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# How Fair is Fair Trade?<sup>1</sup>

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SOM-theme C Coordination and growth in economics

## Abstract

This paper investigates to what extent fair trade programmes, are indeed 'fair'. This is accomplished by comparing fair trade with free trade and protectionist trade regimes on their compliance of the criteria set by the fair trade movement itself. This comparison is made using comparative cost based and economies of scale models. It is found that whether or not fair trade is superior to free trade or protectionism is highly dependent on a number of characteristics of the products to which fair trade is applied as well as on the circumstances of international trade.

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## 1. Introduction

A long-standing debate in development economics has been the one between advocates of free trade and proponents of protectionism in developing countries. While the former argued that free trade would offer large opportunities for poor countries to improve their situation, the latter considered trade to be harmful to poorer countries and typically preferred a combination of protectionism and development aid. This opposition tended to dominate the discussion about the role of international trade in the Third World. (Bhagwati, 1993; Krueger, 1990)

However, in recent years, a third position has come up. This position maintains that international trade can be beneficial to developing countries as long as

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<sup>1</sup> The authors would like to thank Marcel van Wissenburg, Harry Garretsen, Eelke de Jong, Richard Nahuis, and an anonymous referee for their helpful comments on an earlier version of this paper.

it is performed in a just manner. The idea is that, in conducting trade, we have a moral obligation to pay decent prices for products that have been produced under decent conditions. In many western countries organisations have arisen which conduct trade in such a way and which succeed in selling products for a price above market level, because of their guarantee that the extra money is directly going to the producers. Such organisations, which include for example Oxfam in the United Kingdom, Max Havelaar in the Netherlands or Solidar'monde in France, have become known as Fair Trade Organisations (FTO's)<sup>2</sup>. The past two decades saw a strong growth of the market share of these organisations as well as of the range of products they offer. In addition, the type of conduct they embody –fair trade– has succeeded in gaining widespread acceptance among the public as being an effective tool for alleviating poverty and a reasonable alternative to aid and free trade (Beuningen, 2000)<sup>3</sup>.

The idea that paying higher prices for products from Third World countries will help development may have a certain intuitive appeal, but if one looks beyond the direct income transfer effect, it is far from evident that this would be the case. One can imagine that the practice of fair trade organisations might lead to market responses that cause adverse effects if one takes on a more broad perspective. In spite of this, these organisations claim that trade conducted the way they do is fair, which is a view that is widely shared among the public. In this paper we would like to study the validity of this claim.

In order to do this we need first to make clear what fair trade exactly is. Confusing in this respect is the fact that the term “fair trade” nowadays is used to indicate two entirely different positions. The first of these is the fair trade that calls for protectionist measures by developed countries against products that have been produced in poorer countries at prices developed countries cannot compete with because of their different economic circumstances. Protectionism is defended by arguing that trade should only be conducted on a *level-playing field*. Ultimately this means that all comparative advantage due to differences between countries should be eliminated by policy; in practice, the argument is mostly used to protect domestic industries in developed economies against cheaper imports from countries with low labour costs. This argument has been attacked convincingly in Bhagwati (1993). See also Bhagwati & Hudec (1996) for an overview of the issues involved.

This protectionist stance is completely different from the concept of fair trade we will discuss in this paper. The fair trade which we will deal with is a manner of conduct by consumers, engaged in pro-poor trade with developing countries. “Fair

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<sup>2</sup> Although this movement is a relatively recent phenomenon, it shows some resemblance with far older (pre-capitalist) ideas about economy and society. The idea of a morally just price, for example, was one of the hurdles capitalism had to take before becoming established in Western Europe. See for example Thompson (1971).

<sup>3</sup> Although recently the growth seems to have stagnated, as can be deduced from following the media.

trade” in this paper refers to the *consumer movement that has come up in several western countries in the past decades, in which people feel obliged to (1) pay prices above market level for products that (2) are produced under certain conditions in Third World countries*. Crucial in this practice is that restricting oneself to goods produced under these conditions and paying the higher, decent prices both are considered to be moral obligations rather than preferences; only this type of conduct is considered to be just.

The moral obligation to act in a fair trade manner stems from an idea of justice that lies underneath the fair trade concept. The conduct called fair trade, in other words, is an operationalisation of an idea of what just trade would be. To give a satisfactory answer to this latter question – what is just trade? – would require a study by itself and goes far beyond the scope of this paper. However, the two elements of the fair trade type of conduct, that is: buying products produced under decent conditions and paying higher prices for these products, address two notions of justice that have an intuitive appeal to most members of our society. The first of these two is the notion that to be involved in certain types of conduct is intrinsically wrong (e.g. child labour, political coercion). For trade to be just it has therefore to abstain from products produced under circumstances that violate such basic principles. This is a minimal requirement without which it makes no sense to talk about fairness in the first place.

The second notion of justice behind the fair trade approach is the idea that in our actions we should try to counter unjustified inequality by improving the situation of the least well off in society. The term *unjustified inequality* reflects the recognition that some inequalities might be deserved through differences in effort or defensible because no one would gain by their eradication. Unjustified inequality then is inequality that does not come to the absolute advantage of the poor nor is the result of a difference in effort<sup>4,5</sup>. The reduction of such unjustified inequality is what the fair trade practice of paying higher prices is intended to bring about. In the words of the Fair Trade Foundation: “*by requiring companies to pay above market prices, Fair Trade addresses the injustices of conventional trade, which traditionally discriminates against the poorest, weakest producers*”<sup>6</sup>.

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<sup>4</sup> This latter element, differences in effort, is not very relevant in the discussion about international trade and income effects. It would be very hard, not to say, absurd to argue that the difference in welfare individuals in developed and developing countries enjoy is due to differences in effort they have made.

<sup>5</sup> This position has some similarity with the ideas of John Rawls about social justice. Rawls rejects inequality of reward on basis of natural or social differences between people, since one cannot attribute these differences to people’s efforts or intentions. He states that the only inequality a rational individual would accept is the minimum inequality necessary to improve the situation of the least well off in society. An important difference, however, is that Rawls combines the demand of Pareto optimality with this idea rather than replacing it. See Rawls (1971).

<sup>6</sup> [www.fairtrade.org.uk](http://www.fairtrade.org.uk)

To study the validity of the claim that fair trade is fair thus calls for a confrontation of fair trade with free trade and protectionism on both of these grounds. With respect to the ‘decent conditions’ requirement, however, it is obvious that fair trade is superior to the other positions in the international trade debate: the fair trade practice is the only way to *guarantee* the fulfilment of the minimal requirements. Surely, free trade or protectionism may, in some or many cases, lead to absence of child labour or environmentally harmful production techniques, but such an outcome is always in a way “by chance”; were it profitable to have things otherwise, it would be done. Under a fair trade regime such an outcome is not possible, since it is a moral obligation to buy only products which are produced under decent conditions.

With respect to the second aspect of fairness – improving the condition of the least well off – the superiority of fair trade is by no means clear though. Provided we accept the objective of improving the situation of the least well off, the question is whether or not paying higher prices for Third World products is indeed the best way to achieve these income distributional requirements. In other words: *is fair trade fair in the sense that it improves the situation of the least well off?* This is the question we will focus on in this paper. For brevity’s sake we will refer to trade that fulfils this requirement as being “consequence fair”, as it is fair in the consequences it has for the least well-off. In trying to answer the question on consequence fairness we do as if the “decent conditions” requirement is always fulfilled, since otherwise it makes no sense to speak of fair trade in the first place. More concretely, we thus only consider trade in products not involving child labour, political coercion, etc.

The analysis will take place in two steps. In the first step, we will deal with the question how international trade and protectionism respectively fare on the consequence fairness requirements of the fair trade movement. In the second step we investigate whether fair trade might be an improvement in this respect to either protectionism or free trade. We note that in the comparisons we make we will only deal with the consequences on the income distribution of trade and we ignore other effects international trade might have on the well-being of people (e.g. environmental externalities). This limitation is defensible by the fact that it is the angle taken by most international trade models, and by the fact that it can be shown that external effects of economic actions can in principle be ‘solved’ by creating marketable property rights for these factors<sup>7</sup>.

In our investigations we will make a distinction between comparative cost based trade models and trade models that take economies of scale as a reason for trade. This distinction is useful for two reasons. First, although in comparative advantage based trade models free trade is typically superior to no-trade on a country

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<sup>7</sup> See Coase (1966).

level of analysis, not everyone in a country gains from trade. In models that are based on economies of scale, on the other hand, income distributional effects within countries are typically absent (unless they also incorporate comparative advantage elements), but then the gains from trade on a country level are not always positive.<sup>8</sup> This is mainly true for models that incorporate external economies of scale, which are either directly modelled (e.g. Ethier, 1979), or come about as a result of pecuniary externalities that are generated by the interaction of returns to scale at the firm level and the existence of transportation costs (e.g. Krugman, 1991, Krugman & Venables, 1996, as well as many other advances in the new economic geography literature). Second, the distinction is useful to shed better light on the importance of remaining (natural) barriers to trade on our judgement. In comparative cost based models, the welfare effects do not qualitatively depend on the extent to which trade is freed (quantitatively, of course, they do). In economies of scale based models, however, the distribution of the welfare effects over countries heavily depends on the extent of free trade (as proxied by the remaining level of transportation costs).

The outline of this paper is as follows. Section 2 discusses the fairness of trade in comparative cost based trade models. Are the income distributional effects of trade in these types of models in favour or to the detriment of the least well off in society? Section 3 tries to answer this question on the consequence fairness of trade for models where economies of scale play a role. Section 4 applies the fair trade concept to both types of models and discusses whether or not fair trade is superior to free trade and/or protectionism. Section 5, finally, concludes.

## **2. Consequence fairness of trade in comparative advantage trade models**

In this section we deal with the consequence fairness of trade when it is based on comparative cost differences between countries. Since the work of David Ricardo, it is clear that comparative cost differences between countries lead to mutually beneficial trade.<sup>9</sup> This basic premise is still theoretically uncontested at a macro level,

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<sup>8</sup> Note that when we speak of income distributional effects of trade, we speak of the effect of trade on the remuneration of an economy's production factors. Since the analysis of scale economies in trade models is typically conducted in one-factor economies, such income distributional effects are ruled out by construction. This is not to say that there are no other interesting definitions of income distributional effects. For instance, in a multi-commodity framework with economies of scale, trade will lead to specialisation patterns that are to the detriment of producers in those sectors the economy will not specialise in. These are however not the income distributional effects we seek for in our analysis.

<sup>9</sup> For a standard text book treatment of the Ricardian model of international trade see e.g. Ethier (1995). An advanced treatment can be found in Bhagwati and Srinivasan (1983) and Bowen et al. (1998).

but it is well known that at the micro level not everyone will gain from free trade. In a Heckscher-Ohlin type of world, for instance, countries have a comparative advantage in goods that use the country's relative abundant production factor intensively. The trade pattern that follows then implies an increase in the demand for the country's abundant factor and a reduction in demand for the country's scarce factor. With fixed supply of both factors of production, the abundant factor gains from opening up to trade, both in nominal terms as in real terms, whereas the scarce factor loses. This has become known as the Stolper-Samuelson theorem.<sup>10</sup> By analogy, trade also leads to convergence of factor prices around the world, which stops once factor prices are the same everywhere (factor price equalisation theorem). To see this, note that as trade takes away differences in goods prices between countries (provided both countries remain incompletely specialised), the Heckscher-Ohlin assumption that production technologies are identical world wide implies that the cost of production, and hence factor rewards, should be the same everywhere as well.

These effects on factor rewards give rise to four different ways for looking at the consequence fairness of trade. The first way to do this is to investigate the consequences of trade for the income position of *each factor separately* (Case 1). The relevant comparison is then for each factor to compare pre-trade and post-trade real rewards in the country where it was initially worst off. The second way is to investigate the consequences of trade on the *national income distribution* (Case 2). Then the procedure is to find out for each country which factor of production is worst off before trade, to compare this with its post-trade real factor reward. The third way is to consider the *international income distribution* (Case 3). The relevant comparison is then between the pre-trade and post-trade real factor rewards of the production factor that was on average initially worst off (Case 3). Fourthly, and perhaps most in line with the fair trade ideas on fairness, is to make a truly global comparison by first singling out which of the four geographically bounded income groups is initially worst off, to then see how they fare after trade has opened up (Case 4).

Of these cases, the first, third and fourth one are most easily to tackle, while the second one leads to a theoretically irresolvable outcome. Irrespective of the case under analysis, we will confine our assessment to the standard formulation of the Heckscher-Ohlin model, which exhibits 2 goods, 2 factors and 2 countries. This is done not only to facilitate tractability, but also since many of the theorems that are

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<sup>10</sup> Compared to autarky, the price of exported commodities will rise, whereas the price of imported commodities will fall. As the price of any commodity can be expressed as a weighted average of the price of the factors of production, applying the nominal version of the Stolper-Samuelson theorem then implies that the price rise of the exported good must be less than the price rise of the abundant factor, while the price decline of the imported commodity must be less than the fall of the price of the scarce factor. Consequently, also in real terms the abundant factor gains and the scarce factor loses.

linked to the Heckscher-Ohlin model do not easily generalise to a more-factor, more-country, more good framework.<sup>11</sup>

To start with Case 1, where we investigate the consequences of trade for each factor separately, we note that in the Heckscher-Ohlin model the real reward of a production factor is lowest in the country where it is relatively abundant. This follows directly from the one-to-one relation that exists in the Heckscher-Ohlin model between the physical definition of factor abundance and the price definition of factor abundance.<sup>12</sup> The marginal productivity of a production factor is lower in a country where it is relatively abundant, which implies a lower real factor reward as well. Trade increases the real factor reward of each of the factors in the country in which they are relatively abundant – the Stolper-Samuelson theorem –, which renders it automatically fair.

With respect to Case 2, which compares the pre-trade and post-trade income distribution at the national level, we cannot rely on a straightforward application of the Stolper-Samuelson theorem. To begin with, this is because factors of production may differ in their ownership structures (for instance the ownership of capital may be more concentrated than the ownership of labour). This implies that whereas a production factor could be worst off before trade when rewards are measured in per unit terms, this does not mean that the owners of the production factors are also worst off. We circumvent this problem – for this case as well as for the other cases – by assuming that ownership structures do not differ between factors of production. In a way, this reflects the perfect competitive spirit in goods and factor markets of the Heckscher-Ohlin model. Note in this respect also that perfect competition already rules out any influence of the ownership structure on factor rewards.

But even then a clear-cut answer to the question on consequence fairness is hampered. Although we know that in a Heckscher-Ohlin framework the country's abundant factor gains from trade, whereas the scarce factor loses, this does not help us in determining which of the country's factors of production was actually worse off before trade. Only when before trade the real factor reward of the abundant factor is lower than that of the scarce factor, we can be certain that trade is fair. The Heckscher-Ohlin framework, however, does not provide a clear answer to this matter. It only indicates that the initial income position of the abundant factor improves the

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<sup>11</sup> See Ethier (1984) for an overview and discussion of the higher-dimensional issues of the Heckscher-Ohlin model.

<sup>12</sup> Factor abundance can be defined in terms of the relative supply of both production factors in countries, but also in terms of their relative prices (factor rewards). Whereas by the former a country is said to be factor abundant when its relative endowment is higher than in the other country, by the latter a country is said to be factor abundant when the relative price of that factor is lower compared than in the other country.



more intensive production technologies are in the abundant factor and/or the more consumers favour the good that uses the abundant factor most intensively.

For Case 3, which compares relative income positions from an international perspective, the problem of not being able to assess which factor is initially worst off is not obstructive for assessing the fairness of free trade. The point is that when we are dealing with the comparison on a world-wide scale, we do not need to know which factor was initially worst off, provided that we can show that the world-wide income distribution does not change due to trade. Whereas in our analysis on the national level (Case 2), the Stolper-Samuelson theorem implied that the *national* income distribution would change due to trade, this result does not carry over to the *world* income distribution. In fact, it is easy to see that in a standard Heckscher-Ohlin framework the post-trade factor price ratio is equal to the average factor price ratio before trade. To see this, consider the following thought experiment. Suppose that the world is divided in two countries which have the same relative endowments, but which do not trade. As a consequence, both countries will face equal factor prices. When both countries open up to trade, the equal distribution of endowments implies that countries are indifferent to engaging in trade or remaining autarkic (prices are the same everywhere). Consequently, the factor price ratio in the post-trade equilibrium is the same as the autarkic average. Now suppose that one unit of either of the production factors is moved to the other country. With preferences being the same in both countries, this implies that the change in the autarkic factor price ratio for the one country is exactly the same, but opposite, to that of the other country. Consequently, the autarkic world average factor price ratio does not change and remains the same as before. But so does the factor price ratio for the post trade equilibrium, as the total world endowment ratio did not change. Hence, in a Heckscher-Ohlin setting, the weighted world average of autarkic factor price ratios is always equal to the post-trade world factor price ratio.<sup>13</sup> Irrespective of which factor is initially worst off on a global scale, we can therefore conclude that in Case 3 trade is always fair (as we know that there are gains from trade).

The verdict on Case 4, which makes a comparison between each and every income group in the world, is relatively easy and follows directly from the fact that the income group that is initially worst off must always comprise the owners of a production factor that is relatively abundant somewhere (otherwise, the owners of this

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<sup>13</sup> This does not imply that factor rewards do not change due to trade. They do, but always by the same proportion. In fact, we know that since trade increases world welfare, the world average of each factor's remuneration must go up due to trade. This is in contrast, but not contradictory to the effects on factor reward at the national level (Case 2). The point to note therefore is that the losses of a particular factor in the country where it is scarce, are more than compensated by the gains of that factor in the country where it is abundant.

production factor in the other country would be worse off). The Stolper-Samuelson theorem then implies that these owners will gain from trade, which renders trade fair.

Overall then, we may conclude that trade in the Heckscher-Ohlin model fares quite well on consequence fairness. The exception is when we consider the income distribution on a national level (Case 2), in which case the verdict is inconclusive. But since this is primarily because of the general set-up of the Heckscher-Ohlin theory, which leaves open which factor of production is initially worst off, we do not regard this as a major problem.<sup>14</sup> Consequently, we conclude that free trade based on comparative advantage is fair. Table 1 summarises our findings so far.

<i>Way of assessment</i>	<i>Is trade fair?</i>
Per production factor (Case 1)	Yes
National income distribution (Case 2)	Unclear
International income distribution (Case 3)	Yes
Per income group (Case 4)	Yes

### **3. Consequence fairness of trade in new economic geography trade models**

As we have seen, in comparative advantage ridden trade models trade is beneficial for all countries concerned, even though on a national level there are income distributional effects. It is because of that feature that these models are typically applied to understand the impact of trade on relative factor rewards *within* a country.<sup>15</sup> Alternatively, in trade models that are based on economies of scale the focus is much more on the effects of trade on the income distribution *between* countries. Although this is partly resulting from the fact that these models typically feature a single factor of production, the prime reason is that in economies of scale ridden models it is not necessarily true that countries gain from trade. In the trade literature that deals with scale economies, this has been shown to be primarily true when the economies of

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<sup>14</sup> This conclusion becomes even stronger as lump-sum transfers can be used to compensate for the negative consequences of trade on factors of production (see, for instance, Bhagwati and Srinivasan, 1983 and Corden, 1984 for a discussion). Such arguments will be disregarded for the remainder of the analysis, however, as it interferes with the fair trade principle of absence of coercion.

<sup>15</sup> In fact, much of the debate on the economic impact of globalisation has been conducted by reasoning in a Heckscher-Ohlin type of framework. See Peeters (2001) for an overview.

scale are external to the firm; that is, when the average costs of production depend on sectoral output levels instead of output levels of firms, see e.g. Ethier (1982). This could imply that the country which is the high cost producer for each conceivable scale of production, may in fact be the low cost producer in autarky because of a higher scale of sectoral operations compared to its low-cost counterpart. Upon trade, therefore, the high cost country may therefore actually export the good, which reinforces its scale advantage over the other country and leads it to completely specialise in it.<sup>16</sup> Such an outcome is not desirable, however, as the optimal solution would have seen specialisation in the low cost country. Trade thus leads to the 'wrong' specialisation pattern, which is not only harmful for the low cost country, but also for its high cost counterpart.

A valid criticism on the applicability of these types of models is that they do not give a clear clue on what determines the pre-trade autarkic production levels. As a consequence, it is a matter of chance which country has the actual cost advantage in autarky. Moreover, much of the external economies of scale models do not pay attention to the origin of external economies of scale. They take the negative relation between sector scale and average production costs as a given in order to analyse the consequences of such a cost structure on international specialisation pattern.

These flaws are mended by the advances of the new economic geography literature. In this strand of literature<sup>17</sup> the location of industrial production ultimately depends on the balance between agglomerating and spreading forces that are present due to a combination of returns to scale at the firm level and the existence of transportation costs. As this implies that it pays for firms to settle in the larger market, a small difference between countries may give rise to a process of cumulative causation, which leads to a concentration of industrial activity in one country. By relating these processes to well-specified cost and demand factors, economic geography models are not only able to explain why economic clustering takes place,

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<sup>16</sup> This outcome has also been forcefully stressed by adherents of the *dependencia* theory, be it with a different line of argumentation. Various versions of the *dependencia* argument exist, some more elaborate than others, stressing the role of monopoly or the coexistence of capitalist and pre-capitalist modes of production. The view of Amin (1974) has the most in common with modern economies of scale trade models. The concentration due to productivity differences, caused by internal or external economies of scale in production, leads to a widening gap in income between core and periphery. This process is facilitated by free trade, as this increases the potential for concentrating production. The end-outcome of this process is a core-periphery pattern of production, with producers of basic commodities at the low-end of the income scale. Frank (1969) reaches the same conclusions, but argues that it comes about through the role of monopoly and monopsony, which causes a chain of unequal exchange in which producers of manufacturing products can dictate their prices to producers of basic commodities. Other examples include Wallerstein (1979) and Emmanuel (1972). See Brewer (1990) for a critical assessment.

<sup>17</sup> The seminal contribution is Krugman (1991); see Ottaviano & Puga (1997), Fujita, Krugman & Venables (1999) and Neary (2000) for surveys on the new economic geography literature.

but also under which conditions it is most likely to take place. In addition, these models specify how the advantages of economic clustering (i.e. external economies of scale) come about.<sup>18</sup>

We will use the set-up of economic geography models to discuss how trade affects the income distribution within countries for a *given* distribution of labour over countries. That is, we will use the so-called short-term specification of economic geography models and ignore the consequences of (potentially emerging) core-periphery patterns on wages. By deliberately ignoring these long-run effects, we therefore exploit the resemblance new economic geography models have with new trade models. To underscore this, we will henceforth refer to these models as either new economic geography *trade* models or as *static* economic geography models.

In the standard exposition of new economic geography trade models we will use, the world consists of two regions (or countries), which each produce a homogenous agricultural good, which serves as numéraire, and a heterogeneous manufactured good. The agricultural good is produced under constant returns to scale, whereas the manufactured good incurs positive scale economies. Labour is sector-specific and (in the short-run, which we focus on) also immobile between regions. Trade in agricultural products is costless, but trade in manufactured goods incurs transportation costs. Both regions are equally large in terms of agricultural labour, but typically not in manufacturing labour. The standard result in such a setting is that free trade always means higher (nominal) manufacturing wages in the large country and, by symmetry, vice versa for the small country, but that the exact post-trade wage level depends highly on the extent to which free trade lowers transportation costs. In fact, for the large country manufacturing wages are an inverse U-shaped function of falling transportation costs, such that when trade is completely free, nominal wages are the same in both countries.<sup>19</sup> The relation between *real* manufacturing wages and transportation costs only partly reflects this pattern, as then we also have to acknowledge the impact of the falling transportation costs on the price index of

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<sup>18</sup>This is also what makes economic geography models different from *dependencia* theory, as in Frank's (1969) version, where the aim is also to explain the global income distribution by linking it to economies of scale in production and monopolistic market forms, resulting in differences in market power. Apart from many other problems one can have with the line of reasoning used in these types of models, see e.g. Brewer (1990), *dependencia* theory primarily lacks clear mechanisms that can explain why a certain type of manufacturing production ends up in a certain region; it focuses on class rather than on regional contrasts. As such, it not only shares the drawback of external economies of scale models that it is simply a matter of chance which region ends up as a core and which as a periphery, but it also lacks a clear explanation of geographical concentration of more industries in one core.

<sup>19</sup> The results of the standard setting carry over to more complicated versions of new economic geography trade models as well. It is beyond the scope of this paper to give a detailed explanation of the reasons behind this pattern. See Fujita, Krugman & Venables (1999), Neary (2000) and Peeters (2001) for a detailed analytical account.

manufactured goods. In fact, whereas for a given level of transportation costs the price index is always lower in the larger region – because of its lower dependence on transportation costs including imports, see Neary (2000) – this advantage for the larger region declines when transportation costs decrease. Thus, real wages are bound to start converging at a higher level of transportation costs than was the case for nominal wages. The same applies to real wages in agriculture: given the constant nominal wage of agricultural labour (numéraire), the development of the price indices in both countries when transportation costs fall implies that also agricultural real wages become equal at completely free trade.

This is exactly what is shown in Figure 1, in which manufacturing real wages (panel A) and agricultural real wages (panel B) are depicted as a function of falling transportation costs. Both panels of Figure 1 are based on simulation results for a standard version of the economic geography model, as presented in Fujita, Krugman and Venables (1999, Chapter 5), including the normalisations they have chosen.<sup>20</sup> The parameter configuration underlying Figure 1 is such that both regions are equally large in terms of the numéraire sector, but that region 1 is the larger region in terms of manufacturing labour. The share of manufacturing labour in total labour supply is 40%. The economies of scale in manufacturing are intermediate (substitution elasticity of 5), whereas consumers in both regions spend 40% of their income on manufactured goods.

(insert figure 1 about here)

Figure 1 gives the results for one parameter configuration only, but extensive sensitivity analyses shows that the particular *curvature* of the real wage curves is indeed as general as the brief description of the main results from the economic geography literature above indicates. However, the relative *position* of the real wage curves depends to a large extent on the parameter configuration chosen. Especially the share of manufacturing in consumption is important in this respect (as has been widely acknowledged in the new economic geography literature).<sup>21,22</sup> This is

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<sup>20</sup> See the appendix for a brief exposition of the model. Note that due to several non-convexities it is impossible to derive analytical results in new economic geography trade models. Numerical simulations are therefore part of the standard tool kit of new economic geographers.

<sup>21</sup> Also the substitution elasticity in consumption of manufactured goods has been acknowledged as being an important parameter. However, changes therein do not affect the relative position of the real wage curves.

<sup>22</sup> When the expenditure share on manufactured goods increases, this will drive up (down) nominal wages in the large (small) region. The concomitant change in the price index is obviously a weighted average of these wage developments, but it depends on the level of transportation costs whether or not in a certain region this change is positive or negative. A priori it is therefore unclear how real wages are affected and whether or not these developments are in the same direction in both regions.

particularly important when considering consequence fairness. In Figure 2 we have therefore plotted regional real wages as a function of declining transportation costs for three distinct levels of expenditure share on manufacturing goods. Panel A features a low expenditure share, Panel B an intermediate share and panel C a high expenditure share on manufacturing goods. Note that Figure 2 only facilitates an assessment of consequence fairness for three of the four ways we used while discussing fairness in the Heckscher-Ohlin framework. That is, it facilitates a comparison for each factor separately, a comparison for the national income distribution and a comparison for each group separately. For the international income distribution position we will require a different figure, which we will give below.

(insert Figure 2 about here)

Upon comparison of the different panels of Figure 2 from the perspective of Case 1, we conclude that, for both production factors, free trade increases the real wage in the region where it was initially worst off. That is, if we interpret the opening up to trade as going from a prohibitive level of transportation costs (autarky) to trade at zero transportation costs, trade is fair for both production factors. Alternatively one could argue that part of the transportation costs consists of costs due to natural barriers to trade (e.g. distance *per se*) and that therefore the opening up to free trade does not imply a complete removal of all transportation costs. In comparative advantage based models, such a distinction does not qualitatively affect the impact of reducing artificial trade barriers on wages and the income distribution. This is different in economic geography models, where the (remaining) level of trading costs is key to understanding the impact on wages of opening up to free trade. In the remainder of our analysis we therefore take transportation costs to consist of both natural and artificial trade costs, so that the opening up to free trade can imply any change from a prohibitive level to a less than prohibitive level of (total) transportation costs.<sup>23</sup>

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<sup>23</sup> As the agricultural sector is the numeraire sector and bears no transportation costs, the opening up to trade in manufacturing goods always implies a complete opening up to trade in agricultural goods. Likewise, autarky in manufacturing goods implies autarky in agricultural goods as well. Moreover, we leave aside the issue how much of the total transportation costs is due to natural barriers to trade and how much is due to artificial barriers to trade. As such, when free trade implies a jump from prohibitive transportation costs to zero transportation costs, we implicitly assume that the whole of transportation costs consists of artificial barriers to trade. When, alternatively, there would be no artificial barriers to trade at all, autarky is actually the natural state of affairs. In our analysis, we will only consider situations in between these two extremes. Note also that in line with the purpose of our analysis, we always consider a move towards *free* trade, that is from autarky to a non-prohibitive level of transportation costs. We will not consider a move towards *freer* trade, that is a reduction in transportation costs in general.

By doing so, the judgement on fairness becomes mixed for manufacturing labour. For instance, if getting rid of the artificial barriers to trade implies that total transportation costs only become slightly less than prohibitive, Panels A and B indicate that trade is fair, but Panel C indicates that it is not. In the first two cases, the real wages in the manufacturing sector of the large country, which is initially worst off, rise; in the last case, income distribution over the manufacturing sectors is initially equal, while trade sets off a process in which one group loses and the other gains. However, when the remaining barriers to trade are such that free trade implies a jump to a low level of total transportation costs, all panels show such free trade to be fair. For agricultural labour the verdict on fairness is independent of the remaining level of transportation costs.

The length of the transportation costs interval for which free trade is unfair not only depends on the expenditure share of manufactured goods, but also on the substitution elasticity in consumption and the relative size of both region's manufacturing labour forces (among other things). However, as these parameters also influence the relative position of the real wages curves, the implications of such a longer interval for the judgement on fairness are not straightforward. To see this consider Figure 2.A in conjunction with Figure 2.C. It then becomes clear that a decrease in the expenditure share of manufactured goods, increases the range of transportation costs for which free trade implies lower real wages in the small region. At the same time, however, it also implies that it is not the small region's manufacturing labour force anymore that is worse off in autarky. In other words, a decrease in expenditure share *ceteris paribus* increases the range for which free trade is unfair, but as other things are not equal it *de facto* makes free trade fair. We therefore refrain from a detailed analysis of how the length of the interval depends on the model parameters. Moreover, irrespective of the outcome of such an analysis, the main conclusion remains intact: in models where increasing returns to scale give rise to agglomeration and spreading forces, free trade is not necessarily fair when we consider each production factor separately.<sup>24</sup>

When the perspective on fairness is the national income distribution (Case 2), Figure 2 indicates that irrespective of the expenditure share on manufacturing goods and irrespective of the level of remaining transportation costs, free trade is always fair. This is also the case when we make the comparison between each and every separate income group (Case 4). The assessment becomes different, however, when

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<sup>24</sup> We recall in this respect, however, that our conclusion is based on applying the short-term version of economic geography models to the issue of the impact of trade on wages and that we have ignored the long-run consequences of the movement of labour across borders. But also then the outcome would be mixed, depending on whether or not full agglomeration is achieved. We refer the interested reader to the bulk of the economic geography literature, which primarily deals with the long-run consequences of labour movements.

we consider fairness of the international income distribution (Case 3). This can be seen in Figure 3, which gives weighted averages of both country's real manufacturing wages and both country's real agricultural wages as a function of falling transportation costs. The weights are the respective labour shares of each type of labour in each country. As before, the different panels of Figure 3 indicate different expenditure shares on manufacturing goods.

(insert Figure 3 about here)

Whatever the expenditure share on manufacturing, Figure 3 shows that the conclusion on the fairness of free trade again depends on the level of the remaining natural trade barriers. When these vanish completely, free trade is fair, but when they remain significant, free trade is not fair. A complicating factor in this respect is that the initial position of both factors of production are the same. This is due, however, to the chosen normalisations in the Fujita, Krugman, Venables (1999) framework, where the share of industrial labour world wide exactly equals the expenditure share on manufacturing and where agricultural labour is divided equally across countries. If this is not the case, initial positions will differ. When the expenditure share exceeds the world wide labour share of manufacturing, initially agricultural labour is worse off, thus making free trade fair or unfair depending on the remaining level of transportation costs. When, however, the expenditure share falls short of the world wide labour share of manufacturing, initially manufacturing labour is worse off, so that free trade is always fair.<sup>25</sup> We therefore conclude that when the angle of comparison is the international income distribution, it is unclear whether or not trade is fair.

<i>Way of assessment</i>	<i>Is trade fair?</i>		
	Low expenditure share	Intermediate Expenditure share	High expenditure Share
Per production factor	Unclear	Unclear	Unclear
National income distribution	Yes	Yes	Yes
International income distribution	Unclear	Unclear	Unclear
Per income group	Yes	Yes	Yes

<sup>25</sup> The qualitative nature of the curves in Figure 3 remains intact.



## 4. Free trade, protectionism or fair trade?

The conclusion we can draw so far is that free trade is likely to be fair in models that feature constant returns to scale and perfect competition (the Heckscher-Ohlin model), although nothing decisive can be said from the viewpoint of national income distribution. In models that incorporate economies of scale and transportation costs, however, the verdict highly depends on the angle of analysis chosen. The question we try to answer in this section is whether or not protectionism and/or fair trade do better?<sup>26,27</sup>

To start with protectionism, it is obvious that the effects on the income distribution of protectionist measures are exactly opposite to those for free trade. Thus, the foregoing analysis suggests that protectionism is not fair when applied in a Heckscher-Ohlin type of framework, but that in a static new economic geography type of framework the fairness of protectionist measures depends on the extent of the natural barriers to trade. If these are low, so that free trade implies a reduction in transportation costs from prohibitive to close to zero, it was concluded that free trade is always fair and protectionism therefore is not. If, however, the natural barriers to trade are quite important, so that free trade only slightly alters the total transportation costs, we have seen that free trade might not be fair. Invoking protectionist measures in such a free trade situation might then improve the condition of those worst off (as in Figure 2.C). Note that this sheds new light on the arguments used by adherents of for instance dependencia theories, as their argument would typically be that, since free trade is harmful for those in peripheral regions, protectionism is not bad at all. The static economic geography framework not only gives the tools to analyse the validity of this claim, but also partly supports it. Regarded from the perspective of consequence fairness, protectionism is not always a bad thing.

The next question is how fair trade fares in the models developed above; Is it superior to free trade and/or protectionism in terms of consequence fairness? We recall from the introduction that fair trade adherents feel the moral obligation to pay a decent price for a commodity. This implies that, to judge whether or not fair trade is

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<sup>26</sup> With respect to the new economic geography trade model, we thereby note that we only analysed one possible version of this type of model, *viz.* the core geography model as presented in Fujita et al. (1999). Though we already pointed out that the basic results of the core model carry over to more intricate model versions as well, whereas we also performed a sensitivity analysis on the parameters used, we caution to see the results in the proper perspective. As such, the comparison between fair trade and the outcome of trade in new economic geography trade models should be taken as indicative, rather than generally applicable.

<sup>27</sup> To some it is tempting to think about the conduct imposed by fair trade organisations in terms of a consumer created market distortion. However, such a view ignores the fact that engaging in fair trade is not an option to consumers but a moral obligation. As a consequence we cannot easily borrow from the literature on distortions to gain insight in the matter.

superior to free trade and/or protectionism, we have to consider how the price increase of a certain commodity affects the position of those initially worse off. If fair trade leads to consequence fairness, whereas free trade does not, then we will call fair trade superior to free trade. If, however, both fair trade and free trade lead to the same outcome in terms of consequence fairness, say both are fair, then we will call either one superior if it leads to a higher gain for those initially worse off.

We begin with the Heckscher-Ohlin model of trade. To facilitate the analysis we assume that the fair trade principles are adhered to in only one country (say, a rich country) and that these principles apply to products that use the other country's (a poor country) abundant factor relatively intensively<sup>28</sup>. Moreover we assume that the decent price to be paid is higher than the price that would result from the free interplay of market forces.<sup>29</sup> Note that this decent price is an absolute measure and is therefore only qualitatively related to the actual level of the free market price.

The effects of paying a higher price for the products the poor country exports have more or less the same effect as imposing an import quota for this product. Whereas under free trade the poor country would start to export the goods which use its abundant factor intensively until price differences between the countries would be completely eliminated, now it can only export until the price in the rich country has fallen to the fair trade level. Exports and international trade are thus limited by the fair trade program. The effects of this for the income positions of the different income groups in both countries then follow from a straightforward application of the Stolper-Samuelson theorem. Trade leads to gains for the abundant factors and losses for the scarce factors, so limitations of trade lead to limitations of these gains and losses. In comparison to free trade the abundant factors are therefore hurt by fair trade, whereas the scarce factors win.

However, in the poor country, the abundant factor is confronted with a second effect. Apart from the negative income effect of the reduced trade, this sector captures the rents of the fair trade measure. Whether this positive factor outweighs the negative effects of the reduction in trade, is dependent on the specific price elasticity of demand for the product in question. If this elasticity is sufficiently low, the abundant factor in the poor country gains from fair trade.

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<sup>28</sup> This assumption makes sense, since fair trade would not focus on a sector in the other country, if this sector would be worse off in the own country. We note that for much of the analysis in a Heckscher-Ohlin setting it does not matter which of the two countries is *actually* the poor country. We therefore attach the labels 'rich' and 'poor' partly for convenience only.

<sup>29</sup> Obviously, such a definition can be criticised, and rightfully so!, on lacking any analytical foundation whatsoever. At the same time it does justice to the feelings that are widespread among adherents of the fair trade movement, i.e. that market forces do not lead to the 'right' prices. Therefore, if we put fair trade on the stand, then it is also plausible to use their (implied) opinion on what a decent price is.

If we consider fair trade from the perspective of the income distribution per factor (Case 1), this renders fair trade inferior to free trade. The abundant factor in the poor country might gain compared with free trade in some cases, but the abundant factor in the rich country is always worse off. This is not to say, however, that fair trade is unfair. Compared to autarky, and applying a similar type of reasoning as we did for free trade, fair trade is fair, provided the fair trade price for imported goods is lower than the autarkic price level. As this is also a precondition to have trade, we conclude that fair trade is fair. Note that this also settles the comparison between fair trade and protectionism, which is in fact a situation of autarky.

From the national income distribution angle (Case 2), nothing decisive can be said on the consequence fairness of fair trade. Since we cannot predict which factor is initially worst off, we cannot say whether or not fair trade leads to a fair outcome. Nevertheless, we can say that fair trade is never superior to both free trade and protectionism. To see this, we note that under this case free trade is only fair when the abundant factors are initially worst off. Since we have seen that fair trade implies a lower increase in reward for the abundant factors than free trade does, this makes fair trade inferior to free trade. Likewise, when the scarce factors are initially worst off, so that protectionism is fair and free trade is not, then fair trade is inferior as it still hurts the scarce factors of production. Fair trade is thus never an improving option from this angle.

For the international income distribution between factors (Case 3), the consequences are more interesting. Recall that we have shown that trade had no effect on this international distribution. This means that the reduction of trade has no consequences either, for if trade has no consequences, the amount of trade conducted cannot matter. However, apart from the income effects of the reduction in trade, fair trade causes an income transfer from the abundant sector in the rich country to the one in the poor country. The factor that is abundant in the rich country therefore loses, while the abundant factor in the poor country gains. In other words, there are changes to the international income distribution between factors. Moreover, these changes cause fair trade to be superior to free trade from this perspective, since the factor which is abundant in the rich country must be better off on global average than the other factor initially. In a Heckscher-Ohlin framework, this is the only possible reason why the rich country could be richer than the poor one. Note that this also implies that fair trade is fair.

Viewed from the fourth angle, the verdict remains inconclusive. The poor country's abundant factor must be the group which is worst off initially<sup>30</sup>. Whether

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<sup>30</sup> Again, because first, one of the abundant factors must be worst off, and second, the fact that this is the poor country can only mean that the factor in which it is abundant is less productive than the other factor,

this group gains from fair trade depends, as we have seen, on the price elasticity of demand for the product in question. If fair trade focuses on the right products, it would be superior to free trade; if it focuses on the wrong ones, it would be inferior. As long as there is trade, the Stolper-Samuelson effects imply that fair trade is fair, though.

Table 3 summarises our findings for the Heckscher-Ohlin model of trade.

<b>Table 3: Superiority in consequence fairness of fair trade in comparative advantage models</b>			
<i>Way of assessment</i>	<i>Is fair trade fair?</i>	<i>Is fair trade superior to...?</i>	
		Free trade	Protectionism
Per factor	Yes	No	Yes
National income distribution	Unclear	No <sup>a</sup>	No <sup>a</sup>
International income distribution	Yes	Yes	Yes
Per income group	Yes	Unclear	Yes

a. In cases this option is the fair one.

To make the comparison between fair trade and free trade/protectionism in the economic geography trade framework is more complicated. This is not only so since increasing the price of a certain commodity above its free market price leads to consequences that are much less straightforward than in a Heckscher-Ohlin setting, but also since in an economic geography setting the determination of which factor is worst off initially is highly sensitive to the exact choice of the model's parameters. Take, for example, the second angle we took when judging fairness: the national income distribution. From Figure 2 it then becomes clear that whereas at low expenditure shares on manufacturing goods real wages in the agricultural sector are the lowest in both countries at autarky, this is not true when expenditure shares are higher. Then, in the larger country manufacturing real wages are lowest, whereas in the small country agricultural wages are worst off. The same ambiguity applies to a comparison of the international income distribution.

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in which the rich country is abundant. Ergo, its income must lie below that of the abundant factor in the rich country.

This makes the judgement on the fairness of fair trade in an economic geography trade framework highly case dependent, whereas there are also many cases to consider. Consequently, we take a pragmatic stand and consider the case that is closest in spirit to most fair trade programmes: a fair trade programme that focuses on the agricultural sector in the poorest country. For our framework this implies that we will consider the fairness of fair trade only for the situation where consumers in the large region are willing to pay a higher price for agricultural products in the small region.<sup>31</sup>

To implement the fair trade principle of paying a higher, fair price for agricultural products from the small region, we first alter our choice of numéraire in the model. Due to zero transportation costs in agricultural products, price differences between agricultural products across the world were not possible in the original model. Thus, in the fair trade version of the model we choose the agricultural product in the large region as numéraire, with a price one, so that the price of agricultural goods in the small region can yield a different price. Next, we assume that the latter are consumed by consumers in the large region only – by virtue of their principles – while consumers in the small country simply buy agricultural goods where it is cheapest (which will turn out to be the large region).<sup>32</sup> These assumptions imply that consumers in both regions maximise utility under the (additional) constraint that they only buy agricultural goods from the other region.<sup>33</sup> With agricultural goods in the large region numéraire, the market for agricultural goods clears via adjustments in the wage rate of agricultural labour in the small region. The price of agricultural products in the small region is therefore endogenous. Note that this is not in line with the absoluteness of the fair trade principle to pay a decent price.<sup>34</sup> As in our set-up, agricultural labour is evenly spread across countries, whereas the large region always

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<sup>31</sup> For the parameter configurations we discuss, the large country is always the rich country, both in terms of total real income, as in per capita income.

<sup>32</sup> As a consequence, all agricultural produce of the small country is exported to the large country and all produce of the larger region will go to consumers of the small region. As the transportation costs of agricultural goods are zero, this only *seems* a waste of resources.

<sup>33</sup> Due to their fair trade principles consumers in the large region do not longer see agricultural products as homogenous goods. For them, agricultural products from poor countries are clearly different from agricultural products produced at home, in the sense that the former is entitled to receive a decent price. We therefore do not explicitly model a choice between home and foreign agricultural goods for consumers in the large country. Our assumption that consumers in both regions only buy in the other region is in line with this reasoning, and with the fact that consumers in the poor region base their choice on comparing prices, but also serves to circumvent the modelling of intricate rationing schemes when the supply of agricultural produce in one region is insufficient to meet the demands of consumers of the other region.

<sup>34</sup> Ideally, one should posit a fixed, minimum price to be paid for agricultural products from the poor country. Such could be easily accomplished, however, by making agricultural goods in the small region numéraire. For the results this does (obviously) not matter.

has the higher income, the market for agricultural goods always clears at a the price level for the poor region's agricultural produce that is well above one.

To judge whether or not fair trade is superior to free trade and/or protectionism, we have plotted in Figure 4 the development of real wages as a function of falling transportation costs for the original version of the static economic geography models (reiteration of results in Figures 2 and 3) and for the fair trade version of the model. As the interpretation of the results does not hinge on the particular value we attach to the expenditure share on manufacturing, we save space by only presenting the results for a high level of expenditure share. Our conclusions are obviously based on a consideration of the low and intermediate expenditure shares as well.

(insert Figure 4 about here)

Before we proceed with our judgement, it is instrumental to take a closer look at the relative position of the fair trade curves and the standard model curves *per se*. When trade costs are prohibitive, the real wage levels are obviously identical, as fair trade principles only exert influence when there is trade. When trade costs are less than prohibitive, however, a wedge appears between the curves. This wedge is always the same in the sense that, at a comparable level of transportation costs, fair trade always implies lower real wages for manufacturing labour and agricultural labour in the large country, and higher real wages for their counterparts in the small region. This makes sense as fair trade increases agricultural wages in the small country. As an initial effect, this will increase the costs of living in the large country and real wages there decline. In the small country, there is no initial impact on the costs of living as consumers buy agricultural goods at the same (nominal) price as before. This implies that the higher wage for agricultural labour directly translates into a higher real wage. Manufacturing labour in the small region also profits from the higher agricultural wages due to increased local demand. These effects then work through to yield the new equilibrium real wage levels. As Figure 4 makes clear, the extent to which this is the case depends on the level of transportation costs. Roughly speaking, the wedge between real wages in the fair trade case and the standard case increases up till a certain level of transportation costs, to remain constant thereafter. This reflects the changing balance of standard geography effects when transportation costs change. When transportation costs are high, both countries are relatively insulated from cross-border real income effects. This becomes less when transportation costs decline. Ultimately, when transportation costs are zero, there are full cross-border spillovers of income effects and the wedge can be fully explained by the initial impacts addressed above.

Upon inspection of Figure 4, it is clear that our judgement on the fairness of fair trade must be the same as for free trade when we consider the national or

international income distribution. That is, fair trade is always fair with respect to the national income distribution, but when we consider the international income distribution, the judgement on the fairness of fair trade depends on the level of the remaining natural barriers to trade. Also when we consider fairness from the perspective of income groups, fair trade leads to the same outcome as free trade: it is always fair. When, instead, we consider each factor separately, Figure 4 makes clear that the ambiguity that appeared with free trade disappears when fair trade is the rule: irrespective of the level of the remaining natural barriers, fair trade is always fair. This also settles the comparison between fair trade and protectionism. Whereas we saw that protectionism could be a better option than free trade from a consequence fairness point of view, this result only carries over to fair trade when we consider the international income distribution. As Figure 4 makes clear, though, the range of natural trading barriers for which protectionism might be a better option diminishes when there is fair trade.

The above does not imply, however, that fair trade is also superior to free trade and/or protectionism. Take for example the second angle of consideration (the national income distribution); Figure 4 reveals that whereas manufacturing labour is initially worst off in the large country, the improvement due to fair trade is less than with free trade. A similar conclusion can be reached by considering the international income distribution or the comparison for each factor separately (not in this particular case, though). With respect to the former, fair trade is only superior when the remaining natural barriers are low. In many cases free trade is therefore superior to fair trade. When, however, the perspective is per income group, the figure makes clear that fair trade is superior to free trade, as it improves the income position of agricultural labour in the small region more than free trade does.

Table 4 summarises our findings on fair trade in the economic geography trade framework. The results for protectionism are opposite to those for free trade.

<i>Way of assessment</i>	<i>Is fair trade fair?</i>	<i>Is fair trade superior to...?</i>	
		Free trade	Protectionism
Per factor	Yes	Unclear	Yes
National income distribution	Yes	Unclear	Yes
International income distribution	Unclear	Unclear	Unclear
Per income group	Yes	Yes	Yes

## 5. Summary and concluding remarks

This paper has put the fair trade concept on the stand by comparing its alleged fairness with the fairness of other approaches to trade, such as free trade and protectionism. The notion of fairness we thereby used stems from the fair trade movement itself and says that trade is fair when it comes to the advantage of the least well off in society. Fair trade adherents feel morally obliged to live up to this notion of consequence fairness, which is typically put into practice by paying a higher, decent price for certain commodities of less developed countries. The other notion of fairness behind the fair trade movement – an absolute prohibition of certain types of behaviour in production – has been ignored in this paper, since it is self evident that only fair trade is capable of guaranteeing its fulfilment.

We answered the question on the fairness of fair trade in two steps. First, we asked whether free trade was fair according to the fair trade concept of consequence fairness. Second, we asked whether fair trade was fairer than free trade or autarky. These steps have been conducted using two different types of trade models, namely the Heckscher-Ohlin model of trade and the static, trade version of the core new economic geography model.

A summary of the findings is given in Table 5, which presents for both models the number of angles from which fair trade was found to be superior or inferior to free trade and protectionism (autarky) and the number of angles for which this was unclear. It is immediately clear that fair trade is far from an unambiguously wise option; fair trade sometimes has effects that actually consist of a deterioration according to its own criterion of fairness. However, perhaps the most striking result shown by this table is that in most cases it is not possible to say a priori whether fair trade is an improvement or not. The effects of fair trade were shown to be highly dependent on the characteristics of the sector in question. In the Heckscher-Ohlin model, for instance, the effects were to a large extent determined by the market behaviour of the goods traded. Alternatively, in the economic geography trade model the level of remaining transportation costs was the most important variable, although other characteristics as the expenditure share to products influenced the result as well. In cases where transportation costs are low, free trade most of the time fares better than fair trade. If transportation costs remain substantial, however, fair trade was shown to be an improvement to free trade and a reasonable alternative to protectionism.



<b>Table 5: Consequence superiority of fair trade in various models</b>									
	<i>Number of angles superior to:</i>			<i>Number of angles not superior to:</i>			<i>Number of angles unclear</i>		
	<b>Free trade</b>	<b>Autarky</b>	<b>Both</b>	<b>Free trade</b>	<b>Autarky</b>	<b>Both</b>	<b>Free trade</b>	<b>Autarky</b>	<b>Both</b>
<b>Heckscher-Ohlin</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>
<b>Static Economic Geography</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>

The overall conclusion must therefore be that it is by no means clear that fair trade initiatives are always fairer than other options. However, it is also clear that there are many cases in which this is true. These conclusions bring important implications for the policies of fair trade organisations with them. Fair trade organisations have a valuable concept to offer to producers in developing countries. However, instead of taking it for granted that fair trade is always good, fair trade organisations should study the characteristics of the markets they enter and assess whether fair trade would mean an improvement or not. If this is not the case, these organisations would do better to focus on other markets. Of course, there are strong moral arguments for the other element of the fair trade practice, refusing on principle to trade in products not produced under minimal decent conditions. However, this is not a reason to pursue the second element, i.e. the payment of prices above market level, as well. Instead, fair trade organisations might consider a second line of action for some products, in which these products are sold against market prices but with the guarantee that some basic principles are respected<sup>35</sup>.

Two remarks should yet be made, however. In our analysis of consequence fairness, we have only studied the short run effects of fair trade programs. Fair trade organisations, however, point at the longer run benefits of their programs as well. These might indeed very well exist; trade itself might have a negative effect on transportation costs by inducing technological innovation, for example, which would make fair trade in the long run a better solution to divergence problems than protectionism. Other effects might occur as well, such as the reduction of cultural barriers or the establishment of networks, which reduce transaction costs.

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<sup>35</sup> Or for which the higher price only reflects the extra cost respecting these principles brings along and is not an instrument to raise income.

Secondly, we have studied the effects of fair trade programs only in two specific general equilibrium models of international trade. These models have little attention for the specific circumstances under which production by small-scale producers in Third World countries takes place. When one considers these circumstances, it is imaginable that fair trade has a function in redressing the structural market failures that characterise the agrarian economy in many developing countries. Before giving a definite verdict on the fairness of fair trade, it would therefore be justified to analyse these possibilities in future research.

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## Appendix: The Core Economic Geography Trade Model

This appendix gives the equilibrium conditions of the core economic geography model due to Krugman (1991) and as employed in 5 of Fujita et al. (1999). The world it describes consists of two regions (or countries; these terms can be used interchangeably), which each can produce two types of goods. One good is a constant returns to scale, homogeneous agricultural good; the other good is a heterogenous manufacturing good, which exhibits increasing returns to scale. Both goods are produced with sector specific factors of production that are in fixed supply, that is: each region has a fixed amount of agricultural and manufacturing labour and in the instantaneous equilibrium there is neither cross-region nor cross-sector factor mobility. Consumers in both regions have identical preferences which are Cobb-Douglas regarding the choice between the two types of goods and Dixit-Stiglitz CES regarding the choice between different varieties of the manufactured goods (including imported varieties). The agricultural products is costlessly tradeable and serves as numéraire; varieties of the manufactured good carry iceberg-type of transportation cost, that is: upon transportation to the other region, part of the good 'melts' away. This is to avoid the modelling of a separate transportation industry. Agricultural labour is divided equally among regions; the amount of manufacturing labour may differ between regions.

Equilibrium is contained in the following set of equations (for  $i, j=1,2$  and  $i \neq j$ ):

$$(A.1) \quad P_{ii} = bw_i/\theta \quad \wedge \quad P_{ij} = bw_i/\tau\theta$$

$$(A.2) \quad (m_{ii}/m_{ij}) = (p_{ii}/p_{ij})^{-1/(1-\theta)}$$

$$(A.3) \quad fw_i/(1-\theta) = p_{ii}m_{ii} + p_{ij}m_{ij}$$

$$(A.4) \quad fN_i/(1-\theta) = \lambda_i lL$$

$$(A.5) \quad \mu(w_i \lambda_i lL + (1-l)L/2) = N_i p_{ii} m_{ii} + N_j p_{ji} m_{ji}$$

In these equations  $w_i$  denotes the wage rate of manufacturing labour in region  $i$ ;  $p_{ij}$  and  $m_{ij}$  respectively denote the f.o.b. price and f.o.b. quantity delivered by a manufacturing producer from region  $i$  that sells in region  $j$ , and  $N_i$  denotes the number of manufacturing varieties produced in region  $i$ . Total labour supply in the world is  $L$ ,

of which a share  $l$  is manufacturing labour and a share  $\lambda_i l$  manufacturing labour in region  $i$  ( $\lambda_i < 1$ ). Agricultural labour is equally divided between regions. The parameters  $b$  and  $f$  are, respectively, the marginal and fixed labour cost of manufacturing production;  $\mu$  is the share of expenditures on manufacturing goods;  $\theta$  denotes substitutability in consumption between different manufacturing varieties ( $0 < \theta < 1$  and  $1/(1-\theta) > 1$  is the elasticity of substitution); and  $\tau < 1$  denotes the iceberg-type of transportation costs. The equilibrium conditions represent goods market and labour market equilibrium, while taking into account optimum producer and consumer decisions and the fact that free entry and exit in industry imply zero profits for manufacturing producers. In our simulations, we have chosen the following normalisations (following Fujita et al., 1999) and parameter values:  $\mu = 1 = 0.4$ ;  $b = \theta = 0.8$ ;  $f = \mu/(1-\theta) = 2$ ;  $\lambda_1 = 0.6$ ;  $\lambda_2 = 0.4$  and  $L = 1$ . The fair trade version of our model is obtained by substituting (A.5) by

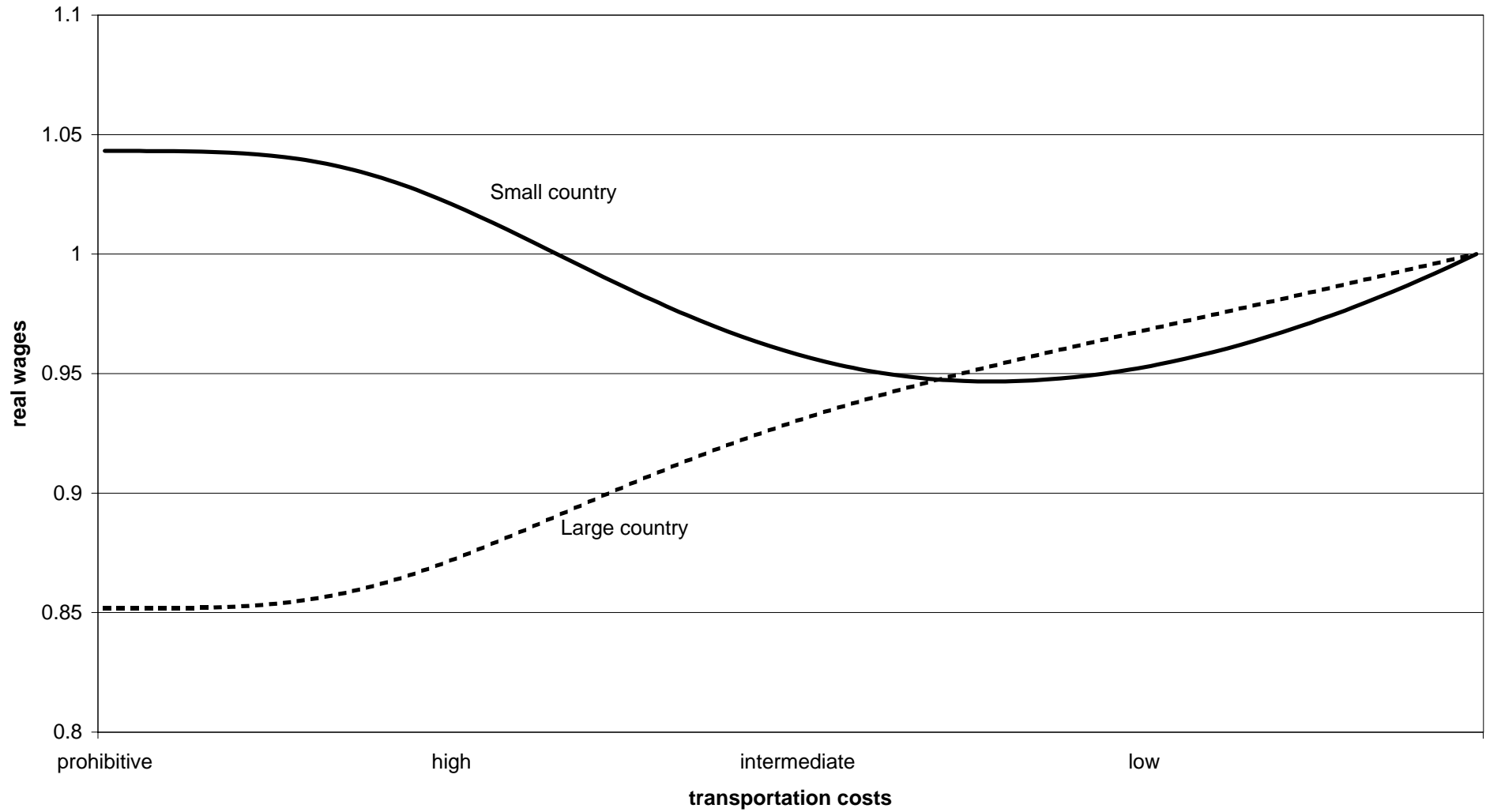
$$(A.6a) \quad \mu(w_1 \lambda_1 l L + (1-l)L/2) = N_1 p_{11} m_{11} + N_2 p_{21} m_{21}$$

$$(A6.b) \quad \mu(w_2 \lambda_2 l L + (1-l)L w_2^A / 2) = N_2 p_{22} m_{22} + N_1 p_{12} m_{12}$$

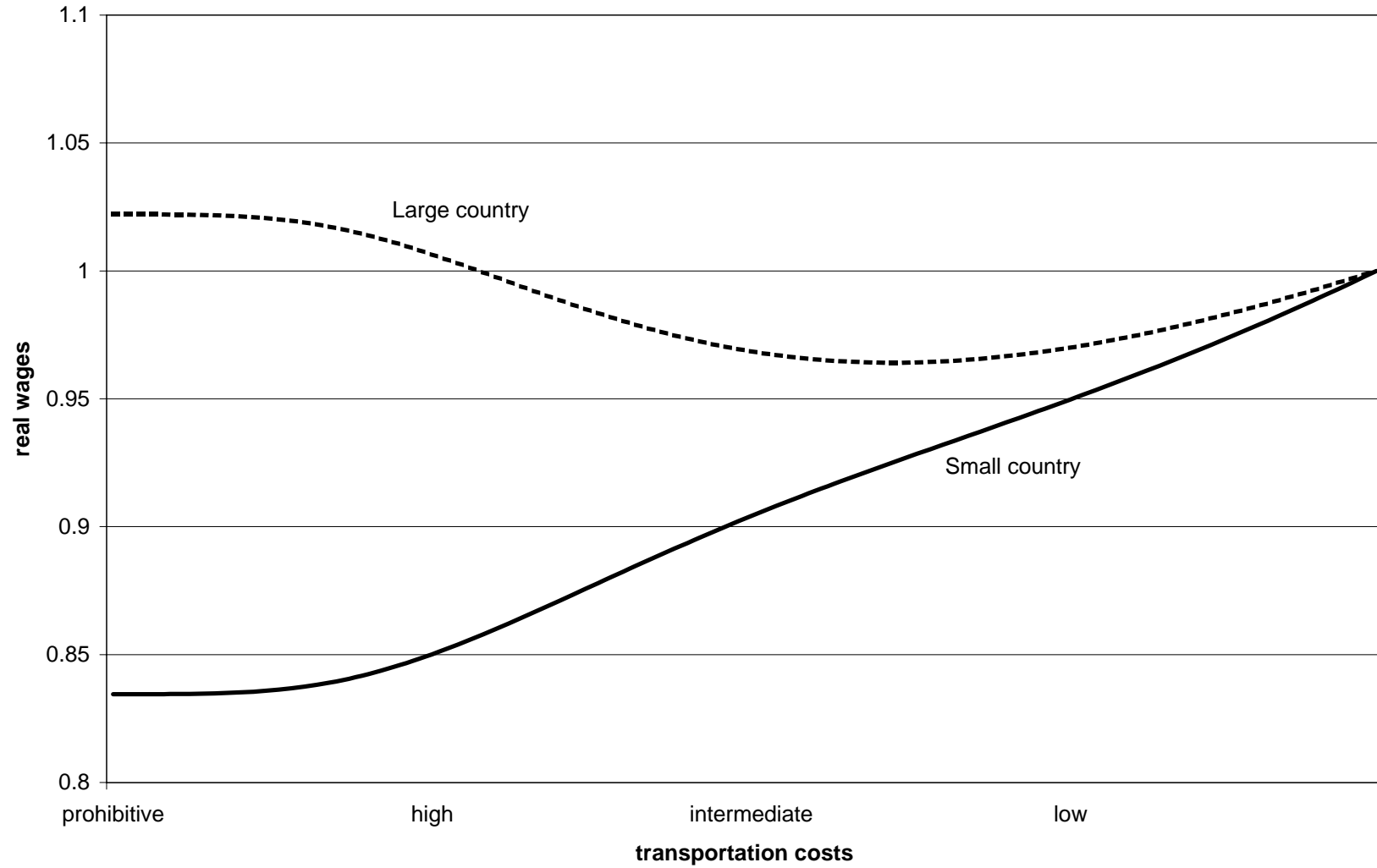
where  $w_2^A$  is now the (endogenous) wage rate of agricultural labour in region 2 (the small region), and adding

$$(A.7) \quad (1-\mu)(w_1 \lambda_1 l L + (1-l)L/2) = (1-l)L w_2^A / 2$$

**Figure 1: Real wages and transportation costs**  
**A. Manufacturing**

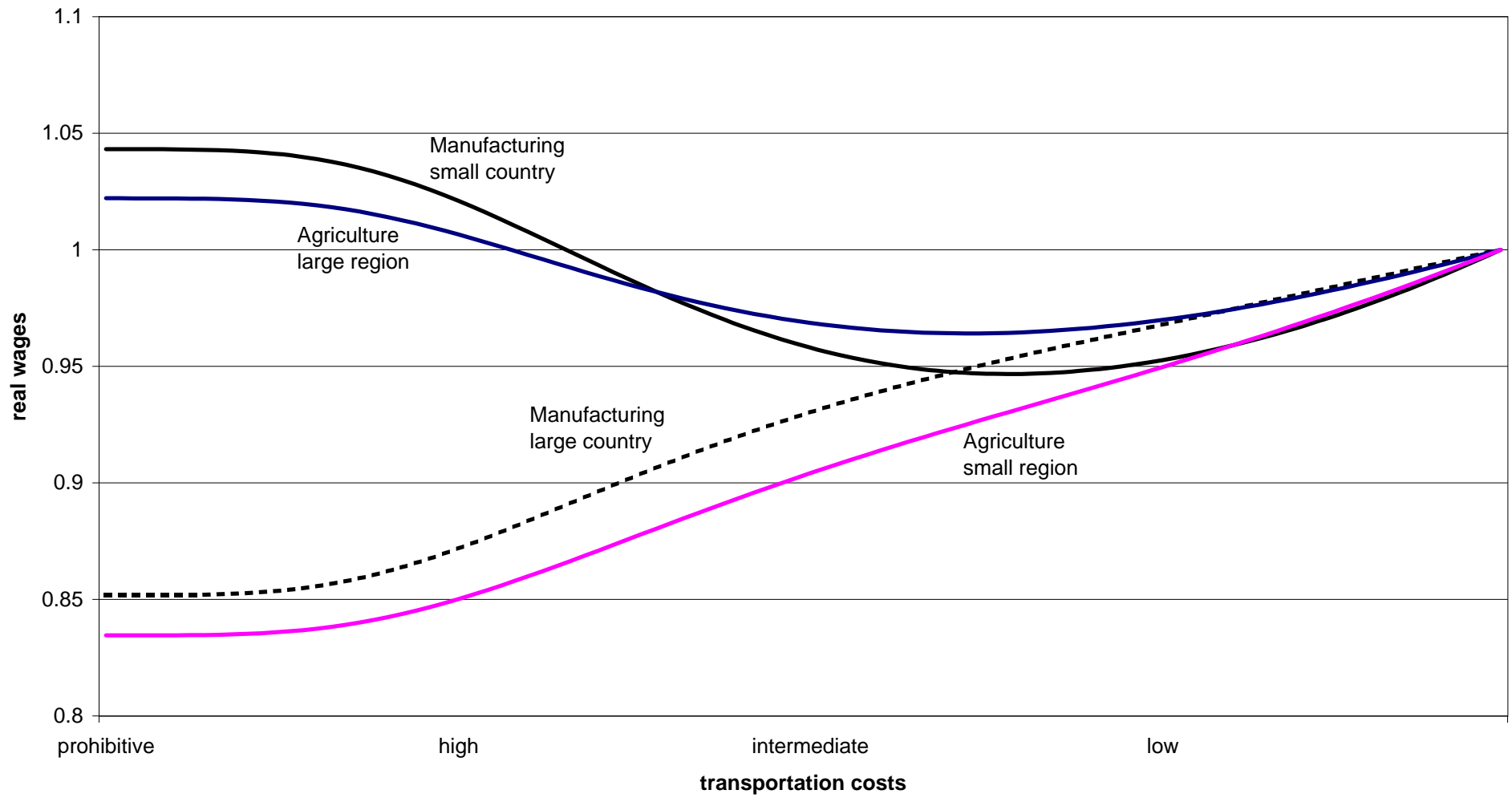


**Figure 1: Real wages and transportation costs**  
**B. agriculture**

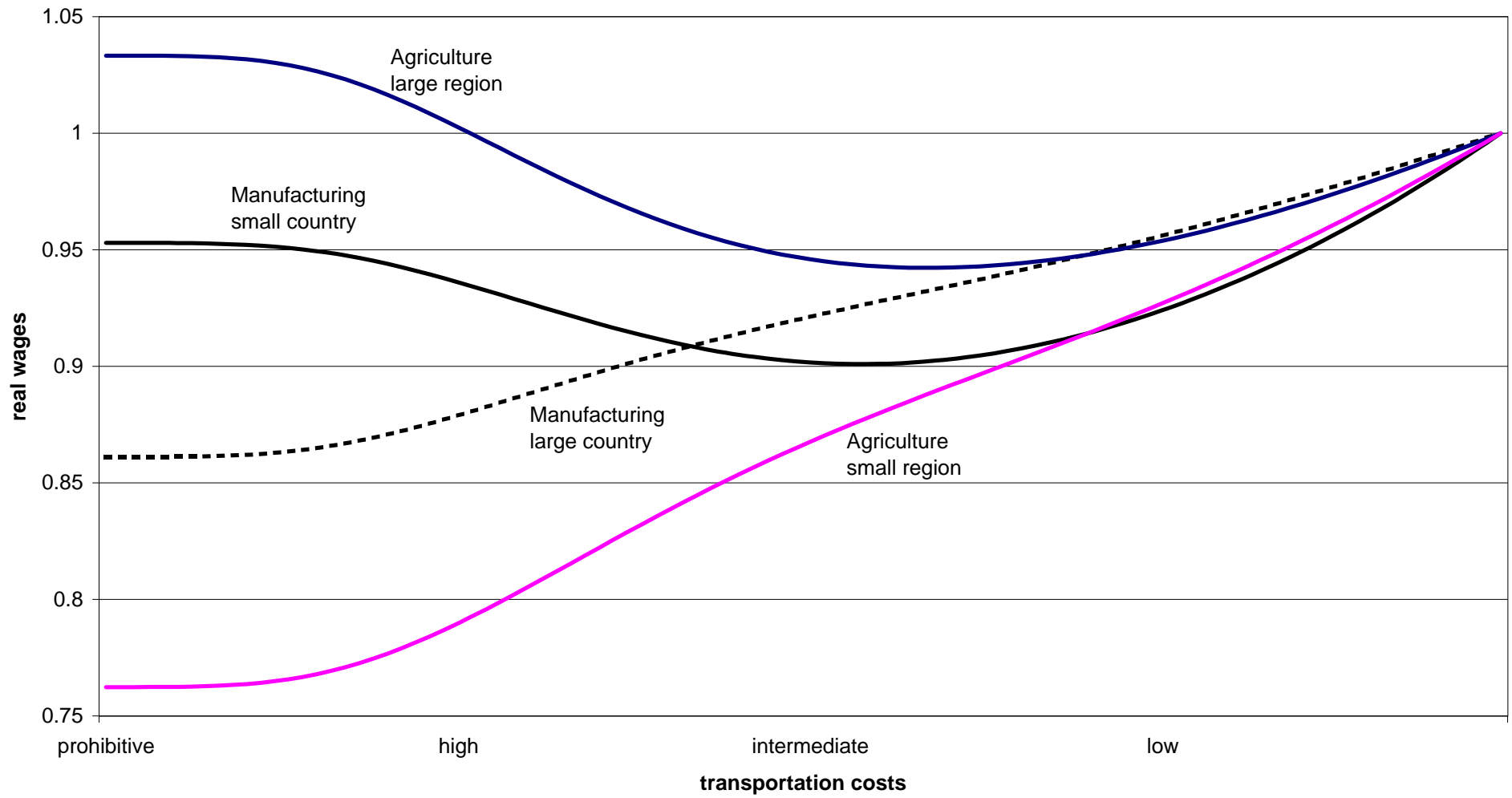




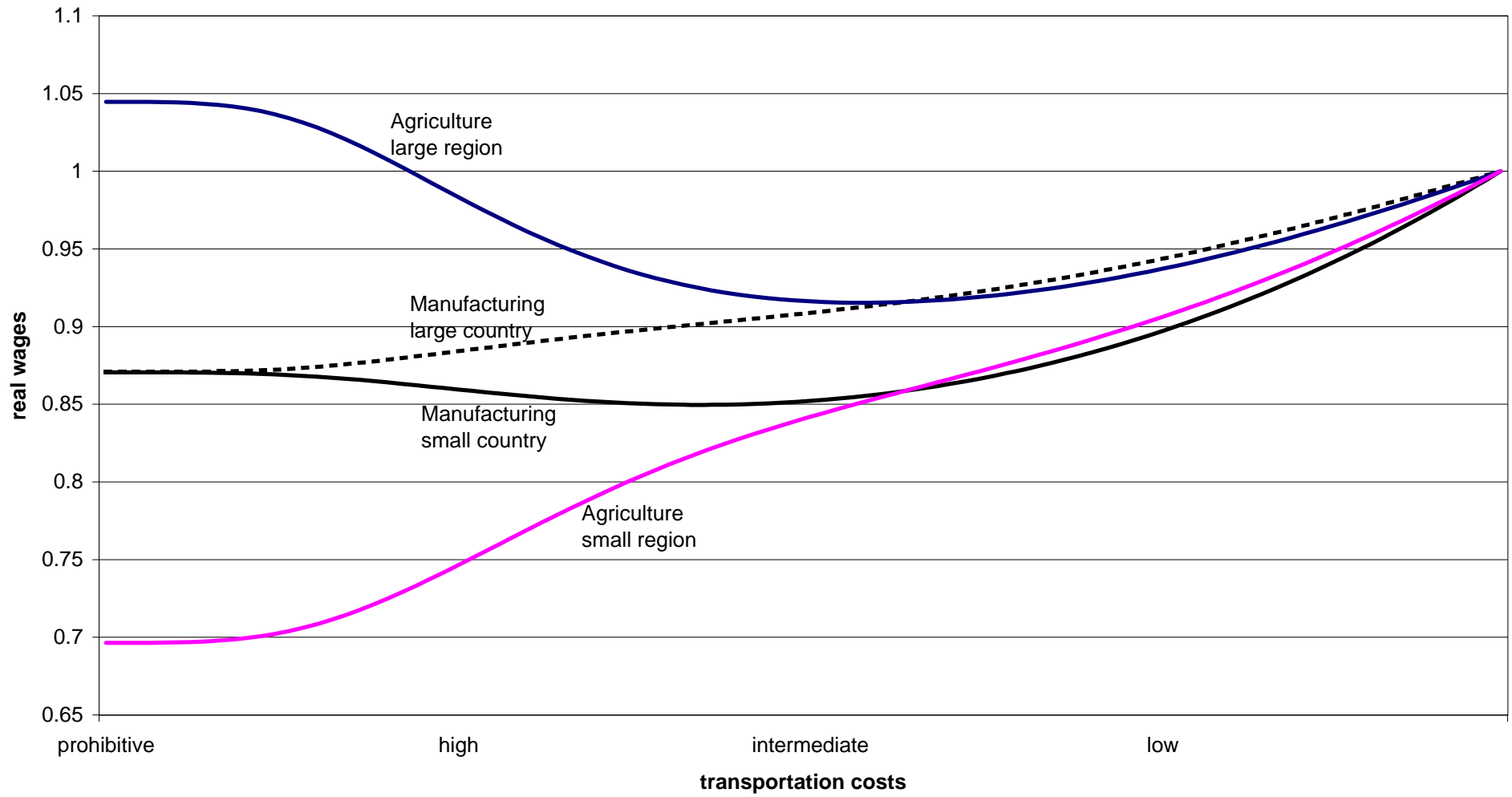
**Figure 2: Consequence fairness of free trade**  
**A. Low expenditure share**



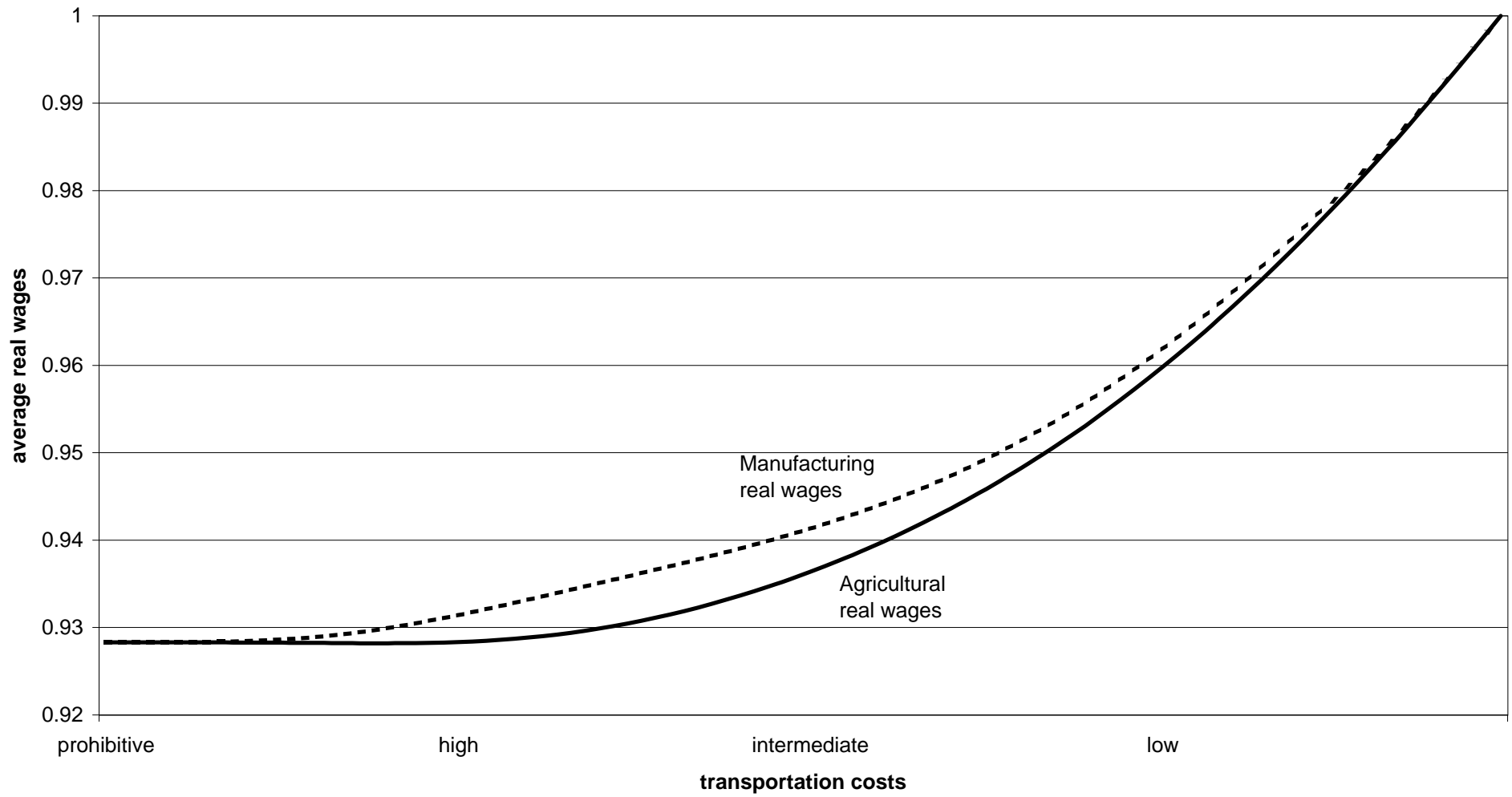
**Figure 2: Consequence fairness of free trade**  
**B. Intermediate expenditure share**



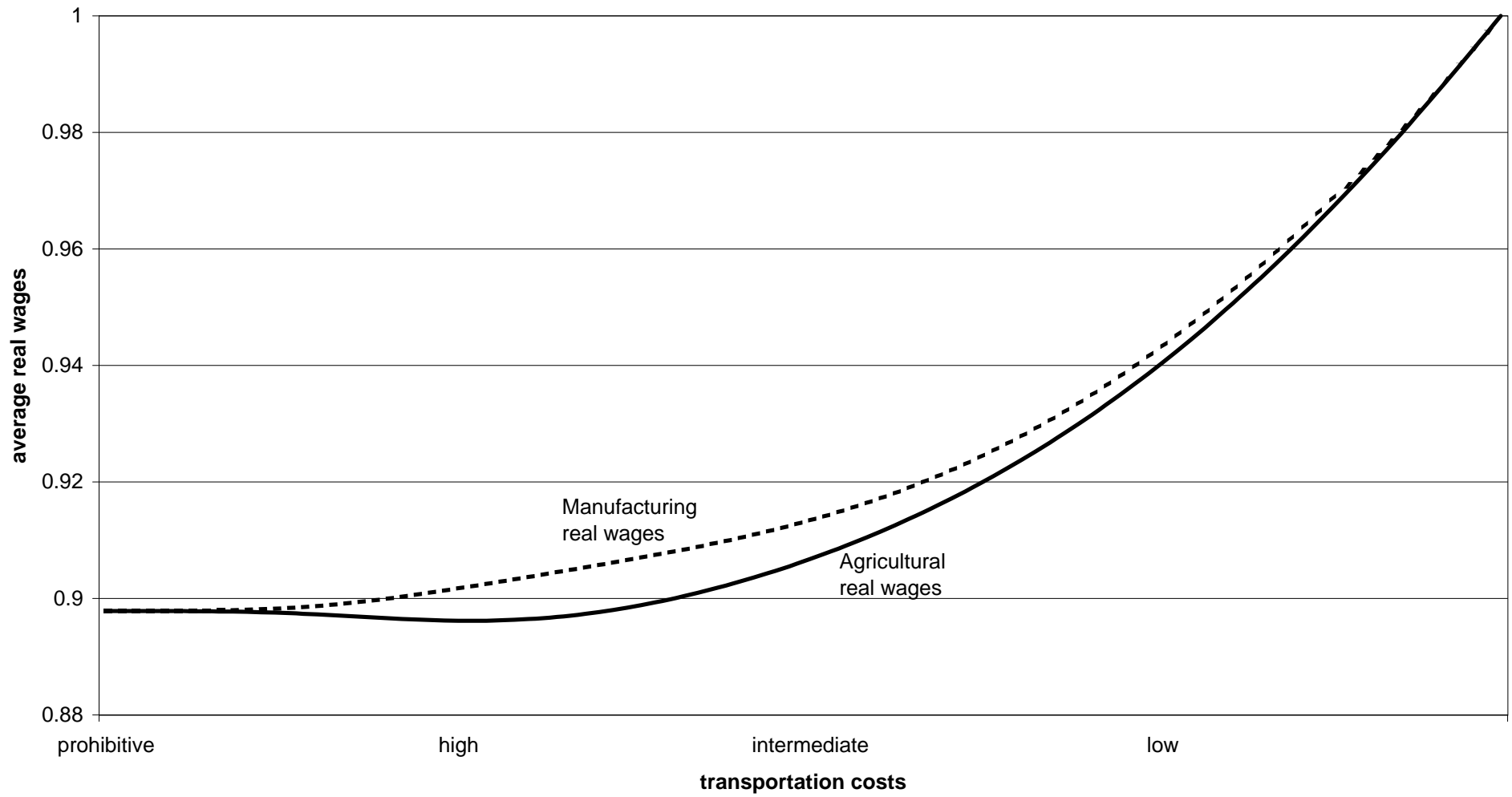
**Figure 2: Consequence fairness of free trade**  
**C. High expenditure share**



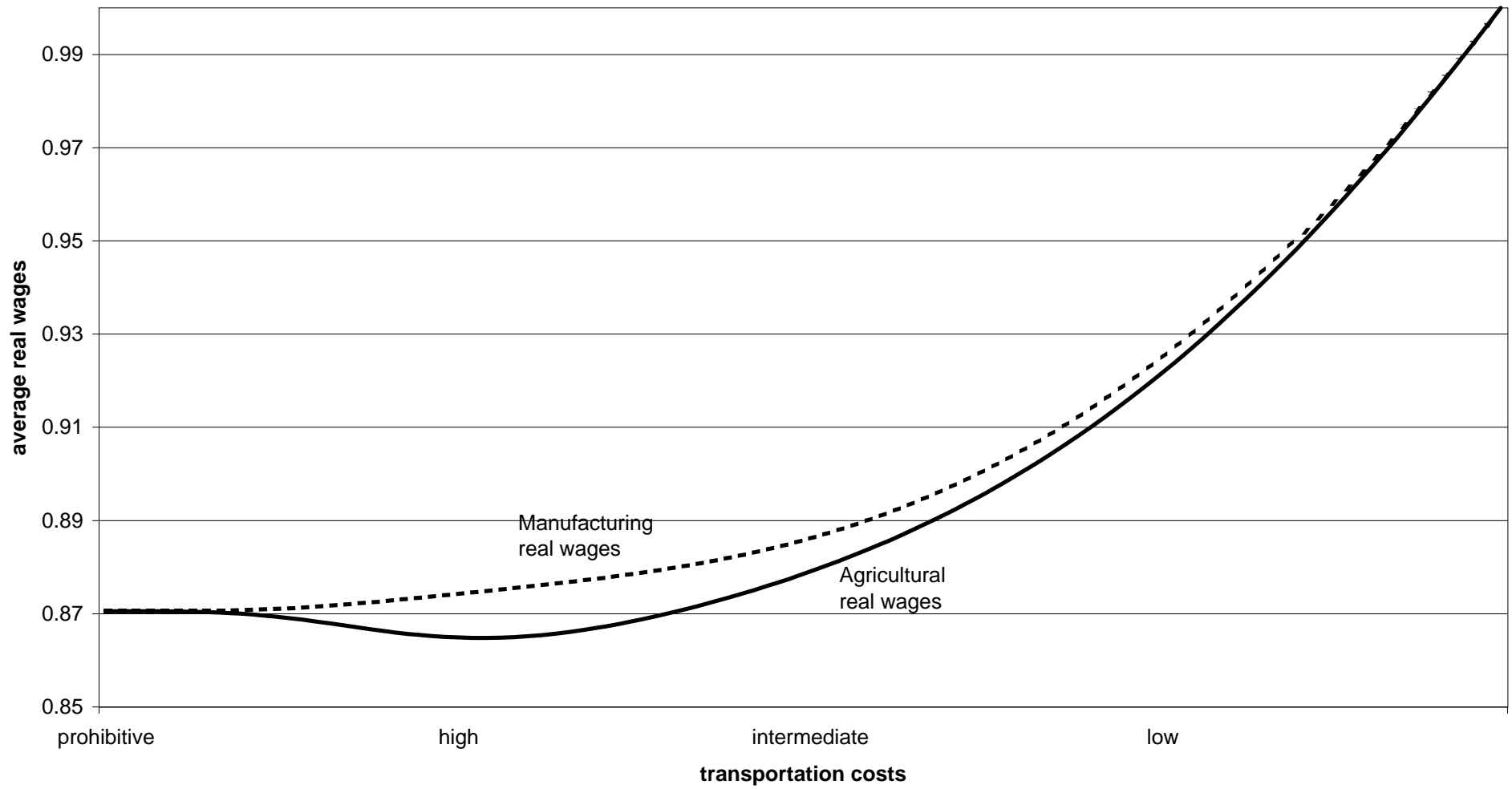
**Figure 3: Consequence fairness and the international income distribution**  
**A. Low expenditure share**



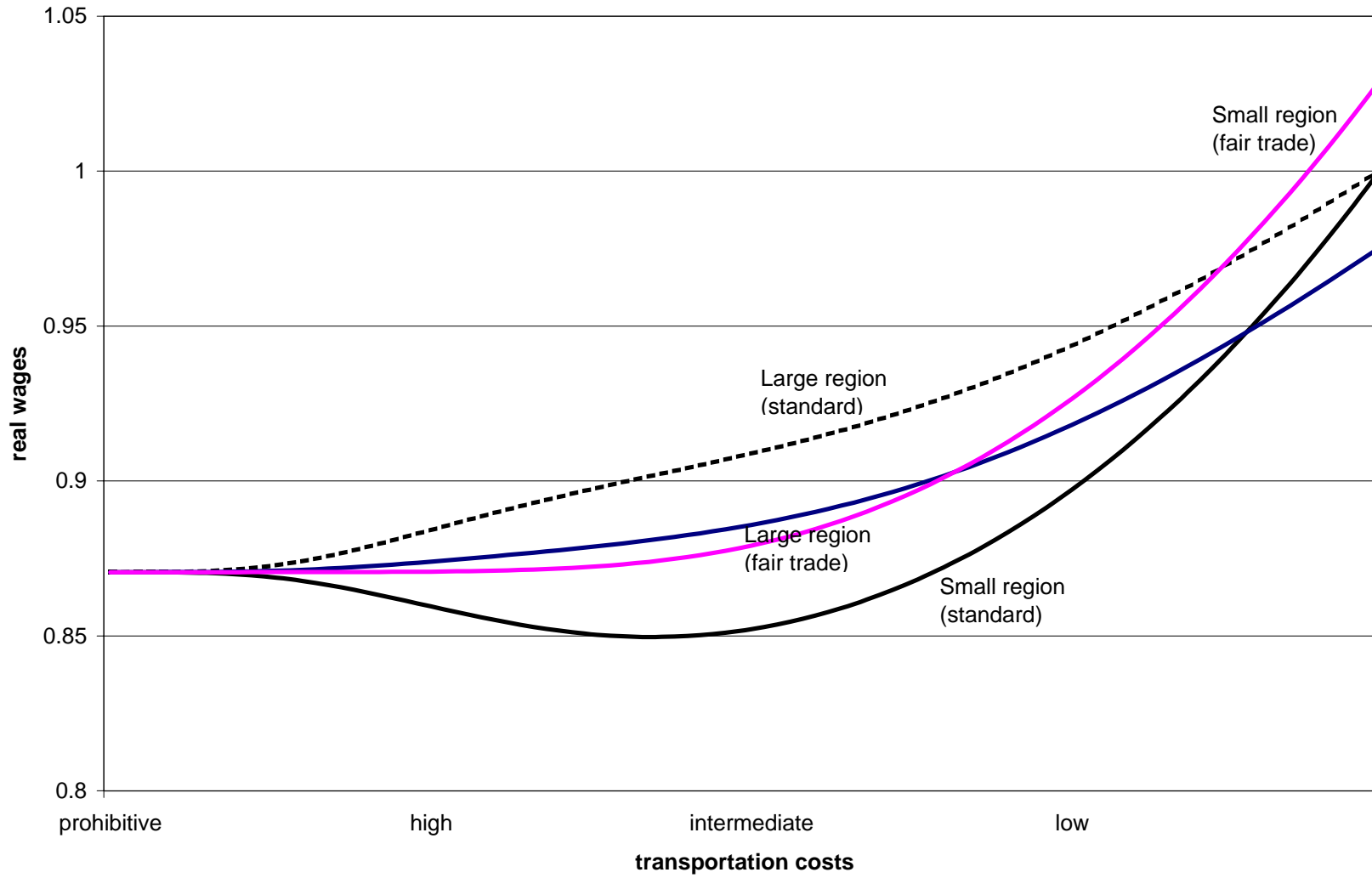
**Figure 3: Consequence fairness and the international income distribution**  
**B. Intermediate expenditure share**



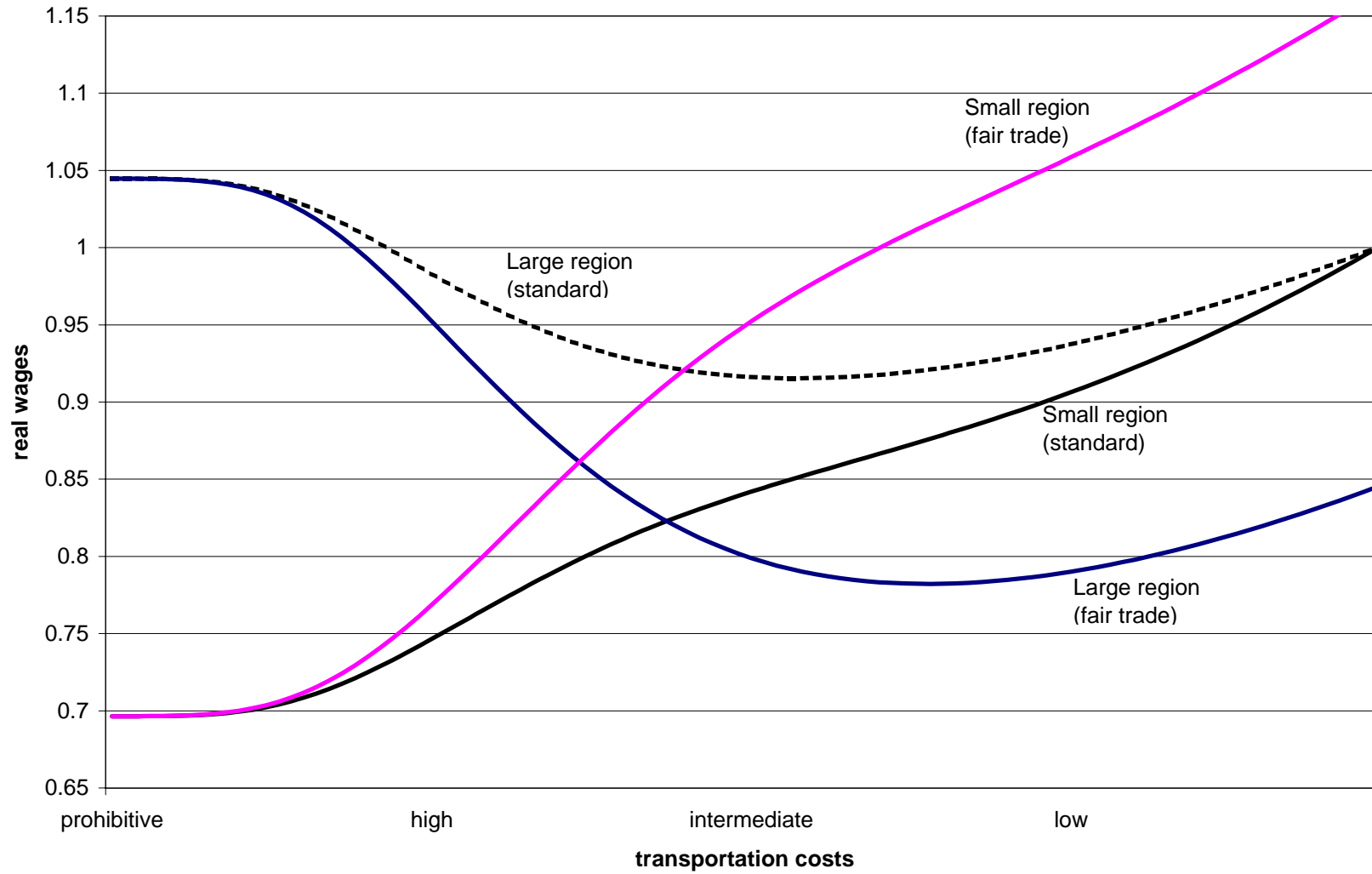
**Figure 3: Consequence fairness and the international income distribution**  
**C. High expenditure share**



**Figure 4: Is Fair Trade fair?**  
**A. Manufacturing sector**



**Figure 4: Is Fair Trade fair?**  
**B. Agricultural sector**





**Figure 4: Is Fair Trade fair?**  
**C. World average real wages**

