

(preliminary and incomplete - not to be cited)

*Trade liberalisation and the labour
market in Morocco*

Novella Bottini
(University of Pavia, and LIUC)

Michael Gasiorek
(Sussex University)

Abstract

This will need rewriting once the rest of the paper is rewritten

In the last two decades, trade liberalisation has mainly been a characteristic of developing countries. The consequences have been substantial and widespread in all the branches of these societies. In particular, we would investigate how trade policy affects household's welfare through the labour market channel. The existing literature suggests that in developing countries tariff reductions impact more on wages than on the employment level. Recently, some authors have shown evidence of the importance of examining the determinant of the low net employment change and they show the importance of the churning effect, i.e. the workers' reallocation. Following the methodology suggested by Davis and Haltiwanger (1990), we analyse the churning effect in the Moroccan economy. The data derives from the Annual Industrial Census. The sample covers 1,300 enterprises and contains data for five macro-sectors for 1990 and 2002 in Morocco. The five sectors covered are: clothing and textiles, food processing, chemicals and plastics, metallurgy, and electrical machines. One of the substantial advantages of this survey is that it contains extremely detailed information at the firm level. For each firm we have information on the sales, production, exports, and start-up data. In particular we have detailed information on labour supply for each firm, with employment divided by gender, skills and employment period. After a general overview of the sample firms' characteristics, we compute the indexes of job creation and job destruction at sectoral level. Gross job creation (POS) is defined as the sum of the new places available through expansion of existing firms and creation of new establishments within the sector. Similarly, gross job destruction (NEG) is computed by adding up employment losses over shrinking and dying establishments within a sector. Adding up POS_{st} and NEG_{st} produces SUM_{st} , a measure of the gross job reallocation rate in sector s between $t-1$ and t . After classifying firms on the base of their trade orientation, size and sector of activity, the results show a significant simultaneous job creation and destruction in all the cases. Following Davis and Haltiwanger (1992), WE decompose excess job reallocation in two components. One component represents the contribution of reshuffling employment among sectors, and the other component represents the contribution of excess job reallocation within sectors. The job reallocation decomposition suggests that the churning effect is mostly explained by movement of workers within sectors. Consequently, the swing across sectors is negligible and firms' heterogeneity is the key determinant of the churning effect. Finally, since the Moroccan data set contains quite detailed information about the type of labour used in each plant, we can treat employment as an heterogeneous unit repeat the churning analysis for sub-groups of labour. In particular, separate studies are done for temporary and permanent workers, male and female workers and for white collar versus blue collar workers. Results show that churning is higher among temporary

workers, woman and white collar. Finally, trade liberalisation impact more on temporary workers by increasing their job instability.

1. Introduction

Recent years have seen growing interest and awareness in the impact of trade policy reform on domestic economies. This interest has arisen largely because of increasing, though admittedly mixed, evidence on the linkage(s) between openness to international trade and higher rates of economic growth. There thus appears to be a growing consensus that trade liberalisation is an important part of the policy agenda for developing countries in their pursuit of economic growth and development. Two key issues arise with respect to this growing consensus. First, it is recognised that while openness may be a necessary condition, it is not a sufficient condition and that it is therefore important that other appropriate flanking policies are also put into place. Recognising this need for flanking policies in turn requires a detailed understanding of the transmission mechanisms through which trade may impact upon growth. This in turn requires an understanding and examination at the micro-economic level of those linkages. Secondly, while there may be a positive relationship between trade and growth, there is also concern about the impact of the process on the process of adjustment and poverty within countries. This also requires an understanding at the micro-economic level of these processes of adjustment and transition.

Analysis of these issues has become increasingly possible with the development of detailed micro-level data sets, either at the level of the firm or at the household level. Firm level data sets are typically used to examine the impact of changes in (trade) policy on productivity levels and/or on labour market adjustment; household level data sets are typically used to address more directly the issue of poverty. The aim of this paper is to contribute to this literature on the basis of a detailed firm level survey of the Moroccan economy. Our aim is to consider the impact on the labour market of policy reform, and in particular trade policy reform over the period 1990-2002. As opposed to focussing on changes in employment at either the aggregate or sectoral level, we use the methodology developed by Davis and Haltiwanger, which allows a more detailed examination of “churning” in labour markets. We use churning in a general sense here to capture the extent of movement – be this new jobs being created or jobs being destroyed both within and across sectors – in the labour market. Using this methodology the paper focusses on two key sets of issues. The first issue is concerned whether churning varies across different levels of categorisation. Here we are concerned with distinguishing between firms on the basis of the export orientation, and/or size, as well as distinguishing between different categories of workers, notably permanent and temporary workers, and male and female workers. The second and closely connected issue is concerned with whether there is any evidence of any change in labour market behaviour across these categories over time – and in particular whether there is any evidence that changes in trade policy may have impacted upon that behaviour. The analysis is conducted at both the aggregate level, as well as at the sectoral level where we focus on the key sectors in the economy.

The structure of the paper is as follows: Section 2 of the paper provides a brief overview of the conceptual and methodological background to the work. Section 3 provides some background on the liberalisation process and trade policy in Morocco. Section 4 describes the key features of the data set and provides some relevant descriptive statistics. In Section 5 we turn to our empirical analysis, but where we concentrate on the economy in aggregate. First we consider employment growth among firms where we examine whether there are any differences in growth according to trade orientation and size. Secondly, we compute several indices of churning which enable us to focus on the extent of job creation, the extent of job destruction, as well as on the extent to which churning appears to be largely within or across sectors. As before we distinguish between different categorisations. Section 6, follows a very similar structure but now we focus on individual sectors and consider the extent to which there is important sectoral variation. Inevitably, Sections 5 and 6 will have also examined to some extent the temporal dimension. This is, however, more formally considered in Section 7. Here we undertake some fairly simple but illuminating regression analysis, where we are essentially asking is there any evidence of a change in labour market behaviour over time. Section 8 concludes.

2. Conceptual background

Trade liberalisation has been a worldwide phenomenon since the second world war. It has been a characteristic of developed and developing countries' trade behaviour over different periods of time. Developed countries started to reduce tariffs as early as the 50s. Since then, they have become more outwardly oriented than developing countries and their average tariff levels are now below that of developing countries. On the other hand, trade liberalisation has been a more recent process in developing countries, where outward oriented trade reforms have been implemented only in the last two decades. Developing countries' more rapid and greater decrease in tariffs (*vis a vis* developed countries in the last few decades) does not imply however that they are more outwardly oriented: these rapid decreases are simply a response to the high protectionist policies that these countries developed in the past.

The increasing trade openness among developing countries has brought economists to question the link between trade liberalization and poverty. The general wisdom accepts that trade liberalization boosts growth and plays a crucial role among pro-poor policies in the long-run (Mc Culloch N., Cirera X. , and Winters L.A., 2001). The empirical evidence broadly supports this view, and, in particular, lends little support to the position that trade liberalization generally has an adverse impact on growth and poverty (Dollar (1992), Sachs and Warner (1995), Edwards (1998), Frankel and Romer (1999), and Rodriguez and Rodrik (2001)). Equally, however, it does not assert that trade policy is always among

the most important determinants of poverty reduction or that the static and micro-economic effects of liberalization will always be beneficial for the poor (Dollar and Kray (2001), Winters (2002 and 2004)).

Indeed, establishing a link between intertemporal variation in trade policy measures and an aggregate poverty measure is a difficult task. The main problems concern the definition and the measurement of trade liberalisation and poverty (Winters (2004), Deaton (2003), and Ravallion (2003)). One way of trickling the problem is to relate changes in trade policy to particular phenomena that are highly correlated with poverty. To this end, it is instructive to first understand through which channels poverty can be affected (Goldberg and Pavcnik, 2004). Trade liberalization affects households' welfare through three main channels: the participation and earnings of household members in labour market, household consumption, and household production (Goldberg and Pavcnik, 2004).

This paper focuses on the labour market channel: trade liberalisation, by changing the level of total employment, the relative wages or the labour market composition, is likely to have an impact on poverty, wage and income distribution, and the quality of employment. In particular, trade liberalisation has been considered one of the causes of increased unemployment and inequality that predominantly detrimentally effect the poor. It has been also blamed for a "race to the bottom" in the labour market in the form of lower compliance with labour market standards, more extensive use of part-time and temporary labour, and a decrease in job quality for the neo-employed (Goldberg and Pavcnik, 2004).

The trade approach, based on the Stolper-Samuelson theorem, assumes that wages are flexible and labour is fully employed. Given these assumptions, price changes caused by trade liberalisation will be reflected in a wage change, with employment staying the same. Moreover the wage of the more abundant factors will increase, i.e. the unskilled workers' wages in developing countries¹. On the other hand, the development approach embraces the concept that labour supply is perfectly elastic (because there is a large pool of workers who move in or out of jobs when circumstances change). In this case, trade liberalisation will cause changes in the general level of employment (Winters, L.A., 2004a). In reality both effects will occur. The balance between them lies in the labour market institutions, which determine the relative flexibility of wages and employment, in the efficiency of the capital market and in the social policies (Hoeckman and Winters, 2005).

The existing literature suggests that in developing countries wage responses to trade policy are greater than employment change (see for example Hoeckman and Winters (2005), Goldberg and Pavcnik (2004)). Three hypotheses have been proposed to clarify the greater response of wages to trade liberalisation: imperfect competition in product market (Currie and Hanson (1999) for Morocco,

¹ In this case we focus on trade liberalisation between developed and developing countries. However, if developing countries are also liberalising trade with other developing countries, which might be even more labour abundant than this simple conclusions may not hold.

Revenga (1997) for Mexico, Harrison (1994) for Cote d'Ivoire, Levinsohn (1993) for Turkey, Khambhampati *et al.* (1997) for India and Rama (2003) for different countries), labour market rigidities (Heckman and Pages (2000) and Feliciano (2001), Revenga (1997), Bell (1997) and Currie and Hanson (1997)) and the existence of the informal sector (Attanasio, Goldberg and Pavnick (2004), Hoeckman and Winters (2005)). These studies show a small change in the total level of employment in the aftermath of trade liberalisation. However looking at total levels of employment does not reveal much about the dynamics in the labour market. Indeed, trade growth impacts on labour markets by changing the composition of employment, mainly within firms, and by creating and destroying jobs, with negligible net impact on total employment. So, as reported by a recent World Bank study (2001) on globalisation "small declines in employment may hide substantial job churning". For example, for OECD nations for which data are available, total turnover averaged more than 20% during the 1980s, although net employment growth was generally in the range 0.5-2 percent (Grey, 1995). The analysis of turnover and its components represents a way of viewing net employment change, for both the whole economy and for particular sectors².

Using a panel data for a sample of Moroccan private firms over the period 1990-2002, we investigate how trade liberalisation impact on workers by changing the composition of employment. In particular, we focus on the churning effect following the Davis and Haltiwanger's methodology (1990, 1992). Our analysis focuses on *job creation* (the sum of the new places available through expansion of existing firms and creation of new establishments within the sector); *job destruction* (the sum of employment losses over shrinking and dying establishments within a sector.); *turnover* (the extent to which there is simultaneous job creation and job destruction); as well as the decomposition of turnover, where the decomposition considers how much turnover occurs within a sector and how much movement there is across sectors. Since the Moroccan data set contains quite detailed information about the type of labour used in each plant, we can treat employment as a heterogeneous unit repeat the churning analysis for sub-groups of labour. In particular, separate studies are done for temporary and permanent workers, male and female workers and for white-collar versus blue-collar workers.

² It is important to stress the distinction between job turnover and labour turnover. Job turnover measures the creation and destruction of positions, i.e. how employment positions are reallocated across establishments, while labour turnover measures the movement of workers into (hires) and out (fires) of jobs.

3. The Moroccan policy environment

If we have time it would be good to add in here something about other changes in policy - privatisation, labour market reform.

On the base of your hint, I tried to modify the section structure, dividing trade liberalisation reforms from other economic reforms.

The main goal of economic policy is to lift economic growth to an average of 5-6% per annum in order to reduce unemployment and poverty. In order to achieve faster growth, and of lessen dependence on the unpredictable agricultural sector, Moroccan governments have tried to improve productivity, boost exports and attract domestic and overseas investment. They have adopted a wide range tools to do this: lowering import barriers, signing trade liberalisation agreements, reforming investment laws, freeing up prices, reforming the judiciary and the labour market, reducing red tape and corruption, improving the financial sector, privatising state firms and offering concessions in telecommunications, power generation and water management. It is also government policy -at least officially- to strengthen the fiscal position by cutting the public wage bill (which is equal to around 12% of GDP), trimming subsidies and reforming the tax system to make it fairer and more productive. Successive governments have had mixed results in implementing the reforms and in achieving these goals.

3.1 The Trade Liberalisation Process

Following independence in 1956, Morocco's development strategy was primarily based on import-substituting industrialisation and agricultural self-sufficiency in a highly protected domestic market. The trade reform started in Morocco during the 1980s. As a result of pressure due to a payment crisis in 1983, Morocco virtually eliminated quantitative restrictions on imports and reduced maximum tariffs from 165% to 45% over a 6-year period. The major accomplishment of the tariff reform was to reduce the dispersion in tariff protection within the manufacturing sector. Average import penetration increased only slightly, in part due to domestic contraction combined with the devaluation. (Currie and Hanson, 1999). Nevertheless, in the 1990s Morocco was still far from an open economy. An important contribution to the Moroccan liberalisation process has come from the multilateral and regional trade agreements, signed with different partners since the middle of 1990s.

In 1995 Morocco joined the WTO, and also signed a quadrilateral FTA with Tunisia, Egypt and Jordan, which expanded in following years to include other Arab states, and a bilateral FTA with Turkey. Following the Barcelona Agreement an accord with the EU was agreed in February 1996. The agreement envisaged a freeing up of trade in industrial goods over 12 years from the date of implementation. Given that Morocco already had tariff free access for most goods to the EU market the Association Agreement largely involves the asymmetric reduction of tariffs by Morocco on EU

exports. Tariffs on capital goods imported from the EU were eliminated from 2000, and tariffs on raw materials, spare parts and products without a local equivalent were removed in four stages up to 2003. From 2003 tariffs on imported manufactured goods that have a local equivalent began to be removed at a rate of 10 percentage points a year.

Another wave of agreements started in the new millennium. The FTA with the US was signed in June 2004 and was expected to come into effect in March 2005. This agreement covers industrial and agricultural goods, services, telecommunications, customs, intellectual property, employment and the environment. In 2004-05 Morocco signed further trade and investment agreements with a range of countries in Eastern Europe, Asia, Latin America and Africa. These accords will lead to a wider dismantling of tariffs over the longer term, a diversification of trade partners and a lower dependence from the EU economy. Morocco has also recently signed agreements with Turkey, as well as the Agadir Agreement with Egypt, Jordan and Tunisia. These processes of liberalisation have, not surprisingly been accompanied by a reduction in tariffs, and this can be seen in Table 1 below.

Table 1 gives the change in tariffs over 1993-2000 in question. While yearly tariff data was impossible to obtain, there is enough information in the table to show a number of key features. First, that tariffs in Morocco are typically extremely high ranging from an average of 47%-99% in 1993 to 17%-52% in the year 2000. Secondly, the period has experienced a substantial decline in tariffs and this is true in all sectors. The biggest declines are in Textiles and Electrical where the reductions were 74% and 58% respectively, and the smallest declines were in Food products (28%) and in Leather goods (29%). It is worth noting however, that despite the reduction in tariffs there are other effective taxes in place on imports into Morocco. Hence the level of tariffs tends to understate the true extent of protection in the economy.

Table 1: Moroccan Tariffs

	1993	1997	2000
Food	72	61	52
Textiles	92	61	38
Clothing	99	71	50
Leather	60	50	43
Chemical	47	35	26
R&P	61	48	38
Electrical	65	37	17

Source: Trains database

It is also worth highlighting that Moroccan trade is heavily dominated by Europe, which is the destination and origin of more than three-quarters of exports and imports. France is the main trading partner, taking over one-third of exports and providing over one-fifth of imports. Spain is the second trading partner, typically taking 16-18% of exports and providing 10-12% of imports. The UK, Italy and Germany are other important trading partners.

As well as considering formal trading arrangements it is also important to consider the evolution of macro economic policy and the Moroccan exchange rate. Since 1993, the Bank al-Maghrib (the central bank) has used a basket of currencies, weighted on a trade basis, to set the value of the dirham. The weightings are not disclosed, but at end-2003 the basket was estimated to be weighted at 60% against the euro and 40% against the US dollar, which roughly reflects the proportions in which Morocco's exports are priced. During 1999 and 2000 the euro was weak against the US dollar, and the dirham rose against the euro and the euro-zone currencies, reducing the competitiveness of some Moroccan exports, notably textiles, and causing a fall in export sales and job losses. Exporters of textiles and fruit and vegetables, and some tourism operators, called in 2000 for the dirham to be devalued. But the government has preferred to maintain a relatively strong dirham to preserve hard-won macroeconomic benefits, such as low imported inflation. Devaluation would increase the cost of imports and of servicing external debt, encourages demands for wage rises and discourages investment. In April 2001, however, the central bank moved to devalue the currency for the first time in 11 years, following persistent lobbying from exporters who claimed that they were losing out in export markets to rivals from states with convertible currencies. The IMF and the World Bank welcomed the move and urged Morocco to treat it as the first step to a more flexible exchange rate. In summary then the Moroccan economy is one which has for many years developed behind high protective trade barriers, but which has made significant steps towards the liberalisation of its' trade regime over the last 10-15 years, as well as significant steps towards greater regional integration with its Northern and Southern neighbours.

Table 2: Exchange Rate (DH per dollar, yearly average)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Exchange Rate: Dirham/US\$	8.47	8.80	9.51	9.60	9.80	10.63	11.30	11.02	9.54	8.90	8.84	8.78

Source: EIU Reports

3.2 Political and other Economic Reforms

Despite the wide range of trade agreements signed by the Moroccan government in the last two decades, other political reforms were implemented in order to boost the economic growth. The privatisation process, launched in the late '80s, was one of the most advanced in the region, grossing Dh7.4bn (\$820m) of receipts by the end of 1995. Little progress was made until 1993, when the programme accelerated with the sale of shares in hotels, road transport, petroleum distribution, petrochemicals, housing, textiles and a major cement company. More divestments followed in 1994, when a further 27 enterprises were sold, including the important state holding company, Société Nationale d'Investissements (SNI), four more petroleum distribution companies, four commercial and industrial enterprises, and eight hotels. The prime minister, Abderrahmane Youssoufi, began in 1995 a

campaign to reform the business environment, overhaul the judiciary and lay the groundwork for a revamped labour code. It was the fear that Moroccan firms would not be able to compete directly with EU companies, as they will need to do once the EU association agreement will be fully implemented, that lent urgency to these reforms and the consequent need to entice additional inflows of foreign investment. Indeed, in 1995, only one-third of existing industrial firms were able to compete directly with their European counterparts, while one-third would over time be able to adapt with the help of the *mise à nouveau* programme and one-third would not survive. On the wave of these economic improvements, the privatisation programme was modified: as well as withdrawing some companies from the list, the government also decided to extend the programme to include some sectors previously deemed strategic, namely power generation (although not distribution), oil refining, the national airline (Royal Air Maroc) and telecommunications. Nevertheless, by the end of 1998, only 34 firms and 20 hotels had been privatised. The centre-left government that came to power in 1998 achieved progress in some areas, such as the liberalisation of the power-generating (July 1999) and telecoms sector (December 2000), but none at all in others. Moreover it ignored calls from the IMF and elsewhere to cut the public wage bill, allowing it to grow as a share of total spending. The economic policies of the coalition government formed by the prime minister, Driss Jettou, after the 2002 election are little different from its predecessors, but it has seemed readier to move faster on reform. A new labour law designed to introduce greater employment flexibility was approved by parliament at the end of 2003 (although legislation on the most sensitive issue, the right to strike, has still not been fully agreed by employers, unions and government); a network of Regional Investment Centres has begun to be set up, to cut red tape and speed up the investment process; the *mise à niveau* programme of industrial modernisation has been re-launched, though not much progress has been made; measures have been introduced to promote small and medium enterprises and to encourage young people, especially graduates, to set up their own businesses; and privatisation has been stepped up. However, in its first full year in power (2003) the Jettou government failed in its target of cutting current spending in real terms (indeed, current spending rose by 7.6% in real terms). The IMF commended the authorities for maintaining macroeconomic stability through a period of recurrent severe droughts and international financial turmoil. However, it has expressed concern at the significant slowdown in growth during the 1990s and the associated increases in poverty and unemployment. Moreover, the IMF denounced the uncertain fiscal position and has called on the government to move faster to cut public spending, privatise state firms, lower trade barriers and reduce support for cereal production (which is highly sensitive to drought). The bank has also criticised the use of privatisation receipts to finance current spending, rather than to invest in productive sectors. In its 2004 Article IV review of the economy the IMF underlined its perennial concern that while macro-economic stability had been

maintained over the past decade, average annual growth had been insufficient to reduce poverty and unemployment.

4. An on overview of the underlying data

this section is too long for publication and I have only made minor changes for now

The data for this paper are derived from the Moroccan Annual Industrial Census. The data set covers 11,054 enterprises and contains data for five macro-sectors for 1990 and 2002. However, since there is an asymmetry in terms of firm number between the 1990-1994 sample and the 1995-2002, we start the analysis from 1995. The reduced sample allow us to observe the effect of the Barcelona Declaration and the FTA with north African countries. The five sectors covered are: clothing and textiles, food processing, chemicals and plastics, metallurgy, and electrical machines. One of the substantial advantages of this sample is that it contains extremely detailed information at the firm level. For each firm we have information on sales, production, exports, and start-up data. In particular we have detailed information on the labour supply for each firm, with employment divided by gender, and temporary versus permanent workers. After cleaning the data set, by excluding the firms with inconsistent start-up date and some irregularities in the data (for example increase in the production grater than 80%, null value for employment and/or sales), we get a non-balanced panel data set with **4,762 firms** and a total of 61,906 observations.

The Annual Industrial Census is based on the five macro-industries: Food and Beverages, Textiles and Clothing, Chemical and Plastic, Metallurgy, and Electrical Machines. As shown in Table 3, the Food Processing is the largest industry in the Moroccan Economy, as it accounts for 28.85% of total firms in 2000, following by the Chemical and Plastic (26.77%) and the Clothing and Textile (24.07) sectors. Moreover, Table 3 suggests that it all the industries were quite stable during the 1995-2002 period.

Table 3: Sectoral share in the sample

Sector	Sample 1998		Sample 2000	
	Number of Firms	%	Number of Firms	%
Clothing and Textile	1,176	24.69	1,285	24.07
Food Processing	1,415	29.7	1,540	28.85
Chemical and Plastic	1,224	25.69	1,429	26.77
Metallurgy	842	17.67	966	18.1
Electrical Machines	107	2.25	118	2.21
	4,764		5,338	

More generally, Moroccan industry is divided into 20 sectors, which are listed in Table 4 in the appendix. From the Table 5 below, it can be seen that there are a few industries that dominate the Moroccan economy. These are Food and Beverages, which in 1990 account for 21 percent of manufacturing employment, 27 percent of manufacturing sales, Textiles (18%, 10%), Cloths (20%, 5%) and Chemicals (6%, 16%). Looking at the dynamic trend, Table 5 suggest that the Food and Beverage industry has slightly expanded its sales (28.7% in 2002) as well as its employment weight (28.78% in 2002); the textile industry has suffered losses in term of employment and sales (7% and 5% in 2002), at the contrary the cloths industry has increased its employment and sales (23% and 7.9%). Finally, the chemical industry has decreased its weight in term of sales (12.9% in 2002) and increased its employment share (8.08% in 2002).

In our sample, only a small fraction of firms (20%) could be classified as exporter; i.e. they have a percentage of export, computed as the ratio of total export on total sales, always greater than zero in their life. 63% of firms deal with domestic markets and are defined as non-exporters. The remaining 18% competes on the international market irregularly. **Moreover, the vast majority of exporting establishments export a large fraction of total sales. On average, 73% of exporters report an export ratio greater than 60% of total sales.** From the trade orientation point of view, one could see a lot of variation among sectors. The food and beverages, the cloths, the textile and the chemical industries are the most outward-oriented sectors, as they account for the 20%, 15%, 19% and 28% of total manufacturing export. On the other hand, the publishing and the plastic industries are the most inward-oriented, with percentages of export of 0.001% and 0.1% respectively.

If we consider changes over time among the largest sectors, the clothing industry is the only one to increase its exports share. Nevertheless, new sectors, as electrical industry, have increased their openness. The export pattern that emerges from our sample is coherent with the Moroccan situation, as described in the Economist Intelligent Units (2002). On the base of the EIU report, clothing and other textiles account for around one-third of total exports by value, and food for around one-fifth (fish exports alone make up some 11% of exports).

Compared with many developing countries, Morocco has a broad export base, with no single export commodity forming more than 13% of the total. Growth of exports of manufactured goods has been somewhat uneven. Clothing sales accounted for 9% of total exports in 1995, no advance on the 9% of 1989. Hosiery exports have risen more substantially, to 7% of total exports from 5% in 1989. Shellfish have made more significant gains: from 5.5% to 8.2%. Exports of fresh and preserved fish and fruit and vegetables are subject to fluctuations because of the weather, but have generally been on an upwards trend. In addition there are small but growing exports of electrical and mechanical goods, such as transistors and electrical cables.

Table 4: Share of each industry by category

Sector Code	1990				1996				2002			
	N°Firms	Empl Share	Sales Share	Export Share	N°Firms	Empl Share	Sales Share	Export Share	N°Firms	Empl Share	Sales Share	Export Share
15	1371	21.82	27.3	20.2	973	24.91	29.8	17.2	1550	28.75	28.7	18.4
16	1	0.82	4.1	0.0	0	0	5.5	0.0	1	1.48	5.3	0.0
17	719	18.47	10.0	15.5	699	13.71	9.2	17.1	548	6.86	5.1	6.3
18	734	20.10	4.9	19.6	592	19.22	5.6	22.3	991	23.49	7.9	29.6
19	272	3.51	1.8	4.2	237	2.58	1.5	4.0	310	3	1.3	2.8
20	173	2.16	2.0	1.7	205	2.08	1.7	2.0	380	2.03	1.6	1.5
21	92	2.09	3.3	2.6	84	2.15	2.7	1.7	81	1.50	2.0	1.6
22	281	1.51	1.8	0.0	318	1.65	1.1	0.0	406	1.05	1.1	0.0
23	0	0.00	0.0	0.0	0	0	0.0	0.0	11	1.33	9.6	6.6
24	185	6.14	16.0	28.2	172	10.28	16.4	26.8	173	8.08	12.9	20.1
25	202	2.27	2.5	0.7	241	2.57	2.7	1.1	251	2.90	2.7	0.8
26	325	6.90	7.4	0.7	365	8.12	7.8	0.9	536	4.27	6.8	1.0
27	14	0.41	2.6	1.9	14	0.66	2.1	1.5	100	0.99	2.2	2.0
28	362	4.95	6.5	0.7	394	4.81	6.1	1.3	622	3.80	3.2	1.4
29	257	1.98	2.0	0.1	285	1.65	1.5	0.1	189	0.85	1.3	0.2
30	21	0.25	0.2	0.0	20	0.34	0.2	0.2	1	0	0.0	0.0
31	79	1.51	2.4	0.5	70	1.54	1.9	0.8	118	2.31	3.0	6.3
32	44	1.46	1.7	5.1	21	0.17	0.5	1.8	12	3.45	0.6	2.3
33	8	0.05	0.0	0.0	15	0.12	0.1	0.1	21	0.12	0.1	0.0
34	55	1.89	4.2	2.9	57	2.43	3.4	2.5	76	1.75	3.9	1.0
35	43	0.65	0.5	0.4	42	0.31	0.3	0.2	57	0.54	0.2	0.1
36	77	1.04	0.7	0.2	70	0.72	0.5	0.0	162	1.44	1.1	0.1

If we turn to the employment composition, in Table 6, we seen that for 71% of the firms in the sample, the majority of employees are male. This pattern perfectly mirrors the general situation of the Moroccan economy. According to Agenor and El Aynaoui (2003, page 8), woman account for only 22% of the total urban workforce. This is a direct consequence of the cultural and religious environment that characterises Morocco. Nevertheless, these general patterns mask strong sector disparities. In Food & Beverage and in Textiles & Clothing female workers account for 27% and 50% of total employment and their share has increased over the period. Female labour force participation is large also in the electric industry and electronics (see also EIU, 2000, Ragui 2002). Another aspect which deserves attention is the share of temporary and permanent workers. On average, firms rely mostly on permanent workers, which represents 80 percent of total employment. There are no big difference across sectors except for Food & Beverages where temporary workers are 50% of total workforce. This result is not surprising being largely driven by the seasonal nature of the sector.

Table 5: Employment Composition by Sectors

Sector	1996			2002		
	N°Firms	Perm Share	Femm Share	N°Firms	Perm Share	Femm Share
15	718	59.4	26.1	469	55.1	26.4
16	0	0.0	8.4	1	100.0	6.1
17	474	83.9	52.2	149	92.5	43.9
18	430	94.2	78.3	243	93.4	80.2
19	170	83.7	35.4	81	96.0	41.5
20	143	81.7	9.3	112	62.3	9.9
21	61	69.5	19.7	31	67.5	15.9
22	213	86.6	18.5	85	89.5	22.2
23	1	84.3	0.0	7	88.7	5.0
24	128	70.3	18.5	53	96.2	24.7
25	156	87.4	21.1	65	87.4	25.0
26	249	67.8	8.5	115	78.9	10.3
27	13	81.1	4.9	22	81.2	8.6
28	268	76.7	9.5	156	85.2	10.9
29	177	87.5	8.0	37	89.8	15.6
30	18	57.4	43.7	0	0.0	0.0
31	43	69.0	32.4	30	78.9	52.0
32	9	93.5	71.9	4	100.0	73.9
33	10	99.4	32.3	4	79.8	37.1
34	42	81.6	29.9	22	90.4	12.3
35	30	93.0	6.6	25	78.1	9.1
36	42	85.6	16.2	40	68.8	19.8

Table 7 analyses the employment composition on the base of firm's exporting orientation. For each year the table distinguishes between those firms who were exporters throughout the sample, those firms who were non exporters throughout the sample, and then those firms who changed their status (i.e. irregular exporters). From the table it can be seen that, first of all, the exporter firms employ more workers than non-exporters³. The larger size of exporting firms is not surprising. But, as suggested by Bernard and Jensen (1999) the question is whether good firms become exporters or whether exporting improves firm performance. Hence, the larger size of exporter firms could be explained in two ways. First, selling in international markets is a special and difficult status for a plant to achieve. To compete in the international market, firms need to be reliable, competitive, to have easy access to credit, and an efficient organisation. This is particularly true of large firms especially in developing countries. Second, it has been argued that trade liberalization, by increasing competition, forces firms to lower price-marginal cost mark-ups and hence move down their average cost curves, thereby raising firm size and scale efficiency. If these two theories are correct, the larger firm size of exporters could be the result of the trade reforms of 1980s or be an individual intrinsic characteristic. However, the analysis of the

³ Since temporary workers represent only a small share of total employment and we have a lot of missing value in the Total Employment variable, we compare the different groups on the base of their permanent workers.

causality connection is not the aim of this work. Secondly, exporters have increased their importance across the years both in terms of firms number and average employment. Contrary, the number of firms and the average employment has remained quite stable for irregular exporters firms and for the non-exporters. This could be the result of the “pro-competitive effect” of trade liberalisation: as a result of the increased competitiveness, the weaker firms exit from the market and the more competitive plants consolidate their position. Moreover, the increase in the exporters number could be seen as good response of the firms to the trade liberalisation reform. The last and perhaps more important message concerns not the first but second moment of job data. With standard deviations usually about three time the size of the means, plant-level heterogeneity is quite large. This suggests that only examining the means of overall employment may be misleading. Finally, as suggested by the Tables 8 and 9 (in Appendix) exporters employ a larger share of female and temporary workers and this is stable across the years. The link between export status and female share could be explained by sectoral features. As shown above, exporters concentrate mainly in Food & Beverages and in Textiles & Clothing sector, which employ the larger share of female work force. With regard to temporary workers, the same explanation doesn't held since temporary worker share is uniform across sectors. Hence, relying on temporary workers could be seen as a particular strategy of exporters. If this is true, an increasing openness to international trade could be worrisome from a labour marker point of view. Trade liberalisation may impact on the number of exporters and, consequently, the number of temporary workers with a negative impact on labour force conditions. Nevertheless, also in this case, standard deviations are about twice the size of the means. Therefore once again plant-level heterogeneity matters.

Table 7: Total Employment by Export Status

<i>Year</i>	<i>Trade Status</i>	<i>Number of Plants</i>	<i>Mean Employment</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>
1990	NonExporter	1822	32	90	1	1988
	Exporter	626	194	373	3	5644
	Change Status	993	72	171	1	2996
1991	NonExporter	1823	31	87	1	1988
	Exporter	626	189	348	3	5953
	Change Status	535	101	215	2	2891
1992	NonExporter	1902	30	81	1	1988
	Exporter	676	181	339	1	6140
	Change Status	601	95	209	1	2786
1993	NonExporter	1839	32	109	1	3134
	Exporter	620	197	374	1	6029
	Change Status	622	96	225	1	3404
1994	NonExporter	1344	34	115	1	3005
	Exporter	497	224	418	4	5999
	Change Status	588	97	234	0	3402
1995	NonExporter	1331	33	121	1	3032
	Exporter	492	231	405	1	5940
	Change Status	574	100	231	2	2953
1996	NonExporter	1277	34	131	1	3180
	Exporter	469	236	451	1	7431
	Change Status	541	106	250	1	3257
1997	NonExporter	1220	33	129	1	3089
	Exporter	440	238	458	2	7276
	Change Status	509	108	247	2	3037
1998	NonExporter	1143	31	122	1	2997
	Exporter	417	250	470	3	7097
	Change Status	464	113	244	2	2817
1999	NonExporter	1095	31	96	1	1797
	Exporter	399	246	494	3	7431
	Change Status	444	113	261	1	2946
2000	NonExporter	1040	32	116	1	2390
	Exporter	387	252	539	4	7226
	Change Status	435	107	243	2	2858
2001	NonExporter	1002	32	116	1	2991
	Exporter	425	237	499	4	7026
	Change Status	425	113	261	2	2381
2002	NonExporter	915	33	120	1	2991
	Exporter	383	241	486	2	6709
	Change Status	449	104	241	2	2540

5. Employment growth and churning in the Moroccan labour market.

In this part of the report we turn to our descriptive empirical results. Our aim here is to shed light on the process of labour market restructuring in Morocco through focussing on a number of key indices. The methodology we employ here follows closely that of Davis and Haltiwanger (years), hereafter referred to as DH, and which has also been used by Levinsohn (1996), Konings et al (2003), Kugler et al (2004) in the context of Chile, Ukraine and Latin America, respectively. The advantage of the DH approach is that it provides a number of normalised measures which facilitate comparison both across time, and across industries. Before embarking on the analysis we first describe the measures used and then proceed to an economy wide analysis, followed then by a sectoral level analysis.

5.2 Outlining the Methodology

The principal aim of the analysis is to provide a better understanding of labour market adjustment at the firm, sectoral and consequently aggregate level. First therefore it is important to consider the growth of employment. The growth rate of employment at a plant, g_{et} , is defined as:

$$g_{et} = \frac{x_{i,t} - x_{i,t-1}}{x_{e,t}}$$

where the employment at plant i in year t is given by $x_{i,t}$ and the average employment at plant level is given by:

$$x_{e,t} = \frac{x_{i,t} + x_{i,t-1}}{2}$$

This formulation has the nice property that it ranges from 2 to -2, where $g=2$ captures the entry of a plant and $g=-2$ the exit of a plant. In section 5.3 below we consider the evidence on the distribution of growth at the plant level, as well as on changes in growth over time.

Building on the preceding one can then distinguish between job creation (POS) and job destruction (NEG). The former is defined as the sum of the new places available through the expansion of existing firms and the creation of new establishments within the sector; and the latter is derived by adding up employment losses over shrinking and dying establishments within a sector. They express these measures as rates by dividing by the average size of the sector between t and $t-1$, $X_{s,t}$:

$$POS_{st} = \sum_{\substack{e \in E_{st} \\ g_{et} > 0}} \left(\frac{x_{et}}{X_{st}} \right) |g_{et}|$$

$$NEG_{st} = \sum_{\substack{e \in E_{st} \\ g_{et} < 0}} \left(\frac{x_{et}}{X_{st}} \right) |g_{et}|$$

Where E_{st} is the set of establishments in sector s at time t . POS and NEG are each bounded between 0 and 2. Hence if there were no firms in period $t-1$, and all firms entered in period t , POS would be equal to 2. Similarly if all firms exited in period t , then NEG would be equal to -2. The advantage of this index is that it is both bounded and symmetrical, hence if the number of jobs lost in a given year is equal to the number created than this would be captured with POS=NEG. This difference between POS_{st} and NEG_{st} thus gives the net employment change, NET. Finally by adding up POS_{st} and NEG_{st} we get SUM_{st} , which can be seen as a measure of the gross job reallocation rate in sector s between $t-1$ and t .

POS and NEG allow us to focus on the extent to which there has been job creation or job destruction, however we are also interested in the extent of overall turnover in the labour market - the extent to which there may be simultaneously be a high (or low) level of job creation and job destruction. This is not captured by NET, for this will be zero when POS and NEG are equal and both high, or when they are both low. In order to capture the overall level of turnover, we therefore use:

$$EXCESS = \sum_s sum_s - \left| \sum_s net_s \right|$$

In its form proposed by DH the bounds of $EXCESS = 2n$, where n is the number of sectors in the economy. In our work we weight sum and net by the share of each sector in production, to derived WEXCESS, which as with POS and NEG is bounded between 0 and 2. The higher is the value of EXCESS the higher is the level of *simultaneous* job creation and job destruction.

Finally, it is important to consider the extent to which the level of turnover as represented by excess involves job reallocation within each sector, or across sectors. This former is captured by:

$$WITHIN = \sum_s sum_s - \sum_s |net_s|$$

and the latter is captured by:

$$BETWEEN = \sum_s |net_s| - \left| \sum_s net_s \right|$$

5.3 Assessing labour market restructuring in aggregate

5.3.1 Employment Growth Rates

Table 8 begins to address the issue of change in employment using plant-level data. It suggests that there is much more variation in employment growth rate by trade orientation than across years. Indeed, while exporters present positive growth rates over most of the period, non exporters firms are mainly characterised by negative growth rates. Other than this, we see that all categories of firms present modest growth rates. It is interesting to note that the decline in growth rates for non exporters and the turn to positive value for exporters is broadly synonymous with the period where Morocco started to embark on its more open trade strategy. The growth rate pattern of irregular exporters is close to the non exporter one.

An examination of the underlying calculations highlights the importance of plant-heterogeneity as the standard deviation of the growth rates is around 0.7 for both categories. Looking at the growth rates for continuing firms, i.e. the change in employment due to workforce reorganisation (hiring and firing) without considering the impact of firm entry and exit (new job creation and destruction), two features are immediately apparent from the table. The first is the much higher volatility of the growth rates over the time period in question for all categories of firms. Also in this case, contrary to the exporter pattern, non exporters firms are characterised by negative growth rates. Hence, not only non-exporters are more likely to exit from the market but they fire more workers than non exporter firms. Secondly across the period growth rates are typically much smaller in magnitude (close to zero) and the standard deviations are smaller than before. It indicates the importance of entry and exit to understand the labour market dynamics. Finally, while non exporters and irregular exporters are very similar if we consider the whole sample, they differ in terms of hiring and firing attitude. Indeed, growth rates for irregular exporters are mainly positive across the years.

Table 10: Employment Growth Rate by Export Status

	NonExp		Exp		Irr	
	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.
1991	-0.125	0.745	-0.068	0.816	0.072	0.394
1992	0.142	0.710	0.236	0.788	0.197	0.668
1993	0.064	0.755	-0.003	0.927	0.123	0.626
1994	-0.343	0.982	-0.195	1.014	-0.060	0.668
1995	0.027	0.795	0.068	0.924	0.026	0.610
1996	0.001	0.837	0.070	0.931	-0.022	0.597
1997	-0.016	0.778	0.058	0.894	-0.063	0.661
1998	-0.069	0.760	0.053	0.853	-0.066	0.662
1999	-0.089	0.723	0.143	0.961	-0.071	0.593
2000	-0.095	0.679	0.031	0.854	-0.045	0.514
2001	-0.115	0.700	0.041	0.884	-0.153	0.609
2002	-0.222	0.714	-0.285	0.830	-0.198	0.697

For Continuing Firms

	NonExp		Exp		Irr	
	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.
1991	0.028	0.269	0.058	0.326	0.041	0.311
1992	-0.006	0.259	-0.001	0.299	-0.003	0.293
1993	0.065	0.347	0.038	0.426	0.059	0.406
1994	-0.053	0.411	0.005	0.465	-0.018	0.421
1995	-0.020	0.382	0.029	0.429	0.005	0.390
1996	0.000	0.357	0.040	0.409	0.013	0.379
1997	-0.004	0.379	0.052	0.380	0.001	0.376
1998	-0.005	0.370	0.021	0.396	0.023	0.365
1999	-0.016	0.366	0.013	0.409	-0.002	0.359
2000	0.011	0.369	0.044	0.369	-0.002	0.337
2001	0.016	0.388	-0.005	0.385	-0.035	0.357
2002	0.003	0.351	0.011	0.454	0.000	0.378

Finally, we address the question whether employment in small and large plants responds similarly to the combination of international liberalisation and business cycles. Table 11 deals with this issue in a simple way by reporting job growth rates by trade orientation and plant size for all firms and for continuing firms. For the table the plants in the sample are classified in three groups on the basis of their employment: small (less than 30 employees); medium (employees between 30 and 250), and large (more than 250 employees). As shown in Table 9, the majority of the plants in the sample are classified as small (69.46% on average) or medium (23.98% on average) firms and only a small fraction have more than 240 employees (6.56% on average). It is worth noting that across the years of the sample the number of firms decreased but the distribution across size groups is fairly constant.

From the table it can be seen that large firms are more outwardly oriented than small firms - 75% of small firms having never exported while this applies to only 11% of large firms. With regard to

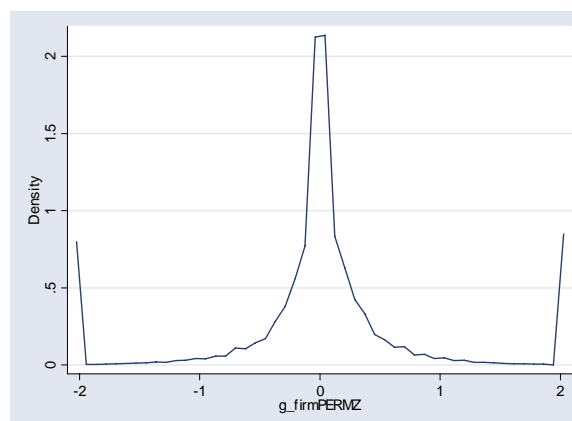
employment changes the table shows that within a given trade orientation, employment growth rates do not vary systematically with plant size. Non-exporters present negative growth rates in each size group, exporters show the higher positive growth rate and irregular exporters show very volatile growth rates. The negative growth rates indicate the importance of exit among non exporters. Indeed, if we exclude entry and exit firm, the growth rate turn to positive number in each group though note that the average growth rates are in each case very low and close to zero.

Table 11: Growth Rate by Size and Export Status (average value for the 1990-2002 period)

Size	Export Status	All Firms		Continuing Firms	
		Mean Growth Rate	St. Dev.	Mean Growth Rate	St. Dev.
Small	NonExporter	-0.042	0.823	0.004	0.362
	Exporter	0.027	1.134	0.015	0.466
	Change Status	0.010	0.711	0.004	0.385
Medium	NonExporter	-0.070	0.669	0.000	0.312
	Exporter	0.050	0.890	0.031	0.394
	Change Status	0.006	0.598	0.014	0.350
Large	NonExporter	-0.128	0.668	0.003	0.333
	Exporter	0.019	0.679	0.023	0.330
	Change Status	-0.039	0.533	0.000	0.334

Figures 1 summarise some of the preceding in a slightly more formal non-parametric fashion. The empirical density of growth rates for all firms is given in Figure 1. The figure shows that the majority of firms have null or negligible growth rates during the sample period. Moreover, as highlighted above, overall the sample entry and exit match perfectly. However, as Tables 10 and 11 suggest, this distribution hides significant differences across firm size and between exporters and non exporters.

Figure 1: The empirical distribution of employment growth rates



A statistical test that is reasonably robust to the underlying distribution of growth rates is the Wilcoxon rank-sum test. This method tests the hypothesis that two samples are drawn from populations with the same underlying median. To compute the Wilcoxon rank-sum test, the firms have to be divided into two groups. This division was made in three ways: for export status and size. In the latter case, the population was divided into groups depending on whether the average firm size was above or below the median firm size (in that year and for that sector). Results are summarised in Table 12.

Table 12: Results of Wilcoxon rank-sum test

<i>Employment Growth Rate</i>			
Group 1	Group 2	Z	Prob> z
NonExporter	Exporter	-5.787	0.000
Small	Large	-19.806	0.000

* These results are confirmed also by the t-test.

On the basis of the results in Table 12, we can reject the hypothesis that the median employment growth rates of exporter and non-exporter firms are the same. The same holds when the sample is divided according to firm size for size classification. The results are confirmed by the Bartlett's test, which performs multiple comparison tests. It means that with regard to size, we can compare small, medium and large firms and not just divide the sample in two sub-groups; with regard to the export status we can compare exporters, non exporters and irregular exporter. Moreover, it could be used to tests the hypothesis that the median employment growth rates are the same across years. Results are reported in Table 11. There is strong evidence of different medians across years, as the chi2-statistic in this case is 718.8485. Moreover, if we exclude entry and exit firms from the sample or we consider temporary instead of permanent workers, test-significance doesn't change.

Table 13: Results of Bartlett's Test: Permanent Workers

<i>Employment Growth Rate</i>		
Group	Chi2	Prob> Chi2
Export Status	52.3628	0.000
Size	147.6334	0.000
Year	718.8485	0.000

In addition to having significantly different medians, the shape of the empirical distribution of growth rates varies substantially by export status and firm size. This is illustrated in Figure 2 and 3, respectively. Figure 2 gives kernel density estimates of the distribution of growth rates for firms by trade orientation. The density estimates suggest that non exporters and irregular exporters adjust employment less frequently than exporters, since they present greater accumulation around zero. Moreover, the density estimates imply that irregular exporters are less likely to exit the sample, while new entrants are more likely to be exporters. Figure 3 gives kernel density estimates of the distribution of growth rates for firms by size groups. The density estimates suggest that large firms adjust employment less frequently than medium and small firms and they entry and exit from the market less frequently than the other groups.

Figure 2: Kernel Density estimates of employment growth by trade orientation.

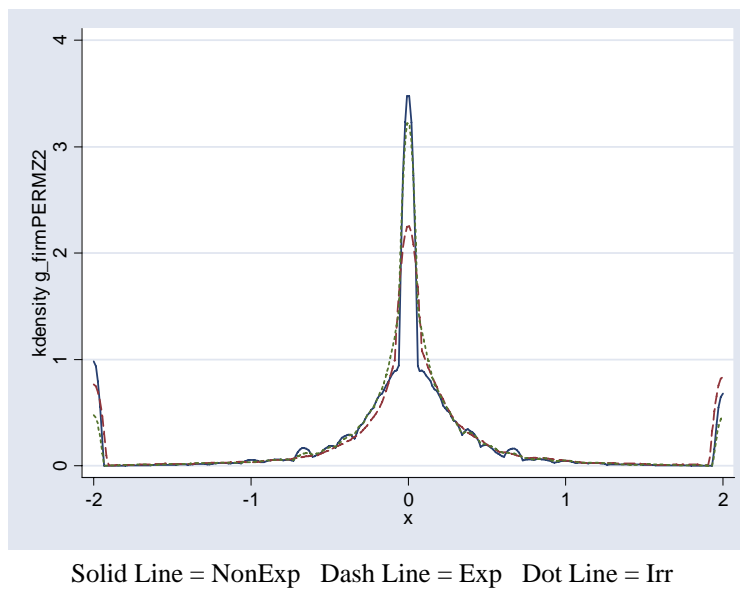
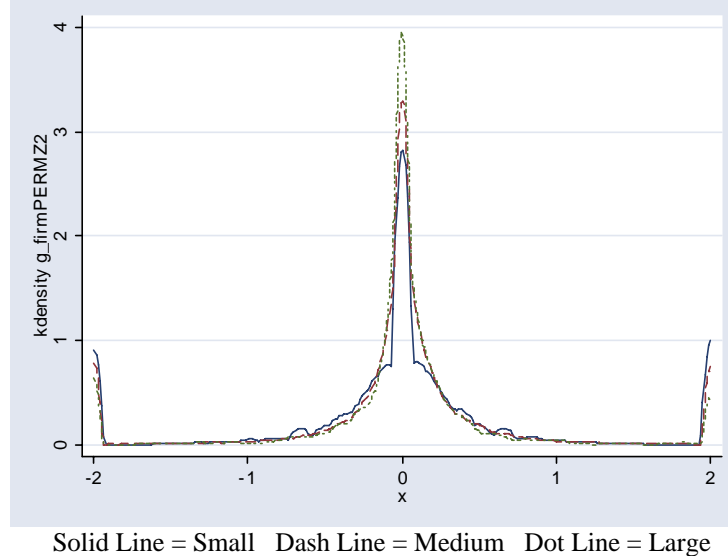


Figure 3: Kernel Density estimates of employment growth by size.



5.3.2: Labour market restructuring:

The preceding discussion indicated that the majority of firms have zero growth rates and the growth rate variance is large among firms of different sizes, different trade orientation and across years. The aim of this section is to analyse in more depth what may be hidden behind these negligible growth rates. We do this by considering job creation and job destruction, as well as looking at the extent of turnover, and the decomposition of that turnover between the intra- and inter-sectoral movement of jobs. Initially we compute the relevant indices at the sectoral level before aggregating up to the economy-wide level. We then run the analysis where we classify firms according to their size, and then also their trade orientation⁴.

The rest of this section should be structured as:

1. Permanent workers:

- a. JC, JD
- b. Excess, between, within
- c. by category - exporters/non exporters; male/female; size

2. Temporary workers

- a. JC, JD
- b. Excess, between, within
- c. by category - exporters/non exporters; male/female; size

However note, we should not necessarily include all of the tables and results - only those which are interesting.

My Proposal:

1. Total Employment :

- d. TURNOVER (composition of SUM:NEG&POS, time trend, sectors)
- e. TotEmpl decomposition: Perm VS Temp, Male VS Fem, Sk VS Unsk (time trend, SUM comparison and SUM composition)
- f. by category - exporters/non exporters; size

⁴ It's worth noting that the values reported are based on weighted average. We used the incidence of each sector on total employment in each year as weight for the mean.

Several messages appear from table 14. Looking at the churning effect across years for continuing firms (top panel in Table 14) one immediately notices that the net rate hides much of the dynamics. In 1998, for example, the employment rate was close to zero (0.01) but job creation and job destruction were about 7% and 8%, respectively. In 1999 the employment rate fall by about 3%, while there was job creation of about 8% and almost 19% of jobs were reallocated. Even in the following year, when employment was increasing the most (net employment rate equal to 4%), there was concurrent job destruction of about 7%. If we include in the sample entry and exit firms (bottom panel in Table 14), two features are immediately evident. First of all, as expected, the churning indexes magnitudes are definitely higher in the bottom panel. Secondly, the simultaneous variation of job creation and job destruction is great. In 1996, for example, while the employment rate was close to zero (0.01), job creation and job destruction were equal to 12%. Also in 2002, behind a negative employment net value, there was an high job creation⁵ (6%). The same results are confirmed by the first column of Table 16 , which test the difference on the mean. It's evident that the null hypothesis of equal mean between job creation and job destruction is always accepted. The difference start to be significant when we include also entry and exit firms (the bottom panel of Table 16), but as anticipated above, this could be due to an underestimation of the job creation index. With regard to the dynamic path, one notices that there is not a significant change in the indexes across the years. This is confirmed by a set of regression which fail to capture a significant structural break. On the other side, there is a lot of variation across sectors. In particular, the Food and Beverage, Textile and Clothing sectors (the most important sector in the Moroccan economy) and the electrical industry (new sector that increased its export share in the last years) have higher turnover rates. Moreover, the magnitude of churning in Morocco is relevant and closes to the evidence provided by Levinsohn (1999) for Chile, Davis and Haltiwanger (1996) for USA, Konings et.al (2003) for Ukraine and slightly lower than the value for Latin America countries (Krugler et.al, 2004).

In this preliminary analysis we have treated labour as a homogeneous group and we have not distinguished labour by employment relation, gender or by job type. The Moroccan data set, though, contains quite detailed information about the type of labour used in each plant. All of the analyses conducted above with homogeneous labour have been repeated for sub-groups of labour. In particular, separate analyses were done for temporary and permanent workers, male and female workers and for white collar versus blue collar workers. In the existing literature, the link between trade and temporary workers is explored only in an indirect way. Trade liberalisation is often claimed of increasing labour market vulnerability and worsening workers conditions (Goldberg and Pavcnik, 2004). Since temporary

⁵ It worth noting that the job creation index is underestimated and should be considered as a minimum value. Indeed, owing to the presence of a lot of missing value in the first year of a firm life, it's impossible to compute the index for that year. The same problem doesn't exist for exit.

work are often defined, mainly in developing countries, as poor-quality job, one would expect a positive link between trade policy and temporary workers; contrary, greater openness would decrease (or at least keep constant) the permanent workers share. The results on the Moroccan firm sample are interesting. As expected, turnover is higher for temporary than for permanent workers (Table 15 in Appendix). However, the lower level of permanent job reallocation in Morocco could be explained by its particular its comprehensive and rather restrictive labour market regulations, which particularly regards firing procedures for the private sector workforce. Moreover, while permanent workers don't change their job reallocation pattern across the years, temporary workers record an increase in turnover after 1998, which sets on a higher level. Hence, the trade liberalisation and the privatisation process seem impact more on temporary than permanent workers. Hence, the evidence provided seems support the mainstream approach. However, at the same time, the increase in job instability could impact positively on firm-level productivity (see for example Baily, Hulten and Campbell (1992), Baily, Bartelsman and Haltiwanger (1996), Griliches and Regev (1995), Olley and Pakes (1996) and Foster, Haltiwanger and Kizan (1998)). With regard to the turnover composition, in both categories job creation is not significant different from job destruction. As put in evidence by Levinsohn (199), the broad discussion on trade and jobs has not addressed the issue of gender. This issue has typically been the domain of labour economics, not international trade. However, it's interesting to analyse whether there are differences among male and female job in term of turnover. Results suggest that turnover is higher among female, but there are not significant differences in the time tend and in their hiring and firing path. Finally, from 1995 to 2001 the workers are classified on the base of their job. By aggregating the categories, we can classify workers in "blue collar" and "white collar". The former are predominately production workers while the latter are mostly managers and engineers. Turnover is higher among skilled than unskilled workers but the difference turn to be insignificant in the last two years. Since there are no significant differences in term of job creation, job destruction, white collars are characterised by higher hiring and firing. Following the Hecksher-Ohlin and Stolper-Samuleson literature, we would expect a different result. Since Morocco is abundant in unskilled-workers, after trade liberalisation Morocco would specialise in unskilled intensive production. As a result, more unskilled workers should be hired and skilled workers dismissed. The contrary evidence that emerges from our analysis could suggest that firms continue to hire "white collar" in order to adapt their production to the imported skilled-intensive technology. Indeed, to increase their competition, the Moroccan firms must fill-in the technological gap with the foreign competitors.

Table 17 reports the churning **effect by trade orientation**. The results are interesting. Exporter and irregular exporters have higher rate of job reallocation and react to trade liberalisation in different ways. First of all, job creation is higher among exporters and irregular exporters, but the three groups don't differ in term of job destruction. To understand this result, it's important to take into account the

consequences of trade liberalisation. The fall of tariff barriers versus the EU and the North African countries have boosted Moroccan firms to deal on foreign markets and indeed do face more competition. At the same time, foreign firms started to trade on the Moroccan market, increasing the competition pressure also for local plants. Exporter firms react to the higher competition by hiring more workers than non exporters. This could be the consequence of the pro-competitive effect of increasing trade: non competitive firms exit from the market or decrease their work force and the best performing plants consolidate their position. On the other hand, the lack of differences in term of job destruction could be explained by the severe labour market regulation.. Finally, according with Levinsohn (1999), the general increase in job reallocation after the trade agreements signed in 1995 seems to indicate that trade liberalisation promotes high turnover industries, and thus creates more churning in the job market. In Table total employment is decomposed in different workers categories. However, this analysis doesn't show big differences across export groups. Only three features deserve attention: exporters and irregular exporters are less likely to exit from the market than non exporters firms, non exporters fire fewer permanent workers than non exporters, and turnover among skilled workers is lower in exporters and irregular exporters.

Table 18 looks at the churning effect **by the firm size**. First of all, as widely demonstrated the literature (Konings et al., 2003), also in Morocco we find an inverse relationship between job reallocation and size for the manufacturing sector. Indeed, turnover is higher in small than in medium and large firms and this pattern doesn't change when we disaggregate total employment in different categories. Secondly, higher job reallocation in small firms is driven by higher job creation and higher job destruction (mainly with regard to permanent workers). Contrary, large firms present the lowest rate of job reallocation, job creation and job destruction. Hence, small and large firms react in a different way to the economic reforms: while large firms consolidate their position, small firms are more vulnerable and instable.

The higher job destruction rate recorded among small firms and non exporters could be explained also by their ability to violate labour market laws. Indeed, due to their own characteristics these firms are at the border of the economic and hence less subject to legislative controls.

3. Job reallocation

The results in the previous section show a significant amount of simultaneous job creation and destruction and a volatile net change in employment. The aim of this section is to analyse the labour market dynamics in a deeper way by studying the ability of each sector and of the whole economy to replace the destroyed jobs. In the literature this phenomenon is known as "churning". While turnover describes the general labour dynamics in the economy, including the expansion or reduction of unemployment (negative and positive value of net change, respectively), churning focuses/measure the

ability of the economy to keep constant its employment level. In the literature this phenomenon is captured using the rate of excess job reallocation, i.e. the mean of the difference between total job reallocation (SUM_sector) and the absolute value of net job reallocation (NET_sector). Davis and Haltiwanger (1992) express churning as follow:

$$EXCESS = \sum_s sum_s - \left| \sum_s net_s \right|$$

Hence, simultaneous job creation and job destruction are reflected in high and positive excess value. As shown in Table 19 (in Appendix) churning is an important phenomenon in all sectors. While the average value of excess job reallocation is 10%, it varies from 24% to 4% across sector. In particular, the television and radio equipment industry is characterised by the lowest level of churning, as the excess job reallocation is only 4%. Nevertheless, as was shown in Table 5 this industry is very small in term of employment and sales in the Moroccan economy. On the other hand, the food and beverage industry (Sector 15 in Table 19), one of the most important industries in the Moroccan economy, is characterised by the highest level of churning. More surprisingly, the chemical industry (Sector 24 in Table 19), one of the main industries in term of employment and production, has a low level of churning. This could be explained by the sector maturity and hence its lack of flexibility. As we have done for turnover, also in this case we can analyse the dynamics of churning across the sample. Contrary to the previous analysis, the OLS regressions suggest an increase in the excess average value for total employment and permanent workers from 1999 and for temporary workers in 1998. This results support the idea that the trade liberalisation and privatisation process increase the job dynamics. On the other side, churning fall on a lower level after 1997 for female workers, white collars and blue collars. We could interpret this downward trend in two different ways: the economy became less reactive when these categories of workers are fired or the lower churning level is due to a simultaneous decrease in job creation and job destruction. The second explanation is the most useful for understand the white and blue collar dynamics, since they record a fall in the average turnover after 1997. Finally, we compare churning among firms with different export orientation and size. Table suggests a more robust evidence of inter-groups heterogeneity than in the case of turnover. Indeed, churning is higher among non exporters and small firms. It's worth noting that excess is higher among exporter firms when we consider total employment, temporary and unskilled workers. Hence, exporters firms seems more reactive and more flexible in replacing temporary and unskilled jobs than permanent and skilled one. This could be explained by the unstable/vulnerable nature of these two categories of workers that are usually less protected by the labour legislation and hence could be used as a strategic asset by exporters firms for facing increasing competition.

Following Davis and Haltiwanger (1992), we can decompose excess job reallocation in 2 components. One component represents the contribution of reshuffling employment among sectors, and the other

component represents the contribution of excess job reallocation within sectors. The component of excess job reallocation due to between-sector employment shifts is given by:

$$BETWEEN = \sum_s |net_s| - \left| \sum_s net_s \right|$$

The component due to excess job reallocation within sectors is given by:

$$WITHIN = \sum_s sum_s - \sum_s |net_s|$$

Where SUM is a measure of the gross job reallocation rate in sector s between $t-1$ and t and NET is a measure of net employment change in sector s at time t , as defined in the previous section.

Table 20 gives the fraction of excess job reallocation due to employment shifts between and within sectors over the 1995-2002 period. To compute these indicators, we take the value of SUM and NET for each sector in each year. Then, we aggregate them by sector following the formula above. The Excess index is in the range $[0; 2*N^{\circ}sectors]$. Table 20 summarises the results. First of all, it's not surprising that the magnitude of excess, between and within job reallocation indexes is lower in the bottom panel of each table, i.e. it's smaller if we consider only the workforce reorganisation in continuing firms. Secondly, in all years simultaneous job creation and job destruction within industries accounts for the vast majority of total turnover (74,7% on average for continuing firms and 77.01% for the whole sample). The period between 1997 and 1998 deserves particular attention. Indeed, the between-sector job reallocation among continuing firms reach a peak in this period, but it still account for just one third of total excess reallocation. Moreover, in this period the job movement between sector due to hiring and firing overcomes that from entry and exit. This could suggest an employees shift from the less productive sectors to the more productive one and could be seen as delayed reaction to the exchange regime change. Indeed, in 1993 the Moroccan Dirham was pegged to a foreign currency basket. This led to a Dirham appreciation and this could impact on industry composition. The same pattern is present also in 2002. In this case, the increase in between sectors movement could be a response to the trade liberalisation and privatisation process. When we disaggregate total employment in different workers categories (Table 21), we get similar results as the turnover analysis. Indeed, excess is higher among temporary, female and skilled workers⁶. With regard to the churning decomposition, we can see that there are not huge differences in the between share when we classify workers on the base of the gender and skill. Contrary, the contribution of the between sector movement to churning is definitely higher among temporary than permanent workers. Moreover, for temporary workers, the between sector component is very high and in more than one year it overcomes the within sectors share. Once again, the flexible nature of temporary workers could be the key explanation.

⁶ For simplifying the exposition, we consider only the continuing firms.

Table 20: Employment shift between and within sectors

<i>For Entry, Exit and Continuing Firms:</i>								
	1995	1996	1997	1998	1999	2000	2001	2002
Excess	3.18	3.68	3.17	1.80	1.80	2.07	3.00	2.43
Between	0.76	1.02	0.62	0.30	0.44	0.34	0.93	0.60
Within	2.42	2.65	2.55	1.50	1.37	1.73	2.08	1.83
Between/Excess	24.00	27.86	19.65	16.48	24.22	16.23	30.86	24.65

<i>For Continuing Firms:</i>								
	1995	1996	1997	1998	1999	2000	2001	2002
Excess	3.26	2.68	3.06	1.82	2.63	2.50	2.20	2.34
Between	0.58	0.34	1.01	0.58	0.93	0.24	0.60	0.80
Within	2.67	2.34	2.04	1.24	1.70	2.26	1.61	1.54
Between/Excess	17.96	12.60	33.14	31.90	35.36	9.68	27.09	34.24

The same analysis could be done defining groups in different ways. When firms are defined by export status there are 3 groups ($s = 1 ; 2 ; 3$) as well as when they are defined by dimension. We consider the workers movement among size and export orientation groups in each sector. In this case, we work with the mean value of SUM and NET (weighted for the sector share) for each group in each year. In this case the excess index is in the range $[0, 2*3]$. Tables 22 and 23 show the results. The prevalence of between-sector employment shifts is still more evident when plants are divided by export status and size. Only 18.63% (on average) of excess job reallocation is explained by employment shifts between plants of different size. The share falls to 17.38% if we consider only the continuing firms. The percentage is similar (16.05% and 17.86, respectively) if firms are classified by their trade orientation. Classifying workers in different categories (Table 24 and 25), we get the same results as in the sectoral level. The main difference regards male workers. Contrary to the sectoral level pattern, when firms are divided on the base of their export status or size, the between component contribution to total churning is higher among male than female workers.

The striking message of these tables is just that excess job reallocation plays a small role in explaining between-sector employment shifts in all years. As a result, the vast majority of excess job reallocation is within sectors and is linked to firm level heterogeneity. Moreover, increasing trade liberalisation with the EU and MENA countries does not impact on job reallocation among groups in these cases. This is surprising, since traditional models of international trade suggest that trade liberalisation impacts exporting and non-exporting firms quite differentially. Hence, one might have expected to observe

significant, or at least non zero values of the between-sector component when sectors were defined by their trade orientation. The opposite results could indicate that there are simultaneous economy-wide

Table 22: Employment shift between and within Export Status Groups

<i>For Entry, Exit and Continuing Firms:</i>												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Excess	0.57	0.59	0.61	0.36	0.39	0.40	0.42	0.32	0.57	0.59	0.61	0.36
Between	0.11	0.14	0.09	0.03	0.03	0.12	0.06	0.03	0.11	0.14	0.09	0.03
Within	0.47	0.44	0.52	0.33	0.36	0.28	0.36	0.29	0.47	0.44	0.52	0.33
Between/Excess	18.59	21.41	14.71	9.67	7.99	27.56	20.92	7.53	18.59	21.41	14.71	9.67
<i>For Continuing Firms:</i>												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Excess	0.54	0.47	0.40	0.38	0.44	0.47	0.35	0.32	0.54	0.47	0.40	0.38
Between	0.07	0.10	0.04	0.07	0.06	0.17	0.10	0.04	0.07	0.10	0.04	0.07
Within	0.47	0.37	0.36	0.31	0.38	0.31	0.26	0.28	0.47	0.37	0.36	0.31
Between/Excess	12.80	19.67	9.89	18.44	14.47	28.54	24.87	14.17	12.80	19.67	9.89	18.44

Table 23: Employment shift between and within Size Groups

<i>For Entry, Exit and Continuing Firms:</i>												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Excess	0.64	0.69	0.62	0.42	0.42	0.41	0.49	0.37	0.64	0.69	0.62	0.42
Between	0.08	0.09	0.06	0.02	0.01	0.11	0.08	0.01	0.08	0.09	0.06	0.02
Within	0.56	0.60	0.56	0.40	0.41	0.30	0.41	0.37	0.56	0.60	0.56	0.40
Between/Excess	10.93	13.09	10.53	5.58	3.43	27.98	20.48	2.54	10.93	13.09	10.53	5.58
<i>For Continuing Firms:</i>												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Excess	0.54	0.49	0.46	0.39	0.46	0.45	0.35	0.38	0.54	0.49	0.46	0.39
Between	0.04	0.03	0.03	0.02	0.04	0.04	0.05	0.06	0.04	0.03	0.03	0.02
Within	0.50	0.45	0.43	0.37	0.42	0.41	0.30	0.32	0.50	0.45	0.43	0.37
Between/Excess	7.45	7.59	6.92	7.11	10.63	9.91	16.71	15.39	7.45	7.59	6.92	7.11

macro shocks that dominate and offset the impact of trade liberalisation (Levinsohn, 1999). Indeed, between 1990 and 2002, Moroccan economy is shocked not only from the trade liberalisation process, but from a set of policy aimed at increase the country's competitiveness, such as privatisation and financial reforms. Finally, The small contribution of between reallocation to churning confirms the analysis of Roberts (1995) for Morocco. A similar phenomenon has been observed also in the U.S plant-level data (Davis and Haltiwanger, 1992) and in the Chilean manufacturing sector (Levinsohn, 1999 and Roberts, 1995).

8. Conclusion

In the last two decades, trade liberalisation has mainly been a characteristic of developing countries. The trade reform consequences have been substantial and widespread in all the branches of these societies. In particular, we investigate how trade policy affects household's welfare through the labour market channel. The existing literature suggests that in developing countries tariff reductions impacts more on wages than on the employment level. Recently, some authors have shown the importance of examining the determinants of low net employment change and they show the importance of the churning effect, i.e. the workers reallocation. Following the methodology suggested by Davis and Haltiwanger (1990), we analyse the churning effect in the Moroccan economy. First of all, the parametric and non parametric analysis on employment growth rates suggest that exporters and small firms present much more instability, mostly in terms of entry and exit. However, the growth rates are close to zero. To investigate what is hidden behind this static pattern, we compute the job creation, job destruction and job reallocation indexes. First of all, the simultaneous variation of job creation and job destruction in each sector is great. With regard to the dynamic path, one notices that there is not a significant change in the turnover index across the years. This is confirmed by a set of regression which fail to capture a significant structural break. On the other side, there is a lot of variation across sectors. In particular, the Food and Beverage, Textile and Clothing sectors (the most important sector in the Moroccan economy) and the electrical industry (new sector that increased its export share in the last years) have higher turnover rates. Moreover, the magnitude of churning in Morocco is relevant and closes to the evidence provided by Levinsohn (1999) for Chile, Davis and Haltiwanger (1996) for USA, Konings et.al (2003) for Ukraine and slightly lower than the value for Latin America countries (Krugler et.al, 2004). Classifying firms on the base of their trade orientation, we could see that exporter and irregular exporters have higher rate of job reallocation and react to trade liberalisation in different ways. First of all, job creation is higher among exporters and irregular exporters, but the three groups don't differ in term of job destruction.

First of all, as widely demonstrated in the literature on job reallocation, also in Morocco churning is higher in small than in medium and large firms and this pattern doesn't change when we disaggregate total employment in different categories. Secondly, higher job reallocation in small firms is driven by higher job creation and higher job destruction (mainly with regard to permanent workers). Contrary, large firms present the lowest rate of job reallocation, job creation and job destruction. Hence, small and large firms react in a different way to the economic reforms: while large firms consolidate their position, small firms are more vulnerable and instable. The higher job destruction rate recorded among small firms and non exporters could be explained also by their ability to violate labour market laws. Indeed, due to their own characteristics these firms are at the border of the economic and hence less subject to legislative controls. Furthermore, since the Moroccan data set contains quite detailed information about the type of labour used in each plant, we distinguish labour by employment relation, gender or by job type. Churning analysis suggest that churning is higher among temporary workers, female workers and skilled workers. Moreover, trade liberalisation impact mainly on temporary workers, by sharply increasing their job reallocation. Finally, the decomposition of the churning effect shows that, in all years, simultaneous job creation and job destruction within industries (or within size and export groups in each sector) accounts for the vast majority of total turnover (70% on average). This suggests that firm heterogeneity is the key issue to understand job reallocation in the Moroccan economy. The provided evidence suggests that the effect of increasing trade liberalisation (and privatisation process) on Moroccan labour markets is quite worrying. First of all, greater openness will increase job instability, in particular among temporary workers. Secondly, without a sustained economic growth, the lack of a boost in job creation matched with population growth and rural migration, will rise the urban unemployment rate despite being high already (21.4%, Agenor and El Aynaoui, 2003). Hence, trade policies should be matched with labour market policies, which should not be only focused on the sector of activity but should take into account also firm heterogeneity. In particular, plant size, trade orientation and workers type are three key features for policymakers.

Appendix: Tables

Table 4: Sectors code and description

Sector	Code
INDUSTRIES ALIMENTAIRES	15
INDUSTRIE TEXTILE	17
INDUSTRIE DE L'HABILLEMENT ET DES FOURRURES	18
INDUSTRIE DU CUIR ET DE LA CHAUSSURE	19
TRAVAIL DU BOIS ET FABRICATTON D'ARTICLES EN BOIS	20
INDUSTRIE DU PAPIER ET DU CARTON	21
EDITION, IMPRIMERIE, REPRODUCTION	22
INDUSTRIE CHIMIQUE	24
INDUSTRIE DU CAOUTCHOUC ET DES PLASTIQUES	25
FABRICATION D'AUTRES PRODUITS MINERAUX NON METALLIQUES	26
METALLURGIE	27
TRAVAIL DES METAUX	28
FABRICATION DE MACHINES ET EQUIPEMENTS	29
FABRICATION DE MACHINES DE BUREAU ET DE MATERIEL INFORMATIQUE	30
FABRICATION DE MACHINES ET APPAREILS ELECTRIQUES	31
FABRICATION D'EQUIPEMENTS DE RADIO, TELEVISION ET COMMUNICATION	32
FABRICATION D'INSTRUMENTS MEDICAUX,DE PRECISION D'OPTIQUE ET D'HORLOGERIE	33
INDUSTRIE AUTOMOBILE	34
FABRICATION D'AUTRES MATERIELS DE TRANSPORT	35
FABRICATION DE MEUBLES, INDUSTRIES DIVERSES	36

Table 8: Female Workers Share on Total Employment by Export Status

Year	Trade Status	Number of Plants	Mean	Standard Deviation	Min	Max
1992	NonExporter	3366	.15	.21	0	1,00
	Exporter	1135	.55	.33	0	1,00
	IrregularExp	1082	.31	.31	0	1,00
1993	NonExporter	3436	.13	.19	0	1,00
	Exporter	1126	.54	.33	0	1,00
	IrregularExp	1138	.30	.31	0	1,00
1994	NonExporter	2297	.16	.22	0	1,00
	Exporter	986	.60	.50	0	1,00
	IrregularExp	1059	.33	.55	0	0,63
1995	NonExporter	2329	.16	.21	0	1,00
	Exporter	1004	.56	.33	0	1,00
	IrregularExp	1065	.32	.31	0	1,00
1996	NonExporter	2231	.16	.20	0	1,00
	Exporter	991	.57	.33	0	1,00
	IrregularExp	1024	.33	.46	0	0,47
1997	NonExporter	2362	.17	.20	0	1,00
	Exporter	974	.61	.78	0	0,97
	IrregularExp	989	.35	.59	0	1,00
1998	NonExporter	2284	.19	.21	0	1,00
	Exporter	988	.59	.31	0	1,00
	IrregularExp	946	.33	.31	0	1,00
1999	NonExporter	2168	.20	.21	0	1,00
	Exporter	1024	.58	.31	0	1,00
	IrregularExp	924	.34	.47	0	1,00
2000	NonExporter	2136	.21	.24	0	1,00
	Exporter	1092	.59	.41	0	1,00
	IrregularExp	925	.33	.35	0	1,00
2001	NonExporter	2196	.21	.21	0	1,00
	Exporter	1314	.57	.32	0	1,00
	IrregularExp	903	.33	.30	0	1,00
2002	NonExporter	1876	.22	.21	0	1,00
	Exporter	1253	.59	.31	0	1,00
	IrregularExp	795	.33	.30	0	1,00

Table 9: Temporary Workers Share on Total Employment by Export Status

Year	Trade Status	Number of Plants	Mean	Standard Deviation	Min	Max
1990	NonExporter	3327	0.07	0.17	0	0.99
	Exporter	1047	0.13	0.25	0	0.99
	IrregularExp	939	0.09	0.20	0	0.98
1991	NonExporter	2964	0.08	0.16	0	0.99
	Exporter	924	0.14	0.25	0	0.99
	IrregularExp	929	0.10	0.19	0	0.95
1992	NonExporter	3390	0.07	0.17	0	0.99
	Exporter	1142	0.12	0.24	0	0.99
	IrregularExp	1086	0.09	0.20	0	0.95
1993	NonExporter	3431	0.05	0.14	0	0.99
	Exporter	1123	0.11	0.23	0	0.99
	IrregularExp	1136	0.08	0.18	0	0.98
1994	NonExporter	2012	0.10	0.18	0	1.00
	Exporter	850	0.13	0.23	0	0.99
	IrregularExp	908	0.12	0.20	0	0.97
1995	NonExporter	2001	0.12	0.20	0	0.98
	Exporter	836	0.15	0.25	0	1.00
	IrregularExp	880	0.13	0.21	0	0.97
1996	NonExporter	1823	0.13	0.21	0	0.99
	Exporter	760	0.14	0.24	0	0.99
	IrregularExp	785	0.14	0.21	0	0.98
1997	NonExporter	1788	0.11	0.19	0	0.98
	Exporter	654	0.15	0.24	0	0.99
	IrregularExp	702	0.14	0.23	0	0.98
1998	NonExporter	1437	0.11	0.19	0	0.96
	Exporter	546	0.16	0.25	0	0.95
	IrregularExp	563	0.14	0.23	0	0.94
1999	NonExporter	1119	0.13	0.20	0	0.95
	Exporter	484	0.16	0.26	0	0.97
	IrregularExp	447	0.14	0.22	0	0.91
2000	NonExporter	978	0.11	0.18	0	1.00
	Exporter	442	0.14	0.24	0	0.98
	IrregularExp	425	0.11	0.20	0	0.96
2001	NonExporter	1252	0.09	0.18	0	0.96
	Exporter	608	0.16	0.27	0	1.00
	IrregularExp	502	0.10	0.21	0	0.97
2002	NonExporter	731	0.12	0.19	0	0.98
	Exporter	369	0.20	0.29	0	0.97
	IrregularExp	285	0.12	0.21	0	0.95

Table 14: Churning by Sector (weighted average)

Continuing Firms

	Job Destruction	Job Creation	Job Reallocation	Net Change
1995	0.09	0.11	0.20	0.02
1996	0.08	0.12	0.20	0.04
1997	0.07	0.11	0.18	0.04
1998	0.07	0.08	0.15	0.01
1999	0.11	0.08	0.19	-0.03
2000	0.08	0.10	0.18	0.02
2001	0.07	0.08	0.15	0.01
2002	0.08	0.07	0.15	-0.01

Entry, Exit and Continuing Firms

	Job Destruction	Job Creation	Job Reallocation	Net Change
1995	0.10	0.12	0.23	0.02
1996	0.12	0.13	0.25	0.01
1997	0.13	0.11	0.24	-0.02
1998	0.11	0.06	0.18	-0.05
1999	0.14	0.07	0.20	-0.07
2000	0.13	0.08	0.20	-0.05
2001	0.11	0.11	0.22	0.00
2002	0.18	0.06	0.24	-0.11

Table 15 : Worker Groups comparison (t-test on SUM)

	Continuing Firms			Entry, Exit and continuing		
	Perm VS Temp	Female VS Male	Skilled VS Unskilled	Perm VS Temp	Female VS Male	Skilled VS Unskilled
1995	-0.29 (0.00)**	0.07 (0.01)**		-0.28 (0.00)**	0.06 (0.01)*	
1996	-0.31 (0.00)**	0.07 (0.01)*	0.09 (0.00)**	-0.30 (0.00)**	0.08 (0.01)*	0.09 (0.00***)
1997	-0.14 (0.00)**	0.06 (0.08)*	0.08 (0.00)**	-0.15 (0.00)**	0.08 (0.01)**	0.08 (0.00***)
1998	-0.08 (0.02)*	0.02 (0.47)	0.10 (0.00)**	-0.07 (0.11)	0.03 (0.31)	0.10 (0.00***)
1999	-0.38 (0.00)**	0.03 (0.09)*	0.06 (0.01)*	-0.38 (0.00)**	0.05 (0.02)*	0.07 (0.00***)
2000	-0.20 (0.00)**	0.09 (0.24)	0.00 (0.98)	-0.25 (0.00)**	0.07 (0.34)	0.00 (0.85)
2001	-0.17 (0.00)**	0.11 (0.13)	0.04 (0.34)	-0.20 (0.00)**	0.13 (0.07)*	0.03 (0.47)
2002	-0.36 (0.00)**	0.04 (0.03)*		-0.29 (0.05)*	0.04 (0.06)*	

Table 16 : Job Creation VS Job Destruction by Workers Categories (t-test)

Continuing Firms

	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
1995	-0.02 (0.14)	0.00 (0.97)	-0.22 (0.00)**	-0.03 (0.26)	0.01 (0.55)		
1996	-0.06 (0.05)*	-0.01 (0.56)	-0.17 (0.07)*	-0.02 (0.32)	-0.01 (0.58)	0.03 (0.58)	0.02 (0.66)
1997	0.00 (0.90)	0.01 (0.80)	0.00 (0.92)	-0.03 (0.10)	0.00 (0.90)	0.06 (0.06)*	0.00 (0.78)
1998	-0.01 (0.48)	-0.02 (0.15)	0.02 (0.48)	-0.03 (0.04)	-0.02 (0.25)	-0.06 (0.12)	-0.02 (0.20)
1999	0.05 (0.18)	0.00 (0.93)	0.07 (0.59)	-0.02 (0.33)	0.01 (0.55)	-0.01 (0.62)	-0.01 (0.47)
2000	-0.02 (0.04)*	-0.04 (0.00)**	0.09 (0.14)	0.04 (0.60)	-0.04 (0.01)*	0.01 (0.44)	-0.05 (0.10)
2001	-0.01 (0.36)	-0.01 (0.44)	-0.15 (0.00)**	-0.08 (0.29)	-0.01 (0.59)	-0.05 (0.07)*	0.00 (0.98)
2002	-0.01 (0.41)	-0.01 (0.27)	0.07 (0.56)	0.00 (0.99)	-0.02 (0.12)		

Entry, Exit and Continuing Firms

	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
1995	0.02 (0.13)	-0.01 (0.73)	0.22 (0.00)**	0.02 (0.45)	-0.02 (0.32)		
1996	0.04 (0.29)	-0.01 (0.44)	0.16 (0.09)*	-0.01 (0.81)	-0.01 (0.70)	-0.03 (0.53)	-0.02 (0.55)
1997	-0.03 (0.10)	-0.03 (0.23)	-0.06 (0.29)	0.01 (0.78)	-0.02 (0.28)	-0.05 (0.06)*	0.00 (0.94)
1998	-0.04 (0.01)*	-0.02 (0.42)	-0.06 (0.14)	-0.01 (0.70)	-0.02 (0.35)	0.05 (0.11)	0.01 (0.32)
1999	-0.09 (0.04)*	-0.01 (0.50)	-0.09 (0.51)	0.00 (0.92)	-0.03 (0.11)	0.01 (0.74)	0.01 (0.60)
2000	-0.10 (0.03)*	0.00 (0.90)	-0.20 (0.03)*	-0.06 (0.41)	0.00 (0.99)	-0.01 (0.28)	0.04 (0.14)
2001	-0.01 (0.50)	0.00 (0.86)	0.11 (0.03)*	0.07 (0.36)	-0.01 (0.27)	0.04 (0.14)	-0.01 (0.91)
2002	-0.16 (0.07)*	-0.15 (0.05)*	-0.16 (0.20)	-0.18 (0.05)*	-0.16 (0.08)*		

Table 17: Turnover Composition by Workers Categories & Export Status (OLS Regression)

Entry, Exit and Continuing Firms								
Dep Var	ExpStatus	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
SUM	expZ	0.031	-0.019	0.064	-0.016	0.013	0.093	-0.006
		-1.89	-1.76	-1.72	-0.83	-1.06	-1.51	-0.32
	irrZ	-0.013	-0.026	-0.056	0.029	-0.02	-0.012	0.044
	R-squared	-0.8	(2.35)*	-1.54	-1.48	-1.79	-0.2	(2.39)*
POS	expZ	0.037	0.004	0.087	0.005	0.014	-0.006	-0.013
		(3.53)**	-0.51	(2.74)**	-0.35	-1.69	-0.46	-1.12
	irrZ	0.017	-0.005	0.009	0.026	-0.005	-0.013	0.027
	R-squared	-1.65	-0.65	-0.31	-1.62	-0.64	-0.92	(2.28)*
NEG	expZ	-0.006	-0.023	-0.023	-0.021	-0.001	0.1	0.007
		-0.5	(2.86)**	-0.92	-1.52	-0.13	-1.63	-0.52
	irrZ	-0.03	-0.021	-0.065	0.004	-0.015	0	0.017
	R-squared	(2.46)*	(2.62)**	(2.64)**	-0.24	-1.8	0	-1.23
Continuing Firms								
Dep Var	ExpStatus	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
SUM	Exp	0.026	-0.014	0.021	0	0.014	-0.075	0.012
		(2.39)*	-1.85	-0.6	-0.03	-1.52	(5.98)**	-0.79
	Irr	0.023	0.004	-0.027	0.062	0.004	-0.04	0.057
	R-squared	(2.18)*	-0.56	-0.81	(3.85)**	-0.51	(3.17)**	(3.75)**
POS	Exp	0.026	0	0.056	0.003	0.011	-0.034	-0.01
		(2.90)**	-0.07	-1.79	-0.2	-1.4	(3.45)**	-0.99
	Irr	0.024	0.005	0.019	0.038	0.002	-0.025	0.018
	R-squared	(2.67)**	-0.86	-0.62	(2.68)**	-0.22	(2.53)*	-1.77
NEG	Exp	0	-0.014	-0.035	-0.003	0.003	-0.041	0.022
		-0.03	(2.84)**	-1.69	-0.32	-0.46	(4.24)**	-1.93
	Irr	0	-0.001	-0.046	0.024	0.003	-0.015	0.038
	R-squared	-0.06	-0.24	(2.29)*	(2.29)*	-0.48	-1.52	(3.37)**

Table 18: Turnover Composition by Workers Categories & Size (OLS Regression)

Entry, Exit and Continuing

Dep Var	Size	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
SUM	medZ	-0.061 (6.55)**	-0.136 (3.25)**	-0.075 (5.07)**	-0.045 (4.27)**	-0.032 -1.23	-0.008 -0.52
	largeZ	-0.111 (12.00)**	-0.189 (4.76)**	-0.141 (9.56)**	-0.074 (7.02)**	-0.004 -0.16	0.003 -0.19
	R-squared	0.45	0.2	0.42	0.65	0.05	0.04
POS	medZ	-0.026 (4.10)**	-0.056 -1.63	-0.023 -1.94	-0.024 (3.17)**	-0.02 -1.27	-0.017 -1.92
	largeZ	-0.055 (8.65)**	-0.082 (2.49)*	-0.063 (5.44)**	-0.041 (5.31)**	-0.012 -0.73	-0.026 (2.92)**
	R-squared	0.35	0.09	0.29	0.51	0.05	0.09
NEG	medZ	-0.035 (4.81)**	-0.079 (2.57)*	-0.053 (4.95)**	-0.021 (2.38)*	-0.012 -0.56	0.009 -0.66
	largeZ	-0.056 (7.79)**	-0.107 (3.62)**	-0.078 (7.37)**	-0.033 (3.82)**	0.007 -0.35	0.029 (2.13)*
	R-squared	0.3	0.2	0.32	0.38	0.03	0.04

Continuing Firms

Dep Var	Size	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
SUM	Med	-0.03 (4.71)**	-0.079 (2.02)*	-0.038 (2.93)**	-0.018 (2.16)*	-0.008 -0.76	0.012 -1.31
	Large	-0.063 (9.98)**	-0.13 (3.52)**	-0.082 (6.39)**	-0.035 (4.35)**	-0.051 (4.87)**	-0.035 (3.76)**
	R-squared	0.41	0.16	0.44	0.69	0.18	0.12
POS	Med	-0.011 (2.05)*	-0.024 -0.76	-0.011 -1.03	-0.009 -1.29	0.001 -0.18	-0.004 -0.52
	Large	-0.036 (6.60)**	-0.062 (2.07)*	-0.046 (4.47)**	-0.02 (2.79)**	-0.017 (2.14)*	-0.026 (3.61)**
	R-squared	0.26	0.11	0.29	0.46	0.1	0.07
NEG	Med	-0.019 (4.58)**	-0.054 (2.24)*	-0.027 (3.39)**	-0.008 -1.39	-0.009 -1.21	0.016 (2.37)*
	Large	-0.027 (6.71)**	-0.068 (2.96)**	-0.036 (4.47)**	-0.015 (2.55)*	-0.033 (4.25)**	-0.009 -1.35
	R-squared	0.28	0.22	0.3	0.47	0.12	0.08

Table 19: Excess Job Reallocation by Sectors.

Excess = SUM - NET 			
Sector	Code	Mean	St.Dev.
INDUSTRIES ALIMENTAIRES	15	0.243	0.038
INDUSTRIE TEXTILE	17	0.126	0.059
INDUSTRIE DE L'HABILLEMENT ET DES FOURRURES	18	0.149	0.050
INDUSTRIE DU CUIR ET DE LA CHAUSSURE	19	0.118	0.041
TRAVAIL DU BOIS ET FABRICATION D'ARTICLES EN BOIS	20	0.129	0.053
INDUSTRIE DU PAPIER ET DU CARTON	21	0.124	0.072
EDITION, IMPRIMERIE, REPRODUCTION	22	0.106	0.056
INDUSTRIE CHIMIQUE	24	0.079	0.084
INDUSTRIE DU CAOUTCHOUC ET DES PLASTIQUES	25	0.089	0.053
FABRICATION D'AUTRES PRODUITS MINERAUX NON METALLIQUES	26	0.126	0.070
METALLURGIE	27	0.042	0.073
TRAVAIL DES METAUX	28	0.148	0.059
FABRICATION DE MACHINES ET EQUIPEMENTS	29	0.077	0.060
FABRICATION DE MACHINES DE BUREAU ET DE MATERIEL INFORMATIQUE	30	0.022	0.031
FABRICATION DE MACHINES ET APPAREILS ELECTRIQUES	31	0.138	0.126
FABRICATION D'EQUIPEMENTS DE RADIO, TELEVISION ET COMMUNICATION	32	0.028	0.046
FABRICATION D'INSTRUMENTS MEDICAUX, DE PRECISION D'OPTIQUE ET D'HORLOGERIE	33	0.046	0.048
INDUSTRIE AUTOMOBILE	34	0.079	0.058
FABRICATION D'AUTRES MATERIELS DE TRANSPORT	35	0.074	0.050
FABRICATION DE MEUBLES, INDUSTRIES DIVERSES	36	0.067	0.067

Table: Excess Job Reallocation among Size and Export Status: OLS Regression

By Export Status							
Continuing Firms							
ExpStatus	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
Exp	0.026 (2.78)**	-0.041 (4.39)**	0.046 (2.48)*	-0.053 (5.32)**	-0.006 -0.66	-0.02 (2.05)*	0.013 -1.1
Irr	-0.006 -0.68	-0.046 (4.95)**	-0.028 -1.5	-0.023 (2.25)*	-0.029 (3.29)**	-0.03 (3.09)**	0.002 -0.15
R-squared	0.37	0.36	0.31	0.31	0.57	0.28	0.07
Entry, Exit and Continuing							
ExpStatus	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
expZ	0.047 (4.09)**	-0.03 (3.09)**	0.087 (3.69)**	-0.044 (2.81)**	-0.008 -0.8	-0.02 (2.04)*	0.013 -1.09
irrZ	-0.004 -0.33	-0.046 (4.74)**	-0.032 -1.4	-0.016 -0.98	-0.039 (4.33)**	-0.03 (3.07)**	0.002 -0.13
R-squared	0.45	0.4	0.45	0.34	0.66	0.28	0.06
By Size							
Continuing Firms							
Size	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
Med	-0.018 (3.11)**	-0.048 (11.38)**	-0.099 (6.30)**	-0.07 (9.75)**	-0.024 (4.46)**	-0.015 (2.50)*	0.012 (2.36)*
Large	-0.038 (6.35)**	-0.086 (20.55)**	-0.157 (10.00)**	-0.116 (16.14)**	-0.082 (15.30)**	-0.085 (13.89)**	-0.036 (6.87)**
R-squared	0.49	0.66	0.36	0.52	0.76	0.5	0.36
Entry, Exit and Continuing							
Size	Total Employment	Permanent Workers	Temporary Workers	Female Workers	Male Workers	Skilled Workers	Unskilled Workers
medZ	-0.028 (3.64)**	-0.073 (12.06)**	-0.152 (8.22)**	-0.096 (11.70)**	-0.051 (7.27)**	-0.036 (3.32)**	-0.014 -1.62
largeZ	-0.063 (8.37)**	-0.139 (22.88)**	-0.213 (11.52)**	-0.185 (22.64)**	-0.119 (17.11)**	-0.075 (6.97)**	-0.035 (4.14)**
R-squared	0.51	0.69	0.41	0.63	0.74	0.31	0.21

Table 21 : Excess By Workers Categories & Sector*For Continuing Firms:*

	1995	1996	1997	1998	1999	2000	2001	2002
Permanent Workers								
Excess	3.69	3.15	3.64	2.20	2.92	2.12	2.76	2.66
Between/Excess	31.43	21.59	35.88	23.83	27.00	5.98	26.18	19.99
Temporary Workers								
Excess	5.17	6.39	6.78	4.02	9.73	5.24	3.38	9.75
Between/Excess	0.45	24.51	44.15	37.46	59.11	52.85	16.37	55.19
Female Workers								
Excess	4.90	5.27	4.62	2.83	3.85	4.68	4.26	4.20
Between/Excess	30.68	21.09	14.53	15.48	24.84	34.78	27.05	38.67
Male Workers								
Excess	3.97	3.95	3.94	2.74	3.30	2.77	3.26	2.71
Between/Excess	20.97	26.08	30.34	26.38	21.13	9.50	24.61	18.28
Skilled Workers								
Excess		5.75	4.40	3.80	4.84	4.06	4.26	
Between/Excess		33.73	23.75	21.25	21.38	20.76	21.05	
Unskilled Workers								
Excess		4.03	3.98	2.44	3.36	3.32	4.32	
Between/Excess		32.43	23.55	20.97	26.80	14.06	53.40	

Table 24 : Excess By Workers Categories & Export Status*For Continuing Firms:*

	1995	1996	1997	1998	1999	2000	2001	2002
Permanent Workers								
Excess	0.50	0.44	0.44	0.39	0.46	0.43	0.41	0.41
Between/Excess	9.07	12.95	8.00	13.38	6.17	9.85	11.64	10.17
Temporary Workers								
Excess	1.00	0.84	0.65	0.79	1.03	1.20	1.00	0.94
Between/Excess	23.73	19.26	13.86	12.99	15.07	35.59	32.30	11.26
Female Workers								
Excess	0.82	0.72	0.69	0.58	0.61	0.59	0.59	0.54
Between/Excess	13.34	9.21	6.63	9.40	9.16	4.69	4.29	7.53
Male Workers								
Excess	0.51	0.55	0.52	0.42	0.50	0.53	0.50	0.41
Between/Excess	9.56	14.15	9.32	10.05	9.73	13.49	15.29	8.65
Skilled Workers								
Excess	0.35	0.25	0.30	0.32	0.32	0.24	0.18	0.31
Between/Excess	47.93	16.70	21.44	45.78	27.66	21.40	14.09	31.57
Unskilled Workers								
Excess	0.34	0.17	0.25	0.16	0.26	0.30	0.22	0.23
Between/Excess	23.98	6.64	25.11	9.62	18.32	20.66	17.31	32.99

Table 25: Excess By Workers Categories & Size*For Continuing Firms:*

	1995	1996	1997	1998	1999	2000	2001	2002
Permanent Workers								
Excess	0.50	0.48	0.46	0.40	0.47	0.45	0.43	0.47
Between/Excess	7.28	5.01	7.14	8.23	3.96	5.58	10.21	8.37
Temporary Workers								
Excess	1.05	1.05	1.08	0.96	1.11	0.96	0.89	1.14
Between/Excess	4.01	9.95	17.34	13.25	7.12	25.52	23.07	17.38
Female Workers								
Excess	0.74	0.78	0.65	0.59	0.62	0.63	0.62	0.68
Between/Excess	4.74	12.23	4.23	4.55	5.14	8.00	7.30	8.24
Male Workers								
Excess	0.60	0.59	0.56	0.46	0.52	0.53	0.52	0.46
Between/Excess	11.24	11.76	12.59	10.40	4.43	9.47	10.06	8.14
Skilled Workers								
Excess	0.39	0.34	0.37	0.31	0.29	0.30	0.29	0.36
Between/Excess	20.81	19.48	24.61	14.04	24.25	13.26	32.81	17.45
Unskilled Workers								
Excess	0.25	0.31	0.25	0.22	0.21	0.18	0.23	0.30
Between/Excess	20.11	8.55	15.51	31.65	14.80	19.93	7.12	21.39

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4.2 Parametric evidence

Another way to investigate the relationship between trade, jobs, and firm size is to use OLS regression-based methods. This approach has several drawbacks and one advantage. Among its drawbacks, there is no theoretical supporting for the regression nor careful consideration of the properties of the disturbance term, size dummies are almost surely correlated with the disturbance term, the dependent variable only varies between -2 and 2, and the normality assumption is almost surely wrong. It's advantage is that one is able to estimate conditional correlations. This is no small advantage since it allow to test whether firm size and export status are still systematically related to job growth, even after controlling for macro shocks. In particular, we would control how exchange rate policy and the liberalisation process influence the relationship between export orientation and employment growth.

As a first step, growth rates are regressed on firm size dummies, trade orientation dummies and years using simple OLS estimation. Analysing the coefficient in the first column of Table 13, we get the same picture of the kernel density estimation: large and medium firms present lower growth rates as well as non exporters. Moreover, years are significant and negative after 1997: this could suggest that the trade agreements signed after 1995 impact negatively on employment growth rates. If we exclude entry and exit firms, we get a different picture (Column 3, Table 13). First of all, in this case employment reorganisation doesn't vary across export orientations, since the export status coefficient is no more significant. This result echoes the growth rates reported in Table 8, which are very similar across trade orientation groups in each year. Secondly, medium and large firms adjust more often their labour force, since the size dummy coefficient is positive and significant. Thirdly, the coefficient size is smaller supporting the previous result that entry and exit firms have a big impact on job creation and destruction. Furthermore, in this case, the year dummies decrease their significances. This could suggest that trade liberalisation impact more on firm entry and exit than on employment reorganisation.

Table 13: Results of OLS regression, growth rate as dependent variable

	1		2		3		4	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
Size	-0.02***	-4.03	-0.02***	-3.99	0.01***	3.84	0.01***	3.86
ExpStatus	0.01***	2.82			0.00	0.9		
Y1990	(dropped)		(dropped)		(dropped)		(dropped)	
Y1991	-0.11***	-6.47	-0.14***	-6.92	0.02	1.69	0.00	0.28
Y1992	0.02**	1.37	-0.03*	-1.27	-0.03**	-2.7	-0.03**	-2.41
Y1993	0.01	0.75	-0.01	-0.6	0.03**	2.86	0.04**	2.58
Y1994	-0.09***	-5.13	-0.12***	-5.22	-0.03**	-2.61	-0.04**	-2.56
Y1995	0.01	0.49	-0.02	-0.87	0.00	-0.17	-0.02	-1.42
Y1996	-0.01	-0.57	0.00	-0.03	0.00	0.18	0.00	0.05
Y1997	-0.05**	-2.92	-0.07**	-2.93	-0.02*	-2.05	-0.03**	-2.26
Y1998	-0.04**	-2.16	-0.06**	-2.61	0.00	-0.12	-0.02	-1.25
Y1999	-0.07***	-3.68	-0.08***	-3.52	-0.03*	-2.13	-0.03	-2
Y2000	-0.06***	-3.44	-0.07**	-2.89	-0.01	-0.8	0.00	0.3

Y2001	(dropped)		(dropped)		0.01	1.15	0.03*	1.97
Y2002	-0.06***	-3.04	-0.17***	-7.04	(dropped)		(dropped)	
ExpStatus_90			(dropped)				(dropped)	
ExpStatus_91			0.03**	2.4			0.02**	2.39
ExpStatus_92			0.05***	3.78			0.00	0.26
ExpStatus_93			0.01	0.58			-0.01	-1.55
ExpStatus_94			0.01	0.94			0.01	0.91
ExpStatus_95			0.01	0.9			0.02**	2.67
ExpStatus_96			-0.04***	-3.02			0.00	-0.2
ExpStatus_97			-0.01	-0.45			0.01	1.19
ExpStatus_98			0.00	0.21			0.02**	2.27
ExpStatus_99			-0.01	-0.41			0.00	0.44
ExpStatus_00			-0.02*	-1.34			-0.03**	-2.48
ExpStatus_01			-0.03*	-1.79			-0.03**	-2.79
ExpStatus_02			0.13***	8.3			0.00	-0.36
Constant	0.16***	10.55	0.19***	10.21	-0.02	-1.5	-0.01	-0.88
Dependent Variable	g_firmE		g_firmE		g_firm		g_firm	
N°obs	27922		26,600		26,600		27922	
R_Squared	0.0067		0.004		0.004		0.0067	

As a second and last step, we interact the export status dummy with the year dummy, in order to capture the impact of Moroccan Dirham appreciation and depreciation on exporters behaviour. While size and year dummies are still significant and negative, the interacted variable is significant and positive in 1991 and 1992, before the introduction of the currency peg. However, more interesting is the sign of this regression in 2000 and 2001. The negative and significant coefficient could indicate a lagged response to dirham appreciation. Indeed, during 1999 and 2000 the euro was weak against the US dollar, and the dirham rose against the euro and the euro-zone currencies, reducing the competitiveness of some Moroccan exports, notably textiles, and causing a fall in export sales and job losses. On the other side, the positive and significant coefficient in 2002 echo the positive effect of the devaluation, implemented in 2001 by the Moroccan Central Bank. Comparing Column 2 and column 4 of Table 13, we get that the dirham appreciation impact negatively on employment reorganisation in 2000 and 2001, but the following devaluation doesn't exert a positive influence on employment growth. Finally, these results are robust to other estimation methods. In particular, to take into account the unbalanced nature of our data set, we estimate the regressions with plant-level fixed and random effect. Also under these specifications, the parametric evidence is consistent with the previous nonparametric evidence. The parametric and non-parametric analysis suggests a link between employment growth, trade orientation and firm size. In particular, exporters and irregular exporters present much more volatility, mostly in term of entry and exit. Hence an increasing trade liberalisation could be worrisome from a labour market point of view. With regard to firm size, medium and large firms have lower growth rate; i.e. there is much more instability among small firms, mostly in term of entry and exit. Finally, both trade liberalisation process and exchange rate policy seem impact on employment growth rates.

