CAPTURING THE GAINS

economic and social upgrading in global production networks

Economic and social upgrading in global value chains: Analysis of horticulture, apparel, tourism and mobile telephones

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November 2011

Working Paper 2011/06

Capturing the Gains 2011

ISBN : 978-1-907247-94-1

Abstract

We adopt a 'parsimonious' approach to measuring economic and social upgrading over 1990-2009 in four global value chains – apparel, mobile phones, agrofoods and tourism – based entirely on data published by international institutions. Economic upgrading is defined as a combination of growth in export market shares and export unit values. Social upgrading is a combination of changes in employment and real wages. We find considerable variation across sectors in the relation between economic and social change. 'Downgrading' is not uncommon, especially in the social realm. Economic upgrading is often not associated with social upgrading, but outside of the tourism sector, social upgrading occurs almost always when economic upgrading is also observed. This paper provides a comprehensive report on the findings in the four sectors and detailed statistical appendixes. A summary presentation without appendixes can be found in Capturing the Gains Working Paper 2011/07.

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Keywords: Global value chains, upgrading, international competitiveness, employment, wages, economic development, industry studies

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Acknowledgements:

This study was done as part of a research programme entitled 'Capturing the Gains: Economic and Social Upgrading in Global Production Networks and Trade', funded by the UK DFID and the Brooks World Poverty Institute at the University of Manchester. The authors gratefully acknowledge helpful comments by Jennifer Bair, Stephanie Barrientos, Malte Luebker, Dev Nathan, John Pickles, Arianna Rossi, Cornelia Staritz and conference participants at Duke University and the International Labour Organization (ILO).

1. Introduction

As production of goods and services in the late 20th century increasingly became organized within international networks – with lead firms coordinating suppliers, logistics and marketing in multiple locations – the path of economic development has changed. Economic development has become associated with 'industrial upgrading' within these networks, sometimes called 'global value chains'. The internationalization of production brings new opportunities and new challenges for the improvement of living standards in low- and middle-income countries.

Gereffi (2005: 171) defines economic upgrading as 'the process by which economic actors – firms and workers – move from low-value to relatively high-value activities in global production networks'. Economic upgrading has been studied in hundreds of country cases, ranging from Brazilian shoe production to Kenyan green beans to Mexican blue jeans and computers to Mauritian t-shirts to Chinese auto parts.[1] This case study literature identifies many successes and some failures of economic development within this new global production structure. It also shows that economic upgrading is a multi-faceted and complex process, involving changes in business strategy, production structure and technology, policy and the organization of markets.

The case studies raise a number of questions. The first is simply, how widespread is economic upgrading? The case study literature possibly suffers from a bias towards examples of successful upgrading. Such a selection bias problem would skew any general conclusion from the case studies. It would also indicate a lack of analysis of failed efforts at upgrading.

The second question is the degree of comparability across the case studies. Milberg and Winkler (forthcoming) find over 25 different measures of economic upgrading in their survey, indicating serious problems of comparability across studies.

A third question – and the main focus of the present paper – is about the social consequences of economic upgrading. Does economic upgrading necessarily and quickly translate into 'social upgrading' (i.e. improvement in employment, wages and labour standards)? Simply raising productivity or value added per person in a sector says little about how the gains from economic upgrading are distributed and thus how social welfare and, ultimately, economic development, are affected. Barrientos, Gereffi and Rossi (forthcoming) refer to the distribution of gains as 'social upgrading' and they ask, similarly, what the connection is between economic upgrading and social upgrading. While most research presumes that economic upgrading leads directly to social upgrading, this connection has not generally been analysed in a systematic fashion and there is ample evidence that there is considerable slippage from the 'cup' of economic upgrading – gains in productivity or exports – to the 'lip' of social upgrading – wages, labour standards and environmental standards. Milberg and Winkler (forthcoming) present aggregate data for 30 developing countries that find a fairly weak link between economic and social upgrading. In addition, they find that

[1] For a review, see Milberg and Winkler (forthcoming).

economic upgrading is not the norm in most countries, and that there are clear cases of economic and social 'downgrading' associated with participation in global value chains. Meanwhile, others have documented cases where economic downgrading is associated with some social upgrading.[2]

The globalization of production within global value chains has raised the volume of international trade – and especially of trade in intermediate goods and services – relative to economic activity.[3] Thus our analysis connecting economic and social upgrading raises the additional question of how improved international trade competitiveness of a sector translates into social gains. That is, does improved export performance drive social upgrading?

In this paper we begin to address these issues by taking a parsimonious and operational approach to economic and social upgrading. The goal is to get an idea about whether selected countries experience economic and social upgrading or downgrading in selected sectors of their economy and whether there is a connection between developments in the economic sphere on the one hand and the social sphere on the other. With this parsimonious approach, we seek to fill in a gap identified by Sturgeon and Gereffi (2009, p. 5), namely that '[t]he GVC framework provides a conceptual toolbox, but quantitative measures are lacking'.

As part of the 'Capturing the Gains' research project,[4] we focus on four sectors – apparel, horticulture, mobile phones and tourism – and on eight to ten developing countries that operate in each of the sectors. Our analysis of economic and social upgrading relies entirely on published data on trade and labour markets, mainly from UN sources. These data are for the period 1990-2009. Although the analysis in this paper stands on its own, an important objective of this study is to be able to assess if the published data corroborate the findings of the fieldwork being done on each sector as part of the Capturing the Gains project. The guiding question for all research in that project is 'what are the conditions under which economic upgrading translates into social upgrading?' This paper seeks to provide empirical foundations to begin answering this question.

We define economic upgrading in terms of trade performance, and social upgrading in terms of employment and wage growth. While these are admittedly narrow definitions, we nonetheless generate a set of rich findings. These can be summarized as follows:

a) Patterns of economic and social upgrading vary considerably across sectors.

b) In all sectors except for apparel, positive growth in world export market share is generally associated with economic upgrading.

c) Economic downgrading and social downgrading do occur in a number of cases, with social downgrading more common.

[2] See Pickles et al. (2006) on the apparel sector in Central and Eastern Europe, for example.
[3] See, for example, Feenstra (1998).
[4] For an overview of the project, see http://www.capturingthegains.org/about/.

d) There is a variety of patterns in the relation between economic and social upgrading/downgrading. In apparel and horticulture there is a positive correlation between economic upgrading and social upgrading, as presumed in much of the case study and econometric research. However, in the mobile phone value chain, there is considerable economic upgrading without noticeable social upgrading. And the tourism value chain exhibits the opposite, with signs of social upgrading with much less evidence of economic upgrading.

This paper has seven sections. In Section 2, we define economic and social upgrading and describe the general framework for mapping their relation to each other. Section 3 describes the sample of sectors and countries and the data sources. In Section 4 we summarize the evidence on economic upgrading and downgrading, and in Section 5 we do the same for social upgrading and downgrading. In Section 6 we present the evidence on the interrelation between the economic and social realms, and in Section 7 we conclude with an analysis of the importance of our findings in relation to the vast case study literature, a discussion of some significant data limitations, and a brief description of the direction of future research.

2. A parsimonious approach to economic and social upgrading in global value chains

Social upgrading can be understood as a process of improvement in the entitlements and rights of workers as social actors, which enhances the quality of their employment (Sen 1999, 2000). From this perspective, social upgrading involves the advancement of employment based on decent work and respect for labour standards. At the same time, access to better work as just described might actually result from economic upgrading (Barrientos et al., forthcoming). These are very broad definitions. To operationalize these concepts, given available data, we propose a parsimonious approach to the study of economic and social upgrading, as follows: a country is said to experience economic upgrading in a given sector when the following two necessary conditions are fulfilled:

1) An increase (or at least no decrease) in the world export market share (i.e. its exports are internationally competitive);

2) An increase in the export unit value, implying the production of higher-value products in the sector concerned.

According to the typology developed in the recent research on global value chains (see, for example, Humphrey and Schmitz 2002; Humphrey 2004; Gereffi et al. 2005; UNIDO 2011), progress on these two indicators reflects ‘product upgrading’ or ‘functional upgrading’. In any case, it is important to include *both* dimensions in our analysis – that is, higher value added per unit and increased (or at least not decreased) international competitiveness – in order to adequately capture economic upgrading. A number of recent studies of global value chains have argued for using export unit value data to capture upgrading. Evgeniev and Gereffi (2008) use export unit values to distinguish between ‘up-market’, ‘middle-market’ and ‘down-market’ exports, in a study of Turkish and Bulgarian textiles and apparel, illuminating ‘the possibilities for particular countries to upgrade and climb the industrial ladder of export

roles'.[5] Li and Song (2011) use export unit value data in their study of Chinese trade. The authors write:

> If technological content is an important indicator for measuring the improvement of trade structure then product quality can be used more directly to reflect whether a country's export structure has experienced a 'substantial' change. Differences between product qualities are linked to differences in consumers' evaluations of these qualities. These evaluations about product quality are reflected in changing consumer preferences and consequently product prices, with the reservation prices of high-quality products being higher than those of low quality products. Therefore, we can use the price of a product as a proxy to evaluate its quality. In the international market, for the same kinds of products coming from different countries, the ones with higher prices are often of relatively higher quality. (Li and Song 2011, p. 77)

Similarly, Aiginger (1997) writes that:

> A country with a higher unit value will in some sense supply more quality, perhaps owing to its ability to sell an identical product at a higher price (…), or by specializing in a more highly-priced product segment. (…) The unit value is an indicator which can be used to provide complementary information on the competitiveness of firms and industries. (Aiginger 1997, pp. 574, 586)

It is important to note that greater competitiveness in international trade is typically associated with lower costs and thus lower unit values. Upgrading, then, hinges on the simultaneous maintenance of international competitiveness (world export market share) and the attainment of higher export unit values. Thus, according to Kaplinsky and Readman (2005, p. 682):

> Firms which engage in successful product innovation (…) can expect to receive relatively higher prices for their output. (…) Higher prices may also reflect inefficiencies in production, suggesting a decline in innovative performance, but in this case with regard to process innovation. Therefore we need an indicator of cost competitiveness.

For this purpose, they suggest the use of export market shares which, in combination with the first indicator (export unit values), gives a more complete and reliable picture about whether a sector experiences upgrading or not.[6]

Social upgrading, in turn, is defined to occur in a given sector when the following two necessary conditions are fulfilled:

1) An increase (or at least no decrease) in employment;

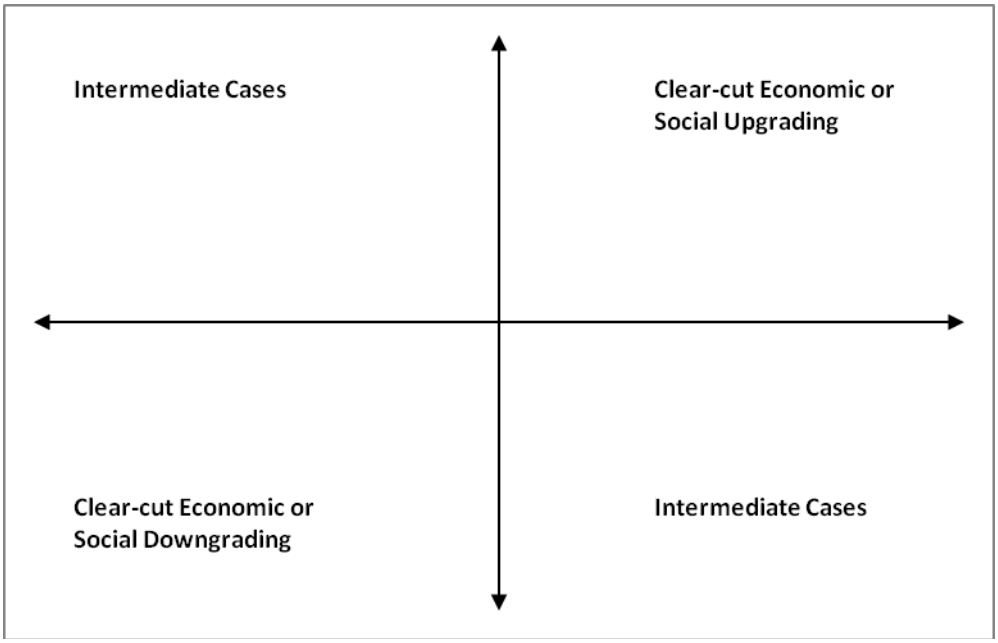
[5] Evgeniev and Gereffi (2008, p. 23).
[6] See also Amighini (2006).

2) An increase in real wages (and/or an improvement of labour standards).

The motivation for the choice of these indicators is straightforward: the major contribution a sector of production can make to social wellbeing is the creation of jobs, thereby giving labour the possibility to earn income. However, such a quantitative treatment of social upgrading in terms of employment generation alone is not enough. What also matters is the *quality* of jobs (created or retained). This is to be captured by including real wages into our analysis. In a sense, their remuneration is a measure of how much workers benefit from the value created by economic activity in the different sectors. It gives an idea of how much of the (sectoral) value added generated is appropriated by workers.[7] An even more nuanced picture of social upgrading would require the inclusion of labour standards into our analysis. However, given that published data on this issue are hardly available (particularly at the sectoral level), this is an endeavour that we leave to future research.

Our approach to economic and social upgrading within a global value chain can be depicted in a 2x2 matrix, a prototype of which can be seen in Figure 1. Such a diagram will be widely used as an analytical tool in latter sections of this paper; it helps us to understand whether economic or social upgrading have taken place in a given country and given sector. If a country's sector's performance falls in the northeast quadrant, then there is unambiguous upgrading. The southwest quadrant is the case of unambiguous downgrading. The northwest and southeast quadrants are ambiguous cases, where one dimension shows positive growth and the other dimension falls.

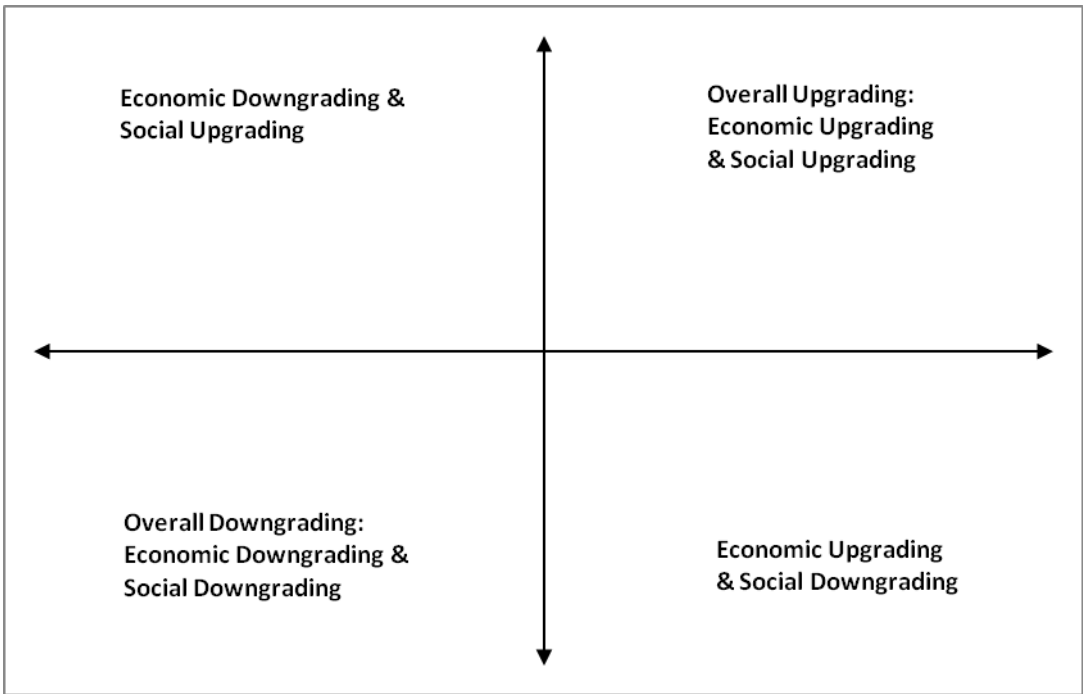
Figure 1: Prototype matrix of economic or social upgrading/downgrading



[7] With that, our definition of social upgrading borrows to some extent from the International Labour Organization's 'decent work' framework which emphasizes not only the protection of rights at work, the promotion of social dialogue and the extension of social coverage, but also the generation of employment and the provision of adequate remuneration (see, for example, ILO 1999).

The central question addressed in this paper is whether there is a connection between economic and social upgrading. To this end, in section 6 we combine the two dimensions (i.e. the economic and social realms) into a single index. This allows an analysis of the relation between economic and social upgrading again using a 2x2 matrix of possible outcomes. A prototype matrix is depicted in Figure 2. Of the four different scenarios, the northeastern and the southwestern quadrants represent the clear-cut cases. The northeastern quadrant includes those countries that combine economic upgrading and social upgrading for 'overall upgrading'. In the southwestern quadrant, on the other hand, will be those countries that have experienced both economic and social downgrading and that, therefore, have to be called 'overall downgraders'. Countries falling in the remaining two quadrants are again intermediate cases, with success on one front (either economic or social), but lack of progress on the other front. Their experiences are, thus, harder to be interpreted as either clear 'overall' upgrading or downgrading.[8]

Figure 2: Prototype matrix of 'overall' upgrading/downgrading



[8] Below we present three methods for measuring upgrading and downgrading, one of which does not allow for 'intermediate cases' but instead categorizes every country as upgrader or downgrader in any given sector.

3. Sector selection, product focus and country scope

In this section we describe the sample of sectors and countries. This sample follows the sample definition used by the Capturing the Gains project.[9] With extensive fieldwork, the project could not possibly cover all sectors and countries. Sector selection was guided by the desire to have variety in terms of technological intensity. The four sectors and their technological profile are as follows:

- Horticulture/agro-foods (as an example of a commodity-based/low-tech sector);
- Apparel (as an example of a medium-tech and labour-intensive sector);
- Mobile telecommunication/mobile phones (as an example of a high-tech sector); and
- Tourism (as an example of a service sector).

In each of these sectors, we analysed a slightly different set of developing countries. The selection of countries was guided by the idea of including the major developing countries for each sector and for each continent, e.g. China, India, Mexico or South Africa. The rest of the countries were chosen to reflect a balanced regional distribution with a certain emphasis on those countries that have an established link with the lead firm or key supplier firms in the global value chain. A full overview of the countries in the sample is provided in Table 1.

Table 1: Country samples for the four sectors

Horticulture	Apparel	Telecom	Tourism
Africa: Ethiopia, Kenya, South Africa, Tanzania, Uganda Asia: Bangladesh, China, India, Thailand, Vietnam Latin America and the Caribbean: Brazil, Chile, Colombia, Ecuador, all Central America	Africa: Kenya, Lesotho, Mauritius, South Africa Asia: Bangladesh, Cambodia, China, India, Sri Lanka, Vietnam Latin America and the Caribbean: Dominican Rep., El Salvador, Guatemala, Haiti, Mexico, Nicaragua	Africa: Congo (Dem. Rep.), Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Rwanda, South Africa, Tanzania, Uganda Asia: Bangladesh, China, India, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam Latin America and the Caribbean: Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Paraguay, Peru	Africa: Kenya, South Africa, Uganda Asia: China, India, Indonesia, Jordan, Nepal, Vietnam Latin America and the Caribbean: Brazil, Costa Rica, Jamaica

Note that these countries are not necessarily the largest exporters in these sectors. Table 2 shows the top exporters in each sector ranked by world export market share. Our sample includes a number of important exporters – Mexico in horticulture, apparel and telecom, Costa Rica in horticulture, Bangladesh and Sri Lanka in apparel and China in all four sectors – but many countries in our sample do not fall in the top 15 of world exporters in these product categories.

[9] See Barrientos et al. (forthcoming).

Table 2: Top-15 exporters and their market shares in selected sectors (in 2009)

Rank	Horticulture (%)		Apparel (%)		Telecom (%)		Tourism (%)	
1	**Netherlands**	13.34	**China**	38.11	**China**	37.39%	**USA**	14.38
2	**Spain**	9.78	**Bangladesh**	5.01	**Rep. of Korea**	10.66%	**Spain**	6.98
3	**USA**	7.94	**Italy**	4.69	**Mexico**	5.78%	**France**	6.53
4	**Mexico**	5.82	**Turkey**	4.34	**USA**	4.91%	**Italy**	5.14
5	**China**	4.82	**India**	4.16	**Japan**	3.81%	**UK**	4.54
6	**Italy**	4.17	**Vietnam**	3.25	**Germany**	3.30%	**China**	4.49
7	**Chile**	3.67	**Germany**	2.82	**Finland**	2.80%	**Germany**	4.35
8	**Ecuador**	3.12	**Indonesia**	2.70	**Hungary**	2.60%	**Australia**	2.69
9	**France**	2.91	**France**	2.27	**Malaysia**	2.19%	**Austria**	2.26
10	**Turkey**	2.90	**Spain**	1.60	**Netherlands**	2.15%	**Turkey**	2.23
11	**Canada**	2.87	**Mexico**	1.58	**UK**	1.95%	**Thailand**	2.01
12	**Colombia**	2.40	**Netherlands**	1.45	**Sweden**	1.89%	**Canada**	1.88
13	**Belgium**	2.40	**Tunisia**	1.37	**Singapore**	1.75%	**Greece**	1.88
14	**Costa Rica**	2.32	**Sri Lanka**	1.37	**Ireland**	1.53%	**Hong Kong**	1.64
15	**Germany**	2.06	**Romania**	1.33	**France**	1.30%	**Netherlands**	1.62

Source: Authors' own illustration based on data from UN Comtrade and UNCTAD Handbook of Statistics 2009 (available online as UNCTADstat at: http://unctadstat.unctad.org/).

In the remainder of this section we give the precise definition of each of the sectors in terms of product coverage/product categories. The analysis draws on the following international data sets:[10]

- UN Comtrade (exports, unit values)
- UNCTAD Handbook of Statistics (tourism exports, unit values)
- UNIDO INDSTAT4 (employment, earnings)
- ILO Laborsta and ILO KILM (earnings)
- World Travel and Tourism Council (WTTC) Economic Data Search Tool (employment)[11]

It is important to note that, due to limitations in data availability and due to the fact that different data sources had to be used for different indicators, the definition or scope of a specific sector differs somewhat between the four different indicators. For example, in order to define the horticulture sector for our analysis of economic upgrading, we refer to the World Customs Organization's (WCO) Harmonized Commodity Description and Coding System (HS), as reported in the UN Comtrade database. More specifically, in our definition the horticulture sector is made up of three HS codes at the two-digit level of aggregation, namely HS codes 06, 07 and 08. This definition (i.e. the sum of HS codes 06 to 08) will be applied when calculating the world export market shares of the selected countries with data from the UN Comtrade database. For the calculation of unit values, however, we need a higher degree of disaggregation because UN Comtrade does not report export volumes/quantities at the two-digit level. We will therefore use the unit values of the ten four-digit HS product codes listed in Table 1 and calculate their weighted average to get an 'aggregate' figure for

[10] For full details on the data sources, see Appendix 1.
[11] Available at: http://www.wttc.org/research/economic-data-search-tool/

the horticulture sector as a whole. Defining the horticulture sector for our analysis of social upgrading, in turn, has proven to be much more difficult, due to paucity of data. In fact, we were not able to find reliable published employment data for the horticulture sector. As for the second social upgrading indicator, i.e. (real) wages, we settle for income data for selected occupational groups (as reported by the ILO) as proxies for wage developments in the horticulture sector as a whole.

The data for the apparel and mobile telecom sectors were also drawn from the UN Comtrade database, so that these sectors too are defined with reference to the HS classification scheme. The apparel sector is defined to comprise HS codes 61 and 62. For the calculation of export unit values, we again need to go to the four-digit level of product disaggregation, so we calculate the weighted average of each country's top-ten export products at the four-digit level within HS codes 61 and 62, to get an overall figure for the apparel sector as a whole. Meanwhile, the mobile telecom sector is defined to encompass HS codes 851712, 851761, 851770, and 8523 – which allows us to calculate both export market shares and unit values. For the analysis of social upgrading in both sectors, in turn, we take data from UNIDO's INDSTAT4 database (2010 edition). This database provides data categorized according to the International Standard Industrial Classification (ISIC) system (i.e. not according to the HS scheme). The employment and wage data reported and used below thus refer to ISIC code 1810, for the apparel sector, and the sum of ISIC codes 3220 and 3230, for the mobile telecom sector.

Tourism, as a service industry, is a somewhat special case. It is the only sector where our measurement of economic upgrading is not based on UN Comtrade data and which is, therefore, not defined in terms of HS codes. Instead, we draw on UNCTAD's Handbook of Statistics 2009 to get data on 'travel expenditures (excluding transport)'[12] and 'number of visitors' which we use to calculate export market shares and unit values. For measuring social upgrading we rely on the World Travel & Tourism Council's (WTTC) definition, as applied to its 'direct tourism industry employment' data, while settling for wages for selected occupational groups (as reported by the ILO) to proxy income developments in the tourism sector as a whole. All sector definitions are summarized in Table 3.

[12] As the data on 'travel expenditures *including* transport' available in UNCTAD's database was much more scarce than the data on 'travel expenditures *excluding* transport', we decided to use the latter.

Table 3: Sector and product code definitions

Indicator	Horticulture	Apparel	Mobile telecom	Tourism
Export value & market share	**Sum of HS 06 + HS 07 + HS 08** (HS 06: '*Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage*'; HS 07: '*Edible vegetables and certain roots and tubers*'; HS 08: '*Edible fruit and nuts; peel of citrus fruit or melons*')	**Sum of HS 61 + HS 62** (HS 61: '*Articles of apparel and clothing accessories, knitted or crocheted*', HS 62: '*Articles of apparel and clothing accessories, not knitted or crocheted'*)	**Sum of HS 851712 + HS 851761 + HS 851770 + HS 8523** (HS 851712: *'Tele-phones for cellular networks or for other wireless networks'*; HS 851761: *'Base stations'*; HS 851770: *'Parts'*; HS 8523: *'Discs, tapes, solid-state non-volatile storage devic-es, "smart cards" and other media for the recording of sound or of other phenomena'*)	**'Travel expenditures excluding transport** (from the Balance of Payments, as reported by UNCTAD)
Export unit value	**Weighted average of unit values of HS 0603+0709+ 0710+0803+0805+0806+ 0807+0808+0809+0810** (HS 0603: Cut flowers, dried flowers for bouquets, etc.; 0709: Vegetables nes, fresh or chilled; 0710: Vegetables (uncooked, steamed, boiled) frozen; 0803: Bananas, including plantains, fresh or dried; 0805: Citrus fruit, fresh or dried; 0806: Grapes, fresh/dried; 0807: Melons, watermelons and papaws/papayas, fresh; 0808: Apples, pears and quinces, fresh; 0809: Stone fruit, fresh (apricot, cherry, plum, peach, etc.); 0810: Fruits nes, fresh)	**Weighted average of each country's top-ten export products at the four-digit level**	**Due to data limitations: unit value of HS 8523 exports**	**'Travel expenditures excluding transport' divided by 'Number of visitors'** (as reported by UNCTAD) (leading to unit value indicator: Travel expenditures per visitor)
Employment	**-**	**ISIC code 1810:** 'Manufacture of wearing apparel, except fur apparel'	**Sum of ISIC codes 3220 + 3230** (ISIC 3220: 'TV/radio transmitters; line comm. apparatus'; ISIC 3230: 'TV and radio receivers and associated goods')	**'Travel & tourism direct industry employment'** (as reported by WTTC)
Remuneration / wages	**Occupational groups as proxies:** - Farm supervisor - Field crop farm worker - Plantation supervisor - Plantation worker	**ISIC code 1810:** 'Manufacture of wearing apparel, except fur apparel"	**Sum of ISIC codes 3220 + 3230** (ISIC 3220: 'TV/radio transmitters; line comm. apparatus'; ISIC 3230: 'TV and radio receivers and associated goods')	**Occupational groups as proxies:** - Hotel receptionist - Room attendant or chambermaid - Cook - Waiter

Note: 'nes' stands for 'not elsewhere specified'.

4. Economic upgrading in the four sectors

In this section, we provide an overview of economic upgrading in the four sectors under study over the last 20 years. In the next section, we turn to social upgrading. The complete time series for all the component variables in economic and social upgrading are reported in Appendices 2 to 5. In this section we present the data for the two economic upgrading indicators and highlight interesting and important patterns and trends. We consider each sector separately. Using the definitions given above, we then explore the extent to which economic upgrading has taken place in the countries and sectors of interest.

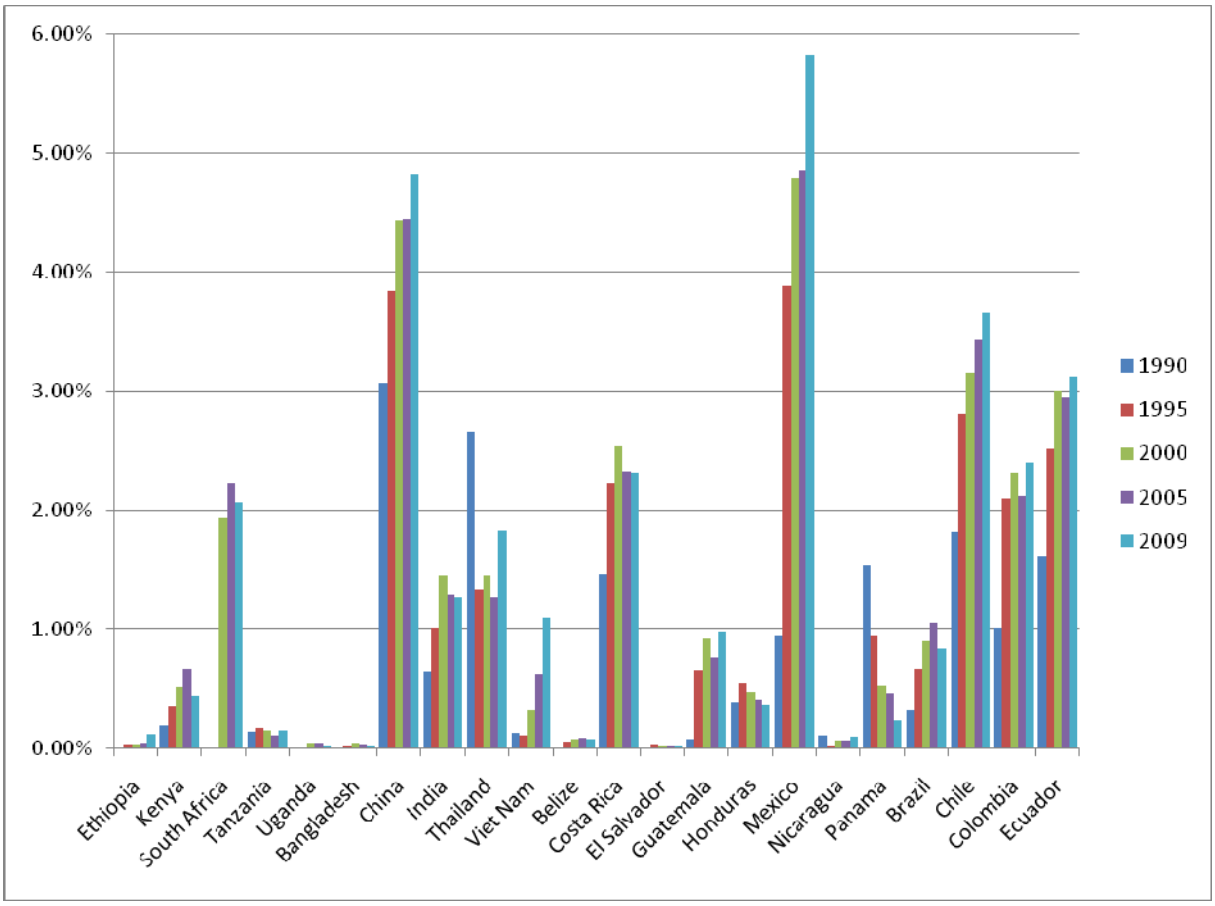
As described in Section 2, a country is considered to experience economic upgrading in a given sector when two conditions are fulfilled: 1) there is an increase (or at least no decrease) in the country's world export market share (i.e. its exports are internationally competitive); and 2) there is an increase (or at least no decrease) in the export unit value (i.e. it produces higher-value products in the sector concerned). Looking at changes over time ensures that the dynamic nature of upgrading (or downgrading) as a *process* is captured – as opposed to earlier practices using *static* indicators of innovative progress (i.e. up- or downgrading) (Kaplinsky and Readman 2005, p. 680). Below we present the percentage change from 1990 to 2009, in both the world export market share and the export unit value, for all the countries in our sample and for each of the four sectors, beginning with the horticulture sector.[13]

4.1 Horticulture

As can be seen in Table 2, the top-three horticulture exporters in terms of export market share are all developed countries, but about half of the top-15 exporters come from the developing world. Latin America plays a dominant role in this regard: one-third of the top-15 horticulture exporters are either Central or South American economies, the most important being Mexico, followed by Chile, Ecuador, Colombia and Costa Rica. Other important horticulture exporters from the developing world include China (with the fifth-largest export market share) and Turkey (the world's number ten).

[13] In order to even out year-on-year fluctuations and to minimize the impact of data outliers, we did not calculate the percentage change from the first to the last year in the sample but, where possible, used three-year moving averages (i.e. we calculated the percentage change from 1990-92 to 2007-09). In cases where figures for the beginning of the time series were not available, we took the earliest three years in the sample to calculate the moving averages.

Figure 3: Export market shares in the horticulture sector, selected countries (in %)



Source: Authors' own illustration based on data from UN Comtrade database.

Taking a closer look at the developments of export values and market shares of the developing countries in our sample[14] reveals that – except for South Africa with a world export market share of slightly above two percent – none of the African countries plays a really important role in the horticulture sector. The second most competitive exporter is Kenya, with a market share of 0.44 percent in 2009 (up from 0.19 percent in 1990, but down from 0.72 percent in 2008). Among the Asian countries in our sample, China, India, Thailand and Vietnam are significant players in the horticulture sector, with all of them accounting for more than one percent of the global export market in 2009. However, while China, India and Vietnam were able to increase their world export market shares between 1990 and 2009 (from 3.07 to 4.82 percent, from 0.64 to 1.27 percent, and from 0.13 to 1.10 percent, respectively). Thailand lost 0.83 percentage points in the same period of time (from 2.66 percent in 1990 to 1.83 percent in 2009). As already mentioned, Latin America hosts several of the most successful horticulture exporters. In fact, five of the selected Latin American economies had an export world market share of more than one percent in 2009: Mexico (5.32 percent), Chile (3.67 percent), Ecuador (3.12 percent), Colombia (2.40 percent), and Costa Rica (2.32 percent). Moreover, all of them succeeded in increasing their market share since 1990, some of them even substantially (see Figure 3).

[14] For a detailed overview of export values and export market shares in the horticulture sector, see Table A.2.1 in the Appendix.

Making general observations on developments in export unit values in the selected countries over the last 20 years is much more difficult. When using UN Comtrade data, export unit values can only be calculated at a more disaggregate level, as mentioned above. Table A.2.2 in the Appendix therefore reports how export unit values have changed between 1990 and 2009 for nine selected horticulture products at the four-digit level of product disaggregation.[15]

4.1.1 Cut flowers and dried flowers for bouquets

For example, export unit values of *cut flowers and dried flowers for bouquets* (HS code 0603) have increased for more than two-thirds of the countries in our sample during the last 20 years. Interestingly, there are some regional differences: while all the African countries in our sample saw an increase in the unit values of their flower exports between 1990 and 2009, all the Asian countries with the exception of India experienced a decline. Moreover, there are large differences in unit values across countries. While, in 2009, Uganda and Panama sold their flowers abroad for more than US$ 9 per kilogram, Bangladesh and Honduras got less than US$ 1 per kilogram for flower exports.

4.1.2 Fresh and chilled vegetables

Similar discrepancies can be observed for *fresh and chilled vegetables* (HS code 0709), which, however, saw a less favourable overall trend: only about a third of the countries in our sample succeeded in increasing their export unit values, while the rest saw stagnating or declining unit values. African countries, again, have been performing quite well, with four out of five (Kenya, South Africa, Tanzania, Uganda) managing to raise their export unit values and the only exception being Ethiopia, with stagnating unit values. Meanwhile, three of the four South American countries in our sample experienced declining unit values (Brazil, Chile and Ecuador, the only exception being Colombia), while only one of the five Asian countries in our sample (namely Bangladesh) succeeded in increasing their export unit values. Again, one can observe tremendous differences in export unit values across countries: in 2009, Colombia and Tanzania earned most per kilo of fresh vegetable exports (namely US$ 4.16 and US$ 3.62, respectively), while Brazil and Guatemala earned the least (namely 0.15 US$/kg and 0.47 US$/kg, respectively). There are quite significant intra-regional differences in export unit values (and movements therein), as can be seen in Figure 4, which displays how export unit values developed over the last 20 years in the eight Central American countries. Guatemala and Panama, for example, hardly ever sold their fresh vegetables abroad for more than 0.50 US$/kg, whereas Belize, El Salvador and Nicaragua in several years earned more than US$ 2 per kilo of fresh vegetable exports.

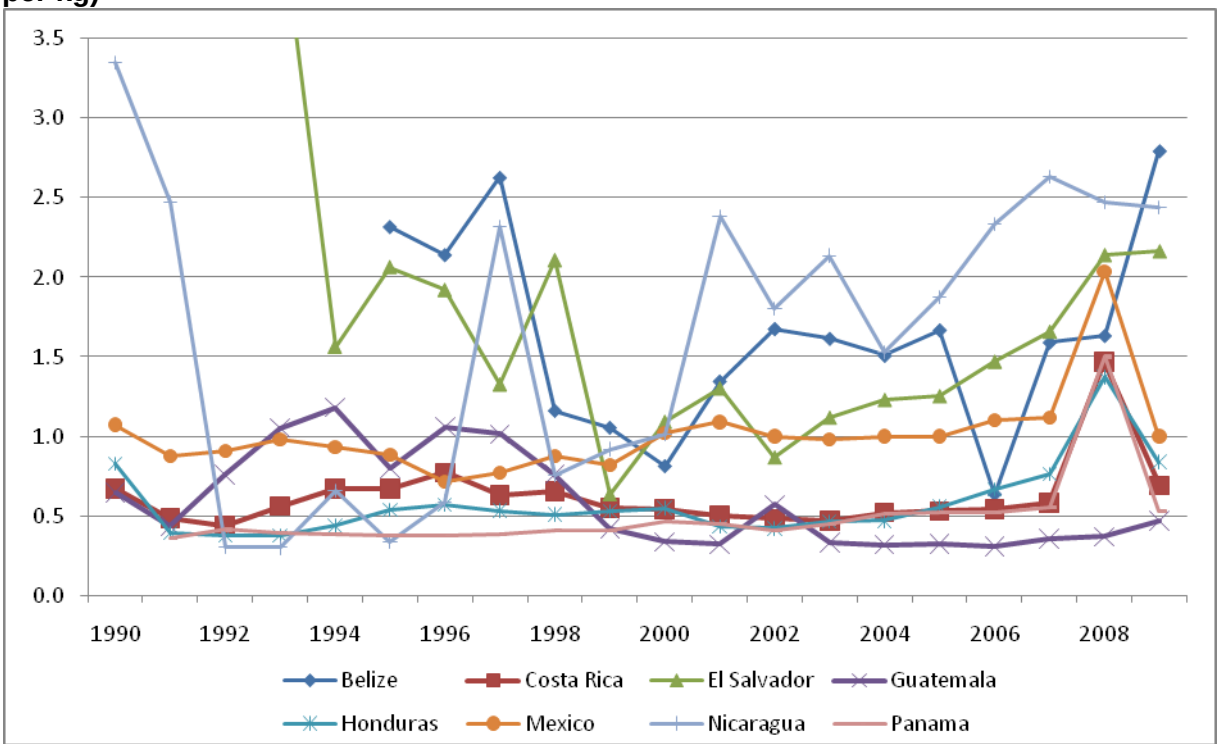
4.1.3 Fresh and dried citrus fruit

Finally, to also include a fruit in our discussion, we take a closer look at *fresh or dried citrus fruit* (HS code 0805), since it is grown in all the countries in our sample. Here, export unit values in our sample did not follow a clear trend: about half the countries experienced an increase, while the other half saw a decline. Once more, regional performances varied considerably: while all Asian countries (except China) and four out of five African countries in our sample could lift the unit values of their citrus fruit exports, all Central American countries

[15] As the quantity (or volume) of exports in the horticulture sector is typically reported in kilograms, export unit values are specified as US$ per kg.

(except for Panama) and half of the South American countries saw their export unit values deteriorate. In general, Central American countries sell their citrus fruit very cheaply: in 2009, Nicaragua, Costa Rica and Honduras earned a mere 0.07 US$/kg, 0.12 US$/kg, and 0.16 US$/kg, respectively. Other low earners include Ecuador (0.13 US$/kg) and Kenya (0.19 US$/kg). Their revenues contrast with those of Bangladesh, Ethiopia and Uganda that, in 2009, exported their citrus fruit for more than 2 US$/kg (namely 3.17 US$/kg, 2.24 US$/kg, and 2.24 US$/kg, respectively).

Figure 4: Unit values of selected Central American countries' HS 0709 exports (in US$ per kg)

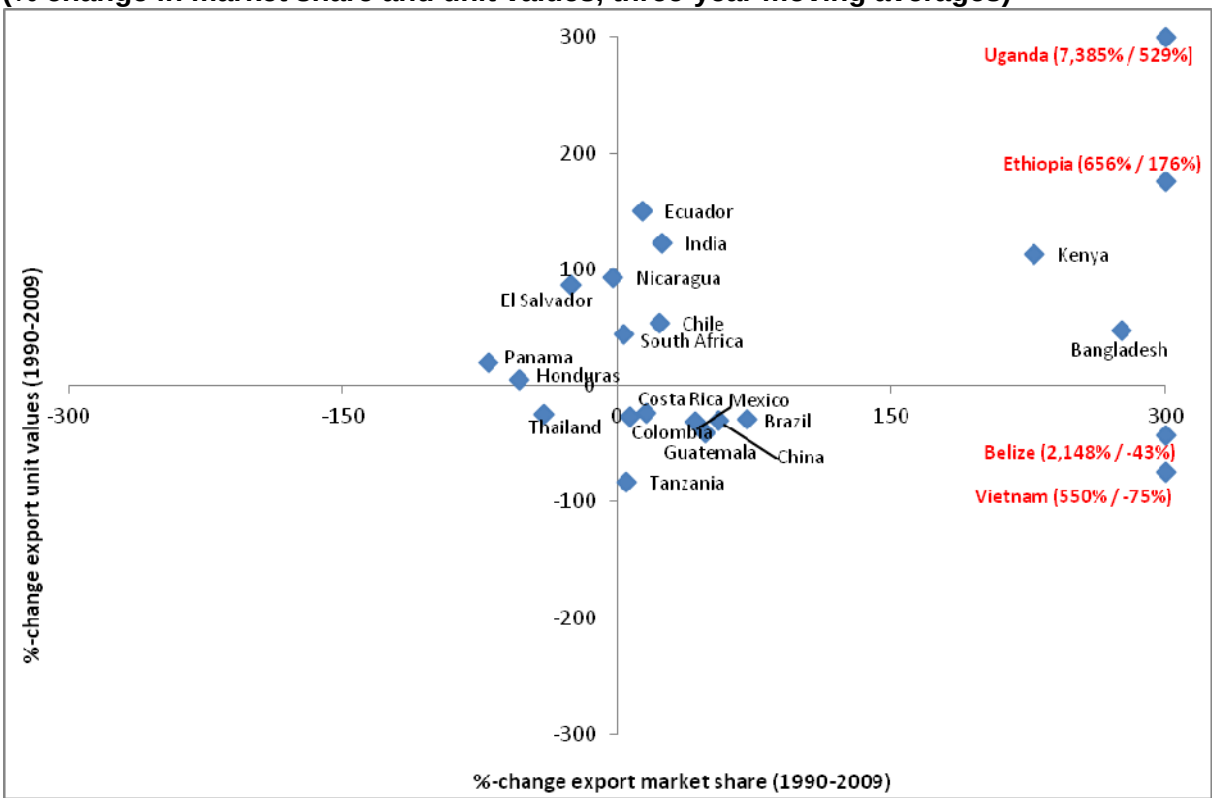


Note: HS code 0709 refers to fresh and chilled vegetables.
Source: Authors' own illustration based on data from UN Comtrade database.

As can be seen in Figure 5 (and in Table 4), eight out of 22 countries managed to economically upgrade in the horticulture sector between 1990 and 2009. Among them, Uganda is the most impressive success story, increasing its market share 78-fold (albeit from very low levels in the early 1990s) and its export unit values six-fold during the last 20 years. Two other African countries also stand out as excellent performers: Ethiopia and Kenya. Both were able to more than double the unit value of their horticulture exports while increasing their market shares more than seven-fold and three-fold, respectively. South Africa also qualifies as clear economic upgrader, albeit with less impressive growth rates. In Latin America, Chile and Ecuador were the only clear economic upgraders from 1990 to 2009, the latter recording an impressive growth in the unit values of its exports of 150 percent during this period. However, looking at a shorter and more recent time period (2000-2009) reveals that Brazil, Mexico and Nicaragua also experienced clear economic upgrading during the last decade.[16]

[16] For details on the exact figures for all countries, see Table A.2.4 in the Appendix.

Figure 5: Economic upgrading and downgrading in the horticulture sector, 1990-2009 (% change in market share and unit values, three-year moving averages)



Note: The first three years for Ethiopia are 1993-1995. For South Africa, the time span covered is 2000-2009.
Source: Authors' own illustration based on data from UN Comtrade database.

For the longer time period, the only country whose horticulture sector experienced clear economic downgrading was Thailand, losing almost 40 percent of its market share and seeing its export unit values decrease by a quarter over 1990-2009. Interestingly, in the 2000s, Thailand experienced clear economic upgrading, increasing both its market share and its export unit values by more than ten percent, so it seems that the Thai horticulture sector suffered during the 1990s but recovered during the last decade. Among the Asian countries in our sample, only Bangladesh and India established themselves as clear upgraders in the horticulture sector. Vietnam, on the other hand, impressively managed to more than sextuple its market share – albeit at the cost of declining export unit values (-75 percent). It is therefore an intermediate or mixed case, having done well on one front (export market share) but rather poorly on the other front (export unit values). China's performance was similar to that of Vietnam, yet with less pronounced changes on both fronts. Many other countries shared the same fate, the most remarkable case being Belize, whose market share increased more than 20-fold (yet from an almost non-existent share of 0.003 percent in the early 1990s to approximately 0.07 percent in the late 2000s), while the unit values of its horticulture exports went down by about 40 percent from 1990 to 2009. At the same time, the Central American countries El Salvador, Honduras, Nicaragua and Panama lost market shares but increased their export unit values, which places them in the Northwestern quadrant in Figure. 5, while Brazil, Colombia, China, Costa Rica, Mexico, Tanzania and Vietnam find themselves in the Southeastern quadrant, with market share gains but export unit value losses.

Table 4: Economic upgrading and downgrading in the horticulture sector (1990-2009)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
Bangladesh	276.04	47.32
Chile	23.06	53.87
Ecuador	13.59	149.99
Ethiopia	656.11	176.28
India	24.88	122.33
Kenya	228.39	113.44
South Africa	3.92	44.10
Uganda	7,835.38	529.47
Economic downgraders		
Thailand	-39.93	-24.52
Intermediate cases		
Belize	2,148.48	-42.66
Brazil	71.08	-29.25
China	55.74	-29.84
Colombia	7.45	-26.76
Costa Rica	15.66	-24.02
El Salvador	-24.95	86.14
Guatemala	48.59	-40.19
Honduras	-53.40	5.21
Mexico	42.97	-30.90
Nicaragua	-2.26	93.29
Panama	-70.03	20.26
Tanzania	5.39	-82.90
Vietnam	549.93	-75.09

Note: For South Africa, the time span covered is 2000-2009.
Source: Authors' own calculations based on data from UN Comtrade.

4.2 Apparel

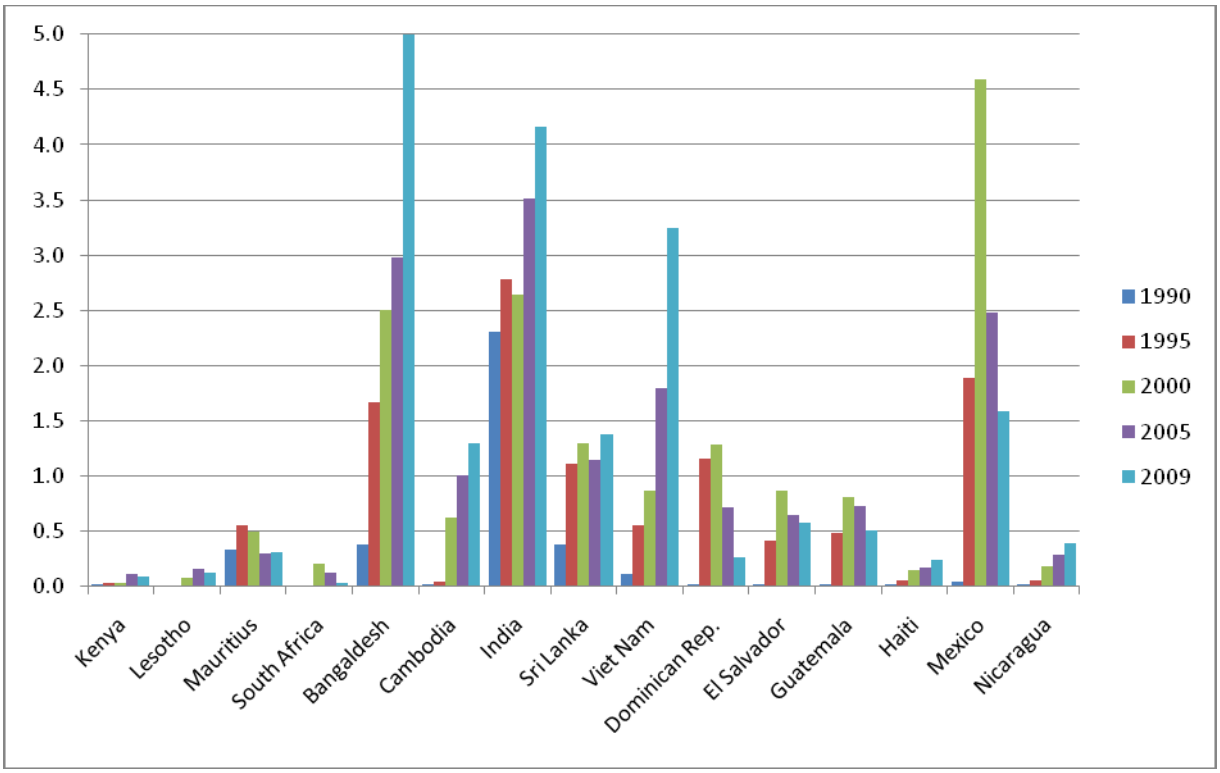
Apparel production has been much debated as a catalyst for economic development and, indeed, developing countries are among the major exporters of apparel products. As shown in Table 2 above, four of the top five (China, Bangladesh, Turkey and India) and nine of the top 15 apparel exporting countries in terms of world export market share are developing countries. Almost all of them are Asian: besides the four economies already mentioned, the ranking also includes Vietnam, Indonesia and Sri Lanka. The only other developing countries that made it into the top-15 exporters ranking are Mexico (with the 11th-largest export market share) and Tunisia (the world's number 13).

Examining in a bit more detail the developments of export values and market shares of the developing countries in our sample[17] shows that none of the African countries has succeeded

[17] For a detailed overview of export values and export market shares in the apparel sector, see Table A.3.1 in the Appendix.

in establishing itself as major exporter in the apparel sector. The most competitive African exporter in 2009 was Mauritius, with a market share of 0.31 percent (yet down from 0.33 percent in 1990). The remaining three African economies in our sample have gone through opposing experiences: while South Africa has dramatically lost market share (from 0.20 percent in 2000 down to 0.03 percent in 2009), Kenya (up from 0.001 percent in 1990 to 0.085 percent in 2009) and Lesotho (up from 0.08 percent in 2000 to 0.12 percent in 2009) have been among the biggest winners. As already mentioned, all the Asian countries in our sample are important players in the apparel sector; even Cambodia, the only Asian economy that did not make it into the top-15, has a market share of 1.3 percent. Strikingly, all of them have continuously increased their market shares, both in the 1990s and in the 2000s. Meanwhile, apparel exports of the Latin American and Caribbean countries in our sample have also gone up significantly, even though none of them (except for Mexico) has a market share above one percent. However, considering their (economic) size, several Central American and Caribbean countries had quite impressive export market shares in 2009: El Salvador (0.57 percent), Guatemala (0.50 percent), Nicaragua (0.39 percent), the Dominican Republic (0.27 percent), and Haiti (0.23 percent), all of them up from extremely low levels (see also Figure 6).

Figure 6: Export market shares (in %) in the apparel sector, selected countries, without China



Source: Authors' own illustration based on data from UN Comtrade database.

As with the horticulture sector, it is hard to make general observations on the second economic indicator of interest, namely export unit values. As mentioned above, UN Comtrade data do not allow for the calculation of export unit values at the two-digit level. Accordingly, Table A.3.2 in the Appendix reports how export unit values have changed between 1990 and 2009 for each country's top-ten apparel products at the four-digit level of

product disaggregation.[18] For illustration purposes, in the following we will briefly discuss how export unit values have developed for one of the products belonging to HS category 61 and one belonging to HS category 62.

4.2.1 T-shirts

Taking *T-shirts, singlets and other vests, knit or crochet* (HS code 6109) – which rank among the top-ten of apparel export products for *all* the countries in our sample – as a first example, export unit values have increased for almost 70 percent of the countries in our sample during the last 20 years. What is interesting to note is that there are stark regional differences. While, without exception, all the African and Asian countries in our sample have experienced a surge in the unit values of their knitted or crocheted t-shirt, singlet and vest exports between 1990 and 2009, all the Latin American economies (with the exception of the Dominican Republic) saw a decrease. Besides, export unit values differ considerably across regions and countries. While, in 2009, several African and Asian countries realized export prices for their knitted or crocheted t-shirts, singlets and vests of more than US$ 3 per item (South Africa: 5.76 US$/item, Mauritius: 3.84 US$/item, Sri Lanka: 3.60 US$/item, India: 3.03 US$/item), many Central American and Caribbean countries exported them for less than US$ 1.5 per item (Haiti: 1.13 US$/item, El Salvador: 1.36 US$/item, Nicaragua: 1.39 US$/item). Intra-regional differences, on the other hand, seem to be less pronounced, at least at the end of the sample period – as is illustrated by Figure 7, which shows how export unit values developed over the last 20 years in the six Asian countries. In fact, one can observe a certain process of convergence in Asian export unit values – and a slight overall upward trend.

4.2.2 Woven women's apparel

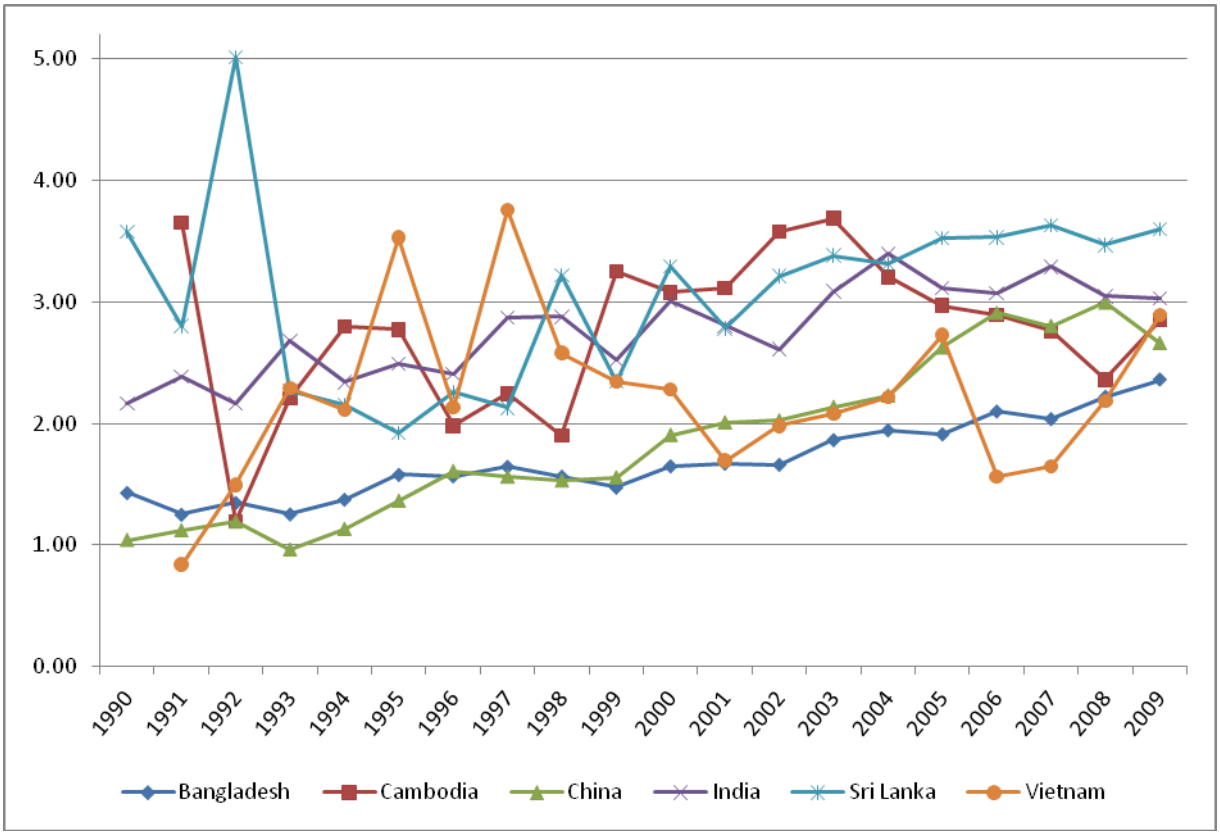
As a second example, we take a closer look at exports of *woven women's or girls' suits, jackets, dresses, skirts, etc.* (HS code 6204) – which rank among the top-ten of apparel export products for all the countries in our sample except the Dominican Republic – where about 60 percent of the countries in our sample managed to raise their unit values, while the rest witnessed stagnating or declining unit values. Asian countries, again, have been performing quite well, with almost all of them succeeding in increasing their export unit values over 1990-2009. On the other hand, three of the five Latin American countries in our sample experienced declining unit values, whereas for the four African countries the record is balanced (two experienced increases, while the other two saw declines in their export unit values). Again, one can note quite a significant variance in export unit values across countries. In 2009, Mauritius, South Africa and Mexico realized the highest export prices per item of woven women's or girls' suits, jackets, dresses, skirts, etc. (namely US$ 11.59, US$ 8.62, and US$ 8.47, respectively), while Nicaragua and Haiti earned the least (namely 4.01 US$/item and 4.50 US$/item, respectively).

In the apparel sector, generally speaking, there has been much more market share growth than export unit value growth – which is reflected in a relatively shallow slope of the imagined trend line in Figure 8. One interpretation would be that low unit values are required for gains

[18] As the quantity (or volume) of apparel exports is typically reported in kilograms or number of items, export unit values are specified either as US$ per kg or as US$ per item.

in market share – a downward sloping product demand curve. In any case, more than half of all the countries in our sample (nine out of 16) experienced clear economic upgrading from 1990 to 2009 (see Figure 8 and Table 5), some of them impressively so. The most outstanding cases are Cambodia, Kenya and Vietnam, having increased their export market shares 55-fold, eight-fold, and 13-fold, respectively. In this time period, Cambodia and

Figure 7: Unit values of selected Asian countries' HS 6109 exports (in US$ per item)



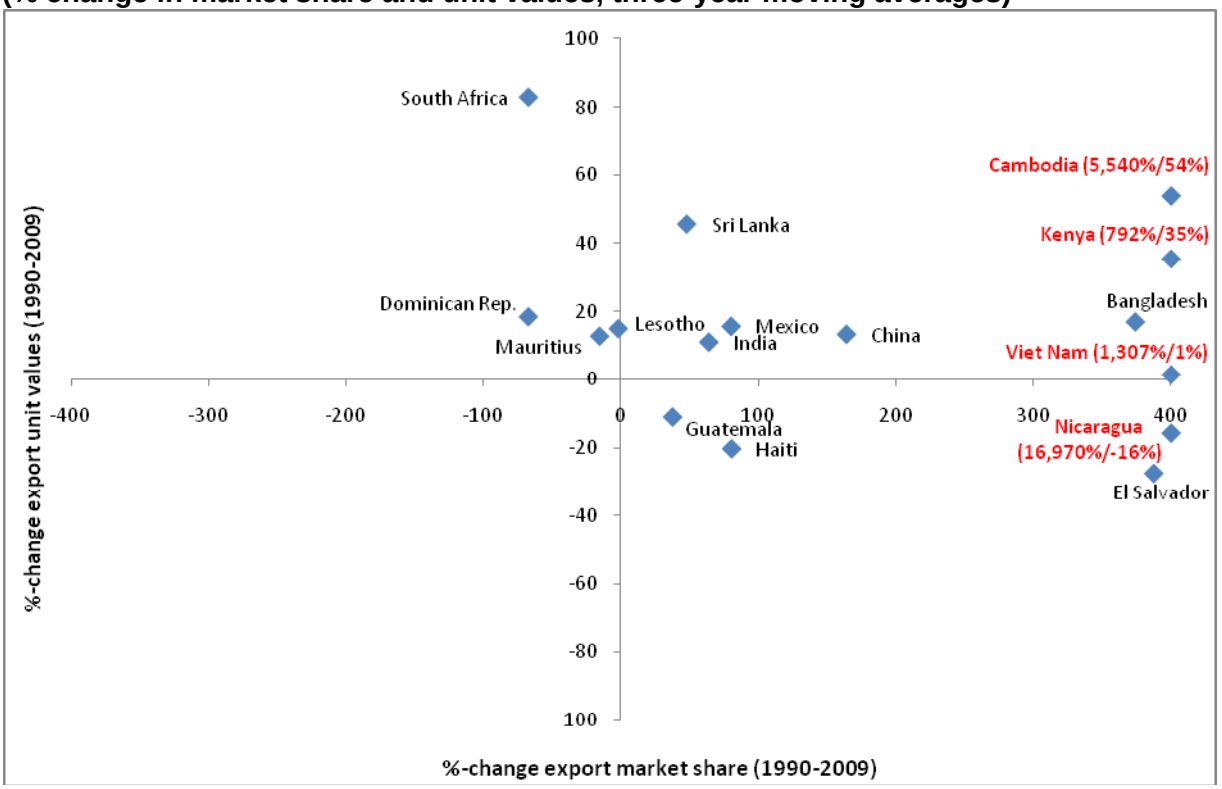
Note: HS code 6109 refers to T-shirts, singlets and other vests, knit or crochet.
Source: Authors' own illustration based on data from UN Comtrade database.

Vietnam managed to elevate their market shares to over one percent of world exports (1.3 percent and 3.3 percent, respectively) up from a low 0.02 percent and 0.20 percent, respectively. Cambodia was, moreover, able to combine this with a considerable rise in its apparel export unit value of 54 percent, whereas Vietnam's exports gained a mere 1.35 percent in value per unit between 1990 and 2009. In fact, the best performer in this regard has been Guatemala, whose export unit values more than doubled during the last 20 years – allowing it to increase its world export market share by almost 40 percent, apparently in higher-value segments. Other unambiguous economic upgraders include the Asian powerhouses, China and India, as well as Bangladesh, Sri Lanka and Mexico. Remarkably, a significant part of this overall upgrading of these countries over 1990-2009 seems to have occurred in the first half of this period, i.e. in the 1990s. Only four of the nine countries (Bangladesh, Cambodia, India and Kenya) figure among the list of clear economic upgraders if one looks at the shorter and more recent time period, 2000-2009.[19] China, on the other

[19] For details on the exact figures for all countries for 2000-2009, see Table A.3.4 in the Appendix.

hand, had a mixed experience in the 2000s, with its market share still growing by 57 percent, yet its export unit values falling by six percent.

Figure 8: Economic upgrading and downgrading in the apparel sector, 1990-2009 (% change in market share and unit values, three-year moving averages)



Note: The two axes have different scales; for Lesotho and South Africa, the time span covered is 2000-2009.
Source: Authors' own illustration based on data from UN Comtrade database.

Interestingly, none of the countries in our sample experienced clear-cut economic downgrading in the apparel sector over the entire period. However, this is not true for the 2000s, when El Salvador and Guatemala somewhat reversed their good performance from the 1990s and lost both export market shares and export unit values. Another notable case is Nicaragua, whose export market share shot up by a stunning 17,000 percent from 1990 to 2009 (with a significant slowdown of market share gains in the second half of the period) – on the back of a simultaneous decrease in export unit values of 16 percent. What is also interesting to note is that, except for Kenya, all the African countries in our sample (Lesotho, Mauritius and South Africa[20]) are intermediate cases with a common pattern: while all of them succeeded in enhancing the unit values of their exports, they did so at the expense of markets shares which dropped by two percent (Lesotho), 16 percent (Mauritius), and 67 percent (South Africa), respectively. For Central America, the picture is more varied: while, as noted, Guatemala and Mexico's apparel export sectors have experienced unequivocal economic upgrading, their counterparts in the Dominican Republic, El Salvador, Haiti and Nicaragua have only had mixed success, recording upgrading on one metric but downgrading on the other.

[20] Note that, due to data availability, figures for Lesotho and South Africa refer to 2000-2009.

Table 5: Economic upgrading and downgrading in the apparel sector (1990-2009)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
Bangladesh	373.89	16.86
Cambodia	5,539.65	53.88
China	163.94	13.25
Guatemala	37.46	128.54
India	63.86	10.96
Kenya	791.80	35.40
Mexico	80.04	15.56
Sri Lanka	47.71	45.69
Vietnam	1,307.10	1.35
Economic downgraders		
-		
Intermediate cases		
Dominican Rep.	-67.34	18.39
El Salvador	387.33	-27.62
Haiti	80.44	-20.42
Lesotho	-2.03	14.93
Mauritius	-15.60	12.71
Nicaragua	16,970.36	-15.86
South Africa	-67.31	82.95

Note: Time span covered is 2000-2009 for Lesotho and South Africa.
Source: Authors' own calculations based on data from UN Comtrade.

4.3 Mobile telecom

In the mobile telecom sector, most developing countries are minor players and have only tiny export market shares. This is reflected in Table 2 above, which shows that there are only four developing countries among the 15 leading exporters in the sector. These four countries, however, occupy top spots, with China and South Korea ranking first and second, while Mexico and Malaysia are the world's fifth and ninth-largest exporters.

Apart from these exceptions, the technology intensity of the mobile telecom sector guarantees that the world market is dominated by exports from the advanced economies, and the huge majority of the countries in our sample play very small roles as exporters. It is important to note that we have not included the raw materials such as coltan in our definition of the mobile telecom sector, thus understating the importance of developing countries within the global value chain.[21]

[21] On 'conflict coltan' and the mobile phone supply chain, see Nathan and Sankar (2010).

Let us shed a bit more light on the concrete figures – for which we have to look at the fourth decimal place in many cases.[22] Among the African countries in our sample, the most competitive exporter in 2009 was South Africa, with a market share of 0.037 percent (up from 0.024 percent in 2000), followed by Kenya, Nigeria and Mozambique (each with a market share of around 0.0010 percent). The remaining six African economies in our sample all have negligible market shares (less than 0.0003 percent in 2009) – and this has been the case for the entire period under investigation (1990-2009). Also, while most of them have registered gains in market shares since the 1990s, these fluctuations have been miniscule.

The situation is pretty similar in the Latin American and Caribbean countries in our sample. Except for Mexico and Brazil (with market shares of 5.78 percent and 0.70 percent, respectively, in 2009), none of them has an appreciable export market share in the mobile telecom sector. Colombia (0.0086 percent), Guatemala (0.0027 percent), Peru (0.0015 percent), and Paraguay (0.0012 percent) commanded market shares of (slightly) over a thousandth of a percent, while El Salvador, Haiti, Honduras and Nicaragua had even less than that.

As with the African countries, changes in market shares (in absolute figures) over the last 20 years were relatively minor for most Latin American and Caribbean countries. The notable exceptions are the two most competitive exporters, Mexico and Brazil, which both managed to increase their market shares quite substantively since 1990. Besides, Costa Rica, Paraguay and Peru succeeded at least in registering noticeable gains. Meanwhile, mobile telecom exports from almost all the Asian countries in our sample have gone up significantly – and today some of them are important players, as already mentioned. The stellar performer was, of course, China, which managed to ramp up its market share from 2.5 percent in 1990 to 37.4 percent in 2009, a clear indicator of China's dramatic success in export markets in the 1990s and 2000s. Vietnam and the Philippines represent similar success stories, albeit at much lower levels (reaching export market shares of 0.18 percent and 0.39 percent, respectively, in 2009). The two Asian countries in our sample with the largest world export market shares after China, namely Thailand (0.88 percent in 2009) and India (0.77 percent in 2009), on the other hand, have experienced ups and downs: while both gained export market shares in the 1990s, they lost market shares in the 2000s (see also Table 6 and Figure 9).

Data on export unit values must be interpreted with caution, as the sources are riddled with gaps, outliers and implausible values. Moreover, longer time series data are available only for product code HS 8523 ('Discs, tapes, solid-state non-volatile storage devices, "smart cards" and other media for the recording of sound or of other phenomena'). We take the unit values of HS 8523 products as proxy for the whole mobile telecom sector. In addition, given the rather recent emergence of the mobile telecom sector, we concentrate on developments since the year 2000.[23]

[22] For a detailed overview of export values and export market shares in the mobile telecom sector, see Table A.4.1 in the Appendix.

[23] For most countries, the quantity (or volume) of exports in the mobile telecom sector is reported in number of items, so their export unit values are specified in US$ per item. For a few countries, however, the quantity of exports is reported in kilograms, so their export unit values will be given in US$ per kg. For details, see Table A.4.2 in the Appendix.

Table 6: Export market shares in the mobile telecom sector, selected countries with a market share of more than 0.01 percent in 2009 (in %)

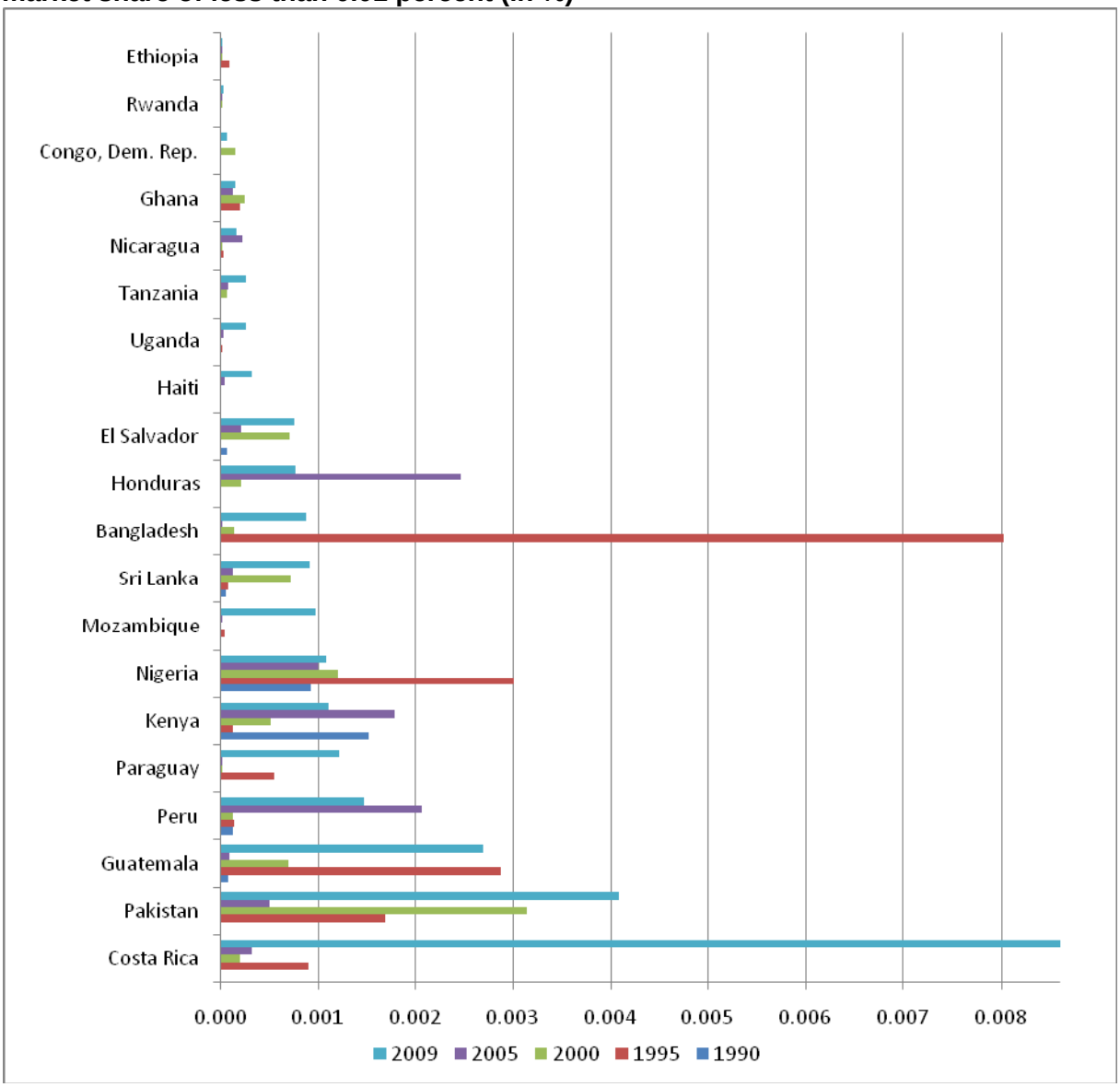
	1990	1995	2000	2005	2009
China	2.511	6.081	5.215	13.890	37.393
Mexico	0.156	2.967	2.618	0.871	5.779
Thailand	0.789	1.509	1.223	0.560	0.884
India	0.104	0.187	0.471	1.845	0.774
Brazil	0.016	0.097	0.008	0.015	0.698
Philippines	0.003	0.020	0.061	0.053	0.387
Vietnam	n.a.	0.000	0.001	0.004	0.181
South Africa*	n.a.	n.a.	0.024	0.026	0.037
Colombia	n.a.	0.011	0.024	0.021	0.010

Until 1999, exports of South Africa were reported as consolidated figure for the Southern African Customs Union (SACU), which also included Botswana, Lesotho, Namibia and Swaziland.
Note: n.a. means figures not available.
Source: Authors' own calculations based on data from UN Comtrade database.

With those caveats in mind, we note that two-thirds of the countries in our sample have recorded an increase in the unit values of their telecom exports over the last decade. However, inter-regional differences are quite significant. While 80 percent of the African countries in the sample succeeded in raising their export unit values since 2000 (the only exceptions being the Democratic Republic of Congo and Mozambique, where export unit values went down), the same is true for only about half of the Asian and Latin American and Caribbean countries. In Asia, Bangladesh, China, Pakistan and Thailand managed to increase the unit values of their mobile telecom exports, while India, the Philippines, Sri Lanka and Vietnam saw their unit values decline. In Latin America and the Caribbean, in turn, winners in terms of export unit values included Brazil, Colombia, Costa Rica, Guatemala, Haiti and Mexico, whereas losers included El Salvador, Honduras, Nicaragua, Paraguay and Peru.

Export unit values differ dramatically across regions and countries. In Africa, the leaders are the Democratic Republic of Congo and Uganda, with export unit values in 2009 of around 18 US$/item. Nigeria and South Africa, on the other hand, realized export prices of only less than US$ 4 per item. A similar marked variation of export unit values can be observed for the Latin American and Caribbean countries in our sample. Here, export unit values range from less than 50 cents per item (Paraguay: 0.12 US$/item; Colombia: 0.35 US$/item; Peru: 0.48 US$/item) to more than US$ 40 per item (Costa Rica: 40.41 US$/item). The only region with a reasonable spectrum for their export unit values is Asia. More precisely, for the Asian countries in our sample, export unit values in 2009 ranged from 0.10 US$/item in Vietnam to 2.86 US$/item in Bangladesh. Other good regional performers include China and Pakistan, which exported their mobile telecom products for 2.04 US$/item and 1.51 US$/item, respectively. At the lower bound, one can find Sri Lanka and India, which earned a mere US$ 0.17 and US$ 0.24 per exported item, respectively.

Figure 9: Export market shares in the mobile telecom sector, selected countries with a market share of less than 0.01 percent (in %)



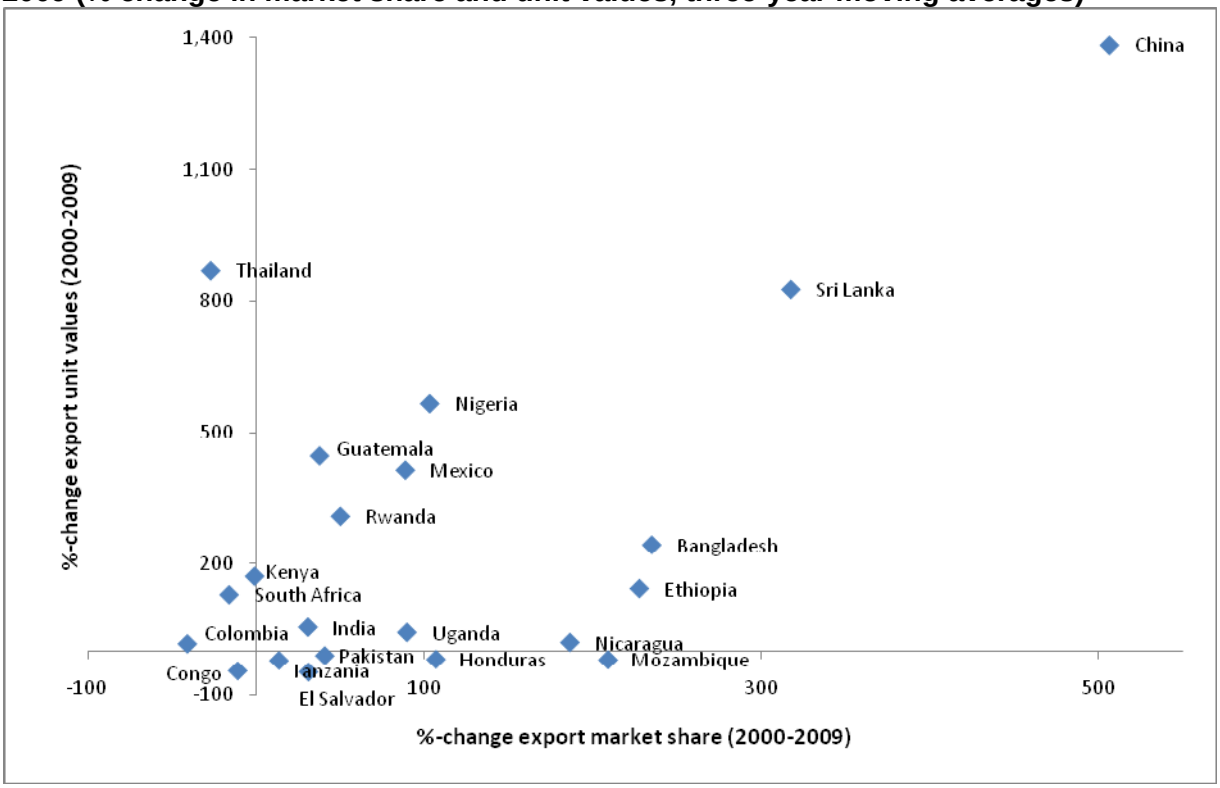
Source: Authors' own illustration based on data from UN Comtrade database.

For the scatter plot, we decided to just look at the more recent time period 2000-2009, as this industry really developed only around the turn of the century and as data are not very meaningful for the early 1990s.[24] As Figure 10 and Table 7 reveal, more than 60 percent of the countries in our sample (18 out of 29) managed to economically upgrade in the mobile telecom sector during the last decade. Several stunning success stories stand out: Brazil, Costa Rica and Haiti increased both their market shares and their export unit values (often far) more than tenfold. Meanwhile, a number of other upgraders did particularly well on one of the two indicators: Peru and Vietnam, on the one hand, could expand their market shares 20-fold and 108-fold, respectively (while also approximately doubling the unit values of their exports), whereas China, Ghana and the Philippines, on the other hand, achieved 14-fold, 26-fold and 21-fold increases in their export unit values, respectively (while also gaining

[24] However, as far as available, figures for 1990-2009 are provided in Table A.4.4 in the Appendix.

world export market shares). Interestingly, the upgraders include countries from all three (sub-)continents.

Figure 10: Economic upgrading and downgrading in the mobile telecom sector, 2000-2009 (% change in market share and unit values, three-year moving averages)



Note: The two axes have different scales; the graph does not include eight outliers (Brazil, Costa Rica, Ghana, Haiti, Paraguay, Peru, Philippines and Vietnam).
Source: Authors' own illustration based on data from UN Comtrade database.

Among the 11 intermediate or mixed cases, two countries' experiences are particularly striking: Paraguay succeeded in increasing its share in the world mobile telecom market tenfold, but saw its export unit values decline by 65 percent. Thailand, on the other hand, experienced the opposite: the almost ninefold rise in the unit value of its mobile telecom exports came at the expense of a market share loss of 27 percent. In all the other cases, market share changes and unit value changes were less extreme, with the biggest movements experienced by Honduras and Mozambique (doubling and tripling their export market shares, while seeing their export unit values decline by a bit less than 20 percent, respectively) on the one hand, and Kenya and South Africa (sextupling and more than doubling of their export unit values while losing 0.6 percent and 15.8 percent of their market shares, respectively) on the other hand.

In sum, the developing countries in our sample have fared pretty well in terms of economic upgrading in the mobile telecom sector. The only country that experienced outright downgrading between 2000 and 2009 was the Democratic Republic of Congo. At the end of the decade, its exports had lost 45 percent of value per unit, while its export market share had declined by 10.6 percent.

Table 7: Economic upgrading and downgrading in the telecom sector (2000-2009)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
Bangladesh	235.18	243.13
Brazil	6,420.27	1,369.67
China	506.10	1,383.64
Costa Rica	2,015.81	3,629.29
Ethiopia	227.82	142.64
Ghana	4.60	2,571.76
Guatemala	37.98	445.33
Haiti	1,184.33	24,893.58
India	31.07	55.74
Mexico	88.93	412.88
Nigeria	103.36	566.04
Peru	2,040.47	189.87
Philippines	701.36	2,552.44
Rwanda	50.35	2,690.08
Sri Lanka	317.78	1,921.25
Uganda	89.85	43.69
Vietnam	10,790.80	220.46
Economic downgraders		
Congo, Dem. Rep.	-10.60	-45.06
Intermediate cases		
Colombia	-40.49	17.47
El Salvador	31.38	-92.58
Honduras	107.10	-18.17
Kenya	-0.63	637.67
Mozambique	209.26	-19.31
Nicaragua	186.61	-76.32
Pakistan	41.10	-9.76
Paraguay	1,076.04	-65.29
South Africa	-15.75	128.43
Tanzania	13.88	-20.97
Thailand	-26.67	868.94

Source: Authors' own calculations based on data from UN Comtrade.

4.4 Tourism

On a global scale, developing countries do not (yet) play a leading role as exporters of tourism services. As can be seen in Table 2 above, among the top-15 tourism exporters there are only three developing countries: China is ranked sixth while Turkey and Thailand have the tenth-largest and 11th-largest world export market shares, respectively. The rest of the ranking is dominated by North American countries (USA, Canada) and European countries (Spain, France, Italy, the UK, Germany, Austria, Greece and the Netherlands).
The countries in our sample are, thus, all rather small players in the global tourism industry.[25] Among them, the most important exporter of tourism services is China, with a world market share of 4.5 percent in 2007. Its continuous gains in market share (up from a bit more than

[25] Table A.5.1 in the Appendix provides a detailed overview of export values and export market shares in the tourism sector.

one percent in 1990) have actually earned China a place among the top-six world exporters, only slightly behind the UK (see Table 2). The other Asian economies in our sample, in turn, are not really major players in the tourism sector. In fact, India is the only other Asian country with a world market share exceeding one percent (namely 1.3 percent in 2007) – after a pretty unsteady development over the past two decades, though. After gaining market shares in the first half of the 1990s (from 0.97 percent in 1990 up to 1.03 percent in 1994), it dramatically lost market shares until the early 2000s (down to 0.64 percent in 2002), when it started to regain ground. The trajectory of Jordan's tourism market share looked pretty much the same: after losses in the 1990s and gains in the 2000s, its market share in 2007 (0.279 percent) was almost the same as in 1990 (0.319 percent).

Meanwhile, Indonesia and Nepal were among the big losers of market shares. Both lost market shares over the last two decades, with Indonesia's going down from 1.5 percent in 1991 to 0.65 percent in 2007 and Nepal's declining from 0.07 percent in 1990 to 0.02 percent in 2007.[26] The picture is similarly mixed for the African and Latin American and Caribbean countries in our sample. In Africa, compared to their market shares in 1990, Kenya and South Africa had lost market shares by 2007, whereas Uganda succeeded in continuously gaining some (although at a very low level, i.e. up from 0.015 percent in 1993 to 0.043 percent in 2007). Taking a closer look, however, reveals that both Kenya and South Africa significantly lost market shares in the 1990s, but were able to regain some in the 2000s (Kenya: down from 0.29 percent in 1990 to 0.06 percent in 2000 and up again to 0.11 percent in 2007; South Africa: from 1.14 percent in 1990 to 0.58 percent in 2000 and 1.02 percent in 2007).

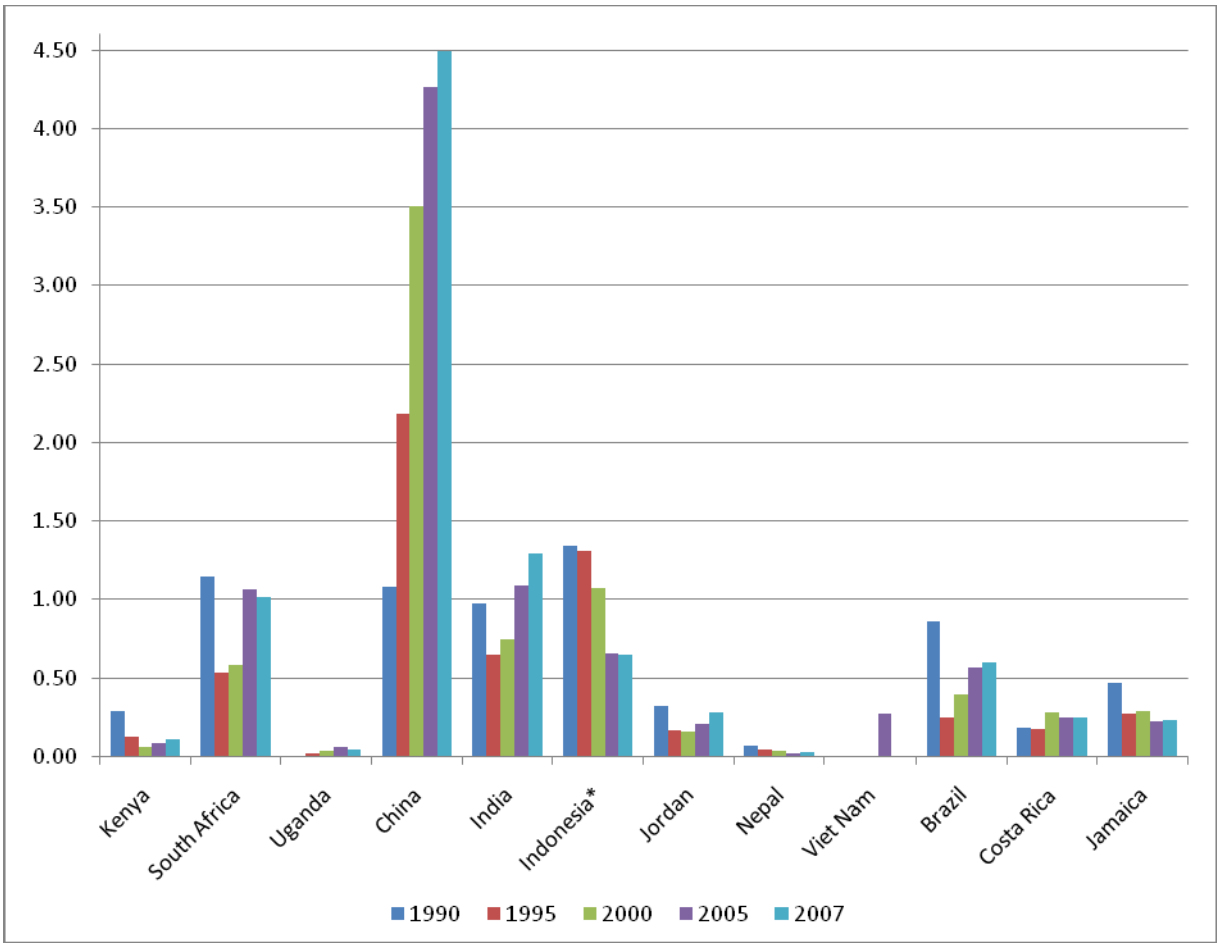
Turning to Latin America, the same pattern can actually also be observed for Brazil, whose tourism sector lost world market shares in the 1990s (down from 0.86 percent in 1990 to a trough of 0.17 percent in 1996), but recovered some in the 2000s (to reach 0.60 percent in 2007). The remaining two Latin American countries in our sample had exactly opposite experiences: while Costa Rica steadily increased its export market share (from 0.18 percent in 1990 to 0.25 percent in 2007), Jamaica's tourism sector was in continuous decline (halving its export market share from 0.47 percent in 1990 to 0.23 percent in 2007) (see also Figure 12).

Unlike commodities whose unit value measure is relatively straightforward, services – and tourism in particular – are not so simple. In view of the data that are available in UNCTAD's Handbook of Statistics 2009, we decided to divide the value of tourism services exports by the number of visitor arrivals, in order to derive a measure for export unit values, namely 'travel expenditures per visitor' (in US$).[27] Using this measure of unit values in tourism exports, we find that more than half of the countries in our sample experienced declines

[26] In the case of Indonesia, however, this seems to be a statistical artifact, as the data reported in UNCTAD's Handbook of Statistics includes East Timor until 2002, but not afterwards. Indeed, one can observe a structural break in the time series for Indonesia in 2003, when its market share drops considerably.

[27] Alternatively, one could specify the unit values of tourism exports as 'travel expenditures per day of stay' (in US$) and calculate them by dividing the value of tourism services exports by the product of

Figure 12: Export market shares in the tourism sector, selected countries (in %)



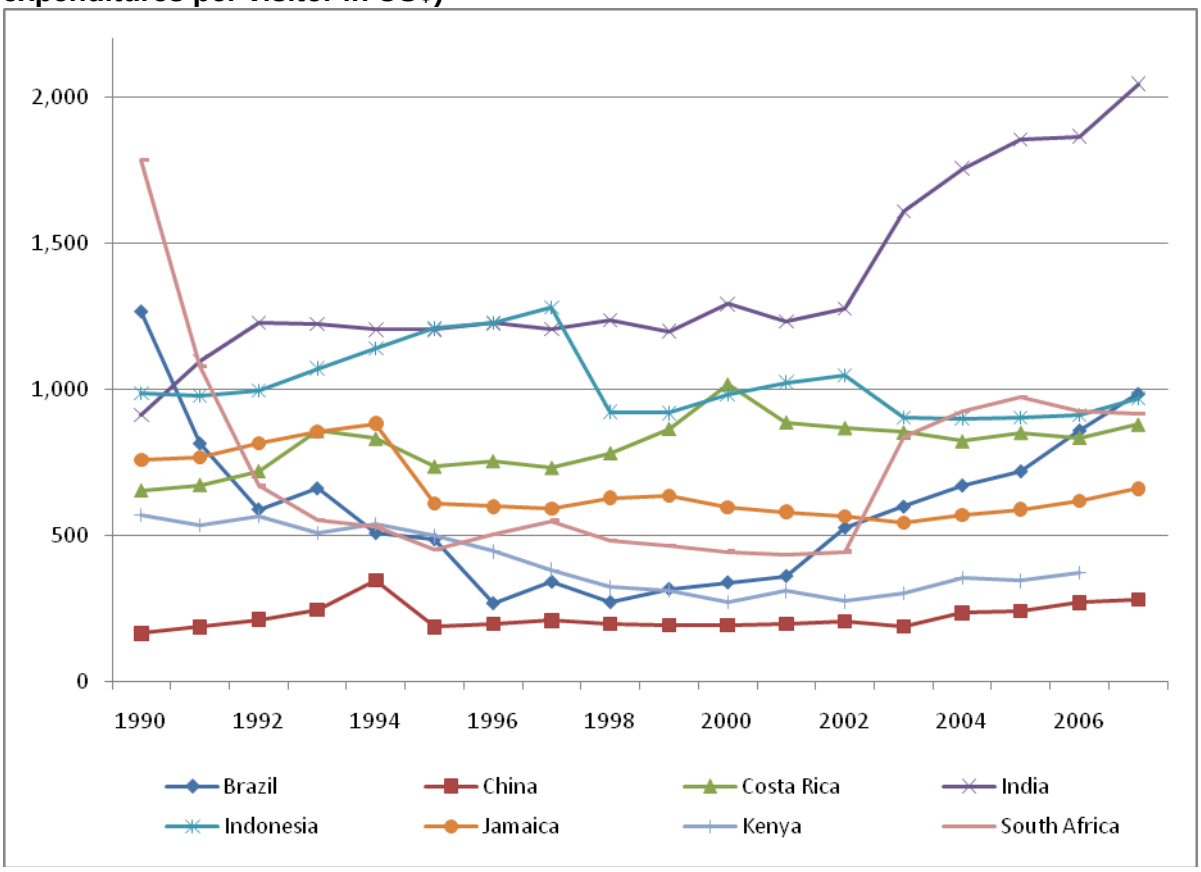
** Including East Timor until 2002.*
Source: Authors' own illustration based on data from UN Comtrade database.

between 1990 and 2007. Among the African and Latin American and Caribbean countries in our sample, two out of three earned less in travel expenditures per foreign visitor in 2007 than in 1990 (namely Kenya and South Africa, and Brazil and Jamaica). In Africa, the exception to this downward trend is Uganda, while in Latin America the only country where visitors from abroad increased their expenditures is Costa Rica. Among the Asian countries in our sample, three countries experienced a decline in tourism export unit values (Indonesia, Jordan, Nepal) and three countries an increase (China, India, Vietnam).

Travel expenditures per foreign visitor vary quite significantly across regions and countries. In 2007, India earned by far the most per tourist, namely about US$ 2,000. At the other extreme, in the same year an average visitor to China spent less than US$ 300 on tourism services. Other countries with low export unit values (of below US$ 400) include Jordan,

the number of visitors times the average length of their stay. This measure is reported neither in the text nor in the appendices, but is available from the authors upon request.

Figure 13: Unit values of selected countries' tourism exports, 1990-2007 (travel expenditures per visitor in US$)



Source: Authors' own illustration based on data from UNCTAD's Handbook of Statistics 2009.

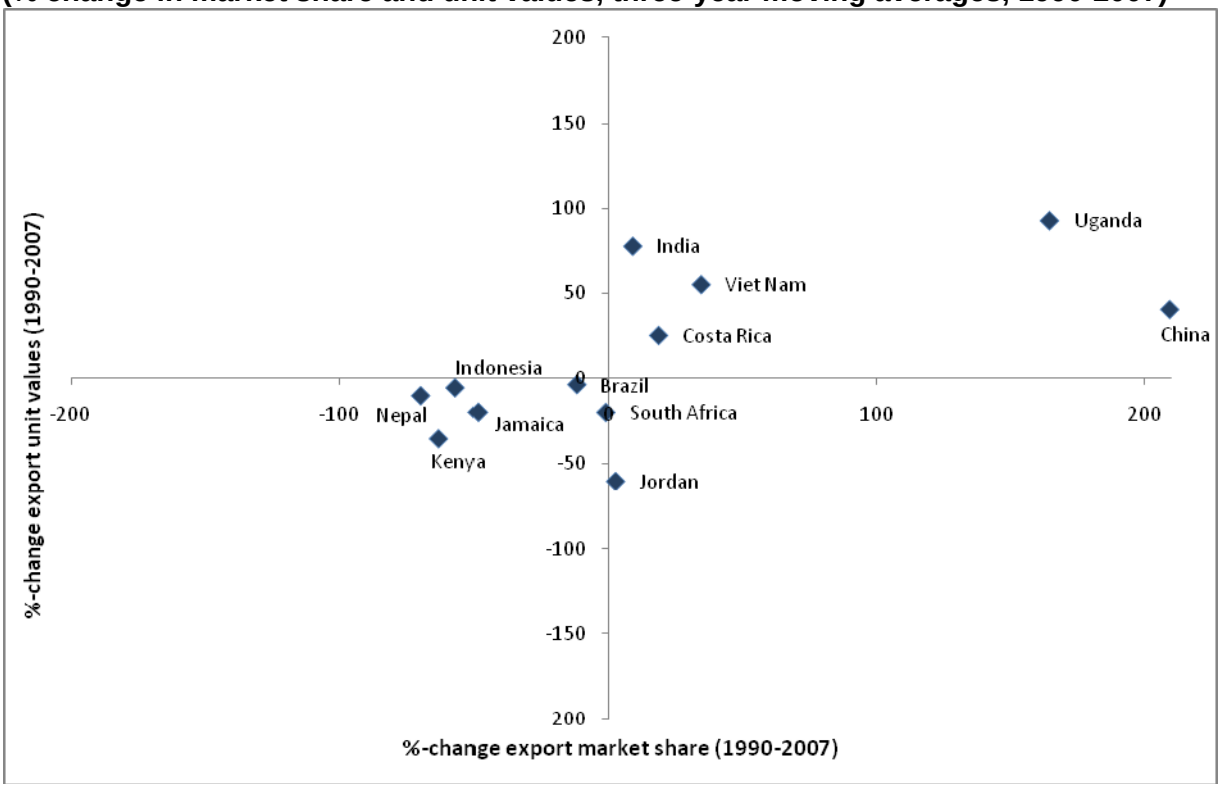
Kenya and Nepal, where travel expenditures per visitor in 2007 were US$ 354, US$ 373, and US$ 380, respectively.[28] High earners in the tourism sector, on the other hand, include Brazil, Indonesia and South Africa, where foreign visitors spent, on average, US$ 985, US$ 970 and US$ 917, respectively (see also Figure 13).

Intra-regional variation is particularly pronounced in Asia (where, as we have seen, both the top earner [India] and the bottom earner [China] are located), but much less significant in Latin America and the Caribbean (where Jamaica, the regional bottom earner, did not earn dramatically less per foreign visitor than Brazil, the regional top earner, namely US$ 661 vs. US$ 985).

Economic upgrading and downgrading in the tourism sector for 1990-2007 are illustrated in Figure 14, which has a striking feature: all countries lie in the northeast and southwest quadrants. That means that all countries in our sample experienced either clear economic upgrading or clear economic downgrading in their tourism sectors (see also Table 8). More precisely, five countries experienced upgrading and seven experienced downgrading.

[28] The figure for Kenya refers to the year 2006.

Figure 14: Economic upgrading and downgrading in the tourism sector (% change in market share and unit values, three-year moving averages, 1990-2007)



Note: Time span covered is 1993-2007 for Uganda and 2003-2006 for Vietnam.
Source: Authors' own illustration based on data from UNCTAD Handbook of Statistics 2009.

Among the best performers were China (tripling its market share while raising its export unit values by 40 percent) and Uganda (almost doubling and tripling its export unit values and market share, respectively). China is an interesting case on its own: of all the countries in our sample, it has both the biggest market share (4.5 percent in 2007) and – despite the improvements made since 1990 – the lowest export unit values, i.e. visitors travelling to China on average spend less (as measured in US$) than in any other destination in our sample. India, on the other hand, earns most (in our sample) in terms of travel expenditures per visitor (in US$) and even increased its export unit value by a considerable 78 percent between 1990 and 2007; yet it only recorded a modest gain in its market share of 8.8 percent over the same time period.

In Costa Rica, the tourism sector developed unevenly over the period 1990-2007. Breaking the period into two sub-periods reveals that Costa Rica's tourism industry experienced an upgrading in the 1990s, while it went into decline in the 2000s.[29] Uganda, one of the success stories over the full time period (1990-2007), is another case where the picture turns less rosy in the 2000s. While Uganda's tourism sector did not experience full-fledged downgrading in the 2000s (as did Costa Rica's), it turned into an 'intermediate case' (still increasing its market share but losing export unit value), which implies that it experienced most of its overall upgrading in the first half of the full sample period, 1990-2007.

[29] For details on the exact figures for all countries for 2000-2007, see Table A.5.5 in the Appendix.

Turning to the clear downgraders, Nepal (-65 percent), Kenya (-62 percent), Indonesia (-52 percent) and Jamaica (-51 percent) experienced the most dramatic falls in their market shares between 1990 and 2007. At the same time, Jordan (-60 percent), South Africa (-49 percent), Kenya (-35 percent) and Brazil (-22 percent) witnessed the most drastic declines in their export unit values. Interestingly, several of these countries managed to turn things around in the 2000s. While being clear downgraders when judged by their performance over the full time period (1990-2007), Brazil, Jordan and South Africa turned into upgraders during the 2000s (with increases in both market shares and unit values), while Jamaica had a mixed experience (still losing market shares, but slightly increasing its export unit values over the decade).[30] The only two countries with an unambiguously negative picture over the entire period, i.e. whose tourism industry experienced outright downgrading in both the 1990s and the 2000s, were Indonesia and Nepal.

Table 8: Economic upgrading and downgrading in the tourism sector (1990-2007)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
China	314.29	70.31
Costa Rica	37.68	34.53
India	33.14	124.11
Uganda	184.52	117.46
Vietnam	64.27	54.95
Economic downgraders		
Brazil	-30.74	-22.26
Indonesia	-51.98	-1.78
Jamaica	-50.97	-12.93
Jordan	-12.54	-60.38
Kenya	-62.19	-34.71
Nepal	-64.54	-11.27
South Africa	-11.04	-48.59
Intermediate cases		
-		

Note: Time span covered is 1993-2007 for Uganda and 2003-2006 for Vietnam.
Source: Authors' own calculations based on data from UNCTAD's Handbook of Statistics.

4.5 Economic upgrading: a summing up

Using a parsimonious and operational definition of economic upgrading reveals considerable variation across our four sectors. Economic upgrading is the norm in the apparel and telecom sectors – in the apparel sector, there has not been a single case of clear-cut economic downgrading over 1990-2009, while in the mobile telecom sector there has been just one such case. In horticulture and tourism, the picture is less rosy. In horticulture, while there was only one case of straightforward economic downgrading (and a few instances of clear-cut economic upgrading), the bulk of countries have not succeeded in advancing on *both* fronts (i.e. in terms of world market share *and* export unit values). Meanwhile, the tourism sector has offered the fewest prospects for economic upgrading for the developing countries in our

[30] Again, for details see Table A.5.5 in the Appendix.

sample over 1990-2007; the majority of sample countries actually experienced economic downgrading.

Variations in performance across sectors can also be observed for single countries that figure in the samples of various sectors. Brazil, for example, experienced clear-cut upgrading in the mobile telecom sector, but clear-cut downgrading in the tourism sector (while being an intermediate case in horticulture). Bangladesh and India, in turn, have successfully upgraded in *all* the sectors where their performances were analysed (India in all four sectors, and Bangladesh in horticulture, apparel and mobile telecom). Other general success stories include China (clear-cut upgrading in all the sectors except for horticulture where it had a mixed performance), Mexico (clear-cut upgrading in apparel and mobile telecom and a mixed performance in horticulture) and Vietnam (clear-cut upgrading in apparel, mobile telecom and tourism and a mixed performance in horticulture). South Africa, on the other hand, has done rather poorly overall. The only sector where it managed to upgrade was horticulture; meanwhile, its tourism sector witnessed economic downgrading, while its apparel and mobile telecom sectors ranked among the intermediate cases.

Looking at our two indicators of economic upgrading separately, it can be observed that, in general, achieving gains in export market share has been easier than achieving increases in export unit value. As a consequence, export market share growth has generally been associated with less-than-proportional growth or even declines in export unit values. In conclusion, it can be said that economic upgrading is not the norm and is more difficult than indicated by the case study literature, which often focuses on success stories (Milberg/Winkler, forthcoming).

5. Social upgrading in the four sectors

We now turn to the issue of social upgrading and downgrading in the four sectors. In this section we give an overview of how, over the last two decades, the countries in our sample have fared in terms of employment and wages in the four sectors of interest. We then combine this into a measure of social upgrading or downgrading and we summarise the findings.

According to our definition (outlined in Section 2), a country experiences social upgrading in a given sector when two conditions are fulfilled: 1) there is an increase (or at least no decrease) in employment; and 2) there is an increase (or at least no decrease) in real wages. We calculated the percentage change from the early 1990s to the late 2000s in both sectoral employment and real wages for all the countries in our sample. Where data allowed, we calculated three-year moving averages. The resulting figures were then used to again create scatter plots to depict how different countries' sectors performed in the social realm. The interpretation of the four quadrants of the diagrams is analogous to what we did in the previous section on economic upgrading. The northeastern and southwestern quadrants represent the clear-cut cases, i.e. the instances of clear social upgrading and clear social downgrading, respectively, while the remaining two quadrants include the intermediate cases, that is those countries where one of the two indicators developed positively while the

other developed negatively. Below we present and briefly discuss such matrices for three of the four sectors.

In general, analysis of social upgrading and downgrading is more difficult than analysis of the economic realm, due to significant data gaps. For various countries and years, data are very scarce or not available at all.[31] For the horticulture sector, we did not find meaningful data on sectoral employment. It was therefore impossible to generate two-dimensional scatter plots. For the other sectors, due to data limitations most scatter plots contain a smaller number of observations compared to the diagrams on economic upgrading.

5.1 Horticulture

Since data on employment in the horticulture sector are not available in international databases, it is difficult to make assertions about general or regional trends in the social upgrading sphere (as defined above) or to highlight differences between individual countries or regions. We can only make certain statements about trends and differences in labour income based on wage data for different *occupational groups* within the horticulture sector, not on wage data for the horticulture sector as a whole.

In Bangladesh, one of the few countries for which longer time series evidence on wages are available, *monthly minimum wages* for farm supervisors increased from 800 Bangladeshi taka (= US$23) in 1990 to 4,700 Bangladeshi taka (= US$100) in 1998.[32] Meanwhile, monthly minimum wages for plantation supervisors rose from 800 Bangladeshi taka to only 2,973 Bangladeshi taka (= US$62.6) in 1998. During the same period of time, plantation workers saw their monthly minimum wages increasing from 500 Bangladeshi taka (= US$14.5) in 1990 to 2,145 Bangladeshi taka (= US$46) in 1998. In India, *daily minimum wages* for field crop farm workers rose from seven Rupees (= US$0.39) in 1990 to 19.25 Rupees (= US$0.40) in 2001. Meanwhile, daily minimum wages increased for plantation supervisors (from 18.79 Rupees in 1990 to 46.60 Rupees in 2000) and for plantation workers (from 11.73 Rupees in 1990 to 28.35 Rupees in 2001) in national currency terms but not in US dollar terms where both plantation supervisors and workers experienced declines (from US$1.04 in 1990 to US$1.00 in 2000, and from US$0.65 in 1990 to US$0.59 in 2001, respectively). By contrast, Chinese plantation workers had exactly the opposite experience: while their *average yearly wages* decreased in national currency terms (from 12,100 Yuan in 2004 to 12,043 Yuan in 2006), they increased in US dollar terms (from US$1,461 to US$1,542). For Chinese farm workers, on the other hand, average yearly wages grew in both national currency terms (from 11,282 Yuan in 2004 to 13,837 Yuan in 2006) and US dollar terms (from US$1,363 to US$1,772).

For Costa Rica, some wage data are available for a later period at the end of the 2000s. Between 2005 and 2008, *monthly wages* of farm supervisors and plantation supervisors rose from 168,573 to 293,466 Costa Rican colónes (i.e. from US$353 to US$559). In the same

[31] Complete time series for all indicators (i.e. both economic and social) are reported in Appendices 2 to 5.

[32] All wage data in this section are taken from the ILO KILM and LABORSTA databases and converted into US$ using annual average exchange rates as reported in the IMF's International Financial Statistics (IFS) database. All wages reported here are nominal. For a complete overview of all the wage data available for the horticulture sector, see Table A.2.3 in the Appendix.

time period, there was almost no change in the monthly wages of plantation workers in US dollar terms (they stayed at around US$200), while monthly wages of field crop farm workers increased quite a bit (from US$181 to US$255). At about the same time, *weekly minimum wages* for supervisors and workers converged in another Central American country, namely El Salvador. More precisely, all of them earned a weekly minimum wage of US$42.0 in 2008. However, minimum wages for workers had risen much more during previous years than for supervisors. While workers in 2001 had only earned a weekly minimum of US$17.3, supervisors were guaranteed a weekly minimum wage of US$33.6 in that year.

Meanwhile, *monthly average earnings* for plantation and farm supervisors, on the one hand, and workers, on the other hand, rather diverged in Mexico. In 1999, a typical farm supervisor earned 2,673 Mexican pesos (= US$280) a month, while a plantation supervisor, on average, earned 1,864 Mexican pesos (= US$195) per month. Farm workers and plantation workers, on the other hand, received average monthly wages of 1,137 Mexican pesos (= US$119) and 1,280 Mexican pesos (= US$ 134), respectively. By the late 2000s, this wage gap had widened. In 2008, a plantation supervisor's average monthly earnings were 6,536 Mexican pesos (= US$592.5), whereas farm workers and plantation workers' average monthly wages had only increased to 2,780 Mexican pesos (= US$252) and 2,641 pesos (= US$239), respectively. The latest year for which income data are available for farm supervisors is 2004; in that year, their average monthly earnings were 4,672 Mexican pesos (= US$414).

Both Honduras and Nicaragua saw incomes increasing when measured in local currencies – but stagnating or even declining when measured in US dollars. More precisely, *weekly minimum wages* for farm workers and plantation workers in Honduras rose from 82.6 Honduran lempiras (= US$16.5) and 169 Honduran lempiras (= US$33.8) in 1990 to 210 lempiras (= US$16.15) and 280 lempiras (= US$21.5) in 1997, respectively. Honduran plantation supervisors, on the other hand, earned 259 lempiras (= US$51.8) in 1990 and 373.4 lempiras (= US$28.7) in 1997, which, again, reflects an increase in local currency terms but a decrease in US$ terms. Income data for Nicaragua show a similar picture. Farm supervisors' *monthly wages* went up from 344 Nicaraguan córdobas in 1993 to 587 córdobas in 2002 – which is equivalent to a drop from US$45.9 to US$41.2. Meanwhile, farm workers' monthly wages increased from 301 córdobas in 1995 to 585 córdobas in 2002 (corresponding to a slight increase in dollar terms, from US$40.2 to US$41.1), so they actually earned almost the same as supervisors.

Using the US dollar-based data, we can say that in horticulture Mexicans and Costa Ricans earned the most (almost US$600 per month for supervisors and around US$200 per month for workers in the late 2000s), whereas El Salvadorians earned significantly less (namely a minimum wage of only around US$170 per month in 2008). Figures for Bangladesh, Honduras and Nicaragua, in turn, date from earlier years (late 1990s or early 2000s) and are therefore not entirely comparable with the figures for Mexico, Costa Rica and El Salvador. Among these three countries, however, Hondurans seem to have had the highest wages (monthly minimum wages of between US$65 and US$115 in 1997), clearly surpassing both their Bangladeshi (with monthly minimum wages of between US$26 and US$100 in 1998) and Nicaraguan (with monthly wages of around US$ 41 in 2002) counterparts.

Due to the lack of sectoral employment data, the horticulture sector is the only sector for which we could not produce a scatter plot. We therefore only report the percentage changes in real wages from the 1990s to the 2000s for those countries for which data are available. Table 9 shows that only two countries, Honduras and Nicaragua, saw a decline in real wages in the horticulture sector. On the other hand, three-quarters of the countries in our sample have registered an increase in horticulture real wages, some of them even impressively so (most notably Belize and Bangladesh, where real wages grew more than tenfold and more than doubled, respectively).

Table 9: Social up- and downgrading in the horticulture sector (1990s–2000s)

	Real wage %-change
Bangladesh	145.09
Belize	1,295.26
Brazil	26.75
China	3.13
Costa Rica	15.72
El Salvador	25.01
Honduras	-55.33
India	15.95
Mexico	77.17
Nicaragua	-33.81

Note: Time spans covered are as follows: Bangladesh (1990-1998), Belize (1990-1995), Brazil (1999-2001), China (2004-2006), Costa Rica (2005-2008), El Salvador (2001-2008), Honduras (1990-1997), India (1990-2001), Mexico (1999-2008), Nicaragua (1993-2002).
Source: Authors' own calculations based on nominal wage data from the ILO's LABORSTA and KILM databases, and inflation data from the IMF's International Financial Statistics database.

5.2 Apparel

Social upgrading data are particularly scarce for the Latin American and Caribbean apparel sectors. In fact, the only country for which data are available is Mexico. In 2003, the latest year for which data can be found, the Mexican apparel sector employed 406,000 workers – an almost tenfold increase from 1994, the earliest year for which data are available.[33] This figure falls well short of employment numbers for the Asian economies in our sample, where the apparel sector appears to play a much more important role.

The Chinese apparel sector is the largest in terms of employment in our sample, employing almost 5.5 million people in 2007, up from 3.5 million in 2003. In Bangladesh, close to a million people were working in apparel production already in 1998 (the latest year for which data are available), up from 720,000 workers in 1993 (the earliest figure available). Most recent data show that the apparel sector gave employment to 706,000 people in Vietnam (in

[33] All data in this section are drawn from UNIDO's INDSTAT4 database (2010 version). Please note that UNIDO reports the data according to the International Standard Industrial Classification (ISIC) scheme, which differs somewhat from the HS scheme used by UN Comtrade. The figures in this section refer to ISIC code 1810: 'Manufacture of wearing apparel, except fur apparel'. For a detailed overview of employment and wage data for the apparel sector, see Table A.3.3 in the Appendix. All wages reported in this section are nominal.

2007), 540,000 people in India (2005), 482,000 people in Sri Lanka (2006) and 169,000 people in Cambodia (2000). All of these countries registered quite significant increases in the number of jobs over the last ten to 20 years. This contrasts starkly with the experience of the African countries in our sample. Apparel sector employment in South Africa went down from 109,000 jobs in 1993 to 64,000 in 2007. In Mauritius, employment fell to 51,000 in 2007 from 67,000 ten years earlier. In Lesotho, employment decreased to 27,000 from 51,000 over that same period. Interestingly, Lesotho still managed to increase its market share in world exports (see above) – whereas in Mauritius and South Africa, the decline in employment occurred as world export market shares declined.

While total employment levels in apparel are lowest in the African countries in our sample, real wages are highest, as can be seen in Figure 15. An employee in the South African apparel sector, on average, earned US$6,100 a year in 2007, up from US$5,000 in 1993, while the average annual wage of his or her counterpart in Mauritius was US$3,600 in 2006, up from US$2,600 in 1997. The only exception in our sample to these high wages paid in African apparel production is Lesotho, where in 2007 an average worker earned only US$1,300 per year, up from US$256 in 2001, but down from the peak of US$1,700 in 2005. However, this was still much more than the wages paid in various South Asian and Southeast Asian countries: the average annual remuneration was US$332 in Bangladesh (in 1998), US$734 in Vietnam (in 2000), US$918 in Cambodia (in 2000), and US$1,133 in India (in 2005).[34] In the medium range, we find China, where the average annual wage in 2007 was US$2,400, and Mexico, where the average annual wage in 2003 was US$2,600. In terms of changes over time, most countries have witnessed an increase in average (nominal) wages since the 1990s, most notably Lesotho, China and India. In Mexico, on the other hand, a typical worker in the apparel sector in 2003 (the latest year for which data are available) earned less than in 2000 and also 1994 (but more than in 1995, as displayed in Figure 15) – even in nominal terms. Other countries in our sample where wages went down include Bangladesh and Vietnam – although in these cases, due to a lack of data, the declines refer to time periods of only three and two years, respectively, and therefore cannot be fully compared to the figures for other countries, which cover longer time periods. Overall, however, one can observe a slight upward trend in nominal wages in the apparel sector over the last ten to 20 years.

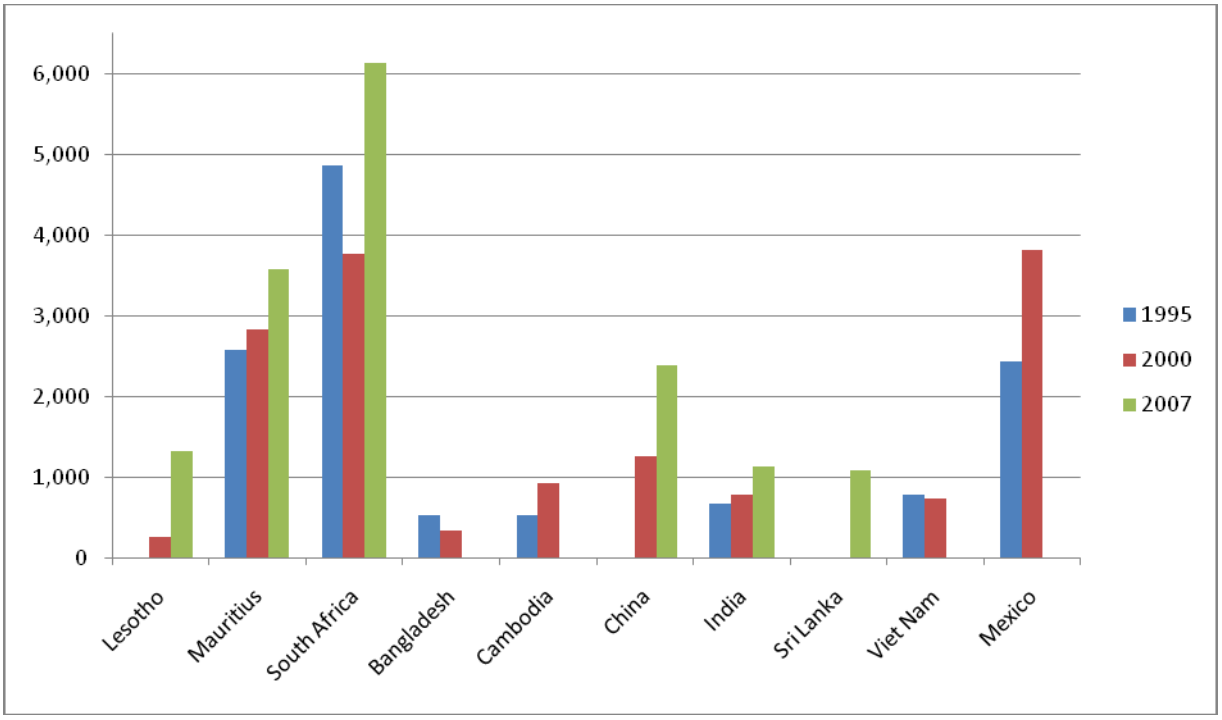
Combining data on employment and wage changes to assess social upgrading or downgrading, we find that clear-cut social upgrading in the apparel sector was rather scarce over the last two decades. As can be seen in Figure 16 and Table 10, there were, in fact, only two unambiguous cases of social upgrading, namely Cambodia and China. However, while China's improvements in terms of employment and real wages have been rather modest (around 60 percent each over a period of five years), Cambodia's performance has been extraordinary, with a doubling of real wages and an almost 60-fold increase in employment.

At the other extreme, all the African countries in our sample recorded a decline in employment. In Lesotho, this was accompanied by an increase in real wages (the largest in

[34] In brackets are the latest years for which data are available, respectively.

our sample, reaching an impressive +191 percent between 2001 and 2007). In Mauritius and South Africa, workers' remuneration went down too, so that their apparel sectors experienced clear-cut social downgrading.

Figure 15: Average annual wages in the apparel sector, selected countries (in US$)

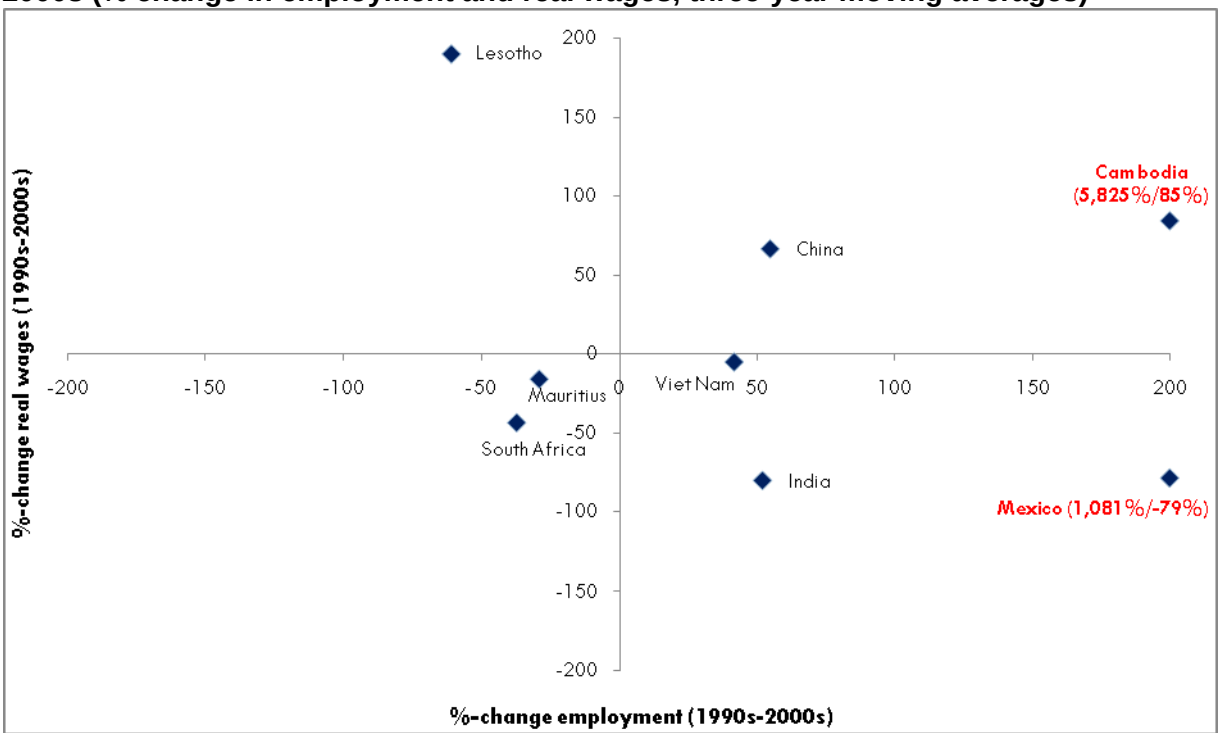


Note: For Lesotho, the figure for 2000 refers to 2001; for Mauritius, the figure for 1995 refers to 1997, while the figure for 2007 refers to 2006; for China, the figure for 2000 refers to 2003; for India, the figures for 1995 and 2007 refer to 1998 and 2005, respectively; for Sri Lanka, the figure for 2007 refers to 2006; and for Vietnam, the figure for 1995 refers to 1998.
Source: Authors' own illustration, based on data from UNIDO's INDSTAT4 database (2010 version).

Besides Lesotho, there have actually been quite a number of other 'intermediate cases', yet with exactly opposite developments on the two indicators (i.e. with employment up and real wages down). These include the two remaining Asian countries in our sample (India and Vietnam), as well as the only Latin American country in our sample, namely Mexico. The latter has followed a quite peculiar trajectory, which featured a tremendous (ten-fold) increase in employment at the same time as real wages went down by 79 percent.[35] Only India's apparel sector has witnessed a more dramatic fall in real wages (of -81 percent). Meanwhile, Vietnam was very close to being categorised as a social upgrader, with a wage decline only slightly above zero and employment growth of 42 percent.

[35] Dussel Peters (2008, p. 18) confirms this pattern of Mexico's social upgrading performance in the yarn-textile-garment sector. Interestingly, this pattern resembles significantly the experience of the Mexican mobile telecom sector, as evidenced below.

Figure 16: Social upgrading and downgrading in the apparel sector, early 1990s – late 2000s (% change in employment and real wages, three-year moving averages)



Note: Time spans covered are as follows: Lesotho (2001-2007), Mauritius (1997-2006), South Africa (1993-2007), China (2003-2007), India (1998-2005), Vietnam (2005-2008), Mexico (1995-2003).
Source: Authors' own illustration; all wage and employment data are from UNIDO INDSTAT4 database, except for wage data for Vietnam, which are from Jassin O'Rourke Group (2008); inflation data are from IMF International Financial Statistics database.

Table 10: Social up- and downgrading in the apparel sector (early 1990s–late 2000s)

	Growth (in %) employment	Growth (in %) real wages
Social upgraders		
Cambodia	5,824.69	84.53
China	54.81	66.70
Social downgraders		
Mauritius	-29.11	-16.13
South Africa	-37.31	-43.82
Intermediate cases		
India	52.02	-80.53
Lesotho	-60.56	190.53
Mexico	1,080.62	-78.99
Vietnam	41.72	-5.22

Note: Time spans covered are as follows: Lesotho (2001-2007), Mauritius (1997-2006), South Africa (1993-2007), China (2003-2007), India (1998-2005), Vietnam (2005-2008), Mexico (1995-2003).
Source: Authors' own calculations based on nominal wage data from UNIDO's INDSTAT4 database, and inflation data from the IMF's International Financial Statistics database.

5.3 Mobile telecom

Date on wages and employment in mobile telecom are best for the Asian countries in our sample. China plays an outstanding role, with 1.8 million employees in the mobile telecom sector in 2007 (up from 934,000 in 2003)[36] – which also reflects its dominance as an exporter to world markets (see Table 2 above). Employment is also sizeable in Thailand and India – although the two countries have gone through opposing developments. While in Thailand the number of jobs in the mobile telecom sector grew from 44,000 to 59,000 between 1996 and 2006, in India employment fell from 90,000 in 1998 to 57,000 in 2005. The Philippines are another example of declining employment in the mobile telecom sector (from 11,500 in 1996 and 17,800 in 1998 to 9,200 in 2005), whereas in Vietnam the number of jobs grew (from 6,800 in 1998 to 10,400 in 2000).[37] For the remaining Asian countries in our sample, data are rather scarce. For Bangladesh, there are two data records (from years back, however) that show an upward trend: in 1995, the number of employees was 1,900, which rose to 2,600 by the year 1998. For Pakistan and Sri Lanka, we only have only a single data entry, respectively: in 2006, their mobile telecom sectors employed 2,800 and 379 people, respectively. With that, the three economies mentioned last are those with the smallest work forces in the mobile telecom sector among Asian countries.

In Latin America, Mexico's mobile telecom sector is by far the largest in terms of employment. In 2003, the latest year for which data are available, it gave work to 83,500 people – an astonishing increase compared to the 6,000 workers it had in 1994 (the earliest year for which data are available). In Brazil, employment figures have been much more stable: the 59,700 jobs that the mobile telecom sector offered in 2007 were only slightly less than the 61,000 jobs it offered in 1996. Meanwhile, the two remaining Latin American countries in our sample for which data are available, namely Colombia and Peru, saw dramatic declines in the number of jobs in the mobile telecom sector (albeit at much lower levels as compared to Mexico and Brazil). In Colombia, the number of employees was reduced from 1,965 in 2000 to 535 in 2005, while in Peru the work force in the mobile telecom sector shrank from 481 in 1995 to 187 in 2003.[38]

Among the African economies in our sample, data could only be obtained for Ghana (and only for one year) and South Africa. In 2003, the only year for which figures are available, the Ghanaian mobile telecom sector employed 84 workers. In comparison, the South African mobile telecom sector was much larger, employing 5,900 in 2006 – which was significantly less than in 1993, however, when it gave jobs to more than 15,000 people.

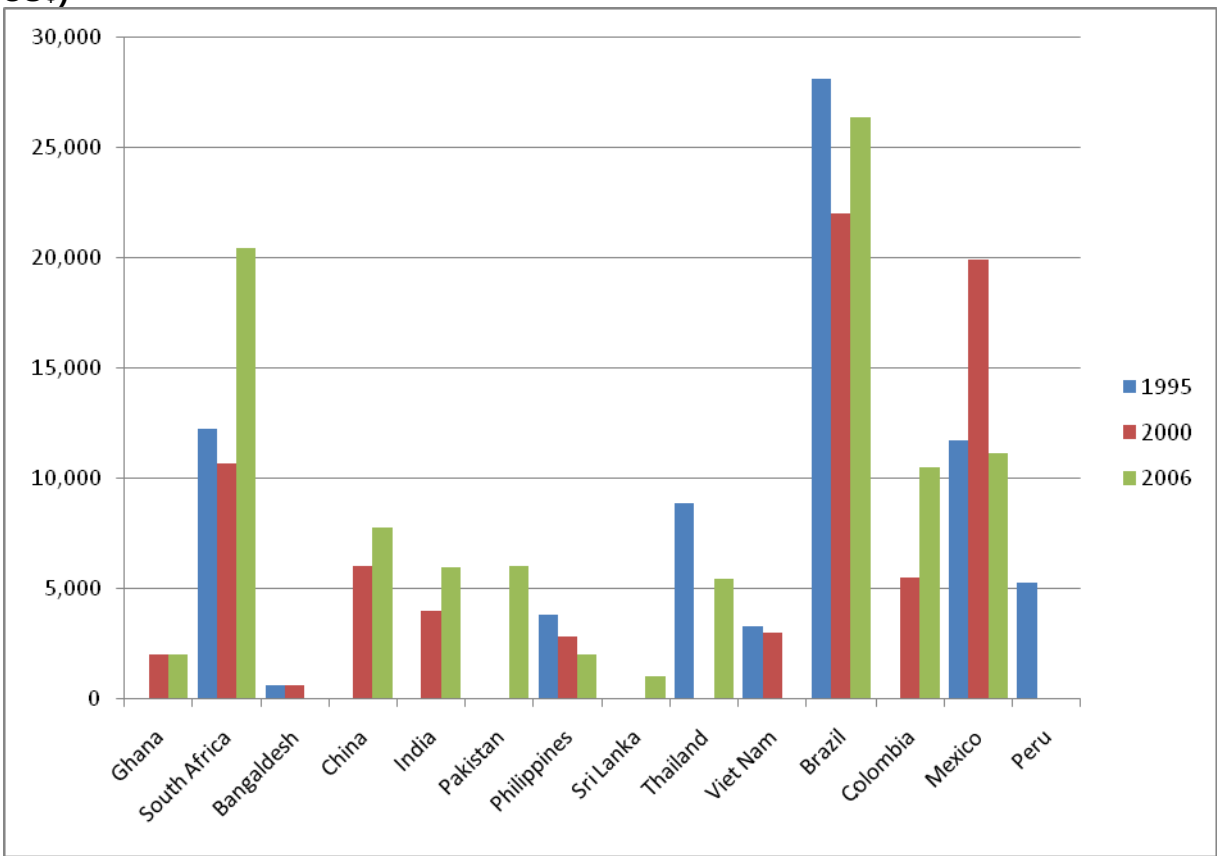
[36] All data in this section are drawn from UNIDO's INDSTAT4 database (2010 version). As noted above, UNIDO reports the data according to the International Standard Industrial Classification (ISIC) scheme, which differs from the HS scheme used by UN Comtrade. The figures in this section refer to the aggregation of values for ISIC codes 3220 ('TV/radio transmitters; line communication apparatus') and 3230 ('TV and radio receivers and associated goods'). For a complete overview of available employment and wage data for the mobile telecom sector, see Table A.4.3 in the Appendix. All wages reported in this section are nominal.

[37] The figures refer to the earliest and latest years with data available, respectively.

[38] Again, these figures refer to the earliest and latest years, respectively, for which data are available.

Let us now take a look at the second indicator for social upgrading, namely workers' income. As can be seen in Figure 17, the countries with the highest average annual wages are Brazil, South Africa and Mexico. However, wages have developed quite differently in these three countries over the last decade or so. In Brazil, average annual wages decreased between the mid-1990s and mid-2000s (from US$28,100 in 1996 to US$17,400 in 2004) but increased again afterwards, so that in 2007 (US$28,400, the latest figure available) they were slightly higher than in 1996.[39] Wages in the South African mobile telecom sector actually went through a similar trajectory, although the downward trend in the earlier years was less pronounced (from US$11,600 in 1993 slightly down to US$8,000 in 2002), whereas the upward trend in the later years was more pronounced (from US$8,000 in 2002 to US$20,500 in 2006). Meanwhile, Mexico experienced the reverse trends: the average pay went up from US$11,500 per year in 1995 to US$19,900 in 2000 and then down again to US$11,200 in 2003.

Figure 17: Average annual wages in the mobile telecom sector, selected countries (in US$)

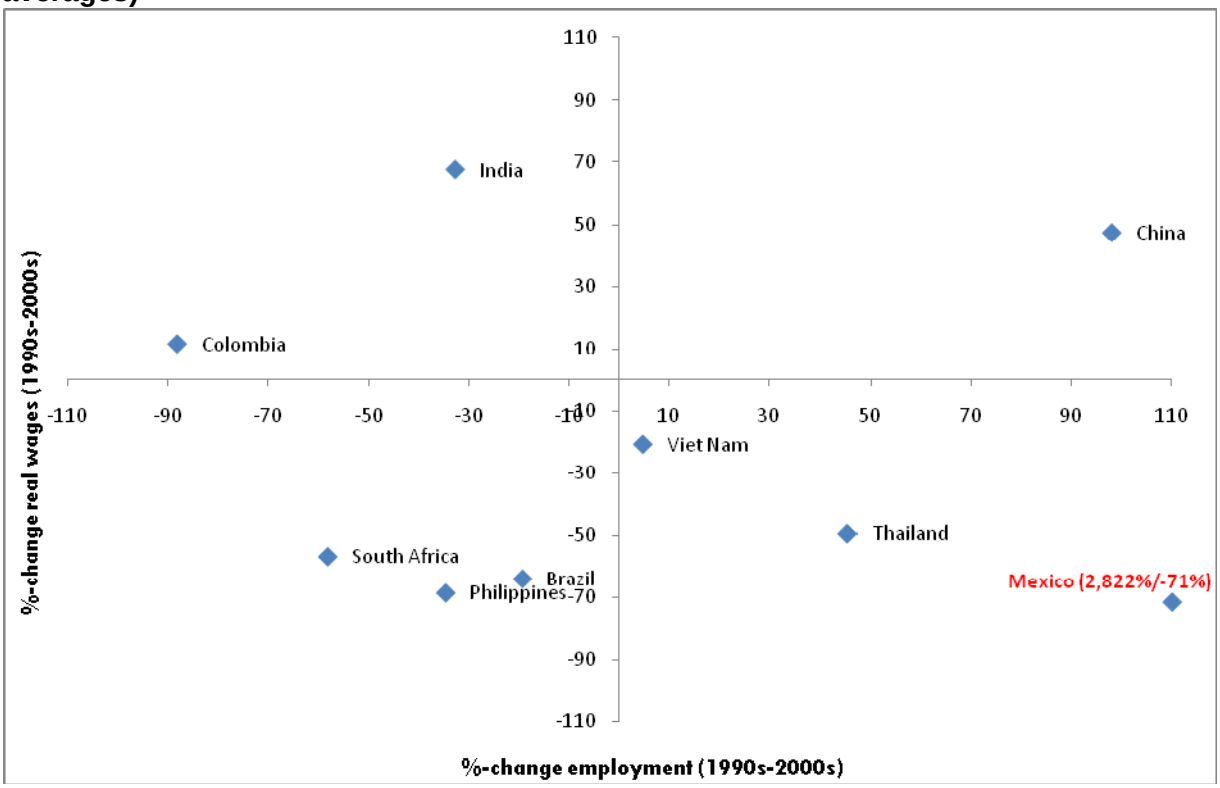


Note: For Ghana, the figure for 2006 refers to 2003; for Bangladesh, the figure for 2000 refers to 1998; for China, the figure for 2000 refers to 2003; for India, the figure for 2006 refers to 2005; for the Philippines, the figures for 1995, 2000 and 2006 refer to 1996, 1999 and 2005, respectively; for Thailand, the figure for 1995 refers to 1998; for Brazil, the figure for 1995 refers to 1996; for Colombia, the figure for 2006 refers to 2005; and for Mexico, the figure for 2006 refers to 2003.
Source: Authors' own illustration, based on data from UNIDO's INDSTAT4 database (2010 version).

[39] Note that this is not reflected in Figure 17, as the latest bar refers to 2006 and not to 2007.

In Colombia and China, in turn, workers' remuneration has continuously grown since the turn of the millennium, so that by the end of the 2000s it had almost reached the Mexican wage level. In 2005, a typical Colombian employee in the mobile telecom sector earned US$10,500 per year, while his or her Chinese counterpart received only a little less than US$10,000 in 2007. A similar steady upward trend in workers' income (albeit at a lower level) was experienced in the Indian mobile telecom sector, where annual average wages rose from US$3,400 in 1998 to US$6,000 in 2005. In the Philippines, Thailand and Vietnam, on the other hand, wages developed in the opposite direction. They went down from a high US$8,900 a year in 1996 to US$5,400 in 2006 in Thailand, from US$3,800 per year in 1996 to US$2,000 in 2005 in the Philippines, and from US$3,300 a year in 1998 to US$3,000 in 2000 in Vietnam. However, the lowest wages (in our sample) are paid in Bangladesh and Ghana, where a typical employee in the mobile telecom sector earned a mere US$620 (in 1998) and US$1,970 (in 2003) per year, respectively.[40] This notwithstanding, as a final observation it is interesting to note that average wages are still much higher in the mobile telecom sector than in both the horticulture sector and the apparel sector (compare with the figures reported above and see also Figure 15 and Figure 17).

Figure 18: Social upgrading and downgrading in the mobile telecom sector, early 1990s – late 2000s (% change in employment and real wages, three-year moving averages)



Note: Time spans covered are as follows: Brazil (1996-2007), China (2003-2007), Colombia (2000-2005), India (1998-2005), Mexico (1994-2003), Philippines (1996-2005), South Africa (1993-2006), Thailand (1996-2006), Vietnam (1998-2000).
Source: Authors' own illustration, based on wage and employment data from UNIDO INDSTAT4 database and inflation data from IMF International Financial Statistics database.

[40] The figures in brackets refer to the latest years for which data are available.

As is evident in Figure 18, social upgrading has been rare in the mobile telecom sector. This is largely because very few countries have experienced gains in real wages. The only unambiguous success story was China, where employment doubled and real wages increased by 50 percent. On the other hand, a third of all the countries in our sample for which data were available have experienced plain social downgrading. The worst performer was South Africa, where employment went down by 58 percent and real wages by 57 percent, respectively. The decline in real wages has actually been more dramatic in both Brazil and the Philippines, the two other clear-cut social downgraders, yet they have seen a less drastic reduction in employment (of -19 percent and -35 percent, respectively) as compared to South Africa. Most of the countries in the sample, in fact, have to be classified as intermediate cases. Among them, Mexico has again followed a very peculiar trajectory: its mobile telecom sector has combined impressive employment growth with a tremendous decline in real wages of -71 percent (the most dramatic decline in our sample). Colombia's experience, in turn, has been exactly reverse: while employment shrank by a record -88 percent, workers saw an increase in real wages of +12 percent. The remaining intermediate cases, all of which are Asian countries, have gone through less extreme changes in their social performance, with India being the only case where real wages have increased (by a decent 68 percent) whereas Thailand and Vietnam registered growth in employment but a decrease in real wages (see also Table 11).

Table 11: Social up- and downgrading in the mobile telecom sector (early 1990s – late 2000s)

	Growth (in %) employment	Growth (in %) real wages
Social upgraders		
China	97.95	47.38
Social downgraders		
Brazil	-19.27	-63.85
Philippines	-34.59	-68.50
South Africa	-58.12	-56.67
Intermediate cases		
Colombia	-88.15	11.72
India	-32.69	67.61
Mexico	2,822.86	-71.45
Thailand	45.44	-49.33
Vietnam	4.70	-20.52

Note: Time spans covered are as follows: Brazil (1996-2007), China (2003-2007), Colombia (2000-2005), India (1998-2005), Mexico (1994-2003), Philippines (1996-2005), South Africa (1993-2006), Thailand (1996-2006), Vietnam (1998-2000).
Source: Authors' own calculations, based on nominal wage data from UNIDO's INDSTAT4 database, and inflation data from the IMF's International Financial Statistics database.

5.4 Tourism

Availability of social upgrading data is quite good for the tourism sector, especially of employment data (thanks to the World Travel and Tourism Council's Economic Data Search Tool). Wage data is much scarcer. Just as with the horticulture sector, our observations will

be based on wage data for different *occupational groups* within the tourism sector – which we will take as proxies for the tourism sector as a whole.

Employment in the tourism sector increased in all the countries in our sample over the past two decades. In absolute terms, the two Asian giants, China and India, have the highest numbers of employees in the tourism sector. In 2009, the Indian tourism industry provided jobs for 18.4 million people, while the Chinese industry employed 16.7 million people.[41] Both figures have grown considerably since 1990, when tourism employment in both countries amounted to about 11.7 million. Brazil and Indonesia rank third and fourth in terms of the number of jobs; both had more than two million employees in the tourism industry in 2009. However, they have experienced much slower growth in tourism jobs than China and India.
One of the countries with the most rapid increase in tourism employment has been Uganda (up from 43,700 jobs in 1990 to 182,500 jobs in 2009). This contrasts with the experience of the two other African countries in our sample, Kenya and South Africa, where employment growth has been more moderate (from 151,000 to 197,000 and from 252,000 to 389,000, respectively, between 1990 and 2009).

Similar intra-regional discrepancies can be observed in Latin America and the Caribbean, where Brazil (as we have seen) and Jamaica (up from 67,900 to 85,800 jobs) have experienced only sluggish job growth in the tourism sector, whereas in Costa Rica employment has increased quite dramatically over the last 20 years (from 52,400 to 118,900 jobs). Meanwhile, in Asia, tourism employment growth has been significant in Jordan and Nepal (from 53,800 and 141,700 to 130,400 and 274,400 jobs, respectively) but rather slow in Vietnam (from 951,000 to 1.4 million jobs).

Wage data in the tourism sector are scarce. For the African countries in our sample, for instance, there are no income data available. By comparison, data availability is much better for Asia where we have wage data for four out of the six countries in our sample – which, as mentioned, refer to different *occupational groups* within the tourism industry. Interestingly, nominal wages have risen in all these four countries since the early 1990s. In China, for example, between 1990 and 2006 *annual average wages* increased dramatically from 248 Yuan to 24,700 Yuan (i.e. from US$52 to US$3,200) for cooks, from 165 Yuan to 12,700 Yuan (i.e. from US$35 to US$1,700) for waiters, from 229 Yuan to 11,400 Yuan (i.e. from US$48 to US$1,500) for room attendants and chambermaids, and from 299 Yuan (in 1992) to 14,000 Yuan (i.e. from US$54 to US$1,800) for hotel receptionists.[42]

For India, data are only available for the 1990s. In this time period, *minimum daily wages* for hotel receptionists increased from 14.5 Rupees to 48 Rupees (i.e. from US$0.83 to US$1.07), while their *maximum daily wages* rose from 33.5 Rupees to 110.3 Rupees (i.e.

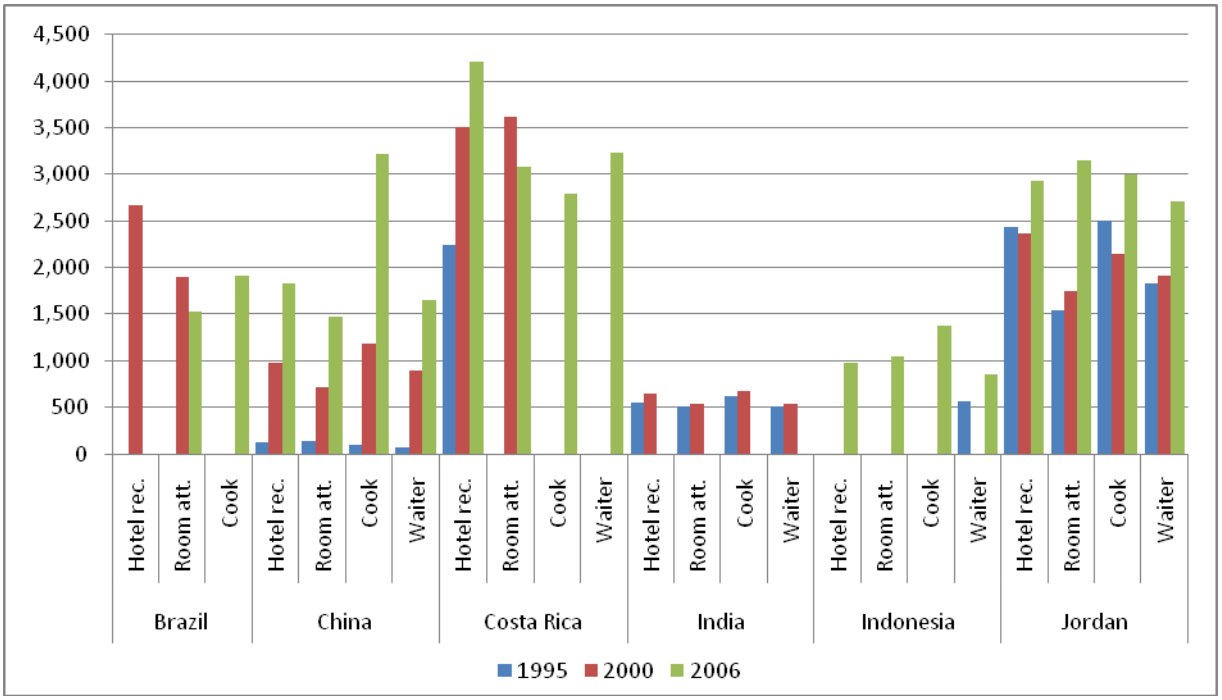
[41] All employment data in this section are taken from the World Travel and Tourism Council's Economic Data Search Tool. For a complete table of employment data for the tourism sector, see Table A.5.3 in the Appendix.
[42] The wage data in this section are drawn from the ILO KILM and LABORSTA databases and converted into US$ using exchange rates as reported in the IMF's International Financial Statistics (IFS) database. All wages reported here are nominal. A complete overview of all the wage data available for the tourism sector is provided in Table A.5.4 in the Appendix.

from US$1.9 to US$2.5). At the same time, room attendants and chambermaids saw their minimum (maximum) daily wages go up from US$0.57 (US$1.66) to US$0.89 (US$2.07). Indian cooks and waiters, in turn, between 1990 and 2000 experienced an increase in their minimum daily wages from US$0.80 to US$1.25 and from US$0.72 to US$0.89, respectively.

In Jordan, wage increases have been similarly modest. *Average monthly earnings* for hotel receptionists, for example, rose from 144 Dinar in 1992 to 173 Dinar in 2006 (i.e. from US$212 to US$244). For Jordanian cooks (from US$188 to US$250), waiters (from US$153 to US$226) and room attendants (from US$138 to US$269), wage growth has been slightly more dynamic. Finally, in Indonesia, the only occupational group for which a longer time series is available is waiters. Their average monthly earnings increased from 84,000 Rupiah (= US$43) in 1991 to 689,000 Rupiah (= US$71) in 2005. For Indonesian cooks, hotel receptionists and room attendants and chambermaids we only have data for two years: 2005 and 2006. Over these two years, all of them experienced at least a slight increase in monthly average earnings (cooks: from US$71 to US$115; room attendants: from US$71 to US$87; hotel receptionists: from US$76 to US$81).

In Latin America and the Caribbean, wage data are available for two of the three countries in our sample, namely for Brazil and Costa Rica, but not for Jamaica. In Brazil, we have the interesting situation that nominal wages increased in local currency terms, but not if converted into US dollars. More precisely, the *average monthly earnings* of room attendants and chambermaids, for example, increased from 288 Brazilian Real in 1999 to 386 Real in 2003 – which was equivalent, however, to a decrease from US$158 to US$127. In a similar vein, average monthly earnings rose in national currency terms for hotel receptionists (from 405 Real in 1999 to 449 Real in 2001) and cooks (from 447 Real in 2001 to 484 Real in 2003), but declined in US dollar terms (from US$223 to US$193, and from US$192 to US$160, respectively). In Costa Rica, on the other hand, wages in the tourism sector grew quite considerably – both in local currency and US dollar terms. Hotel receptionists, for example, saw their *monthly wages* increase from 26,600 Costa Rican colónes (= US$187) in 1993 to 213,600 colónes (= US$407) in 2008. Room attendants and chambermaids, in turn, on average earned 73,900 Costa Rican colónes (= US$259) in 1999 and, after a steady increase, 154,300 colónes (= US$294) in 2008. Finally, between 2005 and 2008 average monthly wages for cooks and waiters went up from US$223 and US$245, respectively, to US$310 and US$346, respectively (see also Figure 19).

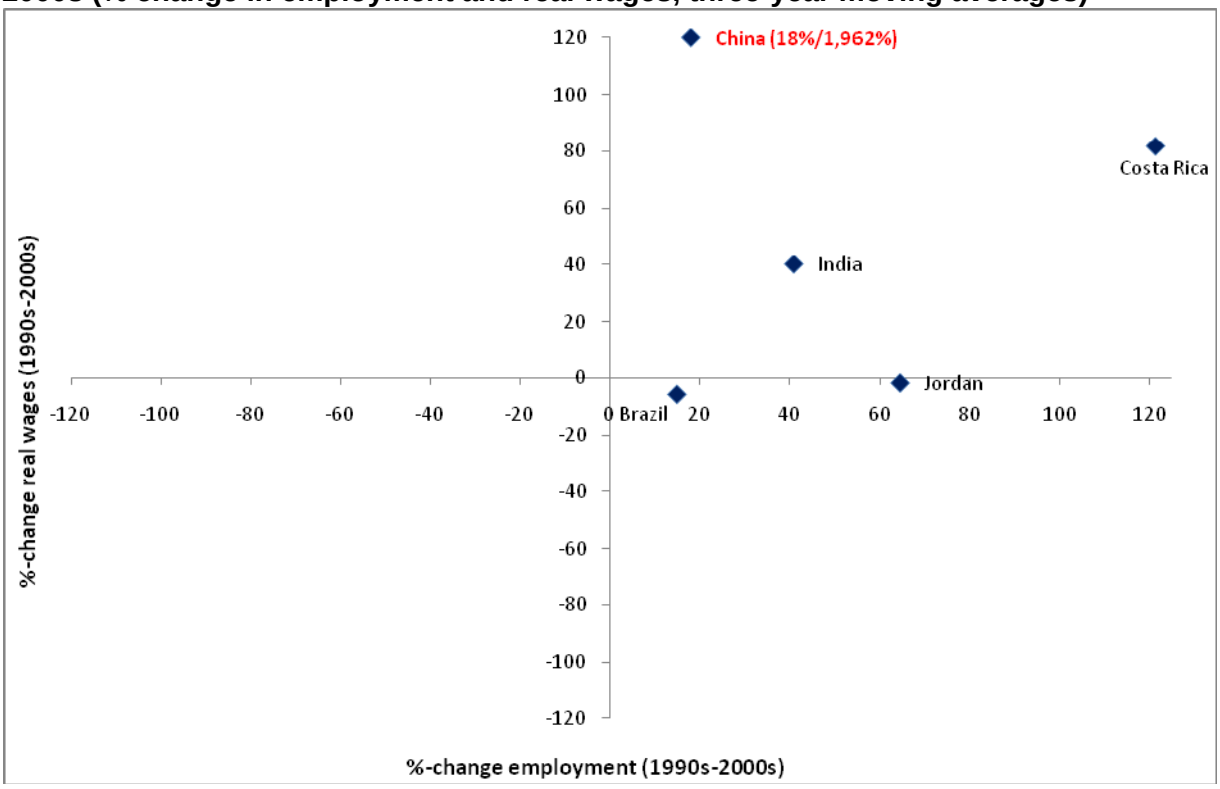
Figure 19: Average annual wages in the tourism sector, selected countries (in US$)



Note: "Hotel rec." stands for hotel receptionist, "Room att." stands for Room attendant or chambermaid.
For Brazil, the figures for 2000 refer to 1999 and the figures for 2005 refer to 2003; for China, the figures for 2000 refer to 1998 for hotel receptionists and cooks; for Costa Rica, the figure for 1995 refers to 1993; for India, the figures provided are the mean of minimum and maximum wages; for Indonesia, the figures for waiters for 1995 and 2006 refer to 1992 and 2005, respectively; for Jordan, the figures for 2000 refer to 2001.
Source: Authors' own illustration based on data from ILO's LABORSTA and KILM databases.

Analysing social upgrading in the tourism sector is difficult because of the paucity of wage data. Among those countries for which data are available, three are unequivocal upgraders, while two represent intermediate cases, so there are no clear-cut downgraders (see Figure 20 and Table 12). The stellar performer has been China's tourism sector, where workers have seen an exceptional, twenty-fold increase of their real wages; yet employment has grown only by around 20 percent. Meanwhile, Costa Rica's achievements are also impressive. Employment has more than doubled, while real wages have gone up by 82 pecent. In India, the number of tourism jobs has grown faster than in China (+41 percent) but the rise in real wages (+40 percent) has fallen short of that in the two other upgraders, China and Costa Rica. The remaining two 'intermediate cases' have both seen an increase in tourism employment but a decrease in real wages. In both Brazil and Jordan, real wage declines have, in fact, been quite small (-6 percent and -2 percent, respectively). With such an insignificant decrease in real wages and an increase in tourism employment of 64 percent, Jordan has actually come very close to be an upgrader. Brazil's growth in employment, in turn, has been much more modest (+15 percent).

Figure 20: Social upgrading and downgrading in the tourism sector, early 1990s – late 2000s (% change in employment and real wages, three-year moving averages)



Note: Time spans covered are as follows: Brazil (1999-2003), China (1993-2006), Costa Rica (1993-2007), India (1990-2000), Jordan (1992-2006).
Source: Authors' own illustration, based on employment data from the World Travel and Tourism Council's (WTTC) Economic Data Search Tool, wage data from the ILO's LABORSTA and KILM databases, and inflation data from IMF International Financial Statistics database.

Table 12: Social up- and downgrading in the tourism sector, early 1990s – late 2000s

	Growth (in %) employment	Growth (in %) real wages
Social upgraders		
China	18.10	1,962.29
Costa Rica	121.28	81.79
India	41.01	40.21
Social downgraders		
-		
Intermediate cases		
Brazil	15.00	-5.79
Jordan	64.40	-1.80

Source: Authors' own calculations based on employment data from the World Travel and Tourism Council's (WTTC) Economic Data Search Tool, wage data from the ILO's LABORSTA and KILM databases, and inflation data from IMF International Financial Statistics database.

5.5 Social upgrading: a summing up

As with economic upgrading, patterns of social upgrading or downgrading vary quite a bit across sectors. Social upgrading has been most difficult in the mobile telecom sector, where employment gains have been widespread, but wage gains have occurred in only a few countries. By contrast, social achievements have been more widespread in the tourism sector (with no clear-cut downgrader) and the apparel sector (where only a quarter of the countries in our sample have experienced unambiguous social downgrading). Yet, clear-cut social upgrading has been scarce even in the apparel sector (with solely two cases) while the tourism sector is the only sector where clear-cut upgraders constitute the majority (namely 60 percent of the countries in our sample).

Overall, the bulk of countries in our sample have experienced ambiguous progress, with improvements on one front but deterioration on the other front, which makes them 'intermediate cases' according to our categorization scheme. In this regard, looking at our two indicators of social upgrading separately reveals that, in general, achieving gains in employment has been more common than achieving increases in real wages. As a corollary, employment growth has generally been associated with less-than-proportional growth or even declines in real wages.

Interestingly, looking at the social performance of single countries across sectors shows much more consistent patterns as compared to the economic sphere. China, for example, has experienced clear-cut social upgrading in *all* the four sectors. Meanwhile, Mexico and Vietnam have displayed mixed performances in *all* the sectors where they were included in the sample (being 'intermediate cases' in the apparel and mobile telecom sectors) whereas India was classified as 'intermediate case' in two of the four sectors (i.e. apparel and mobile telecom, while in horticulture and tourism it qualified as upgrader). South Africa, on the other hand, has experienced social downgrading in *both* of the two sectors where its performances was analysed (i.e. apparel and mobile telecom) – which, by the way, matches its overall poor performance in economic terms. The only slight inconsistency can be observed in the case of Brazil, whose mobile telecom sector has experienced clear-cut social downgrading, while its tourism sector's social performance has been ambiguous.

Compared to the economic realm, it seems that upgrading has been more tenuous in the social sphere, while downgrading has been more common (although, interestingly, results are reverse in the tourism sector, where economic downgrading has been widespread, while there has not been a single case of social downgrading). This observation already gives a first hint on the possible relationship (or lack thereof) between economic and social up- and downgrading. Let us therefore now take a look at the two realms combined.

6. Relation between economic and social upgrading

A central purpose of this paper is to analyse the relationship between economic and social upgrading. We have defined economic upgrading as a combination of changes in export market shares and changes in export unit values. Social upgrading is defined by changes in employment and changes in real wages. We use the data presented above to create a single

index of economic upgrading and a single index of social upgrading. Then we plot them together. This allows an analysis of the relation between economic and social upgrading in a 2x2 matrix, a prototype of which is depicted in Figure 2 above. Of the four different scenarios depicted in Figure 2, the northeastern and the southwestern quadrants represent the clear-cut cases. The northeastern quadrant includes those countries that combine economic upgrading and social upgrading for 'overall upgrading'. The southwestern quadrant, on the other hand, features those countries that have experienced both economic and social downgrading and that, therefore, are characterized by 'overall downgrading'. Countries falling in the remaining two quadrants are intermediate cases, with success on one front (either economic or social), but lack of progress on the other front.

To generate such matrices and, more generally, to relate changes in the economic and social realms to each other, it is necessary to create a single variable for each realm. There are infinite ways to create such indexes. The complexity arises because it is necessary to reduce four dimensions (our two indicators for economic upgrading plus our two indicators for social upgrading) to just two dimensions (namely, economic upgrading on the one hand and social upgrading on the other hand). In those cases where both indicators *within one sphere* (i.e. the economic or the social sphere) have the *same* sign, then the designation is unambiguous. Such a country-sector is clearly an economic or social upgrader or downgrader. When the two indicators in a given realm have moved in *opposite* directions, then the designation is less straightforward. For example, if a country has experienced an *increase* in export market shares but a *decrease* in export unit values in a sector, should it be classified as economic upgrader or economic downgrader in that sector? Similarly, what if employment has *grown* while real wages have *fallen* in a sector? Is that to be called social upgrading or social downgrading?[43]

We propose a simple method for combining the two variables in each realm which gives equal weight to each component – which will be called method 1. To get an indicator for 'economic upgrading', a weight of 50 percent each is assigned to both the percentage change in export market share and the percentage change in export unit value. The underlying formulas for the calculation of upgrading are:

*Economic upgrading = 0.5 * (%-change in market share) + 0.5 * (%-change in export unit value)*
*Social upgrading = 0.5 * (%-change in employment) + 0.5 * (%-change in real wages)*

After we present and discuss the scatter plots that result from using this method, we introduce two alternative algorithms for calculating economic and social upgrading/downgrading and we compare results across methods in order to provide a sense of the robustness of the results with any one of the methods.[44]

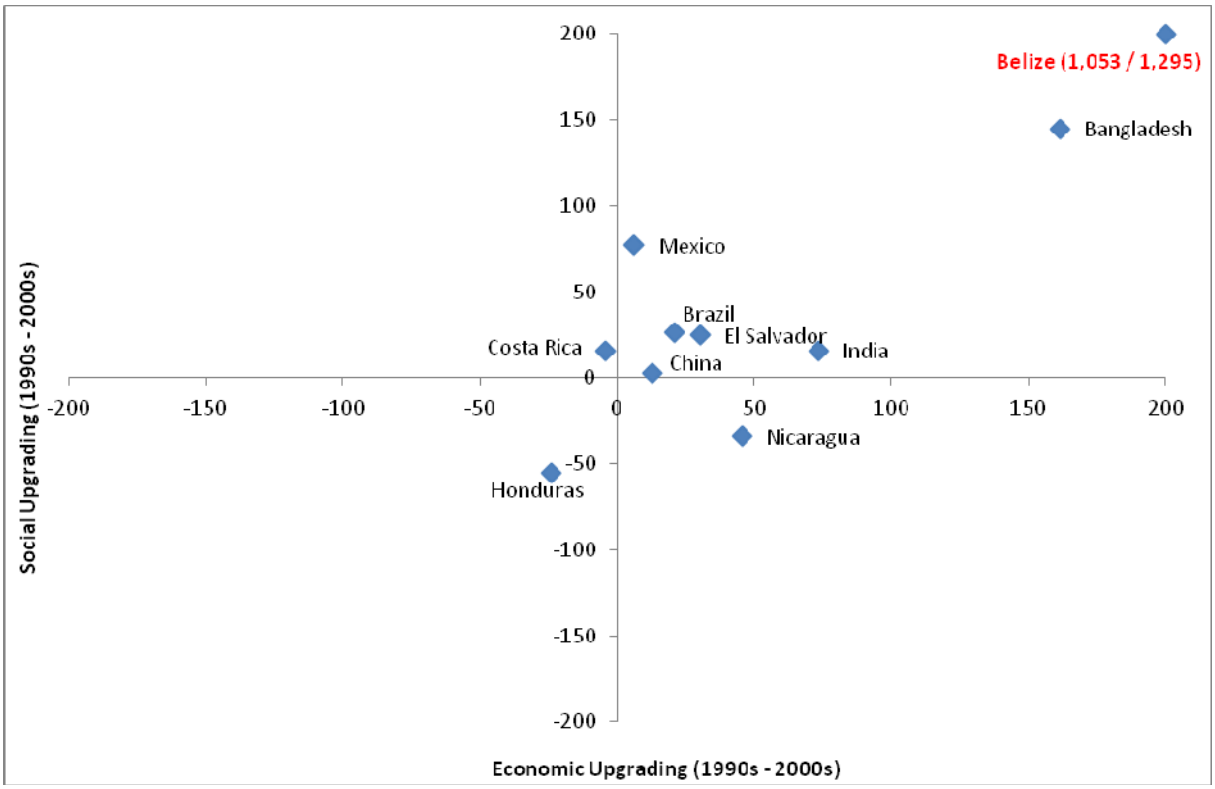
[43] Note that it is inevitable to take a decision and classify countries into up- or downgraders in the economic and social spheres, respectively, because, as stressed above, it is necessary to reduce four dimensions to just two dimensions to get an idea of overall up- or downgrading.
[44] For an overview of the underlying calculations using methods 1 and 2, see Tables A.2.5, A.3.5, A.4.5, and A.5.6 in the Appendices.

6.1 Overall upgrading calculations

The primary objective is to explore whether something can be said about the relationship between economic up- and downgrading, on the one hand, and social up- and downgrading, on the other hand.

In the **horticulture sector**, overall upgrading has been pretty widespread,[45] as can be seen in Figure 21. In fact, the majority of countries in our sample for which data are available (namely seven out of ten) show up in the northeastern quadrant. The most outstanding performer has been Belize, with impressive upgrading on both the economic and the social front. It is interesting to note that Bangladesh has been the second stellar performer, with significant improvements in both economic and social terms. Advances have been more modest in the remaining upgraders, namely Brazil, China, El Salvador, India and Mexico, with the latter scoring high on the social front, while recording only a very small improvement on the economic front. By contrast, India's economic performance was much better than its social performance while the remaining upgraders showed pretty similar performances in both the economic and the social realms. In the southwestern quadrant, Honduras figures as the only straightforward overall horticultural downgrader in our sample, with regress notably

Figure 21: Overall upgrading and downgrading in the horticulture sector, 1990s-2000s[46]



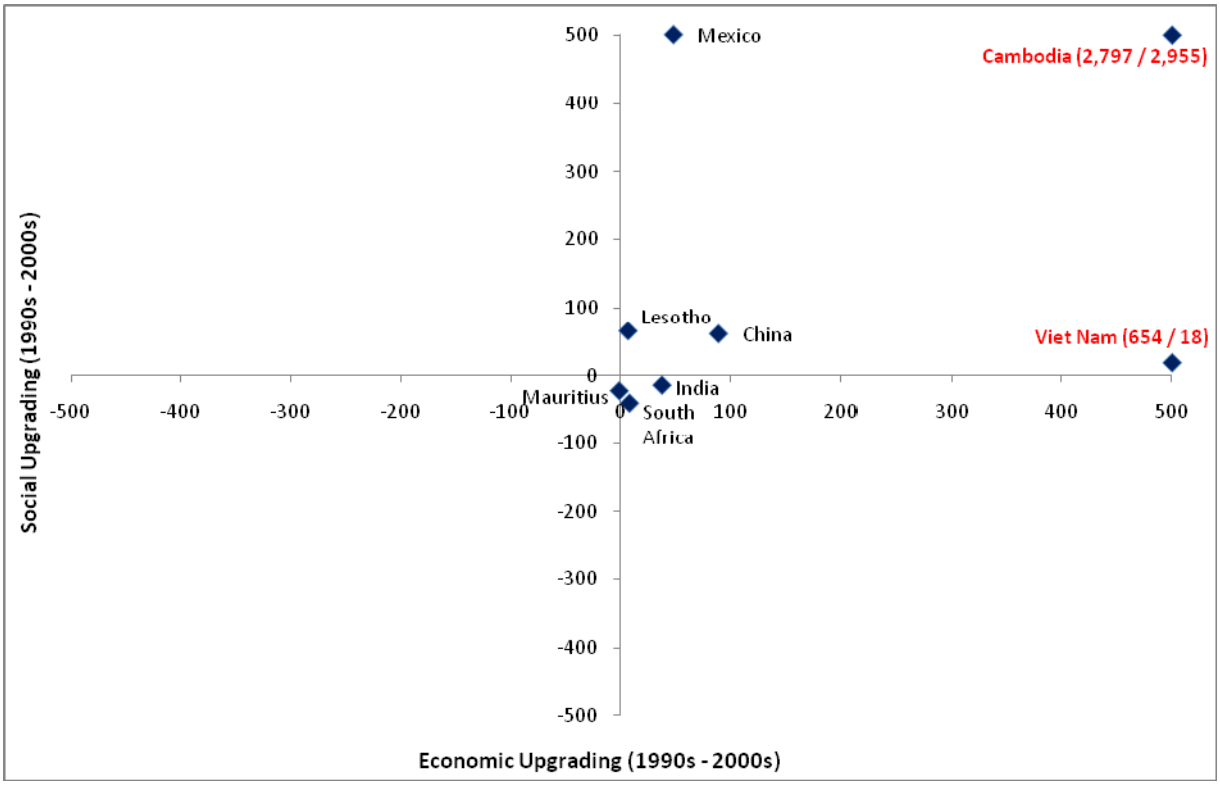
Note: The measure for social upgrading includes only changes in real wages.
Source: Authors' own illustration; data sources as indicated above.

[45] Note that as we do not have employment data for the horticulture sector, we simply use wage data (i.e. the %-change in real wages) as proxy for social upgrading.
[46] Figures 21 to 24 are all based on calculations using method 1. For analogous diagrams based on calculations according to method 2, please see Figures A.2.1, A.3.1, A.4.1, A5.1 in the Appendices.

in the social sphere. The two intermediate cases in our sample, Costa Rica and Nicaragua, have had opposing experiences. While Costa Rica improved on the social front but did not manage to do so on the economic front (although only narrowly), Nicaragua has not been able to accompany its economic success with social progress. Overall, however, Figure 21 gives the impression that there has been a positive correlation between economic upgrading and social upgrading in the horticulture sector.

The **apparel sector** has also many cases of overall upgrading. Figure 22 shows that more than 60 percent of the countries in our sample for which data are available (i.e. five out of eight countries) appear in the northeastern quadrant of clear overall upgraders. Among them, Cambodia has clearly been the prime performer, with formidable upgrading in both economic and social terms. Other outstanding performers include Vietnam (on the economic front) and Mexico (on the social front). The remaining two upgraders' progress has been less pronounced but still decent, particularly China's (with respectable upgrading on both fronts, actually). Lesotho, in turn, has performed quite well in social terms but has not been able to match this with equal progress in economic terms. There is just a single case of full-fledged overall downgrading in the apparel sector, namely Mauritius. The remaining two countries in our sample, i.e. India and South Africa, are categorized as intermediate cases. Both have experienced upgrading in the economic sphere but downgrading in the social sphere. Overall, when judged by Figure 22, there seems to have been a positive relationship between economic upgrading and social upgrading in the apparel sector.

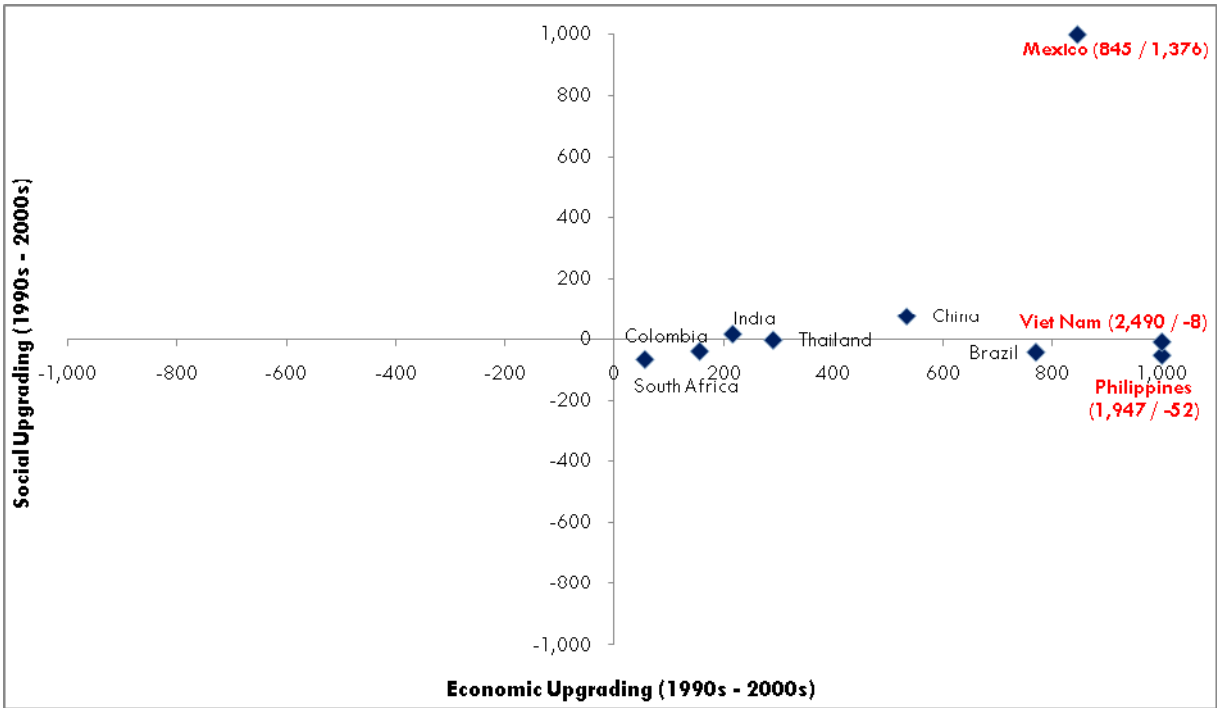
Figure 22: Overall upgrading and downgrading in the apparel sector, 1990s-2000s



Source: Authors' own illustration; data sources as indicated above.

In the **mobile telecom sector** there has been ubiquitous economic upgrading, but very little social upgrading. As can be seen in Figure 23, all of the countries in our sample are located to the right of the vertical axis, implying that there has not been a single case of economic downgrading. The best overall performer has clearly been Mexico, with spectacular upgrading on both the economic and the social fronts. Mexico's social performance is particularly noteworthy, especially when compared to the sluggish or, even more often, entirely absent social progress in the other countries. In fact, the two Asian giants, China and India, are the only other countries that qualify as overall upgraders in the mobile telecom sector. Both have combined an excellent economic performance, with weak social upgrading. All the remaining countries in our sample (i.e. almost 70 percent) are classified as intermediate cases – invariably because of a lack of social upgrading. These include some very strong economic performers, however, most notably the Philippines, Vietnam, and Brazil. In fact, Vietnam's – as well as Thailand's – social performance indicator falls only narrowly in the negative range, so that these two Southeast Asian countries have come very close to being overall upgraders. The two South American countries in our sample, Brazil and Colombia, in turn, have experienced quite decent economic upgrading, but also quite pronounced social downgrading. By far the worst performer has been the only African country in our sample, i.e. South Africa. Recording the smallest improvements in economic terms and the largest deteriorations in social terms, South Africa actually performed worst on *both* fronts.

Figure 23: Overall upgrading and downgrading in the mobile telecom sector, 1990s-2000s

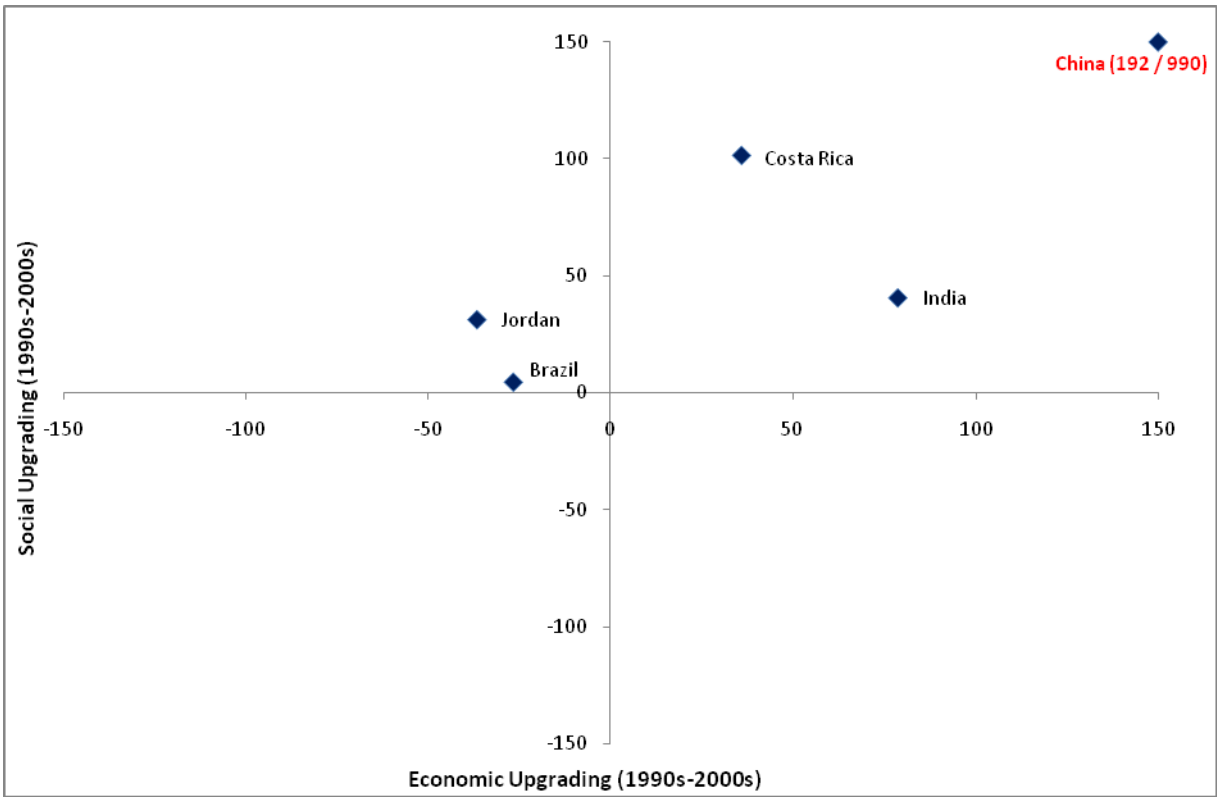


Source: Authors' own illustration; data sources as indicated above.

In the **tourism sector**, developments seem to have been inverse to those seen in the mobile telecom sector. While there has been widespread social upgrading (experienced by *all* of the

countries in our sample for which data were available) there has been somewhat less economic upgrading. In Figure 24, all the countries are situated above the horizontal axis, signalling that they have registered social upgrading. Among them, three (namely China, Costa Rica and India) have also experienced economic upgrading, so that we observe three instances of overall upgrading in the tourism sector. China has been the premier performer, with remarkable economic upgrading but even more impressive social upgrading. In Costa Rica, the pattern (economic upgrading combined with even more social upgrading) has been the same, albeit at a smaller scale. In fact, this pattern – with the social performance trumping the economic performance – can also be observed for the two intermediate cases, Brazil and Jordan. These two countries have recorded social upgrading but economic downgrading. The only exception to the pattern described above is India, the third overall upgrader, which is the only country in our sample whose economic performance in tourism has been better than its social performance. There is thus no plain overall downgrader in the tourism sector, as indicated by the empty southwestern quadrant in Figure 24.

Figure 24: Overall upgrading and downgrading in the tourism sector, 1990s-2000s



Source: Authors' own illustration; data sources as indicated above.

6.2 Robustness tests

One problem with our first method of calculating economic or social upgrading is that outcomes have a lower bound of -100 percent, but an upper bound of infinity. To be sure, none of the indicators can fall below zero – which would correspond to a decrease of -100 percent from the initial level. On the other hand, countries can – and did, as we saw in the last two sections – register increases on any of the indicators that go far beyond +100

percent, especially with very low initial values. This introduces a certain pro-upgrading bias in our method. To assess the robustness of the findings based on this method, we introduce two alternative algorithms for determining upgrading/downgrading. Here we summarize the three measures (beginning with method 1 adopted above), and then discuss how the findings change when the other methods are used.

Method 1: Symmetric 'composite index'

In the first method (used in the previous section), all four underlying indicators enter symmetrically, that is they are given equal weight. This method gives unambiguous results in those cases where both underlying indicators within one sphere (i.e. economic or social) have the same sign. If both indicators are positive, or if both are negative, so will be the composite index, respectively. For ambiguous cases, the sign of the 'composite index' depends on the absolute values of the two underlying indicators. If the absolute value in the increase of one indicator is higher than the absolute value in the decrease of the other indicator, the composite index will have a positive sign. It can be argued that this is a reasonable result, as it makes sense to characterize a country's sector as having experienced economic or social upgrading as long as the positive development in one indicator *outweighs* the negative development in the other indicator.

Method 2: Asymmetric 'composite index'

The second metric addresses the problem of the existence of a lower bound (-100 percent) in the absence of an upper bound. The underlying formulas for method 2 are:

*Economic upgrading = [(1+%-change in market share) * (1+%-change in unit value)] - 1*

*Social upgrading = [(1+%-change in employment) * (1+%-change in real wage)] - 1*

As with method 1, this second metric also delivers unequivocal results in those cases where both underlying indicators within one area (i.e. economic or social) have the same sign. For the intermediate cases, in turn, it is important to note that the bias towards upgrading does not vanish altogether (because there is still a lower bound for each of the four underlying indicators, while there is still no upper bound). Yet, this second metric 'punishes' a decrease in one of the two indicators (within one sphere) in the following sense: the more one of the indicators declines, the more the other indicator has to increase to yield *upgrading* as a result. In other words, pronounced decreases on one front have to be 'compensated' by an even higher increase on the other front for upgrading to be the result.[47] On the other hand,

[47] Let us illustrate this point with some numerical examples. As discussed in the text, the basic formula for social upgrading is:

*Social upgrading = [(1+Δemp) * (1+ΔRW)] - 1*

where *Δemp* denotes %-change in employment and *ΔRW* denotes %-change in real wage. Now if the two indicators move in opposite directions, i.e. if one increases and the other decreases, there are certain combinations of the two values where the following 'threshold or turning point scenario' (where the metric switches from up- to downgrading or vice versa) holds:

*[(1+Δemp) * (1+ΔRW)] - 1 = 0*

This can be reformulated to:

this method 'rewards' countries that perform well on both fronts. For example, if a country has experienced high increases on both of the two indicators for upgrading within one sphere (i.e. economic or social), this metric will – due to its multiplicative form – yield a value of upgrading that is higher than the symmetric 'composite index' of method 1.

Method 3: Narrow definition

Compared to the first method, the second method is stricter, in the sense that it will categorize fewer countries as upgraders. This is so because, as we have seen, a country-sector that experiences a decline in one of the two indicators in either the economic or the social sphere has to record a bigger increase in the other indicator to still give a result of economic or social upgrading. Yet it is still possible with the second metric (as it is with the first metric) for a country to qualify as economic or social upgrader, even if one of the indicators has a negative sign. This might be disputed on the basis of a very narrow interpretation of our definitions of economic and social upgrading presented in Section 2 above. A very strict reading of these definitions would imply that a country can be said to have experienced economic or social upgrading in a sector *if and only if both* indicators have positive signs. This is the method adopted by Kaplinsky and Readman (2005). Using this method there are no intermediate cases. Any country that experiences a decline in any of the indicators automatically disqualifies as an upgrader and is instead rated as a downgrader. In other words, method 3 only ranks those countries as *overall* upgraders where *all* four indicators have a non-negative sign.

We turn now to a brief analysis of the robustness of the results presented in the previous section in light of the two other calculation methods proposed. In the **horticulture sector**,

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(1+ΔRW) = 1/(1+Δemp)

Suppose now that *Δemp* is the indicator with a negative sign (i.e. employment decreases in that case). Then the last equation shows that the more employment decreases (i.e. the higher the absolute value of *Δemp*), the higher the increase in real wages (*ΔRW*) has to be for this equation to hold.
Let us take the two extreme cases to illustrate this point:
1) Suppose *Δemp* = -0.1; then *ΔRW* has to be +0.1111 for the equation to hold
2) Now suppose *Δemp* = -0.9; then *ΔRW* has to be +9.0 for the equation to hold

In other words, the higher the decrease in one indicator, the higher the increase in the other indicator has to be in order for the final result (i.e. the 'combined' social upgrading indicator) to be upgrading. To put it in yet another way: dramatic decreases on one front have to be compensated by even more dramatic increases on the other front, in order for our second metric to indicate upgrading. In view of this, it could be argued that this method entails a certain bias towards yielding 'downgrading' as a result. Consider the following example: suppose real wages in a sector *increase* by 60 percent and employment *decreases* by 50 percent. In that case, the second metric would indicate *downgrading* because: (1+0.6)*(1-0.5)-1 = -0.20
One could argue that it is an open question whether this should be classified as downgrading – because, in fact, the increase in wages is *higher* in absolute terms than the decrease in employment (which is an argument along the lines of method 1). A back-of-the-envelope calculation reveals that this 'bias' will show up as long as the increasing indicator is not significantly higher (in absolute terms) than the decreasing indicator. To illustrate this with yet another example: suppose real wages increase by 100 percent and employment declines by 50 percent; in other words, the increase in wages is double (in absolute terms) the decrease in employment. Then method 2 yields: (1+1)*(1-0.5)-1 = 0. That is, even though the increase in wages is twice as high as the decrease in employment (in absolute values), the second metric indicates that there is no upgrading. Similar outcomes will show up for values within a certain range.

overall upgrading was found to be widespread with method 1 and this finding is robust to the other two methods.[48] In fact, the only difference between method 1 and method 2 is that the latter classifies Mexico as intermediate case (and not an overall upgrader). The reason for this is that Mexico's gains in export market share (+43 percent) have not been sufficient to outweigh its decrease in export unit values (-31 percent) when using the second metric to calculate economic upgrading. By contrast, application of method 3 yields dramatically different outcomes. According to this approach, only Bangladesh qualifies as real overall upgrader in the horticulture sector, while all the other countries have to be called downgraders (see Table 13 below). Belize's outstanding performance in this sector is also confirmed if we use method 2, but Belize does not qualify as overall upgrader if we apply method 3, because of a decline in its export unit values. This was swamped by a much higher increase (in absolute terms) in its export market share, which allowed it to qualify as upgrader according to both methods 1 and 2. This reveals that all of the countries in our sample, with the exception of Bangladesh, have registered a decrease in at least one of their indicators.

Meanwhile, the **apparel sector** has also witnessed quite a lot of overall upgrading, as judged according to method 1, and this finding is again supported with method 2. The number of overall upgraders is the same in both cases. However, the number of overall downgraders increases by one, as South Africa is a plain downgrader according to method 2, not an intermediate case as under method 1. This difference in the assessment of South Africa's performance is rooted in the fact that the growth of its export unit values (+83 percent) has not been enough to outweigh its loss of export market share (-67 percent), making South Africa an economic downgrader according to the arithmetic of method 2. Given that South Africa has also experienced social downgrading, classifying it as economic downgrader reinforces the overall impression of a positive correlation between economic upgrading and social upgrading in the apparel sector.

While methods 1 and 2 yield exactly the same categorization of countries (except for, as noted, South Africa), method 3 leads to a significantly different diagnosis. In fact, according to method 3, only Cambodia and China qualify as full-fledged overall upgraders in the apparel sector. By contrast, the remaining six countries in our sample are classified as overall downgraders, disclosing that they have not managed to progress on *all four* indicators (see Tables 13 and 14 below).

The **mobile telecom sector** has experienced widespread economic upgrading, but very little social upgrading. This is corroborated by applying method 2 (see Fig. A.4.1 in the Appendix). Actually, methods 1 and 2 lead to exactly the same classification of countries, with only minor differences in the numerical values of the composite economic and social indicators, but no differences in their signs (see Table A.4.5 in the Appendix as well as Table 13 below). By contrast, method 3 yields a distinct assessment and identifies only China as a full-fledged overall upgrader in the mobile telecom sector. The remaining eight countries in our sample, in turn, are all classified as overall downgraders. Even Mexico, the outstanding performer

[48] Note that as we do not have employment data for the horticulture sector, we simply use wage data (i.e. the %-change in real wages) as proxy for social upgrading.

according to methods 1 and 2, does not qualify as overall upgrader when evaluated through the strict lenses of method 3. The reason is that one of its social performance indicators (namely the change in real wages) has a negative sign – a feature that it shares with all the other countries in our sample (with the exception China, as noted). As a result, overall upgrading has been very scarce when judged by method 3, with China – the only country that has succeeded to register improvements on *all four* indicators – as solitary upgrader (see Tables 13 and 14).

In the **tourism sector**, developments were broadly the opposite of those in the mobile telecom sector, with widespread social upgrading and less economic upgrading. This is also true for method 2, which, by the way, leads to an identical categorization of countries in terms of their overall up/downgrading performance (see Table 13). Again, differences between the results of methods 1 and 2 are minor and only pertain to the numerical values of the composite indexes (see Table A.5.6 in the Appendix). In terms of the larger picture, however, both methods lead to the same conclusion, namely that the tourism sector has experienced some social upgrading with less economic upgrading (see also Fig. A.5.1 in the Appendix). As with the other sectors, application of method 3 yields a somewhat different result. Of course, all the intermediate cases of methods 1 and 2 are classified as plain downgraders by method 3. China, Costa Rica and India, however, are recognized as full-fledged overall upgraders also by method 3. This means that, with a share of overall upgraders in the entire sample of 60 percent, the tourism sector has been the sector with the highest number of overall success stories when judged according to method 3 (see Table 14).

Visual inspection of the scatter plots for the four sectors (which were based on calculations using method 1) revealed a variety of patterns across sectors in the relation between economic and social upgrading. In the apparel and horticulture sectors, there seems to have been a positive correlation between economic upgrading and social upgrading. The mobile telecom sector, in turn, seems to have experienced economic upgrading without much social upgrading. Finally, the tourism sector seems to have seen some social upgrading with less economic upgrading. These findings were confirmed by using method 2 which led to almost identical outcomes as method 1.[49] Application of method 3, on the other hand, yields outcomes in terms of classification that are substantially different from those of methods 1 and 2. Table 13 summarizes the categorization into overall upgraders, intermediate cases and overall downgraders, according to the three methods. As noted, the differences between the results of methods 1 and 2 are rather marginal (one country is classified differently in horticulture and three countries are categorized differently in apparel) while method 3 leads to a quite distinct classification as compared to the other two methods. Most importantly, the number of clear-cut overall upgraders is significantly smaller when judged by method 3 as against methods 1 and 2.

Table 14, in turn, gives an overview of how the different countries in our sample fared in the four sectors in terms of both economic and social up/downgrading according to the three

[49] For details, see Tables A.2.5, A.3.5, A.4.5, and A.5.6, as well as Figures A.2.1, A.3.1, A.4.1, and A.5.1 in the Appendices.

methods of assessment. This helps us in our attempt to draw conclusions about a possible relationship (or lack thereof) between a sector's economic performance and its social performance.

Table 13: Comparative overview of overall upgraders and downgraders according to the different methods (1990s-2000s)

	Horticulture			Apparel		
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 1	Bangladesh, Belize, Brazil, China, El Salva-dor, India, Mexico	Costa Rica, Nicaragua	Honduras	Cambodia, China, Lesotho, Mexico, Vietnam	India, South Africa	Mauritius
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 2	Bangladesh, Belize, Brazil, China, El Salva-dor, India, Mexico	Costa Rica, Mexico, Nicaragua	Honduras	Cambodia, China, Lesotho, Mexico, Vietnam	India	Mauritius, South Africa
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 3	Bangladesh, India	-	Belize, Brazil, China, Costa Rica, Honduras, Mexico, Nicaragua	Cambodia, China	-	India, Lesotho, Mauritius, Mexico, South Africa, Vietnam
	Mobile Telecom			**Tourism**		
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 1	China, India, Mexico	Brazil, Colombia, Phillipines, South Africa, Thailand, Vietnam	-	China, Costa Rica, India	Brazil, Jordan	-
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 2	China, India, Mexico	Brazil, Colombia, Phillipines, South Africa, Thailand, Vietnam	-	China, Costa Rica, India	Brazil, Jordan	-
	Upgraders	**Interm. Cases**	**Downgraders**	**Upgraders**	**Interm. Cases**	**Downgraders**
Method 3	China	-	Brazil, Colombia, India, Mexico, Phillipines, South Africa, Thailand, Vietnam	China, Costa Rica, India	-	Brazil, Jordan

Table 14: Comparative overview of economic and social upgrading and downgrading according to the different methods (1990s-2000s)

HORTICULTURE							APPAREL						
Countries	Method 1		Method 2		Method 3		*Countries*	Method 1		Method 2		Method 3	
	EU	SU	EU	SU	EU	SU		EU	SU	EU	SU	EU	SU
Bangladesh	+	+	+	+	+	+	Cambodia	+	+	+	+	+	+
Belize	+	+	+	+	-	+	China	+	+	+	+	+	+
Brazil	+	+	+	+	-	+	India	+	-	+	-	+	-
China	+	+	+	+	-	+	Lesotho	+	+	+	+	-	-
Costa Rica	-	+	-	+	-	+	Mauritius	+	-	-	-	-	-
El Salvador	+	+	+	+	-	+	Mexico	+	+	+	+	+	-
Honduras	-	-	-	-	-	-	South Africa	+	-	-	-	-	-
India	+	+	+	+	+	+	Viet Nam	+	+	+	+	+	-
Mexico	+	+	-	+	-	+							
Nicaragua	+	-	+	-	-	-							

MOBILE TELECOM							TOURISM						
Countries	Method 1		Method 2		Method 3		*Countries*	Method 1		Method 2		Method 3	
	EU	SU	EU	SU	EU	SU		EU	SU	EU	SU	EU	SU
Brazil	+	-	+	-	+	-	Brazil	-	+	-	+	-	-
China	+	+	+	+	+	+	China	+	+	+	+	+	+
Colombia	+	-	+	-	+	-	Costa Rica	+	+	+	+	+	+
India	+	+	+	+	+	-	India	+	+	+	+	+	+
Mexico	+	+	+	+	+	-	Jordan	-	+	-	+	-	-
Philippines	+	-	+	-	+	-							
South Africa	+	-	+	-	-	-							
Thailand	+	-	+	-	-	-							
Viet Nam	+	-	+	-	+	-							

Note: EU denotes economic up-/downgrading and SU denotes social up-/downgrading. A '+' indicates (economic or social) upgrading according to the respective method while a '–'indicates downgrading.

6.3 Connecting economic and social upgrading

While we have framed our analysis in terms of upgrading in global value chains, our analysis has implications also for economic theory relating productivity growth (economic upgrading) and wages (social upgrading). Referring to the marginal productivity theory of wages (or returns to factors of production more generally), economists often claim that higher productivity also leads to higher compensation or remuneration.[50] In the context of our analysis, this view would translate into saying that economic upgrading should lead to social upgrading.

Our framework does not allow for a direct test of this relation; however the results cast doubt on the theory. A first indication of this discordance is provided by the scatter plots presented above, most notably by Figures 23 and 24 for the mobile telecom and tourism sectors, where no clear pattern emerges. A second piece of evidence can be drawn from Table 14. If the claim that economic upgrading is accompanied by social upgrading were true, then the signs

[50] For a textbook presentation of this idea, see Mas-Colell, Whinston and Green (1995) or Varian (1992). For recent empirical tests for developing countries, see Flanagan (2005) and Van Biesebrock (2011).

that enter the EU and SU columns for a given country and a given sector should be identical. However, the number of countries for which the signs for economic up/downgrading (EU) and social up/downgrading (SU) are the same is rather low according to all three methods. Across countries and sectors, we have a total of 32 data points or data pairs for economic up/downgrading and social up/downgrading; according to method 1, only 19 of these 32 data pairs have the same sign for economic up/downgrading and social up/downgrading, while the sign of social up/downgrading corresponds to the sign of economic up/downgrading in just 20 and 16 out of 32 cases when we use methods 2 and 3, respectively.[51] Overall, this does not make a compelling case for the proposition that social upgrading goes hand in hand with economic upgrading.

We should emphasize that all that these exercises can at best indicate is a *correlation* between developments in the economic and social spheres. They tell us nothing about the *direction of causality* between the two. Causality may plausibly run in either direction, and there is empirical evidence on both sides. Flanagan (2005) finds a tight correlation between productivity growth and wage growth in the apparel sector in a large sample of developing countries over 1995-2000. On the other side, Robertson et al. (2011) find that Cambodian apparel firms that complied with labour standards under the ILO's 'Better Work' programme also saw improved performance in terms of productivity and exports. Kucera and Sarna (2006) study inward foreign direct investment (FDI) and find it unaffected by higher labour standards.

7. Conclusion

Our analysis of economic and social upgrading provided a parsimonious and operational definition of these terms and applied it to the analysis of horticulture, apparel, tourism and mobile telephones in about 12 developing countries over the period 1990-2009. Our main findings can be summarized as follows:

1. Regarding economic upgrading, we found that in all sectors except for apparel, positive growth in world export market share is generally associated with economic upgrading. However, export market share growth was generally associated with less-than-proportional growth or declines in export unit values.
2. Regarding social upgrading, the general pattern was of employment growth and considerably less growth of real wages.
3. Economic downgrading and social downgrading do occur, with social downgrading more common.

[51] Among the 19 cases where the signs of economic up/downgrading and social up/downgrading correspond according to method 1, 18 are overall upgraders, while we have only one case of overall downgrading. Among the 20 cases with consonant signs according to method 2, in turn, 17 are overall upgraders and three are overall downgraders. Finally, among the 16 cases where the signs of economic up/downgrading and social up/downgrading coincide according to method 3, only half are overall upgraders (while the other half are overall downgraders). These figures highlight a fact already emphasized above, namely that method 1 is indeed the least rigorous in terms of classifying countries as overall upgraders, while method 3 is the strictest.

4. There is a variety of patterns across GVCs in the relation between economic and social upgrading. In apparel and horticulture, we generally find a positive correlation between economic upgrading and social upgrading. In mobile phones, there is widespread economic upgrading without social upgrading. And in tourism we found many cases of social upgrading with less economic upgrading. Overall, economic and social upgrading occurred together in 16 to 17 out of 30 cases, depending on the measurement technique adopted.
5. The results using a symmetric algorithm to create a single index of 'overall upgrading' are robust to a few alternative measurement techniques.

The findings presented suffer from a number of important limitations. For one, our effort to give some precision to the measurement of economic and social upgrading suffered from considerable problems of data availability. Second, the present study must be taken only as part of a broader research effort that also involves considerable fieldwork in each of the four sectors. Our aim was to provide insights into the dynamics of global value chains that are complementary to this fieldwork. In a sense, our task is to provide the broader context for case studies and fieldwork in the different sectors by sketching a picture of the broader macro-level or at least sectoral picture. This contextualization is crucial in grasping the strengths and limits of the work presented here in terms of contributing to the understanding of economic and social upgrading dynamics and their connection in global value chains.

Future research on economic and social upgrading in global value chains will assess the robustness of the current findings by considering different weighting schemes for the different components of economic and social upgrading and also analyse different time periods (including subperiods of the time period studied here). More important will be to advance our understanding of the direction of causality between economic and social change. Finally, it is important that our analysis, relying strictly on internationally comparable published data, be brought into close comparison with the data generated by fieldwork. The goal of such combined research is to answer the central research question of the Capturing the Gains project: what are the conditions under which economic and social upgrading are positively correlated?

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APPENDIX 1: DATA SOURCES FOR THE DIFFERENT INDICATORS

	DATA SOURCES & INDICATORS USED
1) ECONOMIC UPGRADING	
i) Export value & market share	
a) Horticulture	UN Comtrade (World imports from country)
b) Apparel	UN Comtrade (World imports from country)
c) Telecom	UN Comtrade (World imports from country)
d) Tourism	UNCTAD Handbook of Statistics 2009 (Travel expenditures excl. transport)
ii) Unit Value	
a) Horticulture	UN Comtrade (World imports from country and import quantities for selected products at four-digit level)
b) Apparel	UN Comtrade (World imports from country and import quantities for selected products at four-digit level)
c) Telecom	UN Comtrade (World imports from country and import quantities)
d) Tourism	UNCTAD Handbook of Statistics 2009 (Travel expenditures excl. transport, Arrivals of visitors [in thousands], Average length of stay [in days])
2) SOCIAL UPGRADING	
i) Employment	
a) Horticulture	-
b) Apparel	UNIDO INDSTAT4 2010 edition (Number of employees)
c) Telecom	UNIDO INDSTAT4 2010 edition (Number of employees)
d) Tourism	World Travel and Tourism Council (WTTC) Economic Data Search Tool (Travel and Tourism Direct Industry Employment [in 1,000])
ii) Wages	
a) Horticulture	ILO LABORSTA and KILM (data on various occupational groups within the horticulture sector)
b) Apparel	UNIDO INDSTAT4 2010 edition (Wages and salaries of employees in US$), Werner International, Yassin-O'Rourke Group
c) Telecom	UNIDO INDSTAT4 2010 edition (Wages and salaries of employees in US$)
d) Tourism	ILO LABORSTA and KILM (data on various occupational groups within the tourism sector)

APPENDIX 2: HORTICULTURE

Table A.2.1: Selected horticulture exporters (export value in mn. US$; market share in %)[52]

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA												
Ethiopia	n.a.	16.89	15.03	25.00	26.00	22.57	33.83	53.72	98.66	183.88	227.99	135.50
Market share (in%):	*n.a.*	*0.03*	*0.02*	*0.04*	*0.04*	*0.03*	*0.04*	*0.05*	*0.09*	*0.14*	*0.16*	*0.12*
Kenya	40.70	215.15	326.16	359.60	421.05	519.72	628.27	679.77	784.22	890.38	1,051.84	508.49
Market share (in%):	*0.19*	*0.35*	*0.52*	*0.55*	*0.59*	*0.63*	*0.67*	*0.66*	*0.69*	*0.68*	*0.72*	*0.44*
South Africa	n.a.	n.a.	1,212.91	1,429.99	1,592.38	1,959.87	2,202.22	2,290.91	2,387.80	2,942.73	3,349.14	2,867.87
Market share (in%):	*n.a.*	*n.a.*	*1.93*	*2.18*	*2.24*	*2.36*	*2.35*	*2.23*	*2.11*	*2.24*	*2.29*	*2.07*
Tanzania	30.01	103.07	93.64	82.07	95.23	100.69	120.73	117.17	135.22	165.61	229.46	175.08
Market share (in%):	*0.14*	*0.17*	*0.15*	*0.13*	*0.13*	*0.12*	*0.13*	*0.11*	*0.12*	*0.13*	*0.16*	*0.15*
Uganda	0.24	4.86	21.81	21.48	26.50	33.70	45.42	51.77	50.87	76.23	79.56	17.84
Market share (in%):	*0.00*	*0.01*	*0.03*	*0.03*	*0.04*	*0.04*	*0.05*	*0.05*	*0.04*	*0.06*	*0.05*	*0.02*
2. ASIA												
Bangladesh	0.64	7.87	20.22	22.69	23.52	26.78	26.56	25.77	31.25	34.03	33.09	21.92
Market share (in%):	*0.00*	*0.01*	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.03*	*0.02*	*0.02*
Thailand	557.54	804.32	912.25	981.81	922.62	1,000.48	1,409.65	1,302.27	1,534.40	1,999.15	2,100.52	2,112.08
Market share (in%):	*2.66*	*1.32*	*1.45*	*1.50*	*1.30*	*1.20*	*1.51*	*1.27*	*1.35*	*1.52*	*1.44*	*1.83*
China	643.53	2,333.19	2,787.42	2,876.11	3,011.37	3,482.62	3,950.14	4,569.91	5,467.86	6,366.74	6,906.64	6,679.49
Market share (in%):	*3.07*	*3.84*	*4.44*	*4.38*	*4.24*	*4.19*	*4.22*	*4.44*	*4.83*	*4.85*	*4.72*	*4.82*
India	134.61	616.68	916.14	881.60	875.21	963.09	1,112.98	1,319.02	1,503.54	1,636.39	1,830.49	1,762.60
Market share (in%):	*0.64*	*1.02*	*1.46*	*1.34*	*1.23*	*1.16*	*1.19*	*1.28*	*1.33*	*1.25*	*1.25*	*1.27*
Vietnam	28.27	64.06	199.92	274.89	324.61	437.47	547.46	637.51	750.92	962.92	1,302.19	1,268.77
Market share (in%):	*0.13*	*0.11*	*0.32*	*0.42*	*0.46*	*0.53*	*0.58*	*0.62*	*0.66*	*0.73*	*0.90*	*1.10*

[52] Export values are in current US dollar values. As is stated on the UN Comtrade website, trade values as delivered by reporters are sometimes in US dollars but mostly in national currency. In the latter case, the trade values are converted into US dollars by UN Comtrade statisticians using an average annual exchange rate which is calculated by weighting the monthly exchange rate with the monthly volume of trade. For this, they use the US dollar series of the IMF's IFS database. The same applies to Tables A.3.1 and A.4.1 in these appendices.

Table A.2.1: ***(cont.)***

3. CENTRAL AMERICA												
Belize	0.00	34.87	50.42	39.19	38.22	59.11	69.91	90.70	79.19	76.77	90.10	90.95
Market share (in%):	*0.00*	*0.06*	*0.08*	*0.06*	*0.05*	*0.07*	*0.07*	*0.09*	*0.07*	*0.06*	*0.06*	*0.08*
Costa Rica	306.16	1,349.27	1,597.81	1,724.47	1,806.62	2,154.99	2,335.92	2,391.72	2,916.83	3,369.06	3,544.48	2,673.62
Market share (in%):	*1.46*	*2.22*	*2.54*	*2.63*	*2.54*	*2.59*	*2.50*	*2.33*	*2.58*	*2.57*	*2.44*	*2.32*
El Salvador	0.37	13.51	11.76	11.48	11.47	14.38	19.47	17.85	23.16	22.96	24.30	20.50
Market share (in%):	*0.00*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*
Guatemala	17.33	396.24	578.88	591.78	647.79	693.85	745.49	791.90	820.31	932.71	1,044.31	1,118.04
Market share (in%):	*0.08*	*0.65*	*0.92*	*0.90*	*0.91*	*0.83*	*0.80*	*0.77*	*0.72*	*0.71*	*0.72*	*0.97*
Honduras	81.43	334.59	298.55	343.78	336.16	344.55	408.69	422.23	385.65	445.76	468.70	421.84
Market share (in%):	*0.39*	*0.55*	*0.47*	*0.52*	*0.47*	*0.41*	*0.44*	*0.41*	*0.34*	*0.34*	*0.32*	*0.37*
Mexico	198.00	2,358.68	3,013.37	3,269.61	3,277.82	3,873.81	4,424.46	4,986.62	5,347.51	6,312.95	6,751.98	6,703.32
Market share (in%):	*0.94*	*3.88*	*4.79*	*4.98*	*4.61*	*4.66*	*4.73*	*4.85*	*4.72*	*4.82*	*4.64*	*5.82*
Nicaragua	23.38	12.77	42.76	43.42	42.28	50.07	52.63	67.29	68.84	103.96	124.41	115.03
Market share (in%):	*0.11*	*0.02*	*0.07*	*0.07*	*0.06*	*0.06*	*0.06*	*0.07*	*0.06*	*0.08*	*0.09*	*0.10*
Panama	323.07	576.21	332.24	302.24	377.45	415.11	486.47	476.75	454.88	590.27	507.99	267.81
Market share (in%):	*1.54*	*0.95*	*0.53*	*0.46*	*0.53*	*0.50*	*0.52*	*0.46*	*0.40*	*0.45*	*0.35*	*0.23*
4. SOUTH AMERICA												
Brazil	67.41	400.16	569.39	562.93	628.36	812.84	958.80	1,084.91	1,173.60	1,564.63	1,551.58	961.37
Market share (in%):	*0.32*	*0.66*	*0.91*	*0.86*	*0.88*	*0.98*	*1.02*	*1.06*	*1.04*	*1.19*	*1.07*	*0.83*
Chile	380.41	1,706.30	1,983.91	2,104.94	2,342.90	2,679.61	3,130.12	3,528.49	4,095.50	4,472.69	5,370.39	4,224.60
Market share (in%):	*1.81*	*2.81*	*3.16*	*3.21*	*3.30*	*3.22*	*3.34*	*3.43*	*3.62*	*3.41*	*3.69*	*3.67*
Colombia	213.38	1,275.84	1,455.07	1,325.54	1,420.59	1,598.77	1,878.52	2,181.35	2,320.09	2,592.64	3,129.45	2,768.34
Market share (in%):	*1.02*	*2.10*	*2.31*	*2.02*	*2.00*	*1.92*	*2.01*	*2.12*	*2.05*	*1.98*	*2.15*	*2.40*
Ecuador	337.88	1,529.56	1,887.86	1,977.95	2,103.16	2,333.30	2,637.77	3,031.34	3,113.08	3,681.20	4,264.19	3,597.00
Market share (in%):	*1.61*	*2.52*	*3.00*	*3.01*	*2.96*	*2.81*	*2.82*	*2.95*	*2.75*	*2.81*	*2.93*	*3.12*

Table A.2.2: Export unit values in the horticulture sector (in US$/kg), selected countries (1990-2009)[53]

Region / Country	Product Code	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA													
Ethiopia	**0603**	-	1.89	2.51	3.80	5.51	6.35	5.37	4.26	4.71	6.66	7.39	4.77
	0709	-	2.21	3.96	4.48	1.78	1.28	2.81	2.27	1.89	1.55	1.56	2.31
	0710	-	-	4.30	1.01	1.83	9.05	0.23	0.28	0.59	0.71	1.68	0.51
	0803	-	0.63	-	-	-	-	-	0.98	-	-	1.89	-
	0805	-	0.86	0.37	-	-	0.34	0.56	0.88	0.50	-	0.57	2.24
	0806	-	3.35	-	-	0.52	1.92	-	1.52	0.92	-	-	-
	0807	-	1.64	1.12	1.19	1.44	0.40	2.15	0.90	0.34	1.89	-	1.71
	0808	-	-	0.88	-	-	-	2.38	0.76	0.34	7.33	1.60	-
	0809	-	3.03	-	-	-	-	-	-	0.43	1.06	-	-
Kenya	**0603**	4.28	3.91	3.34	3.68	3.94	4.36	4.36	4.48	4.83	6.61	7.57	7.77
	0709	2.06	2.11	2.09	2.45	3.00	3.18	3.45	3.51	3.78	4.08	3.95	3.49
	0710	2.24	2.26	1.92	1.64	1.68	1.92	2.38	2.50	2.36	3.17	3.89	3.13
	0803	1.20	1.21	0.93	1.21	1.07	2.33	1.85	2.22	2.47	3.42	1.18	3.24
	0805	1.07	2.86	0.31	0.29	0.32	0.20	0.06	0.17	0.54	0.93	0.49	0.19
	0806	-	2.94	0.77	1.01	0.61	0.89	0.62	1.08	1.21	2.29	1.53	4.77
	0807	2.71	1.92	1.26	1.52	0.87	2.07	2.91	3.71	3.82	4.75	5.08	4.48
	0808	1.38	0.21	0.74	0.62	0.33	0.45	0.68	0.89	0.39	0.13	0.18	1.87
	0809	-	2.06	0.60	0.40	0.44	0.67	2.15	1.01	2.21	1.07	2.69	2.13
South Africa	**0603**	-	-	4.30	4.05	4.28	4.99	5.21	4.81	5.18	6.69	5.92	5.88
	0709	-	-	0.46	0.64	0.68	1.13	1.52	1.23	1.36	1.47	1.47	1.43
	0710	-	-	0.59	0.79	0.93	1.16	1.16	1.64	1.62	1.09	1.36	0.82
	0803	-	-	0.22	0.20	0.32	0.39	0.50	0.47	0.44	0.84	0.64	0.59
	0805	-	-	0.45	0.52	0.47	0.57	0.65	0.65	0.69	0.49	0.63	0.79
	0806	-	-	1.38	1.44	1.42	1.58	1.69	1.85	1.84	1.96	2.31	2.02
	0807	-	-	0.71	0.81	0.77	0.86	1.05	1.16	1.51	2.69	2.43	2.29
	0808	-	-	0.66	0.66	0.73	0.79	0.88	0.85	0.94	1.01	1.11	1.03
	0809	-	-	1.24	1.23	1.36	1.39	1.47	1.57	1.93	1.03	2.13	1.79

[53] As export unit values are derived from export values, they are also in current US dollars; see previous footnote. The same applies to Tables A.3.2, A.4.2, and A.5.2.

Tanzania	**0603**	5.38	4.11	3.95	4.37	4.38	5.24	5.48	6.15	6.51	6.22	6.49	7.58
	0709	-	1.29	2.73	3.55	3.40	3.82	4.08	6.16	4.98	4.26	2.17	3.62
	0710	-	0.44	0.41	0.24	-	0.18	0.65	0.18	1.80	0.81	0.09	1.63
	0803	-	-	0.23	0.11	0.25	2.50	2.43	1.92	3.02	4.96	8.79	5.00
	0805	-	0.70	0.30	1.13	3.26	0.21	0.22	0.40	0.56	0.50	0.06	1.75
	0806	-	-	1.49	-	-	0.84	1.06	1.75	1.47	1.71	3.68	2.31
	0807	-	-	-	-	-	-	-	-	-	-	-	-
	0808	-	-	0.69	0.37	0.59	-	-	1.00	-	-	0.09	-
	0809	-	2.50	-	-	-	-	4.77	2.22	-	0.06	0.08	3.49
Uganda	**0603**	-	4.70	3.34	3.51	3.62	3.95	4.03	4.14	4.67	10.54	7.96	9.55
	0709	-	1.58	1.19	1.34	1.43	1.41	1.68	1.88	2.26	2.51	2.81	2.75
	0710	-	-	0.15	0.12	0.04	0.76	0.60	0.17	0.12	0.09	0.29	1.04
	0803	-	1.88	0.85	1.08	2.00	2.34	2.29	1.87	1.99	2.31	2.49	2.34
	0805	0.82	1.48	5.08	0.72	0.60	1.66	1.03	0.99	0.54	1.23	5.85	2.24
	0806	-	-	-	-	-	-	9.71	-	0.23	-	3.29	2.63
	0807	-	-	0.44	4.29	2.28	2.22	2.20	2.05	2.30	1.90	2.48	3.59
	0808	-	-	0.59	-	1.22	1.08	1.04	0.84	1.11	2.02	1,131.50	0.27
	0809	-	-	-	-	-	-	2.37	-	10.30	-	3.00	1.40
2. ASIA													
Bangladesh	**0603**	-	112.73	5.60	11.72	8.44	6.27	4.97	8.30	3.30	2.08	3.36	0.56
	0709	1.13	1.83	1.41	1.34	1.33	1.50	1.54	1.44	1.83	1.90	2.19	2.24
	0710	-	2.46	1.28	1.52	1.28	2.47	2.43	2.39	2.51	2.70	1.81	1.73
	0803	0.20	0.57	0.47	0.49	0.61	0.48	0.52	0.40	0.49	0.48	3.73	2.40
	0805	1.08	0.57	0.48	0.53	0.53	0.62	0.79	0.72	1.00	1.42	3.07	3.17
	0806	-	1.05	0.39	2.09	1.05	1.39	1.24	-	-	0.66	-	-
	0807	-	1.23	1.09	1.74	1.69	2.80	2.39	1.27	2.64	3.32	3.50	1.48
	0808	-	-	1.31	1.71	0.71	4.20	1.92	-	-	-	-	3.94
	0809	-	1.15	1.29	-	1.19	0.47	1.05	3.03	-	3.93	-	0.02
China	**0603**	8.47	6.79	4.88	3.39	3.48	2.25	3.27	3.85	3.84	2.57	3.51	2.82
	0709	3.44	1.88	0.72	0.66	0.51	0.50	0.52	0.59	0.67	0.57	0.61	0.70
	0710	1.15	1.24	1.15	1.12	1.08	1.00	0.96	1.00	1.01	0.98	1.05	1.01
	0803	0.80	0.49	0.61	0.56	0.51	0.40	0.58	0.56	0.56	0.63	0.67	0.76
	0805	0.76	0.49	0.40	0.41	0.42	0.42	0.41	0.46	0.56	0.59	0.65	0.70
	0806	1.67	1.86	0.84	0.69	0.78	0.67	0.75	0.89	1.15	1.19	1.32	1.22
	0807	1.12	0.50	0.36	0.40	0.41	0.62	0.38	0.35	0.37	0.42	0.56	0.58
	0808	0.68	0.71	0.45	0.42	0.47	0.43	0.47	0.45	0.53	0.55	0.62	0.60
	0809	1.99	0.76	0.57	0.56	0.50	0.59	0.72	0.85	0.91	0.93	1.02	0.97

India	**0603**	5.21	5.33	4.25	4.16	3.22	3.96	3.74	3.65	4.07	5.09	5.56	5.46
	0709	1.32	1.48	1.02	1.42	0.98	0.92	0.98	0.78	1.01	1.11	1.27	1.00
	0710	2.20	0.75	0.75	0.82	0.96	0.48	1.07	1.12	1.15	1.33	1.20	0.67
	0803	1.26	0.71	0.76	0.78	0.97	0.92	1.05	1.08	1.05	1.17	1.15	0.74
	0805	0.24	0.82	0.54	0.61	0.39	0.36	0.34	0.43	0.47	0.59	0.69	0.52
	0806	0.83	1.48	1.05	1.20	1.09	1.09	1.17	1.43	1.34	1.37	1.66	1.59
	0807	0.23	0.26	0.41	0.68	0.55	0.60	0.53	0.43	0.39	0.45	0.56	0.49
	0808	0.51	0.34	0.50	0.68	0.42	0.46	0.36	0.57	0.44	0.57	1.19	0.26
	0809	-	0.85	1.29	1.34	0.46	0.19	0.71	0.18	0.19	0.48	1.35	2.80
Thailand	**0603**	6.97	8.78	5.39	4.77	4.20	4.55	4.80	5.61	4.85	6.33	5.83	4.74
	0709	1.33	1.56	1.18	1.21	1.31	1.25	1.36	1.43	1.69	1.45	1.79	1.32
	0710	1.82	1.77	1.49	1.37	1.37	1.37	1.39	1.43	1.47	1.54	1.59	1.61
	0803	1.82	0.76	0.57	0.30	0.59	0.57	0.66	0.44	0.44	0.44	0.38	0.52
	0805	0.34	0.59	0.48	0.49	0.57	0.50	0.42	0.38	0.50	0.45	0.35	0.61
	0806	0.53	0.75	0.77	0.52	0.75	0.87	0.66	0.79	2.06	2.14	2.19	1.39
	0807	1.89	0.78	1.57	1.10	1.50	1.00	1.04	0.86	1.27	2.35	0.32	2.33
	0808	1.14	0.94	0.88	0.76	0.96	0.26	0.53	0.72	0.71	0.94	0.87	0.53
	0809	0.26	1.18	2.02	1.25	1.38	1.22	1.17	0.71	1.49	1.52	2.65	2.14
Vietnam	**0603**	-	-	7.58	6.28	6.60	6.15	6.69	5.94	5.62	5.66	6.04	3.78
	0709	-	1.73	1.24	0.91	1.14	1.45	0.98	0.86	1.20	1.15	1.42	1.33
	0710	0.74	0.97	1.24	1.14	1.09	1.02	1.05	1.06	0.99	0.93	0.82	0.75
	0803	1.75	0.14	0.21	0.08	0.06	0.06	0.07	0.10	0.12	0.17	0.15	0.16
	0805	-	0.57	0.93	0.81	0.92	0.72	1.64	0.92	0.71	0.88	0.65	1.21
	0806	-	1.52	0.77	3.44	3.39	3.57	1.87	1.58	2.28	1.31	0.92	3.06
	0807	-	0.45	0.10	0.09	0.09	0.10	0.10	0.13	0.17	0.15	0.18	0.19
	0808	-	0.54	0.74	0.61	0.87	0.32	0.73	0.53	0.99	1.02	1.00	2.92
	0809	-	-	0.14	1.55	1.85	0.93	1.01	1.02	1.90	1.66	3.59	2.07
3. CENTRAL AMERICA													
Belize	**0603**	11.11	-	-	-	10.48	-	6.27	-	17.04	-	7.03	8.08
	0709	-	2.32	0.81	1.35	1.68	1.61	1.51	1.67	0.64	1.59	1.63	2.80
	0710	-	2.50	1.69	2.19	2.36	-	-	-	2.81	0.73	-	0.83
	0803	-	0.75	0.55	0.52	0.57	0.57	0.54	0.80	0.61	0.73	0.75	0.80
	0805	-	1.02	0.48	0.49	0.48	0.52	0.61	0.63	0.63	0.72	0.89	0.81
	0806	-	-	-	-	-	-	-	-	-	3.78	-	2.64
	0807	1.25	0.82	1.24	1.01	0.88	0.68	0.66	0.73	0.67	0.65	0.67	0.67
	0808	-	-	-	0.86	0.18	0.44	0.65	0.75	0.78	-	-	2.12
	0809	-	-	-	-	-	-	-	-	-	-	-	-

Costa Rica	**0603**	5.16	4.42	5.16	4.77	4.45	5.19	5.53	4.81	5.66	3.42	6.60	7.20
	0709	0.67	0.67	0.54	0.50	0.48	0.47	0.52	0.53	0.54	0.58	1.47	0.69
	0710	0.99	0.76	0.75	0.87	1.15	1.43	1.34	1.26	1.52	1.42	1.30	1.99
	0803	0.56	0.51	0.39	0.45	0.49	0.55	0.59	0.62	0.56	0.62	0.85	0.74
	0805	0.72	0.74	0.52	0.61	0.17	0.62	0.81	0.77	1.02	0.35	0.19	0.12
	0806	1.19	1.58	1.20	1.11	1.08	1.33	1.14	1.51	1.66	1.81	2.02	1.65
	0807	1.08	0.67	0.46	0.52	0.56	0.44	0.54	0.53	0.57	0.65	0.87	0.57
	0808	1.78	0.89	0.86	0.85	0.74	0.86	0.69	0.91	1.13	1.23	1.53	1.13
	0809	1.10	2.21	1.76	1.24	1.17	1.40	1.40	1.27	2.28	1.10	2.32	1.53
El Salvador	**0603**	-	2.40	3.47	5.06	5.24	5.43	5.98	3.03	-	-	10.04	8.02
	0709	-	2.06	1.09	1.30	0.87	1.12	1.23	1.25	1.47	1.66	2.14	2.16
	0710	-	1.02	1.34	1.23	1.28	1.26	1.46	1.52	1.53	1.48	1.32	1.32
	0803	-	0.28	5.80	17.02	-	-	-	0.82	1.74	0.60	0.65	5.04
	0805	1.15	1.60	0.91	1.06	0.96	0.99	1.11	1.19	0.82	1.19	0.80	0.55
	0806	-	1.63	0.85	0.92	-	1.35	1.08	1.44	1.59	1.55	1.93	1.81
	0807	0.70	0.58	0.17	0.07	0.42	0.19	0.13	0.07	0.38	0.23	0.11	0.25
	0808	1.00	0.96	0.82	2.02	0.67	0.50	0.57	-	0.99	0.89	-	1.11
	0809	-	-	1.12	0.82	0.85	1.84	1.71	1.85	1.71	0.80	1.39	1.92
Guatemala	**0603**	0.81	1.62	5.28	4.64	1.75	1.65	2.86	2.43	2.97	2.07	3.01	3.24
	0709	0.65	0.80	0.34	0.32	0.57	0.33	0.32	0.32	0.31	0.35	0.37	0.47
	0710	1.48	1.06	0.93	0.80	0.58	0.91	0.88	0.90	0.95	0.97	1.34	1.09
	0803	0.46	0.39	0.32	0.33	0.31	0.32	0.31	0.32	0.33	0.33	0.61	0.46
	0805	-	0.95	1.01	1.05	0.76	0.68	0.87	0.89	0.53	0.29	0.90	0.49
	0806	-	0.98	0.95	0.90	0.32	1.24	1.22	1.92	1.72	1.66	1.06	1.55
	0807	0.75	0.45	0.36	0.38	0.38	0.38	0.38	0.40	0.41	0.44	0.77	0.41
	0808	-	0.10	0.50	0.34	0.20	0.25	0.28	0.20	0.14	0.17	0.14	0.24
	0809	-	0.07	0.32	0.23	0.39	0.55	0.39	0.51	0.42	0.21	0.19	0.36

Honduras	**0603**	1.32	4.77	6.03	9.35	6.67	5.47	0.69	0.68	0.68	0.75	0.90	0.80
	0709	0.83	0.54	0.55	0.43	0.42	0.46	0.47	0.56	0.67	0.76	1.37	0.84
	0710	-	1.16	0.71	0.60	0.38	0.95	0.79	1.56	0.49	1.57	1.29	1.45
	0803	0.65	0.36	0.42	0.41	0.35	0.36	0.37	0.40	0.38	0.39	0.67	0.52
	0805	0.74	0.17	0.28	0.32	0.21	0.30	0.28	0.36	0.49	0.25	0.21	0.16
	0806	0.60	1.48	0.62	0.24	0.09	1.40	1.65	2.34	1.48	1.58	1.47	1.72
	0807	0.80	0.48	0.40	0.41	0.36	0.37	0.38	0.37	0.36	0.39	0.76	0.37
	0808	0.88	0.48	0.87	0.09	0.32	0.71	0.41	0.35	1.00	0.71	0.11	0.22
	0809	0.57	0.90	1.89	0.69	2.54	2.46	2.50	1.90	3.25	0.12	0.45	1.44
Mexico	**0603**	7.10	9.28	5.73	5.30	5.25	5.87	6.15	4.99	6.02	4.32	7.46	8.14
	0709	1.07	0.88	1.02	1.09	1.00	0.98	1.00	1.00	1.10	1.12	2.04	1.00
	0710	1.10	0.69	0.82	0.83	0.85	0.89	0.87	0.90	0.92	0.97	1.35	1.08
	0803	0.37	0.38	0.38	0.40	0.42	0.46	0.45	0.45	0.51	0.56	0.70	0.54
	0805	1.98	0.38	0.45	0.44	0.39	0.48	0.55	0.53	0.57	0.60	0.96	0.51
	0806	1.57	1.09	1.59	2.20	1.99	1.70	2.18	2.00	1.75	1.98	1.88	2.50
	0807	0.93	0.40	0.42	0.47	0.42	0.66	0.58	0.54	0.49	0.54	0.64	0.61
	0808	1.15	0.70	0.87	0.58	0.62	0.62	1.09	1.24	1.21	1.67	0.87	1.28
	0809	1.68	1.29	1.50	1.45	1.19	1.33	1.49	1.45	1.70	1.72	1.69	2.01
Nicaragua	**0603**	-	3.32	2.94	5.76	6.44	4.56	6.95	7.11	1.25	19.03	4.73	8.78
	0709	3.35	0.34	1.01	2.38	1.80	2.14	1.53	1.87	2.33	2.63	2.47	2.44
	0710	-	0.12	1.29	-	1.06	1.41	0.84	1.06	-	1.19	-	0.74
	0803	0.54	0.34	0.71	0.40	0.33	0.33	0.31	0.30	0.26	0.30	0.49	0.37
	0805	0.48	0.51	0.17	0.11	0.05	0.53	0.58	0.06	0.07	0.11	0.09	0.07
	0806	-	0.66	-	2.02	0.95	-	0.72	3.12	1.55	3.64	-	0.68
	0807	-	0.42	0.43	0.34	0.30	0.52	0.49	0.41	0.80	0.84	0.81	0.43
	0808	-	-	0.88	1.06	-	3.79	-	-	1.54	4.60	1.34	-
	0809	-	1.13	-	-	-	3.79	13.35	0.04	0.02	-	-	0.18
Panama	**0603**	6.49	5.06	5.19	5.67	4.15	5.96	6.24	4.95	3.73	5.53	7.52	9.37
	0709	-	0.37	0.46	0.45	0.41	0.45	0.51	0.52	0.52	0.55	1.50	0.53
	0710	-	2.48	0.66	1.75	0.58	1.52	1.80	1.36	5.49	-	4.73	2.03
	0803	0.71	0.73	0.53	0.54	0.61	0.30	0.79	0.87	0.74	0.86	0.82	0.76
	0805	0.46	0.43	0.33	0.51	0.49	1.10	1.48	0.55	0.89	0.80	0.75	1.44
	0806	-	0.07	2.03	2.08	1.15	0.62	0.97	1.78	1.53	0.63	2.76	2.81
	0807	0.77	0.50	0.62	0.74	0.78	0.75	0.85	0.71	0.76	0.82	0.87	1.02
	0808	0.72	0.32	0.70	0.58	0.77	0.96	1.00	0.72	0.73	0.44	1.29	1.26
	0809	-	-	1.73	1.26	-	1.60	0.97	1.08	1.19	1.71	0.96	0.89

4. SOUTH AMERICA													
Brazil	**0603**	11.18	6.87	5.40	2.91	3.50	3.93	4.26	4.15	4.83	7.21	5.13	4.06
	0709	0.32	0.20	0.16	0.16	0.12	0.12	0.17	0.21	0.20	0.19	0.19	0.15
	0710	2.29	0.95	0.19	0.83	0.85	0.27	0.20	1.47	1.36	1.04	0.48	0.12
	0803	0.07	0.31	0.22	0.19	0.19	0.21	0.24	0.29	0.35	0.41	0.52	0.49
	0805	0.47	0.40	0.31	0.42	0.60	0.55	0.65	0.84	0.79	0.91	1.11	1.04
	0806	2.12	1.99	1.27	1.39	1.88	1.98	2.10	2.33	2.53	3.01	2.55	2.58
	0807	1.72	0.74	0.72	0.69	0.77	0.76	0.85	0.83	0.91	1.01	0.99	1.14
	0808	0.83	0.96	0.72	0.75	0.77	0.90	0.85	0.82	1.00	1.03	1.23	1.02
	0809	4.90	1.57	0.26	0.64	0.61	0.54	0.98	0.73	1.37	2.62	1.85	1.75
Chile	**0603**	7.39	3.44	4.71	4.46	5.30	5.86	5.64	6.00	6.92	7.28	8.48	8.38
	0709	2.67	1.73	1.86	1.47	2.42	2.31	2.46	2.69	2.71	2.19	1.79	1.99
	0710	2.17	2.24	1.63	1.40	1.45	1.49	1.60	1.62	1.71	1.87	2.01	2.41
	0803	0.72	0.59	0.36	0.74	0.75	0.56	0.54	14.28	0.82	0.84	0.97	2.84
	0805	0.70	0.74	0.99	1.00	0.92	0.89	0.92	0.93	1.03	1.09	1.02	1.09
	0806	1.41	1.28	1.32	1.37	1.33	1.33	1.47	1.61	1.70	1.77	1.93	1.82
	0807	0.94	1.06	1.23	1.00	0.69	0.84	0.78	0.66	1.53	1.55	1.07	1.11
	0808	0.83	0.73	0.66	0.64	0.65	0.73	0.77	0.76	0.85	0.98	1.08	0.95
	0809	1.67	1.14	1.41	1.31	1.38	1.33	1.33	1.43	1.91	1.89	2.11	1.96
Colombia	**0603**	5.86	1.36	5.37	5.02	4.69	5.55	5.83	5.22	6.08	7.35	7.17	7.48
	0709	0.95	2.89	2.65	2.63	1.98	2.14	2.37	2.61	2.79	3.65	3.65	4.16
	0710	2.23	0.79	1.05	1.33	1.90	1.67	1.98	2.00	2.01	2.25	2.08	2.17
	0803	0.54	0.52	0.43	0.44	0.48	0.55	0.61	0.65	0.64	0.67	0.86	0.82
	0805	1.94	0.68	1.16	0.83	0.71	0.72	0.71	0.76	0.90	0.62	0.37	0.40
	0806	1.89	1.29	1.10	2.13	1.89	1.16	1.89	2.03	1.48	1.87	1.20	2.25
	0807	0.99	1.32	0.69	0.63	0.75	0.94	0.78	1.28	0.80	0.89	0.89	1.11
	0808	1.25	0.86	0.78	0.78	0.63	0.57	2.05	0.61	1.01	1.08	1.49	1.40
	0809	1.93	0.89	1.49	2.16	1.17	2.25	2.48	2.89	2.50	6.24	3.10	1.93
Ecuador	**0603**	6.66	6.16	4.92	4.87	4.80	5.50	5.79	5.42	6.24	8.67	7.95	8.51
	0709	4.14	2.63	1.36	1.08	0.83	1.39	2.00	2.30	2.37	2.92	3.91	2.15
	0710	1.31	1.37	1.24	1.26	1.22	1.26	1.25	1.25	1.27	1.27	1.41	1.36
	0803	0.52	0.45	0.36	0.39	0.41	0.44	0.46	0.51	0.49	0.54	0.68	0.62
	0805	0.98	0.65	0.25	0.22	0.23	0.41	0.18	0.25	0.24	0.43	0.25	0.13
	0806	1.26	1.14	1.15	0.73	1.25	1.08	0.45	1.60	1.95	1.50	0.96	1.86
	0807	0.98	0.62	0.41	0.52	0.59	0.49	0.61	0.60	0.68	0.75	0.91	1.39
	0808	0.35	0.56	0.49	0.47	0.80	0.62	0.50	0.47	0.54	0.65	1.38	2.11
	0809	1.32	0.06	0.15	0.20	0.17	0.26	0.18	0.77	0.23	2.97	0.15	0.09

Table A.2.3: Wages in different occupational groups in the horticulture sector (1990-2008)

Country	Occupation	Index	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
1. AFRICA													
Ethiopia	Farm supervisor	MW-NC*	n.a.	973.50 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MW-NC*	n.a.	310.42 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Kenya	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tanzania	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	Farm supervisor	MW-NC	n.a.	14,600 [2)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MW-NC	n.a.	10,400 [2)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	MW-NC-Min	n.a.	60,922 [2)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	MW-NC-Min	n.a.	32,400 [2)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2. ASIA													
Bangladesh	Farm supervisor	MW-NC-Min*	800.00	3,600.00	4,700 [3)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	DW-NC-Min	500.00	40.00	40 [3)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	MW-NC-Min*	800.00	2,212.00	2,937 [3)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	MW-NC-Min*	500.00	1,545.00	2,145 [3)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	Field crop farm worker	YW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	11,282	10,181	13,837	n.a.	n.a.
	Plantation supervisor	YW-NC*	n.a.	n.a.	6,539 [3)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	YW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	12,100	9,888	12,043	n.a.	n.a.
India	Field crop farm worker	DW-NC-Min*	7.00	15.00	20.00	19.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	DW-NC-Min	18.79	31.47	46.60	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	DW-NC-Min	11.73	18.68	35.60	28.35	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Thailand	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vietnam	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. CENTRAL AMERICA													
Belize	Farm supervisor	YW-NC-Min*	835	12,900	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		YW-NC-Max*	1,557	24,528	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	HW-NC-Min*	1.94	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		HW-NC-Max*	1.94	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Costa Rica	Farm supervisor	MW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	168,573	203,093	222,536	293,466
	Field crop farm worker	MW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	86,600	120,000	131,868	n.a.
	Plantation supervisor	MW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	168,573	203,093	222,536	293,466
	Plantation worker	MW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	95,260	87,990	111,838	104,869

El Salvador	Farm supervisor	WW-$-Min*	n.a.	n.a.	n.a.	33.60	33.60	34.50	34.50	34.50	34.50	34.50	42.00
	Field crop farm worker	WW-$-Min	n.a.	n.a.	n.a.	17.28	17.28	17.28	17.28	17.28	24.57	34.50	42.00
	Plantation supervisor	WW-$-Min*	n.a.	n.a.	n.a.	33.60	33.60	34.50	34.50	34.50	34.50	34.50	42.00
	Plantation worker	WW-$-Min	n.a.	n.a.	n.a.	17.28	17.28	17.28	17.28	17.28	24.57	34.50	42.00
Guatemala	Plantation worker	MW-NC*	n.a.	595.00 [4)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Honduras	Farm supervisor	WW-NC-Min*	n.a.	n.a.	1,540 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	WW-NC-Min*	82.60	128.31	210.00 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	WW-NC-Min*	259.13	420.00	373.38 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	WW-NC-Min*	168.99	151.69	280.00 [1)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico	Farm supervisor	MA-NC	n.a.	n.a.	2,803.38	3,184	3,435	4,157	4,672	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MA-NC	n.a.	n.a.	1,369.12	1,558	1,794	1,957	2,132	2,313	2,435	2,638	2,780
	Plantation supervisor	MA-NC	n.a.	n.a.	2,700.71	2,989	3,417	3,506	3,695	4,468	5,700	4,814	6,536
	Plantation worker	MA-NC	n.a.	n.a.	1,255.31	1,661	1,688	1,835	2,059	2,188	2,367	2,558	2,641
Nicaragua	Farm supervisor	MW-NC	336.00 [2)]	344.05	548.00	560.00	587.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MW-NC	n.a.	301.36	523.00	553.00	585.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Panama	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4. SOUTH AMERICA													
Brazil	Farm supervisor	MA-NC	n.a.	n.a.	550.80 [5)]	823.70	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MA-NC	n.a.	n.a.	228.48 [5)]	305.87	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	MA-NC	n.a.	n.a.	n.a.	695.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	MA-NC	n.a.	n.a.	n.a.	231.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Chile	Field crop farm worker	MW-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	208,743	227,551	n.a.	n.a.
Colombia	Farm supervisor	MW-NC*	144,830	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Field crop farm worker	MW-NC*	88,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation supervisor	MW-NC	144,830	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Plantation worker	MW-NC*	88,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ecuador	-	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1) Figure is for 1997; 2) Figure is for 1993; 3) Figure is for 1998; 4) Figure is for 1994; 5) Figure is for 1999
MA-NC: Average earnings per month in National Currency (Source: LABORSTA)
MW-NC: Wages in National Currency per month (Source LABORSTA)
HW-NC-Min: Minimum wage per hour in US Dollar (Source LABORSTA)
HW-NC-Max: Maximum wage per hour in US Dollar (Source LABORSTA)
DW-NC-Min: Minimum wage per day in National Currency (Source LABORSTA)
DW-NC-Max: Maximum wage per day in National Currency (Source LABORSTA)
WW-NC-Min: Minimum wage per week in National Currency (Source LABORSTA)
WW-NC-Max: Maximum wage per week in National Currency (Source LABORSTA)
WW-$-Min: Minimum wage per week in US Dollar (Source LABORSTA)
WW-$-Max: Maximum wage per week in US Dollar (Source LABORSTA)
MW-NC-Min: Minimum wage per month in National Currency (Source LABORSTA)
MW-NC-Max: Maximum wage per month in National Currency (Source LABORSTA)
YW-NC-Min: Minimum wage per year in US Dollar (Source LABORSTA)
YW-NC-Max: Maximum wage per year in US Dollar (Source LABORSTA)
** Only men*

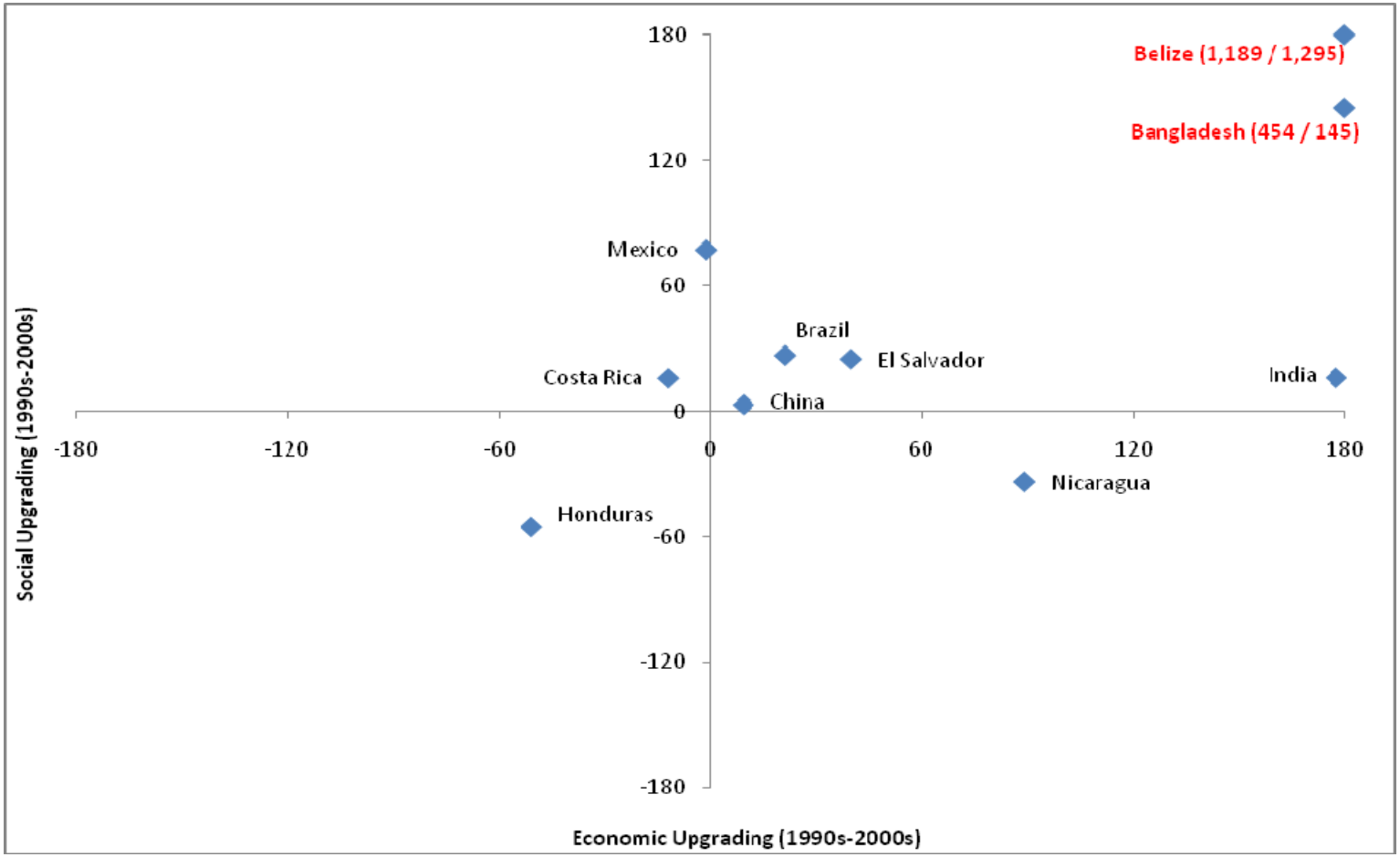
Table A.2.4: Economic up- and downgrading in the horticulture sector (2000-2009)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
Brazil	21.86	17.26
Chile	15.04	50.75
China	8.58	2.17
Ethiopia	341.85	591.33
Kenya	18.53	58.12
Mexico	5.37	52.79
Nicaragua	28.17	37.91
South Africa	7.13	44.10
Thailand	10.43	13.87
Uganda	37.78	144.62
Vietnam	190.20	25.98
Economic downgraders		
India	-12.83	-3.69
Intermediate cases		
Bangladesh	-20.43	6.99
Belize	-5.41	13.86
Colombia	-1.78	20.65
Costa Rica	-6.37	21.11
Ecuador	-1.88	35.82
El Salvador	2.12	-19.53
Guatemala	-5.24	3.46
Honduras	-21.45	32.88
Panama	-36.70	50.65
Tanzania	-5.20	100.84

Table A.2.5: Calculation of the composite index for economic and social up- and downgrading in the horticulture sector (early 1990s – late 2000s)

	ECONOMIC UPGRADING				SOCIAL UPGRADING			
	Growth (in %) market sh.	Growth (in %) unit value	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2	Growth (in %) employment	Growth (in %) real wages	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2
Bangladesh	276.04	47.32	**161.68**	**453.99**	n.a.	145.09	**145.09**	**145.09**
Belize	2,148.48	-42.66	**1,052.91**	**1,189.17**	n.a.	1,295.26	**1,295.26**	**1,295.26**
Brazil	71.08	-29.25	**20.91**	**21.04**	n.a.	26.75	**26.75**	**26.75**
Chile	23.06	53.87	**38.46**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
China	55.74	-29.84	**12.95**	**9.27**	n.a.	3.13	**3.13**	**3.13**
Colombia	7.45	-26.76	**-9.65**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Costa Rica	15.66	-24.02	**-4.18**	**-12.12**	n.a.	15.72	**15.72**	**15.72**
Ecuador	13.59	149.99	**81.79**	**n.a.**	n.a.	n.a.	**n.a.**	**n.a.**
El Salvador	-24.95	86.14	**30.59**	**39.69**	n.a.	25.01	**25.01**	**25.01**
Ethiopia	656.11	176.28	**416.20**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Guatemala	48.59	-40.19	**4.20**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Honduras	-53.40	5.21	**-24.10**	**-50.98**	n.a.	-55.33	**-55.33**	**-55.33**
India	24.88	122.33	**73.61**	**177.65**	n.a.	15.95	**15.95**	**15.95**
Kenya	228.39	113.44	**170.91**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Mexico	42.97	-30.90	**6.04**	**-1.20**	n.a.	77.17	**77.17**	**77.17**
Nicaragua	-2.26	93.29	**45.52**	**88.92**	n.a.	-33.81	**-33.81**	**-33.81**
Panama	-70.03	20.26	**-24.89**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
South Africa	7.13	44.1	**25.62**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Tanzania	5.39	-82.90	**-38.75**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Thailand	-39.93	-24.52	**-32.22**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Uganda	7,835.38	529.47	**4,182.43**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Vietnam	549.93	-75.09	**237.42**	**-**	n.a.	n.a.	**n.a.**	**n.a.**

Figure A.2.1: Overall upgrading and downgrading in the horticulture sector, 1990s-2000s (according to method 2)



APPENDIX 3: APPAREL

Table A.3.1: Selected apparel exporters (export value in mn. US$; market share in %)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA												
Kenya	0.4042	46.4726	50.3423	72.4302	139.7338	208.6269	306.1879	296.9676	287.9049	270.0466	269.9738	208.9112
Market share (in%):	*0.0011*	*0.0305*	*0.0259*	*0.0369*	*0.0692*	*0.0920*	*0.1215*	*0.1101*	*0.0991*	*0.0848*	*0.0801*	*0.0848*
Lesotho*	n.a.	n.a.	152.5157	233.5984	348.1270	427.5214	494.2653	421.6986	418.3998	413.8312	370.0590	302.1369
Market share (in%):	*n.a.*	*n.a.*	*0.0784*	*0.1191*	*0.1723*	*0.1886*	*0.1961*	*0.1564*	*0.1440*	*0.1299*	*0.1098*	*0.1226*
Mauritius	122.5543	846.4601	961.1435	917.4170	902.7526	973.3767	958.1705	806.7235	844.2794	957.2817	948.0229	757.2365
Market share (in%):	*0.3275*	*0.5549*	*0.4944*	*0.4677*	*0.4468*	*0.4294*	*0.3802*	*0.2992*	*0.2906*	*0.3005*	*0.2814*	*0.3073*
South Africa*	n.a.	n.a.	396.0211	404.2214	426.8279	571.1097	476.5248	334.8570	296.7657	312.2510	263.9829	65.7678
Market share (in%):	*n.a.*	*n.a.*	*0.2037*	*0.2061*	*0.2113*	*0.2520*	*0.1891*	*0.1242*	*0.1021*	*0.0980*	*0.0783*	*0.0267*
2. ASIA												
Bangladesh	141.68	2,544.11	4,862.64	5,033.79	4,982.69	6,341.46	7,948.80	8,029.98	10,418.94	11,180.19	13,447.98	12,332.99
Market share (in%):	*0.38*	*1.67*	*2.50*	*2.57*	*2.47*	*2.80*	*3.15*	*2.98*	*3.59*	*3.51*	*3.99*	*5.01*
Cambodia	0.56	63.23	1,215.15	1,430.90	1,654.04	1,967.80	2,435.25	2,698.34	3,325.76	3,768.56	4,046.69	3,173.90
Market share (in%):	*0.00*	*0.04*	*0.63*	*0.73*	*0.82*	*0.87*	*0.97*	*1.00*	*1.14*	*1.18*	*1.20*	*1.29*
China	4,487.02	32,867.60	48,107.37	49,550.68	51,952.19	60,520.33	71,222.61	89,976.16	101,917.87	117,701.99	130,428.24	93,903.05
Market share (in%):	*11.99*	*21.55*	*24.74*	*25.26*	*25.72*	*26.70*	*28.26*	*33.37*	*35.08*	*36.95*	*38.71*	*38.11*
India	860.65	4,233.35	5,137.62	5,097.47	5,585.52	6,463.36	7,303.65	9,476.68	10,713.28	11,432.44	12,178.57	10,256.19
Market share (in%):	*2.30*	*2.78*	*2.64*	*2.60*	*2.76*	*2.85*	*2.90*	*3.51*	*3.69*	*3.59*	*3.61*	*4.16*
Sri Lanka	141.16	1,680.30	2,520.44	2,443.34	2,419.43	2,573.08	2,974.70	3,083.93	3,365.35	3,595.77	3,811.48	3,375.10
Market share (in%):	*0.38*	*1.10*	*1.30*	*1.25*	*1.20*	*1.14*	*1.18*	*1.14*	*1.16*	*1.13*	*1.13*	*1.37*
Vietnam	39.52	831.27	1,685.98	1,604.39	2,451.57	4,001.44	4,492.32	4,829.70	6,058.96	7,803.01	9,654.30	7,999.87
Market share (in%):	*0.11*	*0.54*	*0.87*	*0.82*	*1.21*	*1.77*	*1.78*	*1.79*	*2.09*	*2.45*	*2.87*	*3.25*

Table A.3.1: ***(cont.)***

3. LATIN AMERICA AND THE CARIBBEAN												
Dominican Rep.	7.50	1,759.08	2,480.84	2,306.36	2,206.94	2,169.16	2,113.65	1,908.20	1,612.59	1,110.68	889.00	652.22
Market share (in%):	*0.02*	*1.15*	*1.28*	*1.18*	*1.09*	*0.96*	*0.84*	*0.71*	*0.56*	*0.35*	*0.26*	*0.26*
El Salvador	0.06	622.16	1,689.01	1,730.06	1,791.49	1,837.77	1,818.46	1,718.48	1,548.56	1,636.43	1,690.11	1,415.30
Market share (in%):	*0.00*	*0.41*	*0.87*	*0.88*	*0.89*	*0.81*	*0.72*	*0.64*	*0.53*	*0.51*	*0.50*	*0.57*
Guatemala	2.14	733.16	1,561.40	1,696.97	1,760.17	1,871.36	2,068.73	1,938.85	1,788.39	1,558.16	1,504.53	1,227.55
Market share (in%):	*0.01*	*0.48*	*0.80*	*0.87*	*0.87*	*0.83*	*0.82*	*0.72*	*0.62*	*0.49*	*0.45*	*0.50*
Haiti	2.39	82.54	267.68	243.93	229.44	310.42	358.06	459.88	543.29	558.62	513.73	571.32
Market share (in%):	*0.01*	*0.05*	*0.14*	*0.12*	*0.11*	*0.14*	*0.14*	*0.17*	*0.19*	*0.18*	*0.15*	*0.23*
Mexico	13.27	2,870.82	8,926.20	8,373.99	8,004.38	7,479.95	7,286.68	6,684.32	5,953.54	5,129.99	4,634.57	3,889.05
Market share (in%):	*0.04*	*1.88*	*4.59*	*4.27*	*3.96*	*3.30*	*2.89*	*2.48*	*2.05*	*1.61*	*1.38*	*1.58*
Nicaragua	0.02	77.32	351.60	395.43	455.01	508.18	624.16	753.52	924.34	1,020.77	1,005.91	957.52
Market share (in%):	*0.00*	*0.05*	*0.18*	*0.20*	*0.23*	*0.22*	*0.25*	*0.28*	*0.32*	*0.32*	*0.30*	*0.39*

** Until 1999, exports of both Lesotho and South Africa were reported as consolidated figure for the Southern African Customs Union (SACU), which also included Botswana, Namibia, and Swaziland.*

Table A.3.2: Export unit values in the apparel sector, selected countries (1990-2009)[54]

Region / country	Product code	Indicator	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA														
Kenya	**6204**	**US$ / kg**	37.04	15.38	6.53	10.76	13.91	13.34	13.70	13.36	14.75	13.72	24.99	13.02
	6203	**US$ / kg**	-	13.61	13.28	13.78	11.36	11.52	12.14	9.91	9.88	11.19	200.34	11.77
	6110	**US$ / kg**	-	17.29	17.46	9.67	14.01	13.21	13.26	14.80	14.71	16.35	23.55	15.93
	6104	**US$ / kg**	-	20.21	9.31	11.24	13.01	12.11	12.33	13.21	13.11	14.11	20.80	15.68
	6109	**US$ / kg**	12.72	9.88	17.44	12.66	12.46	12.23	13.39	10.51	15.04	14.48	2.17	15.97
	6105	**US$ / kg**	-	8.84	15.11	18.01	13.56	14.95	15.57	13.59	14.23	14.00	23.16	16.95
	6103	**US$ / kg**	-	8.44	12.76	14.69	11.54	10.41	11.42	9.58	11.52	13.41	16.36	13.35
	6106	**US$ / item**	-	9.12	0.62	3.38	3.51	6.95	3.07	2.11	2.64	2.49	5.36	2.97
	6209	**US$ / kg**	-	12.05	3.17	2.98	3.04	13.22	13.80	9.08	0.71	13.36	23.93	14.52
	6111	**US$ / kg**	-	12.76	11.33	4.96	6.28	9.10	20.46	17.62	10.40	13.45	16.31	16.66
Lesotho	**6110**	**US$ / item**	-	-	2.81	2.85	2.97	3.10	3.07	2.79	2.98	3.04	9.35	3.04
	6203	**US$ / item**	-	-	5.75	6.09	5.71	5.79	6.36	6.25	5.75	5.85	5.80	5.76
	6204	**US$ / item**	-	-	5.90	5.90	5.59	5.70	6.29	5.83	5.90	5.81	4.61	5.63
	6104	**US$ / item**	-	-	2.64	3.44	3.12	3.44	3.86	4.13	3.93	3.51	2.66	2.99
	6105	**US$ / item**	-	-	2.35	3.11	3.37	3.46	3.49	3.57	4.06	4.18	7.58	4.47
	6109	**US$ / item**	-	-	2.07	2.18	2.15	2.31	2.16	2.26	2.15	2.44	1.94	2.33
	6103	**US$ / item**	-	-	2.46	3.05	3.08	3.53	3.57	3.38	3.78	3.69	5.61	3.93
	6106	**US$ / item**	-	-	2.76	2.97	3.17	3.54	3.16	3.29	2.97	2.94	3.45	3.05
	6101	**US$ / item**	-	-	19.04	5.61	6.44	6.01	6.25	7.65	6.98	6.19	5.23	7.28
	6209	**US$ / kg**	-	-	46.89	29.12	33.65	13.10	18.14	13.77	15.08	15.86	27.56	17.08

[54] Top-10 products at the four-digit level ranked according to trade value in 2008. In most cases, 'kg' is the dominant reporting unit until 1999 while 'number of items' is the dominant reporting unit from 2000 on. Export unit values measured in US$/kg are available from the authors upon request.

Mauritius	**6109**	**US$ / item**	2.08	2.80	3.09	3.09	3.17	3.51	3.77	3.64	3.81	4.15	4.35	3.84
	6205	**US$ / item**	5.08	8.13	9.27	9.42	9.22	9.92	11.37	11.43	10.79	11.22	12.54	10.56
	6110	**US$ / item**	6.16	3.80	7.62	7.09	6.83	7.66	7.53	6.93	7.70	8.81	9.56	8.86
	6203	**US$ / item**	3.29	5.29	7.84	8.70	8.15	9.13	8.96	8.77	9.69	11.96	14.27	12.44
	6105	**US$ / item**	3.41	3.36	4.66	4.69	4.91	5.45	5.70	5.61	6.19	6.37	8.24	7.55
	6204	**US$ / item**	2.91	5.41	7.87	7.55	7.16	7.76	8.03	8.12	9.61	11.59	12.22	11.59
	6106	**US$ / item**	5.78	3.33	4.27	4.30	4.11	4.44	4.86	4.92	4.45	5.54	6.48	6.28
	6206	**US$ / item**	6.80	4.18	6.87	7.46	7.61	8.08	9.52	10.34	11.43	11.19	11.95	9.51
	6104	**US$ / item**	7.40	3.75	4.76	4.26	4.25	4.28	4.68	4.86	5.37	5.58	6.56	5.41
	6108	**US$ / item**	1.07	8.12	3.56	4.02	3.92	4.04	3.92	4.17	4.43	5.43	4.63	5.27
South Africa	**6109**	**US$ / item**	-	-	3.00	2.66	2.63	3.16	3.26	3.89	3.46	3.85	3.38	5.76
	6203	**US$ / item**	-	-	7.43	7.44	9.42	7.05	9.90	9.77	11.16	11.82	7.83	10.84
	6204	**US$ / item**	-	-	5.51	4.69	5.45	5.04	6.23	9.71	9.87	9.78	6.37	8.62
	6117	**US$ / kg**	-	-	11.84	3.21	19.23	17.50	9.95	8.13	9.00	10.42	8.48	12.53
	6110	**US$ / item**	-	-	3.32	3.02	2.93	3.15	2.99	3.12	3.96	4.74	7.39	3.95
	6115	**US$ / kg**	-	-	2.11	2.77	4.58	14.18	1.68	14.30	12.20	16.94	10.61	21.25
	6104	**US$ / item**	-	-	3.90	2.81	4.72	3.24	4.74	3.35	8.12	8.82	4.87	6.07
	6206	**US$ / item**	-	-	7.05	4.86	6.04	5.97	5.28	7.43	9.31	8.83	4.49	11.45
	6205	**US$ / item**	-	-	3.36	3.49	4.67	6.36	7.61	6.21	9.46	3.62	10.91	13.47
	6211	**US$ / kg**	-	-	9.77	8.59	10.95	14.82	15.77	18.64	16.57	18.44	12.53	25.10
2. ASIA														
Bangladesh	**6009**	**US$ / item**	1.43	1.58	1.65	1.67	1.66	1.86	1.94	1.91	2.10	2.04	2.22	2.36
	6110	**US$ / item**	2.38	4.02	4.66	4.99	4.79	5.18	5.21	5.04	5.28	5.11	6.24	5.42
	6203	**US$ / item**	3.64	3.68	4.43	4.99	4.53	4.75	5.22	5.12	5.09	5.34	6.13	5.41
	6205	**US$ / item**	3.04	4.02	3.93	3.93	3.71	3.75	4.28	4.30	4.28	4.32	6.52	4.86
	6204	**US$ / item**	3.26	3.82	5.26	5.21	4.70	4.99	5.26	5.08	5.11	4.98	5.45	5.09
	6105	**US$ / item**	2.67	2.93	2.98	3.16	3.10	3.26	3.14	3.17	3.65	3.02	3.14	3.28
	6104	**US$ / item**	3.03	3.19	1.51	2.34	2.77	2.84	2.85	2.71	2.91	3.01	3.00	2.80
	6108	**US$ / item**	0.40	0.51	0.72	0.68	0.69	0.78	0.79	0.85	0.92	1.00	1.54	0.98
	6111	**US$ / kg**	17.90	15.01	14.96	14.03	11.48	12.62	12.43	12.38	12.99	5.51	17.71	16.26
	6209	**US$ / kg**	24.02	15.53	15.55	15.11	13.46	14.58	15.10	15.39	16.28	14.49	23.18	18.23

Cambodia	**6110**	**US$ / item**	-	7.10	5.50	5.78	5.82	6.05	5.89	5.09	4.75	4.43	7.84	4.37
	6204	**US$ / item**	-	4.82	6.46	6.21	6.35	6.73	6.71	6.55	6.36	6.11	6.67	5.71
	6109	**US$ / item**	-	2.77	3.08	3.12	3.58	3.69	3.20	2.97	2.89	2.76	2.36	2.85
	6203	**US$ / item**	-	3.42	5.82	6.63	6.32	7.01	7.12	6.36	6.38	5.95	7.16	6.73
	6104	**US$ / item**	-	5.56	4.20	4.35	4.72	4.72	4.27	4.18	3.98	4.11	6.27	3.99
	6108	**US$ / item**	-	0.43	3.10	3.39	3.16	3.41	3.27	3.27	2.44	2.44	3.45	2.01
	6105	**US$ / item**	-	3.08	4.59	3.96	4.24	4.71	4.68	3.94	4.18	4.18	4.20	3.85
	6106	**US$ / item**	-	1.09	4.67	4.62	4.39	4.32	4.07	3.69	3.56	3.42	3.91	3.10
	6114	**US$ / kg**	-	18.57	19.22	22.90	20.63	26.23	27.95	25.18	22.84	26.66	31.86	22.18
	6107	**US$ / item**	-	-	3.02	2.92	2.89	2.76	2.85	2.66	2.65	2.36	3.68	1.94
China	**6110**	**US$ / item**	5.23	5.76	6.17	6.00	5.63	5.49	5.57	6.64	6.53	6.73	7.85	6.48
	6204	**US$ / item**	5.51	6.06	6.50	6.22	5.53	5.43	5.37	6.59	6.17	6.68	6.33	3.26
	6109	**US$ / item**	1.04	1.36	1.90	2.01	2.02	2.13	2.23	2.63	2.91	2.80	2.99	2.66
	6203	**US$ / item**	4.49	4.51	4.37	4.50	4.34	1.34	4.61	6.74	5.98	6.75	6.89	6.31
	6205	**US$ / item**	2.88	2.94	4.10	4.08	3.75	0.38	4.60	5.32	5.56	5.81	6.81	5.87
	6212	**US$ / kg**	42.91	51.04	34.98	34.10	24.24	22.29	20.88	20.17	31.41	30.02	33.81	30.21
	6202	**US$ / item**	12.04	14.71	14.08	15.29	12.04	10.98	11.66	12.92	13.79	11.93	14.29	13.19
	6111	**US$ / kg**	15.72	21.12	21.94	21.78	12.55	13.16	14.04	14.09	14.81	13.84	18.25	16.62
	6210	**US$ / kg**	10.31	15.63	14.81	13.61	11.47	6.56	12.78	10.07	10.50	10.29	19.92	11.12
	6211	**US$ / kg**	18.37	19.24	16.21	19.03	12.59	10.91	11.92	12.86	12.81	13.38	15.73	15.52
India	**6109**	**US$ / item**	2.17	2.49	3.01	2.80	2.61	3.09	3.40	3.11	3.07	3.29	3.05	3.03
	6204	**US$ / item**	6.63	4.56	6.34	6.05	5.98	6.56	6.65	7.27	7.75	7.90	8.52	7.12
	6205	**US$ / item**	5.24	5.25	5.70	5.51	4.88	5.31	6.26	6.84	7.10	7.53	9.59	8.06
	6110	**US$ / item**	3.44	3.12	5.37	5.46	4.56	4.86	5.22	5.02	4.96	5.10	7.97	4.79
	6206	**US$ / item**	4.21	4.20	5.18	5.05	4.60	4.95	5.15	5.67	6.15	5.79	6.34	5.78
	6203	**US$ / item**	3.92	3.75	5.37	6.90	7.51	7.53	8.87	8.48	9.05	9.25	10.87	9.04
	6107	**US$ / item**	0.64	1.14	1.49	1.25	1.19	1.06	1.24	1.14	1.26	1.43	2.23	1.17
	6105	**US$ / item**	2.54	3.65	5.87	5.76	5.28	5.56	5.55	5.34	5.12	4.95	5.69	4.62
	6111	**US$ / kg**	17.40	16.85	15.16	14.27	9.11	14.69	15.21	15.97	16.81	9.83	21.43	18.39
	6211	**US$ / kg**	21.73	21.19	20.96	19.85	13.58	15.66	17.10	20.01	20.11	18.70	17.77	20.19

Sri Lanka	**6204**	**US$ / item**	4.87	6.37	6.68	6.50	6.07	6.48	6.62	6.71	6.97	6.85	7.56	7.46
	6109	**US$ / item**	3.58	1.92	3.29	2.78	3.21	3.38	3.31	3.52	3.53	3.63	3.47	3.60
	6212	**US$ / kg**	42.76	55.15	66.85	72.26	60.29	58.26	41.88	60.44	65.12	72.22	65.62	66.91
	6110	**US$ / item**	5.55	5.25	6.51	6.20	6.04	5.88	5.60	5.48	5.40	5.36	8.77	6.02
	6108	**US$ / item**	0.60	0.75	2.02	1.82	1.97	2.03	1.93	1.81	1.80	1.77	1.12	1.59
	6203	**US$ / item**	5.09	6.08	7.44	7.13	6.82	7.51	7.39	7.36	7.88	7.75	8.09	7.64
	6205	**US$ / item**	3.37	4.54	6.84	6.34	6.25	5.84	5.69	5.90	6.31	6.71	10.66	7.37
	6104	**US$ / item**	7.06	6.92	5.29	4.60	5.16	5.55	4.68	6.10	6.07	5.97	5.86	6.13
	6116	**US$ / kg**	20.89	11.25	9.37	8.65	7.18	11.85	13.24	13.58	14.55	15.55	14.94	19.49
	6107	**US$ / item**	-	3.56	2.11	2.32	2.37	2.26	2.31	2.13	2.11	2.35	2.22	2.29
Vietnam	**6110**	**US$ / item**	-	6.50	4.51	4.36	3.90	3.65	3.97	4.18	3.65	3.50	8.80	3.84
	6204	**US$ / item**	-	3.30	5.21	4.58	5.28	5.13	6.25	6.97	5.22	4.78	6.62	6.12
	6203	**US$ / item**	12.66	4.18	7.50	6.01	5.43	5.36	6.79	8.00	5.41	5.15	8.02	7.14
	6109	**US$ / item**	-	3.53	2.28	1.69	1.98	2.08	2.22	2.73	1.56	1.64	2.19	2.89
	6205	**US$ / item**	2.66	3.73	4.33	4.42	4.70	4.66	6.00	6.36	6.27	4.33	9.39	6.68
	6104	**US$ / item**	-	2.70	2.43	1.26	3.55	3.50	3.97	4.30	3.91	3.84	5.45	4.34
	6211	**US$ / kg**	16.33	31.43	36.64	29.02	23.40	21.89	24.66	22.40	21.13	20.94	28.35	17.34
	6202	**US$ / item**	-	15.78	13.93	15.93	14.34	14.25	13.20	14.17	12.54	12.44	19.20	14.54
	6201	**US$ / item**	10.28	12.53	17.56	17.51	12.90	14.47	13.46	15.07	15.16	16.32	20.72	18.99
	6210	**US$ / kg**	-	30.23	18.79	19.18	21.45	22.04	20.73	22.95	23.73	24.34	69.89	29.31
3. LATIN AMERICA AND THE CARIBBEAN														
Dominican	**6203**	**US$ / item**	26.33	12.12	13.09	8.49	8.44	8.25	7.62	7.94	8.15	7.73	12.53	6.75
Republic	**6109**	**US$ / item**	1.79	1.55	1.55	1.63	1.62	1.50	1.64	1.48	1.43	2.03	1.82	2.06
	6107	**US$ / item**	-	5.30	0.80	0.97	0.99	1.14	1.07	0.97	0.84	0.89	2.50	0.96
	6212	**US$ / kg**	75.83	43.95	48.25	45.10	43.38	39.95	46.12	44.71	68.95	73.46	59.42	41.94
	6110	**US$ / item**	7.49	4.20	3.04	3.31	3.16	2.66	2.65	2.71	2.91	3.06	8.85	2.93
	6115	**US$ / kg**	-	17.47	10.06	9.40	7.66	7.86	6.96	6.82	6.71	6.66	17.30	6.31
	6112	**US$ / item**	-	5.86	4.04	4.01	4.50	4.77	5.09	6.06	6.14	7.36	7.91	7.30
	6108	**US$ / item**	0.95	0.89	1.22	1.53	1.37	1.40	1.49	1.54	1.83	1.94	2.74	1.89
	6205	**US$ / item**	3.73	9.30	4.06	3.74	4.09	4.12	4.09	4.75	4.97	5.17	7.80	4.39
	6202	**US$ / item**	-	37.65	26.27	28.64	22.14	25.09	25.05	23.48	22.33	23.30	55.74	19.06

El Salvador	**6109**	**US$ / item**	-	2.88	1.39	1.31	1.26	1.15	1.17	1.09	1.26	1.22	1.40	1.36
	6110	**US$ / item**	5.69	3.19	2.72	2.65	2.54	2.31	2.38	2.22	2.38	2.35	8.52	2.12
	6107	**US$ / item**	-	-	1.07	1.11	1.07	0.94	0.88	0.90	0.94	0.88	2.29	1.05
	6108	**US$ / item**	-	0.60	0.80	0.86	0.77	0.71	0.67	0.65	0.66	0.70	0.87	1.05
	6115	**US$ / kg**	-	29.68	46.55	41.34	34.34	41.68	45.95	45.05	23.59	23.46	23.46	12.09
	6103	**US$ / item**	-	4.38	2.52	2.86	2.47	2.26	2.42	1.98	2.10	2.15	6.82	2.72
	6204	**US$ / item**	52.08	18.19	6.56	6.39	5.37	5.55	5.53	5.31	5.09	5.15	6.85	5.44
	6205	**US$ / item**	-	6.81	5.21	4.98	4.58	4.12	4.04	3.84	3.82	3.93	11.32	3.86
	6212	**US$ / kg**	-	50.89	48.24	55.93	52.29	52.40	58.12	60.46	64.58	65.55	56.37	64.43
	6207	**US$ / kg**	24.17	13.76	12.33	12.68	13.31	11.13	12.62	11.01	11.26	10.79	852.77	17.07
Guatemala	**6110**	**US$ / item**	-	7.63	3.70	3.44	3.28	3.13	2.94	2.78	2.88	2.84	9.69	2.63
	6204	**US$ / item**	6.34	8.13	6.17	5.80	5.27	5.18	5.15	5.21	4.55	4.68	11.86	4.53
	6109	**US$ / item**	-	1.18	2.46	2.54	2.29	2.26	2.33	2.23	2.42	2.36	1.19	2.18
	6203	**US$ / item**	5.14	4.66	11.83	9.25	9.12	8.42	8.06	9.12	9.13	8.74	14.32	11.23
	6104	**US$ / item**	3.48	6.86	4.95	4.17	3.88	3.46	3.38	3.49	4.01	3.66	5.30	2.98
	6105	**US$ / item**	2.72	5.97	4.82	4.86	4.70	4.38	3.90	3.88	4.27	4.44	6.32	4.23
	6106	**US$ / item**	-	8.74	3.87	3.75	3.61	3.46	3.13	2.87	3.15	3.02	5.91	3.00
	6114	**US$ / kg**	11.73	17.30	19.46	20.50	10.19	17.02	16.92	18.66	18.49	18.18	31.58	16.87
	6111	**US$ / kg**	-	16.83	15.91	17.84	15.52	20.16	18.52	16.98	19.04	20.90	23.87	22.33
	6202	**US$ / item**	15.96	26.78	14.19	14.97	16.97	13.71	19.48	18.88	20.35	22.18	48.92	22.63
Haiti	**6109**	**US$ / item**	-	-	1.49	1.57	1.25	1.29	1.26	1.20	1.15	1.10	1.17	1.13
	6110	**US$ / item**	-	-	1.53	1.73	1.75	1.64	1.55	1.52	1.53	1.47	9.52	1.34
	6203	**US$ / item**	-	-	18.24	5.19	4.90	4.86	5.84	6.47	6.43	6.67	12.55	7.53
	6204	**US$ / item**	-	8.88	2.74	2.53	2.19	2.38	2.26	3.21	2.98	3.17	5.57	4.50
	6205	**US$ / item**	7.21	2.91	4.45	3.60	4.12	4.18	5.47	5.45	5.50	5.29	5.44	5.55
	6105	**US$ / item**	-	2.94	4.19	4.46	4.23	3.84	2.54	2.43	2.18	2.09	2.71	2.26
	6103	**US$ / item**	-	-	1.96	2.48	2.99	2.51	3.22	2.77	2.65	2.39	2.93	3.37
	6111	**US$ / kg**	-	20.99	19.18	15.90	9.72	14.82	5.83	4.96	2.89	18.95	43.03	12.51
	6201	**US$ / item**	-	-	6.85	6.32	2.11	6.62	7.10	6.52	6.90	4.49	100.36	49.30
	6116	**US$ / kg**	20.40	13.86	16.52	16.91	13.31	18.35	16.28	20.97	21.27	22.34	18.17	20.99

Mexico	**6203**	**US$ / item**	15.00	10.43	12.93	8.40	8.22	8.37	8.40	8.28	8.50	8.55	17.09	8.60
	6109	**US$ / item**	1.24	1.87	1.87	1.97	1.96	1.82	1.77	1.72	1.74	1.81	1.64	1.97
	6204	**US$ / item**	6.69	9.29	6.60	6.80	6.81	7.23	7.39	7.93	7.92	7.71	19.31	8.47
	6110	**US$ / item**	3.98	4.54	3.26	3.34	3.07	2.96	2.91	3.12	3.38	3.77	8.28	3.48
	6211	**US$ / kg**	49.89	14.46	12.97	13.72	13.81	14.43	15.50	17.54	17.95	18.79	23.28	20.62
	6115	**US$ / kg**	16.78	12.48	10.63	11.03	10.80	9.75	9.32	9.77	10.88	13.42	17.93	9.42
	6210	**US$ / kg**	25.21	9.07	8.05	8.15	7.98	8.27	7.67	8.00	9.78	9.07	208.43	10.07
	6104	**US$ / item**	4.71	7.69	3.58	3.50	3.65	3.84	3.83	3.95	4.10	3.99	8.33	4.21
	6205	**US$ / item**	2.37	9.26	6.18	6.61	6.02	6.00	5.84	6.03	6.17	6.81	8.63	7.34
	6112	**US$ / item**	-	2.07	6.16	6.11	6.06	6.45	6.28	6.24	6.32	6.45	8.45	7.70
Nicaragua	**6110**	**US$ / item**	-	-	2.22	2.75	2.99	2.77	2.73	2.15	2.09	2.04	9.70	2.19
	6109	**US$ / item**	-	18.17	2.09	1.77	1.80	1.52	1.94	1.54	1.51	1.47	1.65	1.39
	6203	**US$ / item**	-	4.83	6.06	5.38	5.21	5.15	5.55	5.57	5.62	5.60	12.46	6.00
	6204	**US$ / item**	-	5.63	6.27	5.52	4.97	5.02	4.91	5.13	4.36	4.60	10.45	4.01
	6205	**US$ / item**	-	7.90	4.87	5.03	5.03	4.92	5.01	5.36	5.34	5.39	8.64	5.99
	6104	**US$ / item**	-	7.11	2.98	2.99	2.56	2.78	2.77	2.95	3.30	2.69	5.61	2.98
	6212	**US$ / kg**	-	-	51.40	57.63	58.50	61.10	63.68	71.41	73.50	55.12	37.85	30.49
	6114	**US$ / kg**	-	-	15.92	14.48	11.44	13.45	15.38	13.58	20.06	16.00	30.96	21.76
	6101	**US$ / kg**	-	-	-	96.27	17.06	15.69	22.92	17.94	15.82	33.50	20.15	38.02
	6106	**US$ / item**	-	-	4.30	4.05	4.20	3.25	4.49	3.27	3.53	4.09	9.57	3.84

Table A.3.3: Employment and wages & salaries in the apparel sector (1990-2007)[55]

Region / Country	Indicator	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
1. AFRICA											
Kenya	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	**Wage bill (in US$)**	n.a.	n.a.	n.a.	16,891,156	16,128,246	20,685,284	34,455,833	28,079,059	24,954,996	35,838,055
	No. of employees	n.a.	n.a.	n.a.	66,009	70,878	16,035	22,361	16,356	16,820	27,137
	Average earnings	n.a.	n.a.	n.a.	256	228	1,290	1,541	1,717	1,484	1,321
Mauritius	**Wage bill (in US$)**	n.a.	n.a.	206,266,000	199,507,026	205,400,174	224,102,647	212,604,324	191,956,930	177,090,396	n.a.
	No. of employees	n.a.	n.a.	72,810	75,766	69,982	68,344	59,691	52,659	49,501	50,881
	Average earnings	n.a.	n.a.	2,833	2,633	2,935	3,279	3,562	3,645	3,578	n.a.
South Africa	**Wage bill (in US$)**	n.a.	590,051,253	465,978,417	354,734,365	320,940,070	409,442,876	513,856,392	487,597,121	332,943,418	390,708,920
	No. of employees	n.a.	121,263	124,001	119,839	121,402	102,339	99,558	76,792	72,619	63,716
	Average earnings	n.a.	4,866	3,758	2,960	2,644	4,001	5,161	6,350	4,585	6,132
2. ASIA											
Bangladesh	**Wage bill (in US$)**	n.a.	374,085,798	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	720,489	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	519	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cambodia	**Wage bill (in US$)**	n.a.	2,762,494	155,055,653	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	5,192	168,824	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	532	918	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	4,444,100,790	6,420,959,791	7,464,682,853	9,451,503,993	13,038,003,136
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	3,537,600	4,578,700	4,730,600	5,125,200	5,476,700
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	1,256	1,402	1,578	1,844	2,381

[55] Wage bill = wages and salaries of employees in US$.

India	**Wage bill (in US$)**	n.a.	n.a.	255,932,143	252,276,080	290,205,985	339,799,885	461,686,141	612,063,492	n.a.	n.a.
	No. of employees	n.a.	n.a.	329,401	316,223	335,050	378,542	448,951	540,231	n.a.	n.a.
	Average earnings	n.a.	n.a.	777	798	866	898	1,028	1,133	n.a.	n.a.
Sri Lanka	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	519,444,810	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	482,345	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,077	n.a.
Viet nam	**Wage bill (in US$)**	n.a.	n.a.	156,434,072	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	213,027	253,613	356,395	436,342	498,226	511,278	585,414	706,093
	Average earnings	n.a.	n.a.	734	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. LATIN AMERICA AND THE CARIBBEAN											
Dominican Republic	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
El Salvador	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guatemala	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Haiti	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico	**Wage bill (in US$)**	n.a.	79,333,024	148,825,241	n.a.	n.a.	1,051,533,970	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	32,599	39,089	n.a.	n.a.	406,140	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	2,434	3,807	n.a.	n.a.	2,589	n.a.	n.a.	n.a.	n.a.
Nicaragua	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

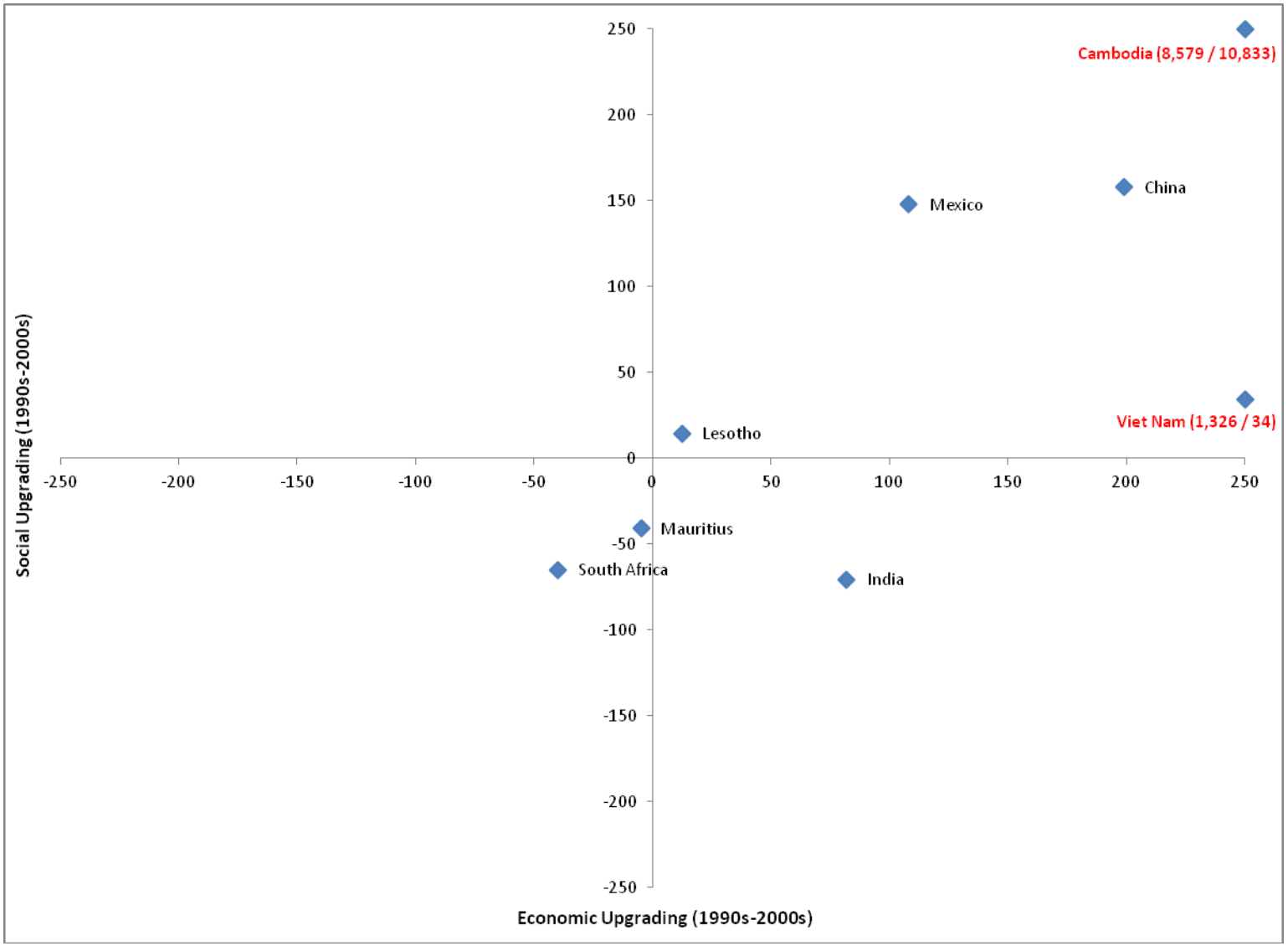
Table A.3.4: Economic up- and downgrading in the apparel sector (2000-2009)

	Growth (in %) market sh.	Growth (in %) unit value
Economic upgraders		
Bangladesh	74.56	29.66
Cambodia	95.25	25.94
Haiti	37.31	10.98
India	46.75	49.54
Kenya	182.65	20.16
Economic downgraders		
El Salvador	-36.75	-20.08
Guatemala	-39.73	-2.61
Intermediate cases		
China	56.89	-6.06
Dominican Rep.	-76.70	25.01
Lesotho	-2.03	14.93
Mauritius	-40.37	51.22
Mexico	-65.50	10.23
Nicaragua	86.30	-23.34
South Africa	-67.31	82.95
Sri Lanka	-3.12	26.32
Vietnam	247.97	-9.14

Table A.3.5: Calculation of the composite index for economic and social up- and downgrading in the apparel sector (early 1990s – late 2000s)

	ECONOMIC UPGRADING				SOCIAL UPGRADING			
	Growth (in %) market sh.	Growth (in %) unit value	COMPOSITE INDEX Method 1	Method 2	Growth (in %) employment	Growth (in %) remuneration	COMPOSITE INDEX Method 1	Method 2
Bangladesh	373.89	16.86	**195.38**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Cambodia	5,539.65	53.88	**2,796.77**	**8,578.51**	5,824.69	84.53	**2,954.61**	**10,832.57**
China	163.94	13.25	**88.59**	**198.91**	54.81	66.70	**60.76**	**158.07**
Dominican Rep.	-67.34	-27.49	**-47.42**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
El Salvador	387.33	22.15	**204.74**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Guatemala	37.46	128.54	**83.00**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Haiti	80.44	-20.42	**30.01**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
India	63.86	10.96	**37.41**	**81.81**	52.02	-80.53	**-14.25**	**-70.41**
Kenya	791.80	158.50	**475.15**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Lesotho	-2.03	14.93	**6.45**	**12.60**	-60.56	190.53	**64.98**	**14.58**
Mauritius	-15.60	12.71	**-1.44**	**-4.87**	-29.11	-16.13	**-22.62**	**-40.54**
Mexico	80.04	1,556.51	**818.28**	**108.06**	1,080.62	-78.99	**500.81**	**148.05**
Nicaragua	16,970.36	171.84	**8,571.10**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
South Africa	-67.31	82.95	**7.82**	**-40.19**	-37.31	-43.82	**-40.56**	**-64.78**
Sri Lanka	47.71	45.69	**46.70**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Vietnam	1,307.10	47.36	**677.23**	**1,326.04**	41.72	-5.22	**18.25**	**34.32**

Figure A.3.1: Overall upgrading and downgrading in the apparel sector, 1990s-2000s (according to method 2)



APPENDIX 4: MOBILE TELECOM

Table A.4.1: Selected mobile telecom exporters (export value in 1,000 US$; market share in %) (1990-2009)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA												
Congo, Dem. Rep.	n.a.	n.a.	15.24	n.a.	n.a.	0.86	21.82	n.a.	21.60	184.08	211.98	129.10
Market share (in%):	*n.a.*	*n.a.*	*0.0001*	*n.a.*	*n.a.*	*0.0000*	*0.0001*	*n.a.*	*0.0001*	*0.0001*	*0.0001*	*0.0001*
Ethiopia	n.a.	8.69	0.61	n.a.	n.a.	2.73	31.26	0.86	9.73	52.61	104.97	32.72
Market share (in%):	*n.a.*	*0.0001*	*0.0000*	*n.a.*	*n.a.*	*0.0000*	*0.0002*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
Ghana	n.a.	20.43	24.87	n.a.	12.56	74.76	17.47	22.68	10.97	643.02	2,279.11	306.83
Market share (in%):	*n.a.*	*0.0002*	*0.0002*	*n.a.*	*0.0001*	*0.0006*	*0.0001*	*0.0001*	*0.0000*	*0.0003*	*0.0009*	*0.0001*
Kenya	47.94	13.07	52.43	25.34	45.37	172.03	84.87	347.55	81.23	5,236.96	2,941.91	2,338.49
Market share (in%):	*0.0015*	*0.0001*	*0.0005*	*0.0003*	*0.0004*	*0.0014*	*0.0005*	*0.0018*	*0.0004*	*0.0022*	*0.0011*	*0.0011*
Mozambique	n.a.	4.40	n.a.	n.a.	2.62	3.23	3.49	0.05	0.05	56.49	125.41	2,045.40
Market share (in%):	*n.a.*	*0.0000*	*n.a.*	*n.a.*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0010*
Nigeria	29.10	321.38	123.89	155.47	146.67	1,507.07	920.16	193.55	75.73	18,597.93	4,913.87	2,275.41
Market share (in%):	*0.0009*	*0.0030*	*0.0012*	*0.0016*	*0.0014*	*0.0122*	*0.0058*	*0.0010*	*0.0003*	*0.0078*	*0.0018*	*0.0011*
Rwanda	n.a.	n.a.	0.08	8.92	0.03	n.a.	n.a.	0.04	1.32	133.97	162.60	45.53
Market share (in%):	*n.a.*	*n.a.*	*0.0000*	*0.0001*	*0.0000*	*n.a.*	*n.a.*	*0.0000*	*0.0000*	*0.0001*	*0.0001*	*0.0000*
South Africa*	n.a.	n.a.	2,491.11	4,385.43	5,297.96	6,443.43	3,976.40	5,135.12	5,727.28	63,995.32	97,931.15	79,199.90
Market share (in%):	*n.a.*	*n.a.*	*0.0242*	*0.0448*	*0.0510*	*0.0520*	*0.0253*	*0.0264*	*0.0260*	*0.0268*	*0.0368*	*0.0374*
Tanzania	n.a.	n.a.	6.35	32.50	8.63	13.09	34.13	14.54	38.41	786.34	621.68	540.69
Market Share (in%):	*n.a.*	*n.a.*	*0.0001*	*0.0003*	*0.0001*	*0.0001*	*0.0002*	*0.0001*	*0.0002*	*0.0003*	*0.0002*	*0.0003*
Uganda	n.a.	0.61	n.a.	n.a.	1.12	6.84	1.22	4.96	343.64	278.80	1,929.39	550.71
Market share (in%):	*n.a.*	*0.0000*	*n.a.*	*n.a.*	*0.0000*	*0.0001*	*0.0000*	*0.0000*	*0.0016*	*0.0001*	*0.0007*	*0.0003*
2. ASIA												
Bangladesh	n.a.	857.19	13.78	46.77	4.96	33.88	6.41	0.41	2.31	1,807.31	1,452.40	1,845.75
Market share (in%):	*n.a.*	*0.0080*	*0.0001*	*0.0005*	*0.0000*	*0.0003*	*0.0000*	*0.0000*	*0.0000*	*0.0008*	*0.0005*	*0.0009*
China	79,409	649,681	537,513	632,951	913,416	1,336,219	2,184,656	2,705,077	3,706,530	69,166,010	81,424,843	79,081,106
Market share (in%):	*2.5113*	*6.0810*	*5.2151*	*6.4680*	*8.7851*	*10.7770*	*13.8785*	*13.8900*	*16.8097*	*28.9932*	*30.5776*	*37.3934*
India	3,299	19,983	48,580	103,671	155,837	265,607	356,152	359,278	452,069	1,252,295	2,370,572	1,635,865
Market share (in%):	*0.1043*	*0.1870*	*0.4713*	*1.0594*	*1.4988*	*2.1422*	*2.2625*	*1.8448*	*2.0502*	*0.5249*	*0.8902*	*0.7735*

Pakistan	n.a.	179.81	323.59	266.81	218.84	592.59	1,092.28	97.93	430.15	8,941.05	12,592.72	8,629.11
Market share (in%):	*n.a.*	*0.0017*	*0.0031*	*0.0027*	*0.0021*	*0.0048*	*0.0069*	*0.0005*	*0.0020*	*0.0037*	*0.0047*	*0.0041*
Philippines	89.56	2,140.75	6,251.94	8,902.98	7,787.74	21,018.81	13,226.03	10,266.49	13,078.13	1,488,413.79	1,507,027.85	817,491.01
Market share (in%):	*0.0028*	*0.0200*	*0.0607*	*0.0910*	*0.0749*	*0.1695*	*0.0840*	*0.0527*	*0.0593*	*0.6239*	*0.5659*	*0.3865*
Sri Lanka	1.65	8.39	74.17	23.94	10.40	2.69	217.35	23.76	203.57	6,454.76	4,991.24	1,919.92
Market share (in%):	*0.0001*	*0.0001*	*0.0007*	*0.0002*	*0.0001*	*0.0000*	*0.0014*	*0.0001*	*0.0009*	*0.0027*	*0.0019*	*0.0009*
Thailand	24,961	161,196	126,026	121,922	100,416	126,141	113,117	109,146	100,716	2,333,614	2,242,126	1,870,184
Market share (in%):	*0.7894*	*1.5088*	*1.2227*	*1.2459*	*0.9658*	*1.0174*	*0.7186*	*0.5604*	*0.4568*	*0.9782*	*0.8420*	*0.8843*
Viet nam	n.a.	26.21	143.79	155.66	174.10	63.49	796.37	874.78	6,085.52	155,797.79	352,820.41	381,827.24
Market share (in%):	*n.a.*	*0.0002*	*0.0014*	*0.0016*	*0.0017*	*0.0005*	*0.0051*	*0.0045*	*0.0276*	*0.0653*	*0.1325*	*0.1805*
3. LATIN AMERICA AND THE CARIBBEAN												
Brazil	499.65	10,393.11	800.77	980.66	881.16	2,130.19	2,500.30	2,839.62	3,374.43	1,636,427	2,357,168	1,476,475
Market share (in%):	*0.0158*	*0.0973*	*0.0078*	*0.0100*	*0.0085*	*0.0172*	*0.0159*	*0.0146*	*0.0153*	*0.6860*	*0.8852*	*0.6981*
Colombia	n.a.	1,155.13	2,437.23	2,273.95	1,935.57	2,070.94	2,695.64	4,162.99	4,854.52	40,021.85	38,323.88	22,005.53
Market share (in%):	*n.a.*	*0.0108*	*0.0236*	*0.0232*	*0.0186*	*0.0167*	*0.0171*	*0.0214*	*0.0220*	*0.0168*	*0.0144*	*0.0104*
Costa Rica	n.a.	96.33	20.01	67.51	514.14	873.28	56.47	60.45	110.32	22,378.44	23,275.69	18,201.28
Market share (in%):	*n.a.*	*0.0009*	*0.0002*	*0.0007*	*0.0049*	*0.0070*	*0.0004*	*0.0003*	*0.0005*	*0.0094*	*0.0087*	*0.0086*
El Salvador	2.00	n.a.	72.92	n.a.	163.16	40.71	7.72	40.26	129.60	3,829.20	3,903.99	1,586.94
Market share (in%):	*0.0001*	*n.a.*	*0.0007*	*n.a.*	*0.0016*	*0.0003*	*0.0000*	*0.0002*	*0.0006*	*0.0016*	*0.0015*	*0.0008*
Guatemala	2.25	306.85	71.79	137.14	303.97	48.97	73.29	15.96	92.40	2,671.76	2,405.38	5,678.67
Market share (in%):	*0.0001*	*0.0029*	*0.0007*	*0.0014*	*0.0029*	*0.0004*	*0.0005*	*0.0001*	*0.0004*	*0.0011*	*0.0009*	*0.0027*
Haiti	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7.67	8.45	0.02	69.29	3,371.02	662.94
Market share (in%):	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0013*	*0.0003*
Honduras	n.a.	n.a.	21.72	52.70	52.12	22.95	197.57	478.24	583.91	1,069.79	980.84	1,622.00
Market share (in%):	*n.a.*	*n.a.*	*0.0002*	*0.0005*	*0.0005*	*0.0002*	*0.0013*	*0.0025*	*0.0026*	*0.0004*	*0.0004*	*0.0008*
Mexico	4,939	316,973	269,885	233,194	294,495	209,854	152,896	169,691	139,940	8,204,003	11,292,078	12,222,663
Market share (in%):	*0.1562*	*2.9669*	*2.6185*	*2.3830*	*2.8324*	*1.6925*	*0.9713*	*0.8713*	*0.6346*	*3.4390*	*4.2405*	*5.7795*
Nicaragua	n.a.	2.56	1.39	7.28	0.04	2.89	8.71	42.92	0.91	148.67	181.45	330.63
Market share (in%):	*n.a.*	*0.0000*	*0.0000*	*0.0001*	*0.0000*	*0.0000*	*0.0001*	*0.0002*	*0.0000*	*0.0001*	*0.0001*	*0.0002*
Paraguay	n.a.	58.65	1.77	38.68	0.02	0.11	45.26	0.89	230.93	982.69	8,854.92	2,558.42
Market share (in%):	*n.a.*	*0.0005*	*0.0000*	*0.0004*	*0.0000*	*0.0000*	*0.0003*	*0.0000*	*0.0010*	*0.0004*	*0.0033*	*0.0012*
Peru	3.90	13.97	12.52	4.32	73.89	0.32	12.77	400.66	298.14	6,414.23	4,269.64	3,102.69
Market share (in%):	*0.0001*	*0.0001*	*0.0001*	*0.0000*	*0.0007*	*0.0000*	*0.0001*	*0.0021*	*0.0014*	*0.0027*	*0.0016*	*0.0015*

Table A.4.2: Export unit values in the mobile telecom sector, selected countries (1990-2009)

Region / country	Product code	Indicator	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA														
Congo,	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	168.50	181.75	19.97
Dem. Rep.	**8517.61**	**US$/kg**	-	-	-	-	-	-	-	-	-	-	125.00	111.11
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	40.40	128.31	93.28
	8523	**US$/item**	-	-	87.61	-	-	0.38	-	-	0.06	6.14	68.90	18.43
Ethiopia	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	-	156.91	11.08
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	33.64	-	-
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	87.45	282.38	76.99
	8523	**US$/kg**	-	1.28	5.57	-	-	23.94	7.61	29.79	170.67	31.69	11.12	25.47
Ghana	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	89.15	159.79	364.88
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,392.49	3,683.67	1,235.10
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	133.37	41.51	157.27
	8523	**US$/kg**	-	249.11	1.78	-	3.21	2.31	1.21	2.44	0.82	43.24	146.05	121.97
Kenya	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	119.33	71.27	81.55
	8517.61	**US$/kg**	-	-	-	-	-	-	-	-	-	132.26	21.62	109.31
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	312.14	62.97	129.83
	8523	**US$/item**	1.81	-	0.62	9.29	6.54	1.57	5.52	1.25	0.61	1.79	3.12	10.84
Mozambique	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	324	138.09	18.56
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	2,745.00	-	771.11
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	87.64	92.74	71.5
	8523	**US$/kg**	-	17.89	-	-	-	-	7.73	8.33	5.2	13.77	18.68	14.03
Nigeria	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	144.79	55.49	213.7
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	3,002.06	1,019.74	2,328.78
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	35.9	36.58	137.87
	8523	**US$/item**	6.24	-	0.89	12.00	3.44	2.27	0.04	2.58	2.00	0.99	0.46	3.74

Rwanda	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	15.25	12.24	159.33
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,194.00	-	-
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	3,520.82	112.70	213.54
	8523	**US$/kg**	-	-	84.00	49.84	10.33	-	-	7.60	2.27	3,629.79	307.17	85.50
South Africa	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	99.67	130.37	137.29
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,542.44	319.38	4,090.32
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	73.10	87.63	68.65
	8523	**US$/item**	-	-	-	1.73	2.24	2.05	2.90	3.68	3.07	2.25	1.20	3.63
Tanzania	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	318.17	189.21	199.35
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	6,228.11	1,425.44	7.89
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	135.96	91.53	52.67
	8523	**US$/item**	-	-	4.08	5.54	-	7.93	0.65	0.59	0.31	1.52	0.62	6.13
Uganda	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	1,683.92	160.07	127.78
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	-	289.92	460.50
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	67.27	184.67	177.33
	8523	**US$/item**	-	0.51	-	-	-	-	4.35	10.63	0.24	29.22	14.11	17.86
2. ASIA														
Bangladesh	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	57.48	317.84	102.17
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	7,825.00	1,785.70	756.08
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	85.38	102.01	434.00
	8523	**US$/item**	-	0.27	2.55	0.71	1.57	1.94	1.44	0.18	0.55	0.41	7.69	2.86
China	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	103.44	107.98	93.63
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	127.51	172.99	227.38
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	108.46	4.47	84.13
	8523	**US$/item**	0.48	0.42	0.29	0.31	0.27	0.19	0.30	0.79	0.46	1.68	1.65	2.04
India	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	37.17	51.66	32.52
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,327.43	321.35	21.28
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	95.78	40.39	18.65
	8523	**US$/item**	7.47	2.31	1.59	0.37	0.33	0.24	0.29	0.50	0.20	0.10	0.28	0.24

Pakistan	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	42.60	47.21	417.58
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	28,794.14	7,793.28	36.28
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	347.94	61.94	9.81
	8523	**US$/item**	-	-	0.58	0.13	0.49	0.19	0.14	0.74	0.54	1.00	22.63	1.51
Philippines	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	214.74	207.54	315.20
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	386.33	224.39	221.87
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	178.10	79.36	304.26
	8523	**US$/item**	4.74	2.42	3.43	1.54	0.62	1.94	0.81	2.45	3.93	3.14	1.54	1.05
Sri Lanka	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	47.55	137.27	106.98
	8517.61	**US$/kg**	-	-	-	-	-	-	-	-	-	-	14,735.00	17,913.47
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	176.32	91.05	166.10
	8523	**US$/item**	1,649.00	114.92	4.98	0.48	0.24	1.70	5.21	1.20	0.60	5.96	1.44	0.17
Thailand	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	122.84	104.65	145.53
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	413.26	61.06	15.37
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	269.41	13.29	242.81
	8523	**US$/item**	1.52	0.54	0.31	0.35	0.33	0.36	0.37	0.77	0.41	0.75	0.70	0.68
Vietnam	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	123.40	183.98	65.99
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	23.77	73.46	315.66
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	412.83	173.84	256.85
	8523	**US$/item**	10.79	7.85	2.74	0.37	0.24	0.29	0.09	0.08	0.13	0.10	0.09	0.10
3. LATIN AMERICA AND THE CARIBBEAN														
Brazil	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	96.69	112.26	108.19
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,579.49	489.36	4,235.06
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	108.58	4.18	92.39
	8523	**US$/item**	-	0.73	0.24	0.14	0.32	0.62	0.61	0.30	0.16	1.30	1.12	1.07
Colombia	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	118.04	116.54	145.46
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	255.90	764.64	1,340.30
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	67.60	127.20	139.41
	8523	**US$/item**	-	-	0.15	0.17	0.14	0.14	0.16	0.21	0.20	0.35	0.50	0.35

Costa Rica	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	126.84	69.70	28.25
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	301.60	176.86	778.35
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	46.32	39.72	20.95
	8523	**US$/item**	-	-	-	6.98	0.40	3.63	1.15	5.41	0.30	7.66	60.26	40.41
El Salvador	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	32.69	72.57	135.13
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	5,846.60	3,477.44	6,939.80
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	28.53	46.89	18.40
	8523	**US$/kg**	667.00	-	42.27	-	49.58	14.18	26.08	7.39	21.71	32.79	25.26	13.89
Guatemala	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	31.42	61.43	142.71
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	2,968.00	1,202.00	6,940.00
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	72.23	3.16	17.31
	8523	**US$/kg**	17.55	5.47	2.01	6.59	7.54	2.13	6.38	11.64	11.55	32.95	26.54	39.37
Haiti	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	6.05	141.64	127.52
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	2,522.50	-	2,883.00
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	47.57	59.33	159.61
	8523	**US$/item**	-	-	-	-	-	-	-	-	6.67	35.83	-	19.50
Honduras	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	127.18	204.35	-
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	858.89	312.42	1,107.00
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	57.41	15.04	145.37
	8523	**US$/kg**	-	-	96.55	8.77	73.61	128.91	96.19	122.21	80.43	44.48	49.96	39.23
Mexico	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	102.40	150.96	184.40
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	505.05	1,547.67	2,719.92
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	203.69	199.21	185.48
	8523	**US$/item**	1.14	0.52	0.32	0.37	0.44	0.39	0.40	0.54	0.76	1.03	2.25	1.96
Nicaragua	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	28.61	56.10	175.75
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	-	1,695.75	1,130.00
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	49.58	0.76	188.35
	8523	**US$/kg**	-	58.23	277.40	27.90	36.00	13.44	150.17	25.67	8.69	22.49	11.76	41.31

Paraguay	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	38.41	2.09	23.21
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	-	736.50	925.33
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	25.82	37.14	40.73
	8523	**US$/item**	-	-	0.47	-	-	0.52	0.16	0.59	4.03	0.05	0.12	0.12
Peru	**8517.12**	**US$/item**	-	-	-	-	-	-	-	-	-	21.81	40.60	31.53
	8517.61	**US$/item**	-	-	-	-	-	-	-	-	-	1,810.50	1,342.48	1,490.70
	8517.70	**US$/kg**	-	-	-	-	-	-	-	-	-	159.42	56.44	290.42
	8523	**US$/item**	-	-	25.89	0.55	-	-	3.12	0.25	1.58	0.67	0.67	0.48

Table A.4.3: Employment and wages and salaries in the mobile telecom sector (1990-2007)[56]

Region / country	Indicator	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
1. AFRICA											
Congo, Dem. Rep.	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	**Wage bill (in US$)**	0	0	0	0	0	0	0	0	0	0
	No. of employees	0	0	0	0	0	0	0	0	0	0
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ghana	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	165,653	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	84	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	1972.06	n.a.	n.a.	n.a.	n.a.
Kenya	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mozambique	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nigeria	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rwanda	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	**Wage bill (in US$)**	n.a.	183,620,202	184,856,690	137,659,917	113,956,948	157,768,466	207,792,324	35,265,508	24,839,217	n.a.
	No. of employees	n.a.	15,017	17,247	14,131	14,106	8,476	7,535	2,343	2,369	n.a.
	Average earnings	n.a.	12,227.49	10,718.19	9,741.70	8,078.62	18,613.55	27,576.95	15,051.43	10,485.11	n.a.
Tanzania	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

[56] Wage bill = wages and salaries of employees in US$.

Uganda	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2. ASIA											
Bangladesh	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	1,221,209,515	1,755,509,376	2,035,434,301	2,849,460,208	4,067,023,068
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	522,600	739,200	829,000	917,000	1,034,500
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	2,336.80	2,374.88	2,455.29	3,107.37	3,931.39
India	**Wage bill (in US$)**	n.a.	n.a.	56,072,770	53,511,181	71,075,472	73,524,203	90,827,844	84,331,066	n.a.	n.a.
	No. of employees	n.a.	n.a.	32,892	25,122	29,291	29,086	29,676	28,904	n.a.	n.a.
	Average earnings	n.a.	n.a.	1,704.75	2,130.05	2,426.53	2,527.82	3,060.65	2,917.63	n.a.	n.a.
Pakistan	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	220,702	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	132	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1671.98	n.a.
Philippines	**Wage bill (in US$)**	n.a.	n.a.	n.a.	42,921,914	n.a.	42,672,679	n.a.	18,316,980	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	15,000	n.a.	14,122	n.a.	9,244	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	2,861.46	n.a.	3,021.72	n.a.	1,981.50	n.a.	n.a.
Sri Lanka	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	391,564	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	379	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1033.15	n.a.
Thailand	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	135,510,678	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	47,822	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2833.65	n.a.
Vietnam	**Wage bill (in US$)**	n.a.	n.a.	4,681,282	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	4,318	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	1,084.13	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. LATIN AMERICA &CARIBBEAN											
Brazil	**Wage bill (in US$)**	n.a.	n.a.	175,384,548	134,440,316	139,312,961	134,812,249	171,068,195	204,272,939	232,348,655	251,185,891
	No. of employees	n.a.	n.a.	22,091	19,260	23,982	23,001	27,822	24,820	25,265	28,911
	Average earnings	n.a.	n.a.	7,939.19	6,980.29	5,809.06	5,861.15	6,148.67	8,230.17	9,196.46	8,688.25

Colombia	**Wage bill (in US$)**	n.a.	n.a.	3,700,286	2,981,378	2,972,718	2,785,142	3,248,902	670,280	n.a.	n.a.
	No. of employees	n.a.	n.a.	1,570	1,090	1,116	1,096	1,088	186	n.a.	n.a.
	Average earnings	n.a.	n.a.	2,356.87	2,735.21	2,663.73	2,541.19	2,986.12	3,603.66	n.a.	n.a.
Costa Rica	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
El Salvador	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guatemala	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Haiti	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Honduras	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico	**Wage bill (in US$)**	n.a.	6,328,765	15,765,962	n.a.	n.a.	364,537,955	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	1,701	3,213	n.a.	n.a.	54,775	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	3,720.61	4,906.93	n.a.	n.a.	6,655.19	n.a.	n.a.	n.a.	n.a.
Nicaragua	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Paraguay	**Wage bill (in US$)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Peru	**Wage bill (in US$)**	n.a.	1,231,954	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	No. of employees	n.a.	461	n.a.	262	170	168	n.a.	n.a.	n.a.	n.a.
	Average earnings	n.a.	2,672.35	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

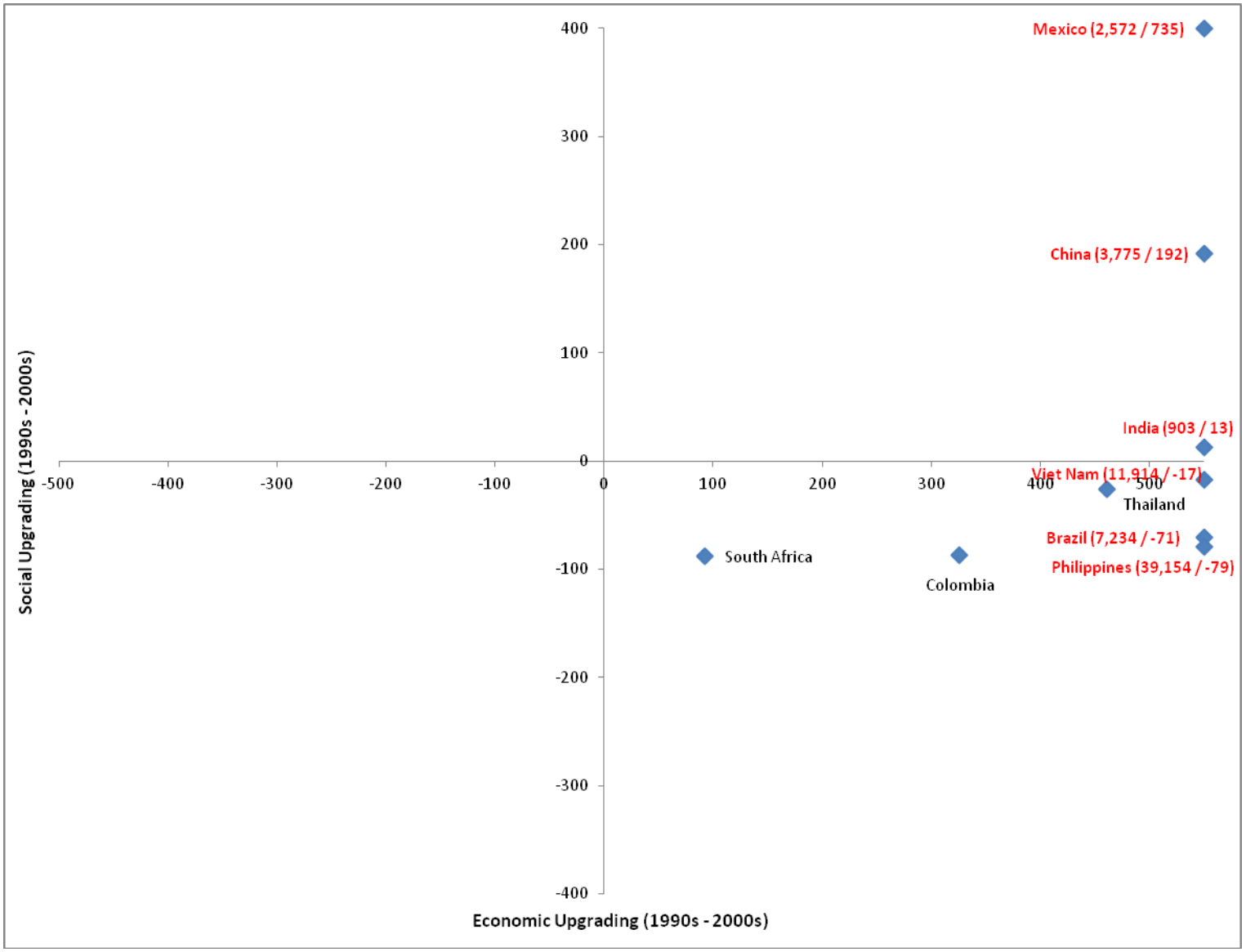
Table A.4.4: Economic up- and downgrading in the mobile telecom sector (2000-2009)

	Growth (in %) market share	Growth (in %) unit value
Economic upgraders		
Brazil	619.77	918.94
China	418.82	646.93
Colombia	308.51	4.29
Costa Rica	223.85	980.57
Ghana	109.58	19.72
Guatemala	48.57	107.10
Haiti	987.15	20,325.01
India	226.49	207.30
Kenya	116.16	1,022.41
Mexico	53.87	1,636.72
Nigeria	193.06	894.21
Pakistan	237.59	587.40
Peru	568.11	108.65
Philippines	1,431.07	2,463.84
Rwanda	45.40	1,999.95
Sri Lanka	40.62	1,921.25
Vietnam	4,836.63	143.36
Economic downgraders		
Honduras	-3.32	-31.42
Nicaragua	-93.51	-26.64
Intermediate cases		
Bangladesh	-92.39	754.66
Congo, Dem. Rep.	209.33	-45.06
El Salvador	244.93	-92.86
Ethiopia	-85.92	1,615.58
Mozambique	1,212.14	-2.40
Paraguay	1,064.76	-49.58
South Africa	-15.75	128.43
Tanzania	63.96	-9.22
Thailand	-20.08	601.89
Uganda	1,902.18	-3.34

Table A.4.5: Calculation of the composite index for economic and social up- and downgrading in the mobile telecom sector (early 1990s – late 2000s)

	ECONOMIC UPGRADING				SOCIAL UPGRADING			
	Growth (in %) market sh.	Growth (in %) unit value	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2	Growth (in %) employment	Growth (in %) real wages	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2
Bangladesh	-92.39	754.66	**331.14**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Brazil	619.77	918.94	**769.35**	**7,234.01**	-19.27	-63.85	**-41.56**	**-70.82**
China	418.82	646.93	**532.88**	**3,775.24**	97.95	47.38	**72.67**	**191.74**
Colombia	308.51	4.29	**156.40**	**326.04**	-88.15	11.72	**-38.22**	**-86.76**
Congo, Dem. Rep.	209.33	-45.06	**82.13**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Costa Rica	223.85	980.57	**602.21**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
El Salvador	244.93	-92.86	**76.04**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Ethiopia	-85.92	1,615.58	**764.83**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Ghana	109.58	19.72	**64.65**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Guatemala	48.57	107.10	**77.83**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Haiti	987.15	20,325.01	**10,656.08**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Honduras	-3.32	-31.42	**-17.37**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
India	226.49	207.30	**216.90**	**903.32**	-32.69	67.61	**17.46**	**12.82**
Kenya	116.16	1,022.41	**569.28**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Mexico	53.87	1,636.72	**845.30**	**2,572.32**	2,822.86	-71.45	**1,375.71**	**734.51**
Mozambique	1,212.14	-2.40	**604.87**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Nicaragua	-93.51	-26.64	**-60.08**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Nigeria	193.06	894.21	**543.64**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Pakistan	237.59	587.40	**412.50**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Paraguay	1,064.76	-49.58	**507.59**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Peru	568.11	108.65	**338.38**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Philippines	1,431.07	2,463.84	**1,947.46**	**39,154.21**	-34.59	-68.50	**-51.55**	**-79.39**
Rwanda	45.40	1,999.95	**1,022.67**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
South Africa	-15.75	128.43	**56.34**	**92.46**	-72.77	-56.67	**-64.72**	**-88.20**
Sri Lanka	40.62	1,921.25	**980.94**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Tanzania	63.96	-9.22	**27.37**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Thailand	-20.08	601.89	**290.91**	**460.96**	45.44	-49.33	**-1.94**	**-26.31**
Uganda	1,902.18	-3.34	**949.42**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Vietnam	4,836.63	143.36	**2,489.99**	**11,913.76**	4.70	-20.52	**-7.91**	**-16.78**

Figure A.4.1: Overall upgrading and downgrading in the mobile telecom sector, 1990s-2000s (according to method 2)



APPENDIX 5: TOURISM

Table A.5.1: Selected tourism exporters (export value in million US$; market share in %) (1990-2007)[57]

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
1. AFRICA										
Kenya	465	486	283	309	276	347	486	579	687	910
Market share (in%):	*0.290*	*0.122*	*0.061*	*0.068*	*0.057*	*0.065*	*0.076*	*0.084*	*0.092*	*0.110*
South Africa	1,835	2,126	2,677	2,569	2,923	5,571	6,322	7,335	7,876	8,443
Market share (in%):	*1.144*	*0.532*	*0.578*	*0.565*	*0.605*	*1.042*	*0.983*	*1.067*	*1.058*	*1.018*
Uganda	n.a.	78	165	165	171	184	267	380	309	356
Market share (in%):	*n.a.*	*0.020*	*0.036*	*0.036*	*0.035*	*0.034*	*0.042*	*0.055*	*0.042*	*0.043*
2. ASIA										
China	1,738	8,730	16,231	17,792	20,385	17,406	25,739	29,296	33,949	37,233
Market share (in%):	1.084	2.186	3.504	3.913	4.216	3.255	4.001	4.263	4.562	4.490
India	1,558	2,582	3,460	3,198	3,102	4,463	6,170	7,493	8,634	10,729
Market share (in%):	*0.972*	*0.647*	*0.747*	*0.703*	*0.642*	*0.834*	*0.959*	*1.090*	*1.160*	*1.294*
Indonesia*	2,153	5,229	4,975	5,277	5,285	4,037	4,798	4,522	4,448	5,346
Market share (in%):	*1.342*	*1.309*	*1.074*	*1.161*	*1.093*	*0.755*	*0.746*	*0.658*	*0.598*	*0.645*
Jordan	511	660	723	700	1,048	1,062	1,330	1,441	2,060	2,312
Market share (in%):	*0.319*	*0.165*	*0.156*	*0.154*	*0.217*	*0.199*	*0.207*	*0.210*	*0.277*	*0.279*
Nepal	109	177	158	144	103	199	230	131	128	200
Market share (in%):	*0.068*	*0.044*	*0.034*	*0.032*	*0.021*	*0.037*	*0.036*	*0.019*	*0.017*	*0.024*
Vietnam	n.a.	n.a.	n.a.	n.a.	n.a.	1,400	1,700	1,880	3,200	n.a.
Market share (in%):	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*0.262*	*0.264*	*0.274*	*0.430*	*n.a.*
3. LATIN AMERICA AND THE CARIBBEAN										
Brazil	1,383	972	1,810	1,731	1,998	2,479	3,222	3,861	4,316	4,953
Market share (in%):	*0.862*	*0.243*	*0.391*	*0.381*	*0.413*	*0.464*	*0.501*	*0.562*	*0.580*	*0.597*
Costa Rica	285.00	681.00	1,302.00	1,173.00	1,161.00	1,293.00	1,459.00	1,671.00	1,732.00	2,029.00
Market share (in%):	*0.178*	*0.171*	*0.281*	*0.258*	*0.240*	*0.242*	*0.227*	*0.243*	*0.233*	*0.245*
Jamaica	751	1,069	1,333	1,232	1,209	1,355	1,438	1,545	1,870	1,905
Market share (in%):	*0.468*	*0.268*	*0.288*	*0.271*	*0.250*	*0.253*	*0.224*	*0.225*	*0.251*	*0.230*

** Including East Timor until 2002.*

[57] Export values are in current US dollar values.

Table A.5.2: Export unit values in the tourism sector (travel expenditures per visitor in US$), selected countries (1990-2007)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
1. AFRICA										
Kenya	571.82	498.97	272.90	310.87	275.72	302.79	357.62	345.67	373.37	n.a.
South Africa	1,783.61	453.89	446.09	434.83	446.26	839.01	927.66	975.66	925.61	916.92
Uganda	n.a.	487.50	854.92	804.88	673.23	603.28	521.48	811.97	573.28	554.52
2. ASIA										
China	165.78	188.20	194.51	199.88	208.21	189.89	236.06	243.54	271.72	282.34
India	912.93	1,204.85	1,292.49	1,234.27	1,277.59	1,608.87	1,756.83	1,855.62	1,866.41	2,045.96
Indonesia	988.52	1,209.30	982.42	1,024.06	1,050.07	903.74	901.71	904.04	913.16	970.94
Jordan	893.72	201.40	267.78	230.72	224.08	230.87	238.05	247.72	313.40	354.11
Nepal	427.71	487.60	340.52	398.89	374.55	588.76	597.40	349.33	333.33	379.51
Vietnam	n.a.	n.a.	n.a.	n.a.	n.a.	576.37	580.60	542.10	893.11	n.a.
3. LATIN AMERICA AND THE CARIBBEAN										
Brazil	1,267.64	488.20	340.67	362.66	527.87	599.81	672.09	720.60	860.28	985.48
Costa Rica	655.17	737.01	1,018.78	888.64	869.66	854.03	823.83	852.99	836.31	881.41
Jamaica	759.66	610.10	597.76	581.96	567.34	545.71	571.77	590.82	620.03	661.46

Table A.5.3: Employment (in 1,000) in the tourism sector (1990-2009)[58]

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1. AFRICA												
Kenya	151.1	222.9	150.8	151.8	139.0	169.4	208.2	232.8	234.0	249.8	224.7	197.0
South Africa	251.8	288.0	341.6	358.3	411.7	397.1	369.9	402.5	437.5	435.9	421.8	389.0
Uganda	43.7	69.0	171.8	145.0	149.3	149.8	165.7	184.2	183.3	176.3	198.6	182.5
2. ASIA												
China	11,653.8	15,049.5	16,427.9	15,653.9	15,632.1	15,179.2	15,912.1	16,808.1	17,279.0	16,699.4	16,688.8	16,729.0
India	11,656.1	14,848.6	17,963.1	16,787.3	16,517.9	16,502.5	17,433.4	18,392.2	18,825.0	19,422.7	17,205.8	18,441.5
Indonesia	1,671.3	1,842.8	2,599.8	2,829.9	2,514.6	2,093.7	2,219.1	2,152.7	1,965.9	2,050.4	2,161.7	2,030.3
Jordan	53.8	78.8	67.5	61.6	80.7	78.6	95.2	94.1	113.2	120.1	129.9	130.4
Nepal	141.7	232.2	238.6	234.3	207.7	276.9	277.7	221.2	204.3	227.8	261.1	274.4
Vietnam	951.2	986.5	1,088.4	1,131.4	1,241.5	1,052.9	1,153.6	1,195.0	1,515.5	1,743.3	1,610.4	1,412.0
3. LATIN AMERICA AND THE CARIBBEAN												
Brazil	2,060.0	1,552.1	1,771.6	1,790.0	1,854.0	1,977.5	1,965.7	1,994.1	1,981.4	1,956.7	2,008.2	2,178.5
Costa Rica	52.4	53.8	85.0	93.1	86.5	97.8	102.1	120.7	114.8	120.6	124.4	118.9
Jamaica	67.9	76.4	73.0	68.7	71.7	79.4	84.6	83.0	92.1	89.2	80.2	85.8

[58] Travel and Tourism Direct Industry Employment (in 1,000).

Table A.5.4: Wages in different occupational groups in the tourism sector (1990-2007)

Country	Occupation	Index	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
1. AFRICA												
Kenya	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2. ASIA												
China[1)]	Hotel receptionist	YW-NC*	n.a.	989.80	n.a.	n.a.	n.a.	n.a.	10,090.00	12,010.00	14,095.00	n.a.
	Cook	YW-NC*	248.31	751.96	n.a.	n.a.	n.a.	n.a.	14,229.00	14,258.00	24,716.00	n.a.
	Waiter	YW-NC*	164.68	554.44	7,486.00	n.a.	n.a.	n.a.	8,317.00	10,058.00	12,733.00	n.a.
	Room attendant or chambermaid	YW-NC*	229.28	1,168.60	6,009.00	n.a.	n.a.	n.a.	8,881.00	10,332.00	11,376.00	n.a.
India	Hotel receptionist	DW-NC-Min*	435	963	48	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		DW-NC-Max*	1,005	1,993	110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Room attendant or cm.	DW-NC-Min*	300	32	40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		DW-NC-Max*	870	59	93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Cook	DW-NC-Min*	418	34	56	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		DW-NC-Max*	1,051	76	109	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Waiter	DW-NC-Min*	380	32	40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		DW-NC-Max*	870	59	93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indonesia	Hotel receptionist	ME-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	692,734	741,469	n.a.
	Room attendant or cm.	ME-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	689,097	799,836	n.a.
Jordan	Hotel receptionist	ME-NC	n.a.	n.a.	n.a.	n.a.	n.a.	137	n.a.	168	173	n.a.
		ME-NC*	144 [2)]	142	n.a.	n.a.	140	136	n.a.	168	168	n.a.
	Cook	ME-NC*	128 [2)]	146	n.a.	127	122	152	n.a.	158	177	n.a.
	Waiter	ME-NC*	104 [2)]	107	n.a.	113	126	143	n.a.	135	160	n.a.
	Room attendant or cm.	ME-NC*	94 [2)]	90	n.a.	103	115	156	n.a.	144	191	n.a.
Nepal	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vietnam	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. LATIN AMERICA AND THE CARIBBEAN												
Brazil	Hotel receptionist	ME-NC*	n.a.	n.a.	405.28 [3)]	448.58	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Room attendant or cm.	ME-NC	n.a.	n.a.	288 [3)]	319.43	n.a.	385.97	n.a.	n.a.	n.a.	n.a.
	Cook	ME-NC*	n.a.	n.a.	n.a.	447.20	n.a.	483.53	n.a.	n.a.	n.a.	n.a.
	Waiter	ME-NC*	n.a.	n.a.	n.a.	n.a.	n.a.	409.82	n.a.	n.a.	n.a.	n.a.

Costa Rica	Hotel receptionist	ME-NC	n.a.	26,581 [4)]	89,950	n.a.	135,519	139,301	141,356	n.a.	n.a.	254,000
		Wa-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	149,191	179,402	204,379
	Cook	Wa-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	106,261	118,786	137,342
	Waiter	Wa-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	117,020	137,512	168,548
	Room attendant or	ME-NC	n.a.	n.a.	93,049	n.a.	84,974	98,323	102,358	n.a.	n.a.	63,093
	chambermaid	Wa-NC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	112,885	131,128	137,123
Jamaica	**n.a.**	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1) Figures for 2004 to 2006 are the average for both men and women; 2) Figure is for 1992; 3) Figure is for 1999; 4) Figure is for 1993.

ME-NC: Monthly earnings in National Currency (Source KILM)
YW-NC: Average wage or salary rate per year in National Currency (Source: LABORSTA)

Wa-NC: Wages in National Currency per month (Source KILM)

DW-NC-Max: Maximum wage per day in National Currency (Source LABORSTA)

DW-NC-Min: Minimum wage per day in National Currency (Source LABORSTA)

* Only men

Table A.5.5: Economic up- and downgrading in the tourism sector (2000-2007)

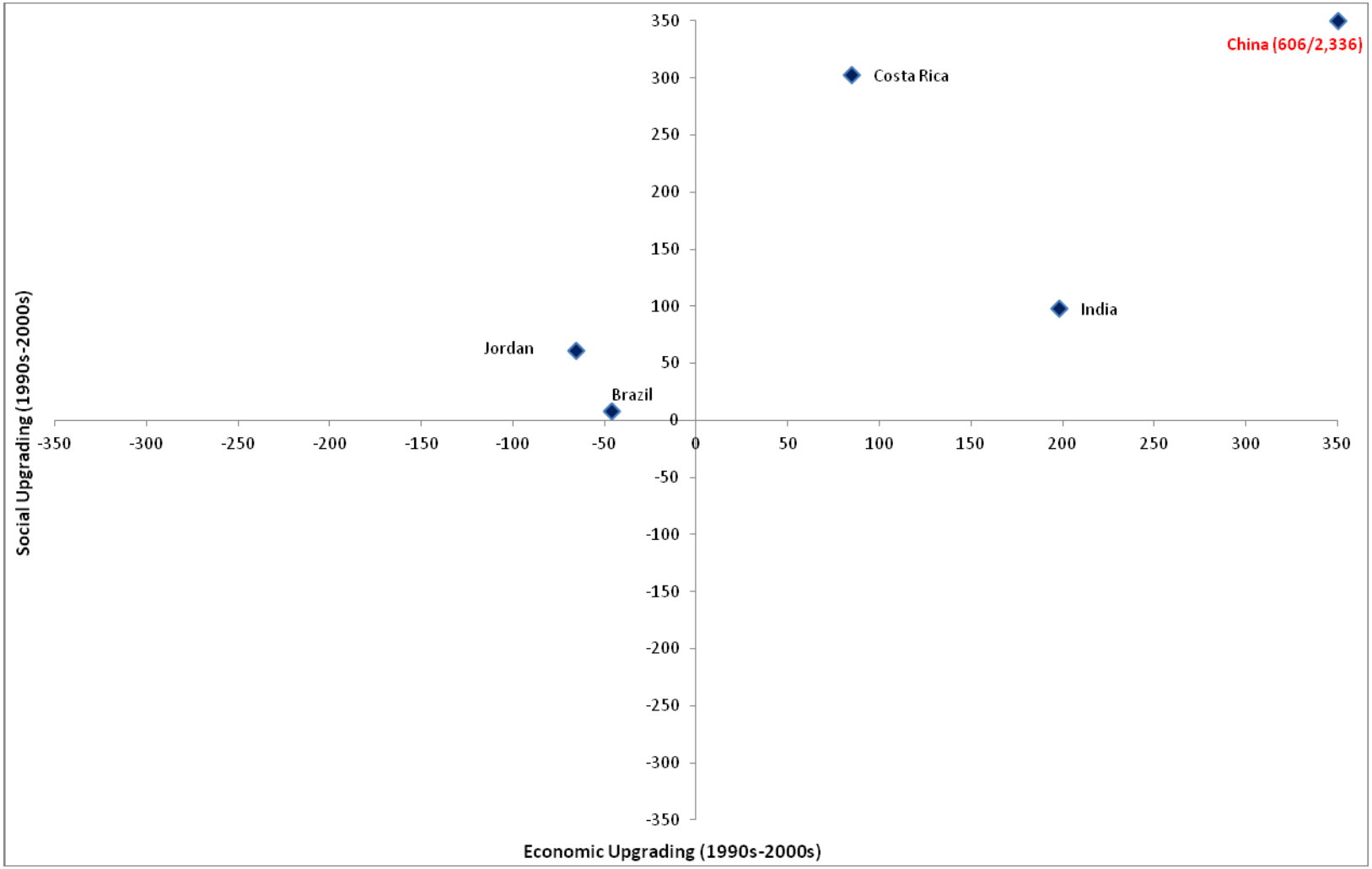
	Growth (in %) market sh.	Growth (in %) unit value
Economic upgraders		
Brazil	53.34	151.18
China	26.07	35.63
India	67.05	54.77
Jordan	57.03	22.92
Kenya	45.44	20.17
South Africa	77.87	109.44
Vietnam	34.38	54.95
Economic downgraders		
Costa Rica	-8.09	-7.33
Indonesia	-40.71	-4.74
Nepal	-42.15	-2.65
Intermediate cases		
Uganda	32.35	-21.11
Jamaica	-16.39	3.12

Note: For Vietnam the time span covered is 2003-2006.

Table A.5.6: Calculation of the composite index for economic and social up- and downgrading in the tourism sector (early 1990s – late 2000s)

	ECONOMIC UPGRADING				SOCIAL UPGRADING			
	Growth (in %) market sh.	Growth (in %) unit value	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2	Growth (in %) employment	Growth (in %) real wages	COMPOSITE INDEX Method 1	COMPOSITE INDEX Method 2
Brazil	-30.74	-22.26	**-26.50**	**-46.16**	15.00	-5.79	**4.60**	**8.34**
China	314.29	70.31	**192.30**	**605.58**	18.10	1,962.29	**990.20**	**2,335.65**
Costa Rica	37.68	34.53	**36.10**	**85.22**	121.28	81.79	**101.53**	**302.26**
India	33.14	124.11	**78.62**	**198.38**	41.01	-95.31	**40.61**	**97.71**
Indonesia	-51.98	-1.78	**-26.88**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Jamaica	-50.97	-12.93	**-31.95**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Jordan	-12.54	-60.38	**-36.46**	**-65.35**	64.40	-1.80	**31.30**	**61.45**
Kenya	-62.19	-34.71	**-48.45**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Nepal	-64.54	-11.27	**-37.90**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
South Africa	-11.04	-48.59	**-29.81**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Uganda	184.52	117.46	**150.99**	**-**	n.a.	n.a.	**n.a.**	**n.a.**
Vietnam	64.27	54.95	**59.61**	**-**	n.a.	n.a.	**n.a.**	**n.a.**

Figure A.5.1: Overall upgrading and downgrading in the tourism sector, 1990s-2000s (according to method 2)



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Published by:

Capturing the Gains
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