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**GLOBALIZATION AND WAGE INEQUALITY IN SOUTH AND EAST ASIA, AND  
LATIN AMERICA: A GENDER APPROACH.**

Abstract:

In this paper we analyse the reasons behind the evolution of the gender gap and wage inequality in South and East Asian and Latin American countries. Health human capital improvements, the exposure to free market openness and equal treatment enforcement laws seem to be the main exogenous variables affecting women's economic condition. During the second globalization era (in the years 1975-2000) different combinations of these variables in South East Asian and Latin American countries have had as a result the diminution of the gender gap. The main exception to this rule according to our data is China where economic reforms have been simultaneous to the increase of gender differences and inequality between men and women.

This result has further normative consequences for the measure of economic inequality. The improvement of women's condition has as a result the diminution of the dispersion of wages. Therefore in most of the countries analysed the consequence of the diminution of the gender gap during the second global era is the decrease of wage inequality both measured with Gini and Theil indexes.

Key words: wage inequality, gender gap, market openness, human capital.  
JEL CODES: J22,J13,J16

## **GLOBALIZATION AND WAGE INEQUALITY IN SOUTH AND EAST ASIA, AND LATIN AMERICA: A GENDER APPROACH<sup>1</sup>.**

### **1. INTRODUCTION.**

In the few last years, the literature on economic inequality, its connection to globalization and its consequences on economic growth has yielded a considerable amount of publications. Economic historians have detected changes in the relative prices of production factors during the first global era (1870-1913) that imply changes in total income inequality distribution over the long run (Lindert, Williamson, 2003), which are driven by labour supply forces and foster convergence of the economies involved (O'Rourke, Williamson, 1999). But it is much more difficult to frame general conclusions on income inequality during the second globalization era, when the intensity of migration flows and capital movements is lower than in the first, while trade liberalization policies are more widespread. The outcomes of the demographic transitions on the cohort size at different stages of the life cycle have proved to be a very influential variable over inequality in this second period (Higgins, Williamson, 1999).

In most of the empirical results applied to the second globalization era, the unit of analysis of the datasets is the household, and the results refer to Gini coefficients for income or expenditure (see for instance Deininger, Squire, 1996 , 1998; World Bank, 1995; Chai and Chai, 1994; Higgins, Williamson, 1999; Riskin, Renwei, Shi, 2001). Other innovative approaches have

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focused on individuals instead of households, using national income shares and national account information (see Bourguignon and Morrison, 2002; Sala-i-Martin, 2003), and have raised new conclusions on the reasons behind the diminution of world's global inequality and global poverty rates during the last quarter of the 20<sup>th</sup> century. The impact of economic liberalization of the most populated countries of the world, China and India, is the key factor.

In this essay we want to go a step further. We want to explore the implications that changes in the gender gap in developing countries have had on the income distribution and the gender income distribution during the second globalization era. Therefore our unit of analysis must be the individual and not the household, since Gini coefficients for household income hide important information on the unequal economic position of women inside the household.

The countries here studied are in Latin America and East Asia. We think that the comparison of Latin American and East Asian experiences is especially worth since income inequality and the gender gap are shaped in significant different ways in these two continents. We already know from the standard Gini calculations based on household budgets quoted above (Deininger, Squire, 1996; Higgings, Williamson, 1999) that Asia has been a more egalitarian continent than Latin America. But in what concerns the educational gender gap we obtain an egalitarian distribution in Latin America and more unequal gender patterns in East and South Asia (Barro, Lee, 2000). These facts challenge recent research on the role of women's education in the transmission of human capital to the children (Galor, Weil, 1996; Hazan, Berdugo, 2004). On the other hand they suggest that the patterns of income distribution in both regions of the world hide different magnitudes of the gender gap originated by economic and cultural factors.

A second set of hypotheses refers to the impact of increasing competition in the labour markets -brought by globalization- on the erosion of the gender gap. As stated by the simple Stolper-Samuelson model, free trade has further implications on the rise of wages of the relative abundant production factor in developing countries, unskilled work (Samuelson, 1948). Since the most unskilled work is often performed by women we can infer from the Stolper-Samuelson model that globalization, causing the increasing demand of women's work, should have as a final consequence the relative increase of women's levels of participation and the diminution of the gender gap (see the case of Mexico in Dell, 2005; Artecona, Cunningham, 2002, Garcia-Cuellar, 2001). For the case of Mexico it has been effectively proved that economic integration in NAFTA since 1994 has caused the expansion of female levels of participation and the erosion of the gender gap.

On the other hand, according to Becker (1957) gender discrimination seems to obey to male cultural tastes and it is eliminated by the increasing intensity of competitive market forces. According to recent research evidence economic competition brought by economic openness and

equal treatment laws have as a final outcome the sharp diminution of the gender gap (see Weichselbaumer, Winter-Ebmer, 2003).

Other literature has pointed out at the sacrifices that globalization has implied for women in developing countries (Beneria, 2003; Beneria, Floro, Grown, MacDonald, 2000). With very scarce or nil improvements in household technologies, higher female participation levels have required more total hours of work for women than for men. Adjustment policies and public expenditures curtails during the same period have had direct effects on welfare services supplies and access to health and other human capital services. This affects women more than men, since the former are usually responsible for the human capital formation of their children. All in all, changes of the economic condition by women must be analysed together with other human and social capital conditions that determine their final market power.

In this paper we analyse the impact of the globalization process and human capital formation on the gender gap and inequality patterns in two different cultural settings. First, by means of regression analysis we study the determinants of the gender gap in East Asian and Latin American countries. Second, we have reconstructed the gendered inequality indexes for a sample of Asian and Latin American countries. In this part of the paper we want to frame explanations on the evolution of the gender gap and its impact on inequality. We think that in this respect our results are new since we have found very few analysis including women's earnings in the calculation of income inequality indexes. The countries chosen are China, South Korea and Singapore in Asia, and Argentina, Uruguay and Brasil in Latin America. The available information is still impressionistic but we think our evidence implies going a step forward in the research of the relationship between globalization and the gender gap.

## **2. THE DATA.**

It is well known that when we include women's income information in world's international comparisons the first problem we have is the lack of reliable data. In poor countries part of the work performed by women is in the informal economy, performed at home and for piece rates. The available information on this kind of work is still scattered in few datasets and not comparable across countries. The same problems arise to evaluate women's income derived from properties and other financial assets. This lack of information makes the comparison of women and men's incomes very difficult, almost impossible.

This is why we have limited our observations to urban wage earnings. As we shall see different sources report female and male wage earnings in a very systematic way, although this analysis also has some limitations. Income inequality measures are higher than earnings inequality indexes, since waged earnings show a lower dispersion than total incomes. Additionally, poor people, workers in the informal sector of the economy, employers and property owners are excluded from our analysis, which means that our data is not useful to analyse some economy-wide changes. But instead our data allows us to analyse rigorously and systematically gender differences in wage earnings, the main engines causing them and their implications for income inequality evolution.

In parts 5 and 6 of this paper we want to explain the gender gap in Asian and Latin American countries by means of regression analysis. The data come from the UN datasets. UN uses them to calculate Gender Development Index and the Gender Empowerment Index. These data are available in the Human Development Report (2005). It is important to stress here that UN data referring to female incomes and the ratio male/female incomes are different from the data we use to compute inequality. To estimate gender differences in incomes (and not earnings), the UN uses the ratio of the female non agricultural wage over the male non agricultural wage, the female and male shares of the economically active population, the total female and male population, and per capita GDP(PPP US\$).<sup>2</sup> When data on gender wages are not available, the UN assumes a rate of 75% in female/male wages outside the agriculture. This is certainly a limitation of this source. We use this data because they are the first available that make possible worldwide comparisons. But we are aware of the deficits of this data, particularly when we compare our results on the wage gender gap with the UN indicator of income gender gap. Nonetheless, we think it is worth to make use of the first evidence available on gender income differences in order to make the first comparative analysis.

To complete the variables that can be included in the econometrical analysis we have matched Asian and Latin American country level information of the Human Development Report (2005) with the variables available in Barro-Lee (1994) dataset. The resulting sample includes 180 countries. We have updated the values of human capital variables up to 2000 since in the original dataset the last variables' observations are for the year 1985. Barro-Lee dataset only includes 138 countries and this fact is a source for missing values. But there are also other important sources for missing values. A lot of variables recording women's empowerment are missing for the developing world. In poor countries of Asia and Latin America statistically significant variables on women empowerment like women officials and legislators have a lot of missing values. This may be a restriction of our analysis that for the moment cannot be improved by means of secondary sources.

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<sup>2</sup> The precise arithmetical formula for the calculation is specified in technical note 1, Human Development Report (2005), pg. 346.

In part 7 of this paper we estimate the inequality indexes and gendered inequality indexes of wage workers for a sample of six countries of Asia and Latin America: Brasil, Argentina and Uruguay (1975-1995) in Latin America and China, Korea and Singapore (1985-1995) in South East Asia.

For China, South Korea, Singapore and Brasil in 1999, the data source is the October Inquiry (OI). OI is an annual survey conducted by ILO since the mid 20<sup>th</sup> century. The Inquiry collects returns on wages by occupation in October every year as reported by the Statistical Institutes of different national governments. The number of countries and the scope of information it covers has enlarged and improved over time. Since 1983, the survey includes 140 wage categories for very thin and well-specified occupations. In some cases specific information is missing, in which case ILO fills it in by using average wages. Other problems arise from this source when you want to make the information comparable. Wages can be expressed hourly, daily, weekly or monthly with very few scattered information on the number of working hours per day or per week according to the country. All these problems are being analysed by R.Oostendrop and R. Freeman who are calibrating the data to make feasible international comparisons<sup>3</sup>.

In the countries we have chosen the wage rate information refers always to monthly earnings and the male and female earnings are specified in all the occupations. These wage rates refer to net earnings of the basic wage and do not include earnings derived from productivity plusses or extraordinary hours. Therefore the observations from our sample once standardised are homogeneous and allow for international comparisons.

To calculate the inequality indexes we have matched the gendered wage rates by occupation as specified by OI with the gender employment of the census returns according to ILO classification criteria<sup>4</sup>. Wage and employment information do not always have a single match, and our criteria has been to maximize employment and to calculate average wages per employment category. The census employment categories that do not have any match with OI wage information are ignored. Since most of the wage information refers to the economy of urban areas the final employment categories derived from this matching process belong to the industrial and services sectors and can be considered representative of the urban setting. In the case of China OI makes explicit that the wage information is urban. South Korea and Singapore are highly urbanized countries and OI gives very little information on rural agrarian wages. The main exception to this rule is the case of Brasil, 1999. In this last country the wages reported refer both to urban and rural scenarios.

Data on gender wage earnings for the cases of Argentina, Uruguay and Brasil in 1976 come from the Household Surveys of every country. These surveys are normally used to analyse

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<sup>3</sup> See Freeman, Oostendrop, 2000. The detailed series of male wages 1983-2003 are already available in Occupational Wages Around the World (OWW) Database [www.nber.org/oww/](http://www.nber.org/oww/)

<sup>4</sup> This data are available at the ILO website [www.ilo.org/public/english/bureau/stat/child/actrep/octing.htm](http://www.ilo.org/public/english/bureau/stat/child/actrep/octing.htm) the dataset Laborsta.

household income inequality, but they also provide information on wage earnings of individual members of the household, men and women. For the Latin American case this information is increasingly available since the 1970s and can be regarded as a rich reservoir of data for the analysis of living standards and income distribution. Household Surveys inquire on the basic wage weekly or monthly. In the case of Argentina and Uruguay they are representative of urban settings, while the inquiry of Brasil covers all the national area.

### 3. THE METHODOLOGY.

In parts 5 and 6 we present a regression analysis on the exogenous factors behind female income and the gender gap. In our dataset most of the variables used here are presented in a panel format. Nonetheless all variables on Gender Development and Gender Empowerment from UN dataset are just available for the year 2003. This is why for the moment we present the results in a cross section multivariate regression analysis. On the other hand it is important to stress the limitations we face when applying regression analysis with variables that contain a lot of missing values. The values of N drastically diminish when we include women empowerment variables. This is crucial when we restrict our sample to the countries in which we are interested: Latin America and South East Asian countries. Our strategy has been to yield the maximum statistical significance with small values for N. As we already pointed up in many poor countries the number of professional women, women legislators or officials, are not recorded in our data source. Countries with missing gender empowerment information should also be the countries with most gendered culture. This is a threat of our analysis which must contain some sample selection bias. In terms of the internal validity of our estimates they may cause reverse causality and omitted variable effects. The incidence of women's empowerment on the gender gap should be overestimated in our sample as a result of a problem of self-selection in the recording of women empowerment in poor countries.

When measuring inequality, the Gini index is the most widely used indicator. In part 7, we have calculated the Gini index for earnings inequality in the economy as a whole as well as for inequality within men and within women. But since the Gini index for a population is not a linear function of the Gini indexes of its subgroups if these subgroups overlap in the earnings distribution, as it happens gender, we cannot decompose the relative contribution of gender inequality to inequality in the economy using Gini. The alternatives are the so-called generalized entropy measures, of which the best known are the Theil indexes. These indexes, while keeping the same properties as the Gini index, allow estimation of how much inequality is explained by inequality within groups and how much by inequality between groups. We use these indexes to

decompose inequality into its gendered sources. More specifically, this paper uses the so-called Theil's L index or mean log deviation measure, the most commonly used in the literature. Its formula can be expressed as follows:

$$I_0 = \frac{1}{N} \sum_{i=1}^n \ln \frac{\bar{y}}{y_i}$$

where  $I_0$  is the inequality index,  $N$  is the total size of the population, and  $y$  is income or earnings. One of the properties of these indicators, as already said, is that they can be decomposed as a function of some subgroups characteristics. Subgroups can be defined according to occupation, age, or gender, amongst others. Let  $y_k$  be the average income of a subgroup,  $n_k$  the population in the subgroup, and  $I_0^k$  the inequality index for the subgroup, then,

$$I_0 = \sum_{k=1}^n \left( \frac{n_k}{N} \right) I_0^k + \sum_{k=1}^n \frac{n_k}{N} \ln \frac{1}{y_k / \bar{Y}}$$

The first term represents within-group inequality, and the second term between-group inequality (Mookherjee and Shorrocks, 1982). We will use this to assess how earnings inequality within and across gender contributes to inequality in the economy. Within-gender inequality refers to the diversity of male wages and female wages. If over time wages become less spread out in one of the subgroups, women for example, this would contribute to reduce inequality in the economy, other things equal. The second term, between-gender inequality, refers to inequality between subgroups, that is, it ignores the spectrum of wages within each subgroup and looks at differences in average wages across subgroups. In other words, it measures the contribution of the gender gap to overall inequality. If women's average earnings increase, for example –and taking into account that women are the lowest paid subgroup-, inequality will increase, *ceteris paribus*.

Another indicator of gender inequality is occupational segregation, that is, the tendency for men and women to be employed in different occupations. High levels of segregation have been considered to be a significant factor in the discrepancy between the wages of women and men, and generally to be at the root of gender inequalities. In order to measure segregation, the most common indicator is the dissimilarity index, which generally measures whether a particular group is distributed across occupations in the same way as another group. The formula to calculate gender occupational segregation is the following:

$$S = \frac{1}{2} \sum_i |m_i - f_i|$$

where  $m_i$  and  $f_i$  are the percentage of male and female employment in occupation  $i$ . The dissimilarity index is a measure from 0 to 1. The closer to 1 the values, the more segregated the two groups are.

#### **4. FEMALE HUMAN CAPITAL IN SOUTH EAST ASIA AND LATIN AMERICA.**

In tables 1 and 2 we provide the world indicators on women's levels of participation and female human capital. A first result from table 1 is that participation levels are very high in East Asia, much higher than in Latin America and South Asia. This result is influenced by the very high levels of female participation attained in the most populated country of the world: China. In this country after the one child policy (and also before) women have been participating in all stages of production. The participation of Chinese women in blue collar positions (e.g. in the textiles) is particularly outstanding. In China the gender gap do not arise from economic participation but instead it can be explained by the lower education attainment and by the lower enrolment in the Chinese communist party, being the latter one of the main sources of social promotion in this country (see Gustafsson, Shi, 2001). In the other East Asian Nic's women participation levels are also very high. This fact together with the quick fertility reduction in the few last decades of the 20<sup>th</sup> century shape a different model in East Asia with respect to South Asia and Latin America (see Mason, 2001).

We think that the model for South Asia established by the literature is India and has been thoroughly analysed by Dreze and Sen (1995). In this case a combination of cultural and economic factors have shaped a subordinate position of women in the family and also in the labour market. The key factor explaining the very gendered situation in this case is the unequal access to human capital services by men and woman. In table 2 we can see that in South Asia women attain the lowest levels of adult and young literacy in the world. This fact is crucial because it restricts the capabilities potential by women and also their chances to actively participate in the economic life. In spite South Asian women's levels of economic participation are similar to those of Latin America the illiteracy rates are higher in the first case showing the situation of higher social exclusion.

The patterns of participation in Latin America are different. In this second case patterns of female participation vary a lot according to the racial composition of the population of the country and in broad terms we can say that non white women have very few chances to meet jobs with regular earnings in the formal economy.

If we measure education by means of literacy we obtain similar results in Latin America and East Asia, a bit more egalitarian in Latin America. This result is confirmed by Barro-Lee (2000) data set. In terms of years of educational enrolment the ratio women/men has improved from 82.9 in 1960 to 95.7 in 2000 in Latin America while in East Asia the figures 49.0 in 1960 and 83.5 in 2000. Nonetheless, when considering the real meaning of this result it is important to bear in mind that in absolute terms the number of years of enrolment of women are similar in both set of countries. The differences observed in the ratio women/men are explained by the longer enrolment of men in East Asia. The second remark we must make refers to the nature of education in Latin America (in contrast with East Asia). In average terms the number of years of enrolment in Latin America has doubled between 1960 (3.30 years) and 2000 (6.06 years). But the results in terms of educational attainment are very poor. Between 1960 and 2000 the situation only slightly changes and the percentage of people having completed primary school moves from 12.8 in 1960 to 13.8 in 2000. The data for completed secondary school are 4.1 per cent in 1960 and 8.6 in 2000 and tertiary education 0.9 and 4.9 respectively. The basis of the educational system at the primary level has enlarged only marginally while the achievements of the educational system affect the higher opportunities of educational attainment by the elites of Latin America.

Nonetheless the worst situation is attained in South Asia. The gender ratio of school enrolment (female average years in school/male average years) was 25.3 in 1960 and 53.1 in 2000 while the proportion of people with no access to school was 74.3 in 1960 and 45.2 in 2000. Indeed the relative differences between East Asia and South Asia can be explained by the most successful path of growth of China and the NICS with respect to India. In spite India is also growing fast since the 1990s the levels of education were and are lower than those of China particularly those of women (see Dreze Sen, 1995). This is may be one of the most outstanding legacies of the communist political regime in terms of economic growth.

In figures 1, 2 and 3 we present the gender results on health measured by life expectancies. Notice in figures 1 and 2 that the income variable in the X axis is not per capita GDP but the UN estimation of men, women income by country.

Figures 1 and 2 clearly establish that health improvements measured by life expectancies have a positive impact on income evolution but the marginal returns of this second variable on life expectancies are diminishing both for men and women. For the overall population this was pointed out for the first time by Becker (2005) who also stated that health improvement act as

a means for poor countries to converge with rich. From the figures 1 and 2 we can also see that East Asian Nics (excluding China) are on the top of the income and life expectancy levels of both regions. Latin American and South Asian countries are instead placed in the low middle ranks of poverty and life expectancies.

In figures 5 and 6 we plot the relationship of income according to gender and levels of per capita GDP as calculated by UN. We can see that both for men and women PPP income in absolute terms is a linear function of per capita GDP. But the slope is flatter for women and steeper for men fostering the increase of the gender gap with development improvements in these 3 sets of countries and according to UN methodology to measure income according to gender. From this result and in these world regions we can advance the hypotheses that culture and in general non economic factors have an important role shaping the gender gap.

Another result from a gender perspective from figures 1 and 2 is that the elasticities of health on income are much higher for men than for women in spite in both cases a life expectancy increases are crucial to achieve income improvements particularly after the threshold of 70 years of average life. But health improvements originate larger income increases for men than for women (the elasticities are for men > women). This last fact is coherent with the incidence of GDP levels on gendered income reported in figures 5 and 6. In spite human capital is basic to improve women's condition, gender disparities increase as a result of development showing the incidence of social capital on the gender gap in Asian and Latin American countries.

The paradox just presented on the relationship of development on the gender gap is presented in figure 3 following Sen methodology. Sen recorded the world gender relations by means of the ratio attained in female life expectancy/male life expectancy and its variance with respect the biological rule achieved in Europe and North America. According to this methodology we can see in figure 3 that most of the countries here under study are over the wished threshold ratio of 1.05, with India, China and Jamaica at the threshold level and Bangaldesh, Nepal and Pakistan below . But we can also see that the highest levels of relative women well being are attained in relatively poor Latin American countries. In the richest countries(Hong Kong, Japan, Australia, New Zeland) the relative well being of women is lower than in Latin America. This fact shows that human capital is only one of the ingredients to explain gender relations. Culture and social capital factors are also basic to understand gender relations and this fact is crucial in the comparative analysis of Asia and Latin America.

## 5. EXPLAINING FEMALE REAL INCOME.

Since the classical book by Ester Boserup (1970) many authors have insisted on the importance that all factors fostering female market power have in the erosion of the gender gap. Human capital and exposure to the labour market are some of these factors. Institutional and cultural factors promoting more bargaining power by women are other elements (Field, 2003; 2005). But in several poor countries of Asia and Latin America women may have problems to develop market power. One of their main restrictions refers to available time to devote to market activities. In table 3 we present the working time balance on men and women in several countries of Latin America and Asia. This table is based on scattered data at the country level, and must be analysed with caution. But as a general remark table 3 shows that in poor countries women work more hours than men because of the loads of work in non-market activities<sup>5</sup>. With the available technologies for domestic work, in poor countries women must deploy between 5.5 and 6 hours daily to unpaid work. Part of this work is addressed to supply goods and services that in rich countries are offered by the market. This is an important time restriction when considering the possibilities of women's market exposure in poor countries<sup>6</sup>. This situation of time collapse between alternative activities only gradually changes as a consequence of human capital investments and improvements, which increase women's capabilities and market dexterity and as a result the value of their market activities also improves (Becker, 1991).

Before considering the factors explaining the gender gap, we want to present the factors affecting the value of women's time devoted to market activities in nowadays South and East Asian and Latin American countries. In table 4 we try to reconstruct the impact of human capital on the marginal increase of women's real earnings. Table 4 presents the results for the total sample of 180 world countries while table 5 presents the results for the sample of 50 South and East Asian and Latin American countries. The regressors of human capital variables presented in the tables represent the elasticities of women's income to marginal increases in health and education. Variables promoting equal treatment and women's empowerment of the same tables are presented in absolute terms.

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<sup>5</sup> This data refers to unweighted averages of time devoted by women to paid and unpaid works. It has meaning in relative terms and not in absolute terms. Time devoted to work in unpaid non-market activities (as well as to paid activities) may vary a great deal according to the social class or women's economic status. Evidence from Spain supports this assertion both in the 19<sup>th</sup> and 20<sup>th</sup> century. See Perez-Fuentes (2005); Carrasco (1991).

<sup>6</sup> With an ordinary duration of the paid day's work, 8 hours, the total time women must devote to work in a urban setting is 13,5 hours according our estimations of time necessary to perform non-market activities. It is well known that many women of poor countries perform part time, out doors work in the informal economy, more compatible with the loads of unpaid work as shown in table 1.

In table 5 we can see that in the countries here analysed female real earnings are extremely elastic with respect to health improvements. For all countries of the sample presented in table 4 female income elasticities with respect health and education are statistically significant. On education we obtain significant results at the 1% level both for female literacy and primary school completed. The statistical significance of life expectancy varies according to the model but from our results we can state this second human capital variable is basic to explain women's income. An endogenous factor of education, fertility, has significant negative outcomes on women's income. Child bearing and child rearing, in promoting household working loads drive women efforts towards unpaid work and at the expenses of paid work and income increases. This is why the negative marginal impact of fertility on income is very high and statistically significant.

When we restrict the sample to South and East and Latin American (table 5) countries the results vary somehow. The most remarkable result refers to the value of health in these sets of countries. The value of the coefficient on life expectancy is very high in all models (much higher than for all the countries presented in table 4) and the results are statistically significant at the 1% level of error. Women's wages, therefore, are very sensitive to health improvements measured through the life expectancy at the moment of birth, which cause a sharp increase in the value of female labour productivity (see part 3 of this essay). In South East Asian and Latin American countries life expectancies have improved a great deal since 1950 as a result of the exogenous impact of the assimilation of medical scientific innovations stored by the Western World (Bloom, Williamson, 1998). However, in countries in the tropical zone survival is still hazardous. Epidemic tropical pandemics still cause high mortality amongst children and population at the working age. Aids is also causing an important number of premature deaths. Epidemic blows mainly affect the economically active population (women in the case here studied) and children, something that helps to explain why good health (the absence of pandemics) has such a big economic value in labour terms. (See the life expectancy evolution in Latin American countries in Thorp, 2000 and the East Asian results in Bloom, Williamson, 1998; see the gendered picture of life expectancies in part 3 of the paper in figure 3 ).

The role of education is more controversial than the role of health. If we measure education through literacy the elasticity is statistically significant at the 10% level in model 2 . But we don't obtain significant results for education measured as the proportion of women with primary studies completed. In the Latin America case the inadequacy of part of the schooling supplies has been highlighted and can help explain this result (Reimers 2000, 2006). Education supplies are totally segmented, and while the well-off white urban population has access to good schools, the non-white poor rural population is sent to bad schools. This is how Latin American educational institutions reproduce the existing economic inequality (See Coatsworth, 2006).

Centralised taxation and public spending systems seem to be responsible for the aforementioned segmentation of schooling supplies (Engerman, Sokoloff, 2002, 2005).

From results of table 5 and in contrast with results of the world's sample we can assert that human capital achievement act on the very basic levels in these set of countries. Good health and literacy are the main factors affecting women's real earning and productivity increases.

We already stated that fertility rates are endogenous to human capital accumulation. Nowadays it is well established that the improvement of women's levels of education has a direct effect on the decrease of fertility in rich and poor countries (Galor, Weil, 1996; Hazan, Berdugo, 2004). And the impact of a marginal increase in fertility on women's real earnings is also strongly negative in Latin American and Asian countries. Childrearing and childbearing directly affect the amount of non-market work of women we have presented in table 1. This is why the fertility rate has a very negative incidence on women's paid labour reward. We can say that the value of this coefficient may represent the opportunity cost of non-market work in a situation in which human capital is improving and fertility is diminishing more remarkably in East Asian countries .

Bloom and Williamson (1998) have stressed the positive economic impact of the demographic transitions in East Asia and in general in developing countries. The initial decrease of child and youth mortality has as a consequence the formation of larger size cohorts that after a time span of 10-15 years glut the economically active population. The subsequent diminution of fertility rates additionally diminishes the dependency ratio. From a gender perspective, the impact of this demographic shift cannot be analysed in an isolated way. The increase of female labour productivity and real earnings brought by the improvement of mortality health conditions and the diminution of fertility rates are associated factors to the demographic shift. We have proved through the elasticity analysis that the economic impact of these demographic events on women's labouring lives is enormous. Apart from the impact of fertility and mortality patterns on cohort sizes, the dependency ratio has also diminished because young and healthier married women are increasingly involved in market activities, attracted by the higher reward of their paid labour. The impact of the demographic transition (improvement of life expectancies and fertility decline) has affected before and in a more remarkable intensity to East Asian countries. This is why the levels of women economic participation in this area are also higher. According to our analysis the transition to higher levels of women's participation levels is endogenous to the demographic transition and educational improvement. The elasticity analysis of the variables affecting women's income (life expectancy, literacy and fertility) sheds light on the engines behind the changes of value of women's time and their final impact on the share of time spent in market activities.

## 6. EXPLAINING THE GENDER GAP.

In this part of the paper, we use the UN data on female and male incomes to analyse the determinants of the gender gap. We already stressed the limitations of these data, and indeed provide in the next section (Table 9) our own calculations on the gender gap based on much more reliable data on wage earnings. We think nonetheless, that the composed index provided in the UN publication is useful to make the first comparative regression analysis. Mainly because it provides an indication of the income gender gap that not only based on the value of wage work but also on the weight of the paid work and women's participation levels in market activities .

In table 6 we present the results for the world wide sample. The first remark we can make is that Models 2 and 4 of table 6 confirm Becker's hypotheses on the factors influencing the gender gap (Becker, 1957). Market openness and the exposure to competitive forces reach significant coefficients. In model 1 we also obtain statistically significant results for the role of equal treatment enforcement laws measured here with the number of women legislators and officials. The influence of women's empowerment is lower than the effects of the exposure to the market forces but it also represents a second significant set of variables.

Instead the role of the relative achievement on human capital formation by woman is negative and statistically significant (models 2 and 4). Here we measure some of the gendered human capital elasticity factors we pointed up in section 3. Results on human capital achievement on the gender gap exposed in table 6 reflect the different income human capital elasticity according to gender. While we have seen female life expectancies are important to explain women's income, the result is different in terms of gender gap because human capital accumulation has much larger multiplying effect on men's income than on women's income. The same is true for education. In model 4 we prove that the ratio female primary school completed/male primary school completed has a negative significant impact on the gender gap. This is because the income elasticity of primary school is higher for men than for women. We must remind the reader that the gendered income exercise calculation from the UN dataset which is on the bases of this part of our analysis is a linear function of levels of per capita GDP, levels of paid work participation a part from data on gendered non agrarian wages when available.

But in what concerns the sample of countries studied here we obtain different results. When we restrict the sample to South East Asian and Latin American countries and include the Latin American dummy in the control variables the role of the exposure to open market forces on the gender gap decreases and loses statistical significance. Instead in the restricted sample the

variables strongly improving the gender gap are female literacy and female legislators. Notice in table 8 that the value of all variables directly affecting economic competitiveness decreases when the Latin American dummy is included.

From table 8 we can infer that the variables affecting the gender gap are different in the subset of East South Asian and specially Latin American countries. Latin America changes in gender wage differentials are less sensitive to the open market globalization forces. Indeed during the 19<sup>th</sup> and a large part of the 20<sup>th</sup> centuries protectionist barriers in Latin America have been among the highest of the world (Coatsworth , Williamson, 2004). Economic adjustment and liberalization policies during the 1980s implied a severe crisis in most of the countries of the continent. Another transformation since the 1980s is the formation of an economic model based on the increasing role of the informal sector that according to some authors has increased the magnitude of economic inequality (Blumer-Thomas, 1996; Wood, 1994; Psacharopoulos, Morley, Fiszbein, Lee, Word, 1992; Prados de la Escosura, 2004, 2005). The lower exposure of Latin America to globalization may be the reason behind the lower impact of market openness on gender gap.

But in spite of the minor role of globalization in this second case other factors associated to literacy and women's empowerment have had an enormous incidence in the diminution of the gender gap. Exception for Indian and Black women, a more equal access to literacy and health services may explain a less gendered culture in Latin America with respect to East Asia. Indeed Amartya Sen (1990, 1992, 2003) has identified 100,000,000 missing women by premature death in South and East Asia and North Africa (50,000,000 in China). Women's unequal access to health services and food consumption goods in Asian countries is a clear sign of women's social exclusion. According to the same author in East Asia this particularly applies to the Chinese case. But we shall see in part 7 of this writing that in East Asia, gender discrimination also has effects on wage determination of other countries like South Korea.

## **7. THE IMPLICATIONS OF THE GENDER GAP FOR THE STUDY OF ECONOMIC INEQUALITY.**

The Gini and Theil results on total inequality and gendered inequality evolution for the six Asian and Latin American countries of our sample are presented in table 9. It is important to stress that these results refer to wage urban population. This makes our data difficult to compare with the standard Gini coefficients of inequality of household income or expenditure, which are generally higher and show very low tendency to change over time (Deiniger, Squire, 1996). By definition, our data does not include the inequality shares of the top (owners and employers) and

the bottom (poor and employed in the informal economy) of the income distribution. With the exception of the Brazilian case our wage information doesn't capture the increasing inequality between urban and rural settings, which explains the sharp increase of inequality in countries like China. In spite of all these problems, by studying waged labour we are able to identify some of the gender inequality patterns that arise from changes in the gender gap.

In table 8 we present the evolution of the gender gap (or, to be more precise, the female/male earnings ratio) and index of dissimilarity for the six countries of our sample. The latter ranges from 0 to 1. When the dissimilarity index of occupations is close to 1 this means that occupations are more segregated according to gender than when the index is close to 0. This index quantifies the extent to which men and women can be substitutes in the labour market but it does not explain if the occupation segregation or its absence involves changes in income levels.

A first result we can stress from this table is that gender inequality has improved in all countries with the exception of China in recent decades. In all Latin American countries, including Brasil, the gender gap has eroded from 1975 to 1995<sup>7</sup>. Regarding the influence of ethnicity on economic inequality among women we have pointed out in section 6 of this paper, we must bear in mind that in the Argentinean and Uruguay cases most of the population is white (or mixed) and the proportion of Indian people is residual. In the Brazilian case 1999 we do not exclude the possibility that the source, OI, minimizes the impact of social exclusion of black women<sup>8</sup>. In fact, Argentina and Brasil are especially outstanding because in few decades women have attained nearly the same economic condition than men. Therefore from our case studies we can infer that in Latin America women's situation has improved a great deal. When we try to explain why, we must bear in mind the variables affecting the gender gap in this continent: life expectancy and equal treatment laws. Both variables have improved in recent decades Latin America, especially life expectancy (see Camou et al, 2006). We have seen this is the most powerful variable explaining the gender gap in this case. According to the index of dissimilarity more economic equality according to gender does not imply that women perform the same jobs than men. The indexes of dissimilarity are high and imply that women are employed in different occupations than men. We can also see in tables 1 and 2 of this paper that women's participation levels are lower in Latin America than in East Asia. Indeed we have identified that Latin American working women from these 3 countries concentrate in the employment opportunities provided by liberal professions (teachers, nurses) clerical work (administrative) and services.

The gender gap information arising from the South East Asian case is very different. Except for Singapore, gender economic inequality is higher in East Asia than in Latin America. The gender

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<sup>7</sup> The changes observed in table 7 have a meaning in terms of trend of improvement and before we can make more general conclusions we need to enlarge our sample of countries.

<sup>8</sup> By this date we can make the hypotheses that most black population work in the informal economy or are integrated in the pool of poor people and therefore are not registered in the sample of wage workers.

gap only slightly improves in the case of South Korea and worsens in the case of China. The Chinese case deserves special attention. Before the economic reforms that began in 1978, the wage distribution in this communist country was very egalitarian and inequality has specially increased after 1991 when the scale and scope of the economic reforms intensified (see the Chinese inequality patterns in Knight, Shi, Renwei, 2001; Gustafsson, Shi, 2001; Guthrie, 2006).

We have seen for the Asian case that market openness is the main engine behind the erosion of the gender gap. On the other hand the dissimilarity index shows that in this case women's are less segregated. In this respect the Chinese example is illustrative. Urban women have very low fertility rates and they are present in the blue-collar spheres of the economy. In the case of China (like in most developing countries) real wages were very low because the productivity levels were also very low. The strategy has been to specialise in the production of export goods like textiles that make intensive use of the pool of cheap and unskilled female labour. By means of the production of labour intensive products, they could compete at the international markets. In these East Asian cases the causes of women's discrimination are found inside the household and the family human capital decision making. As a general rule men are educated in preference to women (Sen, 1990, Barro, Lee, 2000) and men also have more and better access to health services (Sen, 1990, 1992, 2003). Although in global cities like Hong Kong or Singapore the presence of women in well paid technical and liberal professions is increasingly important (see Brooks, 2006), in the other countries like China and South Korea women continue to concentrate in the unskilled ranks of employment. The gender gap has improved in most of the cases and the participation levels are higher in East Asia than in the Latin American (see part 3). But gender structural problems linked to the social capital and the historical customary role of women in this set of countries makes the magnitude of the gender gap also higher than in Latin American countries. In 1995 women's earnings (all occupations) represented 70% of men's earnings in South Korea and 74% in China, while at the same date this percentage attained levels of 91% in Argentina and 98% in Brasil.

The main consequence of the relative improvement of women's condition in our set of countries (with the exception of China) is the decrease of the levels of within-country inequality (see Table 8). Levels of total (men and women) inequality diminish. This trend is different from the result obtained using World Bank household data, which show a stagnant or slightly increasing trend in inequality in the same period (Deininger, Squire, 1996). In this respect our findings, still impressionistic, have further normative methodological consequences. Inequality at the household level hides the changing unequal situation of men and women. When we include women in the calculation of within-country inequality the result is the improvement of inequality levels. Traditionally women have concentrated in the most poorly paid and unskilled jobs being a factor that was breeding inequality. The improvement of women's condition brought by the

improvement of their human capital stock, the effects of globalization forces and equal treatment enforcement laws have implied that the dispersion of wage earnings has narrowed. Therefore in these developing countries inequality has improved thanks to the improvement of women's condition and the narrowing of the gender gap.

Again the main exception is China. But levels of total inequality are lower in China than in any of the other countries. To explain this fact we must consider two factors: the egalitarian role of the communist tradition in urban wage determination<sup>9</sup> and the fact that our wage data just include the basic wage. Extraordinary payments like productivity surpluses and extraordinary hours represent an important share of the final wage in the Chinese case (see Knight, Shi, Renwei, 2001, p.139). Indeed taking into account all these factors the Gini levels and trends observed in our case are similar to those reported by the bibliography that deals with urban wage incomes of China of the post 1978 period (Khan, Griffin, Riskin, 2001; Lina, 2001; Gustafsson, Shi, 2000).

From our analysis the inherent different gender discrimination levels in Latin America and East Asian models can be explained when comparing within-gender inequality and between-gender inequality. In the Latin American case the improvement of total inequality levels from 1975 to 1995 is explained by the sharp decrease of the gender gap (between-gender inequality). We have tried to explain in parts 5 and 6 of this essay that the exogenous factors behind these trends are the improvement of women's health human capital and the establishment of equal treatment enforcement laws. In this respect Latin America is different from East Asia since human capital (health and education) is more equally distributed according to gender. The more egalitarian patterns of Latin American families in the human capital decision making of their members (enhanced by gender enforcement laws) are the main exogenous force explaining the observed diminution of inequality levels brought by the improvement of the gender gap.

The conclusions we can frame on the Asian case are more diverse and complex. In this second case we need more case studies in order to be able to frame a general model. Here the diminution inequality at the country level is mostly explained by means of the decrease of within gender inequality. The contribution of the gender gap to total inequality in China and South Korea increases. In spite of the influence of open market forces in shaping a more equal gender situation as observed in the case of Singapore (see part 6 of the paper) other cultural and historical forces counterbalance them. In the case of South Korea the parallel diminution of within-gender inequality and the slight improvement of the gender gap explain the resulting trend of the total diminution of inequality. In the case of China economic reforms have brought with them the increase of between men and women inequality. Nonetheless we must stress this case is very special. In absolute terms the inequality levels measured by the basic wage of urban workers are

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<sup>9</sup> Still part of the wages are determined in State owned firms.

the lowest of the sample both for men and women<sup>10</sup>. In the point of departure, 1978, urban wages were extremely equally distributed both within and between gender groups (Lina, 2001). Economic reforms have brought with them the liberalization of the labour market and therefore the increase of inequality levels. Nonetheless the increasing magnitude of between-gender inequality (the gender gap) reveals the situation of social exclusion by women as reported by Sen and other authors.

## 8. CONCLUSIONS

In these pages we have tried to show the reasons behind the gender gap in South and East Asian and Latin American countries and their influence in the final evolution of wage inequality. In a context in which the demographic transition is still operating, female life expectancies and fertility decline have proved to be the most powerful variable explaining women's wages and the improvement of women condition. Health human capital, but also literacy are on the basis of women's labor economic improvement. A more egalitarian gender behaviour in the access to health and school services supplies among the white population of Latin America seem to be the exogenous factor behind the important diminution of the gender gap in this set of countries. Instead in the East Asian case the erosion of the gender gap seems to be mainly explained by the Stolper-Samuelson and Becker simple model. With the exception of China, the exposure to international trade openness acts as an engine of erosion of the gender wage differences in this second set of countries. The Chinese case deserves special attention. In this last case economic reforms since 1979 seem to cause the increasing wage inequality between men and women. In our universe of countries we also obtain very statistically significant results for equal treatment enforcement laws.

The improvement of women's condition in most of the cases has further consequences for the analysis of wage inequality. Since traditionally women have been at the bottom of the wage hierarchy, their economic improvement also narrows wage dispersion and income inequality. This result is confirmed both by means of Gini and Theil coefficients. Therefore we think our results have further normative consequences for the study of income inequality. The often neglected information regarding women's economic condition has hidden the impact of their changing condition inside the household and the labor market. In the period under study, the second global era, and with the exception of China, the inclusion of women's wages in the calculation of inequality has as a consequence the diminution of the indexes of wage dispersion.

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<sup>10</sup> We must pay attention to the nature of the data when considering this result. See explanation in page 15.

We think that in this paper we have provided the first evidence concerning the relationship between globalization and the gender gap from a comparative perspective. Our next step shall be to enlarge the sample of countries (and continents). But we also want to further explore the features of gender inequality patterns by means of intensive research at the national level of the countries explored in this paper. Brasil or China deserve more attention and are cases that can highlight the future forthcoming patterns on the role of women in economic development.

## 9. TABLES.

TABLE 1

FEMALE ECONOMIC ACTIVITY. WORLD INDICATORS

	RATE (%2003)	INDEX (1990=100)	% OF MALE RATE
	>15		
World	55.6	103	69
OECD	51.8	107	72
Developing count.	56.0	102	67
Arab States	33.3	119	42
East Asia & Pac.	68.9	100	83
Latin America	42.7	110	52
South Asia	44.1	107	52
Sub-Saharan Africa	62.3	99	73

Source: Human Development Report, 2005, p. 314

TABLE 2

FEMALE LITERACY. WORLD INDICATORS, 2003

	ADULT LITERACY		YOUTH LITERACY	
	Female rate	Female/male	Female rate	Female/male
	>15		15-24	
Developing count.	69.6	84	81.2	92
Arab States	53.1	71	75.8	87
East Asia & Pacific	86.2	91	97. 5	99
Latin America	88.9	98	96.3	101
South Asia	46.6	66	63.3	79
Sub-Saharan Africa	52.6	76	67.9	88

Source: Human Development Report, 2005, p.310

TABLE 3  
 THE USE OF WORK TIME ACCORDING TO GENDER IN POOR COUNTRIES, 1990-2000.  
 (UNWEIGHTED AVERAGES).

	URBAN AREAS		RURAL AREAS	
	HOURS/DAY	%	HOURS/DAY	%
<b>TOTAL WORK TIME</b>				
WOMEN:	8.01		10.28	
MARKET ACTIVITIES	2.48	31	3.6	38
NON-MARKET ACTIVITIES	5.52	69	6.03	62
<b>MEN:</b>				
MARKET ACTIVITIES	5.96	79	6.52	76
NON-MARKET ACTIVITIES	1.58	21	2.05	24
WOMEN/MEN %	107		120	

Source: Human Development Report(2005), calculated from table 29, p.315. Based on time surveys. Urban areas based in Colombia, Indonesia, Kenya, Nepal, Venezuela. Rural areas based in Bangladesh, Guatemala, Kenya, Nepal, Philippines.

TABLE 4.  
ELASTICITIES OF WOMEN'S REAL INCOME (PPP) W.R.T. FEMALE HUMAN CAPITAL  
FORMATION. WORLD WIDE SAMPLE, 2000-2003.

DEPENDENT VARIABLE: LOG FEMALE INCOME.  
OLS REGRESSORS. ROBUST STANDARD ERRORS.

	(1)	(2)	(3)	(4)	(5)
Log female literacy	1.857 (0.383)***	0.598 (0.127)***			
Log female life expectancy	0.845 (0.433)*	2.2 (0.298)***	0.879 (0.510)*	1.471 (0.435)***	
Female legislators and officials	-0.006 (0.08)		0.017 (0.009)*		
Female professionals	0.007 (0.06)		0.024 (0.006)***		
Latin America	-0.45 (0.164)***	-0.217 (0.161)	-0.421 (0.182)**	-0.138 (0.167)	0.119 (0.138)
East Asia and the Pacific	-0.181 (0.214)	-0.049 (0.192)	0.442 (0.271)	-0.036 (0.224)	-0.001 (0.151)
Developing countries	-0.672 (0.238)***	-1.052 (0.241)***	-1.166 (0.206)***	-1.266 (0.210)***	-0.976 (0.185)***
Women in government	0.019 (0.007)***		0.018 (0.006)***		
Log women primary school compl.	0.959 (0.540)*	0.743 (0.160)***			
Log fertility					-1.323 (0.132)***
Political rights					-0.052 (0.092)
Civil liberties					-0.033 (0.105)
Constant	-2.798 (2.017)	-3.049 (1.196)**	0.007 (2.432)	-0.412 (1.586)	10.653 0.235***
N	55	116	52	103	120
R-squared	0.69	0.66	0.73	0.71	0.86

Standard errors in brackets.

- significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%

Source: see part 2.

TABLE 5. ELASTICITIES OF WOMEN'S REAL INCOME (PPP) W.R.T. FEMALE HUMAN CAPITAL FORMATION. LATIN AMERICA, EAST ASIA AND SOUTH ASIA, 2000-2003.

OLS REGRESSORS. ROBUST STANDARD ERRORS.

DEPENDENT VARIABLE: LOG FEMALE INCOME.

	(1)	(2)	(3)	(4)	(5)
Log female literacy	0.056 (0.692)	0.71 (0.367)*			
Log female life expectancy	6.945 (1.856)***	3.01 (1.099)***	6.807 (1.668)***	5.613 (1.303)***	
Female legislators and officials	0.007 (0.12)		0.016 (0.009)*		
Female professionals	0.003 (0.11)		0.025 (0.010)**		
Latin America	-0.336 (0.244)	0.03 (0.191)	-0.999 (0.316)***	-0.106 (0.226)	0.091 (0.168)
Women in government		-0.002 (0.11)		-0.011 (0.10)	
Log % women primary school compl.		-0.485 (0.613)	0.257 (0.452)		
Log fertility					-1.68 (0.221)***
Political rights					-0.027 (0.142)
Civil liberties					-0.088 (0.159)
Constant	22.071 (6.779)***	-7.959 (3.790)**	-19.631 (5.655)***	-1.012 (4.681)***	10.212
	(0.275)***				
N	27	38	22	34	43
R-squared	0.58	0.54	0.72	0.57	0.67

Standard errors in brackets.

- significant at 10%, \*\* significant at 5%, \*\*\*significant at 1%

Source: see part 2

TABLE 6.  
EXPLAINING THE GENDER GAP. WORLD WIDE SAMPLE, 2000-2003.

DEPENDENT VARIABLE: FEMALE/MALE REAL INCOME (PPP) OLS REGRESSORS. ROBUST STANDARD ERRORS.				
	1	2	3	4
Lof female life literacy	0.187 (0.094)*	0.026 (0.052)		
Log female life expectancy	-0.404 (0.234)*	-0.302 0.097***		
Female legislators and officials	0.004 (0.002)*		0.002 (0.003)	
Market free openness	0.551 (0.361)	0.68 (0.366)*	0.884 (0.512)*	0.747 (0.341)**
Distance from international markets	0.006 (0.013)	0.024 (0.011)**	0.006 (0.024)	0.033 (0.011)**
Revolutions and “coup d’etat” (number)	-0.001 (0.60)	-0.011 (0.061)		
Latin America	-0.115 (0.044)**	-0.026 (0.049)	-0.065 (0.086)	-0.004 (0.051)
Developing countries	0.048 (0.074)	-0.021 (0.083)	-0.034 (0.110)	-0.123 (0.064)*
Women in government		0.003 (0.02)		0.005 (0.002)**
Female/male primary school compl.			0.88 (0.542)	-0.261 (0.145)*
Female/male life expectancy			0.945 (1.628)	-1.201 (0.835)
Constant	1.116 (0.819)	1.309 (0.434)**	-1.692 (1.792)	1.651 (0.874)*
N	29	65	29	56
R-squared	0.65	0.38	0.49	0.41
* significant at 10% , **significant at 5%, *** significant at 1%				

Source: see part 2

TABLE 7  
EXPLAINING THE GENDER GAP. LATIN AMERICA, EAST ASIA AND SOUTH ASIA,  
2000-2003.

DEPENDENT VARIABLE: FEMALE/MALE REAL INCOME (PPP)  
OLS REGRESSORS. ROBUST STANDARD ERRORS.

	1	2	3	4
Log female literacy	-0.323 (0.130)**	0.225 (0.099)		
Log female life expectancy	0.767 (0.449)	-0.594 (0.324)*		
Female officials and legislators	0.016 (0.003)***		0.012 (0.002)***	
Market free openness	-0.428 (0.318)	0.654 (0.344)*	-0.176 (0.239)	0.956 (0.410)**
Distance from the int. markets	-0.012 (0.012)	0.002 (0.018)	-0.019 (0.010)*	0.011 (0.019)
Revolutions and "coup d'etat"	0.012 (0.50)	-0.009 (0.065)		
Latin America	-0.222 (0.042)***	-0.113 (0.049)**	-0.332 (0.077)***	-0.069 (0.059)
Women in government		0 (0.002)		-0.002 (0.002)
Female/male primary completed			0.282 (0.293)	0.27 (0.241)
Female/male life expectancy			1.624 (1.007)	-0.241 (0.901)
Constant	-1.536 (1.496)	1.949 (1.087)*	-1.493 (0.996)	0.241 (0.951)
N	20	29	15	25
R-Squared	0.8	0.42	0.92	0.39

Standard errors in brackets. \*significant at 10%, \*\*significant at 5%, \*\*\*significant at 1%

Source: see part 2.

TABLE 8

GENDER GAP EVOLUTION AND DISSIMILARITY INDEX IN A SAMPLE OF ASIAN AND LATIN AMERICAN COUNTRIES, 1975-1995 (\*).

COUNTRY	YEAR	INEX DISSIMILARITY	GENDER GAP (female/male earnings)
Argentina	1975	0.68	0.55
Argentina	1985	0.41	0.79
Argentina	1995	0.34	0.91
Brasil	1976	0.56	0.23
Brasil	1999	0.62	0.98
Uruguay	1985	0.54	0.65
Uruguay	1995	0.56	0.84
China	1990	0.35	0.84
China	1997	0.38	0.74
South Korea	1985	0.35	0.6
South Korea	1995	0.34	0.7
Singapore	1985	0.49	0.82
Singapore	1995	0.52	0.95

Source: see part 2 of the paper.

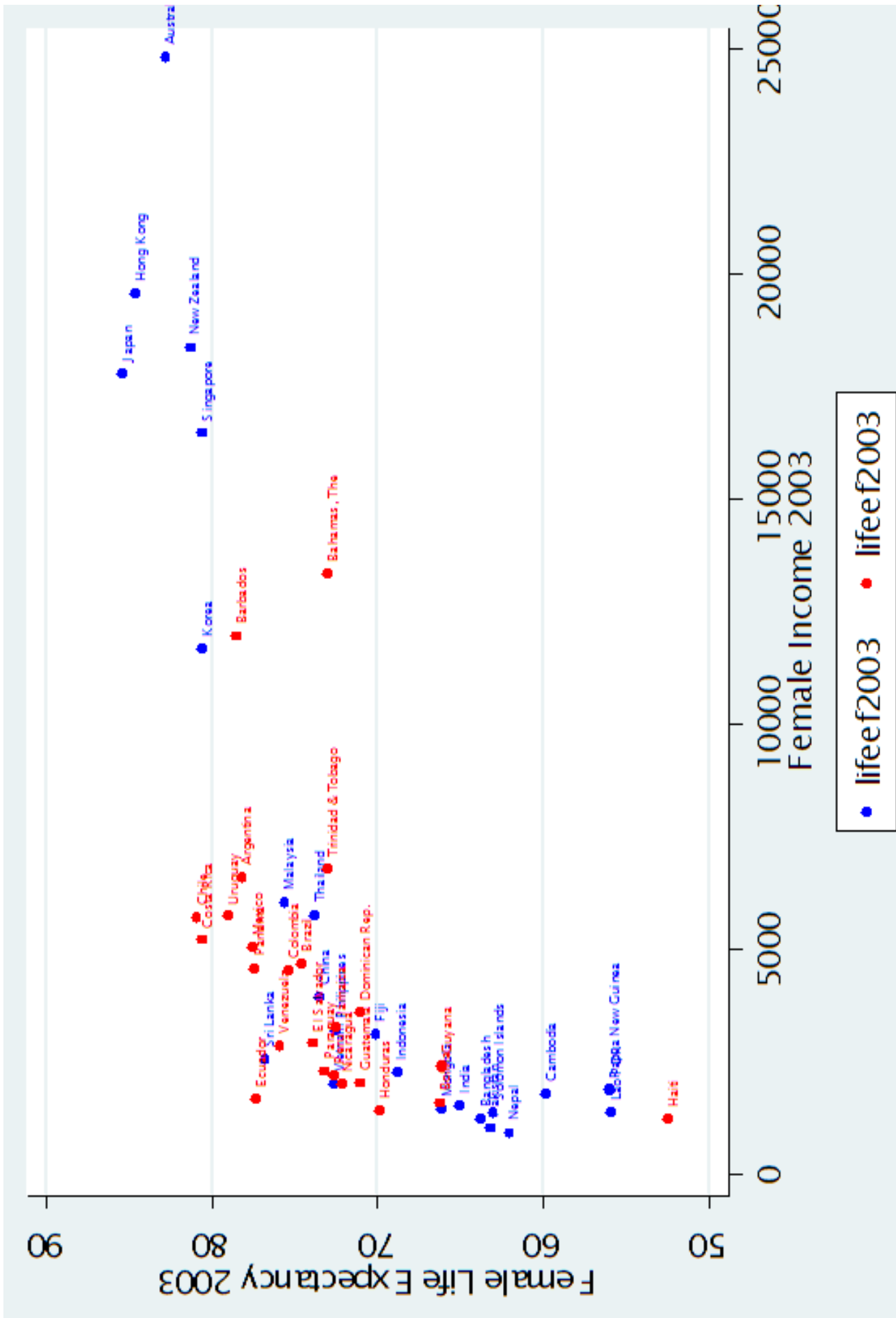
(\*) Latin American results are provisional but we think the final version won't modify the conclusions.

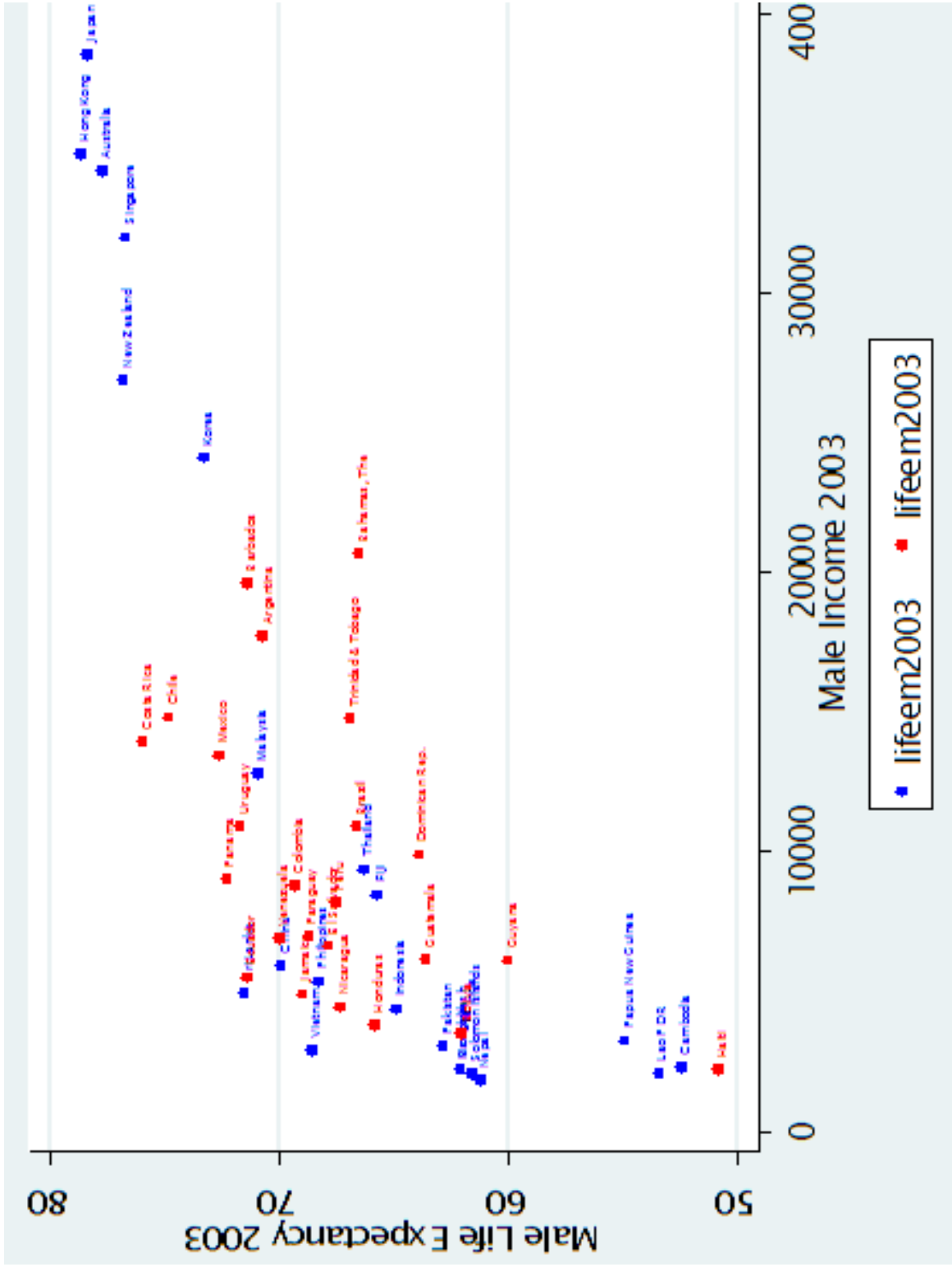
TABLE 9  
 INEQUALITY AND GENDERED INEQUALITY WAGE MEASURES IN A SAMPLE OF  
 ASIAN AND LATIN AMERICAN COUNTRIES, 1975-1995 (\*).

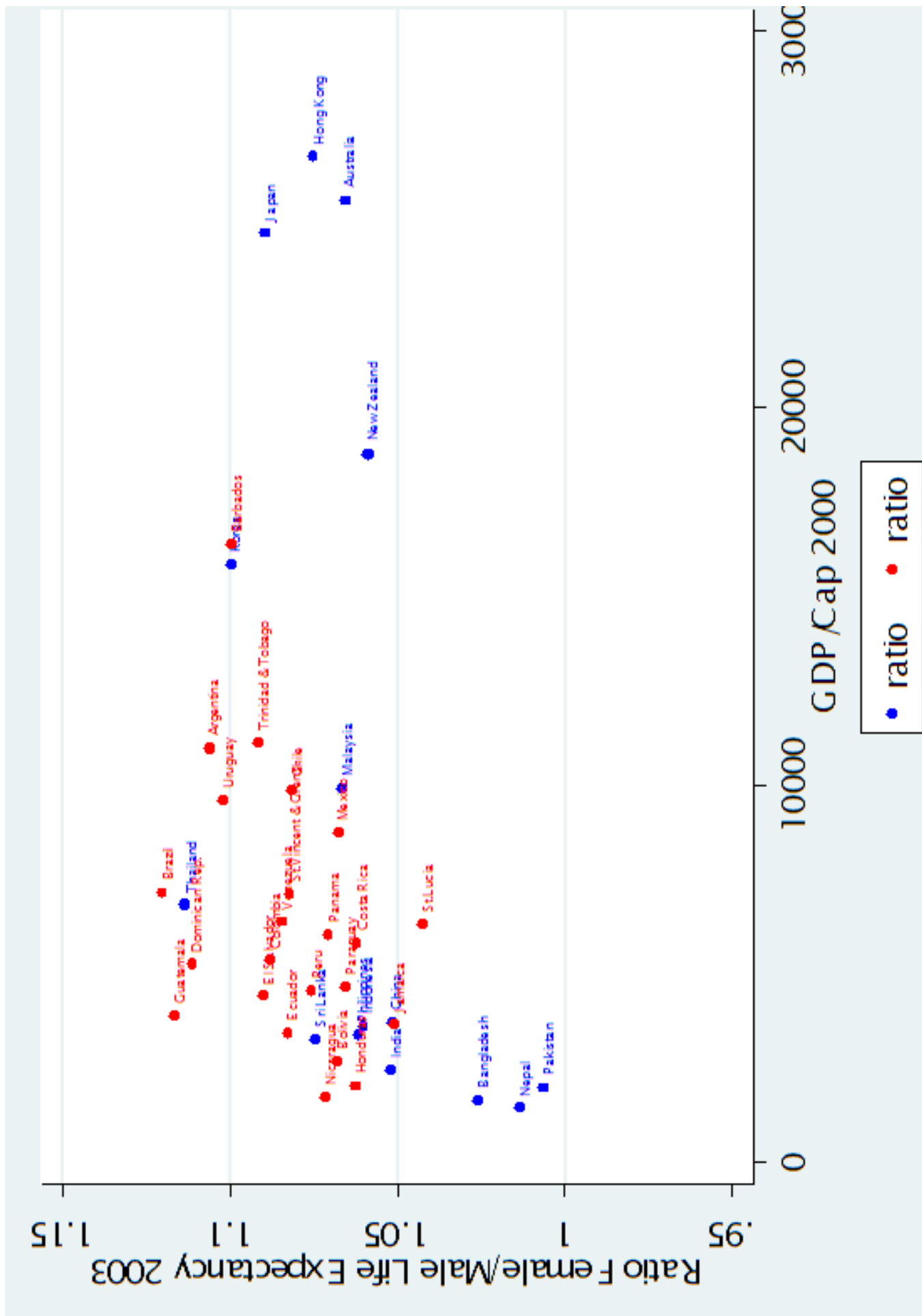
COUNTRY	GINI			THEIL			INEQUALITY		
	Total	Men	Wom	Total	Men	Wom	Men%	Wom%	%
Arg 1975	0.026	0.176	0.226	0.098	0.065	0.084	51.18	19.94	28.87
Arg 1985	0.266	0.252	0.26	0.119	0.104	0.123	51.91	42.24	5.84
Arg 1995	0.223	0.221	0.217	0.084	0.087	0.079	61.06	37.62	1.32
Brasil 1976	0.522	0.45	0.394	0.499	0.332	0.257	45.27	16.39	38.34
Brasil 1999	0.401	0.286	0.33	0.163	0.152	0.193	68.35	31.63	0.02
Urug 1985	0.306	0.318	0.229	0.156	0.17	0.086	61.54	24.01	14.4
Urug 1995	0.286	0.278	0.287	0.13	0.124	0.129	56.44	40.76	3.37
China 1990	0.132	0.145	0.086	0.027	0.032	0.013	63.18	22.33	14.49
China 1997	0.14	0.124	0.084	0.03	0.025	0.013	49.45	16.89	33.66
Korea1985	0.258	0.193	0.269	0.109	0.062	0.122	37.65	37.32	25.03
Korea1995	0.156	0.125	0.122	0.039	0.024	0.027	39.79	24.80	35.41
Singap1985	0.254	0.264	0.238	0.113	0.111	0.103	63.94	32.04	4.02
Singap1995	0.244	0.238	0.24	0.098	0.098	0.096	60.15	39.51	0.34

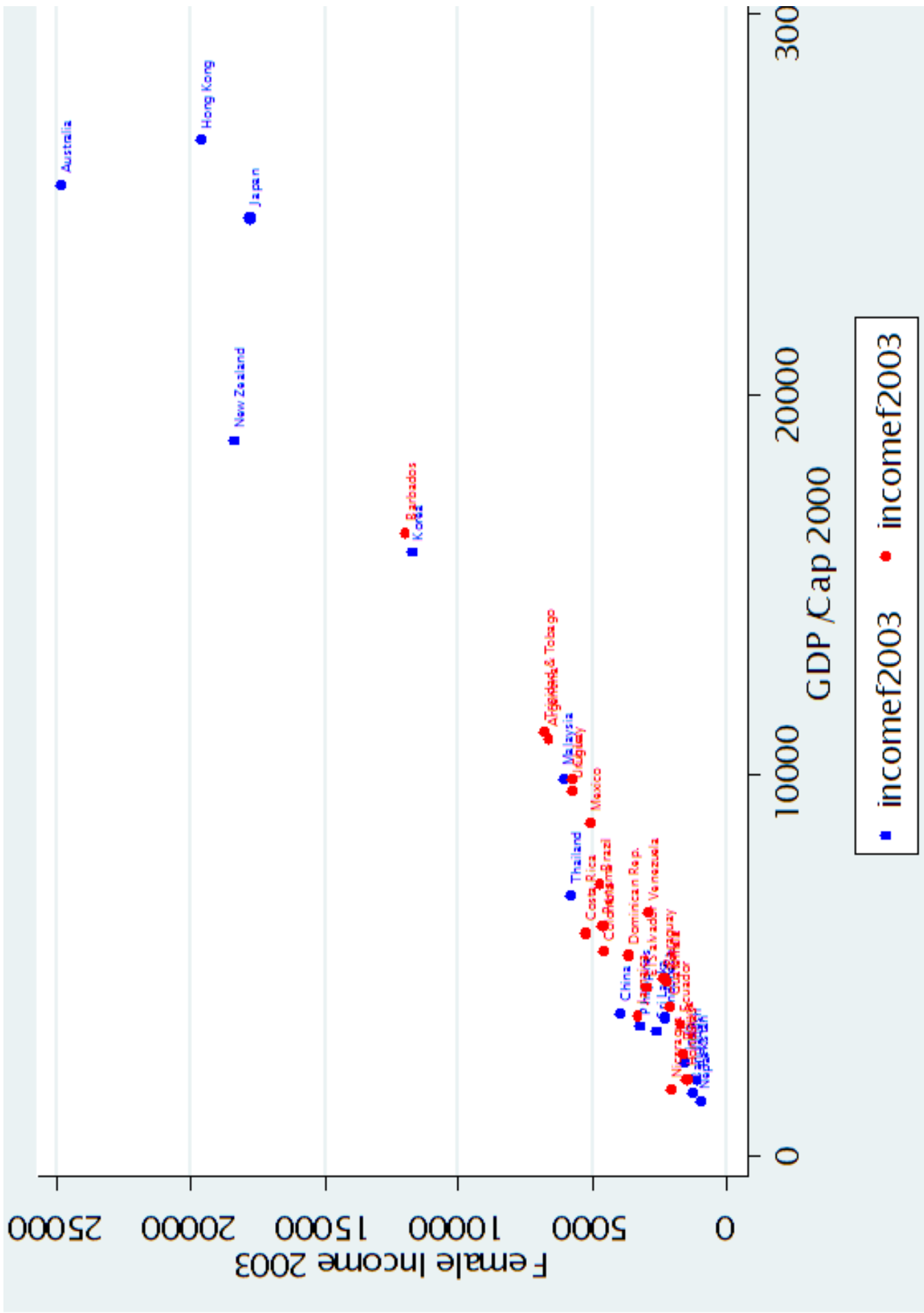
Source: see part 2.

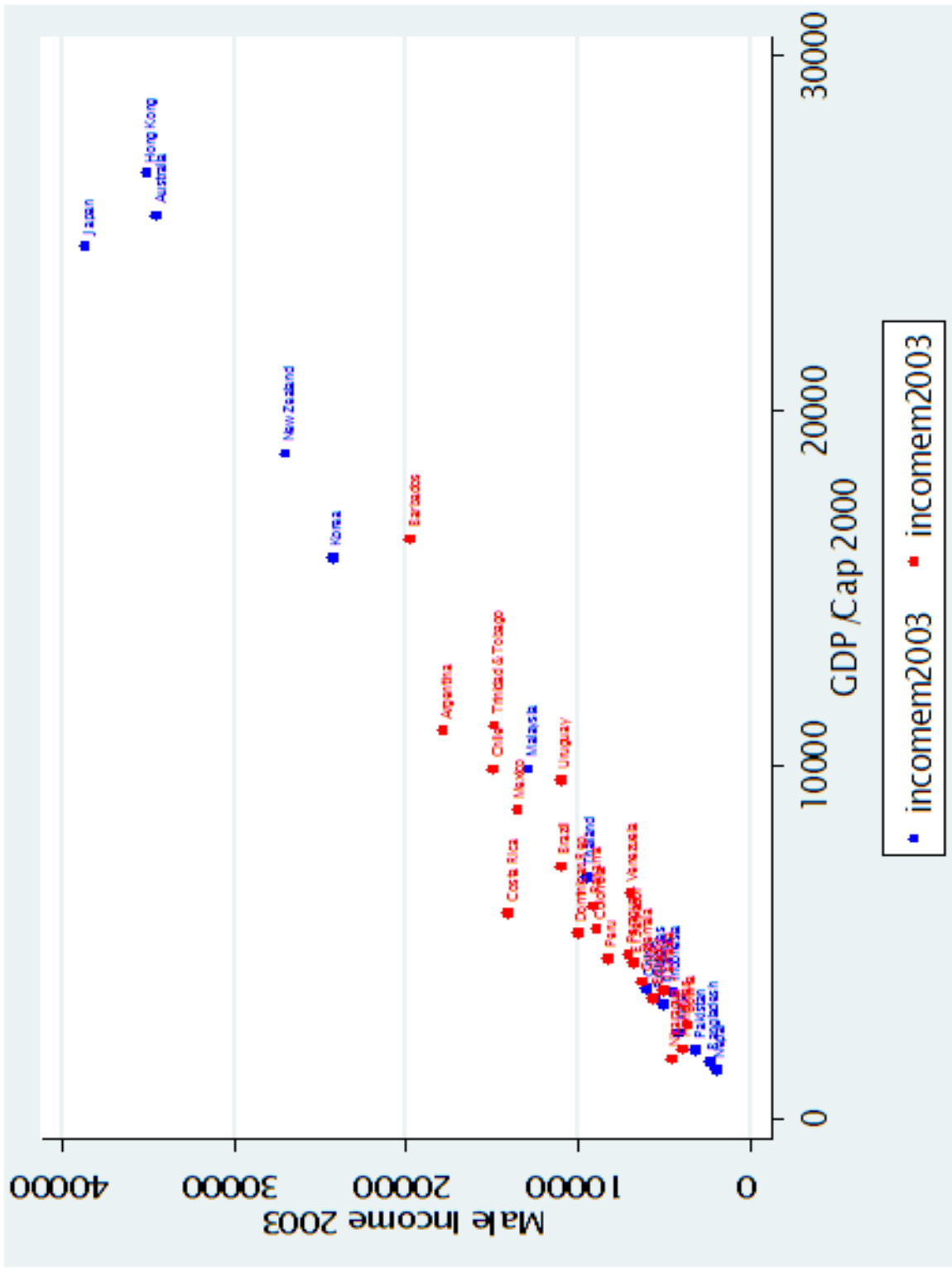
(\*) Latin American results are provisional but we think the final version won't modify the conclusions.











## BILIOGRAPHIC REFERENCES.

Artecona, R; W. Cunningham (2002): "Effects of Trade Liberalization on the Gender Wage Gap in Mexico", Working Paper, The World Bank Development Group.

Barro, R.J.; J-W. Lee (1996): "International Measures of Schooling Years and Schooling Quality", American Economic Review, Papers and Proceedings, 86:2, pp. 218-23.

Barro, R.J.; Lee, J-W (2000): "International Data on Educational Attainment Updates and Implications", WP, Harvard University, August.

Barro, R; Lee J-W (1994): Data Set for a Panel of 138 Countries, available from the Nacional Bureau of Economic Research at: [www.nber.org/pub/barro.lee/zip](http://www.nber.org/pub/barro.lee/zip).

Becker, G (1957): The Economics of Discrimination, (Chicago, University of Chicago Press).

Becker, G. et alt. (2005): "Quantity and Quality of Life and World Inequality", The American Economic Review, march, 95:1.

Beneria, L, M.Floro, C.Grow, M. MacDonald (2000): "Globalization and Gender", Feminist Economics, 63:3.

Beneria, L. (2003): Gender, Development and Globalization. Economics as if All People Mattered, (New York, Roulledge).

Bertola, L.; J.G.Williamson (2006): "Globalisation in Latin America before 1940" in Blumer-Thomas, V., J. Coatsworth & R. Cortes Conde (eds.), Cambridge Economic History of Latin America, Cambridge Ma.,

Bloom, D.; J.G.Williamson (1998): "Demographic Transitions and Economic Miracles in Emerging Asia", World Bank Economic Review (September 1998), pp. 419-55.

Blumer-Thomas, V. (ed.) (1996): The New Economic Model in Latin America and its Impact on Income Distribution and Poverty, (London: Institute of Latin American Studies).

Bourguignon, F.; C. Morrison (2002): "Income Distribution among World Citizens: 1820-1990", American Economic Review, 92, (September), pp. 1113-32.

Boserup, E. (1970): Woman's Role in Economic Development, (Hants: Gower Publishing CL).

Brooks, A. (2006): gendered work in asian cities. the new economy and changing labour markets (Burlington, Ashgate)

Camou, M. (2006): "La calidad de la vida bajo la lupa", WP, Universidad de la Republica de Uruguay.

Chai, J.C.H.; K.B. Chai (1994): "Economic Reforms and Inequality in China", Rvisita Internazionale di Scienze Economiche e Commerciali, 41:8, pp. 675-96.

Coatsworth; J.H.; J.G. Williamson (2004): "The Roots of Latin American protectionism: Looking before the Great Depression" in Estevedordal, A.; D. Rodrik, A.M. Taylor, A. Velasco, Integrating the Americas. FTAA and beyond, DRCLAS, Harvard University.

- Coatsworth, J.H. (2006): “Political Economy and Economic organization” in Blumer-Thomas, V; J.H. Coatsworth; R. Cortes Conde, Cambridge Economic History of Latin America, vol. 1, chapter 7, Harvard.
- Coudourier, G., A. Gomez-Galvarriato (2004): “La evolución de la participación laboral de las mujeres en la industria: una visión de largo plazo”, *Economía Mexicana*, 13:1, pp. 63-104.
- Deininger, K.; L. Squire (1996): “A New Data Set Measuring Income Inequality”, *The World Bank Economic Review*, 10:3 (September), pp. 565-91.
- Deininger, K; L. Squire (1998): “New Ways of Looking At Old Issues: Inequality and Growth”, *Journal of Development Economics*, 57:2, pp. 259-288.
- Dell, M. (2005): *Widening the Border: The Impact of Nafta on Female Labor Force Participation in Mexico*, Oxford University WP, December.
- Engerman, S; K.L. Sokoloff (2002): “Factor Endowments, Inequality and Paths of Development Among new World Economies”, NBER WP, n.9259.
- Engerman, S; K.L. Sokoloff (2005): “Colonialism, Inequality, and Long-Run Paths of Development”, NBER WP, n. 11057.
- Field, E (2003): “Entitled work, Urban Property Rights and the Labor Supply in Peru”, Harvard WP, December.
- Field, E. (2005): “Early Marriage and female Schooling in Bangladesh”, Harvard WP, November.
- Fishlow, A.; A. Fiszbein, L. Ramos (1993): “Distribuzao de Renda no Brasil e no Argentina: Uma Analise Comparativa”, *Pesquisa e Plantejamento Economico*, 23:1, pp. 1-31.
- Fogel, R.W. (2004): *The Escape from Hunger and Premature Death, 1700-2100*, (Cambridge, CUP).
- Freeman, R.B.; Oostendrop, R.H. (2000): *Wages around the world: pay across occupations and countries*, NBER WP n. 8058.
- Freeman, R.B.; R.H. Oostendrop, *Occupational Wages Around the World (OWW)*, available at National Bureau of Economic Research: [www.nber.org/oww/](http://www.nber.org/oww/)
- Galor, O.; D.N. Weil (1996): “The Gender Gap, Fertility and Growth”, *The American Economic Review*, 98.
- Garcia Cuellar, R (2001): *Essays on the Effects of Trade and Location on the Gender Gap: A Study of the Mexican Labor Market*, Harvard University, Economics Department, Doctoral Disertation.
- Gustafsson, B.; L. Shi (2001): “Economic Transformation and the Gender Earnings Gap in Urban China” in Riskin, Renwei, Shi (eds.) *China’s Retreat from Equality*, (New York, East Gate Book).
- ILO Data Sets: [www.ilo.org/public/english/bureau/stat/child/actrep/octing.htm](http://www.ilo.org/public/english/bureau/stat/child/actrep/octing.htm)

- Kabeer, N. (1995): “Necessary, Sufficient or Irrelevant: Women, Wages and Intra-household Power Relations in Rural Bangladesh”, IDS Working Paper Series, 25, Brighton Institute of Development Studies.
- Knight, J.; L. Shi, Z. Renwei (2001): “A Spatial Analysis of Wages and Incomes in urban China: Divergent Means, Convergent Inequality”, in Riskin, Renwei, Shi (eds.) *China’s Retreat from Equality*, (New York, East Gate Books).
- Goldin, C. (1990): *Understanding the Gender Gap*, (Oxford: OUP)
- Hazan, M.; B. Berdugo (2004): “Child Labor, Fertility and Economic Growth”, *The Economic Journal*, 112.
- Higgins, M.; J.G. Williamson (2003): “Explaining Inequality The World Round: Cohort Size, Kuznets Curves, and Openness”, *Journal of Southeast Asian Studies*.
- ILO (1983-2003), October Inquiry, Geneva.
- Lindert, P.H.; J.G. Williamson (2003): “Does Globalization Make the World More Unequal?”, in Bordo, M.D., A.M. Taylor, J.G. Williamson, *Globalization in Historical Perspective*, (Chicago, London; NBER, University Chicago Press).
- Mason, A. (2001): *Population Change and Economic Development in East Asia. Challenges Met, Opportunities Seized*, (Stanford University Press)
- Moran, R. (ed.), *Escaping the Poverty Trap. Investing in Children in Latin America* (Washington, Inter American Development Bank) .
- O’Rourke, K.H.; J.G. Williamson (1999): *Globalization and History*, (Cambridge Ma, MIT Press).
- Prados de la Escosura, L. (2004): “When did Latin America fall behind? Evidence from long-run international inequality”, *Universidad Carlos III de Madrid, Working Paper 04-66*, December.
- Prados de la Escosura, L. (2005): “Growth, Inequality and Poverty in Latin América: Historical Evidence, Controlled Conjectures”, Paper presented at the Conference *The New Comparative Economic History in Honor of Jeffrey G. Williamson*, Harvard University, November 4-5
- Psacharopoulos, G; S. Morley; A. Fiszbein, H. Lee, B. Word (1992): “Poverty and Income Distribution in Latin America: The Story of the 1980s”, *World Bank, Latin America and The Caribbean Technical Department*, (Washington, D.C. Porcessed)
- Reimers, F (ed.)(2000): *Unequal Schools, Unequal Chances. The Challenges to Equal Opportunity in the Americas*, DRCLAS, Harvard University.
- Riskin, C., Z. Renwei, L. Shi (ed.) (2001): *China’s Retreat from Equality*, (New York: East Gate)
- Sala-i-Martin, X. (2003): “The Disturbing “Rise” of Global Income Inequality”, *NBER WP*
- Salaf, J. (1990): “Women, the Family and the State: Hong Kong, Taiwan, Singapore –Newly Industrialised Countries in Asia” in S.Sitcher, J. Parpat (eds.) *Women, Employment and the Family in the International Division of Labor*, (Philadelphia, Temple University Press).
- Samuelson, P. (1948): “International Trade and the Equalization of Factor Prices”, *The Economic Journal*, 58, pp.163-184.

Schultz, T.P. (2006): "Does the Liberalization of Trade Advance Gender Equality in Schooling and Health? IZA Discussion Paper, no. 2140

Sen, A. (1990): "More than 100 Million Women Are Missing", The New York Review, December, 20.

Sen, A. (1992): "Missing women. Social inequality outweighs women's survival advantage in Asia and North Africa", British Medical Journal, vol. 304, 7 march.

Sen, A. (2003): "Missing women-revisited. Reduction in female mortality has been counterbalanced by sex selective abortions", British Medical Journal, 6 December.

Standing, G. (1999): "Globalization Through Flexible Labor: A Theme Revisited", World Development, 27.3, 1077-1095.

Thorp, R. (1998): Progress, Poverty and Exclusion. An Economic History of Latin America in the 20<sup>th</sup> Century, Inter-American Development Bank, New York.

United Nations (2005): Human Development Report, New York.

Williamson, J.G. (1997): "Globalization and Inequality, Past and Present", World Bank Research Observer, 12, 117-35.

World Bank (1995): World Development Report 1995: Workers in an Integrating World. (New York, Oxford University Press).

Wood, A. (1994): North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World, (Oxford: Clarendon Press).

Weichselbaumer, D.; R. Winter-Ebmer (2003): "The Effects of Competition and Equal Treatment Laws on the Gender Wage Differential", CEPR Discussion Paper Series n. 4015