Gender Inequalities and Economic Growth: A Longitudinal Evaluation*

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The relationship between economic growth and inequalities between men and women has become one of the most debated issues in policy-making arenas and in the social sciences. Nongovernmental organizations (NGOs) throughout the world are actively and critically assessing the impact of economic policies on women. Partly in response to these concerns, international agencies such as the World Bank and the United Nations (UN) are attempting to better understand the gender-specific impact of alternative development strategies, while national governments often have become more active in promoting policies designed to reduce inequalities between men and women. Accompanying these trends, there has been a burgeoning literature in the social sciences addressing the topics at hand.

Within this literature, feminist studies have generated their own internal critiques and debates regarding gender inequalities and development. For example, the gender and development (GAD) critique has called into question the ability of women in development (WID) programs to achieve equity and equality for women. Rather than focus on integrating women into existing strategies for economic development, as WID proposes, the GAD critique seeks to rethink development strategies from below and to analyze development in terms of the totality of social relations and institutions through which women's subordination to men is achieved and maintained. Furthermore, paralleling the GAD critique of WID, women's organizations in developing countries over the last decade have developed a distinction between gender equality and women's empowerment, challenging existing notions of what should be the appropriate goals of gender-sensitive programming.

0013-0079/2000/4803-0006$02.00

Despite these interests and debates, there have been few systematic cross-national studies of global changes in women's status and gender inequality over time. Our study analyzes and further develops a new set of data on women's status and gender inequality to evaluate the cross-sectional relationship between economic growth and these variables, as well as the cross-national, longitudinal impact of economic growth on changes in women's status and gender inequality. The findings reported in this article address key questions in the evolving debate over the character of gender differentiation and the goals of women's empowerment. Have strategies of economic growth in recent decades served to enhance or undermine the status of women? Are changes in the status of women accompanied by significant changes in gender inequality? What are the implications for existing debates? These are the key issues addressed in this article.

I. Review of the Literature

Several sets of literature are pertinent to our questions. While much of the relevant literature involves empirical studies that do not always make explicit a systematic theoretical framework, the field tends to be guided by one of the following three general approaches: modernization-neoclassical, women in development (WID), and gender and development (GAD).[1]

A. The Modernization-Neoclassical Approach

A first set of studies within the cross-national and development literature has indicated that gender inequalities are likely to decline with industrialization or economic growth.[2] A similar perspective has been advanced by organizations such as the World Bank, although with acknowledgments that "economic growth has proved a slow instrument of change in the status of women" and that public policies may have a significant role to play in breaking down institutional and cultural mechanisms of discrimination against women.[3]

In perhaps the most systematic presentation of this approach, several studies within a neoclassical economic approach have argued that differences between men and women (e.g., in employment, wages, or vulnerability to poverty) result primarily from human capital differentials (education, skills, expected length of labor-force participation) that are bound to wither away over time.[4] Such an approach acknowledges that a share of existing gender gaps in wages or employment might be attributed to the persistence of discrimination.[5] But, according to this perspective, discrimination entails additional costs (such as the payment of higher wages to favored groups) for the agents who engage in such practices, while it provides benefits (e.g., the opportunity to employ discriminated groups at relatively lower wages) for agents willing to exploit the opportunities generated by the discriminatory activities of competitors.[6]

From this perspective, the process of economic growth, through the opportunities and constraints created by the expansion of markets, can be expected to undermine the inequalities that result from discriminatory practices.

This approach in the economic literature can be linked to sociological theoretical perspectives emphasizing the gradual erosion of social inequalities rooted in ascribed characteristics. According to these perspectives, the expansion of markets is accompanied by greater reliance on achievement as a basis for allocating resources and organizing the division of labor.[7] Gender inequalities, in this approach, are portrayed as a remnant of traditional structures organized around ascribed status; processes of economic growth, insofar as they are indicative of a process of modernization, can be expected to reduce these inequalities.[8]

The modernization-neoclassical approach has had a significant impact on policy making. For example, efforts to enhance human capital attainment among women are often guided by the assumption that relative educational advances will be most effective in reducing the employment and earnings gaps of women relative to men. Similarly, the assumption is often made that economic growth provides one of the most effective mechanisms for narrowing existing gaps between men and women (although there is growing acknowledgment of the occasional need for public intervention to remove discriminatory barriers).

B. The Boserup Thesis and the WID Approach

E. Boserup advances an alternative interpretation, arguing that economic growth during the initial stages of development is characterized by a growing gap between men and women and that such a gap only begins to diminish once countries develop beyond a certain threshold.[9] In other words, Boserup argues that there is a curvilinear relationship between economic growth and the status of women.

For Boserup, productivity differentials between men and women prior to urbanization and the growth of a market economy are negligible, but the emergence and development of an urban economy leads to "the polarization and hierarchization of men's and women's work roles."[10] These transformations are an outcome of the individual preferences of both employers and workers, but such preferences become embedded in discriminatory practices within institutional arrangements (such as colonial rule), shaping the organization of labor markets and property relations.[11]

But while the initial stages of development result in a growing gap between men and women, other consequences of these changes, similar to those emphasized in the neoclassical and modernization approaches, eventually lead to a reversal of these trends over the long run. Shifts in the distribution of political power accompanying the process of decolonization promote greater intolerance against discriminatory practices in

general. More specifically, the very exclusion of women from wage activities eventually results in tight labor markets and rising demand for female workers, while the growing dependence of households on money generates greater pressures for women to become employed. Policy makers eventually become more likely to intervene in promoting greater access of women to education and training, and this is accompanied by higher rates of female labor-force participation. Finally, with development, women seek to acquire greater bargaining power in their families, for example, by being "better able to support themselves if their husbands desert them or treat them badly."[12]

However, Boserup emphasizes that economic growth is not the sole variable shaping women's labor-force participation and overall standing relative to men, as "cultural traditions, including the role of women in the traditional sector of market trade, seem to be a more important factor in determining the place of women in the modern trade sector than is the stage of general 'modernization' achieved by the country."[13] Hence, rapid development is particularly likely to be accompanied by greater gender rigidity in countries with a tradition of patriarchal institutional arrangements, for example, those with a large Muslim population. Other, more recent, studies would suggest that while such patriarchal institutional legacies might have shaped gender inequalities and the status of women in the past, they have become displaced in recent years by world models and standards developed through the transnational environment.[14]

Boserup's interpretation fits well within broader perspectives on social inequality and development, such as were advanced by S. Kuznets.[15] For Kuznets, social inequalities grow in the earlier stages of a country's development, later stabilize, and finally narrow in later phases of economic growth. This initial rise and eventual decline of social inequalities has been depicted in the social science literature as Kuznets's "inverted-U curve" of income inequality. In the views of both Boserup and Kuznets, power relations shift in the early stages of development in such a manner that they result in greater inequality, but they become subsequently altered in ways that eventually act to reduce inequality.

Boserup's analysis has shaped policy making and advocacy related to women and development in recent decades. Her arguments highlighted the hidden contributions of women to development, called for policy makers to become more sensitive to the importance of nonmarket activities (such as household, subsistence, and informal production activities), and identified women as crucial actors who shape the success or failure of alternative development strategies. From such a perspective, eventually identified as the WID approach, greater concern with the impact of development strategies on the status of women not only can reduce gender inequalities but also enhance the likelihood of success of the development efforts themselves.[16] Over recent decades, even organi-

zations such as the World Bank have acknowledged the WID approach as an important component of developmental efforts.[17]

Beyond the historical evidence provided by Boserup herself, some empirical studies support the argument that inequalities between men and women have a curvilinear relationship to the level of economic development. Focusing on patterns of female labor-force participation (FLFP), F. Pampel and K. Tanaka argued that available data on 1965 and 1970 confirmed a curvilinear relationship between economic development and FLFP.[18] Similar arguments have been advanced by R. Evenson, who, in an international comparison of the allocation of women's time, argues that female labor-force participation is likely to first decline under conditions of economic growth; and by J. S. Chafetz, who makes a similar point in developing her typology of societal types according to level of gender inequalities.[19]

C. Critical Feminism and the GAD Approach

Generally opposing the two previous approaches, but often drawing selectively from Boserup, other studies have generally emphasized, albeit in a less structured manner, the continuing or rising vulnerability of women over the course of economic development.[20]

Here we find two distinct but often overlapping lines of interpretation. One line of interpretation generally argues that inequalities between men and women are shaped by institutional arrangements (such as patriarchal family structures, and discriminatory labor practices and property laws) that are relatively impervious to the process of economic growth. For example, some argue that the structure of households, families, and kinship systems are of greater relevance than levels of economic development for understanding differences in rates of labor-force participation across the developing world,[21] or that sex discrimination is itself more likely in nations that are characterized by high levels of inequality between households.[22] Others have pointed out that labor markets are characterized by a persistence of gender discrimination, even when women make significant educational gains.[23] Within the cross-national literature, studies adopting this perspective tend to emphasize that economic growth fails to have a significant impact on the status of women.

The second line of interpretation informing both cross-national and individual country studies is that economic development, in fact, exacerbates inequalities between men and women.[24] I. Tinker, for example, argues that "development, by widening the gap between incomes of men and women, has not helped improve women's lives, but rather has had an adverse effect upon them."[25] K. Ward indicates that "the intrusion of the world-system through foreign investment from and trade dependency on core nations has operated to reduce women's status relative to men's."[26] Along the lines of Boserup's arguments regarding the initial impact of growth on patterns of gender inequality, these authors empha-

size that through various mechanisms such as employment and wage discrimination, the erosion of household production, or the restriction of educational opportunities, economic growth leads to the systematic exclusion of women.

Both lines of interpretation are linked to the emergence of the GAD critique of the WID literature.[27] The WID's top-down approach, aiming to improve women's status on select measures determined by policy makers, came under challenge from scholars and women's organizations. According to the GAD critique, categorical and narrowly targeted strategies that rely on aggregate statistics to measure change in women's status ignore the differential impact of programming on different groups of women, and they fail to understand the ways in which improvement on some measures of status is often matched by the exacerbation of other, and sometimes even the creation of new, problems.[28] Rather than focusing on the changing status of women as a general category, the GAD approach seeks to understand the place and the consequences of gender relations, understood broadly, in constructing the entirety of norms, practices, and social institutions governing gender inequality.[29] From this perspective, WID ignores both the extent to which women might continue to experience (albeit new forms of) subordination and inequality[30] and the persistence of gender relations in constructing institutional practices and norms.[31]

The GAD critique begins to pose the problem taken up in our analysis: Are women's status and gender equality the same thing? Do improvements in women's status translate into reductions in gender inequalities, or do the two move independently of one another? Following the GAD critique, substantive advancements in gender equality require not only gradual improvements in the usual measures of social status or development (such as income or education), but also a dramatic empowerment vis-à-vis men and the "decisionable agenda" of all institutional arrangements in which men exercise power.[32] Only such an empowerment can lead to a subsequent transformation of those institutional practices in which gender inequalities are entrenched.[33]

Several cross-national studies have found evidence supporting the notion of a persistent or deepening gap between men and women. Most recently, G. Moore and G. Shackman have evaluated the relationship between levels of economic development and women's empowerment and have found that "neither high levels of economic prosperity nor development of women's 'human capital' through education and employment necessarily results in increased access to authority positions for women."[34] In fact, according to the latter study, "economic development has a linear and negative impact on female/male odds in administrative occupations but nonsignificant effects on relative gender equality in parliament. Economic development may improve women's status by increasing education levels, or decreasing fertility levels, but its direct ef-

fect on women's authority positions is small or negative."[35] These findings are similar to those reported by S. Nuss and L. Majka.[36]

The GAD interpretation also prevails in studies that criticize structural adjustment programs in poor countries for exacerbating inequalities between men and women. Several studies indicate that women are particularly vulnerable to such programs due to their disproportional representation among the poor and disempowered.[37] D. Elson indicates that structural adjustment programs, through cuts in public spending and social programs, increase the scope and intensity of women's unpaid household labor (e.g., ensuring the health care and nourishment of family members); and even where such programs enhance market opportunities, men are likely to control the resulting income gains, producing little benefit for other household members or leading to domestic violence as the outcome of attempts to renegotiate intrahousehold distribution.[38] Structural adjustment programs also tend to make working women relatively more vulnerable to unemployment or poor conditions of employment.[39] Others have noted the consequences of such programs for young women. Buchman reports that over the 1975–85 period, structural adjustment had a negative impact on female secondary enrollment, suggesting that as "low-income households develop strategies to enhance income and trim expenses," teenage girls become more likely than teenage boys to see their educational opportunities curtailed.[40] Even the World Bank acknowledges that in many cases, the "relative position [of women] has often deteriorated during structural adjustment."[41]

In contrast, several studies indicate that structural adjustment programs might not necessarily enhance inequalities between (all) men and (all) women. While calling for more disadvantaged groups to be protected from the more immediate effects of such policies, T. Killick argues that the process of structural adjustment is, in general, essential for long-run economic growth and a reduction of poverty.[42] C. Lantican, C. Gladwin, and J. Seale suggest that economic growth is accompanied by a decline of gender inequalities in some areas (such as education) but not in others (such as manufacturing employment).[43] Likewise, U. Lele views the expansion of labor market opportunities (stimulated by economic growth) as potentially beneficial for women, but she warns that the persistence of market distortions and institutional barriers to entry might continue to prevent the full access of women to these opportunities.[44] Even P. Sparr acknowledges that some women may benefit from structural adjustment programs, and hence she argues that such programs should be viewed as promoting greater social differentiation among women.[45]

D. Summary

Each of the perspectives reviewed in this section has a different set of expectations regarding the impact of economic growth on inequalities

between men and women. For the neoclassical and modernization perspectives, economic growth is likely to promote greater equality between men and women. In the Boserup thesis and the WID approach, economic growth will only promote gender equality after policy makers intervene (promoting greater education among women, eliminating distortions in labor markets, altering property laws) to correct the gender biases that accompany the initial stages of development. In both the modernization and WID approaches, however, reductions in equality between men and women are assumed to follow improvements in women's status; in fact, the approaches target improvements in select measures of women's status. In the GAD critique, however, growth has a more complicated effect on gender inequalities, and, while not always explicitly stated in the critiques we have reviewed, there is an implication that improvements in select measures of women's status cannot be assumed to translate into reductions in inequalities between men and women. Such inequalities might remain or become even more pronounced over the process of economic growth (particularly if accompanied by transformations such as those that characterize structural adjustment programs).

The various perspectives reviewed above have had a significant impact on policy making and advocacy. For example, the neoclassical perspective has provided strong theoretical underpinnings for the economic liberalization policies that have become predominant throughout the world in recent years. The WID programming itself has been premised on the belief that correcting for gender biases in the operations of markets and enterprises will overcome gender inequalities; in this sense, economic growth is expected to accommodate women and to provide a strategy for improving women's status. While critical of WID programs, the GAD critique fails to provide a systematic evaluation of WID programming; it is difficult to assess, then, whether the GAD critique implies an all-out rejection of WID programming or an adjustment of the vision and the agenda of women's empowerment to include, but not be limited to, change brought about by conventional economic development strategies.[46]

The role and the limitations of economic growth in women's empowerment is ambiguous without clarification of the impact of economic growth on women's status and gender inequalities. To assess these relationships, in this article we use and further develop a new set of data. Empirically, these data are useful because they allow us to evaluate the relationships at hand not only in their cross-sectional patterns but also in their longitudinal patterns of change. Methodologically, the data allow us to show that cross-sectional and longitudinal results can be fruitfully contrasted and compared to further enhance our insights into both the broad patterns at hand and the relationship between these broad patterns and the trajectories of specific populations. Theoretically, as we indicate in the conclusion, the patterns and trends in women's status and in gen-

der inequalities identified in our research allow us to reevaluate and better understand existing debates within the literature.

II. Data and Methods

Our research assesses the contending interpretations reviewed above by combining new cross-national and longitudinal data on women's status and inequalities between men and women with other existing indicators. We use these data to address three key sets of questions. First, according to existing indicators, does economic growth have significant consequences for the status of women? If there are clear trends, do gender inequalities follow similar patterns? And in both cases, if trends are significant, which of the approaches reviewed in the introduction are supported by the relationships apparent in the data? Second, do either or both the empowerment of women and the persistence of patriarchal institutional arrangements have a significant role in mediating the impact of economic growth (as suggested in different ways by both the WID approach and the GAD critique)? Has the impact of these arrangements on the status of women and on gender inequalities changed over time? Third, has the implementation of structural adjustment programs over the past decades significantly enhanced gender inequalities or undermined the status of women (as suggested by the GAD critique)?

The relevant data include two main dependent variables: the status of women and gender inequality. Any effort to identify appropriate indicators for either of these variables inevitability is bound to generate considerable debate, and we discuss some of the pertinent issues in our text below.

A. Dependent Variable: Status of Women

As measures of the status of women, we use both (*a*) the gender-related development index (GDI), which was recently developed by the UN, and (*b*) the individual components that the UN used to construct the GDI.[47] The UN has constructed the GDI to further specify its human development index (HDI). The UN's HDI uses standardized data drawn from national sources to measure the relative achievement of nations in advancing three components of human capability: health and longevity, education, and standard of living. The GDI is designed to evaluate the achievement of women along each of these three components. Hence, to construct the GDI, the UN developed separate measures evaluating the achievement of women with regard to life expectancy, education, and access to income.

Of course, several criticisms can be raised regarding the extent to which the GDI or any of its components adequately captures women's status. Regarding the individual components, the share of earned income, for example, is likely to center around women's formal participation in the urban labor force; thus, it could fail to fully assess patterns of in-

equality in income distribution within informal and subsistence sectors, underestimate the extent of economic participation of women in rural areas, or fail to value the work of women outside of the paid labor force. Formal measures of educational achievement are likely to miss differences in the quality of the education received by men and women and in the benefits accruing to such achievement. The indicator of life expectancy, as measured, may not sufficiently credit the higher average life expectancy for women as compared to men. In relation to the GDI as a whole, it may be criticized in that it fails to consider the extent to which resources and power are unequally distributed in a given country between and within households and families, that it privileges what are likely to be indicators of women's participation in markets, and that the use of a single index of gender inequality tends to oversimplify the multidimensional character of such inequality.[48]

These reservations are important and will merit further evaluation in the discussion of our findings. For the purpose of our exercise in this article, however, the GDI as constructed does effectively capture the three key dimensions (education, health, income) in the distribution of resources between men and women that are usually emphasized in the relevant literature.[49] Of greater importance, the dimensions of the GDI as constructed do capture elements of women's status both as they have been addressed by the key theoretical approaches we have described above and as they are currently being considered by key agents who are shaping national and international policies regarding the issues in question. Furthermore, a recent study has constructed alternative cross-national indicators of women's status (such as the relative workload of men and women in both formal and informal activities) using the detailed data provided by the Demographic and Health Surveys in 25 low-income and medium-income countries. A comparison of these alternative indicators with the UN's GDI shows that "there is remarkable consistency in the rankings of countries on these . . . different measures of women's status and gender inequality."[50] Hence, while it is important to critically assess the constraints and limitations of the indicators in question, the GDI as constructed does provide an adequate and relevant (albeit perhaps initial) comparative measure of women's status.

The UN has available data on the GDI and its components for 130 countries for 1992, a year when the values of the GDI ranged from a low of 0.169 (for Afghanistan) to a high of 0.919 (for Sweden). The three components combined by the UN to compose the GDI for 1992 are highly correlated. The highest correlation ($r = .88$, $p < .001$) is found between the measures of the gaps in life expectancy and education, but the gap in the share of earned income is also significantly correlated with both life expectancy ($r = .82$, $p < .001$) and education ($r = .78$, $p < .001$). Of course, the GDI itself is highly correlated (above .94) with each of its three components.

In its *Human Development Report 1995,* the UN also provides the aggregated GDI for 1970, and these data can be used to calculate rates of change in the GDI between 1970 and 1992. As indicated below, we follow G. Firebaugh and F. Beck in calculating rates of change by assessing the difference-of-logs (or log Y_2/Y_1) (the data on change for our sample is provided in table A1 in the appendix).[51] According to most of the indicators used to compose the GDI in the UN Report, women made considerable advances relative to men during the 1970s and 1980s, thereby narrowing the existing gap. Overall, the life expectancy of women in developing countries was 20% higher than that of their male counterparts, and most countries (particularly Arab countries) experienced rapid advances in women's education, although the advances were much slower in regard to income differentials and other variables not captured directly by the GDI, such as rates of labor-force participation and patterns of political participation.[52]

The UN data used to calculate each of the components of the GDI for 1970 are not available to the public.[53] Therefore, we are not able to analyze the longitudinal patterns inherent in these components and, thus, cannot provide a more detailed assessment of the precise shifts that the relevant population in different countries experienced with the interaction between education, health, and income.[54]

B. Dependent Variable: Gender Inequality

The GDI has been constructed as an indicator of the relative status of women. We, however, are also interested in assessing patterns and trends in inequality between men and women. This issue received moderate attention in the various UN reports discussing the GDI measure, but as yet these reports have provided only an indirect evaluation of the magnitude of inequalities (by contrasting the ranking of nations according to their HDI and GDI). Using a formula recommended by the UN itself in the methodological observations regarding the GDI,[55] we assess the level of inequality in each country by calculating

$$GI = (HDI - GDI)/HDI, \quad (1)$$

where gender inequality (GI) is the weight of the gap relative to a country's HDI. Such a measure of gender inequality assumes that a value of zero obtains in situations where women hold parity with men relative to education and income and where the life expectancy of women on average maintains the edge, relative to men, on a global basis. As with the GDI measure of status, this assumption might be challenged by critics, but the indicator is relevant to the theoretical and policy-making debates addressed by our exercise in this article. We provide the pertinent values

for the calculated GI for 1970 and 1992 (and the difference-of-logs change over this period) in the appendix.

Table 1 summarizes the quintile ranking of nations in 1992 according to the indicators of the status of women (GDI) and inequalities between men and women (GI). The table depicts a curvilinear distribution of nations, with the lowest levels of inequality observed in countries where women's status is highest and the highest relative levels of gender inequality observed in nations where women's status is intermediate.

C. Independent Variables

The main independent variables included in our study are level of economic development, gender empowerment, weight of patriarchal institutional arrangements, and structural adjustment. Following a standard procedure in the literature, our measure of economic development is gross domestic product per capita (GDPPC), as provided by the UN in its 1994 *Women's Indicators and Statistics Database* for both 1970 and 1992.[56]

In order to explain the differences in GDI and GI, we use a revised version of the UN's gender empowerment measure (GEM) to evaluate the relative significance of women's participation in the professional and political arenas. The GEM has three components: the share of women's earned income relative to that of men, the percentage of women among administrative and professional workers, and the proportion of parliamentary seats held by women. United Nations 1995 GEM data are available for 116 countries, and the values of this indicator range from a low of 0.11 (for Afghanistan) to a high of 0.757 (for Sweden). For the purpose of our study, we use as our indicator of women's empowerment the combined values of two of the GEM components: the percentage of women among administrators and professional workers and the proportion of parliamentary seats held by women (using the individual components brought the same results as the combined values measure). A number of scholars, with both the WID and GAD approaches, have argued that Muslim and Latin American countries are more likely than other countries to be characterized by the prevalence of patriarchal institutional arrangements that promote or preserve higher levels of gender inequality.[57] These attributes provide at least an initial indicator of a variable that cannot be easily operationalized. To assess the relative significance of this characteristic, we introduce into our models two dummy variables: the first one assumes the value of one when 50% or more of a country's population is Muslim, and the other assumes the value of one when a country is located in Latin America.[58]

As indicated in our literature review, there is an ongoing debate on whether processes of structural adjustment have served to enhance or reduce gender inequalities. Our study considers whether structural adjustment has been a significant variable affecting changes in relative gender

inequality. Following Y. Bradshaw and A. Wahl,[59] we use a structural adjustment index that is a composite of four indicators: (1) the number of times bilateral debt was restructured over the 1975–90 period, (2) the number of times multilateral debt was restructured over the same period, (3) the number of times a country received extended funds from the International Monetary Fund (IMF), and (4) the total number of IMF loans received as a percentage of its allotted quota over this period.[60] The same index has been used in other studies on the social impact of structural adjustment.[61]

Several caveats apply to our findings on structural adjustment. In this study, the impact of structural adjustment on changes in GDI and GI is considered over the 1970–92 period, while much of the literature on structural adjustment has focused on the late 1980s and early 1990s. Also, our aggregate measures do not capture differences in the extent to which policies were enacted that reallocated resources away from different sectors (e.g., the poorest sector) of the population. Finally, our measures cannot assess some of the consequences of structural adjustment programs that are observed in the literature, such as the intensification of the double day (or "the triple roles") for women and the manner and outcome of intrahousehold negotiations over changing household resources. Our results caution against easy conclusions regarding the effect of structural adjustment programs on women, and they direct our attention back to the debates among women scholars-activists about the relevance of gender equality to women's empowerment.

To evaluate cross-national relationships, we have calculated two models. In the first model,

$$y_i = \beta_0 + \beta_1(\text{GDPPC}), \tag{2}$$

where y_i is the dependent variable in question (either GDI or GI), and GDPPC is an indicator of economic level as measured by the natural logarithm of the GDPPC indicator (to maintain proportional differences in the distribution, the GDPPC variable is logged throughout our analyses in this article). Following the usual form used to empirically assess whether the cross-sectional data follow the curvilinear pattern described by authors such as Boserup, a second model calculates

$$y_i = \beta_0 + \beta_1(\text{GDPPC}) + \beta_2(\text{GDPPC})^2, \tag{3}$$

so as to assess the relative significance of the quadratic term. Finally, additional variables are introduced into each of these models to assess the impact of each of the additional independent variables.

To evaluate the longitudinal patterns of change, we have calculated

$$\Delta y = \beta_0 + \beta_1(\text{GDI/GI 1970}) + \beta_2(\text{GDP 1970}) + \beta_3(\text{change in GDP}), \tag{4}$$

TABLE 1

WOMEN'S STATUS (GDI) QUINTILES BY GENDER INEQUALITY (GI) QUINTILES, 1992

GENDER INEQUALITY (GI) QUINTILES	WOMEN'S STATUS (GDI) QUINTILES				
	1 (lowest)	2	3	4	5 (highest)
1 (lowest):	Angola Haiti Tanzania	Kenya Lesotho Madagascar Myanmar Swaziland	China Jamaica Mongolia Vietnam	Lithuania	Australia Barbados Czech Republic Denmark Estonia Finland Hungary Latvia Norway Poland Slovakia Sweden
2:	Benin Burundi Ethiopia Malawi Niger Uganda	Comoros Ghana Guinea Laos Maldives Nigeria Papua New Guinea Zaire Zambia Zimbabwe		Cuba Russian Federation Thailand	Austria France Hong Kong Italy Japan New Zealand Portugal United States

3:	Burkina Faso Côte d'Ivoire Djibouti Gambia Guinea Bissau Mozambique Senegal	Cameroon Cape Verde Togo	El Salvador Guyana Indonesia Lebanon Philippines Sri Lanka	Bahamas Brunei Darussalam Malaysia Singapore Turkey	Belgium Canada Switzerland United Kingdom
4:	Bangladesh Chad Guinea Mali Nepal Sierra Leone Sudan	Bolivia India	Botswana Brazil Honduras Nicaragua Peru Suriname	Greece Ireland Luxembourg Mauritius Mexico Panama Republic of Korea Trinidad and Tobago Uruguay Venezuela	Netherlands
5 (highest):	Afghanistan Mauritania	Algeria Egypt Guatemala Iraq Morocco Pakistan Saudi Arabia	Bahrain Dominican Rep. Ecuador Iran Libya Paraguay Qatar Syria Tunisia United Arab Emirates	Argentina Chile Colombia Costa Rica Fiji Kuwait Spain	

SOURCES.—Our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1 and 1.

NOTE.—GDI = Measure generated by the United Nations to evaluate the achievement of women in life expectancy, education, and access to income relative to men at the country level. For complete explanation of calculation, see ibid., pp. 130–32. GI = Weight of the gender gap relative to the country's Human Development Indicator (HDI), following United Nations, *Human Development Report 1995*. For further explanation of calculation, see that report, p. 79.

where Δy is the measure of change in the relevant dependent variable (following Firebaugh and Beck)[62] as indicated by the difference-of-logs, or log (y_2/y_1), in either GDI or GI between 1970 and 1992, GDI or GI 1970 controls for the original level of women's status or gender inequality in 1970, and GDP 1970 controls for the original level of economic development in 1970. Change in GDP is a measure of economic growth as indicated by the rate of change of GDPPC between 1970 and 1992. Finally, to assess whether the longitudinal data might follow the curvilinear pattern described by authors such as Boserup, a second model calculates

$$\Delta y = \beta_0 + \beta_1(\text{GDI/GI 1970}) + \beta_2(\text{GDP 1970}) + \beta_3(\text{change in GDP}) + \beta_4(\text{GDP 1970} \times \text{change in GDP}), \quad (5)$$

where the interaction term ΔGDPPC $\times$ GDPPC1970 serves to evaluate whether the impact of economic growth on the status of women or in inequalities between men and women differed according to the initial level of economic development (Boserup's approach, e.g., would predict that such an interaction term would be significant and negative in the change in inequalities model). We then introduce the additional independent variables into these longitudinal models to assess their impact.

Regression diagnostics were run on all models to assess whether multicollinearity among the independent variables was influencing our estimates. In our models, except where indicated, the variance inflation factors (VIFs) associated with our explanatory variables fell below the value that would have led us to suspect that our estimates could be excessively influenced by multicollinearity.[63]

III. Findings

In order to facilitate the review of our findings, we discuss our results in the following order: (*a*) cross-sectional patterns in women's status, (*b*) trends in women's status, (*c*) cross-sectional patterns in inequality between men and women, (*d*) trends in inequality between men and women, and (*e*) conclusion (where we summarize and bring together the findings of each area).

A. Cross-Sectional Patterns in Women's Status

An initial review of the data clearly indicates a close relationship between the GDI and levels of log GDPPC in 1992 (see fig. 1). Although there are important outliers (in 1992, some countries such as the Netherlands and Spain rank considerably lower in the GDI relative to their level of wealth, while countries such as China and Vietnam rank higher in GDI relative to GDPPC), the overall correlation between GDI and

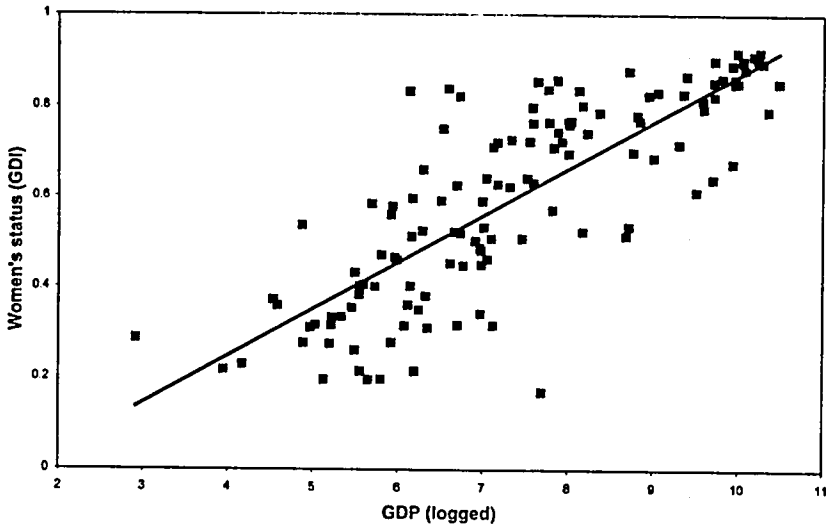

FIG. 1.—Scatterplot of the relationship between women's status (GDI) and GDP (logged). Sources: GDI: United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995); GDP: United Nations, *Womens' Indicators and Statistics Database (Version 2, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994).

GDPPC was very high both in 1992 ($r = 0.81$, $p < .001$) and in 1970 ($r = 0.83$, $p < .001$).

The results for linear and curvilinear cross-national models of women's status are provided in table 2. As indicated by the results, the data provided support for the linear model for 1992, with the GDPPC indicator showing statistical significance at the .001 level and an adjusted R^2 of .651. However, the data provided little support for the quadratic model, with the quadratic term in the equation showing no statistical significance and the adjusted R^2 dropping slightly to .649. In other words, the data provide little cross-sectional evidence for the existence of an "inverted-U" curve of women's status in 1992; instead, they suggest a strong linear relationship between the GDI and GDPPC. (A similar exercise was conducted with the 1970 data, and the same pattern was obtained regarding the significance of the linear GDPPC variable and the lack of significance of the quadratic term.)

We also ran models with each of the three components of the GDI (attainment in education, life expectancy, and income) as the dependent variable to evaluate whether one of the components was driving the larger relationship between GDI and GDP (see tables 3 , 4, and 5). The results for each model are very similar. In all three cases—and as was indicated for the GDI—the linear model was significant (with the

TABLE 2

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF WOMEN'S STATUS (GDI)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	−.1666**	−.3089	−.1121**	−.1201**	−.2322***
GDPPC (logged)	.1035***	.1438**	.1017***	.1016***	.0942***
GDPPC (logged) squared		−.0027			
50%+ population Muslim (yes = 1)			−.1674***	−.1586***	−.0786**
Latin America (yes = 1)				.0330	
2-component GEM[a]					.2940***
Adjusted R^2	.6506	.6494	.7593	.7609	.8300
N	129	129	129	129	104

SOURCES.—GDI: United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), table 3.1; GDPPC: United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994), Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; 2-component GEM: our calculations and United Nations, *Human Development Report 1995,* table 3.5.

NOTE.—The terms GDPPC and GEM represent gross domestic product per capita and gender empowerment measure, respectively. GDI = Measure generated by the United Nations to evaluate the achievement of women in life expectancy, education, and access to income relative to men at the country level. Values range from .169 to .919. For complete explanation of its calculation, see United Nations, *Human Development Report 1995,* pp. 130–32.

[a] This includes relative weight of women among administrators and professional workers and share of women of parliamentary seats. See ibid., pp. 132–33, for further explanation.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 3

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF LIFE EXPECTANCY COMPONENT OF THE GENDER-RELATED DEVELOPMENT INDEX (GDI)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	.0314	−.1654	.0609	.0421	−.0213
GDPPC (logged)	.0846***	.1404**	.0837***	.0835***	.0760***
GDPPC (logged) squared		−.0037			
50%+ population Muslim (yes = 1)			−.0905***	−.0699***	−.0050
Latin America (yes = 1)				.0762***	.0735***
2-component GEM[a]					.2032**
Adjusted R^2	.6598	.6615	.7063	.7319	.7669
N	129	129	129	129	104

SOURCES.—Life expectancy: our calculations and United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994), GDPPC: ibid., Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; 2-component GEM: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), table 3.5.

NOTE.—The terms GDPPC and GEM represent gross domestic product per capita and gender empowerment measure, respectively. The life expectancy component is the indexed average female life expectancy relative to average male life expectancy. For complete explanation of calculation, see United Nations, *Human Development Report 1995,* pp. 130–32.

[a] This includes relative weight of women among administrators and professional workers and share of women of parliamentary seats. See ibid., pp. 132–33, for further explanation.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 4

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF THE EDUCATION COMPONENT OF THE GENDER-RELATED DEVELOPMENT INDEX (GDI)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	−.0041	−.2175	.0660	.0510	−.0820
GDPPC (logged)	.0928***	.1532*	.0905***	.0903***	.0812***
GDPPC (logged) squared		−.0041			
50%+ population Muslim (yes = 1)			−.2149***	−.1984***	−.1145**
Latin America (yes = 1)				.0608	
2-component GEM[a]					.3684***
Adjusted R^2	.4716	.4705	.6334	.6411	.6858
N	129	129	129	129	104

SOURCES.—Education component: our calculations and United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994), GDPPC: ibid. Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; 2-component GEM: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), table 3.5.

NOTE.—The terms GDPPC and GEM represent gross domestic product per capita and gender empowerment measure, respectively. The education component is the composite index of females' adult literacy, gross combined primary, secondary, and tertiary enrollment relative to males. For complete explanation of its calculation, see United Nations, *Human Development Report 1995*, pp. 130–32.

[a] Includes relative weight of women among administrators and professional workers and share of women of parliamentary seats. See ibid., pp. 132–33, for further explanation.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 5

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF THE INCOME COMPONENT OF THE GENDER-RELATED DEVELOPMENT INDEX (GDI)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	−.5289***	−.4664	−.4666***	−.4593***	−.6090***
GDPPC (logged)	.1326***	.1149	.1306***	.1307***	.1281***
GDPPC (logged) squared		.0012			
50%+ population Muslim (yes = 1)			−.1910***	−.1990***	−.0972**
Latin America (yes = 1)				−.0295	
2-component GEM[a]					.2590*
Adjusted R^2	.6144	.6115	.6948	.6939	.7848
N	129	129	129	129	104

SOURCES.—Income-component: our calculations and United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994), GDPPC: ibid., Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; 2-component GEM: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), table 3.5.

NOTE.—The terms GDPPC and GEM represent gross domestic product per capita and gender empowerment measure, respectively. The income component is a composite index of females relative to males using information on wage differences and differences in the percentage shares of economically active population. For complete explanation of calculation, see United Nations, *Human Development Report 1995,* pp. 130–32.

[a] Includes relative weight of women among administrators and professional workers and share of women of parliamentary seats. See ibid., pp. 132–33, for further explanation.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

GDPPC indicator showing statistical significance at the .001 level and adjusted R^2s of .660 for the life expectancy model, .472 for the education model, and .614 for the income model). Likewise, the data provided little support for the quadratic model, with the quadratic term showing no statistical significance.

The relevance of additional indicators is assessed in the subsequent models presented in tables 2–4. As suggested by some of the studies noted in our review of the literature, the Muslim variable is indeed negative and statistically significant (in all cases, it is at the .001 level of significance, and it increases the R^2 value of the respective models). In contrast, the Latin American variable was not significant in the GDI model or in the models that use the education or income components of the GDI. The Latin American variable was significant (at the .001 level) in the life expectancy model, but the parameter estimate was positive (as opposed to the Muslim variable in all four models). Hence, in the early 1990s, countries classified as Muslim were significantly more likely to show lower levels of status for women regardless of the level of economic development, but this was not the case for countries in Latin America.

Finally, in the last model of table 2, the GEM showed a positive statistical significance at the .001 level while controlling for the Muslim characteristic (with the relative significance of the latter variable dropping slightly in the model in question), and the R^2 rose to .830. Compatible results can be observed using each of the components of the GDI as dependent variables (although in the life expectancy model inclusion of the GEM measure altogether eliminated the significance of the Muslim variable). We tested all these models, and no multicollinearity was found among our independent variables.

In short, the cross-sectional model for the early 1990s suggests that the level of economic development shows significance in shaping the status of women as measured by the GDI, that such a relationship is linear rather than curvilinear, that countries classified as Muslim (but not those classified as Latin American) are likely to be characterized by relatively lower levels of women's status, and that the empowerment of women (as measured by the GEM) is likely to be accompanied by higher levels of status. These results, however, do not evaluate directly which of the lines of interpretation reviewed earlier in this article better serve to predict the longitudinal relationship between economic growth and the status of women.

B. Trends in Women's Status

According to our data, all nations experienced some degree of improvement in women's status from 1970 to 1992. As indicated in the appendix, the three countries experiencing the most pronounced improvement in women's status were Botswana, Nepal, and Tunisia. The three coun-

tries experiencing the least pronounced improvement in women's status were Canada, Luxembourg, and the United States.

The results for the relevant longitudinal models are provided in table 6. As indicated by model 1 in table 6, the data provide considerable support for the first longitudinal model, with the economic growth variable (change in GDP) showing statistical significance at the .001 level and an adjusted R^2 of .819. In other words, improvements in women's status show a significant association with economic growth. In this model, the GDI 1970 variable is both significant (at the .001 level) and negative, suggesting that improvements in the status of women over the 1970–92 period were highest for countries that had lower original levels of women's status (i.e., lower values in the GDI). Finally, the GDP 1970 indicator is significant (at the .01 level) and positive, meaning that, taking into account original levels in the GDI, improvements in the status of women over the 1970–92 period were more pronounced in countries that had higher original levels of economic development.

However, model 2 in table 6 fails to provide longitudinal evidence for the existence of a curvilinear relationship between economic development and the status of women. The interaction term between original level of economic development (GDP 1970) and rate of economic growth (change in GDP) fails to show significance.

We also ran the longitudinal model with two additional variables. First, we evaluated whether the countries classified as having patriarchal institutional legacies were less likely to undergo improvements in the status of women. As indicated by model 3 in table 6, the Muslim variable showed no significance in explaining changes in GDI over the period under consideration: the relative advances made by women in countries classified as Muslim were not significantly different from the advances that characterized women elsewhere in the world. In this sense, the Muslim attribute helps to predict how a country might rank in a contemporary cross-sectional distribution of nations according to women's status, but such an attribute is not significant in predicting longitudinal patterns of change over the period under consideration. As indicated by model 4 in table 6, the Latin America variable also failed to show significance in explaining change for this period.

Second, we examined the impact of structural adjustment on changes in GDI. As indicated by model 5 in table 6, the structural adjustment variable was not significant in explaining changes in GDI over the 1970–92 period. True, the sample in this model is smaller than those of the previous models of table 6, and the sample is composed to a greater extent by poorer nations. However, running the previous four models with the smaller sample of model 5 shows the same results (with significance levels and signs running in the same direction). The lack of significance of the structural adjustment variable goes against some of the GAD literature on the detrimental impact of structural adjustment poli-

TABLE 6

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF CHANGE IN WOMEN'S STATUS (Change in GDI), 1970–92

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	.5699***	.6146***	.5823***	.5806***	.5043***
GDI 1970[a]	−1.2305***	−1.2473***	−1.1740***	−1.2154***	−1.4163***
GDPPC 1970 (logged)	.0465**	.0397*	.0407*	.0447**	.0637*
Change in GDP 1970–92[b]	.0768***	.0445	.0734***	.0747***	.1172***
GDPPC 1970 × change in GDP		.0055			
50%+ population Muslim (yes = 1)			.0196		
Latin America (yes = 1)				−.0115	
Structural Adjustment Index[c]					−.0003
Adjusted R^2	.8186	.8170	.8171	.8168	.7640
N	79	79	79	79	51

SOURCES.—GDI change: United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1 and 3.4; GDI 1970: ibid., table 3.4; GDPPC 1970, change in GDP: our calculations, and United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994); Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; Structural Adjustment Index: York Bradshaw, University of Indiana, Bloomington.

NOTE.—The term GDPPC represents gross domestic product per capita. Change in GDI is measured using difference-of-logs, $\log(y_2/y_1)$. For information on calculation of GDI, see table 2 and text.

[a] For information on calculation of GDI, see table 2 and text.

[b] Measured using difference-of-logs, $\log(y_2/y_1)$. Logged GDPPC is used for both years.

[c] Based on number of bilateral debt restructurings from 1975–90, number of multilateral debt restructurings 1975–90, number of times a country received extended International Monetary Fund (IMF) funds, and total number of IMF loans received as a percentage of its allotted quota 1975–90. See York Bradshaw and Ana-Maria Wahl, "Foreign Debt Expansion, the International Monetary Fund, and Regional Variation in Third World Poverty," *International Studies Quarterly* 35 (September 1991): 251–72 for more information.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

cies on the status of women. However, this finding should not be considered without taking into account some of the caveats we discussed earlier regarding our measure of structural adjustment.

Summarizing our cross-sectional and longitudinal results, the level of economic development has a significant, positive, and linear relationship to the status of women as measured by the GDI. In a cross-sectional analysis of available data, such a relationship is manifested in the fact that the status of women (as measured by the GDI) is higher in wealthy nations and lower in poorer ones. In a longitudinal analysis of the data, such a relationship is manifested in the fact that advances in the GDI were most pronounced in countries undergoing the highest rates of economic growth. The longitudinal analysis also indicates that improvements in women's status were most pronounced in countries characterized by relatively lower levels of such status in 1970. The longitudinal results were robust after controlling for institutional characteristics (predominance of a Muslim population or Latin American affiliation), often viewed as significant in the literature. However, neither the cross-sectional (for both 1970 and 1992) nor the longitudinal (1970–92) analysis provided any support for the notion that economic development and the status of women are characterized by a curvilinear relationship.

C. Cross-Sectional Patterns in Inequality between Men and Women

The results for linear and curvilinear cross-national models of the relationship between gender inequality and our independent variables are provided in table 7. As indicated by the results, the data provide slight support for the linear model for 1992, with the GDPPC indicator showing statistical significance at the .05 level and an adjusted R^2 of .024. As opposed to our findings regarding women's status, the data provide stronger support for a quadratic model, with the quadratic term in the equation showing both significance at the .01 level and the expected direction and with the adjusted R^2 increasing to .083. In other words, the data appear at first sight to provide cross-sectional evidence for the existence of an inverted-U curve of inequality between men and women in 1992. This apparent curvilinearity, in fact, can be observed in table 1, where countries with high levels of gender inequality appear to cluster primarily among nations of intermediate levels of development.

However, the apparent curvilinear relationship between level of economic development and inequalities between men and women loses importance when additional variables are considered. As indicated by model 3 in table 7, the Muslim variable is positive and statistically significant at the .001 level, and its inclusion in the model increases the R^2 to .364. In this model, the GDPPC measure and its quadratic term remain significant (at the .01 and .05 levels, respectively). This suggests that, all other things being equal, levels of inequality (as indicated by the GI) tend to be higher in Muslim countries. With the introduction of the Latin

TABLE 7

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF GENDER INEQUALITY (GI)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	.0350	−.2543*	−.1906*	−.0924	.0518	−.0061
GDPPC (logged)	.0070*	.0890**	.0641**	.0328		
GDPPC (logged) squared		−.0055**	−.0038*	−.0017		
50%+ population Muslim (yes = 1)			.0843***	.0987***	.1008***	.1020***
Latin America (yes = 1)				−.0451***	.0508***	.0503***
Adjusted R^2	.0237	.0830	.3641	.4168	.3818	.4162
N	129	129	129	129	129	129

SOURCES.—GI: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1 and 1; GDPPC: United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994); Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1.

NOTE.—The term GDPPC represents gross domestic product per capita. GI = Weight of the gender gap relative to a country's Human Development Indicator (HDI) following United Nations, *Human Development Report 1995*. For further explanation of calculation, see that report, p. 79.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

American variable, however, both the Muslim and Latin American variables in the model appear significant at the .001 level (although Latin America shows a negative sign), and the pertinent R^2 rises to .417, with both the GDPPC measure and its quadratic term losing significance. Model 5, including only the Muslim and Latin American variables, provides an R^2 of .382, with both variables positive and significant at the .001 level. Model 6 in the table incorporates the GDPPC measure (significant at the .01 level), and the Muslim and Latin American variables (both positive and significant at the .001 levels). The switch in the sign of the Latin America indicator in models 5 and 6, as compared to model 4, suggests that levels of inequality in the region appear higher when not controlling for a curvilinear relationship between level of growth and inequality.

Inclusion of the women's empowerment measure changes the size of the sample (from 129 to 104 nations) and alters the results slightly. This is because the nations that lack information on the GEM measure tend to be the poorest in our sample. As a consequence, as indicated in table 8, the GDPPC measure does not recover significance once the Muslim and Latin American variables are incorporated in the model. As in table 7, the apparent curvilinear relationship between level of economic development and gender inequalities disappears once the Muslim and Latin American variables are included in the model (but in this case both dummy variables are positive). However, as indicated by model 7, the GDPPC variable recovers significance once the GEM is incorporated in the model; the GEM measure itself is significant and negative, suggesting that in countries showing a higher level of women's empowerment, the extent of gender inequality tends to be less pronounced. Again, we tested all these models, and no multicollinearity was found between our independent variables.

In short, the cross-sectional models for the early 1990s suggest that the level of economic development shows significance in shaping inequalities between men and women as measured by the GI, and the apparent curvilinearity in such a relationship tends to be explained away by cultural and institutional legacies (as represented by countries classified as Muslim and, perhaps to a lesser extent, Latin American).

D. Trends in Inequality between Men and Women

As opposed to the case of women's status, where all nations experienced some degree of improvement in the measure, changes in gender inequality over the 1970–92 period were more mixed. As indicated below in the appendix and in table 11, most nations experienced a decline in such inequalities, but there were 10 nations where these inequalities became more pronounced. The four countries experiencing the greatest increase in gender inequalities were Egypt, Honduras, India, and Guinea. The five

TABLE 8

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF GENDER INEQUALITY (GI) FOR COUNTRIES WITH GENDER EMPOWERMENT MEASURES (GEM) DATA

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	.0780**	−.2488**	−.1903*	−.0994	.0594***	.0266	.0533*
GDPPC (logged)	.0016	.0937***	.0709**	.0410		.0043	.0085**
GDPPC (logged) squared		−.0062***	−.0045**	−.0025			
50%+ population Muslim (yes = 1)			.0666***	.0822***	.0865***	.0889***	.0703***
Latin America (yes = 1)				.0392**	.0466***	.0475***	.0547***
2-component GEM[a]							−.1127**
Adjusted R^2	−.0078	.1014	.2967	.3496	.3327	.3408	.3866
N	104	104	104	104	104	104	104

SOURCES.—GI: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1 and 1; GDPPC: United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994); Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; 2-component GEM: our calculations based on United Nations, *Human Development Report 1995*, table 3.5.

NOTE.—The terms GDPPC and GEM represent gross domestic product per capita and gender empowerment measure, respectively. GI = Weight of the gender gap relative to a country's Human Development Indicator (HDI) following United Nations, *Human Development Report 1995*. For further explanation of calculation, see that report, p. 79.

[a] Includes relative weight of women among administrators and professional workers and share of women of parliamentary seats. See ibid., pp. 132–33, for further explanation.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

countries experiencing the greatest decline in gender inequalities were Barbados, Denmark, Finland, Norway, and Sweden.

The results for the relevant longitudinal models are provided in table 9. As indicated by model 1, the data provide slight support for the first longitudinal model, with the GI 1970 and GDPPC 1970 variables showing significance at the .05 levels, the economic growth variable (change in GDP) showing no statistical significance, and an adjusted R^2 of .228. In this model, the GI 1970 variable is negative, suggesting that a decline of inequalities between men and women over the 1970–92 period was most pronounced for countries that had higher original levels of gender inequality in 1970 (i.e., higher values in the GI). The GDPPC 1970 indicator is also negative, meaning that, taking into account original levels in the GI, a decline of inequalities between men and women over the 1970–92 period would appear to have been more pronounced in countries that had higher original levels of economic development.

In contrast, model 2 in table 9 provides longitudinal evidence for the existence of a curvilinear relationship between economic growth and changes in inequalities between men and women. In this model, the GI 1970 variable has lost its significance. Once the interaction between economic growth and the original level of economic development (as measured by GDPPC 1970) is taken into account, all three of these variables become significant. The interaction term is significant (at the .001 level) and negative. This interaction term can be interpreted as indicating that economic growth was most likely to be accompanied by rising or little change in inequalities in countries at lower original levels of GDPPC and that the relationship between economic growth and gender inequalities tended to level off in countries with higher original levels of GDPPC.

We also ran the longitudinal model with the additional variables relevant to our analysis. First, we sought to evaluate whether countries classified as Muslim were less likely than other countries to undergo a reduction in inequalities between men and women. As indicated by model 3 in table 9, the variable in question is significant (at the .05 level) and positive, suggesting that in countries classified as Muslim, reductions in inequality tended to be less pronounced. Thus, in a cross-sectional analysis, the Muslim attribute helps to predict that a country might rank higher in the relative prevalence of inequalities between men and women, and such an attribute predicts a greater propensity to maintain inequalities in a longitudinal analysis of the period under consideration. In other words, the available GI data suggest that the relative reduction in inequalities between men and women in countries classified as Muslim was less pronounced than the reduction that characterized countries elsewhere in the world.

Furthermore, while the interaction term remains significant in

TABLE 9

ORDINARY LEAST SQUARES (OLS) REGRESSION MODELS OF CHANGE IN GENDER INEQUALITY (Change in GI), 1970–92

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1.6836**	−3.0858**	−2.2407*	−1.9117	−2.0290
GI 1970[a]	−2.6308*	−1.8507	−2.9384**	−3.2800**	−4.3577*
GDPPC 1970 (logged)	−.2595*	.5068**	.3764*	.3093	.3835
Change in GDP[b]	−.1145	3.2569***	2.3769***	2.0056*	1.9569
GDPPC 1970 × change in GDP		−.5332***	−.3962***	−.3341*	−.3250
50%+ population Muslim (yes = 1)			.6695*	.8327*	.6000
Latin America (yes = 1)				.2101	
Structural Adjustment Index[c]					−.0243
Adjusted R^2	.2282	.4478	.4951	.4931	.2985
N	66	66	66	66	42

SOURCES.—GI change: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1, 3.4, and 1; GDI 1970: ibid., table 3.4; GDPPC 1970, change in GDP: author's calculations, and United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994), GDPPC: ibid., Muslim: John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54, table 1; Structural Adjustment Index: York Bradshaw, University of Indiana, Bloomington.

NOTE.—The term GDPPC represents gross domestic product per capita. Change in GI is measured using difference-of-logs, $\log(y_2/y_1)$. For information on calculation of GI, see table 7 and text.

[a] For information on calculation of GI, see table 7 and text.

[b] Measured using difference-of-logs, $\log(y_2/y_1)$. Logged GDPPC used for both years.

[c] Based on number of bilateral debt restructurings from 1975–90, number of multilateral debt restructurings 1975–90, number of times a country received extended International Monetary Fund (IMF) funds, and total number of loans received as a percentage of its allotted quota 1975–90. See York Bradshaw and Ana-Maria Wahl, "Foreign Debt Expansion, the International Monetary Fund, and Regional Variation in Third World Poverty," *International Studies Quarterly* 35 (September 1991): 251–72 for more information.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

model 3, indicating the same relationship between original level of economic development and economic growth as discussed above in reference to model 2, the GI 1970 variable regained significance at the .01 level. This variable remains negative, again suggesting that a decline of inequalities between men and women over the 1970–92 period was most pronounced for those countries that had higher original levels of gender inequality in 1970 (i.e., higher values in the GI measure).

The Latin American variable was not significant in explaining changes in inequality during the period under consideration. Thus, in a cross-sectional analysis, the Latin American attribute helps to predict that a country might rank higher in the relative prevalence of inequalities between men and women, but the attribute predicts no greater or lesser propensity to experience changes in such inequalities in a longitudinal analysis.

In addition, we also considered the impact of structural adjustment on changes in the GI measure. As indicated by model 5 in table 9, the structural adjustment variable was not significant in explaining changes in the GI measure over the 1970–92 period. Again, as in table 6, the sample in model 5 is different from that used in the previous models of table 9; in this particular case, running the four initial models with the smaller sample show somewhat different levels of significance for our other independent variables, with less importance of the economic variables (given that the sample is restricted to a greater extent to poor nations) but similar patterns regarding the Muslim and Latin American variables. Again, the lack of significance of structural adjustment on changes in the GI measure goes against some of the literature on the impact of structural adjustment on women's status, although the caveats discussed earlier apply here as well.[64]

Table 10 provides a summary of the rank changes in inequality experienced by the countries in our study between 1970 and 1992. As suggested by the table, some countries (e.g., Austria, Barbados, Italy, Japan, Singapore, the United Kingdom) underwent a considerable decline in the relative extent of inequalities. Others (e.g., Egypt, the Dominican Republic, Ecuador, Paraguay) underwent a considerable increase in the relative extent of inequalities. Finally, in some cases, inequalities remained relatively less pronounced throughout the two periods (as in Haiti, Tanzania, Thailand, and the United States), while in others they remained relatively more pronounced (as in Iran, Iraq, Saudi Arabia, Spain, Syria and the United Arab Emirates). These widely divergent patterns suggest that individual case studies might offer very different conclusions regarding the character of change in inequalities between men and women as experienced in recent decades, and that consideration of this pattern might be useful in organizing alternative paths for contrast and comparison.

TABLE 10

RANK (QUINTILE) CHANGE IN GENDER INEQUALITY (GI) BETWEEN 1970 AND 1992

1992 GENDER INEQUALITY QUINTILES (Low to High)	1970 GENDER INEQUALITY QUINTILES (Low to High)				
	1 (Lowest)	2	3	4	5 (Highest)
1 (lowest):	Haiti Tanzania Thailand United States	Denmark France Jamaica Sweden	Australia Finland Norway Papua New Guinea	Austria Italy Japan United Kingdom	Barbados
2:	Ghana Sri Lanka Zambia	Canada Malawi Malaysia Portugal Turkey	New Zealand		Singapore
3:	El Salvador Guinea Honduras India Philippines	Bangladesh	Belgium Netherlands	Greece Nepal Nicaragua	Mozambique
4:	Paraguay		Brazil Colombia Costa Rica Panama	Argentina Chile Luxembourg Peru	Ireland Mexico Trinidad and Tobago Venezuela
5 (highest):	Egypt	Dominican Republic Ecuador	Pakistan Tunisia	Algeria Guatemala Morocco	Iran Iraq Saudia Arabia Spain Syria United Arab Emirates

SOURCES.—Our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995). (See table 7 for further information on GI measure.)

NOTE.—Countries on the diagonal represent those with no relative change in GI between 1970 and 1992. Those above the diagonal have experienced improvements in gender inequality relative to other countries during this period. Those below the diagonal have experienced worsening conditions of gender inequality relative to the other countries (due to little absolute improvement or increasing inequality) during this period.

E. Conclusion

In summary, the level of economic development has a significant, positive, and linear relationship to the relative status of women as measured by the GDI. In a cross-sectional analysis of available data, such a relationship is manifested in the fact that the status of women (as measured by the GDI) is higher in wealthy nations and lower in poorer ones. In a longitudinal analysis of the data, such a relationship is manifested in the fact that advances in the GDI were most pronounced, after controlling for the initial level of women's status, in countries undergoing the highest rates of economic growth. These results were robust after controlling for patriarchal institutional arrangements, a variable that is often viewed as significant in the literature. However, neither the cross-sectional (for both 1970 and 1992) nor the longitudinal (1970–92) analysis provided any support for the notion that economic development and the status of women are characterized by a curvilinear relationship.

As indicated in our longitudinal models, the rise in women's status between 1970 and 1992 was most pronounced in countries where women had relatively lower levels of status in the early 1970s. And while the legacy of patriarchal institutional arrangements (as indicated by the Muslim and Latin America variables) explains cross-sectional patterns in women's status, such a characteristic indicates no significance in the longitudinal models.

Different results are obtained when looking at inequalities between men and women as measured by the GI. Here, both cross-sectional and longitudinal (1970–92) analyses appear to provide support for the argument that economic development and gender inequalities are characterized by a curvilinear relationship. In the cross-sectional analysis of available data, however, we show that such a relationship actually reflects the relatively higher level of inequalities in both Muslim and Latin American countries (nations that also tend to be characterized by intermediate levels of economic development). But the curvilinear relationship between economic development and gender inequalities is robust in a longitudinal analysis of the data, even after controlling for the legacy of patriarchal institutional arrangements. The longitudinal model on gender inequality also suggests that gender inequalities were less likely to decline in Muslim countries (as opposed to the pattern found regarding women's status), that Latin American countries showed no significant pattern of their own regarding changes in gender inequality between 1970 and 1992, and that countries with higher original levels of inequality in 1970 were likely to experience the greatest relative decline in inequalities in subsequent decades. Structural adjustment did not appear as a significant variable explaining trends in either women's status or gender inequality.

Patterns of change during the period under consideration are summarized in table 11. As indicated above, all countries showed some degree of improvement in the status of women during the period under con-

TABLE 11

CHANGE IN WOMEN'S STATUS BY CHANGE IN GENDER INEQUALITY OF COUNTRIES BETWEEN 1970 AND 1992

CHANGE IN GENDER INEQUALITY (GI)	CHANGE IN WOMEN'S STATUS (GDI)			
	.1 to .29 (Small Improvement)	.3 to .49	.5 to .69	.7 to .89 (Large Improvement)
1 to 2 (high increase in inequality):		Honduras India	Egypt Guinea	
0 to 1 (small increase in inequality)	Paraguay	Dominican Republic Ecuador Philippines	Pakistan	Algeria
0 to −1 (small decrease in inequality):	Argentina Belgium Canada Ireland Luxembourg Netherlands Spain United States	Chile Colombia Costa Rica El Salvador Greece Guatemala Mexico Nicaragua Panama Sri Lanka Venezuela Zambia	Bangladesh Brazil Ghana Haiti Malawi Malaysia Syria Thailand Turkey United Arab Emirates	Iran Morocco Nepal Saudi Arabia Tunisia
−1 to −2 (medium decrease in inequality):	Australia Austria France Italy Jamaica Japan New Zealand United Kingdom	Mozambique Singapore Trinidad and Tobago	Iraq Papua New Guinea Portugal Tanzania	
−2 to −3 (large decrease in inequality):	Denmark Finland Norway Sweden	Barbados		

SOURCES.—United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995) and our calculations.

NOTE.—See table 6 for information on measurement of change in women's status (GDI) and table 9 for information on measurement of change in gender inequality (GI).

sideration. In some (e.g., most high-income countries), the improvement in the status of women was less pronounced than in others (e.g., Algeria, Iran, Morocco, Nepal, Saudi Arabia, Tunisia), but they all moved toward a rising status. However, trends are rather mixed regarding gender inequalities. Here, some countries were characterized by a significant reduction in inequalities (most notably, Barbados, Denmark, Finland, Norway, and Sweden). Others, however, even though experiencing an improvement in the status of women, actually showed an increase in gender inequalities (e.g., Egypt, Guinea, Honduras, India). The findings suggest that while wealthy nations tended to experience less pronounced change in women's status, they also were the nations that showed the most pronounced reductions in gender inequality.

The divergent patterns in recent trends identified in our findings again suggest that in conducting national case studies or limited cross-national comparisons, researchers must be particularly careful in considering how their sample fits within the global patterns and trends suggested by the data. More research is also indicated to further disaggregate broad cross-national trends in women's status and inequalities between men and women and to assess patterns in these changes from a longer historical perspective.

IV. Discussion

Methodologically, our findings suggest that differences in the measures used as dependent variables and the types of procedures used to analyze patterns and trends are likely to lead to widely different conclusions. Such conclusions extend to the issue of sampling. Our findings suggest that given the considerable heterogeneity that characterizes cross-sectional and longitudinal patterns across the world, analyses based on individual nations or on limited comparisons must carefully specify how patterns and trends drawn from particular case studies might fit within broader processes of change.

Theoretically, our findings shed light on the debates discussed in our literature review. For example, our study suggests that economic growth between the 1970s and 1990s enhanced the status of women as measured by the GDI and as expected both with the neoclassical and WID approaches (with their promise that such gains could be made within a framework of economic growth). Supporting the neoclassical approach, our cross-sectional and longitudinal models indicated a positive, linear relationship between economic growth and the status of women; providing better support for the WID approach, there was longitudinal evidence of a curvilinear relationship between economic growth and gender inequality.

Cross-sectional analyses of the data provided considerable support to the argument that patriarchal institutional legacies undermine the status of women. In fact, taking such legacies into consideration explains

away the apparent curvilinearity in cross-sectional data on the relationship between levels of economic growth and gender inequality. However, providing support to studies that have emphasized the growing importance of international institutional arrangements in shaping changes in the status of women and gender inequality, our longitudinal findings indicate that in recent decades patriarchal institutional legacies did not represent a hindrance to advancements in the status of women (the results were ambivalent regarding gender inequality, with Muslim—but not Latin American—countries characterized by a greater persistence of such inequality).

Our results regarding the significance of women's empowerment (as reflected in the GEM) also provided support for the WID and GAD's emphasis on the positive effect of gender-sensitive programming. However, structural adjustment was not revealed to be a significant variable explaining trends in either women's status or gender inequality. Perhaps, as our results indicate, economic growth and structural adjustment in the decades considered in this article had been directed at least in part by the growing empowerment of women, so that changes in gender relations occurred through programming sensitive to gender differences rather than via gender-blind strategies of growth or adjustment. Recognizing the efficacy of women's empowerment in its brief history might be important both for the analysis of gender relations and for refining strategies for women's empowerment.

Gender inequalities (as measured by the GI) have been somewhat more impervious to change, and economic growth in some countries might result in rising, rather than declining, inequalities. These findings offer support for the GAD critique, a perspective that advocates women's empowerment but remains skeptical of economic growth as the mechanism to achieve it, noting the tendency for WID-style programming to interpret women's empowerment as improvement for some women or on some measures. According to the GAD critique, the persistence of gender inequality and inequalities among women, even in the context of significant gains for many women, can be interpreted as evidence of the persistence of systemic imperatives toward inequality. Hence, from a GAD perspective, if economic development improves the status of some women, and even of "the average woman" on selected criteria, this is no longer sufficient to satisfy the criteria for women's empowerment.

While the neoclassical and WID approaches might say the glass is half full, GAD would view the glass as half empty. Facing this debate, our findings suggest that each of these approaches has an element of truth. Refining the agenda for women's empowerment in accordance with such findings can be crucial to those committed to working within existing institutional arrangements even as they transform those arrangements. The GAD approach tends to assume that its critique is only valid

if the neoclassical and WID approaches are wrong. In this formulation, the validity of the GAD critique rests on the rejection of the neoclassical and WID arguments. This is wrong as the debate between these approaches might be better interpreted in light of the on-going transformation of the goals of women's empowerment. This would make sense out of what otherwise appears as anomalous: that the neoclassical, WID, and GAD approaches can each be partly right, that is to say, economic development can be both good and bad for women. The research reported here demonstrates that careful analysis of statistical evidence can assist in clarifying the strengths and weaknesses of opposing theoretical and policy positions. The key to further advances in research in this area lies in better understanding the ways and the context in which economic development benefits women and the ways in which women articulate the limitations and the importance of economic development in creating an agenda for their empowerment.

Appendix

TABLE A1

VALUES OF 1970 GENDER INEQUALITY (GI), VALUE OF 1992 GI, CHANGE IN GI (1970–92), AND CHANGE IN WOMEN'S STATUS (GDI) (1970–92)

Country	1970 GI[a]	1992 GI[a]	Change in GI[b]	Change in GDI[c]
Afghanistan		.259		.699
Algeria	.220	.306	.331	.701
Angola		.017		
Argentina	.225	.129	−.553	.281
Australia	.159	.028	−1.735	.217
Austria	.201	.046	−1.463	.253
Bahamas		.074		
Bahrain		.204		.583
Bangladesh	.126	.082	−.422	.652
Barbados	.278	.024	−2.431	.389
Belgium	.182	.080	−.824	.202
Benin		.054		
Bolivia		.117		
Botswana	−.063	.088		.835
Brazil	.176	.118	−.396	.528
Brunei		.065		
Burkina Faso		.061		
Burundi		.042		
Cameroon		.082		
Canada	.136	.062	−.787	.151
Cape Verde		.063		
Central African Republic		.030		
Chad		.122		
Chile	.204	.138	−.394	.335
China		.027		
Colombia	.170	.139	−.201	.448
Comoros		.031		
Costa Rica	.176	.136	−.260	.359
Côte d'Ivoire		.076		

TABLE A1 (*Continued*)

Country	1970 GI[a]	1992 GI[a]	Change in GI[b]	Change in GDI[c]
Cuba		.056		
Czech Republic		.016		
Denmark	.137	.017	−2.060	.175
Djibouti		.063		
Dominican Republic	.105	.163	.436	.371
Ecuador	.124	.182	.388	.411
Egypt	.030	.261	2.172	.551
El Salvador	.090	.079	−.125	.328
Estonia		.027		
Ethiopia		.044		.716
Fiji		.160		.436
Finland	.165	.017	−2.265	.251
France	.148	.034	−1.460	.191
Gambia		.074		
Ghana	.085	.046	−.620	.574
Greece	.212	.090	−.850	.370
Guatemala	.212	.186	−.129	.443
Guinea Bissau		.058		
Guinea	.009	.097	2.377	.665
Guyana		.061		.175
Haiti	.041	.022	−.625	.527
Honduras	.020	.093	1.541	.424
Hong Kong		.056		
Hungary		.023		
India	.016	.087	1.704	.473
Indonesia	−.003	.072		.655
Iran	.259	.206	−.225	.708
Iraq	.418	.152	−1.010	.687
Ireland	.255	.111	−.826	.274
Italy	.217	.056	−1.354	.280
Jamaica	.097	.015	−1.846	.172
Japan	.198	.044	−1.508	.244
Kenya		.021		
Kuwait		.128		.410
Laos		.036		
Latvia		.028		
Lebanon		.079		
Lesotho	−.049	.015		.370
Libya		.305		
Lithuania		.025		
Luxembourg	.200	.115	−.553	.159
Malawi	.108	.045	−.865	.696
Malaysia	.104	.066	−.460	.599
Maldives		.058		
Mali		.122		
Mauritania		.139		
Mauritius		.121		
Mexico	.259	.120	−.768	.443
Mongolia		.013		
Morocco	.209	.188	−.108	.702
Mozambique	.395	.069	−1.744	.423
Myanmar	−.066	.020		.279
Nepal	.210	.096	−.780	.885
Netherlands	.190	.091	−.740	.192
New Zealand	.197	.055	−1.269	.228
Nicaragua	.201	.083	−.880	.417
Niger		.053		
Nigeria		.057		
Norway	.181	.023	−2.084	.237
Pakistan	.197	.255	.258	.608
Panama	.149	.106	−.335	.417
Papua New Guinea	.172	.041	−1.427	.594

TABLE A1 (*Continued*)

Country	1970 GI[a]	1992 GI[a]	Change in GI[b]	Change in GDI[c]
Paraguay	.070	.131	.623	.279
Peru	.199	.110	−.592	.400
Philippines	.070	.077	.100	.317
Poland		.020		
Portugal	.146	.048	−1.113	.505
Qatar		.237		
Republic of Korea		.116		
Russian Federation		.032		
Saudi Arabia	.526	.325	−.481	.753
Senegal		.071		
Sierra Leone		.118		
Singapore	.239	.064	−1.321	.460
Slovakia		.019		
Spain	.268	.145	−.614	.281
Sri Lanka	.075	.063	−.184	.344
Sudan	−.005	.124		.563
Suriname		.083		
Swaziland		.027		.666
Sweden	.133	.011	−2.513	.185
Switzerland		.079		
Syria	.270	.250	−.077	.624
Tanzania	.066	.014	−1.575	.600
Thailand	.037	.035	−.042	.577
Togo	−.016	.071		.714
Trinidad/Tobago	.297	.099	−1.101	.348
Tunisia	.194	.160	−.194	.850
Turkey	.136	.061	−.809	.669
United Arab Emirates	.414	.217	−.646	.650
Uganda		.040		
United Kingdom	.210	.059	−1.269	.223
Uruguay		.090		
United States	.081	.038	−.741	.106
Venezuela	.293	.109	−.983	.396
Vietnam		.004		
Yemen		.276		
Zaire		.031		
Zambia	.076	.052	−.387	.326
Zimbabwe		.050		

SOURCES.—GI 1970: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.4 and 1; GI 1992: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1 and 1. Change in GI and change in GDI: our calculations and United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), tables 3.1, 3.4, and 1.

[a] Weight of the gender gap relative to a country's Human Development Indicator (HDI) following United Nations, *Human Development Report 1995*. For further explanation of calculation, see that report, p. 79.

[b] Change measured using difference-of-logs, log(GI 1992/GI 1970).

[c] Change measured using difference-of-logs, log(GDI 1992/GDI 1970). For information on calculation of GDI, see table 2 and text.

Notes

* D. Gale Johnson, anonymous reviewers, Valentine Moghadam, and Reeve Vanneman provided useful comments on an earlier version of this article. The research reported here was made possible in part by an Adjunct Research Associate grant to Roberto Patricio Korzeniewicz from the North-South Center at the University of Miami and by a research grant from the World Society Foundation (Zurich, Switzerland).

1. We should also note that, along with this literature, there are emerging reservations about the utility and advisability of generalizing at all about the relationship between women and economic development.

2. Jane A. Weiss, Francisco O. Ramirez, and Terry Tracy, "Female Participation in the Occupational System: A Comparative Institutional Analysis," *Social Problems* 23 (June 1976): 593–608; Roger Clark, "Contrasting Perspectives on Women's Access to Prestigious Occupations: A Cross-National Investigation," *Social Science Quarterly* 72 (March 1991): 20–32; Roger Clark, Thomas W. Ramsbey, and Emily Steir Adler, "Culture, Gender, and Labor Force Participation: A Cross-National Study," *Gender and Society* 5 (March 1991): 47–66; Maria Charles, "Cross-National Variations in Occupational Sex Segregation," *American Sociological Review* 57 (August 1992): 483–502; Pippa Norris, *Politics and Sexual Equality* (London: Wheatsheaf, 1987).

3. World Bank, *World Development Report 1995: Workers in an Integrating World* (New York: Oxford University Press, 1995), p. 44.

4. Gary S. Becker, *The Economics of Discrimination* (Chicago: University of Chicago Press, 1957), *Human Capital* (New York: National Bureau of Economic Research, 1964), and "Human Capital, Effort, and the Sexual Division of Labor," *Journal of Labor Economics* 3 (January 1985): S33–S58; Jacob Mincer, "Investment in Human Capital and Personal Income Distribution," *Journal of Political Economy* 66 (August 1958): 281–302, "On the Job Training: Costs, Returns, and Some Implications," *Journal of Political Economy* 70 (February 1962): 50–59, and *Schooling, Experience, and Earnings* (New York: National Bureau of Economic Research, 1974); Jacob Mincer and Solomon W. Polachek, "Family Investments in Human Capital: Earnings of Women," *Journal of Political Economy* 82 (March–April 1974): S76–S108; Walter Oi, "Labor as a Quasi-fixed Factor," *Journal of Political Economy* 70 (December 1962): 538–55; June O'Neill and Solomon Polachek, "Why the Gender Gap in Wages Narrowed in the 1980s," *Journal of Labor Economics* 11 (January 1993): 205–28; Theodore W. Schultz, "Investment in Human Capital," *American Economic Review* 51 (March 1961): 1–16; James P. Smith, "Race and Human Capital," *American Economic Review* 74 (September 1984): 685–98.

5. Dennis J. Aigner and Glen C. Cain, "Statistical Theories of Discrimination in the Labor Market," *Industrial and Labor Relations Review* 30 (January 1977): 175–87; Matthew Goldberg, "Discrimination, Nepotism, and Long-Run Wage Differentials," *Quarterly Journal of Economics* 97 (May 1982): 307–19; Shelly J. Lundberg and Richard Startz, "Private Discrimination and Social Intervention in Competitive Labor Markets," *American Economic Review* 73 (June 1983): 340–47.

6. William Darity, Jr., "What's Left of the Economic Theory of Discrimination?" in *The Question of Discrimination: Racial Inequality in the U.S. Labor Market,* ed. S. Shulman and William Darity, Jr. (Middletown, Conn.: Wesleyan University Press, 1989).

7. Emile Durkheim, *The Division of Labor in Society* (New York: Free Press, 1964); Max Weber, *Economy and Society,* ed. Guenther Roth and Claus Wittich (Berkeley and Los Angeles: University of California Press, 1978).

8. A recent study suggests that throughout the twentieth century, world models and international standards enhancing the status of women have become more prevalent, displacing the relative importance of national arrangements in shaping such conditions, so that changes in women's status and patterns of gender inequality (such as in relation to political rights) are "increasingly a product of the transnational environment rather than of local or national forces." See Francisco O. Ramirez, Yasemin Soysal, and Suzanne Shanahan, "The Changing

Logic of Political Citizenship: Cross-National Acquisition of Women's Suffrage Rights, 1890 to 1990," *American Sociological Review* 62 (October 1997): 735–45, quote on p. 743.

9. Ester Boserup, *Women's Role in Economic Development* (New York: St. Martin's, 1970).

10. Ibid., p. 140.

11. Ibid. According to Boserup, with the rise of a modern economy, men monopolize access to technological innovations and education. Special restrictions for women (such as pregnancy leaves, limited hours of work, and child care provisions) raise their relative labor costs and lead to a greater preference for male workers among employers. Differences in the distribution of increasing responsibilities (such as child care) that characterize growing families alter individual preferences among women who are potential workers. Economic development also has a more direct impact in the organization of property rights, as European colonial rule significantly curtailed women's access to land.

12. Boserup, *Women's Role in Economic Development,* p. 154. Boserup's work provided an early critique of the notion that the division of labor might be interpreted as a product of biological differences between men and women and the assumption that households are characterized by a joint utility function. Anticipating a line of research that only came to prevail years after her initial contributions, Boserup emphasized the hidden contribution of unpaid family labor to formal activities such as export production. Finally, adopting a perspective that resembles some of the arguments made within current theoretical perspectives on gender differentiation, Boserup emphasized the importance of focusing not merely on the attributes of men and women in general but also on the intersection of "three status differences—social class, ethnic group, and sex" (ibid., p. 66). These contributions are also acknowledged, among others, by Naila Kabeer, *Reversed Realities: Gender Hierarchies in Development Thought* (London: Verso, 1994).

13. Boserup, *Women's Role in Economic Development,* p. 97.

14. See, e.g., Ramirez, Soysal, and Shanahan.

15. Simon Kuznets, "Economic Growth and Income Inequality," *American Economic Review* 45 (March 1955): 1–28.

16. Hanna Papanek, "Development Planning for Women," in *Women and National Development: The Complexities of Change,* ed. Wellesley Editorial Committee (Chicago: University of Chicago Press, 1977); Barbara Rogers, *The Domestication of Women* (New York: St. Martin's, 1980).

17. For different evaluations of the relative success of these efforts, see World Bank (n. 3 above); Linda Mayoux, "Beyond Naivety: Women, Gender Inequality, and Participatory Development," *Development and Change* 26 (April 1995): 235–58; Caroline O. N. Moser, *Gender Planning and Development: Theory, Practice, and Training* (London: Routledge, 1993); Margaret Snyder, *Transforming Development: Women, Poverty, and Politics* (London: Intermediate Technology, 1995); Pamela Sparr, "Feminist Critiques of Structural Adjustment," in *Mortgaging Women's Lives: Feminist Critiques of Structural Adjustment,* ed. P. Sparr (London: Zed Books, 1994). From the perspective of some women activists, this puts women at the service of development rather than development at the service of women, a reversal that crystallizes in the formulation of gender and development.

18. Fred C. Pampel and Kazuko Tanaka, "Economic Development and Female Labor Force Participation: A Reconsideration," *Social Forces* 64 (March 1986): 599–619.

19. Robert E. Evenson, "The Allocation of Women's Time: An Interna-

tional Comparison," *Behavioral Science Research* 17, nos. 3–4 (1983): 196–215; Janet Saltzman Chafetz, *Sex and Advantage: A Comparative, Macro-Structural Theory of Sex Stratification* (Totowa, N.J.: Rowman & Allanheld, 1984).

20. See Lourdes Benería and Gita Sen, "Accumulation, Reproduction, and Women's Role in Economic Development: Boserup Revisited," *Signs* 7 (1981): 279–98; Alma T. Junsay and Tim B. Heaton, *Women Working: Comparative Perspectives in Developing Areas* (Westport, Conn.: Greenwood, 1989).

21. Lourdes Benería, "Introduction," in *Women and Development: The Sexual Division of Labor in Rural Societies,* ed. L. Benería (New York: Praeger, 1982), pp. ii–iv; Nancy Folbre, "Cleaning House: New Perspectives on Households and Economic Development," *Journal of Development Economics* 22 (June 1986): 5–40; Nadia H. Youssef, "Differential Labor Force Participation of Women in Latin America and Middle Eastern Countries: The Influence of Family Characteristics," *Social Forces* 51 (December 1972): 135–53, and *Women and Work in Developing Societies,* Population Monograph Series no. 15 (Berkeley: University of California, Institute of International Studies, 1976).

22. M. Semyonov, "The Social Context of Women's Labor Force Participation: A Comparative Analysis," *American Journal of Sociology* 86 (November 1980): 534–50.

23. Elaine Draper, "Women's Work and Development in Latin America," *Studies in Comparative International Development* (Spring 1985): 3–30; Benería and Sen.

24. Irene Tinker and Michèle Bo Bramsen, *Women and World Development* (Washington, D.C.: Overseas Development Council, 1976); H. Saffioti, *Women in Class Society* (New York: Monthly Review Press, 1978); Kathryn Ward, *Women in the World System: Its Impact on Status and Fertility* (New York: Praeger, 1984).

25. Irene Tinker, "The Adverse Impact of Development on Women," in *Women and World Development,* ed. I. Tinker and M. B. Bramsen (Washington, D.C.: Overseas Development Council, 1976), p. 22.

26. Ward, p. 3. See also Chafetz, pp. 64–66.

27. Association of African Women for Research and Development, "The Experience of the Association of African Women for Research and Development," *Development Dialogue* 1–2 (1982): 101–13; Haleh Afshar, *Women, Work, and Ideology in the Third World* (London: Tavistock, 1985); Flora Anthias and Nira Yuval-Davis, "Contextualizing Feminism: Gender, Ethnic, and Class Divisions," *Feminist Review* 15 (1983): 62–75; Lourdes Benería and Shelley Feldman, *Unequal Burden: Economic Crises, Persistent Poverty, and Women's Work* (Boulder, Colo.: Westview, 1992); Lourdes Benería and Martha Roldán, *Crossroads of Class and Gender* (Chicago: University of Chicago Press, 1987); Mayra Buvinic, M. Lycette, and W. P. McGreevey, *Women and Poverty in the Third World* (Baltimore: Johns Hopkins University Press, 1983); Nilüfer Cagatay, Diane Elson, and Caren Grown, "Gender, Adjustment and Macroeconomics: Introduction," *World Development* 23 (1995): 1827–36; Mina Davis Caulfield, "Imperialism, the Family and Cultures of Resistance," *Socialist Revolution* 20 (1974): 67–85; Carmen Diana Deere, "Changing Social Relations of Production and Peruvian Peasant Women's Work," in *Women in Latin America,* ed. Latin American Perspectives (Riverside, Calif.: Latin American Perspectives, 1979); Carmen Diana Deere and Magdalena León, "Peasant Production, Proletarianization, and the Sexual Division of Labor in the Andes," in Benería, ed.; Diane Elson, "Male Bias in the Development Process: An Overview," in *Male Bias in the Development Process,* ed. Diane Elson (New York: Manchester University Press, 1995); June Nash and Helen Safa, "Introduction," in *Sex and Class in Latin America: Women's Perspectives on Politics, Economics, and the*

Family in the Third World, ed. J. Nash and H. Safa (New York: J.F. Bergin, 1980); Gita Sen and Caren Grown, *Development, Crises, and Alternative Visions: Third World Women's Perspectives* (Bangalore: DAWN Secretariat, 1985).

28. On that account, women should not be treated as a homogeneous group; as is increasingly recognized by women in developing countries and by women of color in wealthy countries, the intersection of gender with multiple and complex social differences (such as those revolving around class or race) results in differentiation among women (see Elson).

29. See Kabeer (n. 12 above); Bina Agarwal, "Women and Technological Change in Agriculture: The Asian and African Experience," *Technology and Rural Women,* ed. I. Ahmed (London: Allen & Unwin, 1974); A. Bandarage, "Women in Development: Liberalism, Marxism, and Marxist-Feminism," *Development and Change* 15 (1984): 495–515; K. Staudt, *Women, Foreign Assistance, and Advocacy Administration* (New York: Praeger, 1985).

30. See Elson; Moser (n. 17 above).

31. Often the WID approach to gender equality was attributed to "western feminist imperialism" disrupting some aspects of preexisting gender relations without necessarily offering women satisfactory alternatives. The counterposition of women in developing countries was to reject development or equality strategies imposed "from above" and to show that the consequences of such programs in actuality contradicted the assumptions, and perhaps even the findings, of researchers and policy makers.

32. See Kabeer.

33. Peggy Antrobus, "The Empowerment of Women," in *The Women and International Development Annual,* ed. R. S. Gallin, M. Arnoff, and A. Ferguson (Boulder, Colo.: Westview, 1989). The GAD critique is compatible with several theoretical perspectives that in other arenas of inquiry also emphasize the persistence of inequality. For example, the approach is compatible with studies that explain the persistence of job and wage discrimination as an outcome of the institutional characteristics of segmented, or dual, labor markets (P. B. Doeringer and Michael J. Piore, *Internal Labour Markets and Manpower Analysis* [Lexington, Mass.: Heath, 1971]). Likewise, much of this literature is compatible with other approaches (e.g., the dependency school) critical of capitalist development. See Clarita P. Lantican, Christina H. Gladwin, and James L. Seale, Jr., "Income and Gender Inequalities in Asia: Testing Alternative Theories of Development," *Economic Development and Cultural Change* 44 (January 1996): 235–63.

34. Gwen Moore and Gene Shackman, "Gender and Authority: A Cross-National Study," *Social Science Quarterly* 77 (June 1996): 273–88, quote on p. 287.

35. Ibid., p. 286.

36. Shirley Nuss and Lorraine Majka, "The Economic Integration of Women: A Cross-National Investigation," *Work and Occupations* 10 (February 1983): 29–48.

37. Haleh Afshar and Carolyne Dennis, *Women and Adjustment in the Third World* (London and Basingstoke: Macmillan, 1992); Claudia Buchman, "The Debt Crisis, Structural Adjustment, and Women's Education: Implications for Status and Social Development," *International Journal of Comparative Sociology* 37 (1996): 5–30; Diane Elson, "Male Bias in Macro-Economics: The Case of Structural Adjustment," in Elson, ed. (n. 27 above); Gloria Thomas-Emeagwali, "Introductory Perspectives: Monetarists, Liberals, and Radicals: Contrasting Perspectives on Gender and Structural Adjustment in Africa," *Women Pay the Price: Structural Adjustment in Africa and Caribbean,* ed. G. Thomas-Emeagwali (Trenton, N.J.: Africa World, 1995).

38. Diane Elson, "Male Bias in Macro-Economics: The Case of Structural Adjustment" and "Household Responses to Stabilisation and Structural Adjustment: Male Bias at the Micro Level," in Elson, ed. See also Sparr (n. 17 above).

39. Elson, "Male Bias in Macro-Economics: The Case of Structural Adjustment"; Sparr.

40. Buchman, p. 23. But the author finds no significant direct effect on female economic activity, maternal mortality, or fertility (although each of these showed a significant impact of female education). This particular study does not report controlling for economic growth. See also Sparr.

41. World Bank (n. 3 above), p. 107.

42. Tony Killick, "Structural Adjustment and Poverty Alleviation: An Interpretative Survey," *Development and Change* 26 (April 1995): 305–31.

43. See Lantican, Gladwin, and Seale (n. 33 above).

44. Uma Lele, "Women and Structural Transformation," *Economic Development and Cultural Change* 34 (January 1986): 195–221.

45. See Sparr.

46. The GAD critique, taking as its point of departure the experience of women in developing countries, expanded the understanding of what the goals of development planning should be, but in doing so, it simultaneously conflated WID's failure to address these new goals with WID's failure to meet its own goals. The GAD critique of WID is based on changing criteria of women's empowerment. The critique offers a powerful analysis of the WID perspective, pointing out the shortcomings of the concepts used for understanding women's subordination without examining in full whether or not authors such as Boserup were correct in their predictions regarding the impact of capitalist development on women's status. Nestled within the overlap between the WID and GAD perspectives is the possibility that both perspectives may indeed be right: women's status may improve and women's subordination may persist. However, the extent to which women's status and gender inequality are independent measures is generally missed in the construction of the prevailing debates.

47. United Nations, *Human Development Report 1995* (New York: Oxford University Press, 1995), and *Women's Indicators and Statistics Database (Version 3, CD-ROM)* (New York: United Nations, Department of Economic and Social Information and Policy Analysis Statistical Division, 1994).

48. Chafetz (n. 19 above); Sunita Kishor and Katherine Neitzel, *The Status of Women: Indicators for Twenty-Five Countries,* DHS Comparative Studies no. 21 (Calverton, Md.: Macro International, 1996); Karen Oppenheimer Mason, "The Status of Women: Conceptual and Methodological Issues in Demographic Studies," *Sociological Forum* 1 (Spring 1986): 284–300; Norris (n. 2 above); Martin King Whyte, *The Status of Women in Preindustrial Societies* (Princeton, N.J.: Princeton University Press, 1978).

49. For example, Ward (n. 24 above).

50. Kishor and Neitzel, p. 101.

51. Glenn Firebaugh and Frank D. Beck, "Does Economic Growth Benefit the Masses? Growth, Dependence, and Welfare in the Third World," *American Sociological Review* 59 (October 1994): 631–53.

52. United Nations, *Human Development Report 1995,* chap. 2.

53. Ibid. Personnel from the relevant United Nations office indicate that access to the pertinent data is restricted because national sources had been assured that information on the individual components for the 1970 GDI would be kept in confidence.

54. We are currently developing a new set of data that will allow us to assess these trends in more detail and for a longer period of time.

55. United Nations, *Human Development Report 1995.*

56. United Nations, *Women's Indicators and Statistics Database (Version 3, CD-ROM).* An additional measure such an exercise might want to consider is the share of the rural population, as many studies have observed that such an indicator might be relevant to patterns in women's status. However, such a measure is highly correlated (generally, above the .85 level) with our GDPPC indicator, and the inclusion of the rural population measure in our models generated serious multicollinearity problems. For this reason, we have decided to delay our consideration of such a measure until we provide a more detailed evaluation of patterns of change in the components of the GDI.

57. Ester Boserup, *Women's Role in Economic Development* (n. 9 above) and *Economic and Demographic Relationships in Development* (Baltimore: Johns Hopkins University Press, 1990); Andrew Collver and Eleanor Langlois, "The Female Labor Force in Metropolitan Areas: An International Comparison," *Economic Development and Cultural Change* 10 (1962): 367–85; Shirin J. A. Shukri, *Arab Women: Unequal Partners in Development* (Brookfield, Vt.: Avebury, 1996); Youssef (n. 27 above); Valentine M. Moghadam, "Introduction: Women and Identity Politics in Theoretical and Comparative Perspective," in *Identity Politics and Women: Cultural Reassertions and Feminisms in International Perspective,* ed. V. M. Moghadam (Boulder, Colo.: Westview, 1994).

58. The relevant data for constructing the Muslim variable are from John Weeks, "The Demography of Islamic Nations," *Population Bulletin* 43, no. 4 (1988): 1–54.

59. York Bradshaw and Ana-Maria Wahl, "Foreign Debt Expansion, the International Monetary Fund, and Regional Variation in Third World Poverty," *International Studies Quarterly* 35 (September 1991): 251–72.

60. We thank York Bradshaw of Indiana University, Bloomington, for making this index available to us.

61. Buchman (n. 37 above).

62. Firebaugh and Beck (n. 51 above).

63. According to the standards discussed in John Neter, Michael H. Kutner, Christopher J. Nachtsheim, and William Wasserman, *Applied Linear Regression Models* (Chicago: Irwin, 1996).

64. Semyonov (n. 22 above) has indicated that inequalities between men and women are significantly shaped by patterns of income inequality in the distribution of resources among households, so that countries with low levels of income inequality between households are more likely to be characterized by a smaller gap between men and women. We tested this hypothesis in a further specification of our models, but we did not find support for the argument.