International Trade and Women's Labour Market Outcomes: Evidence from Indian Manufacturing

by

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Chapter 7: CONCLUSION

This thesis carries out an empirical investigation of the impact of trade liberalization, trade participation and technology related factors on gender differences in labour market outcomes in India's organised manufacturing sector. We focus on three aspects of the labour market: female employment intensity, gender differences in job dynamics (job creation, job destruction and job reallocation rates) and gender wage gap. The analysis has been carried out using industry and plant level panel data from India's organized (formal) manufacturing sector covering the period between 1998 and 2008. The study period witnessed far-reaching trade liberalization in India, particularly in consumer goods industries. In this context, an important question is whether trade can be used as an instrument to stimulate higher participation of women in the labour market. This thesis contributes to the literature by undertaking a detailed demand side analysis of the trade related determinants of various labour market outcomes for women in the Indian context. In what follows we briefly summarize the findings from the thesis and also outline some broad policy implications.

In Chapter 3, using industry and plant level data, we examined the broad trends and patterns in female employment intensity (FEI). It is observed that the average FEI in the Indian manufacturing sector over the period 1998 to 2008 is 11.3% which is quite low compared to other countries at similar levels of development. We also note that FEI has remained fairly constant in the study period. However, on examining FEI across various sectoral classifications, we find that these aggregate numbers mask significant heterogeneities at the industry and plant level. Industries are classified on the basis of their trade orientation - exporting, import-competing, and non-competing – as well as along the lines of their factor intensity – primary and resource intensive, unskilled labour intensive, and capital intensive. It is seen that FEI is high and increasing in unskilled labour intensive and exporting industries: these are typically the industries where developing countries like India, with relative abundance of unskilled labour, enjoy comparative advantages. In 2008, FEI in the unskilled labour intensive segment of the exporting industries was 23%. By contrast, import competing and non-competing industries, where India is likely to have a comparative disadvantage, record lower FEI of 5.6% and 6.5% respectively, in 2008. We also note that, irrespective of trade orientation, capital-intensive industries tend to employ

relatively fewer female workers. Similar patterns are observed when we examine FEI across industries classified at the NIC 2 digit level with FEI being high in traditional low-skilled manufacturing sectors such as textiles and apparel, and lower in modern manufacturing sectors such as heavy machinery or electronics.

Our findings, based on the descriptive data analysis in Chapter 3, are consistent with the argument that technological modernization generally creates a bias against female workers. Several studies have shown that, during the period of economic liberalization, India's capital intensive industries have witnessed faster growth as compared to traditional labour-intensive industries. This pattern of growth is an anomaly given that India's natural comparative advantage is in unskilled labour-intensive production activities. It may be argued that, due to this skewed growth pattern in favour of capital and skill intensive industries, trade liberalization did not lead to significant employment gains for India's female workers at the aggregate level. Women constitute a sizeable portion of India's unskilled workers: the average female worker has lower educational attainment, and hence is less skilled, than the average male worker. Thus, while we noted that women's employment share has been rising in the unskilled labour intensive exporting sector, the slow pace of growth in this sector has held back the process of feminization in India's manufacturing sector. This pattern is in contrast to the experience of other developing countries, particularly in East Asia and Mexico, during the period of trade liberalization.

Another important observation in Chapter 3 is that a large proportion of plants in the manufacturing sector do not employ any female workers at all. In the year 2007-08, about 24% of the formal manufacturing sector plants employed women workers. The FEI at these plants that do employ women was 45.5%, which is much higher than the aggregate FEI in the manufacturing sector. We examined the trends and patterns in female employment propensity (FEP), measured as the proportion of plants that employ women out of total manufacturing plants, and FEI by categorizing plants along several dimensions. We find that the propensity to employ women does not automatically translate into higher FEI. For example, plants are categorized into size quartiles based on real gross value added and we note that while FEP is high in larger plants, these plants generally record the lowest value of FEI. We also find that though only a small proportion plants in the Private sector employ female workers, FEI is

found to be the highest in these plants. Consistent with the pattern observed in industry level data, we find that unskilled labour intensive exporting sector record higher level of FEI as well as FEP.

From the descriptive analysis, using plant and industry level data, it was apparent that trade and technology related characteristics of industries and plants are important in determining the gender composition of the workforce. This issue is then econometrically analysed in Chapter 4.We examine the impact of trade and technology related factors on FEI both at the industry and the plant level. In addition, using plant level data, we examine if these factors explain FEP – that is, the probability that a plant will employ women workers. Our results show that trade and technology related factors play a similar role in determining the probability as well as the intensity of employing women workers. We find that the reduction in import tariffs increases FEI implying that women's share in workforce increases as domestic firms face greater competition. This is expected as firms seek to reduce costs by hiring the more 'cheap and flexible' female labour. We also find that greater export orientation, particularly in unskilled labour intensive industries, contributes to female employment growth. However, greater import penetration, which is typically higher in industries where India has a comparative disadvantage, has a negative impact on FEI. Further, greater participation in global production networks, along the lines of comparative advantage, is found to increase FEI. Greater use of new technology and capital intensive production tends to bias the gender composition of workforce against females.

At the aggregate level, trade liberalization has not led to a major increase in employment opportunities for female workers in India. This is due to the fact that the resource reallocation effect of trade liberalization – that is, reallocation of resources from import competing (capital intensive) to export oriented (labour intensive) industries - has not been strong enough. The fast growing industries have been capital and skill intensive (where India does not have a comparative advantage) rather than labour-intensive (where India has a comparative advantage). This idiosyncratic growth pattern has held back substantial employment growth for women workers in India.

India's industrial structure had been built during the import substitution period by following a strategy which can be characterized as 'comparative-advantage-defying'. While the earlier policy regime created a bias in favour of capital and skill intensive manufacturing, the reforms since 1991 have not been comprehensive enough to reduce, let alone remove, this bias. Though the post-1991 policy changes have gone a long way toward product market liberalization by easing the entry barriers, the factor markets (labour and land) are still plagued by severe distortions and policy induced rigidities. In particular, India's archaic labour laws create severe exit barriers and hence discourage large firms in manufacturing from choosing labour-intensive activities and technologies (Panagariya, 2007). Our econometric results, particularly with respect to variables representing export orientation and participation in global production sharing, suggest that employment opportunities for India's female workers would have been much higher had the country followed 'comparative advantage conforming' policies – that is, policies to exploit static comparative advantage.

In order to better analyse the full range of impact that integration with the world economy can have on the labour market it is important to move beyond the analysis of net employment changes and examine the issue of job dynamics. Most of the previous studies, on employment effects of international integration, have focussed on analysing the impact on changes in 'net' employment. These net employment changes, however, do not cover the full range of impacts that international exposure can exert on labour markets. Further, the usually employed measures of trade openness such as import penetration and export orientation are indicative of long-run industry characteristics. Labour markets in open economies are prone to substantial short-run shocks generated due to international exposure through trade. Exchange rate fluctuations are an important source of these short-run shocks. These shocks may be internalized by domestic firms through channels of job creation or job destruction. For example, in response to currency depreciation, which is positive shock for domestic exporters, firms may choose to job creation or reduce job destruction, the implications for welfare of workers being very different in the two scenarios. In Chapter 5, for the first time, we provide detailed gender differentiated job dynamics measures - job creation, job destruction, and job reallocation – and study the impact of real exchange rate generated changes in international competitiveness on the job dynamics for male and female workers.

The results show that there are no systematic gender differences in job dynamics in the Indian manufacturing sector at the aggregate level. Given the fact that women's employment intensity, in Indian manufacturing, is fairly constant during the period under consideration, it is not surprising that there no differences in job dynamics for male and female workers. This picture at the aggregate level notwithstanding, we find that there are substantial industry wise gender differences in job dynamics. We also note that a large part of the industry wise variation in job dynamics is unexplained by gender, industry, and year fixed effects indicating that time varying characteristics at the industry level matter in explaining the variation in job dynamics.

It is held that exchange rate fluctuations are an important source of internationally generated shocks for the labour market. We also note that the nature and degree of trade exposure can affect the impact of exchange rate fluctuations on job dynamics. The competitiveness of domestic producers, relative to foreign counterparts, improve when an export oriented or import competing industry faces currency depreciation. This in turn can exert a positive impact on net employment that occurs either through higher job creation or lesser job destruction. However, industries which rely heavily on imported intermediate inputs, are expected to behave differently in the aftermath of depreciation. For, depreciation of the real exchange rate makes intermediate inputs more expensive for domestic producers leading to a loss in competitiveness, which in turn may result in lower net job creation (through lesser job creation or higher job destruction).

In order to capture the full effect of real exchange rate generated changes in international competitiveness on job dynamics we use a relative wage cost based exchange rate interacted with different measures of trade openness (i.e. export orientation, import penetration, and global production sharing) at the industry level as the major explanatory variable. It should also be noted that labour market institutions could play an important role in determining the impact of the changes in international competitiveness on job dynamics. For example, the existence of rigidities in the labour market, that makes it difficult for firms to retrench workers, could result in an asymmetric response in terms of labour demand. In such cases we may observe that,

in response to an adverse shock firms being unable to fire workers, i.e increase job destruction, only respond through the channel of (lower) job creation.

Our econometric analysis show that more gross jobs are created domestically when Indian firms gain international competitiveness and this effect is greater in industries that are more export oriented. Further, this effect is similar for both male and female workers. However, Indian firms do not respond to adverse international shocks through job destruction. In fact, the results show that, job destruction rates do not even respond to changes in market signals like wages or input prices. It is well known that the labour laws pertaining to organized manufacturing sector in India are stringent with regard to firing of workers. Hence it is not surprising that Indian producers are unable to respond to changing economic circumstances by retrenching the workforce.

The results in Chapter 5 show that gains in international competitiveness leads to greater net job creation for male workers but has no significant impact on female workers. Additionally, we find that in industries with greater degree of informalization, depreciation leads to lower job creation rate for women workers. This result is consistent with our finding in Chapter 4 that industries with greater share of contract workers record lower FEI. It appears that certain industries respond to short term improvement in international competitiveness by increasing jobs for contract workers, which comes at the cost of formal jobs for female labour. If firms find it difficult to make downward workforce adjustments during the times of adverse shocks, it restricts their ability to hire 'permanent' workers when they face positive shocks. Under these circumstance, it make perfect business sense to hire contract workers.

From our analysis of employment, in terms of levels of employment as well as job dynamics, we find that there are some channels of trade participation that improve job prospects for women while others play a dampening effect. In order to complete our discussion on the effects of trade liberalization on labour market outcomes, Chapter 6 examines the issue of gender wage inequality. It is possible that while trade liberalization increases women's share in employment, it could come at cost of lower

wages. Increasing share in employment can be accompanied by decreasing share in wages if the wage rates for female workers are reduced more than proportionately.

Analysis using plant level data shows that gender wage inequality, in terms of gender wage ratio as well as gender wage share, has shown a decline during the study period (Chapter 6). The gender wage ratio increased from 0.27 in 1998-99 to 0.40 in 2007-08. Thus, in 2007-08, for every one Rupee earned by the average male worker, the average female worker earned only 40 paisa. We also find, consistent with our findings in Chapter 3, that female wage share (FWS), measured as the ratio of female wage bill in total manufacturing worker wage bill is the highest and increasing in the unskilled labour intensive segment of the exporting sector. In 2007-08, for this group of industries, 22.6% of the manufacturing worker wage bill was accounted for by female workers. By contrast, women's wage share was much lower in the import competing and non-competing sectors with 5.1% and 6.6% of FWS in 2007-08.

In Chapter 6, we also econometrically analyse the impact of tariff liberalization on gender wage inequality using plant level panel data. We examine the impact of import tariff liberalization as well as export tariff liberalization (that is, tariff reduction by India's trading partners) on FWS at the plant level. After controlling for plant level technology and other trade characteristics, we find that women's wage share increases as tariff rates decline, giving credence to the hypothesis that domestic producers are unable to gender discriminate in a more competitive environment. This effect was found in exporting as well as in import competing industries. However, tariff reduction had no impact on women's wage share in non-competing industries. We also note that the levels of gender wage inequality are generally lower in unskilled labour intensive industries compared to capital intensive industries. Tariff reduction reduces gender wage inequality further in unskilled labour intensive sectors but tariff reduction increases wage inequality in capital intensive sectors. We also find that greater use imported intermediate inputs have a positive impact on FWS while increasing capital intensity at the plant has a negative impact on FWS. Our results with respect to the impact of tariff liberalization on gender wage inequality are consistent with our findings on FEI. This may imply that job gains for women in some sectors have not come at the cost of more than proportionately reduced wages for them. However, certain structural peculiarities of India's manufacturing sector have

prevented women from becoming a major part of the workforce and hence have had dampening effect on their overall wage share.

It is clear that trade liberalization can contribute positively or negatively towards overall female employment and wage earnings depending on the relative importance of opposing channels. While the cost reduction effect resulting from heighted competitive pressure and resource reallocation effects stimulate greater female employment and wages, the technology channel works in the opposite direction. The fact that, at the aggregate level, we fail to observe large growth of female employment in India's organized manufacturing during post liberalization period may imply that the negative technology effect may have been offsetting the positive effects of trade liberalization on women's employment.

The resource reallocation effect has not been strong enough to generate huge employment opportunities for women at the aggregate level. This is consistent with the observation that the pattern of India's industrial specialization shows a fundamental disconnect with its relative endowments in that despite being a labour-abundant country, India tends to specialize in capital and skill intensive industries and services (Kochhar et al 2006; Panagariya, 2008; and Krueger, 2010). The fast growing exports from the country are either skilled labour-intensive (such as drugs and pharmaceuticals and fine chemicals) or capital-intensive (such as automobiles and parts). The share of capital-intensive products in India's manufacturing export basket more than doubled from about 23% in 1990 to nearly 54% in 2010 while the share of unskilled labour-intensive products nearly halved from 43% to 22% (Veeramani, 2012). Further, due to its idiosyncratic specialization, India has also been locked out of the vertically integrated global supply chains in manufacturing industries (Veeramani, 2013; Athukorala, 2014). Encouraging growth along the lines of comparative advantage and integrating India with global value chains is crucial for improving women's labour outcomes in India.

Trade liberalization by itself does not guarantee specialization in line with the comparative advantage of a country if other policies militate against the efficient pattern of resource allocation. The fact that these rigidities are constraining Indian producers is also apparent from the fact that job destruction in Indian manufacturing

is unresponsive to market signals as seen in Chapter 5. India's labour laws, by encouraging capital-intensive production, provide an incentive to employ relatively more male workers. It has also been noted that, due to rigid labour laws, there is significant informalization of labour force in India's formal manufacturing industries. Our econometric analysis suggests that this process of informalisation has been occurring mainly at the cost of regular employment for female workers.

There is a large literature in the Indian context addressing the supply side issues that have resulted in low labour force participation rates in India including cultural factors, gender norms in society, the disproportionate burden of filial duties attended to by women, poor infrastructure etc. However, in this thesis we find that the lack of growth in unskilled labour intensive export oriented manufacturing industries could be an important demand side factor associated with low employment levels of women in the non-agricultural paid workforce. If appropriate policies are undertaken to ensure the growth of these sectors, we are likely to see an increase in women's employment as well as their relative wages. In addition, reducing labour market rigidities may induce firms to decrease the use of contract workers thereby increasing access of women to full-time work in the manufacturing sector. However, it should be noted that such increases in women's employment may be accompanied with a worsening of their working conditions and job security. Seguino & Grown, 2007 notes that while trade liberalization has often been associated with increasing women's employment and their short term incomes; women tend to be concentrated in unstable, low-paying jobs that do not help in the achievement of gender equity. They argue that women in open economies face insecure job markets because they provide the much needed 'cheap and flexible labour'. Thus liberalization of product and factor markets must be supplemented with appropriate macroeconomic policies and social safety nets. For example policies that promote the growth of unskilled labour intensive export oriented sectors with low price elasticity of demand would help raise women's relative wages without the shrinking of sectors that employ them. Or, appropriate incentives need to be designed such that firms employing larger proportions of women do not resist productivity enhancements in order to keep wages at low levels. A flexible labour market, with appropriate social safety nets, is a crucial necessary condition for the growth of formal manufacturing sector employment for female workers in India.