey and Osei, 1998), the causality between aid flows and trade flows can obviously go also the other way around. While this paper is concerned with the causality link from aid to trade, it is perhaps useful, as a reminder, to mention the main argument for the reverse causality. Trade can affect aid allocation in different ways. Aid allocation in the donor country can be influenced by various lobby and business groups, which may be associated to particular trade interests. Or trade can further lead to aid if donors give preferences in the allocation of their aid to countries with which they have the greatest commercial ties. The donor might want to reward the recipient for the purchase of his export goods or it might want to consolidate or expand his market in the country in which the expectations of an aid-induced trade-dependency is highest. Conversely, the causal relationship can be negative if the donor rather uses aid to promote exports ties in those countries, which currently have less commercial links.

3.2. How do Aid flows interact with trade policy in the recipient country ?

In the previous section, we discussed plausible channels of interactions between aid and trade flows. What about the interactions directly between instruments? Given that the route from aid instruments and aid flows seems to be quite direct, in order to suggest answers to that question, we may then directly consider the question of interactions between aid flows/policies and trade policies of the donor or the recipient country (A3, A4 in Figure 1). We start first in this section to review what theory has to tell us on the interactions between foreign aid and trade policies in the recipient country and their consequences for the recipient's welfare as defined by the aggregate measure of national real income. The next section will investigate the links between aid and the donor's trade policies.

The transfer paradox

The conceptual background underlying these dimensions is directly related to the theory of income transfers in international trade theory. As a matter of fact, the study of how a transfer of real resources from one country to another affects both the donor and the recipient country is now part of a well-established tradition in international economics. As is well known since the Keynes-Ohlin controversy on the German reparation payments after World War I and the clarification of Samuelson (1952), beyond its direct income effect, an international transfer between two countries is likely to have important terms-of-trade effects between the donor

and the recipient countries, the sign of which depending on the relative size of the marginal propensities to consume in the two economies. The so-called “orthodox” view is that there should be a deterioration of the donor’s terms-of-trade as each country is supposed to have a larger domestic marginal propensity to consume its exportable good (Keynes 1929). Subsequently, significant work has been done to consider the “anti-orthodox” view that an income transfer improves the donor’s country terms of trade (see Jones (1970), Chipman (1974), Jones (1975), Li and Mayer (1990)).

A major issue about income transfers is how they affect the welfare levels of the donor and the recipient countries. One aspect, which has received considerable attention in the literature, is the discussion of the conditions under which an international transfer is immiserizing for the recipient country (the so-called “transfer paradox”). As is well known from Leontief (1936), Samuelson (1947) and Mundell (1960), in a two-country world with free trade and no distortions, immiserizing transfers from abroad cannot arise when markets are stable². Related however to the issue of the interactions between aid instruments and trade policies, the possibility of welfare worsening transfers in the recipient country arises when one departs from the distortion-free world³.

A first possibility is to consider a multilateral world economy and to enlarge the set of countries to more than the two economies participating in the transfer process. Several contributions showed the possibility of perverse outcomes of international transfers in a three countries\agents context (see Gale (1974), Chichilnsiky (1980), Brecher and Bhagwati (1981), Yano (1983)). However, Bhagwati, Brecher and Hatta (1983) in their integrating analysis with a theory of distortions and welfare, demonstrate that the transfer paradox cannot arise in a three-agents framework if the recipient and the donor countries uniformly impose an optimal tariff policy jointly against the non participant country. This last result is interesting in that it suggests a certain degree of complementarity between foreign aid and regional trade policy in order to avoid perverse welfare outcomes in the recipient economy.

A second situation is when the transfer from abroad takes place in the presence of (exogenously given) domestic distortions, of which trade barriers in the recipient or the donor countries are an important case. As shown in Ohyama (1974), Brecher and Bhagwati (1982) and more generally in Bhagwati, Brecher and Hatta (1985), exogenous price distortions such as tax-cum-subsidy policies, can lead to the “transfer paradox” and the recipient country loosing from the aid transfer. The intuition for instance, in the case of a recipient’s tariff policy is quite easy to grasp. The basic mechanism of an immiserizing transfer comes from the fact that, after the transfer, the recipient country faces a deterioration of its terms-of-trade. Such deterioration leads to increased production and reduced consumption of the recipient’s importable. Under a domestic tariff policy however, this commodity is already “over

² Stability means that in global markets, an excess demand for a particular good leads to increase of the price of this good in order to restore the initial competitive equilibrium

³ see also for more details the survey in Brakman and Marrewijk (1988)

produced” and “under consumed”. The change in relative international prices therefore leads to the additional effect of exacerbating the existing “over production” and “under consumption” of the importable good. This extra cost may be enough to ensure a decline in welfare of the aid-receiving country⁴. When this occurs, the preceding discussion suggests that the recipient’s trade liberalization policy acts as a complement to the foreign aid instrument. As a matter of fact, an increase in the transfer from abroad needs to be accompanied by a reduction of the recipient’s tariff policy to minimize the possibility of a transfer paradox in the recipient country⁵.

Probably the most interesting situation arises when the transfer itself creates domestic distortions. The classical example of such distortion-induced transfer is of course aid tying. The welfare analysis of this situation has been extensively studied in the literature (Ohyama (1974), Brecher and Bhagwati (1982), Kemp and Kojima (1985), Schweinberger (1990), Tajoli (1999). Hence for instance, in the case of a small open economy, Brecher and Bhagwati (1982) consider the situation where aid is accompanied by “production additionality requirements”. One such example is for instance the case of food aid where the donor may require that domestic food production be stepped up if food aid is given. In such a case, production is shifted away from its efficient allocation and the recipient country may end up impoverished after the transfer. When however the additionality requirement is that local imports be increased by the amount of the aid provided, the use of an appropriate import policy to match this requirement prevents immiserization of the recipient country.⁶

An interesting contribution emphasizing the importance of the *form of trade policy* in its interaction with foreign aid is Lahiri and Raimondos-Moller (1995). They consider the effect of aid when the recipient country imposes a quantitative restriction on the importable good. A first interesting result is the fact that an increase in the level of foreign aid that is untied unambiguously benefits the recipient country. This result is to be contrasted with the one under tariff or price distortions and due to the fact that with quantitative restrictions, a

⁴ As noted in this literature, an important necessary condition for the transfer paradox to occur in such a context is the existence of inferiority in national consumption in the donor country of the recipient’s importable. While this may initially appear as a rather pathological situation, two remarks are worth mentioning to make the case empirically plausible. First, some products (like food items) may well be inferior for individual consumers, implying that inferiority at the national level cannot be automatically dismissed. Furthermore, even when each good is normal at the individual level, national consumption may well exhibit inferiority when there is a certain pattern of individual heterogeneity.

⁵ More specifically, the recipient cannot be impoverished if the tariff rate is adjusted to hold imports or exports to its pre-aid level. (Ohyama 1974).

⁶ The most complete welfare analysis of tied aid in the context of a two-country world has been undertaken by Kemp and Kojima (1985). More specifically, they consider the situation where the tying of aid takes the form of a forced expenditure pattern on the recipient government. The latter has to spend a certain fraction of the transfer on the importable good. See also Schweinberger (1990) who considers an alternative tying rule, constraining the spending of the income by the private sector of the economy.

transfer has no effect on the wastage caused by the pre-existing distortions. Under a tariff restriction, a deterioration of the terms of trade of the recipient country can reduce domestic imports, which are already too small compared to the first best level, therefore increasing further the wastage of the pre-existing tariff distortion. This introduces the possibility of a transfer paradox. With a quantitative restriction however, as long as the restriction remains binding after the transfer from abroad, imports will not change and consequently no additional wastage will be generated by the transfer.

Lahiri and Raimondos-Moller (1995) then also consider tied aid that ties the recipient country to increase the imports of the commodity, which is subject to quantitative restrictions. As such a transfer is associated with a reduction in a pre-existing distortion, it can be immediately seen that it is world welfare improving. Moreover when the quantitative restriction is an import quota at a level less than the optimum quota level, aid, which is tied to more imports, clearly makes also the recipient better off.

In many cases, foreign aid to LDCs is used to finance public consumption and public inputs in the recipient country. This particular aid tying process can also in itself generate endogenous distortion effects. Again changes in the terms of trade between donor and recipient, open the possibility of an effect on trade flows and the transfer paradox (Hatzipanayotou and Michael (1995))⁷. A recent interesting contribution along a similar line is Schweinberger (2002) who considers the effect of foreign aid in the context of an economy with a public good whose labor costs are financed from tariff revenue levied on the private importable good. Two interrelated distortions are present in such an economy: the production of the public good is under supplied (because of lack of information or political economy reasons) and second, there is a trade policy distortion implemented for budgetary reasons. Tied aid in the form of an increase in the stock of the specific capital used in the public good sector is then likely to raise the recipient welfare because it reduces the twin distortions. First, it increases the production of the public good. If consumption of the importable good is complementary to consumption of the public good, then this transfer from abroad may in turn stimulate imports flows, hence relaxing the initial tariff ridden distortion and the financing of the production of the public good.

Given the importance of the terms-of-trade effects induced by foreign aid, most of the transfer literature has been essentially focused on the two-country world case. Some attention however has also been devoted to the impact of tied aid in the context of a small open economy in which therefore the terms of trade remain fixed by definition. The seminal contribution in this respect is Johnson (1967a) who showed that an exogenous increase in the stock of a domestic resource (as for instance aid tied to this resource) may bring a welfare loss in a tariff ridden small open economy if it exacerbates the overproduction of the tariff

⁷ More precisely, Hatzipanayotou and Michael (1995) show that when the imported and public good are net complements and that the consumer's marginal willingness to pay for the public good is larger than its unit cost of production (something which may be expected to hold in LDCs in which the level of public goods is quite small), then a small aid transfer can reduce the welfare of the recipient country.

protected import competing industry. Recently this analysis was extended by Yano and Nugent (1999), emphasizing the importance of "non-traded goods" effects, meaning an expansion of the non-traded sector entailed by foreign aid. In particular, they underline again the possibility of an immiserizing transfer if non-traded goods are net substitute to the tariff ridden importable goods. In such a case, the decline in the relative price of the non-traded good resulting from the aid-induced expansion of the non-traded sector tends to reduce the "already too low" level of imports of the recipient economy leading therefore to increased distortions in the economy. Yano and Nugent (1999) then go on presenting empirical evidence suggesting that their "non traded" good effect seems to be more important than the standard Johnson effect in generating the possibility of a welfare worsening impact of foreign aid in small open economies.⁸

This channel of potentially harmful effects of tied aid on trade flows and recipients' welfare is to be contrasted with the usual "Dutch disease" effect and real appreciation of the exchange rate generally mentioned in the macro literature.

3.3. Aid versus Trade: aid flows interacting with the donor's trade policy

The previous discussion focused on the interactions between foreign aid and the recipient's trade policy. This section reviews the conceptual background on the interaction between foreign aid and the donor's trade policy. More specifically, we consider the frequently debated issue of "Aid versus Trade", namely what is the best way to help a recipient country: foreign assistance or exports access to the donor's markets? Formally, one needs to compare the worth of exports to the donor's market with that of an equal amount of foreign assistance on a recipient country. The first seminal attempt along those lines is Johnson (1967b), whose analysis was then extended and discussed in Thirwall (1976) and Yassin (1982). We follow here the analysis of Mosley (1985).

When comparing "Trade to Aid", three types of economic effects have to be taken into account. First, there are the direct economic effects, namely how a dollar of aid compares to a dollar of foreign exchange earned by exporting. Second, one needs to consider the indirect effects on the recipient's economy (in particular on the public sector, the supply of savings and changes in domestic prices affecting the private sector of the economy). Finally, there are more general political economy considerations related to the intrinsic worth of "self – sufficiency".

Direct effects

Start first with the direct economic effects. If aid is offered as a pure gift without any tying constraint, then it places additional resources for investment directly in the hands of the

⁸ Schweinberger (2002) extends their analysis by showing how different assumptions about the mobility or immobility of factors across industries affect the sign and magnitude of the Johnson and the non-traded goods effects.

recipient's government, and so it saves the recipient country the excess cost of import substitution (i.e. the cost of making at home the goods which aid makes it possible to import). Following Johnson (1967b), the value of an amount of aid A is therefore equal to $(1+c)A$, where c is the excess cost of import substitution. Exports on their side do not provide additional resources for investment directly. They do so only indirectly to the extent that they offer the possibility of transforming domestic resources into goods more cheaply than domestic production, saving therefore the excess cost of import substitution. The value of an amount X of exports to the economy is therefore cX and the relative worth of exports compared to foreign pure aid can be expressed as the following ratio $cX/(1+c)A$. From this, it follows that the value of exports can never exceed the value of an equal amount of pure aid. At the margin, foreign aid is always worth more than trade (Johnson 1967b).

Aid though is never pure and always has a tied component related to the purchase of goods in the donor economy. In that case, if r is the ratio of the price of goods supplied by aid to the best competitive price obtainable on free markets, the relative worth of exports becomes: $[cX/(1+c)A] \cdot r$. In that case, the value of exports can exceed the value of aid when $cr > 1+c$ which will only hold for relatively high values of c and r , that is, for countries "far enough" from world markets (costly imports) *and* receiving relatively efficient aid (small degree of tying). It can also be argued that much aid is not given on pure grant terms but as soft loans below the market rate. If F is the nominal amount of foreign assistance and g is the aid component of assistance, the relative worth of exports becomes $[cX/(1+c)Fg] \cdot r$ and the condition for trade to dominate aid becomes $cr > g(1+c)$. As argued by Thirwall (1976) and Mosley (1985) it is still the case that c and r would have to be quite high and g relatively low to make such an inequality true. For instance, for an excess cost of import substitution of 50% ($c = 1/2$) and no aid tying ($r = 1$), trade would dominate aid only if the ratio of aid to assistance falls below 0.3, suggesting as Thirwall (1976) says that aid is very likely to dominate export market access as a policy helping the recipient economy.

Indirect effects

Exports revenues and aid income have of course also indirect economic effects in the recipient country. In particular, they may influence the propensity to save (and thereby the growth rate of the recipient country); they may also affect relative prices (in particular the real exchange rate as is suggested for instance by the "Dutch disease" effects); they may also influence public sector spending patterns. Clearly, if the nature of these side effects is different for exports revenues and aid income, then they will certainly affect the relative worth of trade compared to aid. Given that these effects take also time to realize, one must acknowledge that they materialize over a number of period T . In that case, the new formula is written as :

$$\frac{\sum_{t=1}^T [rcX s_x + p_{xt}]}{\sum_{t=1}^T [(1+c)Fg s_a + p_{at}]}$$

in which s_x and s_a are respectively the propensities to save out of exports and out of aid, and p_{xt} and p_{at} are respectively the values of the indirect effects out of exports and out of aid, in

period t . When one takes plausible values of r ($r = 50\%$ in Thirwall (1976)), aid component g ($g = 60\%$ in OECD (1986)) and an excess cost of import substitution c ($c = 50\%$, Little, Scitovsky and Scott (1970)), then even for a propensity to save at say $s_x = s_a = 0.6$, export inflows X will exceed the effects of an aid inflows Fg of equivalent dollar value when the combined indirect effects of aid on the recipient economy $\sum_{t=1}^T p_{at}$ is less than 0.4 of the

indirect effects $\sum_{t=1}^T p_{xt}$ of exports on the recipient private sector. While the estimates of these side effects are quite primitive, this simple example tells us that it is not anymore obvious that aid dominates trade for all possible parameter configurations.

The last effect to take into account reflects general political economy considerations on the relative merits of trade versus aid for the recipient country. If, for self-sufficiency reasons, the recipient economy attaches an intrinsic weight $w > 1$ to the value of a dollar earned by exporting in relation to the value of a dollar earned as overseas aid, then the previous formula needs to be amended to reflect that concern, and the value of aid is obviously diminished relative to trade.

Aid or market access?

While the previous approach is useful to derive a simple rule-based comparison of the relative worth of export revenues relative to foreign assistance for the recipient country, from a policy point of view, it fails to place however the discussion in a full cost-benefit context from the perspective of the donor country. Kemp and Shimomura (1991) discuss this dimension in a fully specified 2 country-2 goods general equilibrium trade set up. Formally, they consider the following problem. Considering a situation in which both countries impose effective but sub-optimal taxes on trade, which instrument should the home country use to secure a given increase in welfare of the foreign country: a lump sum transfer or an adjustment of its border tax? While a precise answer depends on the initial pattern of trade taxes implemented by the two countries, Kemp and Shimomura show that, in general, it is optimal for the home country to adjust both instruments at the same time. Their result suggests a certain degree of complementarity between Aid and trade policies.

The general Johnson presumption that aid is unambiguously better than trade to assist a recipient country has also been challenged by Adam and O'Connell (2004). Taking an explicitly dynamic perspective and emphasizing the role of learning-by-doing externalities, they show that the balance, in such a context, shifts decisively in favor of market access rather than aid. Their starting point is the observation that, other things equal, aid reduces export competitiveness in the recipient country by an appreciation of the real exchange rate (a variant of the classical Dutch Disease phenomenon, see Van Wijnbergen (1985)). Hence a dollar of donor resources transferred to the recipient via the donor's own import liberalization is better for the recipient's exports than a dollar transferred via grants. When there are externalities to exporting not internalized by an export subsidy, a shift from aid to trade by increasing the recipient's productivity in his export sector may actually make both parties better off. The authors extend then their basic theoretical setting to a more fully

articulated dynamic CGE model of a stylized African economy and examine the effects of a shift at the margin from aid to tariff preferences. They calibrate the externality spillover parameter such that the optimal subsidy fully internalizing the spillover effect corresponds to the average countervailing duty of 11.5% imposed on LDCs by the United States between 1980 and 1985. For such values of the dynamic externality, they show that “trade” is superior to “aid” in terms of welfare for both economies. Allowing for capital accumulation in the model magnifies the relative knowledge externality effect of “trade” rather than “aid”. On the other hand, when the recipient country can only finance infrastructures and public capital accumulation through distortionary taxation, “aid” regains some interest because of its direct effect on the public budget.

3.4. “Aid for Trade”: complementarity between aid, trade liberalization and market access

While there has been quite a lot of policy discussion on the importance of aid flows as a way to facilitate trade (the so-called Trade Facilitation Issues) and market access by LDCs, little analytical work has been dealing formally with these issues. One interesting exception is Lahiri et al. (2000). They take a standard 2 country-2 goods trade model in which countries can decide strategically their optimal trade policies (the usual tariff war argument which could be generalized to more sensible political economy arguments). Additionally, one country can make an international transfer (foreign aid) to the other one, which is free to accept or refuse that aid level. Given that aid is only given and received if it increases welfare in both countries, there cannot be any transfer paradox and therefore, without altruism, the only value of aid for the donor comes from the strategic spillover effects it has on the choice of trade instruments between the two countries.

An interesting result of the analysis is the fact that when the level of aid is decided before the level of tariffs, foreign aid may induce the recipient country to a more open trade policy and therefore give to the donor an incentive to choose aid in the first place. The intuition is related to standard ideas in optimal tax policies. The optimal trade policy of the recipient is designed such that its marginal cost in terms of deadweight loss on domestic production and consumption is equal to its marginal benefit, which is inducing a shift in the terms of trade to its advantage. Now, it is well known that a transfer may, under certain circumstances, induce a terms-of-trade effect in favor of the recipient country. In such situations, as the terms of trade have already been moved in the right direction, the marginal benefit for the recipient country to use trade policies to affect additionally its terms-of-trade is reduced and a more open trade policy is chosen by that economy, at any level of the trade policy of the other (donor) economy. In other words, transfers do, in part, the work that optimal trade taxes do: they affect world prices and are, in some respects, a substitute for them. As a result, foreign aid may shift down the tariff reaction function of the recipient economy, providing a strategic value for the donor economy.

Whether trade flows between the two economies are increased, depends then on the optimal response of the donor country to less protectionism in the recipient country. Interestingly, in

such a setting, aid tied to reduced protection in the recipient country may be Pareto-improving for both economies, as it can be viewed as a commitment device towards trade liberalization. “Aid for trade”, in such a case, implements a better world economy resource allocation in a way which is both credible and politically feasible.

Before closing this section, two general considerations can be mentioned with respect to the complementary relationship between aid, trade capacity and market access. First, complementarity between aid and trade has to be considered in a dynamic context with aspects going beyond a simple capital transfer view. Indeed in practice, aid for trade is often related to a “package of assets” or a “bundle of institutional arrangements”. It involves various facets such as technology or knowledge transfers, exchange networks’ facilitating institutions, or coordination and cooperation mechanisms. These dimensions tend to have potentially substantial dynamic effects in terms of learning, technological spillovers and reputation formation that may induce important dynamic effects on trade flows.

Second, the question of aid versus market access as mentioned in section 3.3 may appear as not fully relevant for many LDCs, as they already have free access to northern markets because of preferential agreements with these countries. In such a case, the question turns to what extent can aid stimulate the use of the trade opportunities offered by preferences. In this respect, aid as a trade-related infrastructure building instrument and information diffusion device, is again potentially complement to trade flows. Few trade conceptual frameworks capture such a dimension and allow therefore a formal assessment of this impact channel of aid on trade. An exception may be the trade models of network formation and matching markets as surveyed for instance by Rauch (2001) which can provide a rationale for the role of aid as a trade facilitating instrument.

4. Empirical aspects of the interaction between Aid and Trade.

We now turn to the empirical literature on the interactions between aid and trade, with a focus on the causal links from aid flows/policies to trade flows/policies in both the recipient and the donor countries.

4.1. From aid flows to trade flows

A growing literature investigates empirically the link between aid and trade flows (A1 in figure 1). Most of the papers are studying the determinants of aid allocation, that is, a causality going from trade to aid.⁹ A few papers are studying the reverse effect from aid to

⁹ These determinants are either responding to recipient needs (humanitarian motives) or to donors’ interests (McKinley and Little, 1979). The donor might be willing to extend its political influence (aid will for instance incite the recipient country to join the donor’s position in UN voting), comfort a military ally or increase its market share for exports. Dudley and Montmarquette (1976) build a structural model where aid enters in the

trade (see Morrissey, 1993). One motivation of these papers is to assess the efficiency of tied aid, that is aid whose utilization is chosen by the donor, and generally takes the form of increased imports of services or goods from the donor. A special case is mixed credits (a mix of commercial export credit, concessional loans and pure grants). Food aid is also a type of tied aid (see below). Other intermediary types include aid loans, soft loans, partial grants and concessional export credits. Approximately 48% of bilateral EU aid is tied on average.

Some papers use gravity model, with bilateral exports as a dependent variable and bilateral aid as an explaining variable (Nilsson, 1997 for EU countries; Wagner, 2003 for a larger sample of 20 donors and 109 recipients). Wagner estimates an equation that takes into account the possibility that the amount of aid is 0 for some (donor, recipient) pairs, on a repeated cross-section for 5 years during 1970-1990 :

$$\ln X_{dr} = \ln \Gamma_{dr} + 0.163 \ln (\max \{1, A_{dr}\}) + 1.75 [A_{dr} = 0] + \varepsilon_{dr}$$

where X_{dr} is the exports from the donor d to the recipient r , A_{dr} is the amount of aid given by d to r , Γ_{dr} is a linear function of the usual variables in a gravity model such as the GDP of donor and recipient, distance and dummies for a common language, remoteness of the donor and of the recipient. Wagner controls for immeasurable common factors, by introducing in the gravity equation the residual of a preliminary regression on imports from the recipient to the donor. He finds that increasing aid to a country by 10% increases the donor exports to the recipient by 1.63%. This elasticity translates into an average of 1.85 cents of exports generated per additional dollar of aid. The effect is mostly contemporaneous.

Nilsson (1997), on a sample restricted to EU countries during 1975-92, finds that \$1 of aid generates \$ 2.6 of exports from donor to recipient. The average estimate hides huge discrepancies, from \$0.67 for Denmark to \$3.85 for France. In general,, the impact on exports is greater, the larger the donor country. The effect of aid on exports is mostly due to bilateral aid (as opposed to multilateral aid, for which the coefficient on exports is negative and significant for Denmark, Italy and France).¹⁰

utility function of the donor country and test it in a cross section of LDCs in 1970 considering one donor at a time (hence, a small number of observations). Most papers though deal with reduced form estimations, a good example with multiple donors/multiple recipients/multiple years (1980-1999) being Berthelemy and Tichit (2002). They find that aid will go to countries attracting FDI (from ROW in general) and linked by strong bilateral trade with the donor.

¹⁰ A recent study (Egger and Nelson 2007) considers the aid-trade link through an amended asymmetric North-South gravity model, extending the Anderson and Van Wincoop framework to the case where the North produces differentiated goods and the South produces homogenous products. Modelling the impact of aid on trade through its effects on “bilateral political and economic links”, (themselves in turn affecting bilateral resistance to trade indexes), they also find a positive effect of foreign aid on exports from the donor to the recipient.

4.2. Aid and trade: what is the causality?

As it is clear, the causality between aid flows and trade flows can go both ways. In this respect, a small group of papers have tried to assess the direction of the causality by using Granger-causality tests (Lloyd et al. 2000, Arvin et al. 2000). They find that the direction of the causality depends on the pair of (donor, recipient) countries. On a sample of ODA commitments between 4 EU donors and 26 African recipients over 1969-1995, Lloyd et al. find that trade determines aid for only 15 pairs out of 87 (that is 17 percent), aid determines trade for 13 percent of the sample and the causality runs both ways for 7 percent. Therefore, it is hard to get a clear picture of the link between aid and trade, even for a given donor. France appeared as an exception: for quite a large number of recipients of French aid (7 out of 20), the causality runs from aid to trade.

As a consequence of this time-series heterogeneity, the aid and trade relationship should be examined on data pre-tested in order to identify sub-panels according to the direction of causality and not, as is usually the case, on general pooled panel data. When the causality goes from aid to trade, Lloyd et al (2001) find that the effect is first *negative* and becomes positive after two years. When considering changes in *shares* (the share of a recipient's aid coming from a given donor compared to the share of the recipient's imports originating in the donor's country), there seems to be indeed a positive effect of an increase in the share of aid on the share of imports. The negative effect of aid flow on trade flow in level is completely ignored if the estimation is performed on the whole sample, regardless of preliminary Granger causality tests. That means that a positive impact of aid to trade is a spurious result that appears if the estimation coefficients are constrained to be the same for all pairs of countries.

When the causality goes from trade to aid, the effect of a change in trade level on aid is not significantly different from zero when other variables are controlled for. On the contrary, a change in import *share* seems to have a positive impact on the share of aid: donors give more aid to recipients that buy proportionately more imports from the donor, reflecting the strategic motive in aid allocation. This last result is also found on the total sample, suggesting that it is a robust finding

4.3 Aid, Dutch Disease and Export Competitiveness

As mentioned in the conceptual part, one of the most cited potential perverse effects of aid on trade is the so-called Dutch disease phenomenon, associated to the macroeconomic effect on a country's competitiveness of large windfalls and their associated spending. How relevant empirically is this phenomenon for foreign aid and its impact on trade flows in a recipient country?

In a series of papers, Rajan and Subramanian (2005a and 2005b), investigating the impact of aid on recipient economies, assess empirically this issue. In the spirit of the methodology

used in Rajan and Zingales (1998), they investigate whether labor-intensive industries (the ones most likely to be affected by aid-induced wage increases due to over-evaluation of the exchange rate) grow relatively slower in countries with high aid inflows. This methodology allows them to exploit within-country differentials effects (between labor-intensive and non-labor-intensive industries) and a country treatment effect (aid inflows) to study the effect of aid. As well it helps control for country and industry specific effects. They use the UNIDO database for industry value growth at the 3 digit level for 33 countries in the 1980s and 15 countries for the 1990s, and 28 industries in these countries. They find evidence consistent with aid undermining the competitiveness of labor intensive or exporting sectors through some real appreciation of the exchange rate. Indeed, in countries that receive more aid, labor-intensive and export sectors grow slower relative to capital-intensive and non-exportable sectors, respectively. The result is robust when controlling for the obvious endogeneity of aid (which is instrumented through strategic, historic and cultural links between the donor and the recipient country) as well as other robustness checks in terms of outliers and sample selection. Though not directly on trade flows, these results suggest that foreign aid may affect negatively trade flows from developing countries by reducing the competitiveness of industries in which they have a natural comparative advantage. Also if, as suggested by the authors, these industries are the source of aggregate productivity growth, such a channel can have as well negative implications on trade in a dynamic perspective. From a policy point of view, these evidence also suggest a rationale to specific “trade-related” aid inflows as a mechanism to counter-balance the negative general aid-induced Dutch disease effects on the export sectors of recipients countries.

4.4 Food aid¹¹

A case of tied aid that has received special attention in the empirical literature is food aid. The definition of food aid is an « international sourcing of concessional resources in the form of or for the provision of food.” (Barett and Maxwell, 2005). Food aid comes in various types: program aid, emergency aid, or project aid, such as food for work or supplementary feeding programs for children and pregnant women. Food aid has been much criticized. It is a second best instrument, quite expensive, even compared to other forms of aid, because of high agricultural prices on EU and US markets, a rising share of processed goods in food aid, that favors agro-business and the existence of monopolistic competition for shipping food.

The most important distinction, with respect to trade is between aid in kind or through money transfers. The first type can be either distributed directly or monetized (and sold on local markets). The second type of aid entails buying food either on local markets or in a third-country (triangular purchase).

The FAO ensures that food aid respects the Usual Marketing Requirements (UMR). These are commitments to maintain a normal level of commercial food imports. The philosophy

¹¹ This section draws on Barett and Maxwell (2005), chap. 4.

behind the UMR is that food aid must be an « Aid that would not otherwise be forthcoming in cash and food that would not otherwise be purchased » (Maxwell and Singer 1979).¹²

The UMR is based on the assumption that the marginal propensity to consume out of in kind aid is higher than out of money transfers. Empirical evidence suggest that it is not the case and that food aid adds to the recipient food consumption roughly at the same rate as cash transfers, the order of magnitude being around 30 to 60 percent of the food aid shipped. This has to do with Engle curve and income effect (the rise in income does not translate entirely in demand for food). However, this might change over time and thus, the impact of food aid on trade must be studied in a dynamic perspective. An example is Barrett and al (1999) who use a vector autoregression approach fitted on US cereal program food aid sent to 18 developing countries during 1961 and 1995. They find that in the short run, commercial imports of the recipient country decrease indeed (-30 percent of food aid), but in the long run, a J-curve takes place and after 5 years, commercial imports resume. The rise in imports benefits third countries' imports more than the donor country. Possible explanation to this long-term rise come from induced shifts in consumer tastes, income effects and reduced transaction costs caused by the development of distribution channels.¹³ However, there is a considerable difference in magnitude between aid, production and trade: the mean aid volume in Barrett's sample is only 9% of mean production and 17% of commercial imports. Therefore, even if the conditional expectation of food aid's effect on commercial imports does follow a J-curve, it cannot be said that food aid drives recipient country trade pattern.

The relevance of UMR might be discussed from the point of view of the developing country. In fact, if food aid could substitute for commercial imports, it would ease the balance of payments constraint and free resources for imports of investment goods, for example. It would then be equivalent to an untied financial aid, which might be a more efficient instrument. « There is a certain inconsistency in proposals which talk about food aid as providing balance-of-payments support while insisting that developing countries cannot be helped to pay for the food imports they are forced to make commercially. » (Maxwell and Singer, 1979).

What would be needed is a clear picture of imports and exports of the recipient countries (with the donor as well as with third countries). A first step in this direction is an OECD study (2004a), that suggests that the effect of aid depends on the modalities of delivery :

¹² In practice, the UMR sets a limit to food aid, which is defined as the average imports for the recipient country of the commodity over the preceding five years. The UMR is waived for NGOs and for emergency aid.

¹³ Food aid, according to Barrett and Maxwell, is akin to « a free sample marketing campaign ». They cite anecdotal evidence, of the United States encouraging the shift from rice to wheat, or from soft wheat to hard wheat in which North America has a comparative advantage. Genetically modified food aid provides another example. In 2002, Mozambique and Zimbabwe accepted eventually GM food aid from the US under certain conditions (food must be milled before shipping) but Zambia turned it down because it feared of being denied market access for its own products in Europe.

grant or loan, emergency or not, bilateral or multilateral, and on the type of the product (cereal, pulse, or oils and fats).¹⁴

To summarize, the relationship between aid and trade flows depends of the pair of (donor, recipient) countries and may change over time. The empirical papers stress also the difference between a marginal effect of aid to trade that appears for some donor/recipient pair, and an average effect that is more unlikely, because of the discrepancy between aid and trade volumes.

The literature on aid and trade flows suggests that the bulk of the impact of aid on trade and even the direction of the causality are driven by factors related to a specific (donor, recipient) pair. This finding justifies the use of case studies that would scrutinize the non-economic factor (institutions, historical ties) which could explain the specificity of the relationship and its likely impact on trade via aid. Another result of the general empirical studies is the importance of sectoral structure of the recipient country, between tradables (distinguished between exportable and import-competing goods) and non-tradables, the evolution of their relative price, the extent of factor mobility between the two sectors. Last, the overall macro environment of the recipient country matters, as illustrated by the transfer paradox. It is thus important to look how aid can interfere with balance of payments and fiscal constraints. On that respect, it matters to know if aid is spent on traded vs. non-traded goods (say health or education expenditures), and how it is domestically distributed among various groups of the population. From a practical point of view, due to the difference in magnitude between aid and trade in many countries, the impact of aid on trade is likely to appear more in terms of marginal effects or in terms of a donor's share in the recipient's total aid or trade flows.

4.5 Aid for trade: trade facilitation and tariff compensation scheme

We turn now to trade facilitation, that is aid meant to alleviate the cost of suppressing the barriers to trade.

The first type of aid for trade is compensating schemes, or monetary transfers proportional to the losses incurred by the recipient country during the trade liberalization process. Structural adjustment funds, which were often conditioned on indicators of trade liberalization, are an example. However, these loans take place during an economic crisis and their conditionality extends beyond trade issues to macro stabilization or budgetary issues and the reform of the financial system.

¹⁴However, the methodology used in the OECD study is not without flaws: commercial net imports, domestic production and consumption of the recipient country are estimated separately, without taking into account the simultaneity of the three equations variables nor a possible endogeneity of aid.

Some regional trade agreements include compensating transfers. A first example is the EU's structural funds. Another example is the MEDA funds that the EU put in place in the direction of Mediterranean countries who joined a common Free Trade Area (the Barcelona Partnership). Mediterranean countries were expected to face a sharp loss in tariff revenues, following the suppression of their duties on European industrial imports. This loss might be significant for some countries like Tunisia, which sourced 70% of the imports in the EU and where tariff duties represented over 20% of total fiscal revenue. In response, MEDA commitments for the Mediterranean countries amounted in 1995-2001 to 1805 million euros out of which 59% were directed to alleviate the macroeconomic and social cost of trade liberalization (balance of payments support and social safety net) and 40% allocated to private sector development (vocational training, business centers and guarantees for loans by small and medium enterprises).

As the evaluation of structural funds on the convergence of members of a Regional agreement is beyond the scope of this paper, we focus the rest of the discussion on trade-related technical assistance.

Trade facilitation activities cover two main categories:¹⁵

- Trade policy and regulations : support to aid recipients' effective participation in multilateral trade negotiations, analysis and implementation of multilateral trade agreements, trade policy mainstreaming and technical standards, trade facilitation including tariff structures and customs regimes, support to regional agreements and human resources development in trade
- Trade development : business development, access to trade finance, trade promotion in some sectors

Until the creation of the WTO, GATT technical assistance took largely the form of trade policy courses. The bulk of trade-related assistance was provided through bilateral cooperation. In 1996 an Integrated Framework for Trade-Related Technical Assistance to Least-Developed Countries (the IF) was launched. The IF brings together six international agencies¹⁶ to collaborate with bilateral donors to ensure greater coherence in the provision of trade-related technical assistance. The core of the IF is the provision of diagnosis report which includes an action matrix. The latter states the various tasks offered to external funding with a priority ranking. The action matrix is established at least theoretically after discussion with local stakeholders coordinated by a Focal Point (usually in the Ministry of Trade). Another initiative is the Joint Integrated Technical Assistance Program (JITAP), launched by the WTO, UNCTAD and the ITC to selected Least-Developed and other African

¹⁵ Activities to enhance the infrastructure necessary for trade, such as transport, storage, communications or energy are excluded.

¹⁶ These are UNCTAD, ITC, UNDP, WTO, IMF and the World Bank. The International Trade Centre (ITC) is a joint venture of the WTO and UNCTAD. The IF received USD 19 million in pledges through 2003 of which around USD 10 millions were disbursed through 2003.

countries.¹⁷ In 2001, the Doha Development Agenda Global Trust Fund was launched and increased trade assistance activities, and again in 2003, while the IF and JITAP were revamped and expanded (table 1). An Enhanced IF was decided on September 2005 with additional resources. Moreover, in 2004, the Standards and Trade Development Facility (STDF) was created, as a joint venture between FAO, OIE, World Bank, WHO and the WTO.

Aid to trade and policy regulations increased in Africa in 2003, at the same level as Asian countries. Trade development activities increased in Africa and America, mostly through regional programs (figures 3a-3b).

Table 1
Commitments of Trade-Related assistance by donor 2002-2003

	2002			2003		
	Trade and regulations	policy and development	Contributions to multilateral providers	Trade policy and regulations	Trade and development	Contributions to multilateral providers
Bilateral	273.8	842.8	32.8	388.6	1071	39.7
Multilateral	391.7	476.6	3.4	594.8	690.9	5.3
Total	665.5	1319.4	36.2	983.4	1761.9	45

Source: WTO/OECD 2004

Note:

USD millions

Contributions to multilateral providers include contributions to WTO, IF, ITC and JITAP.

¹⁷ The JITAP is more a « results-oriented » program than the IF. By September 2003, the JPTA had received USD 12.6 millions in its Common Trust Fund.

Figure 1a
Distribution of TRATA/CB by region and main category
 (USD million)

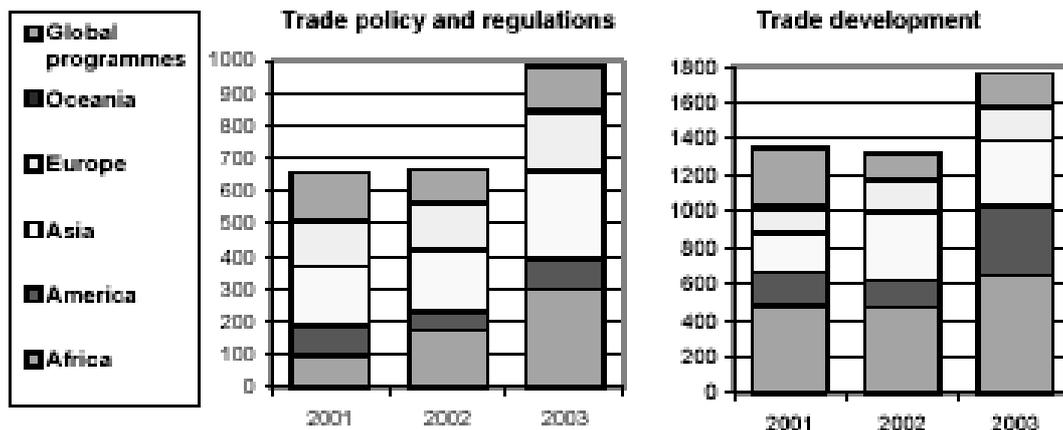
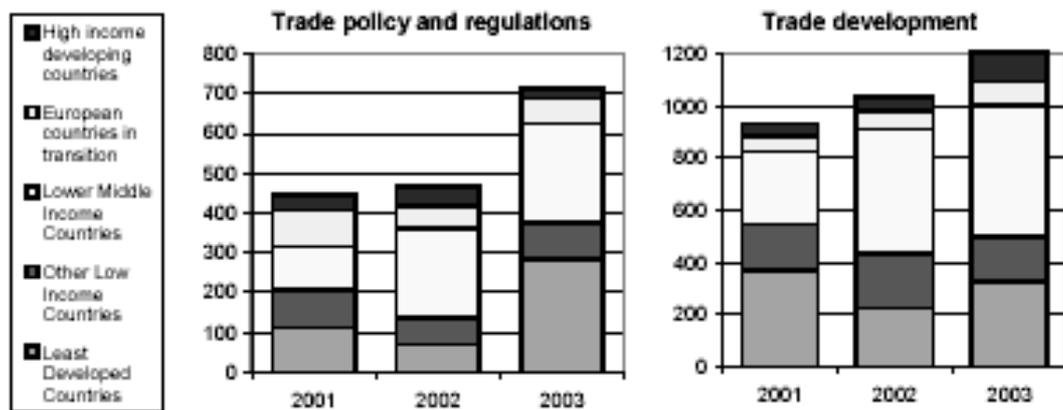


Figure 1b
Distribution of TRATA/CB by income group and main category
 (USD million)



Source: WTO/OECD report 2004 (charts 1 and 2)

Note figure 1b: Calculated on country allocable amounts. Regional and global programs are excluded from the chart.

Trade-related assistance has faced many critiques. According to Prowse (2002), trade-related assistance “has been delivered frequently randomly, indiscriminately and more often than not on a stand-alone basis”. She points to the lack of coordination between multilateral agencies involved in capacity building, such as the IMF, ITC, UNCTAD, UNDP, the World Bank and

the WTO, not to mention other specialized agencies (BIS, FAO, ISO, UNIDO, WCO, WIPO), regional and bilateral bodies. Within the WTO, the implementation of the Special and Differential treatment, by which a LDC (least-developed country) might be given longer transition periods for the implementation of GATT/WTO obligations and maintain some trade restrictions or subsidies, is handled by each relevant WTO committee. For instance, the Committee on Sanitary and Phytosanitary Standards will implement an assistance program independently from the committee on Intellectual Property Law. A consequence of this fragmentation of aid is that it is often short-lived and is not integrated in a global development strategy of the country.

The Integrated Framework initiative, which was hoped to overcome these issues, is still mostly donors' driven and lack local ownership. Reasons might be that the process involves Geneva-based representatives more than local governments; and the local coordinator of the IF process (the "Focal Point") is the ministry of trade which most often retains less political power than other Ministries such as Planning or Finance (and Customs). A more profound reason comes from conflicting rationales of trade-related assistance (Shaffer, 2005) between: facilitating trade liberalization and the implementation of WTO agreements; or supporting trade-related aspects of development, including the capacity to re-negotiate WTO rules from a development perspective. As of today, the emphasis is clearly on the former. An implicit proof might be the fact that the first domain in which the WTO designed trade assistance activities was on Singapore Issues, among them intellectual property rights, which might not be a first-rank concern for the Least-developed countries. There was even a temptation to link the continuation of trade assistance to the conclusion of the Doha negotiating round.

The fragmentation of trade-related assistance does not help to give an overall assessment of its impact on trade, not to say growth. The methodology used in the few studies that are available is to estimate the costs of trade transactions and simulate the impact of a decrease in these costs. At our knowledge, there is no study that evaluates directly the impact of trade assistance in the reduction of the trade transaction costs.

Table 2, taken from an OECD report (2003), gives some estimates of trade transaction costs. These are ranging from 1 to 15 percent of traded goods' value. The computations are mostly based on business surveys and make some assumptions on the opportunity cost (in monetary terms) of time delay or inventory holding. Trade transaction costs seem higher for agricultural products (due to additional sanitary and phytosanitary inspections). They are higher for LDCs but considerable variation in border waiting times exists particularly for countries with a per capita income of less than USD 9000 (figure 3).

Two routes have been taken based on these evaluations of trade transaction costs:

- (i) Introducing trade transaction costs in a gravity model of bilateral trade, along with usual variables such as tariffs or distance. Examples are provided by Wilson, Mann and Otsuki (2003) first for APEC then for a larger sample of 30 developed countries and 45 developing countries.

- (ii) Introducing trade transaction costs in a CGE model (Hertel, 2004). Trade facilitation is introduced as a technical progress in trading activities that reduces the cost of trading (indirect effect) and can entail a reduction in logistics duties paid to the public sector (direct effect) (Fox, Francois, Londono, 2003, Walkenhorst and Yasui, (OECD 2003)– see table 3, taken from the latter study -.

Wilson, Mann and Otsuki (2004) derive their measures of trade facilitation from business cross-country surveys and build four indicators on port efficiency, customs environment (hidden barriers or bribes), regulatory environment (corruption) and services sector infrastructure (speed and cost of internet access and its contribution to reduce inventory). These indicators are highly correlated between them and with the level of income per capita. The gravity model does not control for the endogeneity of trade costs. The results should be read with these caveats in mind. Nonetheless, the model shows that indeed a higher trade facilitation index has a positive impact on bilateral trade, especially the service sector, infrastructure and the regulatory environment. A total elimination of the 8.5% average tariff would be equivalent for the importer country to a 15.6% improvement of port efficiency, a 17% improvement of the regulatory environment and a 6.6% improvement in services sector infrastructure (resp. for the exporter, 5.2%, 2.5% and 7.8%) and a 10% improvement of importer's customs.

When the sample is restricted to South-North trade, variables of the North as importer, such as tariffs, are not significant. Thus, the regression would suggest that tariffs are not an impediment to South-North trade. The high coefficient on regulatory environment in the exporting Southern country points to possible large gains following an improvement in the area. In South-South trade, tariffs are significant and service infrastructure is important for both directions of trade. The estimates of the gravity model are then used for simulation. If *below-average* countries are put at a level *halfway to the average* for the entire set of countries, the volume of trade will increase by 9.7% (USD 377 billion). However, the gain will be small for MENA, Sub-Saharan African and Latin American exports compared to South Asian, because they have less access to the OECD markets (see figure 4a and 4b, from Wilson et al. 2004)

The CGE simulations in Walkenhorst and Yasui (2003) take into account a compensation scheme for the loss in logistic duties (and corruption) following trade facilitation. The overall positive impact of the decrease in trade costs is attenuated by an adjustment in the government sector. They also model some diversity in trade transaction costs due to sectors and firms heterogeneity. They show that an overall and uniform reduction of trade transaction costs by 1% of the value of world trade would entail a gain of USD 38 billion. Reducing border waiting times accounts for 80% of the gain. Most of the gain will go to OECD countries (69%) and to a lesser extent the Asia-Pacific Region. MENA and LAC region will each get 5% of the benefit and Sub-Saharan Africa a mere 2%. If the improvement in trade facilitation results in closing the gap to best practice (that is, the lower the initial level, the larger the improvement), non-OECD countries receive 63% of the gain in trade (table 4). In turn, these gains in trade result in a welfare improvement of 0.13% of GDP worldwide. This figure can rise to 0.85% of GDP for Sub-Saharan Africa for the scenario

Table 2
Selected Studies reporting estimates of transaction costs
 (Source: OECD, 2003, table 1)

Study	Country/ Region	Import/ Export	Direct costs		Indirect costs		Note
			Scope	Costs (%)*	Scope	Costs (%)**	
US-NCTD (1971)	USA	Average of imp. & exp. costs	Documentation; finance & insurance; carrier; and forward/broker	7.5%		Based on business survey.	
SWEPRO (1985)	Sweden	Average of imp. & exp. costs	Documentation costs	4%		Estimated figures based on information from customs and business.	
Ernst & Whimsey (1987a,b)	Intra-EC	Imp. & exp. costs combined	Customs compliance costs	1.5%	Delays for road haulers & lost business	Reservations have been expressed on the survey on lost business & road haulers. Indirect costs calculated by Secretariat.	
EC (1989)	Intra-EC	Imp. & exp. costs combined	Documentation costs	3.5-15%		Methodology unclear.	
UNCTAD (1994)	World		Costs for finance, customs; business information; transport & telecom	7-10%		Uses US-NCTD (1971), EC (1998) and other information sources. Coverage of direct and indirect costs.	
METI (1998)	Japan	Imp. costs only	Costs for border procedures	0.5-2.4%		Based on a survey of Japanese manufacturing and trade companies.	
Haralambides & Londoño- Kent (2002)	Between USA & Mexico	Imp. & exp. costs combined	Costs for handling, inspection, etc. for a) southbound, b) northbound	a) 0.8-2.1% b) 0.6-1.1%	Time delay	Costs of time delay calculated based on Hummels (2001).	
JETRO (2002)	Japan	Imp. costs only	Costs for import and port- related procedures a) EDI-use; b) non-EDI-use	a) 0.5-0.8% b) 1.2%		Figures calculated by Secretariat.	

* Due to differences in methodology as well as differing time periods during which particular studies were carried out, the estimates are not directly comparable. In particular, TTCs have been reduced over time in many countries as a result of trade facilitation efforts and technological progress, so that comparisons of TTC across time will tend to be misleading. Hence the purpose of the table is to report on different approaches that have been pursued and not to evaluate particular studies and their findings against each other.

** Percentage in terms of traded goods' value.

Source: OECD Secretariat.

Figure 3
Country-average of number of days of import clearance time in relation to per-capita GDP
(USD, purchasing power parity)
(Source: OECD, 2003, figure 2)

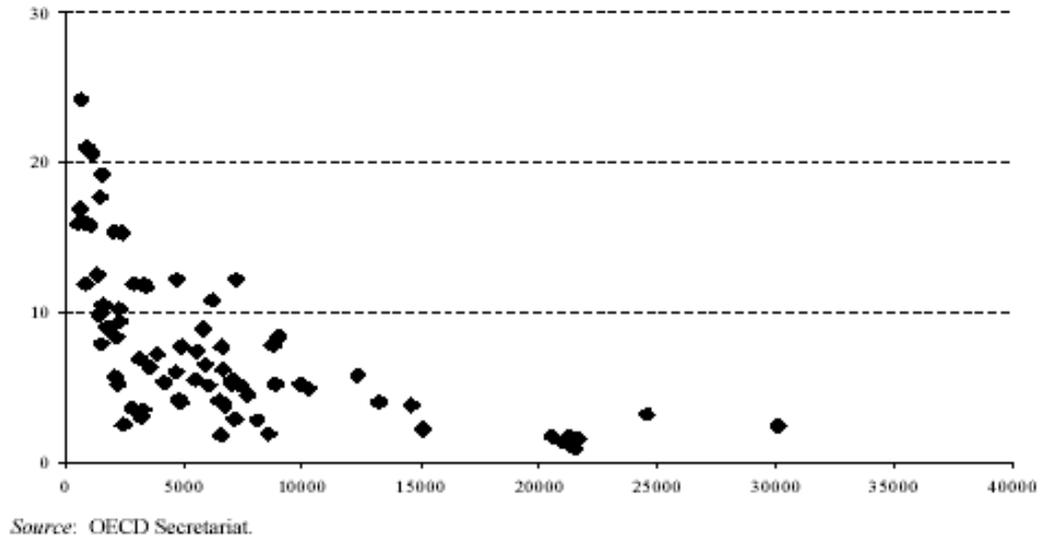


Table 3
CGE based studies of the benefits of trade facilitation
 Source OECD, 2003, table 5

Study	Base year	Model characteristics		Regional coverage	Scenario specification		Annual income gains [*]	
		Competition	Dynamics		Sector coverage	Reduction in trade value	(in USD billion)	(% of GDP) ^{**}
Dee (1998)	1992	Imperfect	Dynamic	APEC	All goods and transport services	Uniform a) 5% b) 10%	a) 216 b) 442	a) 1.1 b) 2.3
APEC (1999)	1996	Perfect	Dynamic	APEC	All goods	By country group a) 1% & 2% b) 2% & 3%	a) 45.8 b) 64	a) 0.25 b) 0.4
Hertel, Walmsley & Itakara (2001)	1995-2020	Perfect	Dynamic	Japan & Singapore	All goods	By goods sector 0.21-3.9%	6.6 (Japan) & 0.17 (Singapore)	0.16 (Japan) & 0.29 (Singapore)
UNCTAD (2001)	1997	Perfect	Static	Developed countries	a) Trade services b) Air & sea transport	Uniform 1%	a) 47.9 b) 6.1 c) 117.9	a) 0.22 b) 0.04 c) 0.54
APEC (2002)	1997	Perfect	Static	Intra-APEC trade	c) All services All goods	a) 5% *** (uniform) b) 2.9-7.7% *** (by country group)	a) 154.0 b) 100.9-203.5	a) 0.98 b) 0.64-1.30
Fox, Francois & Londefo-Kent (2003)	1997	Perfect	Static	Bilateral USA & Mexico trade	Goods shipped by truck	1% (northbound) & 5% (southbound)	1.4 (US) & 1.8 (Mex)	0.02 (US) & 0.47 (Mex)
Francois, van Meijl & van Tongeren (2003)	1997	Imperfect	Dynamic	World	All goods	Uniform a) 1.5% b) 3%	a) 72.3 b) 150.9	a) 0.25 b) 0.52
OECD (2003)	1997	Perfect	Static	World	All goods and services	Uniform 1%	76.4	0.26

^{*}) Due to methodological differences, the estimates are not directly comparable. See the individual studies for details.

^{**}) Calculated from GDP data if not available in the particular study.

^{***}) Reduction in trade transaction costs.

Source: OECD Secretariat.

with a differential improvement in trade transaction costs. However, again, no result on growth or income distribution is reported

For the least-developed countries, such as Sub-Saharan African countries, the potential benefit of trade facilitation program (or, at least, of a reduction in trade transaction costs) seems to be contingent on an improvement of their market access.¹⁸ Industrialized countries have designed preferential schemes to facilitate access to their markets for developing countries, such as the GSP (generalized system of preferences) or more recently, the Everything but Arms initiative of the EU and the African Growth Opportunity Act of the United States. However, recent studies point to an under-utilization of these preferences (Brenton 2003, UNCTAD 2003, Candau et al. 2004) for various reasons: the extent of the coverage of products (especially for agriculture and textile), the costs of implementing the requirements (administrative costs, rules of origin, sanitary and phytosanitary norms) and possibly, the fact that some of these preferential market access are contingent to the developing country's performance (GSP) and temporary (GSP and AGOA).

To summarize, while there have been attempts to estimate the nature of trade transaction costs and the effect of their reduction on trade flows, to our knowledge, no study so far has tried to evaluate directly the impact of trade assistance in the reduction of the trade transaction costs. This is a significant gap in the literature, that can be filled by detailed case studies on the evolution of indicators such as the cost of shipping or the number of days at customs, before and after the implementation of an IF or JTAP.

In the absence of a complete evaluation of the trade facilitation activities on trade flows and development outcomes, the existing papers advocate that a reduction in trade transaction costs would have a significant effect provided that developing countries have sufficient market access in the North. Such arguments points to a possible complementarity between aid and market access policies in the North.

¹⁸ Anecdotal evidence points also to contradicting objectives in trade-related assistance versus market access policies. Bogart and Trzeciak-Duval mention that the EU announced on February 2004 an Action plan on Commodities to favour diversification in exports from the developing countries. However, the EU restricted on the other hand, market access for some of the commodities targeted by the action plan such as sugar and rice (Bogart et al., 2004, p.12).

Figure 4a
Changes in Exports by Region, in Wilson, Mann, Otsuki (2004)

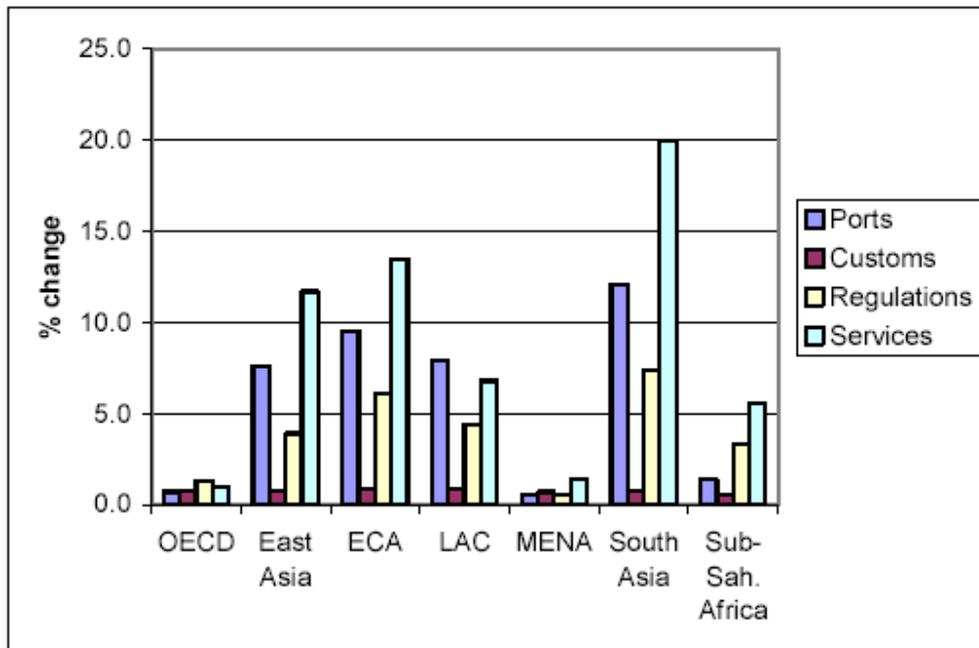


Figure 4b
Changes in Imports by Region, in Wilson, Mann, Otsuki (2004)

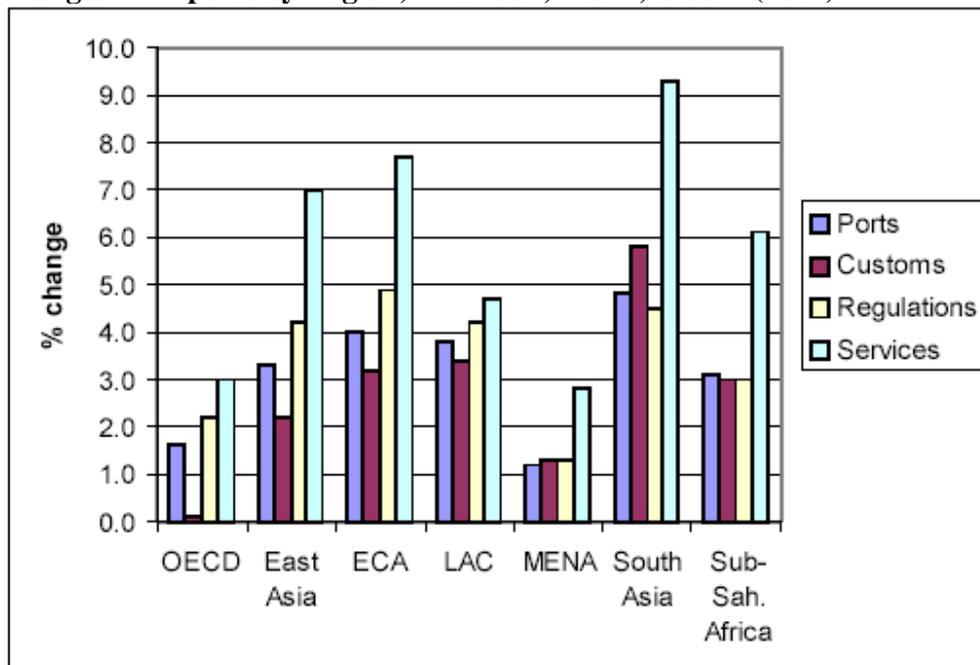


Table 4 Scenario results on income effects of trade facilitation

(millions USD and percent of total)

Source OECD, 2003

	Uniformity	Country diversity
World-wide income gains	38454	41844
- due to direct cost reduction	6041	7689
- due to indirect cost reduction	32413	34155
OECD	69%	37%
OECD Asia-Pacific	8%	7%
OECD Europe	43%	17%
OECD North America	18%	13%
Non-OECD	31%	63%
Former Soviet Union	2%	7%
Middle East & North Africa	5%	11%
Latin America & Caribbean	5%	13%
Non-OECD Asia-Pacific	16%	24%
Sub-saharan Africa	2%	7%
Rest of World	1%	1%

5. Conclusion.

What have we learned from this review of the literature? A first element that can be seen in the world allocation of aid, FDI and trade is the closeness of the allocation of FDI and exports across developing countries. The underlying complementarity between trade and FDI flows is documented in the theoretical and empirical literature. An important policy implication is the fact that there is a risk of a two-tier system: emerging developing countries (East Asian, South Asian and China) may attract both investment and trade flows while other less developed economies (in Sub-Saharan Africa) would not.

On the other hand, the literature so far does not provide straightforward and robust results regarding a complementarity between aid and trade flows. There is though a presumption of the possibility of a complementarity between aid and a policy that would reduce domestic distortions in the developing country (such as a policy ensuring the provision of a public good or domestic market reforms). On the classical debate of Aid versus Trade, the theoretical arguments would go for Aid, a more direct instrument, rather than market access. The balance might change though if countervailing terms of trade effect are significant (immiserizing Aid) and if there is a possibility of learning through exports (productivity gain

for exporting firms that might spillover to non-exporting firms), something that seems relevant for a stylized African economy and remains to be verified on real cases. The reasoning however is only on marginal effects.

The empirical cross country literature, while suggesting insights of some complementarities across Trade and Aid policies, faces however a number of important limitations that may be overcome by more detailed case study analyses. The first one is the fact that most complementarity results are based on measures of flows rather on measures of the policy instruments. This is problematic as many different unobserved factors may affect the relationship between instruments and observed flows.

A second issue is related to the fact that these analyses do not take into account how institutional details may affect the pattern of complementarities across policy areas in a given country. Again, this may appear as quite crucial from a policy implementation point of view.

In the same vein, cross-country analyses give an aggregative view of the policy areas under investigation. First they do not distinguish between various instruments within a given policy area and therefore give at best an average view of the impact of these instruments and their interactions. Second, they are somehow ill-suited to understand the impact of lagged effects and interactions as often the identification power of the regressions comes more from the inter-country variability dimension than the time variability dimension. Finally they also consider the impact policy areas at the aggregate level of countries without therefore discussing the distributive implications within these countries. This precludes therefore the consideration of political economy dimensions, which again from a policy point of view may be quite important to keep in mind.

Country case study analyses can overcome some of the aggregation problems faced by most cross-country case studies. A first aspect of the disaggregation process of the policy vector $Z \in \{A, T\}$ is between various policy instruments. This may have important implications in the sense that it brings into light the issue of substitutability or complementarity between two policy instruments within and across policy areas. First, two different instruments Z_k and Z_k' within the same policy area $Z \in \{A, T\}$ may indeed have differential impacts when interacting with another policy area. Think for instance of the case of tariffs versus quantitative restrictions within the trade policy vector T. It is well known that they may have different impacts on the economy. It is then quite likely that they may therefore have also different interactions with another aid policy vector.

The disaggregation process of the policy vectors along the donor country dimension Z_d and Z_d' is another important point. It should naturally bring into light the question of the coherence and complementarity of policy areas between different donors. This level of investigation can also be disaggregated at the level of policy instruments.

Given this, three interesting issues can be more closely investigated within country case studies. The first one concerns a more precise characterization of the local determinants of the complementarity relations between trade and aid policies. In particular, how other domestic market distortions (like labor or capital markets distortions) and local governance problems (corruption, local capture and politics) may interfere with these policy areas and the implementation of particular instruments within each area. A second dimension is related to distributive and political economy issues. Understanding then the winners and losers of particular interactions between disaggregated policy instruments can be important to determine the political feasibility of implementation of policy reforms. Finally, it would be important to learn how the interaction impacts across policy areas diffuse over time within the economy and how they may be affected by temporary or permanent shocks. The general issue in this respect is to identify the importance of lags and delays and the role of expectations of future policy changes in the interactions across policy instruments.

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