Trade policies and development of Less-Favoured Areas: Evidence from the Literature*

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Abstract

The links between international markets and production and consumption decisions in less-favoured areas (LFAs) often appear rather loose. Hence, it may be questioned whether international trade and economic growth effects trickle down to LFAs. This paper explores the evidence in the literature in which direction and to what extent trade policy may effect the development of LFAs. The literature on modern trade and growth theory spell out conditions of sustained economic growth that are, nearly by definition, opposite to the conditions that hold for LFAs. 'Old' trade and growth theory seem more relevant for understanding the position of LFAs in relation to international trade. Although the institutional economics literature is very much focused at the country level, it is clear that for LFAs with inadequate institutions and infrastructure, the effects of trade-led growth is often irrelevant. Further trade liberalisation will entail small or even detrimental effects for LFAs, with an exception for products suffering from tariff escalation and/or peak tariffs. The prevailing problem seems to be the lacking supply response to (international) price changes. The literature contains evidence that long-term growth strategies for less-favoured areas require the development of institutions and infrastructure, which kept those areas backward. Such processes cannot be modelled easily by the standard type of neo-classical models. A methodology is proposed to empirically assess the impact of international trade policies on specific LFAs.

Keywords: Less-favoured areas, trade policy, economic growth, institutions, modelling

Introduction

Since the 1980s[1], open trade is considered to stimulate economic growth, at least at the country level. This growth is often supposed to 'trickle down' to Less-Favoured Areas (LFAs). A rigorous assessment and analysis at the regional level and in particular for less-favoured areas is lacking, however. Clearly there is a gap in the literature, because trade policies are heavily focused at country level or "common market" level. This paper seeks to learn from the existing literature in which direction and to what extent trade policy may affect the development of less-favoured areas.

First, the paper departs from the theoretical trade and growth literature. The idea that open international trade helps poor countries is often disputed. The efficient growth path for a country – and even more for a region - may vary depending on the country's socio-economic environment, level of development, its resources and its technological capacities, etc. Theoretical and empirical models employed in assessing the international trade policy regime are often based on simplifying assumptions such as homogeneous products and factors, and in some cases also based on the assumption of free technology exchange. The real economic factors and processes of growth can not be modelled using the standard neo-classical models.

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An institutional economic approach is helpful here, but defining the relevant variables and obtaining quantitative results is not easy which hinders an appropriate analysis. Although these theoretical approaches may be insufficient to analyse trade policy decisions for LFAs, the available evidence shown in the literature may still prove useful.

Less-Favoured Areas (LFAs)

A good definition of LFAs is missing. The RESPONSE (**Re**gional Food **S**ecurity **Po**licies for **N**atural Resource Management and **S**ustainable **E**conomies) document states "... In the so-called less-favoured areas on the other hand, population growth has worsened poverty and hunger, driving rural households to expand cultivation into environmentally fragile zones. Biophysical characteristics of less-favoured areas include poor and fragile soils, low and erratic rainfall and erosion-prone landscapes. Access to markets, services and infrastructure is usually limited and most households rely on multiple activities to maintain their livelihoods."

Hazell et al. (2002, pp. 2) describe less-favoured regions as "areas that are environmentally sensitive with limited agricultural potential because of low soil fertility, steep slopes or insufficient water resources, and usually with poor infrastructure and service support." Circa 1.2 billion people are living in these regions.

These definitions have a strong physical basis – mainly in relation to agriculture. Indeed, poor physical circumstances, together with a lack of adequate institutions and infrastructure may make an area less-favoured. Under different conditions, however, this may change. For example, when a road or airstrip is constructed, a very remote area could be developed as a tourist area, where erratic rainfall and steep slopes may not be a disadvantage. Hence, it is useful to distinguish the concept 'LFA with development potential'. These will be the areas where investment in infrastructure, institutional development, etc. can be sustainable and productive. The direction of these sustainable and productive developments can be in agriculture, but also in industry or the service sector.

Second, the paper deals with the relevance of the institutional environment of LFAs. Nearly by definition markets in less-favoured areas are underdeveloped. The same holds for related institutions and infrastructure. Under such circumstances it requires additional effort to foster economic growth in such areas. Trade policy may be of critical importance to such development. Third, there is a large body of empirical literature available that deals with the explanation of (differences in) growth in relation to trade policy - at the country level or for groups of countries. Although this is not always as helpful for the central research question in this paper (focused on less-favoured areas), it helps at least to understand the conditions that hold at the country level. Fourth, attention is paid to the implications of trade policies for LDCs in general and LFAs in particular. The potentials, threats and challenges of trade liberalisation are outlined and implications for LFAs are drawn. Fifth, a proposal for a unified modelling framework is developed to empirically assess the impact of international trade policies on specific, less-favoured areas. Finally, conclusions are drawn.

Trade Theory

Developments in trade theory

Trade theory is mainly related to trade between different countries: what explains trade and who gains? Three main lines in the literature can be distinguished: (1) Comparative advantage; (2) Resources availability; and (3) Increasing returns to scale technology and

imperfect competition (see e.g. Krugman and Obstfeld, 2000). It is difficult to separate these theories completely. Resource scarcity, for example, may lead to technologies that are very efficient with respect to the scarce resource (e.g. water saving technology in Israel or land saving technology in countries like the Netherlands or Japan). Therefore, resource availability and technology might be interrelated, at least in the long run. Also, comparative advantage in producing particular goods may lead to economies of scale and market power, or the other way around: if there exist already large scale production and market power, this might be used to develop new and efficient technologies (Antweiler and Trefler, 2002)

Recently one observes a tendency to integrate the three different approaches in a single theory, where technology, resources and scale function are key elements (Ricci, 1999; Van Berkum and Van Meijl, 2000). Then it depends on the particular situation, which of these key elements should be stressed. Often trade and growth are linked in the literature (see also next section) because justification of particular trade policies are derived from their growth performance (Chui et al., 2002).

Another approach links trade theory to either the operation of multinational enterprises (e.g. Markusen and Venebles, 1998) or to upstream and downstream industries at different locations (Venebles, 1996). Incorporation of such firm behaviour in international trade theory may make the theory more relevant, although formal models are still lacking. Hence, results are not easy to achieve (Van Berkum, 2002).

Less favoured areas and trade theory

Trade theory focussing on the relation between particular regions within a country and 'the rest of the world', has not been developed. This makes it difficult to explore on the basis of the available literature. By definition LFAs show all characteristics that, according theory, do not explain international trade. They are backward in technology, have no scale of production and market power, no links to multinational enterprises and to upstream or downstream industries. The only exception might be that there is abundant unskilled labour or particular natural resources. Both, however, can only be exploited in relation to local or international markets, which requires appropriate infrastructure: another element that is lacking in LFAs.

Although new trade theory considers endogenous and policy-imposed trade distortions and thereby is able to address many of the potential economic deficiencies in developing countries, these theoretical frameworks may not be applicable to LFAs. Alam (1995) specifies three areas in which developing countries may not meet the crucial market and technological characteristics on which the new trade theory builds: market structure, economic size and the technological character of exports. These characteristics are even less likely to be met by LFAs. The market structure in LDCs/LFAs is characterised by high firm concentration (oligopolistic) not because of increasing returns to scale, but because of persistent pre-liberalisation (state-controlled) structures, (capital) market imperfections, etc. The small economic size of LFA compared to world markets precludes the exploitation of scale economies, makes strategic trade policy irrelevant, and increases exposition to foreign protection and retaliation. Resource- and labour-intensive technologies, typical for LFAs' export products, are rarely subject to increasing returns to scale and the comparative disadvantage in high-tech industries limits the scope of shifting global profits to LFAs.

Economic Growth Theory

Trade-based economic growth is a theoretical approach which according the Washington Consensus "was underpinned by a belief that all economies are similar and thus will respond

in a similar manner to the same policy change" (Kenny and Williams, 2001, pp 4). This theory further evolved in tandem with the model[2] by Grossman and Helpman (1991b). To further investigate the relation between trade and growth, it is useful to discuss old and new growth theory as the two main bodies of literature. Moreover, special attention will be given to the institutional economics approach and agricultural based economic growth.

Old (exogenous or neo-classical) growth theory

The old growth theory underlines trade and competitive markets as the engine of growth.[3] All factors of production, in equilibrium, are supposed to be rewarded according to their social marginal contribution to production. Market forces (prices) are assumed to lead to the efficient use of production factors in the economy. Any growth in productivity is then due to new access to exogenous technologies or to resource reallocation. Under a trade regime, the old growth theory with its assumptions of diminishing returns to investment in physical inputs, predicts income equality and equality of growth rates among countries with identical preferences, technologies and population growth, i.e. convergence (Durlauf et al., 1996). This convergence hypothesis is tested extensively at the country level and confirmed under less (Barro and Sala-i-Martin, 1992) or more (Galor, 1996) stringent conditions. Tests at the regional level are not known.

New (endogenous) growth theory

Since the early 1980s, economists evidenced that productivity in some countries increases continuously, without showing declining tendencies, while many of the poor countries did not show high growth rates (Chui et al., 2002). Endogenous growth theory evolved in response to these observations. "The twin contributions of Romer and Lucas redirected the traditional focus on the accumulation of physical capital as a transitory source of growth to the accumulation of skills through education and training, or more generally through increasing returns in physical and human capital accumulation due to spillover effects" (Durlauf *et al* 1996, pp 4). Hence, the engine of growth (technical progress) is understood to be part of the model itself, i.e. models in which sustainable growth is the result of the interaction of many optimising agents within the framework (Durlauf et al., 1996). Firms could innovate through new products, qualities and processes through learning-by-doing and R&D. This process compensates the diminishing returns premise. Thus some countries enjoy sustained productivity growth while others do not. However, "if technology is to be endogenized, then the decisions that make technology grow must be rewarded. …With increasing returns not all factors can be paid their marginal products" (Aghion and Howitt, 1998, pp 23). That is, unlike in the exogenous growth theory, private and social returns are not presumed to be equal in the new growth model. Endogenous growth theory provides the framework or the incentive for sustained knowledge accumulation and innovation in the international trade regime.[4] How would, nevertheless, poorer countries achieve economic growth in a "free world market regime" if firms in richer countries patent innovations? Implicitly, technology is not any more a free good in the new growth model. In fact, not only deployment of technology patent rights, high cost and applicability problems may constrain poorer countries to benefit from the growth effects of international trade. The underlying socio-economic environments such as poor human capital and poor institutional settings, which would affect investment, adoption and innovation, may also hinder poor countries from pursuing the envisaged development trickle down effects of international trade. This demands for an analysis of growth from an institutional economics perspective.

Contributions from the institutional economics approach

"Neither neo-classical nor endogenous growth theories predicts the fact that while developing countries in general are falling further behind, few of the developing countries are growing much faster than developed countries" (Olson et al. 2000, pp 341). Why do people in some societies gear to save, invest, learn and search for useful knowledge more than those in other societies do?[5] Institutional economics attributes these to the "rules of the game" and social factors, institutions, which influence transactions and economic motivations of individuals and entrepreneurs. Kasper and Streit (1998) note that half or more of the measured rise in living standard (economic growth) could be attributed to institutional factors and knowledge accumulation. Cross-country growth studies, such as Temple (1999) and Olson et al. (2000), also report that structure of incentives, social arrangements and cultural characteristics influence economic growth. Poorer countries are characterised by bad institutional characteristics (such as bad governance), which are hostile to economic growth. The neo-classical economics presumption that output is at the limits given by the available resources and technology, implicitly includes optimal institutional conditions (such as optimal governance). Institutional economics challenges this and other less realistic assumptions of the neo-classical economics: the assumption of fixed and transitive preferences, the assumption of perfect information, etc (Kasper and Streit, 1998). Mundlak (2000) also relaxes some of the neo-classical assumptions such as efficiency of markets, profit maximisation, stationary equilibrium, the concept of the aggregate production function, etc. In reality, firms may not be able to produce at the frontier (the available technology) due to uncertainties, lack of information, inability to comprehend new techniques (inadequate human capital), etc. Mundlak perceived growth as a long-run process. He noted the inefficiencies and growth distortions caused by unfavourable policies and short-run conception of growth.[6] He also showed the importance of the development of non-agricultural sectors in the growth process of agrarian economies. Absorbing excess labour requires favourable institutional and other economic factors. Moreover, techniques known in the advanced countries can not be adopted in LDCs without some (publicly financed) research. The relatively low production efficiency of agriculture is explained mainly by the limited capacity to develop a new technology in response to changes in relative factor prices and farmers' capacity to adopt it (Hayami and Ruttan, 1985). To Mundlak, policy and objective market conditions force poor countries to pursue self-sufficiency tendencies. In a free-trade environment, more production will be forthcoming from areas with a comparative advantage in agriculture. It may be doubtful to presume that poor nations have comparative advantage in agricultural exports, unless they entertain the advantage of ecology specific products.

Less favoured areas and growth theory

The relevant question is: do the economic growth theories provide some possible growth path directions for LDCs and LFAs, or more specifically do the economic growth theories back-up the currently promoted trade-driven growth path for LDCs and LFAs. The contributions from the institutional approach suggest that growth potentials explained by the old and new growth theory are hard to realise. It is doubtful whether LFAs can establish economic growth by means of linking them to international trade, unless they have a hidden potential that can be developed easily in a sustainable way. Moreover, accumulation of knowledge and a favourable institutional environment are necessary conditions.

Institutional environment of Less-Favoured Areas

From an economic perspective, the institutional environment is the set of political, social and legal rules which form the basis for production, consumption, exchange and distribution (Davis and North, 1971). The institutional environment seems to play an important role in the link between LFAs and trade. In this section first the most important institutional concepts are clarified and put into perspective with one another. Then some empirical evidence on the relation between economic growth and the functioning of institutions is provided. Finally, the relevant institutional aspects of LFAs are discussed.

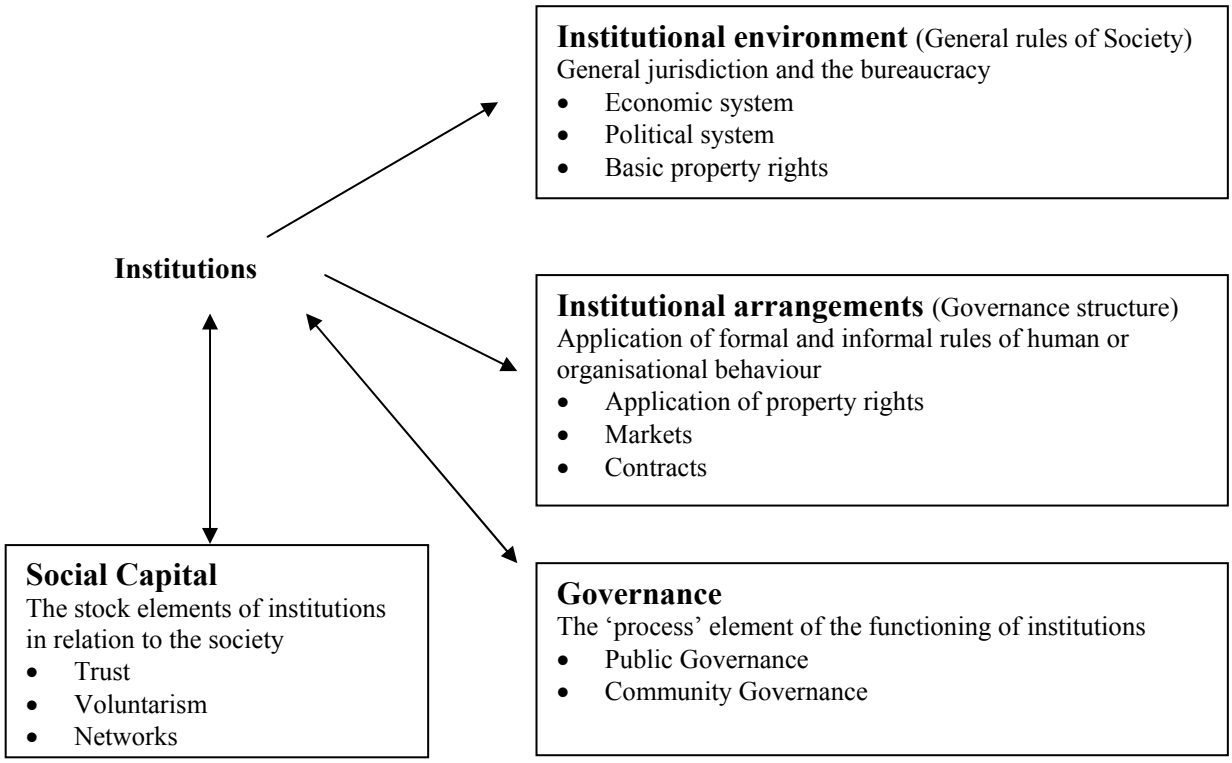

Figure 1 The relation between different concepts in the literature on institutions

Institutional concepts

Figure 1 presents a coherent framework of the institutional terminology as interpreted in this section. Institutions are the rules of human interaction.[7] They activate or constrain the behaviour of individuals and other 'actors' including the government. The process that leads to changes of the institutional environment, the institutional arrangements and in particular guiding and enforcing those arrangements is called 'governance'. Institutional arrangements are also called governance structures, they may either be formal or informal and temporary or long-term (Davis and North, 1971; Williamson, 2000).

In the literature, different terms are used to describe the formal and informal rules of conduct that govern behaviour of individuals and other 'actors' including the government. The term 'social capital' is used to describe authority relations, relations of trust and consensual allocations of rights for individuals (Knack and Keefer, 1997). Collier and Gunning (1999a) note that social capital can be generated both by the community (called civic social capital) and by the government (called public social capital).

The relation between governance and economic growth

A body of literature relates 'good' governance or a high level of social capital to economic growth (World Bank, 1989). Less consensus exists about the contribution of free trade at a low level of institutional development. Olson, et al. (2000) attributed the growth success of the three East Asian countries (unlike the analogous sluggish experience of many other developing nations) to differences in the quality of governance. The emergence of modern growth in Western countries rather than in other parts of the world has also been attributed to differences in quality of governance (Olson, et al., 2000). Others reason along the line of social capital. Knack and Keefer (1997) concluded that community social capital significantly affects aggregate economic activity, the impact being larger in poorer countries. "Poor institutional framework in less developed countries (such as insecure and poorly defined property rights) result in both high costs of transaction and using technologies that employ little capital and don't entail long-term agreements" (North 1990, pp. 65). According to empirical evidence of Collier and Gunning (1999a), African governments have behaved in ways damaging the long term interests of the majority of their populations, they committed 'sins of commission' (such as agricultural taxation) and 'sins of omission' (such as failure to provide adequate infrastructures), (ibid., pp. 66). Poor governance has been shown to be one of the factors causing civil war (Elbadawi and Sambanis, 2000). Poor countries tend to have corrupt, cumbersome bureaucracies and to be politically unstable (Mauro, 1995). Nowadays, the chief growth constraint in Africa is related to the poor domestic policies, such as poor delivery of public services (Collier and Gunning, 1999b). A governance-centred growth conception model explains the simultaneous occurrence of absence of general convergence between developed and developing countries, and the fastest economic growth in a subset of developing countries (Olson et al. 2000). The mystery of the 'African Dummy' in cross-country growth regressions was claimed to be decoded by controlling for the effects of bad governance (Englebert, 2000).

Implications for less-favoured areas

Two elements nearly always play a role for LFAs: inadequate institutions and poor infrastructure. These elements are especially relevant because of their link to the effects on trade. Inadequate institutions within LFAs can either exist because the institutional environment is lacking or cannot cope with future developments. An inadequate institutional environment often leads to a lack of institutional arrangements: (a) property rights are not well defined; (b) markets for inputs (including credits) and outputs do not exist or show large price gaps; (c) contracting is underdeveloped because enforcement mechanisms are not clear; etc. (Aron, 2000). The governance relation between the central government and the LFA plays a crucial role, in particular with respect to institutional arrangements, trade policies, market and price policies, taxes, etc. There is, however, no specific research focused on the relation between governance and growth for less-favoured areas. Evidence seems to be limited to infrastructure. Infrastructure concerns paths, roads, railways, waterways for transport, airports, opportunities for using public transport and means for communication. Poor infrastructure often implies a long transport duration or difficult communication between a LFA and relevant markets. Nearly by definition, LFAs are located in the periphery (Easterly and Levine, 1997). Here one can observe substantial differences at the country level.[8] The literature on the effects of infrastructure on the growth potential of LFA is limited.[9] Several authors (Jacoby, 2000; Kumar, 2002; Minten and Kyle, 1999) determine the 'value of roads'. Although it can be difficult to recover the investment costs in road, they have a large

influence on price differences between locations. Inadequate infrastructure implies a threshold for both trade and growth.

Bad governance, a lack of social capital and poor infrastructure seriously hampers economic growth of countries and – by implication - regions. Building up social capital, improving governance and investments in infrastructure is important for the economic development of LFAs but takes a lot of time.

Trade-driven development: empirical evidence

This section reviews the empirical results associated with international trade and its effect on the economic growth of LDCs and LFAs. While some empirical evidence and arguments support trade-driven development paths for poorer countries or less favoured regions, others disfavour it. Although broader overviews on the relation between trade and growth have been published (see e.g. Edwards, 1993; Temple, 1999), here more recent results are incorporated while the focus is on LDCs and LFAs.

Favourable arguments

Many empirical studies echo the relevance of open international trade to the economic growth of LDCs. For instance, Dollar (1992), covering many countries-including 95 developing countries, reports that outward-oriented developing countries grow more rapidly. Africa would gain 2.1% per capita growth by shifting to the outward orientation level of Asia. Vamvakidis (2002) studies long-term economic growth (period 1870-1990). His paper finds no support for a positive growth-openness connection before 1970, but on the basis of his data this is a recent phenomenon that can be observed during the period 1970-1990. Other subsequent cross-country growth studies (such as Collier and Gunning, 1999a and 1999b; Easterly and Levine, 1997; Sachs and Warner, 1997; Frankel and Romer, 1999), show that openness is the most important growth shortfall for poorer countries. Greenaway et al. (2002) find only a lagged effect and claim that many studies suffer from mis-specification and lack of dynamics Three pro-trade arguments can be distinguished:

(1) Improve efficiency: Open international trade transfers international prices to domestic markets of LDCs by 'getting the prices right' and promoting market competition. This leads to efficient resource allocation (Anderson and Tyers, 1993; Sachs and Warner, 1997; Morrissey and Filatotchev, 2000).
(2) Technology transfer: Trade serves as a vehicle for the transfer of knowledge, technology, capital and other physical inputs (Grossman and Helpman, 1991a; Sachs and Warner, 1997). Sachs and Warner claim that, hence, international trade facilitates convergence among poor and developed economies. For small countries scientific and knowledge flows from abroad are related to the extent of foreign trade. Wacziarg (2001) shows that accelerated accumulation of physical capital takes more than half of the growth effect due to open international trade. Enhanced technology transmission and improvements in macroeconomic policy account for smaller effects.
(3) Improve governance: Open international trade disciplines governments of LDCs to pay attention to international market prices. This may have an indirect positive effect for good governance of LFAs.

Unfavourable arguments

Several reasons can be identified in the literature to oppose the trade-led growth path for LDCs. The following arguments can be distinguished:

(1) Inadequate institutions and infrastructure: The argument and also the main empirical results in the literature run along the line that inadequate institutions[10], governance and infrastructure hamper (or even reverse) the positive effects of international trade. Empirical evidence on the size is lacking. The problem is illustrated by a stylised example of Hazell (2001): "Farmers who pay three to five times the world price for fertiliser and receive only 30 to 60 percent of the market value of their products (and obtain extremely low yields) don't play in the same league as their global competitors. We are looking at different markets that simply don't connect via (international) trade".
(2) Infant industry argument: The development of non-agricultural sectors in the growth process of poor countries or LFAs is crucial, not only to increase national or local income but also to absorb the migrating rural labour force, whereby it contributes in poverty alleviation (Mundlak, 2000). Exposing such infant industries to the world market would frustrate the developing process.[11]
(3) Exposure to external shocks: Trade exposes LFAs to external (price) shocks and growth path instability. "The transition toward more market-based development can seriously undermine the livelihood of vulnerable households in LFAs, which are exposed to many other environmental and political risks" (Hazell et al., 2002). Small volumes and the prevailing structure of LFAs' exports make them particular vulnerable to world market price fluctuations and exchange rate instability. According to Bleaney and Greenaway (2001) the trade reform of SSA had a strongly growth-enhancing effect on international trade but exchange rate volatility worked in the opposite direction.

Trade policies and the implications for LDCs and less favoured areas

This section pays special attention to the implications of trade policies for LDCs in general and less-favoured areas in particular. The experiences of the past are briefly summarised and the potentials, threats and challenges of further trade liberalisation are outlined. The section concludes with some implications that are particularly relevant for less-favoured areas.

LDCs and (multilateral) trade liberalisation

Before 1980, most developing countries were spectators rather then participants in the first round of multilateral trade liberalisation under the General Agreement of Tariffs and Trade. Although initially preferential treatments[12] for their exports and import substitution strategies[13] seemed rather successful, they could not be sustained indefinitely with their tendency to generate recurrent balance of payment crises and a declining rate of economic growth (Krueger, 1995; Diaz-Bonilla and Reca, 2000). Moreover, as a consequence of the escalation of tariffs with the degree of processing[14], agro-industrial production in LDCs was placed at considerable disadvantage, strongly tilting the export profile towards raw materials (Diaz-Bonilla and Reca, 2000), while hindering the learning process linked to the manufacturing and marketing activities for the international market (Matthews, 1994).

The empirical evidence on the consequences of national and international trade policies for LDCs is not only varying between countries but also sometimes conflicting. Looking at national policies, Diaz-Bonilla and Reca (2000) conclude that trade policies and other

economic policies appear to have been relatively supportive of agro-industrial production and exports in Asia. In contrast, policies had mixed effects in Latin America and the Caribbean, and seem to be just one component in a larger array of forces inhibiting economic development in Africa.

Most ex-ante studies of past GATT liberalisation rounds concluded that in general agricultural and agro-industrial production in LDCs, as well as their net welfare, would increase if agricultural protectionism in developed countries was reduced. Exceptions can be found for LDCs, particularly those in Africa, that are net importers of agricultural products, due to adverse changes in terms of trade (Srinivasan, 1999). Anderson and Tyers (1993) though, argue that even those countries suffering adverse trade effects gain rather than lose from complete food trade liberalisation by industrial countries, if the indirect distortions to relative producer prices in developing countries caused by their manufacturing protection and overvalued exchange rates are sufficiently taken into account. Armstrong and Read (1998) identify another exception to the rule applying to small LDCs with relatively low export volumes because their niche export strategies are reliant upon bilateral (preferential) rather than multilateral arrangements with their major trading partners. Trade liberalisation involves elimination of margins of preference. Moreover, the narrow economic structure of small states make them vulnerable to international price fluctuations while they may not be able to compete with larger countries in the presence of significant increasing returns to scale.

Besides the trade effects as the result of increased market access, developing countries face adverse effects of additional requirements involved with multilateral trade liberalisation negotiations. At the Uruguay Round, developing countries took the obligation to implement significant reforms with respect to Sanitary and Phytosanitary Standards (SPS).[15] While the international community has attempted to overcome the trade-distorting effects of SPS measures through the WTO SPS Agreement, many developing countries lack the resources necessary to exploit the opportunities offered by the Agreement[16], which reflects the relatively poor scientific and technical infrastructure in many developing countries. Although it has been argued that issues like intellectual property rights[17], services, labour standards and environmental standards are more a development problem than a trade problem (Finger, 2001) they seem to be as important as SPS standards in current and future trade negotiations, bringing about a large financial and organisational burden for the developing countries.

Prospects for the future

Nowadays, many developing countries not only reverse their own economic policies but also seek to become an active bargaining participant during multilateral negotiations. Although for specific circumstances further multilateral trade liberalisation may generate significant gains[18], in general they seem limited for various reasons. First, many developing countries already benefit from preferential treatments on a bilateral or multilateral base, the value of which will be eroded by liberalisation. Second, and more importantly, current market access constraints are not binding. Domestic supply responses seem not to meet the increased export possibilities, quantitatively (see Morrissey and Filatotchev, 2000; Hertel et al., 2002; Diaz-Bonilla and Reca, 2000) as well as qualitatively (see Henson and Loader, 2001).

The indirect effects of further trade liberalisation still seem quite relevant, since they may serve as a catalyst to increase the domestic supply response in various ways. First, the implementation of WTO commitments and obligations by a country would bring an additional degree of stability and predictability to trade-related policies, which is good for economic efficiency and investor confidence. Second, participation of LDCs in the negotiations offers economic reformers in developing countries an important opportunity to use external pressure (from WTO and trading partners) to counter protectionist pressures from domestic interest

groups.[19] Third, trade liberalisation can reinforce the movement toward true market economies, enhance competition and promote economic and societal transformation. Reducing trade barriers eliminates some of the major sources of corruption and lack of transparency and, hence, can strengthen democratic processes (Stiglitz, 2000). This may also lead to better economic policies outside the trade area. Fourth, liberalisation (also with respect to investments) may facilitate enterprises by encouraging private ownership through privatisation and attract foreign (direct) investment. Also, trade liberalisation implies cheaper imported and non-traded inputs, thereby benefiting firms using such inputs (Morrissey and Filatotchev, 2000). Finally, by lowering existing tariffs, ongoing trade liberalisation may further enlarge the price gap between the LDCs borders and the local level. This may not only create access to new markets (which is relevant once the domestic supply response is solved), it may also trigger domestic supply response itself in case of important threshold effects (e.g. extensive investments in infrastructure, irrigation facilities etc.).

Considering the potential gains and possible threats (related to SPS, TRIPS, labour and environmental standards), developing countries should participate effectively in forthcoming WTO negotiations to ensure that their interests are well served. Institutional weaknesses are the major constraints for most LDCs in both meeting their obligations under the WTO and in effective participation[20] and representation of their interests (Michalopoulos, 1999).

Implications for less favoured areas

As far as less-favoured areas have a *potential* comparative advantage over developed countries, ongoing multilateral trade liberalisation is a necessary condition to obtain market access. Whether increased market access is translated into *realised* comparative advantage depends in particular on the price transmission effect and the supply response effect. The price transmission effect determines to what extent price changes at the border that arise form trade liberalisation are actually transmitted to less-favoured areas. The transmission depends on several factors like the structure of the distribution sector, the way in which marketing organisations operate, and whether the goods are traded at a local, regional, national or international level (McCulloch et al. 2002). Market access to developed countries seems not to be a binding constraint, however, with the exception for products suffering from tariff escalation and/or tariff peaks. For some less-favoured areas there may be even detrimental effects in the case of multilateralisation of preferential treatments, adverse terms of trade effects and increased vulnerability to international price changes due to the absence of scope for diversification. An insufficient supply response and/or inadequate domestic non-trade policies seem to be the major prevailing problems of LDCs and in particular less-favoured areas, not to further enlarge its participation in international markets. Its governance, location, demographic structure, health status, level of education, assets, etc will influence much of the supply response by less-favoured areas. Supply response can be enhanced by complementary public policy in such areas as investment in infrastructure (irrigation and rural roads) to ensure that agricultural production can be connected to world markets, property rights to encourage investments in land, appropriate agricultural extension and mechanisms for the dissemination of market and technical information, and the development of markets for credit, agricultural inputs and services (McCulloch et al. 2002). Finally, further trade liberalisation itself may in the long run serve as a catalyst to increase the supply response of less-favoured areas through increased stability of the country's trade-related policies, promotion of economic and societal transformation, eliminating corruption, strengthen democratic processes and trigger investment projects in infrastructure.

A methodological approach for less favoured areas

Currently, no existing simulation model can satisfyingly analyse the impact of a change in the international trade environment on a particular economy *as well as* on a certain (less-favoured) region within this country—capturing trickle-down effects from the global and national to the regional level.[21] Furthermore, we need to consider the effects of *domestic* trade policies that may complement or counterbalance these external trade shocks. However, existing trade models deal either with global, multi-country (multi-region/bi-regional), or single-country aspects, but fail to fully integrate the global, national, and regional levels.

Current CGE approaches

Single-country analysis in this area has been extensive during the last two decades producing a large number of computable general equilibrium (CGE) models that are mostly based on the concepts developed by Dervis, de Melo, and Robinson (1982) (DMR-model), on the one hand, and Shoven and Whalley (1992), on the other. The DMR modelling approach[22] contains certain features that allow to capture rigidities and market imperfections that are of particular interest in the context of developing economies, such as non-marketed own-household consumption, trade and transportation margins, etc.

An extension of such a single-country CGE model in the context of analysing a less-favoured area within a national economy is the bi-regional approach (Kilkenny 1998 and Campisi et al. 1991).[23] Bi-regional models capture all factor and commodity market relationships between a particular region and the rest of the economy, featuring (a) different production technologies; (b) segmented factor markets that may be linked through labour migration and/or capital shifts; (c) separate commodity markets that are joined at the national level; (d) domestic trade; (e) different endowment with labour and capital factors, as well as natural resources; and (f) different household types.[24]

With respect to international trade liberalisation, most of the recent global analysis is based on the Global Trade Analysis Project (GTAP) database and modelling framework (see www.gtap.org). Applying the (global) multi-regional CGE framework of GTAP, a number of recent studies analyse the potential gains for developing countries from both increasing access to OECD markets and domestic trade liberalisation in the South (e.g. Anderson et al., 2001; Diao et al., 2002; Diaz-Bonilla et al.,2002; ERS 2001; and Hertel et al. 2001).

Integrated unified CGE modelling framework

Given that the multi-country (global) and single-country (including bi-regional models) approaches described above are both multi-sector CGE-type models, it seems obvious to integrate them into one unified modelling framework in order to simultaneously capture global, national, and regional levels. Technically, such an integration depends on some considerations: (a) Given its sectoral and regional disaggregation, the GTAP modelling framework is rather rigid;[25] (b) It is difficult to break into the existing GTAP modelling code to incorporate the desired regional features for the country of interest; and (c) The bi-regional single-country model may have a number of features that cannot (easily) be linked with the existing GTAP structure. Therefore, the sequential combination of the two models is suggested, interfacing at a set of common model characteristics (variables and parameters). In other words, the global multi-country GTAP analysis delivers country-specific changes in key macroeconomic variables that result from changes in the international trade environment.[26] Both the initial changes in the international trade environment and the changes in macroeconomic variables for the country of interest that are obtained through the GTAP

analysis are exogenously imposed at the national level of the single-country model. Within the single-country CGE model these changes will impact the regional sub-component through the inter-linkages between the national and the regional level. The initial change in global and national policy conditions will further reverberate through the bi-regional system and capture the general equilibrium effects at national and regional levels.

The general equilibrium effects on endogenous macroeconomic variables generated by the single-country analysis could then be fed back into the global multi-country modelling framework (and further iterations would also be possible). However, it is rather unlikely that the feedback effects from the regional behaviour of the less-favoured (probably small) area will generate substantial changes at the national level that would have a significant second round impact at the global level.

Some caveats

The suggested approach seems only suitable if the less-favoured focus area has an immediate link with the global economy that is of substantial magnitude. Otherwise, changes in the global trade environment will not cause any significant effects at the regional level, which may be a useful result on its own that would underline isolation arguments in the context of international trade and less-favoured areas. Many authors do not expect large direct impacts of further trade liberalisation for less-favoured areas in LDCs. They consider binding constraints such as internal market imperfections, missing infrastructure, lack of entrepreneurship, power of (rent seeking) interest groups etc. The CGE framework suggested here shows scope to deal with some of these prevailing problems in an endogenous way. Finally, the approach is sensitive with respect to the research question/interest, level of integration of national economy into the global economy, economic structure, relative size of the focus region, relative contribution of the focus region's production to sector-specific and total trade, as well as the degree of integration of regional and national factor markets.

Discussion and conclusions

The central issue of this paper is: Is there evidence in the literature that shows the critical importance of trade policy to the developments of Less-Favoured Areas (LFAs)? And if it is important, in which direction goes the evidence? Clearly, there is a large gap in the literature on the relation between trade policy and the development of LFAs. Many articles based on very detailed work are available to compare growth performances at country level, also in relation to institutions, openness of international trade and specific trade policies. Although LFAs are often compared to Least or Less Developed Countries (LDCs), this is not strictly true. In nearly all countries there are by definition certain (urban) areas which do not belong to the typical LFAs. The relation between the more and the less-favoured parts of a country might be of crucial importance and that holds even more if standard policy instruments are directed at taxing primary agricultural products for export. As a rather general observation, however, it can be stated that the lack of trickle down effects and the danger of adverse effects of a more free and open international trade for the LDCs hold even more for LFAs in such countries.

The central issue was explored in different directions. In a *first* step the literature on modern trade and growth theory spell out conditions of sustained economic growth (increasing returns to scale, market power and human capital accumulation) that are, nearly by definition, opposite to the conditions that hold for LFAs. This implies that 'old' trade and growth theory (based on resource availability and 'exogenous technology') can be more

relevant for understanding the position of LFA in relation to international trade. Another direction that can still be promising is the link to international chains of multinational enterprises. Here theory is still developing. The work of Mundlak hints to the importance of the development of a manufacturing sector in agricultural economies both in poverty alleviation and further growth.

Since all these theories do not focus on the institutional conditions of LFAs in developing countries, a *second* step considers the typical conditions for institutions, governance and infrastructure for LFAs. Also here, the literature is very much directed at the country level, which also limits the opportunities to generalise on the available evidence. There should be sufficient literature on community based institutions that may substitute for lacking national institutions. Still it is quite clear that institutions and infrastructure can be of crucial importance for the relation between international trade policy and the development of a LFA. This makes it difficult to generalise on the central issue of the paper. Conditions in e.g. South and East Asia are often quite different from Sub-Saharan Africa, to mention one of the clear differences shown in the literature.

In the *third* step, attention is drawn to the empirical evidence about the relation between international trade and the development of LDCs or LFAs. A first line of literature is simply to compare growth performances of different countries and to 'explain' them on the basis of a number of 'exogenous' variables. A second line of research derives results on the basis of models/theories, which – by implication – have a large influence on the results that will be obtained. From the first line of literature it is clear that for LFAs with inadequate institutions and infrastructure, the effects of trade-led growth is often irrelevant. Thresholds are to high to link them to international trade. Empirical results showing higher growth rates because of liberalised trade may arise from countries with a better position that typically does not hold for LFAs. The second line of literature suggest that further trade liberalisation will entail small or even detrimental effects for LDCs and LFAs, with an exception for products suffering from tariff escalation and/or peak tariffs. The prevailing problem is not market access to developed countries, but rather the lacking supply response by LDCs and in particular LFAs to (international) price changes. Hence, linking to international trade can be profitable for LFAs if it is useful: (1) to get the prices right; (2) to adopt new technology (but here foreign direct investment or linking to international chains or enterprises is crucial); (3) to develop exports of goods or services based on abundant resources; (4) to develop or broaden the market for 'exotics'. This all requires adequate institutions and infrastructure.

The *final* step considers a methodology to empirically assess the impact of international trade policies on specific, less-favoured areas. A unified CGE modelling framework of multi-country (global) and single-country (including bi-regional models) approaches was suggested in order to capture global, national, and regional levels simultaneously. Such an approach seems only suitable, however, if the less-favoured focus area has an immediate link with the global economy that is of substantial magnitude. Moreover, it would be a challenge to take into account the institutional factors that frustrate an adequate domestic supply response, as endogenous factors in such a neo-classical model.

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[1] See, for instance, Podbury and Roberts, 1999.

[2] New innovative goods are developed and produced in the North and exported to other countries (North or South). Later, the South imitates these products and this leads ultimately to a production shift to this region (Grossman and Helpman, 1991b, pp 1227).

[3] Given the natural and socio-economic environments, five major sources of economic growth could be elicited: 1) accumulation of capital goods; 2) increase in productive labour force; 3) reallocation of resources; 4) technological change and 5) accumulation of knowledge and skills. The old growth theory attributes growth to accumulation of physical inputs (1, 2 and 3) and an exogenous technical factor (4).

[4] Another focus in endogenous growth theory is whether policy variables such as provision of public services, trade policy, fiscal policy, social policy, legal and social norms influence growth rates. These variables affect the level of real income per capita rather than its growth rate in the neo-classical model. (Durlauf et al., 1996, pp 3).

[5] Kenny and Williams (2001) noted that "current thinking about economic growth has failed to grasp the complex casual nature of the social world, assuming that the components and processes of the economy are the same across countries. Political, social and family life are inhabited and constructed by active, creative and thinking persons, are there universal casual laws covering this?" (pp 2).

[6]Mundlak noted that a ten-or-twenty-year period of growth loss due to erroneous (short-term based) policies can have a dramatic effect, particularly for those who spent their productive life in a period of lost opportunities. "The attempt to move Russia and other former communist countries to a new steady state by following an agenda that is not well founded in realistic details may lead to negative results. ... The post war policies of Argentina not only damaged the natural comparative advantage of the country but also ruined the competitive structure of the economy by generating monopolies in key industries" (Mundlak, 2000, pp 422).

[7] Williamson (2000, p. 597) distinguishes also the concept of Embeddedness: informal institutions, customs, traditions, norms, religion, etc. These institutions change very slowly (and often in relation to large disruptions of societies). Authors like Davis and North (1971) included them in the institutional environment.

[8] E.g. the rural road network in sub-Saharan Africa (SSA) is 55 km per 1000 km^2 compared to 800 in India. The number of telephones per capita in SSA is one-tenth of that in Asia (Collier and Gunning, 1999a, pp 71).

[9] Fan and Hazell (2002) reported that public investment in infrastructures (such as roads, rural telephone, R&D, irrigation, electricity and education) result in sizeable and bigger impact on productivity increase and poverty alleviation in the less-favoured areas of China and India.

[10] Morrissey and Filatochev (2000) subsume underdeveloped institutional structure as 'institutional remoteness'.

[11] Koning (2002) claims that also agriculture should be protected to develop a home market as breeding ground for export activities. Reasoning along the lines of Porter (1990) he argues that successful export industries almost always begin in the home market. Moreover, agricultural development may lead to positive external effects on the social capital of other sectors which lowers the transaction costs to which these sectors are sensitive.

[12] Before they received preferential treatment, formalised as the Generalised System of Preferences, developing countries already received special treatment within the GATT, permitting quantitative restrictions in the event of balance of payments difficulties. Moreover, as a consequence of the first Lomé Convention in 1975, a group of 70 LDCs, known as the Asian, Caribbean and Pacific (ACP) countries, obtained free access to the EU market for non-CAP regulated commodities. The advantageous effects of the preferential treatment itself are limited. Hoekman et al. (2002) show that, although average OECD tariffs on imports from LDCs are very low, peak tariffs above 15% still have a disproportional adverse effect on their exports. Products subject to these tariff peaks tend to be heavily concentrated in agriculture and food products and labour-intensive sectors.

[13] Import substituting industrialisation (ISI) included a variety of policy measures such as: (1) import tariffs on manufacturing to protect 'infant' industries and export taxes on agriculture; (2) quantitative import controls; and (3) chronically overvalued exchange rates. Measures directly affecting the agricultural sector included: (1) agricultural marketing boards with monopoly powers, (2) centrally set producer and consumer prices, and (3) input subsidies. The ISI development strategy led to agriculture being both heavily taxed and neglected relative to industry (Bautista et al. 1998).

[14] The practice of imposing high import taxes on processed goods and low or no tariffs on primary products.

[15] Otsuki et al. (2001), for example, estimate that the implementation of the new aflatoxin standard in the EU will have a negative impact on African exports of cereals, dried fruits and nuts to Europe. The new EU standard, which would reduce health risk by approximately 1.4 deaths per billion a year, will decrease these African exports by 64% or US$ 670 million, in contrast to regulation set through an international standard.

[16] The Agreement acknowledges the special problems that developing countries can face in complying with SPS measures and allows for special and differential treatment (Henson and Loader, 2001).

[17] In the WTO known as TRIPS: the Agreement on Trade-Related Aspects of Intellectual Property Rights.

[18] Some recent research suggests that the potential gains from further multilateral trade liberalisation remain still very large (Hertel et al. 2002), although distributed quite diversely not only across countries, but also across different societal groups within a country (Hertel et al., 2001). There is also further scope for increased market access of developing countries to each other's markets (World Bank, 2002).

[19] Non-participation in the negotiations may be one of the reasons why SSA countries hardly gained from the Uruguay Round (Blackhurst et al. 2000).

[20] In the Uruguay Round, for example, a pro-active, constructive approach was frequently out of reach for many LDCs because of resource and research capacity constraints (Chadha et al. 2000).

[21] A region here could be thought of as a village as well (see Taylor and Adelman 1996).

[22] An extended blueprint of the DMR-model is documented in great detail by Löfgren et al. (2001).

[23] See Boomsma and Oosterhaven (1992) on the construction of a bi-regional input-output table and Roberts (2000) on a bi-regional SAM multiplier model to analyse rural-urban spillover effects.

[24] Applications on bi- and multi-regional CGE models to single developing and transition countries can be found in Harris and Robinson (2001) on Mexico and Kuhn (2000) on Russia.

[25] Version 5 of the GTAP database features 66 commodities and 57 regions, which may be single countries or a group of countries, but not a region within a particular country (see Dimaranan and McDougall 2002).

[26] Ongoing work at the Trade and Macroeconomics Division of the International Food Policy Research Institute (IFPRI) aims at the integration of GTAP and (standard) multi-country CGE approach. However, this framework will not consider further disaggregation of single countries into bi- or multi-regional components.