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All types of inequality are not created equal: divergent impacts of inequality on economic growth*

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Abstract

Evidence of an increase in inequality since the 1970s has motivated research on its relationship to growth and development. The findings of that research are contradictory and inconclusive. One source of these divergent results is that researchers rely on different group measures of inequality. Inequality by gender, household, class, and ethnicity may produce divergent effects on growth since they operate on macroeconomic outcomes via alternative pathways. Further, even within groups, the effect of inequality on growth depends on the measure used. For example, inequalities in capabilities (such as education and health status) may operate differently on growth than inequality in wages and income. This paper explores the different conceptual approaches to measuring between-group and within-group inequality and delineates the sometimes-contradictory pathways by which these measures affect economic growth and development. The typology is applied to the case of East Asia and Latin America.

Keywords: Gender, ethnicity, inequality, economic growth
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I. Introduction

The effects of economic inequality have received a good deal of attention from development and macroeconomists in recent years. Interest has been fueled by the rise in inequality between and within countries, evident since at least the 1980s with economists concerned to understand the implications for development and growth. A good deal of ink has been spilled on this topic, but the findings of that research are inconclusive. Some results show, for example, that equality has a positive effect on economic growth. Support for that stance is not unanimous, and it has been shown that under some conditions, *in*equality is a stimulus to growth—or has no effect.

One source of these divergent results is that researchers rely on different group measures of inequality. Inequality by gender, household, class, and ethnicity may produce divergent effects on growth since they operate on macroeconomic outcomes via differing pathways. Further, even within groups, the effect of inequality on growth depends on the measure used. For example, inequalities in capabilities (such as education and health status) may operate differently on growth than inequality in wages and income.

This paper explores the different conceptual approaches to measuring between-group and within-group inequality, identifying the pathways by which these measures affect economic growth and development. In particular, it contrasts the short-run demand side impact of some kinds of inequality as compared to the longer run supply-side effects. This typology is applied to the case of East Asia and Latin America.

With those goals in mind, the paper is organized as follows. Section II discusses the literature on growth and distribution of income by household and class. Sections III and IV, respectively, review the literature on two areas that have received less attention—ethnic and gender inequality. The impact of social exclusion and exploitation are considered, with attention to the different effects on growth of measures of capabilities as compared to

income variables. Section V discusses the macroeconomic role of social hierarchies. Section VI presents a comparative analysis of measures of inequality, with consideration of how these correlate with growth rates. Section VI concludes.

II Inequality, Growth, and Development: The Role of Household and Functional Distributions of Income

Analyses of the effects of distribution indicate a number of pathways by which growth and development are affected.[1] Impacts vary, depending on the group measure of inequality. I review the transmission mechanisms from inequality to growth here for two measures of inequality: household and functional. While researchers are often interested in making generalizations about the effects of inequality, the impact of this variable is mediated by institutions such as ethnic, gender, and political systems, which influence household structure, patterns of job segregation and resource access, as well as possibilities for political participation. It should not be surprising that growth effects differ, depending on the social and institutional environment. They also vary, depending on economic structure, as the next sections on ethnicity and gender suggest.

A. Household Distribution of Income and Assets

Recent theory and empirical analyses of the effects of household inequality focus on long-run supply-side impacts. Shorter run macroeconomic dynamics associated with inequality are elided, perhaps due to underlying implicit assumptions of full employment and smoothly adjusting labor markets.[2] Three transmission mechanisms from household inequality to growth are hypothesized in this literature: 1) effects on education and fertility, and thus labor quality; 2) social conflict impacts on macroeconomic policy; and 3) incentive effects on wealth holders and business owners, including on aggregate saving.

Education/Fertility and Health

The recent inequality-growth literature links inequality in wealth, proxied by income inequality, to underinvestment in education. This is attributed to imperfect capital markets, whereby credit and cash constraints prevent the poor from undertaking the efficient amount of investment in education. The result is underinvestment in poor individuals who exhibit

higher marginal returns to investment. *Ex-ante* redistribution in this case stimulates growth (Galor and Zeira 1993).

A plethora of studies, based on unitary models of the household, theorize a further link of income inequality to growth via the effect on education and fertility. Households with credit constraints, it is argued, use resources for quantity (fertility) of children rather than quality of children (education). Because growth is fuelled by human capital investments, greater income inequality increases the number of poor households with high fertility rates and as a result, low rates of growth.

A variant of this argument is that, in countries with a gender gap, parents will invest more in sons' education than daughters' since their daughters are more likely to marry an educated man (Lagerlőf 2003). A result is high fertility because the opportunity cost of having children is low for women. This leads to less investment in sons' education with the potential to drive the economy into a poverty trap. Many of these analyses have not been buttressed by investigation into gender differences that affect decision-making on fertility. I return to this topic in section III where I discuss gender inequality.

Inequality is also argued to affect productivity and growth via its impact on health status in countries. Numerous empirical studies confirm the link between inequality and ill health, although unraveling the causal mechanism between health and growth is complicated by the feedback effects of growth to health status (Knowles and Owen 1997; Judge, Mulligan, and Benzavel 1998).

Inequality in other assets, particularly land distribution, can also negatively affect growth (Deininger and Squire 1998). This link is hypothesized to operate through the underutilization of land when ownership is concentrated and lack of incentives for waged agricultural workers or sharecroppers to make productivity-enhancing investments in land. Taiwan and South Korea are often cited as countries that instituted a land reform in the early 1960s that led to positive growth effects due to the low food prices resulting from increased agricultural productivity.

Social and political instability

Social discontent and political conflict may result from inequality, transmitted to growth via the negative effect on investment due to heightened risk and uncertainty (Alesina and Rodrik

1994; Larraín and Vergara 1998). The security of property rights may also be called into question in severe conflicts.

A link between inequality and poor macroeconomic policies has also been suggested, based on the view that the median voter influences macroeconomic policies. Inequality is seen as leading to calls for tax policies to redistribute income, depressing the rate of return on investment, and slowing investment and growth (Alesina and Rodrik 1994; Persson and Tabellini 1994).

Despite the widespread attention to the potential for inequality to lead to social conflict, most theoretical models do not explore how inequality to elicit social discontent.[3] Studies seem to contain an implicit assumption, if ill-defined, that inequality beyond a threshold violates norms of fairness, causing a backlash. Assuming this is the case, it implies a group identity in which members have a clear notion of the acceptable parameters of inequality, and the power to translate those group norms into collective action should income inequality become too extreme. This suggests that identity and power mediate the ability of groups to produce social conflict as a cost of inequality. Not all groups are equally powerful. Subaltern ethnic groups and women, for example, may not be able to translate inequality into social conflict.

Incentive effects

Inequality has been argued to produce incentive effects that affect long-run productivity growth. The various hypothesized links are contradictory, however. Most of the literature has emphasized the negative incentive effects of equality, with firms discouraged from expanding investment in the face of lower rates of return, leading to an equity-efficiency trade-off (Okun 1975). Kaldor (1956) argued that a redistribution to high-income households where savings propensities were greater than in low-income households, would increase aggregate saving, stimulating stimulate investment and thereby growth. In both of these scenarios, redistribution to wealth owners is a stimulus to growth.

On the other hand, Knell (1999) has argued that inequality can lead to low saving rates if concern about relative status dominates intertemporal consumption decisions. The result is low aggregate saving rates, with negative effects on investment and growth. This approach, based on theories of social comparison, emphasizes the impact of inequality on psychological well-being. Notions of fairness also mediate the effect of inequality. Earnings

below a threshold of fairness can lead to reduced labor effort, lowering labor productivity and slowing economic growth.[4] Inequality might also lead to a larger number of people engaging in illegal activities that threaten property rights, slowing growth (Fay 1993).

Empirical analyses are not universal in claiming that inequality has a negative effect on growth. Forbes (2000) has found the opposite. In part this is due to the fact that while most standard regressions use initial inequality and its relationship to growth over a 25-year period, thereby assessing long run relationship, Forbes' specification captures short or medium run relations.

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B. Functional Distribution of Income

The mainstream growth literature has given little attention to the role of the functional distribution of income–that is, the distribution of income between wages and profits—in affecting output and growth. Nevertheless, this is an area of vibrant research amongst post-Keynesian and neo-Kaleckian scholars.[5] Theoretical models are more varied, as they are designed to capture the stylized facts about economic structure in the countries under investigation. A number of models, for example, allow for excess capacity with quantity adjustments dominating price adjustments, and for imperfect goods and factor markets, with prices modeled as a mark up over unit costs. With these conditions, redistribution has both supply- and demand-side effects, which can be contradictory.

Focusing on the impact of a redistribution to wages away from profits, three effects are identified. Wages are a cost of production, but also a source of demand, and can influence labor productivity. The net effect of these three impacts determines whether inequality is a stimulus or a drag on growth.

The analysis of the effect on a redistribution to wages is straightforward: higher wages lead to higher prices or lower profits. The result is a negative effect on investment due to profit squeeze disincentive effects, and in an open economy, on exports, leading to economic contraction. Wages are also a source of demand, however, and if the average saving rate of workers is lower than that of capitalists,[6] a redistribution to wages lowers the aggregate saving rate and stimulates consumption demand. This can offset the negative effect of higher wages on profitability and investment.

Historical growth accounts also emphasize the potential for higher wages to have an impact on labor productivity. Amsden (1992), for example, argues that late industrializing

countries must compete with advanced economies by learning rather than through innovation. A fundamental component of this process is the adoption and integration of borrowed technologies. Higher wages help. They stimulate labor effort, as workers are wooed to apply their intelligence on the production line in contrast to economies at a later stage of production in which productivity gains are largely induced by management and by engineers.

Empirical evidence of the productivity-push effect of higher wages is provided by Marquetti (2004) for a set of 36 countries, and Seguino (1999-2000) for South Korea. The implication of these results is that within a band, higher wages can be a stimulus to productivity growth and can thus rise without disrupting profits or product prices since efficiency wage effects attenuate increase in unit labor costs.

Higher wages may also push employers to invest in labor-saving technology in defense of their profits, raising productivity. Conversely, low wages can make firms "lazy" since competitive advantage can be obtained on the basis of lower wages instead of productivity enhancing investment under conditions of uncertainty. Seguino(2005) finds empirical evidence that downward pressure on wages can induce negative productivity effects, as firms face less competitive pressure to technologically upgrade. This may be a historically specific relationship, linked to globalization and increased macroeconomic volatility. Alternatively, employers may attempt to induce labor effort without raising wages so that unit labor costs fall. It has been noted, for example, that equilibrium unemployment can be used as a worker discipline device (Bowles and Gintis 1990; Kalecki 1971; Shapiro and Stiglitz 1984).

These short-run demand side macroeconomic disturbances can produce long-run growth effects. Particularly notable are hysterisis effects of prolonged unemployment (Darity and Goldsmith 1997; Roed 1996) and limits on the ability to import frontier technology that can slow productivity growth.

These effects suggest that the functional distribution of income is a determinant of growth. Under some conditions, a redistribution of income from profits to wages can be a stimulus to growth. The conditions under which an economy is wage-led or profit-led (in the parlance of neo-Kaleckians) is influenced by the structure of the economy, the stage of development, external relations with the rest of the world, and class-based differences in saving and consumption. To the extent these transmission mechanisms carry weight, we

should expect that the relationship between inequality and growth is not universal but rather is historically specific and influenced by a country's economic structure.

While the household distribution of income and, to a much lesser extent, the functional distribution comprise the dominant conceptual categories used to measure effects of inequality on growth—that is, along hierarchical or class lines—two types of inequality that matter for growth do not fall neatly into these categories. These are discussed in more detail in the next two sections.

III. Racial/Ethnic Inequality and Growth

The social construct of race is a relatively recent phenomenon in human history but ethnicity, a form of group-based identification, has a much longer vintage. The cleavages along ethnic lines in recent years may be the reason that some economists assume that ethnic diversity almost inevitably results in social rivalry and conflict that has implications for the rate of growth.

Easterly (2002), for example, argues that ethnic diversity, measured linguistically, can lead to conflict and slower growth. Politicians may exploit ethnic differences to cultivate an ethnic power base and conflict in order to remain in power. Ethnically divided societies, if spatially segregated, may also vie for public investment in their areas, leading to reduced investment in human capital of ethnically oppressed groups.[7] Indeed, Easterly and Levine (1997) argue that ethnic diversity in Africa explains low schooling, political instability, underdeveloped financial systems, high government deficits, and insufficient infrastructure in that region. Along these lines, Mauro (1995) posits that linguistic diversity leads to greater political instability and that this in turn leads to higher government consumption (as a means to assuage outsider groups) and lower growth.

Another argument is that diversity increases the likelihood of rent-seeking behavior, which is in turn influenced by the "contest success function" or the probability of successful rent-seeking. With this in mind, Montalvo and Reynal-Querol (2002) argue for a conflict measure of ethnicity based on polarization rather than ethnic linguistic fragmentation. They develop an index that reaches a maximum at two equal-sized ethnic groups. The construction of the index directs attention not to the number of ethnic groups but at whether they view other groups as a threat to their interests. Homogeneity, on the other hand, is argued to raise social capital and trust and stimulates growth. The emphasis in this

literature has been on ethnic diversity in Sub-Saharan Africa as an important cause of slow growth.

Numerous studies fail to confirm the significance of racial diversity or find instead that its effect on growth is mediated by other factors. Collier (2001), for example, finds no negative effect of ethnic diversity in democracies, but determines that it reduces growth in a number of dictatorships.

Many of the empirical studies suffer from a major problem in that the ethno-linguistic fragmentation (ELF) index itself is flawed. Darity (2000) and Cramer (2002) note, for example, that some countries are registered as linguistically homogenous (e.g., Rwanda), failing to reflect the ethnic tensions that led to genocidal violence in that country. Haiti, which has been wracked by political and social conflict, receives a score of 1 in the index (the lowest possible value, indicating linguistic homogeneity). And yet, Haiti is deeply divided along class and ethnic lines with the poor black Haitian peasants in conflict with the Haitian elite (mulatto and European).[8]

Rather than diversity *per se*, it is likely that a critical mediating factor is the distribution of income and assets between ethnic groups. Ethnicity becomes a social marker when used as a mechanism to assign access to and control over resources. Inequality of income can result from unequal access to property; discrimination that limits access to jobs (social exclusion); job segregation with "crowding" leading to downward pressure on wages; or out-and-out discrimination that results in wage inequality. Inequality in access to public resources, such as education, can further exacerbate inequalities.

Unequal resource and income distribution can have several effects on growth. First, job segregation whereby subaltern groups are allocated the "bad" jobs (low wage, dead end, dangerous jobs with little authority) can reinforce social cohesion amongst workers and employers of the dominant ethnic group. The social cohesion of the dominant group may render oppressed groups unable to resist harsh working conditions, due to legal, social and psychological impediments to protesting. Examples include slavery in the "new" world, guest workers in Europe, migrant laborers in the US, and Malaysian workers in Singaporean export factories (Lee 2004).

This last example points to a possible relationship between ethnicity and growth—that is, the segregation of less powerful ethnic groups into the worst jobs and/or those that generate foreign exchange. Indigenous groups in Latin America that produced primary

commodities for export, black South Africans' employment in resource extraction industries, and of course, in earlier times, new world slaves employed in agricultural production. Insofar as low wages resulting from group discrimination stimulate profits and result in low consumer prices, growth may be stimulated—at least in the short run.

If, however, ethnic groups feel empowered and/or they form a sizable population, inequality can lead to conflict rooted in concerns about fairness. This is plausibly linked to negative effects on investment in cases where communal violence emerges (e.g., Sri Lanka, Rwanda, Gujarat, India, Guyana). This argument implies that ethnic heterogeneity, linked with ethnic income inequality, can potentially be a source of downward pressure on growth rates.[9]

In the longer run, ethnic inequality can lead to underinvestment in human capital of the subaltern group. Feedback effects on ethnic inequality are plausible whereby slower growth results in greater resource scarcity, ethnic exclusion as a means for the dominant group to maintain control over resources, and further underinvestment in human capital amongst disadvantaged ethnic groups.

Perhaps not surprisingly, Darity and Deshpande (2000) find that few unqualified claims can be made about the relationship between inequality and development. Numerous high income countries, for example, have wide ethnic gaps in income and capabilities, such as the United States, Canada, Japan, and New Zealand. In those cases, the benefits accruing to dominant groups of ethnically based economic inequality have outweighed the costs for growth via social and political conflict. Why is this so? One possibility is that the minorities are so small in numbers as to not constitute a threat to social stability. The second, and this may be related, is that ethnic oppression has contributed to internalized racism, whereby oppressed ethnic groups accept blame for their low socioeconomic status, thus failing to protest inequality. These examples lead to a key question: How does ethnic diversity interact with the productive economy, distribution of assets and income, and social exclusion, coupled with ethnic/racial ideologies to affect growth? This question suggests the useflness of a case study methodology for tracing effects of ethnic diversity to growth.

IV. Gender Effects on Growth

Theoretical and empirical work on the relationship between gender inequality and economic growth is in its incipient stage.[10] A key feature of the emerging field of gender and

macroeconomics is the central role played by the gender division of labor, socially structured and as a result varying, but which universally results in differential bargaining power between women and men, with implications for macroeconomic outcomes. This work highlights two important theoretical considerations for the effect of gender on growth.

First, gender roles are not time and space invariant. Nevertheless, to varying degrees universally, women bear the preponderant burden for provision of unpaid labor to the household—the "care" or reproductive economy. Their role remains invisible because such work is ignored in national accounts, and yet that work is essential to the reproduction of the current labor supply and the production of the future labor supply. Labor is in other words produced, not exogenously given. Second, research in this area indicates that the household is not a unitary institution and instead, is the site of both cooperation, bargaining, and conflict.[11] The gender balance of power within the household has significant effects on resource and labor distribution at the household level.

With regard to growth theory, the implications of gender divisions of access to resources, labor segregation, human capital investments, and differential bargaining power in the labor markets and at home, is that short- and long-term effects of gender inequality on the macro economy may diverge, depending on the structure of the economy. I review the highlights of that research here, focusing on the work that sheds light on the relationship between gender and growth.

The Household, Unpaid Labor and Non-Cooperative Bargaining

The household is an important site for the distribution of resources and income, and the place where the future labor supply is produced (and the current one reproduced in the sense of being revitalized to maintain productivity). Who does this work and how household income gets distributed have repercussions for labor productivity. The "new household economics" saw these decisions as determined in a harmonious way. Adult members were assumed to convivially engage in specialization in order to maximize household resources, and then equitably divide up the rewards of their labors between themselves and their children.[12] Influenced by trade models, this approach views women as having a comparative advantage in caring labor, resulting in their choice to specialize in unpaid work while males specialize in paid work. Because income was assumed to be pooled, women's lack of access to paid work was not considered problematic or the source of inequality. Further women's

performance of caring labor was considered to be a result of her "natural" endowments of empathy.

Recent work, a great deal of which focuses on African and Asian households, has turned the new household economics on its head, and suggests that the home is not always a happy place. Neither work nor resources are equitably shared, and instead are the target of negotiation due to conflicting interests between household members. Bargaining power is influenced by a person's fallback position—her or his next best alternative, should the bargaining fail to lead to an agreement (in this case, divorce or dissolution of the two-adult household). For women with responsibility for children, bargaining power depends on a variety of factors—access to outside income, divorce laws that protect the party's access to marital resources, child support legislation that obligates the non-custodial parent to support children, and social norms that do not stigmatize divorce.

Where women have more bargaining power, their preferences are likely to receive greater weight in negotiations over how to use family resources and labor. This is because their access to outside resources, should the outcome of negotiation be divorce, provides a more credible "threat," making it more difficult for the male adult to impose his own preferences. Simply put, she has less to lose from divorce and he knows it, so he is more likely to cooperate and take her preferences into account. In the case where women's bargaining power improves, the distribution of household resources tends to become more equitable. Indeed, the data indicate that when women's income rises, which raises their bargaining power, household expenditures on children for health care, schooling, and food rise. This contrasts to male spending patterns with men spending a larger share of their income on luxury goods for themselves—e.g., cigarettes, tobacco, alcohol, and gambling. Improvement in women's fallback position (such as higher income) also results in higher female to male sex ratios. This is because women are better able to direct family resources to children and, in particular, it seems, to protect their girl children.

One case study in the Ivory Coast found that to achieve the benefits on children's health and nutrition of a $10 per month increase in women's income, men's income would have to rise by $110 (Hoddinott and Haddad 1995). This is because men spend a much smaller share of income on family. Likewise, in Mexico, a study found that men spend only 50% of their income on the family, while women's share was close to 100% (Chant 1985). These findings are robust across countries.[13]

The policy implications of this are important. Efforts to improve family well-being are likely to be more successful if they are targeted at increasing women's access to paid labor and therefore income. Who earns the income in the household matters. Insofar as health capital and educational investments stimulate growth, we might anticipate that greater gender equity stimulates growth.

One of the earlier insights of feminist research on gender and development was that macroeconomic policy makers treated the supply of reproductive labor as infinitely elastic—assuming an unlimited supply of labor, with women costlessly accommodating any change in macro level policies. More realistic growth models would incorporate the evidence that labor supply is not exogenously determined but rather is a function of the gender distribution of earnings, resources, and power. Indeed, we can think of modeling the labor supply as generated by a "reproductive" function, one of whose determinants is the degree of gender equality.

Gender Divisions of Paid Labor and Economic Growth

The preceding discussion suggests that gender inequality can produce long-run negative effects on growth. However, gender inequality may have even more immediate effects on the demand side. These effects can be traced through their impact on macroeconomic aggregates—investment, exports, and saving. I discuss each in turn.

The gender division of labor permeates paid labor markets, with women slotted for jobs that are low-wage, of limited duration, and without a job ladder. Various reasons exist, such as women's gender role as caretaker of children that limits time and flexibility for participation in labor markets; patriarchal norms that result in women being forced to quit work upon marriage in order to provide full-time unpaid labor services in the home; gender stereotypes about women's capacities (sequestration in garment industries is often associated with the claim that women have more "nimble" fingers); differential access to education and training.

The causes vary, as do the mechanisms used to segregate women into industries that, at least in the semi-industrialized economies, tend to be export sector jobs. The result, however, is almost as inevitable as death and taxes and that is that gender wage gaps are in evidence globally and a sizeable portion of those gaps is due to discrimination. The resulting gender wage inequality has been shown to be a stimulus to growth in semi-industrialized

economies, controlling for gender differences in educational attainment (Seguino 2000a, 2000b).

The transmission mechanism from low female wages to growth is via the effect on firm profitability, stimulating investment. Women's segregation in export industries and their low wages can also contribute to a country's "comparative advantage" due to the resulting lower export price (Busse and Spielmann 2003; Osterreich 2002),[14] thereby stimulating not only aggregate demand but also foreign exchange earnings. At least for semi-industrialized economies trying to move up the industrial ladder, foreign exchange is required to finance technology imports—in the form of imported intermediate and capital goods or technology licensing. The countries most successful at this strategy have been East Asian economies, where gender wage gaps are some of the widest in the world. Many growth studies point to the equality of income distribution in Asia as a source of growth. But income distribution, which measures total household income, collapses data on and obscures gender inequality within the household. Countries with the widest gender wage gaps appear to be those with the most equitable distribution of household income. A scatter plot of income distribution, from the Deininger-Squire data set, and gender wage differentials (measured as the log difference of male and female wages) for Latin America and Asia makes this point visually (Figure 1).[15] Studies then that link Asian growth with equality are likely missing an important component of inequality that stimulates growth.

(Figure 1 about here).

Gender inequality may also influence the level of aggregate saving, resulting from women and men's differing propensities to save (Floro and Seguino 2003). Gender differentiated saving propensities may result from gender differences in responsibilities for care of children and perceptions of economic insecurity and risk. Women, for example, may prefer to save more than men to finance children's education and for emergencies. They may also be induced to save more to smooth consumption due to their experience of volatile employment and weaker access to social safety nets. All of this implies that a redistribution of income from men to women will affect the level of aggregate saving with implications for output and growth. That effect depends, of course, on whether higher saving is a stimulus to growth, á la Kaldor, or dampens demand due to the negative effect on consumption.[16]

As the preceding analysis suggests, gender inequality in the household and in labor markets can have contradictory effects on macroeconomic growth. In the short run, gender

discrimination in labor markets reduces costs, stimulates investment and exports, and thereby growth (Blecker and Seguino 2002). But in the longer run, women's unequal outside options relative to men can result in gender dynamics within the household that result in sub optimal investment in children's well-being, producing negative effects on future economic growth.

In agricultural economies, these dynamics may differ, and gender inequality might have more immediate negative effects on growth. Darity (1995), for example, shows that the degree of gender inequality at the household level influences labor supply responses under structural adjustment. Women's role as subsistence farmer, responsible for feeding children, can be affected, for example, by men's control over female labor to work on cash crops. The result can be reduced household well-being especially for girl children, whose labor is sometimes drafted to substitute for the mother's household labor. Limitations on women's ability to shift their labor to the production of cash crops can hamper the labor supply response that is assumed to be elastic in many structural adjustment programs.

A salient gender variable then is a measure of relative bargaining power between men and women, reflecting their outside options. Sometimes education is used, but the pervasiveness of gender wage discrimination suggests that a better proxy is the gender wage gap. The gender wage gap not only proxies for influences on household bargaining power but also is correlated with demand-side effect of gender inequality. I discuss both of these.

Gender Educational and Wage Gaps

Most variants of growth theory suggest that knowledge is a key component to increasing productivity and growth. While a host of studies have considered the effect of female education on growth, the role of gender specific educational attainment has been difficult to establish empirically. Earlier growth analyses found no effect or a negative effect of female education. Those studies suffered from specification problems that resulted in multicollinearity between levels of the male and female education variables. Recent work with a more solid theoretical framework solves this problem by including a measure of the education gap between men and women, controlling for the country-specific level of education. Positive effects of equitable education investment on growth are found (Hill and King 1995; Lorgelly, and Owen 2002).[17] The argument is that education raises women's

productivity, giving them the bargaining power to limit fertility[18] and improve children's well-being.

How do we reconcile the divergent results that inequality in wages is a stimulus to growth and yet inequality in educational appears to have the reverse effect. While they might appear at first glance to be incompatible, on closer examination they are not. Education does raise productivity. If there were no discrimination and women had greater bargaining power, they might be able to appropriate the benefits of higher education in the form of higher wages. But their lack of bargaining power holds their wages down. As a result, the increase in education benefits capitalists—in the form of lower unit labor costs, and thus higher profit—which may stimulate investment and therefore growth.

Further, productivity growth may also result in lower product prices, stimulating export demand and thus growth in an export-oriented open economy. Thus the combination of narrow educational gaps and wide gender wage gaps can be a stimulus to investment, exports, and growth in the short run. Tracing the longer run effects of this path are complex. As long as short-run growth leads to higher absolute per capita income but preserves gender inequality, household resources may suffice to provide for higher investments in children—albeit with gender gaps—that continue to stimulate further growth. The prime examples of this dynamic are Japan, South Korea, Taiwan, and Singapore.

It will be apparent to the reader by this point that there are weaknesses in this analysis. Gender and ethnic inequality have been discussed as though they are separate phenomena. They are not (Saunders and Darity 2003). Individuals belong to a number of groups, some overlapping. The interaction of race and gender, or ethnicity and religion, for example, can result in different types of macroeconomic effects. In the case of Singapore, female Malay women are sequestered in low-paid export industries, and thus gender links with ethnicity to stimulate export growth through low wages. Educated Chinese women are not nearly so disadvantaged as young female Malay women—and indeed may benefit from that type of gendered ethnic exploitation.. But in South Africa, reliance on black men to provide labor for extractive industries, such as diamonds, suggests that ethnic inequality had strong effects on men, and black women were not affected in the same way, although clearly their well-being at the household level was strongly affected by the husband's lack of labor opportunities. A more complex interweaving of how different group identities combine to produce unequal outcomes and macroeconomic effects is more attuned to a country-level

analysis, and until more research is available at that level, it will be difficult to make cross-country generalizations.

V. The Macroeconomic Role of Hierarchies

Ethnicity and gender hierarchies can serve a functional roles in market economies. As Rhonda Williams (1987) notes, "Capitalism creates bad jobs, good jobs, and no jobs." Ethnic and gender hierarchies influence the distribution of those jobs. That women and ethnic/racial subaltern groups are most often slotted for the lowest paid jobs or unemployment when jobs are scarce should alert us to the fact that growth is influenced by more than just household distribution of income. Indeed, such a limited measure may obscure other salient inequalities that have important effects on growth, both short- and long-term. Whether relegating some groups to lower rungs of the economic hierarchy will succeed in stimulating growth, it would seem, depends on a variety of factors, including their capacity to impose costs or resist marginalization or exploitation, not to mention the longer-run productivity effects on the labor supply.

This implies that inequality is not an unambiguously losing or winning proposition in terms of its effects on growth. The potential costs of social and political conflict, underinvestment in children, and more generally, human capital must be weighed against the benefits of exploitation (underpayment of workers due to lack of bargaining power) and exclusion (unemployment shifted to marginal groups to limit social conflict amongst dominant groups).

VI. Comparison of Inequality Measures

This section compares several measures of inequality, assessing the extent to which they overlap or diverge. I do this for a global data set, as well as a subset of semi-industrialized (middle income) countries where the role of gender and ethnic inequality is hypothesized to diverge from that in agricultural or mature industrial economies. Several data sets are compared: manufacturing wage inequality; household distribution of income; gender wage and educational gaps; and racial/ethnic wage and income gaps.

Efforts to improve the quality of inequality data are well-known, beginning with the Deininger and Squire (DS) income inequality data set receiving a good deal of attention in recent years. Concerns about the sparseness, quality, and comparability of these data exist,

however. The University of Texas Income Project (UTIP) has developed a new inequality measure, based on data collected by the United Nations Industrial Development Organization (UNIDO). Manufacturing wage data from UNIDO are used to calculate the between groups component of Theil's T statistic for manufacturing wage inequality.[19] Galbraith and Kum (2005) maintain that this measure of inequality is a useful replacement for income inequality measures based on household and expenditures survey, due to its greater availability and because, at least in industrialized countries, there seems to be a strong link between increased earning and wage inequality and income inequality. To the extent this holds, the UTIP-UNIDO data set provides a denser data set on inequality to facilitate empirical and causal analyses.

Galbraith and Kum (2005) also use the DS data set to estimate gross household income inequality, computed from a regression relationship between the Deninger and Squire inequality measures and the UTIP-UNIDO pay inequality measures, controlling for the source characteristics in the DS data and for the share of manufacturing in total employment. Their adjusted DS data set is also used in this analysis.

Several indicators of gender inequality are provided. These include three that measure gender gaps in capabilities (education gaps, life expectancy gaps, and population ratios).[20] Gendered gaps in income inequality, which can also be viewed as a proxy measure of bargaining power differentials that influence household income, are captured by the ratio of male to female to male earnings. Gender wage gap data are available from the International Labour Organization and are supplemented by data extracted from individual country studies.

In addition, I provide some preliminary data, extracted from a wide variety of sources, on racial/ethnic wage inequality ethnic inequality for a limited number of countries (11), based on Darity and Nembhard (2000) and supplemented by data from several additional country-level studies on ethnic earnings gaps.[21]

For illustrative purposes, data on so-called ethno linguistic fragmentation (ELF) is provided as well as a newer measure, based on the ELF data set, of ethnic polarization data from Montalvo and Reynal-Querol (2005). The ELF index can be interpreted as the probability that two randomly selected individuals in a country belong to different ethnic groups as measured by language differences.[22] The polarization index, based on an underlying hypothesis about the determinants of group conflict, is a measure of the size of

the ethnic minority relative to an ethnic majority. The assumption is that the closer in size the two groups, the greater the likelihood of conflict. This reflects the view that heterogeneity does not intrinsically lead to conflict; rather that potential is linked to the relative size of the ethnic groups. Neither of these measures directly measures income differences.

There are notable problems with these data, particularly by gender and ethnicity. The earnings data suffer from sparse coverage, varying time units of measurement (days, hours, months), and of course, fail to capture wages in the informal sector, a problem that is particularly problematic when assessing gender wage gaps. This is because women are more likely than men to be employed in the informal sector (including in home working or subcontracting arrangements, where establishment size is small). The evidence suggest that informal sector wages are substantially lower than those in the formal sector, even for the same work, and thus it is likely gender wage gaps are wider than the official data suggest. Where possible, correction is made for hours of work. In most cases, data are for the manufacturing sector, but in other cases, the ratios are economy-wide earnings.

With regard to ethnicity, these data combine both wage inequality and income inequality data, and as such, reflect some of the problems that the Deininger-Squire data do in terms of comparability. However undesirable this is, these data permit a preliminary step in developing an empirical understanding of the role of racial ethnic inequality in development and growth, as compared to other measures of inequality.

Table 1a gives the correlation matrix for the various measures of inequality for 1998 or the nearest year (within 3 years), but excludes ethnic inequality, due to the limited number of observations which can distort the correlations. Table 1b gives correlation coefficients for ethnic inequality and the remaining inequality variables.

Table 1a: Correlation Matrix of Inequality Variables

	Gender Wage Gap	M/F Population Ratio	M/F Life Expectancy	Gender Educational Gap	ELF	Ethnic Polarization	DS-Adjusted	Theil's T
Gender Wage Gap	1.00	0.09	-0.11	0.03	-0.14	0.07	-0.12	-0.07
M/F Population Ratio		1.00	0.58	-0.43	0.35	0.31	0.27	0.16
M/F Life Expectancy			1.00	-0.32	0.48	0.15	0.25	0.13
Gender Educational Gap				1.00	-0.26	-0.01	-0.30	-0.32
ELF					1.00	0.72	0.56	0.40
Ethnic Polarization						1.00	0.54	0.41
DS-Adjusted							1.00	0.87
Theil's T								1.00

Note: n=68. DS-adjusted are Gini coefficients from the Deininger-Squire data set, adjusted for comparability and coverage by Galbraith and Kum (1995). Life expectancy and population ratio data are calculated from World Development Indicators. Data on gender educational gaps are derived from Barro and Lee (2000). The limiting factor is gender wage gap data. If we exclude gender wage gaps from these correlations to make full use of the data on 138 countries, the correlations are qualitatively if not also quantitatively similar.

Several features of these correlations draw our attention. The gender wage gap is not strongly correlated with any other measures of inequality. Nor is it closely correlated with measures of gender gaps in capabilities. The correlation between the gender gap in wages and the male/female population ratio is only 0.09, and with the male/female life expectancy ratio, the correlation is –0.11. Perhaps more surprising is that the correlation between educational and wage gaps is very weak (0.03). Assessing the influence of gender inequality on macro variables clearly requires a diverse set of indicators to capture the various dimensions of inequality that can affect growth outcomes. This is consistent with the divergent results obtained from cross-country studies that assess the role of gender inequality in influencing growth (Section IV).

Also noteworthy is the weak negative correlation between the gender wage gap and the DS-adjusted and Theil's T measures. Given that the household distribution of income collapses gender wage inequality, it is not surprising that there is little correlation between the two. However, that the gender wage gap is also inversely correlated with the Theil's T, although this too is a weak relationship, is unexpected. Finally, note the much stronger correlations between the DS-adjusted, Theil's T, and the ELF and polarization measures. All correlations are positive, and in some cases quite strong. Most empirical analyses of the effects of inequality on growth, using these measures, find evidence that inequality hampers growth, in contrast to the gender wage gap.

Table 1.b: Correlation of Ethnic Wage Gap with Other Inequality Variables

	Ethnic Wage Gap
Polarization	0.41
ELF	-0.002
Gender Edcuation Gap	0.27
DS-adjusted	0.13
Theil's T	-0.23
Gender Wage Gap	-0.41

Note: n=11.

Table 1b gives correlations of the racial/ethnic inequality variable with other income equality measures and the educational gender gap. Because there are only 11 observations, these correlations should be viewed with caution. The strongest is between the polarization index and ethnic income inequality, while the correlation with the ELF is close to zero. The gender educational gap and ethnic income inequality are positively related but weakly.

The ethnicity variable is weakly and positively correlated with the DS-adjusted measure. It is not clear why this would be so, although it is possible that a low correlation will result if the size of the subaltern group is small. With regard to wage distribution, the correlation is negative and slightly stronger. Because the Theil's T data are for manufacturing only, the correlation between this and the ethnic income gap is influenced by ethnic patterns of job segregation. The correlation will be close if job segregation along racial lines in manufacturing is severe and the subaltern group is relatively large.

In some cases, however, subaltern groups are excluded from manufacturing employment and for a variety of reasons are sequestered in other sectors of the economy, either due to outright discrimination or due to underinvestment in social infrastructure that impedes their ability to compete in labor markets An example is indigenous populations in Latin America, employed (and often marginalized) in the agricultural sector, unable to compete in a variety of manufacturing sector jobs. In those cases, the Theil's T measure is unlikely to show a strong correlation with ethnic inequality.

Interestingly, the gender wage gap and ethnic wage gap show a pronounced negative correlation (See also Figure 2). This may reflect a pattern whereby in ethnically diverse

societies, ethnically-based exploitation and marginalization substitutes for such gendered practices, with subaltern groups providing least-cost labor that stimulates investment and exports. In ethnically homogenous societies, gender power imbalances can result in women being allocated to the low rung of the economic ladder (Darity 2002, 2005; Seguino 2000a). While the data are minimal and not of high quality, there is some indication that gender and ethnicity play similar roles in the macroeconomy, depending on the ethnic make-up of the society. A more complete data set would be needed to fully investigate this premise.

In Figure 3, panels A-D provide visual representations, based on scatter plots, of the gender and ethnic inequality measures against those for household distribution of income, using the adjusted DS data set and Theil's T from the UTIP-UNIDO pay inequality data set. Panel A makes clear the absence of a correlation between gender wage gaps and household income inequality. Studies attempting to discern the impact of inequality on growth and development clearly miss the gender component if they rely on the DS data set. The correlation coefficient on Theil's T and the gender wage gap in Table 1 is negative and very low, and the graphical representation confirms this is an inverse relationship (Panel B), although clearly, a wide range of gender wage gaps coexist with any particular Theil's T measure of income inequality, suggesting this is also a poor proxy for gender inequality.

Panels C and D are scatter plots of the ethnic earnings gap with the DS-adjusted Ginis and the Theil's T. Similarly, these measures give little evidence of being correlated with the ethnic earnings gap, although in the Theil's T case, the correlation appears to be negative—in countries with greater pay equity in manufacturing, the ethnic earnings gaps are narrower.

Inequality in Semi-Industrialized Economies

The previous sections underscored that the relationship between inequality and growth depends on the structure of the economy, which interacts with patterns of job segregation by ethnicity and gender. Further, the form of that inequality is likely to differ, ranging from wage discrimination and thus inequality to exclusion in the form of high relative unemployment rates. The clearest links that have been developed in the literature are in semi-industrialized economies along gender lines, and I would like to turn to that analysis here.

Table 2 presents inequality correlations for semi-industrialized economies. In particular it is useful to focus on the correlation between income inequality and gender wage gaps. The low inequality countries in this sample are in East Asia, the region that also has the widest gender wage gaps. There is a clear inverse relationship between the two measures. Note the strong inverse relationship between the gender wage gap and the gender educational attainment gap for this set of countries—precisely the opposite of what would be anticipated if women were able to parlay their education into higher wages.

(Figures 2 and 3 about here).

Table 2. Correlation of Inequality Measures for Semi-Industrialized Economies[23]

	Gender Wage Gap	M/F Population Ratio	M/F Life Expectancy	Gender Educational Gap	ELF	Ethnic Polarization	DS-Adjusted	Theil's T
Gender Wage Gap	1.00	0.46	0.30	-0.62	-0.17	-0.33	-0.37	-0.24
M/F Population Ratio		1.00	0.57	-0.59	0.29	-0.01	-0.17	0.00
M/F Life Expectancy			1.00	-0.23	0.48	0.01	0.07	0.01
Gender Educational Gap				1.00	-0.19	0.16	-0.04	-0.12
ELF					1.00	0.61	0.52	0.36
Ethnic Polarization						1.00	0.44	0.44
DS-Adjusted							1.00	0.89
Theil's T								1.00

Note: n=28.

This suggests that analyses of growth in East Asia may erroneously lay success at the doorstep of income equality when gender *in*equality is in fact a determining factor. It is also conceivable that household equality that results in more resources for poor households (through male wages) to invest in education is compatible with gender inequality.

Figure 4 gives a visual representation of these correlations, and indicates an obvious negative relationship between the more commonly used Gini and the gender wage gap of this set of countries. I do not attempt to consider ethnic earnings gap here because of the even smaller size of that sample.

(Figure 4 about here).

For associational purposes, I provide some basic growth regression results here, modeled after Barro and others. The problems with cross-country regressions are well-

known, including problems of omitted variable bias. With that caveat in mind, these results should be viewed with some caution.

The regressions are for two time periods, 1975-99 and 1990-99. Independent variables are standards—investment share of GDP, initial educational attainment, and the log of initial per capita GDP.[24] I successively add inequality variables to these. Those variables are measured as averages for the period in question, although in many cases, there are missing data.

Equation 1 in Table 3 is the baseline regression for 1975-99. Variables have expected signs although the coefficient on investment as a share of GDP is not significant. Equation 2 adds in the DS-adjusted Gini coefficients and the polarization index while dropping the initial education variables which are collinear with the DS-adjusted measure. Variables again have the expected sign although the polarization variable is not significant. Income inequality has a negative effect on growth, as hypothesized in much of the literature. In equation 3, I add the gender wage and educational gaps. Only the wage gap variable is significant, and it is positive, indicating that an increase in gender wage inequality is a stimulus to growth, even after controlling for household inequality.

Equation 4 repeats this regression for the period 1990-99. Those results indicate that the household equality no longer has a salutatory effect on growth, while the gender wage gap continues to exert a negative effect on growth, albeit with marginal statistical significance. The negative effect is, however, notably larger in this period. Figure 5 presents partial correlations of growth and the gender wage gap using a LOESS process of nearest neighborhood fit. In the period 1975-99, it is notable that the curve becomes steeper as the gender wage gap rises.

(Table 3 and Figure 5 about here).

Table 3. OLS Regression Results: Growth and Inequality
Dependent Variable: Total Change Per Capita GDP

	1975-99			1990-99
	Eq. 1	Eq. 2	Eq. 3	Eq. 4
Constant	0.566	2.919	3.095	-0.071
	(2.01)**	(3.98)***	(2.61)**	(0.12)
Initial GDP	-0.104	-0.061	-0.068	0.015
	(2.29)**	(1.20)	(0.95)	(0.58)
Initial Investment	0.060	-0.005	-0.081	0.005
	(0.81)	(0.53)	(0.64)	(1.18)
Initial Education	0.313	-0.013		
	(3.05)***	(0.10)		
Polarization		-0.295	-0.233	-0.047
		(1.30)	(0.91)	(0.44)
Gini		-0.040	-0.042	0.001
		(3.45)***	(2.36)*	(0.13)
Education Gap			-0.258	-0.103
			(0.59)	(0.68)
Wage Gap			0.009	0.216
			(2.68)***	(1.67)*
N	81	63	49	51
Adj. R^2	0.083	0.244	0.263	0.059

Note: Absolute values of t-statistics are in parentheses, based on robust standard errors. A triple asterisk (***) indicates $p<0.01$, a double asterisk (**) $p<0.05$, and a single asterisk (*) $p<0.10$.

VII. Conclusion

This paper explores the impact of gender and ethnic/inequality on economic growth, and suggests, in contrast to recent research, that inequality along these lines can be a stimulus to growth. These inequality effects, measured as earnings and income gaps, are transmitted to investment and exports, producing positive demand side effects. Longer-run effects of ethnicity and gender inequality may very well be negative, due to the potential repercussions on social discontent and conflict, possible deleterious effects on children's capabilities, and the reduced pressure on firms to innovate. Long-run effects then are more likely to be negative, while short- and medium term effects—at least of gender and ethnic inequality—appear to be positive.

Some empirical evidence is also provided that suggest that different measures of inequality can be working in opposite directions. In particular, measures of household or pay inequality weakly or inversely correlated with a number of measures of gender and racial/ethnic inequality. Household income data, in particular, fails to capture gender inequality because that data collapses household income. A number of countries assumed to have very equitable distributions of household income have wide gender wage gaps, suggesting that empirical growth analyses that rely only on household income inequality fail to identify an important source of inequality and its relationship to growth. Previous research and a brief empirical growth accounting exercise presented here find that gender wage inequality can be a stimulus to economic growth, even while gender educational inequality has a negative effect.

The results may appear contradictory, making it difficult to make universal claims about the role of inequality. What is apparent, however, is that some kinds of inequality under some conditions are a stimulus to growth, while other types of inequality, again under certain conditions, reduce the rate of growth. In fact, it is clear that countries with high inequality (of some kinds) can grow rapidly while others with low inequality can also growth rapidly. This suggests that countries have some leeway in choosing the type of society they wish to pursue.

While there seems little doubt that recent efforts to explore the effects of inequality on growth are motivated by an instrumentalist desire to argue the merits of reducing inequality, the reality is that inequity can pay, under some conditions. Efforts to sweep that sad fact under the carpet are understandable. But equity can also pay, under some conditions, as the evidence of numerous studies shows. It is those examples that merit attention in order to determine the structural and institutional mechanisms as well as macro policies by which we can make growth and equity compatible.

APPENDIX

Table A1: Full Sample

Afghanistan
Algeria
Angola
Argentina
Armenia
Australia
Austria
Bahamas, The
Bahrain
Bangladesh
Barbados
Belgium
Benin
Bolivia
Botswana
Brazil
Burundi
Cameroon
Canada
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo, Dem. Rep.
Congo, Rep.
Costa Rica
Cote d'Ivoire
Cyprus
Denmark
Dominica
Dominican Republic
Ecuador
Egypt, Arab Rep.
El Salvador
Ethiopia
Fiji
Finland
France
Gabon
Gambia, The
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong, China
Hungary
Iceland
India
Indonesia
Iran, Islamic Rep.
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Korea, Rep.
Kuwait
Lesotho
Liberia
Luxembourg
Madagascar
Malawi
Malaysia
Mali
Malta
Mauritania
Mauritius
Mexico
Morocco
Mozambique
Myanmar
Nepal
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Rwanda
Samoa
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Solomon Islands
Somalia
South Africa
Spain
Sri Lanka
St. Lucia
St. Vincent and the Grenadines
Sudan
Suriname
Swaziland
Sweden
Switzerland
Syrian Arab Republic
Taiwan, China
Tanzania
Thailand
Togo
Tonga
Trinidad and Tobago
Tunisia
Turkey
Uganda
United Arab Emirates
United Kingdom
United States
Uruguay
Vanuatu
Venezuela
Vietnam
Yemen, Rep.
Yugoslavia, FR (Serb./Mont.)
Zambia
Zimbabwe

Table A2: Semi-Industrialized Economies

Argentina
Barbados
Bolivia
Brazil
Chile
China
Colombia
Costa Rica
Cyprus
Dominican Republic
El Salvador
Greece
Guatemala
Honduras
Hong Kong, China
India
Indonesia
Jamaica
Korea, Rep.
Malaysia
Mexico
Morocco
Peru
Philippines
Portugal
Singapore
South Africa
Sri Lanka
Taiwan, China
Thailand
Trinidad and Tobago
Tunisia
Turkey
Uruguay
Venezuela

Figure 1

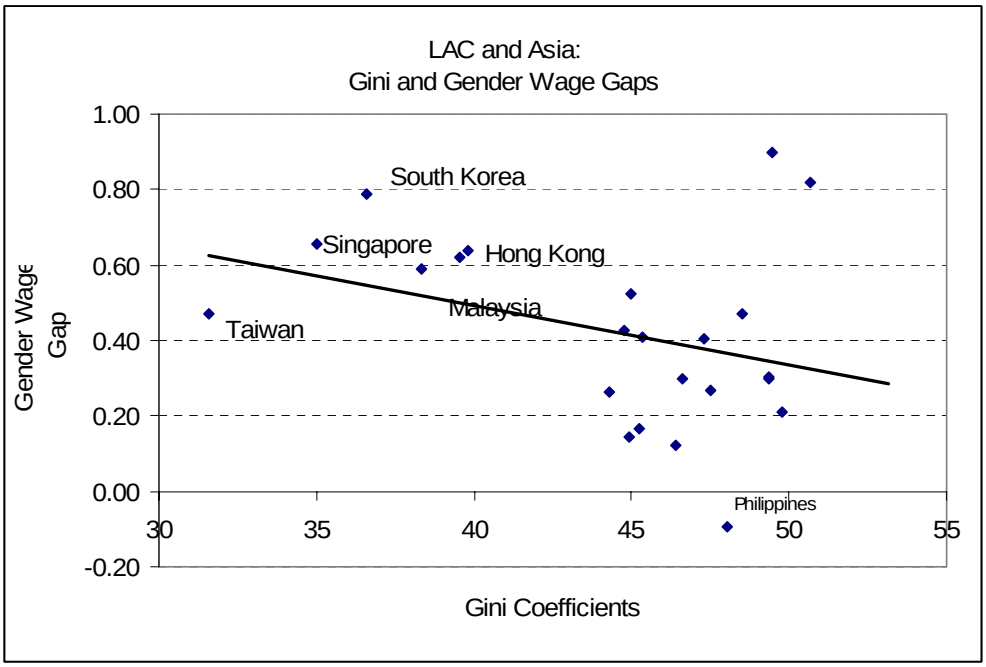


Figure 2

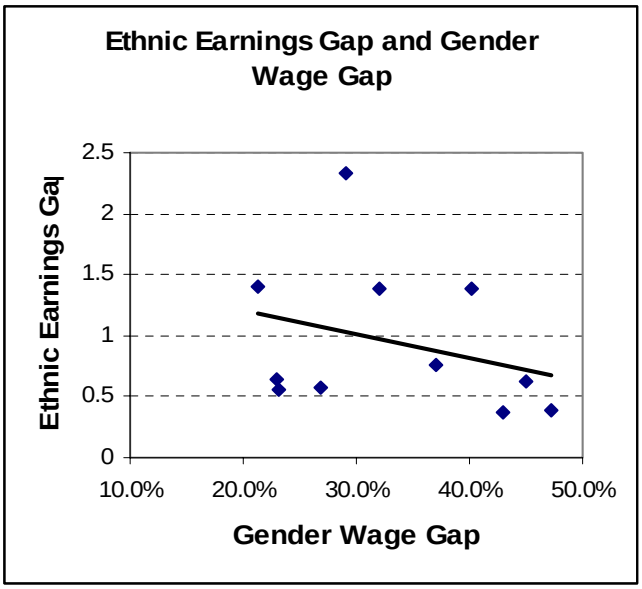
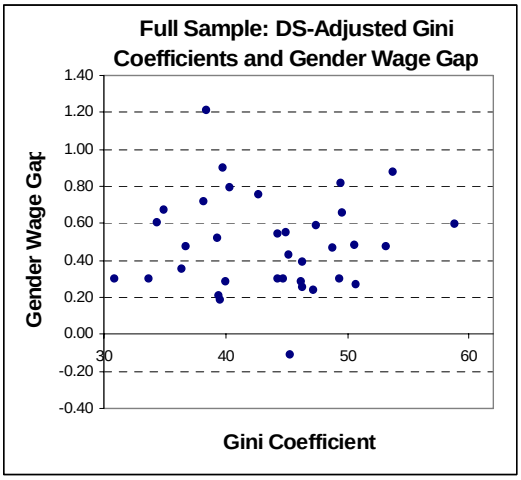
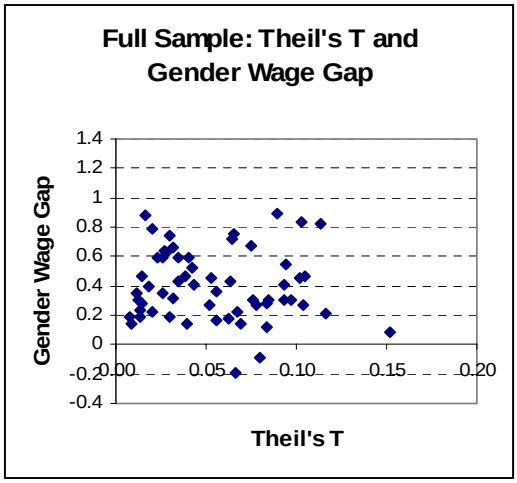


Figure 3

Panel A



Panel B



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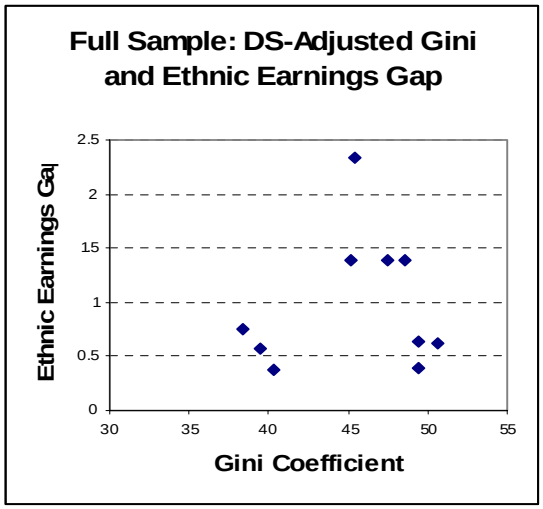

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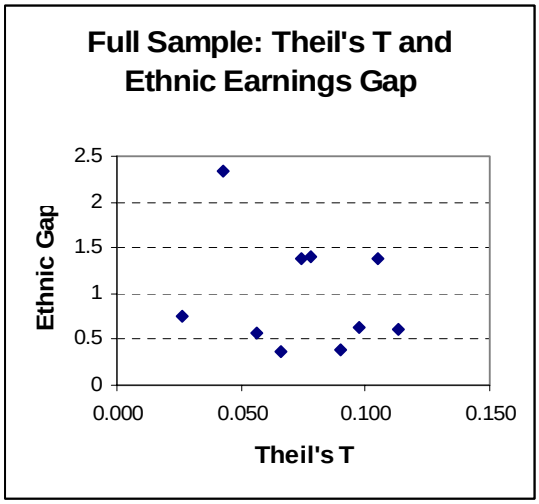
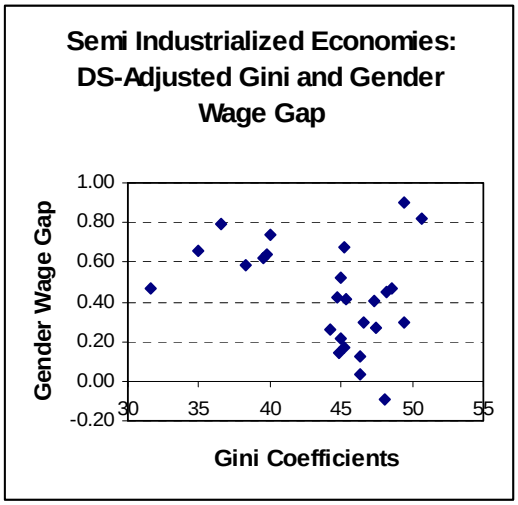


Figure 4

Panel A



Panel B

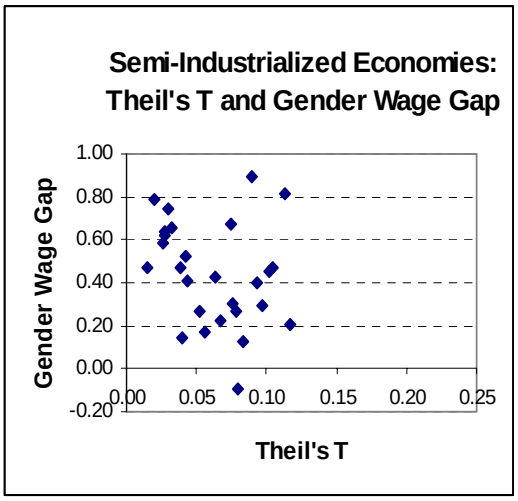
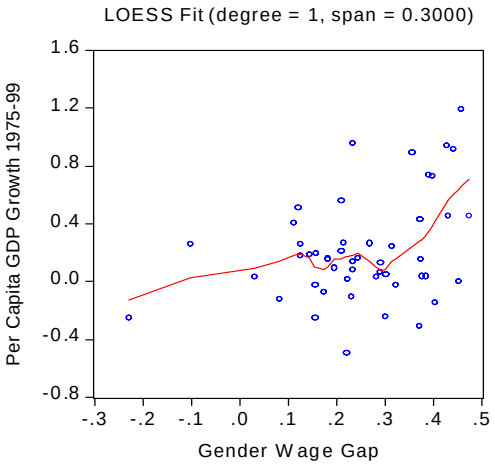
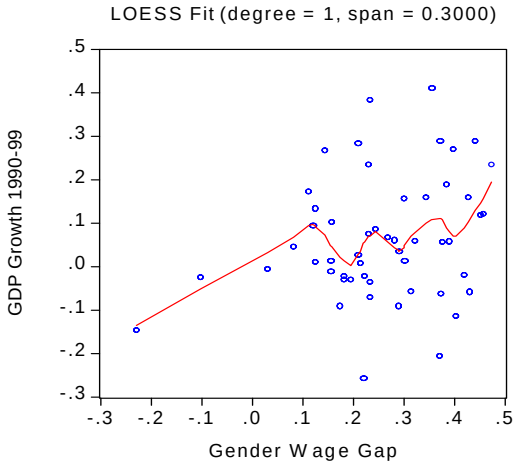


Figure 5





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ENDNOTES

[1] I focus discussion in this paper on growth effects of inequality, but a useful extension of this inquiry is into the well-being effects of inequality.

[2] This seems rather odd since inequality that affects the level of aggregate demand has implications for firm investment (in response to a change in sales) with longer run growth implications.

[3] Sociologists and political scientists have, however, done a good deal of research on this. As an example, see Brysk and Wise (1997), who note that institutional opportunities for expressing discontent and for channeling economic demands can mitigate violence. Where those options are closed off, and where the state is unable or unwilling to provide a social safety net to cushion surges in inequality and economic crisis, inequality is more likely to lead to conflict. They apply this analysis to the cases of Peru, Bolivia, and Mexico.

[4] The effects of a threatening environment also affect productivity, whereby such environments activate our social identity and the negative stereotypes associated with them. There is significant evidence of this phenomenon affecting academic performance, and contributing to feelings of self-doubt and belonging. Such undermining of self-esteem can lead social groups to accept their low wages as justified. But it can also lead to low productivity, given the negative psychological effects of harmful stereotypes. See Inzlicht and Good (forthcoming).

[5] See, for example, Bhaduri and Marglin (1990), Dutt (1984, 1990), Marglin and Bhaduri (1990), and Taylor (1991).

[6] Capitalists' saving propensity is determined by desire to internally finance new investment and as a means to signal creditworthiness.

[7] In contrast, in Trinidad and Tobago, a multi-ethnic society, the two dominant ethnic groups—Indo and Afro Trinidadians are not spatially segregated. Perhaps for this reason, public school spending is not differentially available to the two groups. This suggests that the usefulness of a greater emphasis on linking ethnic diversity to spatial segregation rather than linguistic diversity.

[8] Linguistic differences do exist in Haiti insofar as poor Haitians speak only Haitian Creole, while the elite speak French (and often refuse to admit that they also speak Creole). The ethnic linguistic fragmentation index however fails to pick this up.

[9] See also Brysk and Wise (1997) on South America, Cramer (2002) on Rwanda and Angola, Ndikumana (1998) on Burundi.

[10] See, for example, Braunstein (2000), Blecker and Seguino (2002), Darity (1995), Erturk and Darity (2003), Floro and Seguino (2002), Cagatay (2003).

[11] The theoretical work in this area is extensive. See, for example, Manser and Brown (1980), McElroy and Horney (1981), Bolin (1997) Lundberg and Pollak (1993, 1997), Basu and Bechtold (1998).

[12] For an interesting and feisty feminist critique of this model, see Bergmann (1995).

[13] For a sample of studies that find similar results, see Agarwal (1997), Bruce and Dwyer (1988), Haddad, Hoddinott, and Alderman (1998), and Kabeer (1994).

[14] In essence, low female wages are analogous to a currency devaluation in terms of their effect on relative prices.

[15] The data on which this figure is based are discussed in detail in the next section.

[16] For the latter to occur, women as workers would have to consume more out of income than capitalists.

[17] Boschini (2003) argues that gender-specific educational attainment choices have macroeconomic consequences for growth. In particular, gender norms that channel women to some fields such as humanities and men to others (e.g., sciences) can result in efficiency losses, given that biological evidence indicates that ability between genders is smaller than ability differences within genders. Consequently, gender norms cause some men and women to bypass those fields for which they have the greatest ability. Using a measure of norms based on occupational segregation, Boschini finds that such stereotypes inhibit economic growth in a cross section of countries.

[18] This isn't always a conflictual negotiation between men and women in the household, since higher education raises the opportunity cost of more children, and conceivably men will agree that paid work is a better option not only for women but also for the household. Nevertheless, substantial evidence suggests that because outside work raises women's bargaining power in the household and undermines male breadwinner norms and power, men resist women's participation in the labor force. Thus, fertility decisions are themselves subject to negotiation, influenced by bargaining power.

[19] The UTIP-UNIDO data are available at http://utip.gov.utexas.edu.

[20] For ease of comparison, these are measured that larger values indicate increases in income inequality. So, for example, educational gaps are measured as the log rhythmic difference of male and female total average years of educational attainment for those 15 and older. Likewise, population gaps are measured as male relative to female population. On population ratios as a measure of gender inequality, see Sen (1990).

[21] Some might look askance at using raw earnings differentials, not corrected for differences in productivity. The gaps in productivity themselves, however, are an indication of discrimination and ethnic inequality (that is, they reflect both pre- and within-market discrimination, and as such, raw ratios are a more accurate measure of inequality.

[22] Data were compiled in the 1960s and Taylor and Hudson (1972) used this to develop the ELF index.

[23] See Appendix for full and semi-industrialized economy samples.

[24] Data on investment and GDP are from the World Development Indicators, while education data e from the Barro and Lee (2000) international education data set.