ECONSTOR
Make Your Publications Visible.

A Service of
ZBW
Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Siegmann, Karin Astrid

Conference Paper

Globalisation, Gender, and Equity: Effects of Foreign Direct Investment on Labour Markets in Rural Indonesia

Proceedings of the German Development Economics Conference, Göttingen 2007, No. 30

Provided in Cooperation with:
Research Committee on Development Economics (AEL), German Economic Association

Suggested Citation: Siegmann, Karin Astrid (2007) : Globalisation, Gender, and Equity: Effects of Foreign Direct Investment on Labour Markets in Rural Indonesia, Proceedings of the German Development Economics Conference, Göttingen 2007, No. 30, Verein für Socialpolitik, Ausschuss für Entwicklungsländer, Göttingen

This Version is available at:
https://hdl.handle.net/10419/19883

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

Globalisation, Gender, and Equity – Effects of Foreign Direct Investment on Labour Markets in Rural Indonesia

*Karin Astrid Siegmann**

This study assesses the impact of foreign direct investment (FDI) on gendered labour markets in rural Indonesia. It focuses on the gender composition of the workforce, female and male workers' employment conditions and gender wage inequality. The research strategy of »between-methods triangulation« is chosen, denoting the combination of quantitative and qualitative types of data generation and analysis.

Two underlying mechanisms have been identified. A »cost effect« associated with transnational corporations' (TNCs') greater orientation towards the world market is the preferential recruitment of, on average, lower paid female workers. In light of global competitive cost considerations, this appears as a rational strategy for TNCs. Conversely, foreign firms' advanced technological endowments relative to domestic companies require a well-educated workforce with technical skills. In light of these perspectives, gender gaps in education and, on average, women's weaker labour market attachment disadvantage female workers' employment in TNCs. Both effects are mediated by a »reproductive constraint«. This refers to the asymmetric distribution of reproductive obligations between female and male household members, whereby female input into the domestic economy is more demanding relative to that of males.

JEL classifications: J16, J31, J81, F02, F21, B41

Keywords: gender, globalisation, foreign direct investment, labour markets, Indonesia, economic methodology

* Sustainable Development Policy Institute, Islamabad. Generous financial support for the research underlying this article from the Robert-Bosch-Foundation is gratefully acknowledged. Comments by two anonymous reviewers helped to improve its argument. All remaining errors are solely my own.

Correspondence address:
Dr. Karin Astrid Siegmann, Sustainable Development Policy Institute (SDPI), PO Box 2342, Islamabad/Pakistan, e-mail: Karin@sdpi.org

Received 26 Aug 2004, accepted 29 Apr 2005

1. Introduction

This study assesses the impact of globalisation on gender equity in rural Indonesia.[1] The need to include a gender dimension into the analysis of international trade and investment flows was emphasised in 2004 by the Eleventh United Nations Conference on Trade and Development (UNCTAD) – UNCTAD XI. The conference embraced the issue of »Trade and Gender« as one of its three cross-cutting themes. At a regional level, the EU intends to support reforms in developing countries' trade and investment policies that also serve gender equality (EK 2001).

Indonesia has experienced both bright and dark sides of global economic integration and thus provides a good test case for this investigation. A gender dimension in Indonesia's development between »East Asian miracle« (World Bank 1993) and Asian financial crisis is commonly only noted in the margin:[2] on the one hand, the export-oriented development model of Southeast Asian economies drew large numbers of female workers into the paid labour market. On the other hand, the brunt of the social costs associated with the Asian financial crisis is assumed to be borne by women (Atinc / Walton 1999). They compensated formal sector layoffs of male household members by increased informal employment (Cameron 2002) and higher domestic working time (Thomas et al. 2000).

Whereas previous research analyses effects of globalisation on Indonesia based on structural change in urban areas, this study focuses on rural areas of the country. This is where the majority of the population lives and where gender gaps in access to education and income are wider than in urban parts of the country.

Foreign direct investment (FDI) is selected as an aspect of globalisation, which is a special concern for policy-makers in Indonesia. Particularly after the Asian financial crisis, it is hoped that investment from abroad helps to carry the massive public debt and that transnational corporations' (TNCs') activities create jobs in the troubled economy. This expectation is in stark contrast to the net FDI outflows since the crisis started in 1997 (Figure 2 below).

The investigation focuses on effects of FDI on gendered labour markets, considering the gender composition of the workforce, female and male workers' employment conditions, and gender wage inequality in foreign and domestic firms. Both productive work, remunerated at the labour market, and reproductive work in the domestic economy are looked at as interactions between the two spheres are assumed.

Aiming at an assessment of the gendered employment and equity effects of FDI in rural Indonesia, specifically the following research questions are addressed: 1. What is the quantitative employment effect of FDI for women and men, respectively, including reproductive work? 2. What is the gender-specific effect of FDI on the quality of employment? 3. What is the effect of FDI on gender wage inequality?

1 The article is based on Siegmann (2003).

2 The notion of ›gender‹ refers to socially constructed roles and socially learned behaviours and expectations associated with females and males (World Bank 2001).

2. Conceptual Framework

Economic research on gendered labour market results underlines the importance of supply-side determinants of women and men's work and wages, amongst them gender differences in the endowment with productive human capital (Mincer/Polacheck 1974, Mincer 1962). A newer literature stresses structural factors and links gender inequality in the labour market with processes of global economic integration (Çağatay 2001, Berik 2000, Braunstein 2000, Özler 2000, Seguino 2000a, 2000b and 1997, Joekes 1999, Standing 1999, Çağatay/Özler 1995). Especially, trade liberalisation in manufacturing is identified as a catalyst of female labour market integration. So far, few attempts have been made to identify causal influences between FDI and gender inequality in the labour market.

Three distinguishing features of FDI are assumed to mediate its labour market effects. These are TNCs' greater export-orientation, their higher degree of mobility as well as their technological advantage compared to their domestic competitors (Hanson 2001, Seguino 2000a). These characteristics can be assumed to influence gendered labour markets in the following manner (Figure 1):

Figure 1: FDI Effects on Gender-specific Labour Markets – Conceptual Framework

Export-orientation increases the relative demand for female labour. This higher quantity demanded is motivated by the lower wages female workers receive on average. They allow companies to compete more successfully in the world market (Seguino 2000b). Following Braunstein (2000), gender roles intervene in this relationship. According to her, the quantity demanded increases even more in economies where household structures prevail with a high degree of female responsibility for the family's sustenance, i.e. with a greater extent of female autonomy. This would lower female reservation wages and thus boost relative female employment further.

FDI effects on working conditions for female and male workers are supposed to be mediated by TNCs' comparatively higher mobility. It may weaken TNCs' workforces' bargaining power in times of troubled industrial relations as employers can stress their option of relocation. Combined with the previous aspect, namely the crowding of women in export-oriented industries, this may have a gendered impact, discouraging particularly female workers to protest against inadequate working conditions (Seguino 2000a). A second potential effect on gendered employment quality is equally arbitrated by TNCs' stronger cost orientation, associated with their higher propensity to export. The greater cost competition in the world market provides an incentive for employers to choose more precarious forms of employment in order to minimise fixed wage costs (Standing 1999).

Finally, for effects on gender wage differentials, two contrary effects are predicted. Gender wage inequality may increase through weakened bargaining power of female workers crowded in TNCs due to the outlined threat effect (Seguino 2000a). On the other hand, technology-intensive TNCs may reward the risen relative educational levels of female workers. FDI may thus induce a closure of the gender wage gap (UNCTAD 1999).

The following working hypotheses have been based on the conceptual framework presented above: it is assumed that increases in FDI lead to a relatively greater increase in paid employment for women than for men (H1a) and to a relatively higher increase in the total working time for women than for men (H1b). Besides, it is deducted that FDI leads to a general deterioration of the quality of employment. Its consequences are more severe for female jobs (H2). Furthermore, it is believed that FDI do not induce a decrease in gender wage inequality (H3).

3. The Indonesian Setting

In this section, the Indonesian setting is introduced. The role of FDI in the Indonesian economy as well as gender (in)equality in the labour market is highlighted.

Especially after 1986, substantial reforms were undertaken in Indonesia's investment policy. This led to a dramatic growth of the financial sector. During the following years, the country experienced a massive inflow of FDI that was reverted in the course of the Asian financial crisis (Figure 2).

Figure 2: FDI Net Inflows to Indonesia, 1986 to 2003

Source: World Bank (2005)

The upper line of Figure 2 underlines that the significance of foreign investment in Indonesia increased until the mid-1990s. However, even at the peak of FDI inflow, the ratio of foreign equity in total utilised capital never surpassed ten percent.

Initially, FDI inflows were mostly related to Indonesia's primary sectors. Since the 1980s, the focus of foreign investors has shifted to manufacturing. This sector combines about 60 percent of total cumulative realised FDI and 70 percent of all realised projects between 1967 and 2000 (BKPM 2000, quoted from Thee 2001). Direct labour market effects of FDI in the Indonesian economy are rather modest. This is linked to the moderate role of FDI in gross capital formation in the country reported above. Employment in TNCs as a percentage of total employment is around one percent. Beyond this, Hill (1991) sees indirect employment effects, for example close business ties between Indonesian exporters and foreign buyers, as employment-relevant.

In Indonesia, men are commonly regarded as household heads and primary breadwinners. Consequently, women's contributions to household income are usually perceived as supplemental and women as being »supporters« of their husbands (JICA 1999). This perception influences the Southeast Asian country's labour markets.

Indonesia is characterised by pronounced gender gaps in access to resources. The gender gap in education is almost closed for primary education. It increases with the level of educational attainment caused by priority given to boys' higher education and the large extent of child marriages, mainly in rural areas (JICA 1999).

The ILO Convention No. 100 on Equal Remuneration for Men and Women for Work of Equal Value has been signed by the Indonesian government in 1958. Nonetheless, the gender wage differential persists, although it declined both in rural and urban areas. Whereas in 1986 women's hourly wages represented 58 percent of males' pay in rural Indonesia, they had risen to 65 percent in 1997 (Feridhanusetyawan/Aswicahyono 2001).

As compared to other Southeast Asian countries, female labour market participation (FLMP) of 61 percent in 1999 is relatively high. The corresponding male figure is 81 percent (Genderstats 2005). Labour market integration of women increased during the period of export-led growth in Indonesia. The growth was more pronounced for urban areas because new employment opportunities were found in urban manufacturing and the level of female participation in the agricultural labour force was already high. Male labour market participation (MLMP) decreased, partly caused by the longer years they spent in schooling.

Figure 3: Gender-specific Sectoral Employment in Indonesia, 2001

Source: BPS (2002)

Although the overall significance of agriculture in the economy has decreased, agriculture is the main employer for both women and men, providing work for almost half of both working females and men (Figure 3). For women workers, manufacturing, trade, and other services employment is most important thereafter. The higher export-orientation after 1986

has catalysed female labour market integration. This reflects the risen importance of female employment in manufacturing. Besides manufacturing and trade, the construction sector looms large as employer for male workers.

4. Methodology

Gender biases in labour markets form the starting point for this study. They are reflected in the quantitative data sources and methods commonly applied for economic analyses of the labour market. Therefore, this investigation chooses an innovative methodology for the study of FDI effects on gendered labour markets in rural Indonesia. Such »between-method triangulation« combines quantitative and qualitative methods of data generation and analysis (Denzin 1989).

Berik (1997) emphasises three reasons why gender economists should make use of the complementarities of quantitative and qualitative methods. Firstly, quantitative surveys commonly applied in empirical economic research often show male biases. A typical example is the notion of work, which is often understood differently by women and men (Ilahi 2000, Raharto 1992). Secondly, survey data typically generated for economic analysis focuses on outcomes, such as employment, expenditure, wealth etc. Qualitative methods may allow for more flexibility in the conceptualisation and measurement of economic processes such as entry into wage labour, discrimination, or impoverishment. Thirdly, the expansion of economic analysis to fields of, so far, marginal concern to the discipline may be helped by the use of the more flexible qualitative methods. In the context of this investigation, this is particularly relevant for the analysis of the quality of employment and reproductive work.

Quantitative data that are considered for this paper are chiefly taken from recent household and establishment surveys of the *Badan Pusat Statistik* (BPS), the Indonesian Central Bureau of Statistics. Those are the Indonesian National Socio-Economic Survey (Survei Sosial Ekonomi Nasional, SUSENAS), the 1999 Large Estates Inventory, the 1996 Annual Manufacturing Survey as well as the 2000 Hotel and Other Accommodation Inventory.

Qualitative data were generated through focus group discussions (FGDs) conducted by the author in 2002. The distinguishing feature of FGDs is that data generation takes place through group interaction on a subject defined by the researcher (Morgan, 1996).[3] It is carried out with a small number of six to twelve selected individuals. FGDs have the advantage of generating a large and diverse amount of information in a limited period of time, that is, commonly not more than two hours. They tend to reduce individual inhibitions and hence may reveal information which might not be obtained in individual interviews. This may be especially relevant for gender-related research. FGDs are found to have the capacity to give a voice to marginalised people (Madriz 2000, Montell 1999) and to allow participants a fair degree of control over their own interactions (Morgan 1996).

3 An overview over the technique can be found in Morgan (1996).

The FGDs took place in the following four sectors of rural Indonesia: in the large estate sector in district Deli Serdang, North Sumatra, in mining in the East Kutai district, East Kalimantan, in manufacturing in Karawang, West Java, and in the hotel sector of Badung, Bali. For the selection of research sites and sectors, a combination of stratified purposeful and intensity sampling has been applied. »Stratified purposeful sampling« refers to the selection of cases which capture major variations of variables of interest (Patton 1990). Stratification criteria applied are (i) main economic sector and (ii) geographic diversity in order to capture sector-specific recruitment and wage-setting mechanisms as well as (some of) the enormous socio-cultural diversity of the country. »Intensity sampling« refers to the selection of cases which display variables of interest with high intensity (Patton 1990). Relevant variables for the analysis are (iii) a high presence of FDI and (iv) high absolute employment, which are therefore chosen as selection criteria. The total cumulative value of realised FDI from 1967 to 2000 for the primary sector was highest in mining, reaching a value of US-$ 4.6 billion. For services, the hotel and restaurant sector attracted most FDI during the same period (US-$ 4.2 billion). Regarding selection criterion (iii), these two industries were therefore seen as most appropriate candidates for field research. According to selection criterion (iv), agriculture absorbs the largest share of the workforce in the primary sector. Two of its sub-sectors, mining and estates, are chosen due to this sector's particular significance for rural Indonesia. For services, most workers – 17.5 million – were employed in the trade, hotel and restaurant sub-sector (BPS 2002). Hotels was the services sub-sector selected for fieldwork. Manufacturing was not further differentiated into sub-sectors.

The quantitative data were analysed with the help of econometric and decomposition techniques.

Regarding the analysis of determinants of relative female employment, the central variable of interest is FDI. It is operationalised as the percentage of foreign capital in a firm's total capital stock. Further, it is explored whether an interaction between gender-specific human capital endowment and effects of FDI on relative female employment exists. Such joint effects play a prominent role in the discussion of the macro-economic impact of FDI (Lipsey 2000, Borensztein et al. 1998, Dasgupta et al. 1996). In addition to FDI as a simple regressor, it is therefore interacted with a dummy representing an above average percentage of female workers with secondary education of total female workers.

To assess determinants of relative female employment (RELFEM) in rural Indonesia, three models are estimated: firstly, the impact of a vector of control variables (X') such as size, capital intensity, or the establishment's export-orientation on the extent of its relative female employment (RELFEM) is tested (model 1). Secondly, FDI and its interactions with export-orientation (EXPORT), with the level of female human capital (HC) as well as interactions between FDI and the gender gap in education are included additionally (model 2). Finally, the specification is expanded by a proxy for the extent of female autonomy within the household (FEMREP) as well as its interaction with FDI in order to test for the validity of Braunstein's (2000) model mentioned above (model 3). Relative female representation in provincial governments is applied as a substitute for the unobserved autonomy variable.

$$\text{(model 1)}\ RELFEM = \hat{\alpha}_0 + \hat{\alpha}_1 X' + u_1$$

$$\text{(model 2)}\ RELFEM = \hat{\gamma}_0 + \hat{\gamma}_1 X' + \hat{\gamma}_2 FDI + \hat{\gamma}_3 FDI \cdot EXPORT + \hat{\gamma}_4 HC' + \hat{\gamma}_5 FDI \cdot HC + u_2$$

$$\text{(model 3)}\ RELFEM = \hat{\delta}_0 + \hat{\delta}_1 X' + \hat{\delta}_2 FDI + \hat{\delta}_3 FDI \cdot EXPORT + \hat{\delta}_4 HC' + \hat{\delta}_5 FDI' \cdot HC + \hat{\delta}_6 FEMREP + \hat{\delta}_7 FDI \cdot FEMREP + u_3$$

with u_i=disturbance term

In order to examine the effect of FDI on gender wage inequality, a wage equation is estimated for female and male wage earners, respectively. Besides commonly included predictors such as formal education (EDUCAT), experience (EXPER), and number of working hours (LNHOURS), it also contains concentration of FDI by sector and region (FDIPOP) as one of the explanatory variables. The inclusion of an FDI proxy is based on the assumption that employment in TNCs can be a structural factor that influences workers' productivity and thus their remuneration. Its interactions with education (FDINTER) are checked as it is argued above that for FDI to unfold its effects on the host economy a certain threshold value of human capital endowment has to be reached. The natural log of female and male monthly cash wages (LNWAGE) represents the dependent variable.

The estimated specification can be formalised as follows:

$$\text{LN}WAGE_i = \hat{\beta}_{0i} + \hat{\beta}_1 \text{LN}HOURS_i + \hat{\beta}_2 EDUCAT_i + \hat{\beta}_3 EXPER_i + \hat{\beta}_4 FDIPOP_i + \hat{\beta}_5 FDINTER_i + u_i$$

with i=female (f), male (m); u_i=disturbance term

The estimation results were decomposed into their »explained« and »unexplained« parts following a technique developed by Oaxaca (1973). According to this approach, gender wage differentials can be decomposed like this:

$$\ln(1 - G) = \bar{z}_f{}' \Delta\hat{\beta} - \Delta\hat{z}' \hat{\beta}_m$$

G denotes the raw wage differential, that is the difference in average male and female wages, (here) weight by the average male wage. $\bar{z}_i{}'$ represents a vector of mean values of productivity-relevant traits of female and male wage-earners, and $\hat{\beta}_i$ refers to the respective estimated coefficients. The second part of the expression $(\Delta\bar{z}'\hat{\beta}_m)$ is related to gender-specific differences in productive endowments and represents the explained part of the wage differential. The first part $(z_f{}'\Delta\hat{\beta})$ refers to differences in the female and male coefficients, i.e., the differential evaluation of an identical bundle of traits by the market if possessed by women and men, respectively (Blinder 1973). This part identifies the unexplained, discriminatory fraction of the wage differential. The focus here is on the explanatory power of the various regressors in the explained part of the differential $(\Delta\bar{z}'\hat{\beta}_i)$, the coefficient of the FDI-variable, as well as its contribution to the »explanation« of the gender wage gap.

The results of the econometric and decomposition analysis were then compared and contrasted with the determinants of gendered work and wages as identified in the thematic analysis of the FDGs. Transcripts of the FGDs were classified with codes derived from relevant variables in the quantitative datasets. For the codes »gendered employment«, »gendered wages« and »gendered employment quality«, all relevant quotations were grouped according to foreign or domestic ownership. It was then assessed whether and in which way the type of ownership influences the respective variable.

5. Results and Discussion

The results of the investigation show that an assessment of the hypotheses depends on the specific sector under consideration. For example, whereas, according to the quantitative analysis, a larger foreign share in a plantation firm's capital stock is associated with higher relative female employment, the opposite is true for hotel employment (H1a) (table 1).

Table 1: FDI Effects on Gender-specific Market Work in Rural Indonesia

H1a	FDI increases female employment more than male employment.	
	Quantitative Data	Qualitative Data
Estates	Positive FDI effects on relative female employment**. Positive interaction with gender-specific educational differences** and female autonomy*.	No FDI effects on relative female employment.
Mining[1]	–	Positive FDI effects on relative female employment.
Manufacturing	Negative FDI effects on relative female employment**. Positive interaction with export orientation** and female human capital**.	Positive FDI effects on relative female employment (possibly sampling effect).
Hotel sector	Negative FDI effects on relative female employment**. Positive interaction with female autonomy**.	Positive FDI effects on relative female employment (possibly sampling effect).

1 No quantitative data available for Mining.

* Coefficient significant on a 90 percent level. ** Coefficient significant on a 95 percent level.

In mining, more concern for working conditions is found in foreign firms than in the plants of their domestic competitors. For hotels, employment quality appears to be influenced by establishment size, and in manufacturing by – gender-typed – sectoral factors rather than by firm ownership (H2) (table 2).

Regarding equity effects of FDI, it was found that FDI influences female as well as male wages positively across sectors. Whether it closes the gender wage differential is an issue apart, though (H3). Among others, it depends on the segregation of female and male workers in FDI-intensive (sub-)sectors.

Table 2: FDI Effects on Gender-specific Quality of Employment in Rural Indonesia

H2	FDI leads to a deterioration of employment conditions, with more severe consequences for female employees. Qualitative Data[1]
Estates	No FDI effects on gender-specific quality of employment.
Mining	Positive FDI effects on gender-specific quality of employment. More observation of safety and health at the work place and less extent of temporary employment in foreign enterprises.
Manu-facturing	No FDI effects on gender-specific quality of employment (possibly sampling effect).
Hotel sector	Negative FDI effects on gender-specific quality of employment (possibly sampling effect).

1 No quantitative data available for the analysis of gender-specific quality of employment.

Assuming the female wage structure to prevail in the non-discriminatory case, a decomposition of the gender-related wage differential in rural Indonesia indicates a modest, but positive direct contribution of FDI to a closure of the gap (table 3). In this interpretation, Psacharopoulos / Tzannatos' (1992) approach is followed. They read a female advantage in endowments in combination with a positive coefficient of the respective productive trait as contributing to a reduction of the wage differential. Accordingly, an on average longer female work experience is assumed to contribute to a closure of the gender wage gap if experience raises wage levels.

Table 3: Oaxaca Decomposition of Gender-specific Wage Differentials in Rural Indonesia, 2001

	Female wage structure	
	Explained share of wage differential ($\Delta z \cdot \beta_f$ of monthly wage in IDR[1])	Explained share of raw wage differential (%)
Raw gender-specific wage differential ($\ln w_m - \ln w_f = 0.62$)	–	–
FDI	0.00	0.23
Interaction FDI/formal education (FDINTER)	-0.01	-1.26
FDI VARIABLES	–	-1.03
Working hours (LNHOURS)	0.12	20.10
Formal education (EDUCAT)	0.09	14.74
Work experience (EXPER)	-0.05	-8.15
HUMAN CAPITAL VARIABLES	–	26.69
Total	–	25.66

Note: List of variables see appendix 1.
1 Indonesian Rupiah

Source: BPS (2001); own calculations

Yet, the analysis of the FGDs shows that processes increasing the gender gap in education and in labour market attachment especially in rural Indonesia play an indirect role in hindering women workers from benefiting from wage premia paid in foreign companies. Thus, indirectly, FDI widens the gender wage differential.

The only working hypothesis supported in all sectors studied is H1b: employment in foreign firms always increases female total working time. However, this effect is not specific to TNC employment, but to female compared to male labour market integration in general. It is attributed to the rigidity of gender norms, which ascribe female rather than male household members the primary responsibility for reproductive work, independent of their labour market participation.

This varied picture qualifies simple assumptions of TNC activity to lead to increased gender equality in employment and – via upward pressure on female wages – to a reduction of gender wage differentials. However, two underlying mechanisms can be identified as generating the sectorally differing results (figure 4).

Figure 4: FDI Effects on Gender-specific Labour Markets – A New Conceptual Framework

A »cost effect« associated with the greater orientation toward the world market, and thus more stress on cost considerations of TNCs, makes preferential recruitment of – on average lower paid – female workers a rational strategy for these enterprises. Conversely, foreign firms' advanced technological features relative to domestic companies require a well-educated workforce with technical skills. Given this perspective, gender gaps in education, particularly pronounced in rural Indonesia, and female workers' weaker labour market attachment in the form of hours worked and length of employment disadvantage female workers' employment in TNCs.

Table 4: Determinants of Relative Female Employment in Large Estates, 1999, and in the Rural Hotel Sector, 2000 (Tobit estimates)

	Plantations		Hotel sector	
	Coefficient (z-statistics)	Stand. Coeff.	Coefficient (z-statistics)	Stand. Coeff.
Dependent variable: relative female employment				
Constant	36.18 (5.41)*		41.69 (28.85)*	
FDI	0.16 (1.92)*	0.16	-0.11 (-3.31)*	-0.05
Female human capital (HC)	-11.70 (-4.04)*	-0.24	-3.77 (-4.59)*	-0.11
FDI · HC	0.05 (0.72)	0.03	-0.11 (-1.33)	-0.05
(Other variables not reproduced)				
N	436		2,175	
Corr. R-square	0.21		0.22	
Log likelihood	-1,881.49		-8,995.96	

Notes: Binary variables for oil palm plantations and state ownership are not reproduced for the estimates for large estates; star classification of hotels, western Indonesia and a variable capturing the distance to the next seaport are not reproduced for the estimates for the hotel sector. Lists of variables see appendices 2 and 3.

* Coefficient significant on a 95 percent level.

Sources: BPS (2000 und 1999); own calculations

This may, for example, explain the positive association of foreign ownership with relative female employment among field workers in plantations compared to the contrary result in rural accommodation establishments (table 4). In contrast to hotels, plantation employment is less influenced by formally acquired skill considerations. The cost effect is thus driving FDI effects on the gender composition of the workforce in estates, whereas a »technology effect« is at work in rural hotels.

On the whole, in the empirical analysis the technology effect is found to be a more relevant factor than the cost effect for the determination of the gender composition of the workforce.

Both effects are mediated by a »reproductive constraint«. It refers to the asymmetric distribution of reproductive obligations between female and male household members,

more demanding by far for female than male work input in the domestic economy. This asymmetry, to the disadvantage of women, is legitimated by gender norms which ascribe men the role of the household's main breadwinner and women the task of a homemaker and secondary income earner. As stated above, this structure is found to be relatively inelastic with respect to the labour market, for instance wage movements, and therefore considered a constraint for rather than a result of particularly female market labour supply.

The reproductive constraint mediates the technology effect, for example, as it brings about a higher female labour turnover due to childbirth and childcare. Consequently, acquisition of skills is discouraged for women due to their weaker labour market attachment. In addition, from the employer's perspective, on the job training of female workers is less probable to generate returns for the same reason. This is of special relevance for human capital-intensive TNCs. The reference to ascribed gender roles also legitimates the cost effect. Gender norms depicting women as secondary income earners lower their reservation wages, thus legitimising the comparatively poorer female wages.

Likewise, the reproductive constraint intervenes into FDI effects on employment quality for the female and male workforce. The most obvious entry point is the relatively weaker bargaining power of female workers as their disposable time is squeezed by labour supply to the reproductive economy. As a result, their active participation in trade unions is demotivated. Although the commonly larger and more visible foreign firms have a comparative advantage in organising the workforce, consequently, women's interests are less well-represented in unions.

Last but not least, women's obligations in the household influence gender wage differentials. The reduced recruitment of female workers in skill- and/or technology-intensive jobs in TNCs due to their lower levels of formal schooling and their weaker attachment to the labour market mean that the associated wage premia rather benefit male workers, thus increasing gender wage inequality.

6. Conclusions

The framework developed here allows to explain processes of feminisation and defeminisation as well as movements of the gender wage gap in the course of rural Indonesia's tighter integration into the global economy. It does so by referring to the counterrotating cost and technology effects brought forth by distinguishing features of FDI. Its effects are mediated by a reproductive constraint.

Between-method triangulation has increased the validity of the association between labour market results in rural Indonesia and FDI. The methodology permitted to qualify partially biased quantitative results as well as to capture economic processes' causalities more adequately. Moreover, between-method triangulation has facilitated the investigation of new fields, which have so far hardly been covered by quantitative data generation such as the area of reproductive work and employment conditions.

Besides, it offers starting points for intervention of various actors for more gender equality in labour markets. Short-term entries are improved by female access to technical training, the provision of childcare for the workforce as well as support for women in trade unions in order to strengthen female bargaining power in industrial relations. Long-term approaches would aim at more equal burden-sharing between women and men in reproductive tasks as their asymmetrical distribution is central in generating gender inequality in labour markets.

Appendices

Appendix 1: List of Variables – Determinants of Gender-specific Wages in Rural Indonesia

Variable	Definition	Operationalisation
LN WAGE	Wage	Natural logarithm monthly wage (IDR[1])
FDI	FDI	Cumulative FDI approvals by sector and province level 1967–1999 (in 1,000) US-$ per inhabitant
FDINTER	Interaction FDI · formal education	FDI · formal education (years)
LN HOURS	Working hours	Natural logarithm monthly working hours
EDUCAT	Formal education	Formal education (years)
EXPER	Working experience	Age – years of formal schooling – 6 – (0.25 · number of surviving children for women)

1 Indonesian Rupiah

Appendix 2: List of Variables – Survey Large Estates 1999

Variable	Definition	Operationalisation
RELFEM	Relative female employment	Share of permanent female farm workers in total permanent farm workers
FDI	FDI	Share of foreign capital in total capital
HC	Female human capital	Binary variable with 1 = above average percentage of permanent female farm workers with secondary education; 0 = average and below average percentage of permanent female farm workers with secondary education
FDI · HC	Interaction FDI and female human capital	Interaction FDI · HC

Appendix 3: List of Variables – Survey of Hotel Sector 2000

Variable	Definition	Operationalisation
RELFEM	Relative female employment	Share of female employees in total employees
FDI	FDI	Share of foreign capital in total capital
HC	Female human capital	Binary variable with 1 = above average percentage of female employees with secondary education; 0 = average and below average percentage of female employees with secondary education
FDI · HC	Interaction FDI and female human capital	Interaction FDI · HC

References

Atinc, Tamar M. / Walton, Michael (1999): Social Consequences of the East Asian Financial Crisis, Washington DC: The World Bank

Berik, Günseli (2000): Mature Export-led Growth and Gender Wage Inequality in Taiwan, in: Feminist Economics, Vol. 6, No. 3, pp. 1–26

Berik, Günseli (1997): The Need for Crossing the Method Boundaries in Economics Research, in: Feminist Economics, Vol. 3, No. 2, pp. 121–125

BPS (1999): 1999 Large Estates Inventory. Data provided on special request for the author, Jakarta

BPS (2000): 2000 Hotel and Other Accommodation Inventory. Data provided on special request for the author, Jakarta

BPS (2001): 2001 Indonesian National Socio-Economic Survey (SUSENAS). Data provided on special request for the author, Jakarta

BPS (2002): Labour Force Situation in Indonesia August 2001, Jakarta

Blinder, Alan S. (1973): Wage Discrimination: Reduced Form and Structural Estimates, in: The Journal of Human Resources, Vol. 8, No. 4, pp. 436–455

Borensztein, Eduardo / De Gregorio, José / Lee, Jong-Wha (1998): How Does Foreign Investment Affect Economic Growth?, in: Journal of International Economics, Vol. 45, No. 1, pp. 115–135

Braunstein, Elissa (2000): Engendering Foreign Direct Investment: Family Structure, Labor Markets and International Capital Mobility, in: World Development, Vol. 28, No. 7, pp. 1157–1172

Cameron, Lisa (2002): Women and the Labor Market During and After the Crisis, in: Robinson, Kathy/ Bessell, Sharon (eds.), Indonesian Women: Gender, Equity and Development, Singapore: Institute of South-East Asian Studies, pp. 144–157

Çağatay, Nilufer (2001): Trade, Gender and Poverty, UNDP background paper, New York, available at: http://www.undp.org/mainundp/propoor/docs/pov_tradegenderpoverty_doc.pdf

Çağatay, Nilufer / Özler, Şule (1995): Feminization of the Labor Force: The Effects of Long-Term Development and Structural Adjustment, in: World Development, Vol. 23, No. 11, pp. 1883–1894

Dasgupta, Susmita / Mody, Ashoka / Sinha, Sarbajit (1996): Japanese Multinationals in Asia: Capabilities and Motivations, World Bank Policy Research Paper, No. 1634, Washington DC, available at: http://econ.worldbank.org/files/657_wps1634.pdf

Denzin, Norman K. (1989): The Research Act. A Theoretical Introduction to Sociological Methods, 3rd edition, Englewood Cliffs: Prentice Hall

Europäische Kommission (EK) (2001): Mitteilung der Kommission an den Rat und das Europäische Parlament – Gleichstellung der Geschlechter als Querschnittsaufgabe für die Entwicklungszusammenarbeit der Gemeinschaft. Ein Aktionsprogramm, Dokument KOM (2001) 295 endg., Brussels, available at: http://europa.eu.int/eur-lex/de/com/cnc/2001/com2001_0295de01.pdf

Feridhanusetyawan, Tubagus / Aswicahyono, Haryo (2001): Gender Assessment of the Indonesian Labor Market, EADN Working Papers, No. 9, Singapore

Genderstats (2005): Labor Force Structure Indonesia, available at: http://genderstats.worldbank.org

Hanson, Gordon H. (2001): Should Countries Promote Foreign Direct Investment?, G-24 Discussion Paper Series, No. 9, available at: http://ksghome.harvard.edu/~.drodrik.academic.ksg/g24-hanson.pdf

Hill, Hal (1991): Multinationals and Employment in Indonesia, ILO Working Paper, No. 67, Geneva

Ilahi, Nadeem (2000): The Intra-household Allocation of Time and Tasks: What Have We Learnt from the Empirical Literature? World Bank Policy Report on Gender and Development, Working Paper Series, No. 13, Washington DC, available at: http://www.worldbank.org/gender/prr/wp13.pdf

Japan International Cooperation Agency (JICA) (1999): Country Women in Development Profile (Indonesia), Tokio, available at: http://www.jica.go.jp/english/global/wid/report/pdf/e99ind.pdf

Joekes, Susan (1999): A gender-analytical Perspective on Trade and Sustainable Development, in: United Nations Conference on Trade and Development (UNCTAD) (ed.), Trade, Sustainable Development and Gender, New York and Geneva: UNCTAD, pp. 33–59

Lipsey, Robert E. (2000): Inward FDI and Economic Growth in Developing Countries, in: Transnational Corporations, Vol. 9, No. 1, pp. 67–95

Madriz, Esther (2000): Focus Groups in Feminist Research, in: Denzin, Norman K. / Lincoln, Yvonna S. (eds.), The Handbook of Qualitative Research, 2nd edition, Thousand Oaks: Sage, pp. 835–850

Mincer, Jacob (1962): Labor Force Participation of Married Women: A Study of Labor Supply, in: Lewis, H. Gregg (ed.), Aspects of Labor Economics, Princeton: Princeton University Press, pp. 63–105

Mincer, Jacob / Polachek, Solomon (1974): Family Investments in Human Capital: Earnings of Women, in: Journal of Political Economy, Vol. 82, No. 2, pp. 76–108

Montell, Frances (1999): Focus Group Interviews: A New Feminist Method, in: NWSA Journal, Vol. 11, No. 1, pp. 44–71

Morgan, David L. (1996): Focus Groups, in: Annual Review of Sociology, Vol. 22, No. 1, pp. 129–152

Oaxaca, Ronald (1973): Male-female Wage Differentials in Urban Labor Markets, in: International Economic Review, Vol. 14, No. 3, pp. 693–709

Özler, Sule (2000): Export Orientation and Female Share of Employment: Evidence from Turkey, in: World Development, Vol. 28, No. 7, pp. 1239–1248

Patton, Michael Q. (1990): Qualitative Evaluation and Research Methods, 2nd edition, Newsbury Park: Sage Publications

Psacharopoulos, George / Tzannatos, Zafiris (1992): Women's Employment and Pay in Latin America: Overview and Methodology, Washington DC: The World Bank

Raharto, Aswatini (1992): The Context of Women's Work Decisions in DKI Jakarta, Indonesia, unpublished Ph. D. thesis, Canberra

Seguino, Stephanie (1997): Gender Wage Inequality and Export-Led Growth in South Korea, in: The Journal of Development Studies, Vol. 34, No. 2, pp. 102–132

Seguino, Stephanie (2000a): The Effects of Structural Change and Economic Liberalisation on Gender Wage Differentials in South Korea and Taiwan, in: Cambridge Journal of Economics, Vol. 24, No. 4, pp. 437–459

Seguino, Stephanie (2000b): Accounting for Gender in Asian Economic Growth, in: Feminist Economics, Vol. 6, No. 3, pp. 27–58

Siegmann, Karin Astrid (2003): Gender Employment and Equity – Effects of Foreign Direct Investment in Rural Indonesia, unpublished Ph. D. thesis, Bonn

Standing, Guy (1999): Global Feminization through Flexible Labor: A Theme Revisited, in: World Development, Vol. 27, No. 3, pp. 583–602

Thee, Kian Wie (2001): Channels of International Technology Transfer in Indonesia: A Brief Survey, mimeo

Thomas, Duncan / Beegle, Kathleen / Frankenberg, Elisabeth (2000): Labor Market Transitions of Men and Women During an Economic Crisis: Evidence from Indonesia, RAND Labor and Population Program Working Paper Series, No. 00-11, Santa Monica

World Bank (1993): The East Asian Miracle: Economic Growth and Public Policy, New York: The World Bank

World Bank (2001): Engendering Development. Through Gender Equality in Rights, Resources, and Voice, Washington DC: The World Bank

World Bank (2005): World Development Indicators 2005 on CD-ROM, Washington DC: The World Bank

UNCTAD (1999): World Investment Report 1999, New York: UNCTAD