

The Fair Trade movement: an economic perspective*

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Abstract

Fair Trade (FT) products such as coffee and textiles are becoming increasingly popular with altruistic consumers all over the world. This paper seeks to understand the economic effects of this grassroots movement which directly links ethically-minded consumers in industrialised countries with marginalised producers in developing economies. We extend the Ricardian trade model and introduce a FT sector in developing South that offers a fair wage – the FT premium. There are indeed positive welfare effects from FT but those come at the expense of rising inequalities within South which are in turn a rational by-product of FT. The degree of inequalities depends on the specifics of the cooperative structures in the FT sector. Given the rigidities and inequalities FT introduces and rests upon, this form of alternative trade appears to be only sustainable as niche movement.

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1 Introduction

Fair Trade (henceforth FT) is catching on with ethically-minded end-consumers in industrialised countries. Households are more and more willing for altruistic reasons to pay higher prices to support marginalised producers all over the world. Latest figures show that consumption of products certified by FT organisations more than doubled between 2000-2005 (Krier, 2005). Europe forms the centre of this grassroots consumer movement and coffee, the first product to be FT-certified, its backbone (Hira and Ferrie, 2006). One fifth of the ground coffee sold in the United Kingdom (UK) in 2004 carried one of the various FT labels (Krier, 2005). Worldshops, the traditional distribution channel of FT products, continue to be popular in countries such as Germany and Italy (Krier, 2005). In the UK, FT is going mainstream with an increasing number of major retail chains stocking different FT products (Raynolds and Murray, 2007). Striving to be perceived as ethically responsible companies, textiles made from FT cotton have become one of the fastest growing product group of the British retail business (The Times, 2007).

FT empowers consumers in the developed world to express political views through the shopping trolley and may be thought of as a form of protest against perceived unfavourable terms of trade for poor countries that are allegedly triggered by World Trade Organisation (WTO) trade liberalisation policies (The Economist, 2006b). Alternative Trade Organisations (ATO) like the Fairtrade Labelling Organisations International (FLO) try to offer a third way between the extreme stances of free trade and protectionism (Maseland and de Vaal, 2002).¹ Essentially bypassing middlemen, they guarantee certified cooperatives of farmers in developing countries a “fair” price for their produce.

The focus of this paper is distinct. Whilst there are other (more long-term) aspects of FT such as technology transfer or capacity building, we single out the economic implications of the so-called *FT premium* and its relation to FT prices. By the FT premium we essentially refer to the social premium which the FT organisations offer to the certified farmers and their communities. This is arguably the best-known feature to “non-FT campaigners” which motivates our emphasis on this particular aspect. The paper intends to provide theoretical underpinnings to the FT

¹We shall use the terms ATO and FT organisation interchangeably in the remainder.

movement. This implies, on the one hand, that we need to offer conceptualisations of FT which the non-economist might find hard to swallow. Equally, using standard trade concepts by themselves might not do justice to the essence of this form of alternative trade. Our paper seeks to strike a balance between these two stands by providing a model which is highly tractable (and intuitive), whilst at the same time reflecting some of the key elements of FT. We develop a Ricardian-type general equilibrium model which in contrast to the benchmark setting introduces two forms of “asymmetries”: First, one of the goods (the FT good) is produced only in one country but only consumed in the other. This rations, given fixed expenditure shares, employment in that particular sector. Second, those workers who are part of the FT sector are better off compared to the non-FT sectors. This introduces inequalities. The key point to bear in mind is that this set-up permits an investigation of the economic effects of ethical consumerism in industrialised countries on FT-certified vis-à-vis non-certified producers in the developing world.

Amid its growing importance, the FT concept has received relatively little attention in the economic literature thus far. Early contributions tended to originate from political sciences (see for example Littrell and Dickson (1999)) or from related strands outside orthodox economics. Leclair (2002) was the first to put the economic analysis of FT on the research agenda. His, largely descriptive, article contains a short section on the economic underpinnings of FT in which he compares the efficiency of subsidising workers’ incomes in the South via “fairer” terms of trade with direct payments. He argues that free trade combined with direct aid may be superior to the FT system. Hayes (2006), on the other hand, suggests that FT is efficient in economic terms. Both papers, however, only offer a partial equilibrium context which precludes meaningful welfare statements.

In contrast to organic food, FT produces are not necessarily associated with higher quality levels compared to “conventional” products. This has led some authors (Leclair (2002); Booth and Whetstone (2007)) to imply that FT consumers are either uninformed or irrational. Reinstein and Song (2008) use contract-theoretic arguments to show that altruistic consumption is compatible with rational and informed behaviour in a competitive setting. Poret and Chambolle (2007) provide further theoretical evidence for potential efficiency gains from FT through product differentiation.

Other studies have focused more on the specific components of FT consumption. de Pelsmacker et al. (2005) employ a conjoint analysis for the Belgian coffee market and find that the FT label is on average the second most important attribute (being as important as flavour) in the consumer's purchasing decision. Maietta (2003) estimates hedonic prices for the Italian market and detects significant FT-related elements in coffee consumption. There is empirical evidence (see Arnot et al. (2006) or Becchetti and Rosati (2007) amongst others) that concerned consumers are willing to pay a premium for products which were made under ethical and socially responsible working conditions.

To the best of our knowledge, there are only two papers (Becchetti and Adriani (2002); Richardson and Stähler (2007)) that analyse the FT concept in a general equilibrium framework. Becchetti and Adriani (2002) investigate the effects of globalisation in general and consider FT a bottom-up mechanism which allows Northern consumers with "international equality concerns" to support Southern firms which pay "fair" wages. North's and South's welfare in their analysis, however, is not responsive to the degree of fairness. FT is simply considered a binary outcome which does not depend on the size of the wage mark-up. Becchetti and Adriani (2002)'s idea of FT is thus very similar to a related literature on "green consumerism" (see for example Eriksson (2004)), where consumers only care about the environmental impact of a good but not the underlying production process or factor rewards.

Richardson and Stähler (2007) focus more on the behaviour of a vertically-integrated FT organisation in imperfectly competitive goods markets. Their set-up implies that both FT and non-FT firm could compete in the same (high quality) market. We believe this assumption is at odds with the anecdotal and empirical evidence which suggests that FT cooperatives offer a differentiated good in a distinct (albeit growing) niche market. This form of product differentiation, however, does not (at least exclusively) come from different quality levels but rather arises due to differences in production environments. While both papers suggest marginalised producers benefit from a higher degree of trade integration, they do not consider distributional effects within South.

The objective of this paper is, first, to make sense of FT in economic terms. Second, we would like to understand its welfare implications. Is the fair wage paid in the FT-sector indeed welfare enhancing as commonly claimed by the numerous ATOs?

We elaborate in particular on Leclair (2002)'s claim in his seminal contribution that alternative trade only supports one set of producers at the expense of others. We deliberately strive to provide closed-form solutions for greater analytical tractability and economic intuition – both of which we believe is crucial at this explorative stage.

Our model is able to replicate some of the main features of FT and provides additional insights hitherto neglected in related studies on the issue. We find that FT is the result of altruism and, given utility maximising households, completely rational. Without households in the North valuing higher living standards in the South, there is no FT (altruism as source of trade). It is possible that FT is induced by the presence of imperfect competition (oligopolistic structures for intermediate traders) but FT can arise in the presence of perfectly competitive markets as well, thus providing a relevant benchmark to elaborate on. We also find that FT is overall welfare enhancing – at least within a distinct and empirically plausible range. This is due to its inequality reducing effects *between* countries in the presence of decreasing marginal utilities. However, the converging pattern comes at the expense of rising inequalities *within* South. These inequalities, however, seem to be a rational by-product of FT which raises the question as to how sustainable FT would be on a broader scale. FT does not, as often claimed, lead to an excess supply of goods (as caused e.g. by the Common Agricultural Policy of the European Union, EU, or the agricultural policy of the United States, US). The reason for this is that FT is driven by demand, i.e. preferences of households and not by administrative intervention. However, our analysis also suggests that the nature of the cooperative structures in the FT sector matters. Keeping our model's obvious limitations in mind, the analysis might also allow for highlighting (at least tentative) policy implications regarding development policies in general and more specifically design of the FT system.

The remainder of the paper is structured as follows. Section 2 provides further background information on FT and introduces the main stakeholders behind the movement. Section 3 describes the model's set-up and scope. We augment the Ricardian trade model by FT in Section 4. In Section 5, we investigate the economic effects of FT – in general equilibrium, from a welfare perspective and finally considering the determinants of distributional outcomes with particular attention to the cooperative structure in the FT sector. Section 6 concludes and outlines policy recommendations and potential areas of further research.

2 Background information on Fair Trade

We provide in this section more detailed background information on FT and motivate some of the modelling decisions taken. When referring to FT, it is important to distinguish between *Fair Trade* as an idea of creating greater equity in international trade in general and *Fairtrade* as a specific labelling organisation.² FLO only certifies producers who provide working standards both in socio-economic and environmental terms that comply with certain international standards.³ Typical FT products are bananas, cocoa, coffee, honey, fruit, rice, sugar, tea, textiles and other handicrafts.

All products which are sold under a FT claim are associated with one of the numerous FT organisations. This could be a national charity offering ethical products (like Oxfam) or an international body (like the World Fair Trade Organisation, WFTO). The Scottish Executive together with local FT campaigners and Scotland-based Non-Governmental Organisations (NGOs) has launched a forum to promote the idea of Scotland becoming the world's first FT nation (BBC, 2008). Supporters of the FT movement share the same overriding principles as to what constitutes FT: Integrate marginalised producers in the world trading system, develop long-term relationships with them and hence alleviate poverty and inequality in the developing world. It is far from clear, however, to what extent these goals are and can be fulfilled by FT – also see Mohan (2010) for a balanced account of the FT concept and potential benefits but also problems.

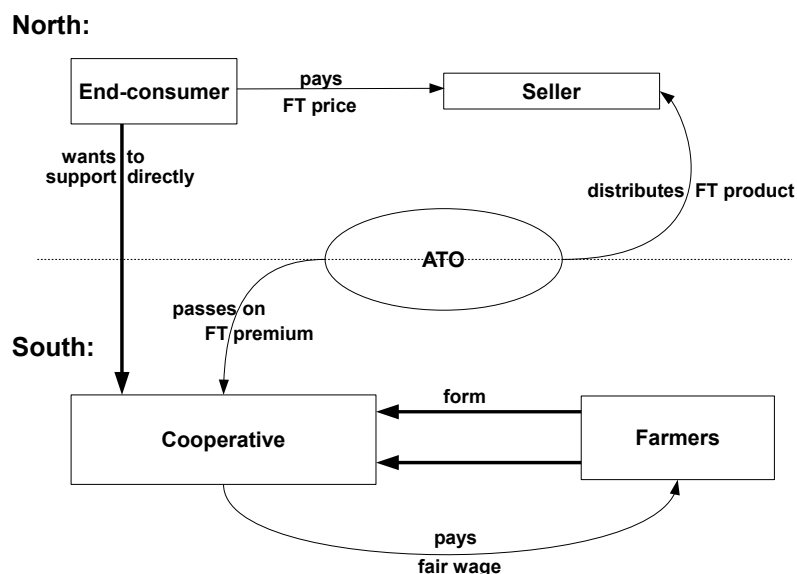
Without claiming to be exhaustive, Figure 1 illustrates the main features of FT in simplified form. There are essentially five stakeholders: end-consumers in North, wholesale and retail chains (which we shall jointly refer to as *seller*), the ATO and the farmers who join together to form a FT cooperative. We may think of Figure 1 as a stylised value chain which describes the production, marketing and delivery links required for the FT commodity to arrive from producer at consumer. Several small farms typically join in to govern their own cooperative. The farmers' cooperative applies to the FT organisation for certification which grants the FT trademark only to those ensuring appropriate working conditions to their members. The cooperative

²In the US fair trade tends to have yet a different, slightly more political, meaning and refers to asymmetric trade liberalisation in which markets of industrial goods are opened up without full reciprocation for the developing world.

³24 labelling initiatives worldwide are currently part of FLO. For example, the Fairtrade Foundation licenses the use of the Fairtrade Mark on products sold in the UK.

moreover needs to produce a letter of intent from the seller to buy the produce at the higher FT price. The ATO in return maintains the price floor on the global markets which provides economic stability to the cooperatives in case of adverse demand or supply shocks. Booth and Whetstone (2007) therefore like to think of the price floor as hedging instrument.

Figure 1: *Stylised FT value chain*



FT is a demand-driven concept. There are no quantity-based interventions in contrast to the EU Common Agricultural Policy, for example. Hence, one may argue that the FT label is a marketing tool which sellers use to charge higher prices from end-consumers. While the guaranteed minimum fair price is probably the most obvious feature of FT, end-consumers really care about the amount that actually reaches the individual farmers and their families. Indeed, the ATO also provides a so-called social premium for investment in wider community projects. We shall refer to the entire amount that directly benefits the cooperative at large as the *FT premium* which is distributed to the farmers in the form of wages.

Although (as Figure 1 implies) the FT organisation acts as intermediary between North and South, the essence of FT is really characterised by the direct relationship between end-consumers and farmers. Our model thus seeks to highlight in particular this market-based link between the two agents across countries and the role of both FT premium and FT cooperatives in South.

Strictly speaking, consumers should be indifferent between donating, say, 10% of their income to charities and buying non-FT-certified goods or spending 10% of their income on FT goods without going through the hassle of the donation. While “giving fatigue” may play a role (Booth and Whetstone (2007)), there seems to be some psychological appeal in using the market-based FT mechanism (Nicholls and Opal, 2005). Moore (2004) explains in his survey article the rising popularity of FT products by their “informational” elements. He argues the differentiating factor may lie in the “meaning” attached to the good which is derived from additional information provided in the form of stories about the individuals who make or grow the product and the reported benefits of FT either for themselves or their communities.

There are also critical voices, however. The Economist (2006b) asserts that the guaranteed minimum price especially harms non-FT farmers. It is argued in a related article that only proper free trade (i.e. trade in the absence of market interventions) might alleviate poverty on a broader scale (The Economist, 2006a). FT products appear to fill (albeit growing) niches (Hira and Ferrie, 2006). Tentative (yet largely anecdotal) findings suggest that farmers and communities are better off due to FT and could benefit more, if demand was higher (see Raynolds (2002) and the references therein).

Overall, the available anecdotal and empirical evidence stresses two aspects of FT: its demand-driven nature but also the clear distinction is seeks to establish between certified vis-à-vis non-certified producers. Any serious model of FT should hence reflect these two elements.

3 Model set-up

Our Ricardian world consists of two countries, developed North (N) and developing South (S), trading with each other. There are three goods: X is the numeraire good and the non-FT good is denoted by Y . The FT-good F is only produced in S and only consumed in N . Y and F are homogeneous products but differ in the FT-label attached to F . Both products are hence thought to serve distinct markets (Nicholls (2002); Becchetti and Huybrechts (2008)). For intuition, think in terms of the coffee market: Y is regular coffee and F is FT-certified coffee. Both products differ in terms of packaging and display. There is also a price differential reflecting the relatively

more ethical (i.e. *fair*) production conditions in the certified sector. The degree by which FT workers are better off compared to the non-certified sector is measured by a wage premium paid in F .⁴ Farms that do not pay this higher wage bill do not receive FT-certification. We may therefore also think of the wage premium as a form of entry costs into the FT sector.

As explained above, the FT premium (i.e. the monetary reward that directly benefits the farmers) is derived from the fair prices on the goods markets such that the consumption of F may be considered an act of altruism. This is in line with the common denotation (the *Oxford English Dictionary* defines altruism as “selfless concern for the well-being of others”). Our notion of altruism is consistent with Fehr and Schmidt (1999)’s concept of self-centred inequity aversion in a perfectly rational framework: individuals are willing to sacrifice resources to achieve more equitable outcomes. Similar to Becchetti and Adriani (2002) and Richardson and Stähler (2007), we take the existence of altruistic consumers as given. Indeed, the notion of altruism in households’ preferences has become standard in behavioural economics and is a typical result of experimental economics. Households in the North genuinely consider it fair, if marginalised producers in F receive a higher wage which allows them to close the technology and income gap to the developing world. Research from psychology and related fields suggests (see Hillis and Howie (2010) and the references therein) that this kind of fairness is culturally transmitted and we therefore consider the representative agent assumption on an aggregate level a suitable approximation.

Countries differ in their production technologies, hereby allowing for comparative cost advantages.⁵ As we shall see below, consumers will only demand F because they are (im)purely altruistic. It is the welfare-enhancing effect of consuming F which gives rise to trade in the FT-product. Altruism hence enters as additional (but not exclusive) source of trade. We suppress various other sources of trade to single out the effects of altruistic behaviour: there is by assumption only one factor of production (labour) in each country which rules out relative differences in factor endowments. Given our focus on the cooperative nature of FT, we do not allow for price-setting behaviour on the product markets and thus also preclude love-of-variety arguments.

⁴There is some evidence for inefficiencies in the pass-through of the FT price premium to farmers (Booth and Whetstone, 2007). We capture this by directing our attention to the factor markets.

⁵This assumption is necessary for trade to arise in these products. It would not be very interesting in a perfectly competitive environment to have trade due to heterogeneous preferences only.

We proceed as follows. We first augment the Ricardian benchmark model by FT. We then investigate the determinants of FT in general equilibrium and consider implications for convergence and sustainability. In a next step, we add further microfoundations to the cooperative structure in the FT-certified sector and endogenise the existing wage premium.

4 Introducing Fair Trade in a Ricardian world

4.1 North

The flexible-wage economy North produces two goods (X and Y) using constant-returns-to-scale technologies. There is one input factor, labour:

$$X^N = A^N L_X^N \quad (1)$$

$$Y^N = B^N L_Y^N. \quad (2)$$

Sector-wide productivity is measured by A^N and B^N , respectively. Production is linear in labour and hence nests the case of technologies that exhibit constant returns to scale in both capital and labour.

Aggregate labour (L^N) is supplied inelastically, where employment in both sectors is given by L_X^N and L_Y^N . We can thus define North's workforce as

$$L^N = L_X^N + L_Y^N. \quad (3)$$

Labour is perfectly mobile across sectors and chosen freely by profit-maximising firms. Goods and labour markets are perfectly competitive which leads to the usual zero profit condition that in equilibrium producers in each sector will always hire workers up to the point at which real wages match productivities:

$$w_X^N = p_X^N A^N \quad (4)$$

$$w_Y^N = p_Y^N B^N. \quad (5)$$

Households in developed North derive utility from consuming both FT and non-

FT good as well as X which may be considered a composite good:

$$U^N = U^N(C_X^N, C_Y^N, C_F).$$

Preferences are convex and the representative household consumes all goods in strictly positive quantities.⁶ Following the evidence cited above, FT products serve niche markets and thus satisfy distinct needs. Of course, there might be some degree of substitutability between, say, the FT and the non-FT good. Amid the still rather low importance of FT products in global trade, we consider the limiting Cobb-Douglas case as sufficient to illustrate the case.⁷

$$U^N = (C_F)^\theta (C_X^N)^\sigma (C_Y^N)^{1-\sigma-\theta}, \quad \theta > 0, \quad \sigma > 0. \quad (6)$$

It is well-known that these preferences ensure an interior solution and that the parameters represent the shares of North's total expenditures (denoted by E^N) on each of the goods.

Constrained utility maximisation (optimality here and in the remainder is denoted by an asterisk) yields the following demand functions

$$C_F^* = \frac{\theta E^N}{p_F} \quad (7)$$

$$C_X^{N*} = \frac{\sigma E^N}{p_X^N} \quad (8)$$

$$C_Y^{N*} = \frac{(1 - \sigma - \theta) E^N}{p_Y^N}, \quad (9)$$

which provides an intuitive grasp of altruism in this context: the more altruistic consumers are, the more of their income will be spent on F as captured by a higher θ . We do not provide an explicit theory as to why $\theta > 0$ and take the existence of altruistic spending as one of our model's primitives. We may thus also think of the preference parameters as import shares on an aggregate level.

⁶This is not too restrictive. Recall that Ricardo's original analysis was based on a counterfactual as well: What are the effects of a country opening up for trade? We are interested in the effects of consuming FT goods and hence do not directly compare autarky with free trade but rather free trade with fair trade.

⁷We have also tried more elaborate preference specifications – e.g. allowing for additional warm glow or imperfect substitutability. In the light of this paper's focus on outcomes in South, however, those have just lowered tractability without offering further relevant insights.

4.2 South

There are three sectors in South. Producers operate in perfectly competitive markets and technologies are characterised by constant returns to scale. The numeraire good is produced in X . Y and F are homogeneous products but crucially differ in the prevailing working conditions. Producers in the FT sector F offer more ethical occupational standards relative to Y such as increased work safety or better health care. These factors are typical requirements for FT certification and are captured by a wage premium ($w_F > w_Y^S$). In terms of the FT concept, the existence of a wage premium permits segmenting into FT and non-FT producers.

Farmers who are certified as FT producers by the ATO typically belong to one of the several cooperatives that make up F . We abstract for now from any optimisation rationale the representative FT cooperative might have in setting the wage premium and assume that the mark-up is specified exogenously (say, by means of a binding agreement between ATO and cooperative). Wages in the FT sector exceed wages offered in the informal sector by the mark-up μ :

$$w_F = (1 + \mu)w_Y^S, \quad (10)$$

where μ measures the FT premium.

Supporters of the FT movement typically claim that better working conditions in the FT sector increase productivity. They essentially relate to the long-term effects of FT which might be productivity-enhancing due to technology transfers and capacity building mechanisms embedded in the relationship between the FT cooperative and FT importers. Thus far, however, no robust empirical evidence has been established for the validity of this claim.⁸ Without taking a stand on this debate, we therefore treat productivities as exogenous and conservatively conjecture that $D \geq B^S$ – i.e. workers in F are not less productive than in the non-certified sector.

Output in each sector is a function of the amount of labour used and the sector-

⁸First studies in this direction are, for example, Becchetti and Costantino (2008) or Becchetti and Castriota (2009).

specific productivity parameter:

$$X^S = A^S L_X^S \quad (11)$$

$$Y^S = B^S L_Y^S \quad (12)$$

$$F = DL_F, \quad D \geq B^S. \quad (13)$$

South's labour endowment (L^S) is fully employed across all productive sectors

$$L^S = L_X^S + L_Y^S + L_F, \quad (14)$$

and in principle workers from each sector are perfectly mobile within S . In equilibrium, nominal wages equal marginal value products as usual:

$$w_X^S = p_X^S A^S \quad (15)$$

$$w_Y^S = p_Y^S B^S \quad (16)$$

$$w_F = p_F D. \quad (17)$$

We thus follow Becchetti and Adriani (2002) who consider fair working conditions strictly in terms of the usual competitive outcome of real wages equal to productivities. After all, there should be no reason for this fundamental condition not to hold. In Section 5.4, we add a further dimension to the notion of *fair wages* in the context of FT. Similar to Grossman and Helpman (2007), amongst others, we introduce a form of relative wage concerns (taking wages paid in the non-FT sector as the relevant benchmark) as crucial element of what workers consider a fair pay.

As often the case in developing countries, certain sectors only produce for foreign markets and FT produces are no exception. Households in South derive utility from consuming X and Y , making full use of their labour income. Preferences are Cobb-Douglas

$$U^S = (C_X^S)^\alpha (C_Y^S)^{1-\alpha}, \quad 0 < \alpha < 1, \quad (18)$$

and optimal consumer behaviour yields the usual Marshallian demand functions

$$C_X^{S*} = \frac{\alpha E^S}{p_X^S} \quad (19)$$

$$C_Y^{S*} = \frac{(1 - \alpha) E^S}{p_Y^S}, \quad (20)$$

where α is a preference parameter and E^S denotes overall nominal expenditure in South.

5 Economic effects of Fair Trade

5.1 General equilibrium outcomes

There is free trade between North and South to isolate the effects of the FT wage premium in an otherwise undistorted economy. We assume that both countries are of similar size to allow for complete global specialisation. North has a comparative advantage (i.e. relatively lower unit costs) in producing X , while South is by virtue relatively more efficient in producing Y such that $\frac{A^N}{B^N} > \frac{A^S}{B^S}$.

Productivity in the FT sector is driven by two elements: B^S captures a particular level of base productivity which is enhanced by the positive externalities the FT premium might imply. Our framework suggests two complimentary sources of trade: technological differences and altruistic spending ($\theta > 0$). Altruism is hence a necessary condition for trade in F to arise.

It is straightforward to show that there is a unique equilibrium. World expenditures (denoted by E^w) in this two-country setting without savings equal world income in equilibrium and we can thus write: $E^w = E^N + E^S$. Employment in North is trivial with complete specialisation: $L^N = L_X$.

The main results of our model are driven by the activities taking place in South. In particular, the endogenous allocation of labour across the two active sectors Y and F matters:

$$L^S = L_Y + L_F. \quad (21)$$

Employment in each of these sectors determines production, consumption and ultimately international terms of trade.

Labour can in principle move freely across sectors ($w_Y^S = w^S$ and $w_X^N = w^N$) but is country-specific in a Ricardian environment. Wage incomes in N and S equal national expenditure levels in equilibrium which may be written as

$$E^N = w^N L^N \quad (22)$$

$$E^S = w^S L_Y + (1 + \mu)w^S L_F = w^S(L^S + \mu L_F), \quad (23)$$

where (21) has been used to replace L_Y .

Despite the wage differential, it is not necessarily the case that South's entire labour force works in the certified sector. It can be shown that in general equilibrium the sectoral allocation of labour depends on preference parameters and wage mark-up as follows

$$L_Y = \left(1 - \frac{\alpha\theta}{(1 - \sigma)(1 + \mu) - \alpha\theta\mu}\right) L^S \quad (24)$$

$$L_F = \frac{\alpha\theta}{(1 - \sigma)(1 + \mu) - \alpha\theta\mu} L^S, \quad (25)$$

which suggests that employment in the FT sector is purely demand-driven. As (25) reveals, the higher the demand for FT-products (i.e. larger θ), the more employment *ceteris paribus* in F . The obvious implication from (24) is that all the remaining labour is forced to work in the sector without cooperative structures. We might think of (24) as measuring a form of involuntary unemployment which in this Ricardian context is probably most suitably described as *involuntary employment*. Moreover, the higher the mark-up, the lower demand for a given θ and hence less employment in F . Our model is thus able to capture an important trade-off of FT consumption: on the one hand, consumers wish to be supportive of ethical working conditions in developing South, on the other hand, higher prices required to cover the FT premium reduce their budget set. The issue as to what constitutes an optimal wage mark-up will therefore be central in the welfare analysis below.

Relative prices on the global commodity markets follow endogenously:

$$\frac{p_Y}{p_X} = \left(\frac{1 - \sigma}{\alpha} - \frac{\theta\mu}{1 + \mu} \right) \frac{L^N A^N}{L^S B^S} \quad (26)$$

$$\frac{p_F}{p_X} = \left(\frac{(1 - \sigma)(1 + \mu)}{\alpha} - \theta\mu \right) \frac{L^N A^N}{L^S D}. \quad (27)$$

The model's reduced form solution suggests that international terms of trade depend on labour endowments, technologies, preferences and the interaction between the degree of altruism in North and wage mark-up in South. Except for μ , these determinants might be considered "deep" parameters that also drive the main results in the benchmark Ricardian setting.

This raises the question as to how changes in the FT premium affect international terms of trade. Partially differentiating (27) with respect to the mark-up

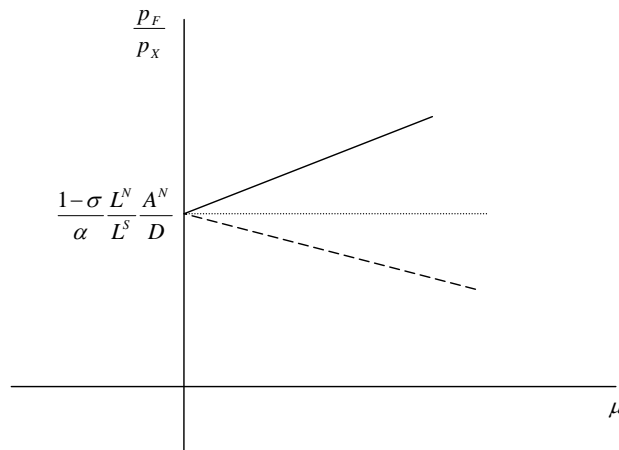
$$\frac{\partial(p_F/p_X)}{\partial\mu} = \left(\frac{1 - \sigma}{\alpha} - \theta \right) \frac{L^N A^N}{L^S D} \quad (28)$$

yields an analytic description of the behaviour of prices for FT commodities (relative to the numeraire good) in response to changes in μ . They rise as long as $(1 - \sigma)/\alpha > \theta$ and fall if $(1 - \sigma)/\alpha < \theta$. The preference ratio $(1 - \sigma)/\alpha$ captures the conventional determinants of trade in a comparative advantage environment. As long as the degree of ethical consumption falls within that interval, FT prices rise in μ . The critical point occurs, when these two forces balance at $\theta = (1 - \sigma)/\alpha$. Once FT consumption grows beyond this point, the concept is only sustainable if p_F adjusts downwards accordingly. In practice, of course, the downward price movement might be prevented by the price floor.

Figure 2 sketches this relationship in a stylised fashion. Starting from the intercept ($\mu = 0$), which obviously coincides with the benchmark Ricardian result ($\frac{1 - \sigma}{\alpha} \frac{L^N A^N}{L^S D}$), the intuition is as follows. Suppose, the representative FT cooperative wishes to offer higher premia to its members. Eventually, this should be reflected in changing prices determined by basic market forces. FT, however, is purely demand-driven. Depending on preferences, three scenarios might arise. Increasing FT prices are only feasible as long as the ethical consumer movement is on the rising path as indicated by the upper line. However, there is also a lower bound (shown by the horizontal dotted line) along which ethical consumerism stagnates. This turning point

occurs, once FT is no longer a niche movement but turns mainstream. It appears intuitively plausible that a demand-driven concept can only become popular if it is economically viable to its consumers. Figure 2 thus visualises the inherent rigidity in the FT concept as downward pressure on market prices (indicated by the dashed falling path) are typically not binding for farmers in the certified sector.

Figure 2: *Illustration of FT prices behaviour as function of mark-up*



One might draw several conclusions from this thought experiment. First, given its demand-driven nature, FT seems to be only sustainable as niche movement. Second and perhaps more importantly, being part of this well-defined system gives the FT cooperative a strong incentive to ensure FT remains within that niche which justifies the price differential (we return to this issue in Section 5.4). On a slightly different note, the analysis also suggests that the FT premium could turn out to be too high. In this case, prices would need to be flexible downwards or, if this was prevented, demand would drop which would ultimately hurt the very marginalised producers FT intends to protect (we quantify these effects in Section 5.3).

5.2 Calibration

We calibrate the model to obtain a better quantitative understanding of the welfare effects of changes in the FT premium. Reflecting the market-based nature of FT, we consider the decentralised solution in deriving the Benthamite social welfare function

denoted by U^w .⁹ We choose X as numeraire ($p_X = 1$) and obtain

$$U^w = \left(\frac{\theta \alpha D L^S}{(1 - \sigma)(1 + \mu) - \alpha \theta \mu} \right)^\theta (\sigma A^N L^N)^\sigma \left(\frac{(1 - \sigma - \theta) \alpha (1 + \mu) B^S L^S}{(1 - \sigma)(1 + \mu) - \alpha \theta \mu} \right)^{1 - \sigma - \theta} + \left((1 - \sigma) A^N L^N \right)^\alpha \left((1 - \alpha) B^S L^S \left[1 + \frac{\alpha \theta \mu}{(1 - \sigma)(1 + \mu) - \alpha \theta \mu} \right] \right)^{1 - \alpha}. \quad (29)$$

Table 1 summarises the chosen parameter values. The exogenous part includes all the model's primitives that are not altered further. Both countries are of the same mass – normalised to 1 here. The equal size qualification appears plausible comparing the population figures of the EU with typical coffee exporting regions such as Latin America or Eastern Africa. We treat preferences as purely exogenous. The parameters σ and α measure the fraction of spending on X in North and South, respectively. Higher spending shares for X obviously favour North in terms of welfare since this is the good North has a comparative advantage in. Given our focus on distributional effects within South, we want to rule out this source of inequality and treat σ and α symmetrically. We choose $\sigma = \alpha = 0.7$ which matches well with Europe's import share in agricultural products (WTO, 2009). We set $\theta = 0.05$, reflecting the still rather small importance of FT products in global trade. The Guardian (2010) reports a share of 5% sales of FT-certified products in the British grocery market. Results are not materially affected by these choices.

Sectoral productivities are exogenous in a Ricardian set-up. Technologies are linear such that marginal products coincide with average productivities. If we express real unit labour costs in North and South as $a_N \equiv L_X/X = 1/A^N$ and $b_S \equiv L_Y/Y = 1/B^S$, respectively, we may define labour productivity as the amount of X and Y each country produces on average per hour of labour. The chosen numerical values for A^N and B^S are based on empirical evidence and do not need to be calibrated explicitly. The OECD (2008) reports estimates of labour productivity in the range of 43-45 for the EU and values of 19 and 16 for Mexico and Chile, respectively. All these figures, of course, are subject to a considerable margin of uncertainty and imprecision. Those measurement issues are not too problematic for the framework at hand because relative productivity differences matter. Based on the empirical evidence, we strive to maintain a ratio of $B^S/A^N = 2/5$ in the calibration.

⁹One could, of course, alternatively consider a social planner choosing the optimal sectoral allocation of labour.

Table 1: *Parameter specifications*

	parameter	value
exogenous	L^N	1^a
	L^S	1^a
	$\sigma = \alpha$	0.7^b
	θ	0.05^b
	B^S/A^N	$2/5^b$
imposed	$D (\equiv \psi B^S)$	$\geq B^S$
calibrated	ψ	1
	μ	$[0,1]$

a: normalised to 1

b: based on empirical evidence

The next panel in the table displays all conditions that are imposed to warrant meaningful results. These relations arise endogenously in the sense that they need to be satisfied for internal consistency. As discussed above, we claim that $D \geq B^S$. We incorporate this idea into our calibration exercise by defining $D \equiv \psi B^S$, where ψ captures all potential positive effects the more sustainable working conditions may have on sector-wide productivity.

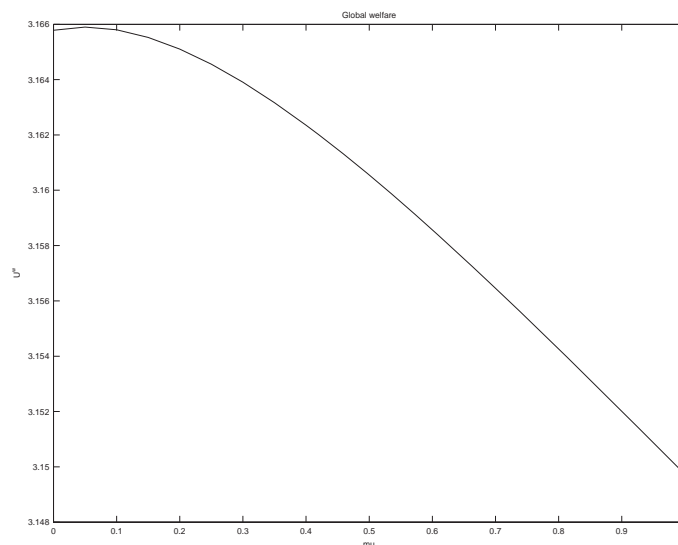
Thus, two parameters need to be calibrated as depicted in the lower panel of Table 1. Those capture the core elements of FT. Positive values of μ imply the presence of fair wages, whereas $\psi > 1$ captures potential productivity gains in the FT-sector resulting from the premium. Given the lack of sufficiently strong evidence, we initially want to rule out any welfare effects arising from potential long-term effects of FT and set $\psi = 1$. We specify an 0 to 1 interval for the wage premium such that wages in F can be up to twice as high compared to the non-cooperative sector.

5.3 Welfare effects of Fair Trade

We investigate the welfare implications of FT using the values as specified in Table 1. As Figure 3 shows, the world as a whole is initially indeed better off due to FT. With premia exceeding 20%, global welfare falls relatively strongly, however. Quantitatively and qualitatively we can thus identify a distinct segment ($0 < \mu < 0.2$) in which welfare gains outweigh welfare losses. This finding is consistent with empirical

evidence which suggests that consumers are willing to accept a price premium of roughly 10% (de Pelsmacker et al., 2005). We repeated the exercise allowing also for gains in productivity (increasing ψ). The main result of rising global welfare due to FT for not too high premia turned out to be robust to these specifications.

Figure 3: Overall welfare effects with varying wage premium



Parameters specified as in Table 1

The model thus provides theoretical evidence for the FT supporters' claim that FT is indeed beneficial for the world as a whole. The positive welfare effects arise because of an altruistically motivated transfer of welfare from North to South. Some individuals in North are willing to sacrifice resources to make farmers in South better off. It seems intuitively plausible, however, that this mechanism only sustains within certain limits. Similar to the analytical mechanism described above, the quantitative analysis confirms that for too high premia, demand by ethical consumers falls, hereby hindering further certifications of farmers in South and ultimately making all agents worse off. Due to the price and employment frictions (certification is demand-driven) embedded in the FT concept, overall welfare might well drop below levels as for instance predicted in the benchmark Ricardian setting of $\mu = 0$.

5.4 Distributional effects of Fair Trade

While the existence of the FT premium raises overall welfare and indirectly allows for a transfer of wealth *between* North and South, it does create adverse distributional effects *within* South. Welfare gains in South arise solely in the FT sector at the expense of farmers in the non-certified sector. Taking relative wages as measure of income inequalities

$$\omega(\mu) \equiv \frac{w_F}{w_Y}, \quad \omega'(\mu) > 0, \quad (30)$$

it is straightforward to see that the FT premium causes economic inequalities across the two active sectors in South which are accelerating as the differences in occupational standards become more pronounced. This is an obvious implication from the model set-up but also the very nature of FT in general.¹⁰ The interesting aspect lies in understanding what drives these inequalities and whether they are problematic to FT.

The simple answer is that if there were no FT, i.e. $\mu = 0$, there would be only one active sector (see (23)) and inequalities would thus vanish. FT supporters, of course, would argue that FT achieves a rise in living standards at least for some individuals and if demand was higher, more farmers could benefit from the fairer working conditions. Identifying the determinants of relative wages in the context of FT is thus likely to yield important policy implications – in particular with respect to rising inequalities – and we therefore provide in the following further microfoundations to the determinants of μ .

As we have already noted, the existence of fair wages in one sector relative to the other introduces rigidities in South. The result is a dual labour market. Labour is homogeneous¹¹ but F is characterised by cooperative structures. In general, all farmers would like to produce in the FT sector but only those with certification are allowed to enter. Employment (and thus certification) in our framework is endogenously determined through the demand side in North. All remaining workers are *involuntarily employed* in Y . There is, however, a crucial feedback mechanism as

¹⁰This point has already been observed, amongst others, by Leclair (2002) but it has not been formalised thus far.

¹¹In other words, we focus on the determinants of the wage for *unskilled* labour. More conventional dual sector models differentiate between urban and rural sectors and the effects on *skilled* wage rates and unemployment.

with an increasing wage mark-up also demand drops. FT creates an insider-outsider problem: cooperatives have an incentive to offer higher premia, yet they hereby constrain output and foster inequalities.

We can formalise this mechanism as follows. Think of the FT cooperative as a monopoly trade union that not only hires workers but also sets the level of working standards – as captured through μ . It is characteristic of cooperative structures that additional gains are immediately reinvested in the community and thus benefit all members equally. This permits focusing on a representative farmer. The cooperative is assumed to treat the wage, which is determined in general equilibrium, parametrically. Profit maximisation can hence be described as a two-stage process, similar to the well-known efficiency wage model of Solow (1979). In step one, the cooperative sets the level of working standards (i.e. μ) which fully describes w_F . In step two, the cooperative hires workers up to the point at which the marginal value product equals the wage resulting from the previous step. The latter result has already been used above and it thus suffices to describe the cooperative's rationale of setting μ .

Suppose the representative farmer in F derives utility from his wage income which rises in μ . His efforts are governed by

$$\epsilon_F = \min\left(\frac{w_F}{w_F^*}, 1\right). \quad (31)$$

This description goes back to Akerlof and Yellen (1990)'s seminal fair wage-effort hypothesis which states that workers' efforts ϵ_F depend on their conception of a fair wage, denoted by w_F^* . Workers provide the normal level of effort (normalised to 1) if they are paid at least their fair wage. Effort levels could then be linked to average productivities (D in our notation) but this is not crucial as we only consider the equilibrium case in which workers receive their fair wage.

In the context of our model, the fair wage has two determinants: the degree by which the more ethical working standards exceed the informal sector (proxied by $w_F - w_Y$) and the remuneration FT farmers could expect in the competitive benchmark sector. The latter factor is scaled in more conventional fair wage models by the sector-specific unemployment rate to express the probability with which workers could end up outside their own job (Kreickemeier and Nelson, 2006). Here, we could think in terms of relative employment $h(\mu) \equiv L_F/L_Y$, where $L_F \leq L_Y$. Relative

employment is demand-driven and indeed the FT cooperative has an incentive to exploit inequalities in employment levels: As long as there are sectoral employment differences, an increasing fair wage is justified. We might therefore think of $h(\mu)$ as measure for the ease of entry into the certified sector with $h'(\mu) < 0$ to capture the insider-outsider mechanism described above.

Fair wages are thus expressed as:

$$w_F^* = \Lambda\mu w_Y + (1 - \Lambda)(1 - h(\mu))w_Y, \quad (32)$$

where we have used (10) to replace the wage differential and Λ is the weight attached to the respective factors of the fair wage concept. In the context of developing countries, this weight is likely to be driven by macroeconomic conditions and could thus also be interpreted as need for sustainable working conditions vis-à-vis the degree of duality among unskilled workers. The latter term in (32) obviously drops out in the absence of employment differences.

Due to (31), the cooperative rationally sets μ such that $w_F = w_F^*$, i.e. actual and fair wages should coincide to avoid inefficiencies. Thus,

$$\omega = \Lambda\mu + (1 - \Lambda)(1 - h(\mu)). \quad (33)$$

While the interpretation obviously differs from Akerlof and Yellen (1990)'s original notion, we might consider (33) the *fair wage constraint* in the sense that it establishes a link between equilibrium levels of wage inequalities and fair wages. More specifically, wage inequalities are determined by a weighted average of wage rigidities (the first term of the right hand side) and employment frictions (the second term of the right hand side). Differentiating (33) with respect to μ gives

$$\omega'(\mu) = \Lambda + (1 - \Lambda)h'(\mu).$$

The fair wage constraint is obviously upward-sloping in the $\omega - \mu$ -space. However, for a given Λ , the more responsive relative employment is to changes in employment conditions in F (i.e. the higher the ease of entry), the lower the degree of inequalities. Equally, the lower the weight workers attach to the FT premium, the lower the cooperative's incentive to raise the FT premium and thus inequalities become less pronounced.

The variant of the fair wage constraint suggests several policy implications regarding the design of the FT system. First, it may not necessarily be the case that lower employment in F is exclusively due to insufficient demand in North. Other institutional features inherent in the FT system (entry costs, limitations in labour mobility) might give rise to a segmented labour market. Wage inequalities would be lower without those barriers in equilibrium. Second, the actions of the FT cooperative and its incentives to offer fair wages (hereby allowing for more ethical working conditions) follow rationally in line with optimal behaviour. Indeed, in the absence of economic inequalities, FT can hardly prevail. Third, we know from (28) that a rising degree ethical consumerism puts downward pressure on FT prices. If, however, income and employment differentials are crucial drivers of the FT premium, our analysis raises the question of the sustainability of FT on a broader scale.

6 Concluding remarks

In this largely explorative paper we have sought to make sense of the economic implications of Fair Trade (FT). We have deliberately provided closed form expressions to ensure tractability and greatest economic intuition. Our model set-up moreover allows for comparisons against a meaningful (the Ricardian) benchmark. We have shown that FT can arise in a perfectly competitive environment. FT is compatible with the notion of free trade and indeed both forms of trade are complimentary to some extent. FT is the result of utility maximising altruistic spending behaviour and thus completely rational.

We have found that FT can be overall welfare-improving within an empirically plausible range. This is because of altruism, here understood as a transfer of utility from North to South. However, the converging pattern between North and South comes at the cost of rising income inequalities within South. The characteristic FT premium which ensures sustainable working conditions in the FT sector introduces rigidities which can be explained by deriving a variant of a fair wage constraint.

Whilst it is difficult not to oversimplify the complex phenomenon of FT in a theoretical study, the model is able to capture characteristic elements of FT. Our analysis suggests that FT as a concept largely operates on the input markets. Employment in the FT sector is essentially rationed through North's demand side. Therefore, any

subsidy or other mechanism (say, further advertising) which might entice consumers to buy more FT products would be a way of not only raising living standards in South but also of limiting inequalities. However, this is by far not the complete picture. Indeed, there are several rigidities embedded in FT which not only characterise but ultimately drive the system. FT cooperatives need to ensure for efficiency reasons an appropriate level of the FT premium. Also, to become a truly mainstream movement, FT prices would need to be subjected to basic market forces. This, however, is against the very idea of FT. Overall, our analysis suggests that FT might only be sustainable as niche movement.

Keeping the inevitable limitations of our theoretical approach to the matter in mind, one might draw several conclusions regarding development policies from the analysis. First, too much reliance of South on the FT mechanism is likely to accelerate regional heterogeneities. Given the implied sustainability issues, FT should be considered what it claims to be, that is an *alternative* form of trade. If at all, FT might be able to complement existing development policies. Second, for FT to allocate labour efficiently, the transition between secondary and FT sector should be made as smooth as possible. Low entry barriers and a sufficient degree of labour mobility are crucial to limit inequalities. Policymakers should be aware that the FT cooperative has a rational incentive to exploit inequalities. Relying on FT as an effective tool to alleviate poverty on a broader scale thus seems to be a questionable strategy.

The economic analysis of FT is still in its infancy. We do see promising avenues for further research. In particular, empirical evidence on the effects of ethical FT consumption is rather scant. Does the FT premium really raise productivities both on an individual and community level? How does the cooperative nature in the FT sector affect sectoral employment? Further empirical insights would inform the theoretical modelling process. This is crucial because ultimately one would like to space the model across time to investigate the long-term effects of FT further. As yet, this evidence is still to be established. As consumers' awareness in industrialised countries increases, understanding the economic impact of ethical consumerism is crucial and will ultimately determine its future path.

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