

**Economic Liberalization, Competitiveness and Women's Employment  
in the Middle East and North Africa**

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## Introduction<sup>1</sup>

Since the early 1980s the majority of countries in the MENA region, facing severe foreign exchange shortages, have had to adopt policies directed toward stabilisation and structural adjustment of their economies. New development strategies based on greater market orientation, trade liberalization and reduction of state controls are being implemented at varying degrees amongst all the countries in the region. As a consequence, the question of employment generation and conditions of work in general, as well as those specific to women's employment, are closely tied to the nature of the adjustment policies being implemented and their success in bringing about the structural changes necessary for the resumption of investment and output growth in the economy. In this paper we argue that far from being a side issue, attention to gender is indispensable to an understanding of the evolution of labour markets in the MENA region, and that increasing women's labour-force participation in non-agricultural occupations is key to the success of structural adjustment and to the international competitiveness of MENA countries.

The dominant analytical framework in the existing literature on female employment and adjustment consists of a mapping between the structural changes which structural adjustment is supposed to bring about in the economy and the nature of gender segregation in the labour market of the economy in question (see, e.g., Elson, 1991, Stewart, 1992, Collier, 1993; Haddad, et.al, 1995). In the conventional approach, the adjustment policies by changing relative prices and removing quantitative restrictions are supposed to lead to a restructuring of the economy towards the expansion of the traded-goods sectors and a simultaneous squeeze on the non-traded goods sectors, thus restoring internal and external equilibrium and providing the conditions for the sustainable growth of the economy. Women workers can be adversely affected by the adjustment programme if they are initially concentrated in the non-traded sectors, and/or due to labour-market segmentation along gender lines there are barriers to their mobility across the sectors. Depending on their initial distribution across the sectors, women labourers can also be adversely affected during the transition period irrespective of the constraints on their mobility. For example, if women are initially concentrated in the non-traded goods sectors such as social and community services, they would be adversely affected in the transition period when the non-traded goods sectors are being squeezed and resources being shifted to traded goods sectors. In addition, if there are barriers to their moving into new export-oriented traded goods sectors, the deterioration of real wages and conditions of work for women can be prolonged and even persist in the final equilibrium when the economy has fully adjusted to the relative price changes resulting from the liberalization programme.

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<sup>1</sup> An earlier version of this paper was presented at the Annual Conference of the Economic Research Forum for Arab Countries, Iran and Turkey, held in September 1996 in Kuwait. I am grateful for the comments of conference participants and particularly for the detailed comments by my two discussants, Hanaa Kheir-El-Din and Paul Schultz. An extended version of the paper (co-authored with Valentine Moghadam) was presented at the Middle East Economic Association conference in New Orleans. I have also benefited from comments from Parvin Alizadeh, Ben Fine, Mine Cinar, Fatemeh Etemad Moghadam, Deniz Kandiyoti, Karen Pfeifer, Hossein Samei, Djavad Salehi-Esfahani and John Sender. In particular I am indebted to Valentine Moghadam from whom I have learnt a lot about gender issues in the Middle East and North Africa. The usual disclaimers apply.

The lack of mobility of female labour resulting from discriminatory practices can also have debilitating effects for the effectiveness of the adjustment programme. However, since labour shortages do not seem to be a major constraint on the growth of traded-goods sectors in the developing countries, this latter effect is less emphasized in the literature. It is more the adverse effects of the adjustment programmes on female labour under the conditions of limited mobility, that has formed the main object of empirical research in this field.

Some of the literature has included elements of the above but has tended to concentrate on the functions of women within the family, the implications of intrahousehold inequalities, and the likely effects of the adjustment programme on women in their reproductive role rather than their role as direct labourers (see contributions in *World Development*, 1995). Women within the household are often responsible for partial provision of services such as nutrition and food, healthcare, socialization and education, and other daily provisions which may or may not have substitutes in terms of purchasable goods and services. Hence, it is argued, if the adjustment programme leads to cuts in government social expenditures on health, education and other social services, or to increases in the price of food, this could intensify women's work within the household. Similarly, if the adjustment programme, at least in the early stages, leads to a squeeze on real household income, this may have important implications for women's work within and outside the home. That is, women may have to compensate for the withdrawal of subsidies or for cutbacks in social expenditures, and increase their workload within the home and seek an income outside the home to supplement the household budget (see, Elson, 1991)

It has been argued that structural adjustment can also have important long-term implications for female employment prospects by affecting the access of girls to education within households. The introduction of "user fees" for purposes of "cost recovery" in education can discourage the continuation of schooling for girls from poor households. This effect can be further strengthened if adjustment policy also leads to increased need for adult women to work outside home, e.g., in commercial agriculture, hence increasing the need for younger girls to attend to domestic work. Lack of education is shown to have deleterious effects on the future prospects of women both in the labour market and within the household (Haddad, et.al, 1995; King and Hill, 1993).

The above has formed the main analytical bases for most of the empirical investigations of the impact of adjustment on women. Within this framework the impact of adjustment on female employment becomes mainly an empirical question largely determined by exogenous barriers to women's job mobility or wage discrimination. This, in our opinion, is unsatisfactory. Firstly, women's role in the labour market and discriminatory practices against them are themselves subject to transformation depending on the strategy of development and the patterns of structural change in the economy. Secondly, the participation of women and their position in the formal labour market can have crucial implications for the success of the structural adjustment programme in the first place. Such implications in the conventional literature have been

discussed in terms of possible inefficiencies that the lack of mobility of women can create in the final post-adjustment equilibrium situation. These inefficiencies, however, are not significant enough to endanger the adjustment programme, and hence gender issues remain marginal to the workings of the adjustment process according to the conventional view. This view is particularly reinforced in the case of the Middle East and North Africa (MENA) region by the fact that, as noted above, labour shortages do not seem to be a major constraint on the growth of the traded-goods sectors. In our opinion, however, women's issues, particularly in the MENA region, play a much more central role in the adjustment process than implied by the conventional theory.

To clarify this, it would be helpful to recall the processes whereby the adjustment programme according to the conventional view is believed to restore the growth of the economy on a sustainable basis. As noted above, relative price changes resulting from the liberalization programme are the central mechanisms of structural change and the restoration of sustainable growth in the economy. One of the critical relative prices in the economy whose behaviour is central to the adjustment programme is the real wage. Here we argue that, given the production inefficiencies in the MENA region economies, combined with the role of women within the patriarchal social and family structures in the region, there may not exist a real wage which could restore competitiveness while at the same time maintaining the traditional role of women in the economy. To argue this, we first examine broadly the nature of structural adjustments in the MENA region economies in the next section.

### **Initial Conditions and Required Adjustments in the MENA Region**

Since the early 1980s, in the post-oil boom era, the MENA region economies have faced major adjustment problems which have substantially slowed down the growth of the regional economy as a whole. The nature of the required adjustments and the constraints on economic growth in the region since the 1980s can best be analysed in the context of the experience of growth during the oil boom years. The MENA countries achieved high rates of growth of GDP and rapid structural change during the 1960s and the 1970s. As can be seen from Figure 1, between the early 1950s and the late 1970s the MENA region economies managed to narrow their average per capita income gap with industrial countries, and the region had outperformed Asia as a whole as well as the fast growing economies of the Far East. During these decades the MENA region exhibited some of the fastest rates of growth in the world economy. This applied to output growth rates in all the main sectors of the economy in almost all the individual countries in the region as well as the average growth rates for the region as a whole (see Table 1).

Rapid rates of growth of oil and other primary commodity exports constituted the engine of growth during these years. The availability of ample foreign exchange revenues allowed import-substitution industrialization policies to be followed by the governments which led to fast rates of growth of industrial

investment and output. The problems associated with this phase of rapid industrialization were certainly not due to low investment in the traded goods sectors. Major investments were undertaken in industry and agriculture in all the economies in the region in this period, and as can be seen from Tables 1 and 2, the overall growth of investment and the growth of traded goods such as industry and agriculture in this period were amongst the highest in the world. The major problems which came to haunt the economies of the region in the post oil boom era were rather associated with the production inefficiencies which resulted from the protection provided by the industrialization strategy. With the end of the oil era from the early 1980s, the productive assets which had been created during the earlier period became a liability, in the sense of being a considerable net foreign-exchange drain with high recurrent import requirements and without being competitive enough to export.

The other important factor facilitating the rapid industrial growth of the 1960s and 1970s was the availability of an abundant supply of labour in the region. As can be seen from Table 3, during the early 1960s, in the MENA region as a whole, more than 60 per cent of the labour force was engaged in the agricultural sector. With the exception of Jordan, in all the other countries listed in the table the share of agricultural labour force in total was at or above 50 per cent, and in the case of Turkey it was as high as 75 per cent. Though by 1980 substantial changes in the structure of employment had taken place, the share of the agricultural labour force in the region as a whole was still 45 per cent. The relatively large shift of labour out of the agricultural sector, together with high natural rates of growth of population, ensured an abundant supply of labour force during the high growth period of the 1960s and the 1970s decades. As shown in Table 3, the MENA region exhibits the highest rates of growth of labour force amongst the developing countries. The high rates of growth of labour force combined with the rapid shift of surplus labour out of the agricultural sector have implied rates of growth of labour supply for the non-agricultural sector of above 5 to 6 per cent per annum in most of the countries in the region. In the 1990s this has come to haunt the MENA region in the form of high unemployment.

During the oil boom years, the high rates of investment and rapid rates of growth in the MENA region ensured a sufficient rate of growth of employment to prevent mounting unemployment and underemployment of labour. The remarkable degree of mobility of (male) labour across the different countries in the MENA region also ensured the availability of labour for the small oil surplus economies as well as alleviating the mismatches between the supply and demand for different types of labour within individual countries. With the end of this period of rapid growth, in the post-oil boom era, labour demand has lagged behind the fast rates of increase in labour supply, giving rise to growing unemployment and underemployment of labour. Official unemployment rates are especially high among new entrants, particularly high school and college graduates who in the past easily found employment in the government sector; the rates are far higher among women, who are now increasingly seeking employment but finding both structural and customary barriers to their participation in the formal sector.

A further important structural feature of the MENA economies, inherited from the experience of rapid growth and structural change during the oil boom era, is that the quality of the labour force in terms of skills, training, and education is well below what might be expected, given the level of income and structure of production in these economies. While in terms of per capita income levels and the structure of output and employment most of the MENA region countries by the early 1980s fell within the category of the World Bank's middle income country grouping, and many belonged to the higher middle income bracket, in terms of the educational attainment of the adult population the region seems to lag far behind the middle income countries. As can be seen from Table 4, the rate of adult illiteracy in the MENA region is more than twice as high as the average for the middle income countries, and indeed it is even well below the average for the low income countries. Adult illiteracy amongst the female population is particularly high in the MENA region by any standard. Formal education of course plays a complementary role in the process of learning and skill formation in the economy—though some may consider basic literacy and numeracy of the labour force as a minimum requirement for modern economic growth. The larger part of the necessary skills in the economy are generated within the production process through learning-by-doing or through on-the-job training by the firms. Given that a major share of the labour force in the MENA region is either engaged in low productivity agriculture or is composed of first generation migrants from the rural areas, and considering the young age structure of the labour force, the existing stock of industrial skills in these economies is likely to be even lower than that suggested by the data on the rates of illiteracy amongst adult population discussed above.

Of course the level of skills and industrial know-how in the MENA economies should be considered relative to the level of incomes that such skills are required to sustain, and in comparison to relative skill/income levels in other developing countries. This is particularly important in the post oil boom era, when the MENA economies have had to develop alternative sources of foreign exchange earnings by developing non-oil exports in competition with other newly industrializing countries. A comparison with Asian countries in this respect would be instructive. As can be seen from Figure 1 and Table 5, up to the late 1970s the MENA economies managed to sustain relatively high per capita income levels, well above the average for the newly industrializing countries in Asia and East Asia. The rapid rate of growth of GDP in the MENA region in this period meant that despite their high rates of population growth they managed to reduce their per capita income gap in relation to the industrial countries and widen their distance from Asia in general and even the fast growing countries in East Asia. With the end of the oil era, however, these rapid rates of growth were no longer sustainable. In the ensuing period, the MENA economies developed substantial external and internal imbalances, and per capita incomes have been following a long declining trend (Figure 1). By the early 1990s, the East Asia block had surpassed the MENA region in per capita income terms and Asia as a whole had considerably narrowed its income gap. Of course the different MENA economies have varied in terms of the timing and the intensity of economic retrogression in the post oil era. The majority of the countries in the region -- namely, Iran, Iraq, Syria, Jordan, Egypt and Algeria -- have witnessed declining per capita incomes since the early 1980s. Tunisia, Turkey and Morocco have shown moderate growth rates, but

even in these countries the trend growth rates are well below those achieved in the earlier periods. As can be seen from Table 2, this process of economic retrogression has been combined with a remarkable collapse in the investment process in these economies as compared to the earlier periods.

By now almost all MENA region countries have taken far-reaching measures to restructure their economies, render them more competitive and create the conditions for the resumption of investment and growth in an outward-oriented environment. A review of these policies falls beyond the confines of the present paper. What is important to note in this respect, however, is that international competitiveness and growth of non-oil exports is central to any successful structural adjustment in the economies of the region in post oil era. As we have already noted, the relatively low levels of skills and industrial efficiency in the region may imply that a pre-requisite for this is some degree of real wage reduction in the region. The declining per capita income trends in the region since the early 1980s suggests that this process of real wage compression has been already taking place. It is also known that even in countries such as Turkey, Tunisia, and Morocco, where per capita incomes have been rising moderately, substantial real wage compression has taken place (see, e.g., Karshenas, 1994, Van der Hoeven, *et.al*, 1997). Since beyond a certain limit real wage reductions can be counterproductive, in the sense of exacerbating production inefficiencies and discouraging private investment by creating social tension and uncertainty, the success of the adjustment programme crucially depends on the ability to improve competitiveness without undue pressures on the standard of living of the workers. Such an adjustment process is therefore much more complex than a mere shift of labour between the non-traded and the traded goods sectors which a real devaluation of the exchange rate or sufficient reduction in real wages could bring about.

A successful adjustment policy in the context of the MENA region economies, amongst other things needs to address two basic issues. The first one relates to the build-up of skills through education and training and the improvement of the productive efficiency within the economic sectors, particularly those of industry and agriculture. Improved competitiveness resulting from efficiency gains within the traded goods sectors, especially in non-traditional manufacturing, is necessary for the resumption of growth without exacerbating the external imbalances which have emerged in the post oil boom economies in the region. The second essential requirement is the resumption of investment growth in the region at a rate which would be adequate to address the problems of out-of-date technology, and the growing unemployment and underemployment of labour and the inadequacies of human capital formation. The resources made available through efficiency gains, as well as lower real wage and consumption levels, may help to finance the required rates of investment growth. However, depending on the level of industrial development and the existing capital stock in the economy, external finance may be needed to a greater or lesser degree to supplement domestic resources in order to achieve an adequate rate of investment in the different economies. Though labour-market flexibility can play an important role in the process of structural adjustment, to rely 'excessively' on real wage reductions and casualization of labour can hinder this process

by reducing work effort and learning, alleviating the pressure on the firms to adopt new technology and improve efficiency, and reducing investment incentives.

The role of women's employment in the adjustment process should be viewed in relation to these complex processes rather than the possible barriers to the mobility of women between the traded and the non-traded goods sectors. In particular, women's role in the economy and society is closely related to real wage determination and can play a particularly important part in the determination of what is perceived to be an 'excessive' real wage compression in the adjustment process.

### **The Patriarchal Family and Women's Labour-Force Participation.**

An important feature of the labour markets in the MENA countries, with the exception of Tunisia and Morocco, is the extremely low rates of female labour-force participation in the non-agricultural activities and in salaried employment. We have excluded the agricultural sector for two reasons. Firstly, the statistics on female labour in agriculture are extremely unreliable and non-comparable between different countries. Secondly, since in most MENA economies the predominant form of agricultural production is peasant farming, and as agricultural work for women in peasant farming takes place as an extension of their household activities, we may assume that all women in the farm households take part in agricultural activities with different degrees of intensity. Furthermore, within peasant farming arrangements women's work is likely to affect the intensity of work for men rather than competitiveness.<sup>2</sup> In any event, given the quality of the available data, nothing could be gained by the inclusion of the agricultural sector in our discussion here. We shall also here refer to female labour force participation in non-agriculture, as the share of female labour in total employment in different non-agricultural sectors.

A number of important features of women's participation in non-agricultural activities in the MENA region stand out. These are particularly highlighted in contrast to the prevailing patterns in East Asia as shown in Tables 6 and 7. Firstly, with the exception of Morocco and Tunisia the share of female workers in the total workforce in all the non-agricultural activities, and particularly in paid employment, is much below those in the East Asia (Table 6). The share of unpaid family labour is relatively high in Table 6, but as can be seen from Table 7 unpaid family labour constitutes a negligible share of total female employment in the non-agricultural sector and hence can be safely ignored. Secondly, the trends of female participation in non-agriculture in the MENA region are either stagnant or declining, in contrast with the rapidly increasing trends in the East Asia. The decline in this share in the case of Iran since the early 1980s particularly stands out. Again, Morocco and Tunisia are distinct in exhibiting increasing trends in female participation in non-agriculture. All of these contrasting patterns are particularly magnified in the case of manufacturing

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<sup>2</sup> For a discussion in the context of female labour in Turkish agriculture see Morvaridi (1992). This is not of course true if wage labour is used in a significant way in peasant farming.



employment. There are other interesting contrasts in female participation rates in non-agriculture between MENA and East Asia as shown in Tables 6 and 7 on which we shall not dwell here. What is significant to note is that while the share of female labour in the non-agricultural sector in East Asia is close to 40 per cent, with manufacturing in the 40-50 per cent range, in the case of the MENA countries, with the exception of Tunisia and Morocco the ratio is in the 10-15 per cent range. These data suggest that while in the case of East Asian countries the majority of non-agricultural workers are likely to belong to families with more than one breadwinners, in the case of the MENA region countries -- again with the exception of Tunisia and Morocco -- the majority belong to one wage earner families.

The low labour-force participation of women in the MENA region has been long recognized and debated in the literature. Some have tried to explain it in terms of religious and cultural factors (Youssef, 1974; Abu Nasr, et al, 1985; Clark, *et al.*, 1991) and others in terms of economic factors such as the capital intensity of production techniques and resulting low demand for female labour (see Moghadam, 1993, 1995 for a discussion). Another explanation is that the persistence of patriarchy, and in particular the patriarchal family unit, has constituted a significant customary constraint on women's mobility and employment. A number of scholars have addressed the issue of the patriarchal family in the Middle East (e.g., Kandiyoti, 1988; Moghadam, 1993; Shami, *et al.*, 1990) and have defined the patriarchal family as a kinship-based unit in which members have clearly-defined roles derived from age and gender, and within which women are economically dependent upon the males, who are the ones engaged in market activities. In urban areas the patriarchal family tends to be nuclearized and less defined by extended-kin ties, but it is still predicated upon the male-breadwinner, female-homemaker gender division of labour. It is also 'protected' by various legal codes, social policies, and family laws, creating the constraints on women's employment.

Since the transformation of patriarchal family structures and the emergence of double wage-earning families are only very recent phenomena (a post-World War II development in Western Europe, somewhat earlier in Soviet Russia<sup>3</sup>) it is almost tautologically true that traditional cultures tend to preserve the patriarchal family structures in all societies. What needs to be explained is why in some societies the patriarchal family structures persist longer than others, both within the MENA region (e.g., Jordan in contrast to Tunisia) and outside the region. The choice of technique explanation also begs the question, in that within the market-based economies the supply of labour is supposed to determine the choice of technique and not the other way round, and in the case of centrally-controlled economies the choice of technique by the government needs to be explained<sup>4</sup>. Furthermore, for any given level of demand for labour the occupation of jobs by male or female labourers still needs to be explained.

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<sup>3</sup> There are of course exception, e.g., the high rates of child and female participation rates in the 19th century Britain, which was later reversed with the increase in male wages. Exceptions of this type, however, strengthen the argument made above.

<sup>4</sup> It is ironic that Galor and Weil (1996) set up a model of female labour force participation and fertility in which capital intensity of production has the reverse effect on female employment, that is, it increases female employment. This effect is generated in their model by assuming that women's 'god given' attributes affords them a comparative advantage over

The economic explanation of female labour force participation put forward by conventional family economics revolves around women's earning power in market activities. This is summarised by Gary Becker in explaining the growing female labour force participation in industrialized economies as follows:

The major cause of increased participation of married women during the twentieth century appears to be their increased earning power as Western economies developed, including the rapid expansion of the service sector. The growth in the earning power of married women raised the foregone value of their time spent at child care and other household activities, which in turn reduced the demand for children and encouraged a substitution away from parental, especially mothers', time. Both of these changes raised the labour force participation of married women. (1991, p.55).

This statement, as far as it posits a strong correlation between female labour force participation and earning power of women is plausible and has been empirically substantiated by various researchers with respect to industrial economies. To check this in relation to the developing countries we have estimated the following cross-section regression equation for female labour force participation for 51 developing countries (including 15 MENA countries<sup>5</sup>):

$$\text{LF} = -2.38 \quad -1.03 \text{ Y} \quad +2.46 \text{ W} \quad \text{Adjusted R}^2 = 0.55 \quad n = 51$$

$$\text{t-ratio} \quad (-11.55)(-3.55) \quad (8.82)$$

where the dependent variable, LF, is a logistic transformation of female participation rates, Y is per capita income used as a proxy for average family income, and W is a measure of female education as a proxy for average lifetime earning power of women. A fuller description of the data and variable definitions is given below. What is important to note for the present argument is that even such a simple and crude regression model seems to lend strong support to Beaker's point in the above quote. As predicted by the conventional family economics model, family income exerts a negative effect on female labour force participation and women's earning power has a highly significant and positive effect. The problem with this explanation, however, is that it is based on a circular argument. Variables such as female education and earning power are themselves influenced by female labour force participation, and it is likely that factors that determine female labour force participation rate, simultaneously determine female education and earning power as well. In other words, women's education and earning power may be good predictors of female labour force participation, but they cannot be regarded as exogenous explanations for the variations in female participation rates across countries. An adequate explanation of the low female labour force participation in the MENA region in contrast to other regions need not contradict the predictions of the family economics model, but it has to go beyond the latter by taking into account the historical specificities of the development paths in the different regions.

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men in working with capital. As Ester Boserup (1970, and 1990) has shown, however, the necessary skills in working with capital are products of socialization rather than god given, and it is precisely in the modern capital intensive production that women are first excluded from paid employment in the early stages of development.

<sup>5</sup> The list of the countries is provided in the note to Table 9.

A prominent example of such historical analysis of female labour force participation is provided by the pioneering works of Ester Boserup. Boserup (1970), tries to explain the variations in female labour force participation in non-agricultural activities across the different developing countries in terms of the pre-existing agrarian structures as well as their customs and cultural attributes and the nature of foreign influence in these countries. Her analysis provides valuable insights into the varied patterns of female labour force participation across developing countries in the early stages of development. It is, however, plausible to expect that with the passage of time and after a long experience of modern economic development, the patterns of female labour force participation to be increasingly influenced by the variations in the path modern economic development itself. More specifically in the context of the MENA region, it is our contention that the preservation of the patriarchal family structures is significantly related to the fact that these were relatively high-wage economies, which made the absence of women from market activities and paid employment affordable to the workers in the non-agricultural sector from the early stages of modern economic development. A comparison of wage trends in major MENA economies and Indonesia, a country with a predominantly Moslem population in the Far East, would help to illustrate this point. Table 8, and Figures 2,3 and 4, show the movement in dollar wages for the MENA countries and Indonesia over the 1963-92 period. The wage rates in the figures and the first three columns in Table 8 are measured in US dollars at current market exchange rates<sup>6</sup>. As can be seen, manufacturing wages in the MENA region countries in the early 1960s were between four to over ten times higher than the prevailing wages in Indonesia in 1970<sup>7</sup>. Despite the rapid growth of dollar wages in Indonesia during the 1970s, the substantial gap between the wage rates in that country and the MENA countries was maintained and in some cases was even widened.

Dollar wages, converted at current market exchange rate, are important from the point of view of cost competitiveness and matter more to the employers rather than workers. What matters from the point of view of workers is the real consumption wage, that is, money wages relative to the prevailing retail prices of the wage basket consumed by workers. In order to measure consumption wages in a manner which is comparable across the countries we have estimated these at consumption purchasing power parity exchange rates, with the consumption prices in the United States as the numeraire<sup>8</sup>. These measures which we have referred to as 'relative consumption wages', are shown in last three columns of Table 8 and in Figures 5, 6 and 7. As expected, the deflation of wages by the relative consumption price indexes across the countries narrows the consumption wage gap between the rich and the poor countries<sup>9</sup>. Nevertheless, the considerable gap between wages in Indonesia and in various MENA region countries remains intact, with the consumption wages in the MENA countries in the early 1960s being between two to eight times higher than

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<sup>6</sup> Wage rates here refer to total compensation of labour divided by the number of employees.

<sup>7</sup> Data on manufacturing wages prior to the 1970s are not available for Indonesia on the same bases as the data for other countries in Table 8.

<sup>8</sup> The consumption expenditure price indexes are based on Penn World Tables, Mark 5.

<sup>9</sup> On the relation between the purchasing power parity exchange rates and per capita income levels see, e.g., Balassa (1964), Kravis and Lipsey (1983), and Summers and Heston (1991).

those in Indonesia in 1970. It appears that at a crucial stage of their development, when large scale urbanization and diversification away from agriculture was taking place, the MENA region countries, in comparison to Indonesia, were in a much more favourable position to sustain one bread-winner patriarchal families in the non-agricultural sectors. This is clearly a much more important factor, which needs to be taken into account in explaining the differences between female labour force participation rates in Indonesia and the MENA countries, than the usual explanations in terms of Islamic culture.

Indonesia is of course one of the low wage economies in East Asia. However, as it is shown in Figure 8, it appears that the wage rates in other East Asian economies with relatively high female labour force participation rates have been historically much lower than the average wage rates in the MENA region<sup>10</sup>. There is of course a wide variation in the wage rates in various MENA region economies, and in a number of these countries, particularly in the 1980s, wages had fallen below some of the fast growing countries in East Asia. Similarly, within the MENA region there is not always a correspondence between non-agricultural wage rates or per capita incomes and female labour force participation. Our contention in this paper is not that in each and every year, or even over longer periods such as a decade, one should observe a one to one correspondence between non-agricultural wages and female labour force participation. The hypothesis is rather that during crucial stages of their development, as traditional agrarian societies are being opened up to the operations of market forces, and when a growing differentiation is taking place away from agriculture and towards non-agricultural market based activities, the patterns of female labour force participation in the non-agricultural sector will be systematically formed by the level of prevailing wages or per capita incomes during the transition period. In societies, such as those in East Asia, where population pressure on land has been extreme, and hence per capita incomes and wages in the non-agricultural sector during the transition period were low, one would expect relatively high female labour force participation rates in non-agriculture, as the patriarchal family structures in the modern sector are not affordable. In such societies, even when the traditional cultural norms are strongly patriarchal (e.g., China), female participation rates during the process of modern economic growth would be increasing. On the other hand, in countries such as those in the MENA region where in the period of transition there exist much more favourable land labour ratios and where due to oil and other mineral exports much higher wage rates in the non-agricultural sectors are affordable, the one-bread-winner patriarchal family structures tend to persist.

What the above implies is that, the prevailing female labour market participation rates in developing countries are the outcome of specific life histories of these economies in terms of per capita incomes or consumption wages during the process of modernization, and particularly during the early stages when new social habits in terms of gender roles are being forged. This in our opinion has been one of the important systematic factors which has shaped the prevailing patterns of non-agricultural female labour force

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<sup>10</sup> MENA average here refers to a weighted average for Algeria, Egypt, Iran, Iraq, Morocco, Syria, Tunisia and Turkey. The inclusion of small high wage economies in the MENA region, such as the oil surplus states in the Persian Gulf and Libya, would of course push up the MENA average to much higher levels. Data on wage rates for poor East Asian countries such as China, Vietnam and Cambodia are not available. But wage rates in these countries are unlikely to be higher than in Indonesia.

participation across the developing countries. Apart from these systematic forces there are of course various other elements, such as the pre-existing socio-cultural and religious factors as well as other socio-political and cultural experiences during the transition process, which we believe in the long run play a less systematic role in female labour force participation. This is not to dismiss the importance of socio-cultural factors with regard to female labour force participation at any point in time, but rather to indicate that these factors are themselves systematically shaped by the long experience of modern economic development. In other words, the forces of modern economic development are likely to randomize the impact of the pre-existing traditional cultures in assigning females roles across the different societies. In societies with relatively high per capita incomes in the non-agricultural sector during the transition period, those elements of traditional culture which restrict the role of women become prominent, while in others where due to relatively low incomes one breadwinner families are not affordable new cultural norms are forged which allow greater female labour force participation. Under this hypothesis, in a large sample of countries with varied experiences of modern economic development, the role of traditional socio-cultural factors in female labour force participation can be approximated by a random error term. On this basis, female labour force participation rate across the countries and over time can be represented by the following function:

$$P_{it} = f_i(y_{it}, y_{it-1}, \dots, y_{it-s}, \dots) + u_{it} \quad i = 1, n \quad t = 1, T$$

where P is the non-agricultural female labour force participation rate, y is per capita income and u is a random error term. In order to test the hypothesis formulated in the previous paragraphs we need to transform this function into an estimable function and show that the past history of per capita incomes exert a systematic (negative) influence on female labour force participation, that is, they explain a major part of the variations in P across the countries and over time. There are, however, a number of estimation problems which need to be tackled. To begin with, even if we assume a simple linear parametric functional form, because of the large number of lag terms in y there would be too many parameters to be estimated on the basis of any available set of observations. This problem may be dealt with by assuming a parametric distributed lag structure. From a more practical point of view, however, even if we somehow manage to reduce the number of distributed lag coefficients either by parameterization or by truncation in the distributed lag terms in y, the available data on female labour force participation and incomes do not furnish a long enough data series for testing the above hypotheses. Data on per capita incomes do not exist for the period prior to the 1960s, by which time various MENA region economies had long since embarked upon the process of modernization. The availability of data on female labour force participation further limits the available time series for estimation. In order to circumvent these problems we need to find a ‘stock’ variable which could be used as a proxy for the past (unobservable) per capita income trends. This we shall refer to as  $S_{it}$ , or the shape variable. Replacing all the lagged income variables in the above equation by  $S_{it}$  we have:

$$P_{it} = f_i(y_{it}, S_{it}) + u_{it} \quad i = 1, n \quad t = 1, T'$$

where  $T'$  is the number of years for which data is available. The role of the shape variable  $S$  can be best understood if we consider two hypothetical per capita income paths, referring to two countries labelled  $M$  and  $A$  as shown in Figure 9. Country  $A$  starts from much lower per capita income levels and, despite a much higher upward trend in per capita incomes, for much of the present century its income levels remain well below those of country  $M$ . However, from the mid-1970s country  $A$  overtakes  $M$ , and for the last two decades it exhibits higher per capita income levels than the latter. According to the hypothesis put forward above, country  $A$  is likely to have much higher rates of non-agricultural female labour market participation than country  $M$ . However, if we test this hypothesis based only on the per capita income levels during the last two decades, the results would be clearly misleading. The variable  $S$  in the above equation is meant to capture the impact of the shape of the income path during the long historical period since the inception of modern economic growth, during which time income data for many countries may not be available. The question which needs to be addressed next, is the choice of a proxy variable which in the absence of data on incomes can best represent the past per capita income trends.

A proxy variable which presents itself, and which is in conformity with the above arguments on the operation of patriarchal family relations, is the share of educated male population in the total educated population. As noted above, the link between relatively high per capita incomes and low female participation rates in the process of development is the viability of one breadwinner patriarchal families. Hence, as long as the non-agricultural incomes are high enough to permit the continuation of the one breadwinner family set up, for the households the marketable skills of female children and their education assumes secondary importance as compared to the male children. Within such societies female children as a norm get married to males who can afford to support them on the basis of their own wages. A male child on the other hand, in order to set up a family needs to have marketable skills, and hence the greater priority to invest in boys' education in the patriarchal societies. This of course does not hold in societies where due to relatively low non-agricultural wages one breadwinner family norms are not affordable. In this latter type societies, girls who do not have marketable skills cannot set up home and hence from the point of view of the households deciding on the allocation of their educational expenditure, there would be relatively much less of a premium in returns to investment on boys rather than girls as compared to the patriarchal societies. It would be therefore plausible to use the ratio of adult literacy of males to total adult literacy as a proxy for the unobservable shape variable  $S$ , in the above equation. Denoting this ratio by  $ER$ , and substituting it for  $S$  in the above equation, and assuming a linear functional form, the equation can be written as:

$$P_{it} = \alpha_i + \beta_i y_{it} + \gamma_i ER_{it} + u_{it} \quad i = 1, n \quad \& \quad t = 1, T'$$

The regression coefficients,  $\alpha_i$ ,  $\beta_i$  and  $\gamma_i$  are assumed to vary across the countries but to remain fixed over time. Though the above equation can be estimated in its present form, lack of a complete panel data,

particularly in relation to female participation rates, makes a pooled estimation method impossible. Assuming that coefficients vary randomly across the countries, with the random component having mean zero and being independent of the regressors, we can find unbiased estimators of the mean of the coefficients by aggregating over time and estimating the following cross section regression equation in terms of the mean of the variables over time:

$$\bar{P}_i = \alpha + \beta \bar{y}_i + \gamma \bar{ER}_i + v_i \quad i=1, n$$

In this equation, the coefficients are the means of the individual country coefficients and the bar above variables implies time averages for variables. Though, strictly speaking, the estimation of the cross section equation also requires a complete panel data set for all the variables, for sluggish stock variables such as P and ER one may form fairly accurate approximations to the time averages on the basis of incomplete time series data. The above equation has been therefore adopted as the final form for substantiating the argument made above on the basis of a cross section regression. Our hypothesis requires that the  $\gamma$  and the  $\beta$  coefficients should be negative and that the equation should explain a major part of the variations in female labour participation rates.

Before proceeding to estimation, however, one or two problems with regard to the properties of the random error term  $v_i$  should be noted. Firstly, since the dependent variable  $\bar{P}_i$  varies between zero and one, the distribution of the random error term needs to be restricted accordingly. In order to deal with this problem a logistic model is estimated where the dependent variable is transformed as,  $\ln(\bar{P}_i / (1 - \bar{P}_i))$ . Secondly, as noted above, the error term is expected to capture the effect of the various socio-economic and traditional cultural factors which affect female labour force participation in different countries. Since at the higher per capita income levels, assumed to correspond with low participation rates, societies are expected to be less constrained by the dictates of the systematic economic forces, the variations in the error term across the countries are likely to be larger in high income societies than in low income ones. To accommodate this, we should allow for variation in error variances across the observations.

The equation was estimated using data on 51 developing countries in Asia, Africa, Middle East and Latin America. The sample consists of the maximum number of countries for which data on female labour participation and other variables are available in the published statistics. The list of the countries is provided in the footnote to Table 9. The data for female labour force participation rates for most countries in the sample are only available for intermittent intervals, and mainly for the 1980s<sup>11</sup>. The participation rate variable ( $P_i$ ) was therefore measured as the average for the 1980s decade for each country, or, when complete data were not available, as the average for the maximum years available centred on 1985. As before, the participation rate is measured as the ratio of female to male workers in the non-agricultural

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<sup>11</sup> The source of data for participation rates are International Labour Office (1990, 1995).

sector. Education ratio ( $ER_i$ ) variable is measured as the ratio of adult male literate population over the total adult literate population. The variable was measured on the basis of the data on male and female illiteracy ratios provided in the World Bank databank (STARS 1995) for 1985. This was the earliest year for which education data for all the countries in the sample was available. However, given that the education ratio is expected to have a sluggish and monotonic increase over the decade, the 1985 data is expected to be a close approximation for the average over the decade.

The per capita income variable ( $Y_i$ ) is available for all the years over the 1960-90 period for all the countries in the sample. The variable is measured at 1985 international prices in US \$, as given in the Penn World Tables V<sup>12</sup>. As argued above, the impact of the income variable on participation rate is likely to be sluggish and subject to long time lags. Furthermore this impact is likely to be persistent, with the earlier income effects even more influential than those of the recent past. In order to test this hypothesis we measured average per capita incomes for the three decades of the 1960s, 1970s and 1980s, as well as the average for the overall 1960-85 period. We then included these one at a time in the regression model. The results of these regression estimates were remarkably similar, with the income effect coefficients highly significant in all regressions and the 1960s average income coefficient having the largest absolute value, thus confirming our a-priori contention of the persistence of the past income effects. Since here we are more interested in establishing the overall long term influence of the per capita income term on female participation, rather than the specific dynamics of this impact, we have opted for the average of per capita income over the entire 1960-85 period as the income variable ( $Y$ ) for the final regression model reported here.

The estimation results are reported in Table 9. In order to deal with the possible heteroscedasticity of error variances discussed above, the t-ratios reported in the table are based on White's heteroscedasticity consistent standard errors. As can be seen from model (I) in the table, both the per capita income ( $Y$ ) and the education ratio ( $ER$ ) variables have highly significant and negative coefficients, and this simple two variable regression model explains a major part of the variations in female labour force participation as suggested by the relatively high value of the estimated R-squared. In order to test whether socio-cultural factors specific to the MENA region, or religious factors, play a significant part in female labour force participation we have introduced two dummy variables, one distinguishing the Islamic countries ( $DISL$ ) and one for the MENA region ( $DMENA$ ). The estimation results are shown in columns (II), (III) and (IV) in Table 9. As can be seen, these variables neither individually nor jointly exert any significant influence on female labour force participation<sup>13</sup>. Female labour force participation rates seem to have more to do with the historical experience of economic development in individual countries than with their socio cultural or religious backgrounds. This is not of course to deny the importance of the traditional cultural factors for

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<sup>12</sup> The income data for three countries, namely, Kuwait, Bahrain, and Qatar is not available for the 1960s in the Penn World Tables. These were estimated on the basis of trend growth rates using national data sources. The per capita income variable for all the countries are divided by 10000 in order to avoid extra decimal points in the regression coefficient estimates.

<sup>13</sup> The likelihood ratio statistic for the joint significance of the two dummy variables is 3.94 while the Chi-square critical value at 5% significance level for this test is 5.99, clearly rejecting the hypothesis of joint significance.



female labour force participation. Such socio-cultural and religious factors matter, but the extent to which they matter is crucially conditioned by the specificities of the experience of modern economic development. In some countries, where one breadwinner families have been viable, such traditional patriarchal institutions seem to have been reinforced, or have taken new forms in the shape of patriarchal nuclear families in the emerging non-agricultural sectors. While in others, despite the pre-existing patriarchal social norms, the process of modern economic development seems to have been associated with more equal labour market participation rates for males and females. In other words, although the traditional socio-cultural and religious institutions certainly play a systematic role in assigning gender roles in pre-modern societies, the long process of modern economic development seems to have randomized the influence of these traditional factors across the countries.

In order to check the robustness of the results with respect to the changes in the sample of countries included, we have examined the sensitivity of the estimates using two truncated samples, with the results reported in columns (V) and (VI) in Table 9. In the first sample we have eliminated countries with average per capita incomes greater than 3000 dollars, which has reduced the sample size from 51 to 40. In the second set of estimates we have in addition dropped countries with per capita incomes of less than 500 dollars, which has reduced the sample size further to 33 countries. As can be seen, despite the relatively large changes in sample size, the coefficients of both the income and the education ratio variables remain negative and significant, with an improvement in the fit of the model. The improvement in the coefficient of determination after dropping eleven high income countries from the sample is not unexpected, since as we noted above the high income countries are likely to have a higher degree of variation in female labour force participation.

We have finally compared our estimated model with the simple version of family economics model discussed above, where female education as an indicator of women's earning power is included in place of the education ratio variable. To compare the two models we have estimated a general model which nests the two models, by adding an extra variable measuring the rate of adult female literacy (F.EDU) in the equation, with the results reported in Table 10. As can be seen from model (II) in Table 10, the coefficient of the female education indicator variable is insignificant and the addition of this variable to the equation makes no changes in the significance of other variables in the model. However, once we drop the education ratio variable (ER), the female education variable exerts a positive and significant influence on the participation rate (Model III). It can be however easily seen that any of the available statistical tests for choosing between non-nested models will clearly reject model (III) in favour of model (I). It appears that, given average current family incomes, what matters for female labour force participation across countries is more to do with the gender gap in the rate of educational attainment between men and women than with the level of education of women *per se*.

Consider the case of a poor overpopulated economy at the early stages of development, where the stock of human capital both for men and women is low. Since the low wages of men in such an economy do not permit the maintenance of one breadwinner families in non-agriculture, female participation rates in such an economy will be high, despite low rates of female education. As long as these conditions maintain, in such a society there will be little inducement arising from the process of modernization itself for favouring the education of boys over girls, over and above the pre-existing conventions and traditional cultural norms. The process of growth and modernization in such a society takes place with increased accumulation of human capital which, if not equally distributed between men and women, would show only a moderate degree of skewness in favour of men. The forces of international competition entail that the growth of these economies is predicated upon a widespread distribution of human capital, and hence over time the process of modernization would lead to greater gender equality in education and the gradual receding of the traditional attitudes towards gender roles.

Contrast this with an economy which during the early stages of modern development, either due to favourable land labour ratios in agriculture or because of oil or other mineral export revenues, can maintain high enough levels of wages in the non-agricultural sector that can support one breadwinner families. In such societies, the process of modern economic growth is likely to reinforce the patriarchal attitudes towards gender roles. In such economies, from the early stages of modern economic growth, the education of boys (future breadwinners) would have a substantial premium over the education of girls. As long as the growth of rentier income, be it from the agricultural sector or from external sources, allows the relatively high wage non-agricultural income to continue growing -- often within a protected home market -- the gender gap in the education of children is expected to continue, leading over time to a considerable build up in the gender gap in relation to the stock of educated males to females. At any point in time, particularly at later stages of development, the rate of female literacy in this type of economy may be even higher than the rates prevailing in poorer countries at early stages of their development, but this is not reflected in their respective female labour force participation rates. The distinguishing feature of these two types of economy which leads to the divergence in their respective rates of female labour force participation, is the gender gap in their educational standards and not the difference in their female education rates as such.

The above of course does not in the least reduce the significance of female education, either for greater female labour force participation or for better economic performance in general. Greater female education, given the educational standards of the male population, clearly influences female participation rates in a significant way by reducing the ER variable in our original model. The distinction made above between the gender gap in education and the rates of female education, however, can have important policy implications by highlighting the underlying causes for the different patterns of allocation of educational investment between boys and girls by the households in different societies. Effective policies in this area ultimately have to work through influencing the incentive structures for such allocational decisions by the households.

## **Patriarchy, Competitiveness, and Economic Adjustment**

The above analysis could shed light on the relations between female participation, wage competitiveness and structural adjustment in the MENA region in the era of globalization. The MENA region economies seem to have inherited from their past experience of development a set of economic structures and social institutions which are at odds with the new realities of the global economy and the requirements of adjustment in the post oil era. As we have already observed, in terms of human capital, industrial skills, manufacturing productivity and export experience, the MENA countries seemed to be well behind the economies in East Asia with similar or even lower levels of per capita income and wage levels in the early 1980s. Economic adjustment in the post oil era has therefore inevitably entailed a certain degree of real wage compression, as suggested by the conventional theory of comparative advantages. Economic adjustment according to conventional theory, however, assumes a downward flexibility in real wages which, beyond a certain limit, may not be attainable in the MENA region, given the consumption requirements of the prevailing one breadwinner patriarchal family structures in that region. A comparison between the MENA countries and three countries in the Far East, namely, Indonesia, Korea and Malaysia, would help to bring this problem into clear relief.

As can be seen from Table 8, dollar wages at current exchange rates in the MENA countries at the beginning of the 1980s were in general higher than the three countries in the Far East, with one or two exceptions where wages were marginally below Korea and Malaysia. Given the lower levels of education and skills of manufacturing workers in the MENA region, from the point of view of the manufacturing firms the MENA region wages at the time were certainly not competitive in comparison to the countries in the Far East. Viewed from the manufacturing workers standpoint, that is, in terms of relative consumption wages, a similar picture is revealed. As can be seen from the second of the last three columns of Table 8, relative consumption wages in all the MENA countries were more than those in Indonesia, Korea, or Malaysia in the early 1980s -- and in some countries many times more. It would be, however, a mistake to translate these relative consumption wages on the same relativity scale into standards of living of workers and their families across different countries. As we showed earlier, in the Far Eastern countries in the early 1980s between 40 to 45 per cent of the workers in the non-agricultural sector were women, whereas in the MENA region, with the exception of Tunisia and Morocco, this ratio was no more than 10 to 15 per cent (see, Table 6). The implication being that while in the Far East the majority of non-agricultural workers belong to two breadwinner families, this ratio in the MENA region, with the exception of Tunisia and Morocco is marginal. If we further consider that due to their extremely low levels of education and skill the majority of the female workers in the MENA region are engaged in low pay, low productivity jobs, the overall family wages from market activities in the MENA region, relative to the countries in the Far East, would be well below the relative scales indicated by consumption wages in Table 8.

This picture becomes even more bleak if we take into account the other extra costs of maintaining the patriarchal one breadwinner families in the MENA region. As it has been shown by many researchers, patriarchal societies with large gender gaps in education, clearly show significantly higher fertility, higher child mortality, and higher population growth rates (Cochrane, et.al. 1980, Basu 1987, Schultz, 1994). The larger family sizes in the patriarchal societies in the MENA region therefore introduce additional expenses for their sole wage earner heads, as compared to the Far East. Greater child mortality also means greater medical expenses, not to mention its other psychological and physical costs for women. Furthermore, healthcare and other services and provisions which constitute part of the nonmarket activities of women within the household in patriarchal societies, are likely to be performed in an inefficient and costly manner due to lack of education and training of women. This may involve even higher unit input cost in terms of purchased provisions compared to families in non-patriarchal societies where mothers are more educated<sup>14</sup>. In addition, taking into account the substantial economies of scale in the market provision of the goods and services provided by millions of housewives in the MENA region, it would not be unreasonable to assume that the monetary cost of maintaining one breadwinner families in the MENA region, save the subsidies provided by the state, would be much higher than family expenses in non-patriarchal societies.

It appears, therefore, that though product wages (at international prices) in the MENA region in the early 1980s were too high by international standards, this did not apply to the same extent to family consumption wages, given the prevailing social institutions in the region. In other words, in order to maintain similar per capita consumption levels as the economies in the Far East, the MENA countries, given their predominantly one wage earner families in the non-agricultural sector, have needed to maintain much higher wage levels than the former group of countries. This situation, during the adjustment period in the post oil era, clearly has no longer been sustainable. This is reflected in the considerable wage compression which has occurred in the MENA region during its liberalization phase since the early 1980s. Table 11 shows the growth of real product wages in manufacturing for a number of countries in the MENA region and in Latin America during periods significant adjustment in each country. The table also provides similar data for selected Asian countries during the 1980-92 period. The substantial real wage reductions in various MENA countries during their respective periods of adjustment clearly stand out. The attainment of international competitiveness through real wage compression, however, is limited by the subsistence needs of the one wage earner families in the region. The existing evidence suggests that such limits in a number of economies in the MENA region may have already been reached.

Turkey is an example of one such economy which managed to bring about substantial wage compression in industry during the 1980s liberalization phase. The subsequent wage explosion and the resulting instabilities could be indicative of the limits to such wage compression in patriarchal societies. An additional cost was that during the 1980s there was a fifty per cent deterioration of terms of trade against

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<sup>14</sup> A good example is the cost of preventive healthcare administered by more educated mothers in contrast to curative medical expenses.

agriculture in Turkey, which in a way could be interpreted as a consumption subsidy for the non-agricultural sector. In Iran, during the post-revolutionary period, female labour-force participation in non-agriculture was drastically curtailed through the intensification of patriarchal policies emphasizing women's family roles, made possible only by the provision of huge consumer and producer subsidies. More recently, however, the drastic fall in per-capita consumption levels and other aspects of household needs have forced more women to seek jobs -- only to encounter structural and customary obstacles, hence the high unemployment rates among urban and rural women (Moghadam, 1996, and forthcoming). In Egypt, Algeria, Jordan and other countries in the region, mounting social tensions and the lack of response of private investment to the liberalization policies may be symptoms of the same phenomenon. Examples of the household heads being engaged in two or three jobs in order to maintain their one breadwinner families, with the consequent inefficiencies abound in all the countries in the region. It may not be just a coincidence that the only two countries in the region which seem to have had a smoother ride in opening up to the global economy are Tunisia and Morocco, both with high female labour force participation in the non-agricultural sector.

### **Policy Conclusions**

As noted in the introduction to this paper, most of the studies of the impact of adjustment on women have treated gender issues as a derivative or secondary subject in the analysis of adjustment. The impact of adjustment on the economy and society is first analysed in general, and the impact on women is derived by reference to the role of women in the economy or society under question. This approach is described by Paul Collier (1993) in a study of the impact of adjustment on women published by the World Bank in the following words, 'It should be stressed that gender is not a topic in itself but rather a possible disaggregation to be borne in mind when studying a topic'. Policy prescriptions regarding women's issues following from this type of approach have also remained secondary to the adjustment policy as such. In this paper we have taken a different approach. If the structural adjustment program is supposed to bring about such momentous socio-economic changes constituting entirely new development strategies, then the role of gender issues and in particular family structures cannot be treated as a side issue. The MENA region economies during the oil era seem to have locked themselves into family structures which are not appropriate to the stage of their development, their production capabilities and the new realities of the international economy. The adjustment to the post oil era, that is, the integration of the region into the global economy on a new basis, thus poses important issues regarding the role of women and patriarchal family structures, not as derivative issues but as issues central to the adjustment process itself. The policy conclusions matter here not only in relation to the position of women but also in relation to the success of the adjustment programme in the first place.

The central policy problem facing the MENA region economies could best be described through the following apparently paradoxical situation. On the one hand the economic retrogression since the 1980s

combined with fast population growth rates has led to mounting problems of unemployment and underemployment of labour. Under these circumstances it is likely that women's employment would be sacrificed for men's employment, because in most societies men are regarded as the primary breadwinners. This process seems to be already taking place in the region, as the unemployment figures for women, which are much higher than men and growing faster, well indicate. The high rate of unemployment amongst educated women may also convey the impression that educated women are in excess supply with calls for the curtailment of women's education (see, e.g., Shaban, *et.al*, 1993). On the other hand, as we have argued above, the key to the attainment of wage competitiveness in the region seems to be greater integration of women in the workforce, greater education and training of women, and the transformation of the patriarchal family structures. The key to the understanding of this apparent paradox is that the first situation relates to the problems posed in the transition period, when adjustment policy is meant to play a critical role, and the second refers to the final equilibrium position when the economy is set on a new growth path. Without a clear understanding of the characteristics of the final equilibrium position, adjustment policy can go seriously wrong. Economic liberalization policies per se, without due consideration of gender issues, can lead to a chain of events with prolonged economic retrogression; namely, excessive pressure on wages (excessive in relation to subsistence wages for one breadwinner family), social tension and uncertainty, low private investment, declining labour productivity, growing unemployment, further isolation of women from the labour market, further strengthening of patriarchal family structures, and so on. At the heart of this chain of events lies the problem discussed in the previous section, that is, under the prevailing production conditions there may exist no real wage which can reconcile international competitiveness with the prevailing patriarchal family structures. Perhaps in the long run, destitution may undermine the patriarchal family structures. But it is precisely to devise a more efficient and at the same time a more humane transition, that adjustment policy is called for.

If the above analysis is correct, the governments in the region need to introduce policies to remove the continuing barriers to female employment by helping to close the gender gaps in education, reducing wage and employment discrimination against women, designing vocational training for women, and making the financial, physical and social infrastructure more woman-friendly. Removing these constraints should be done in tandem with the introduction of policies to proactively encourage female employment. These policies may take the form of tax incentives for enterprises that hire large numbers of women; the passage of legislation prohibiting employment discrimination against women; the removal of restrictions on women's engagement in night work (the second shift); the modernization of family laws to eliminate the requirement that women obtain permission from fathers and husbands to seek employment, obtain loans and credits, and engage in travel; the provision of childcare and maternity leave through various forms of financing to facilitate women's labour-force attachment and at the same time reduce discrimination against female employment. Such policies are obviously necessary not only for the success of the adjustment and liberalization programme, but also to improve the position of women within the household and in the society at large.



## References

- Abu Nasr, Julinda, Henry Azzam and Nabil Khoury (eds.), (1985) *Women and Development in the Arab World*. Leiden: Mouton.
- Balassa, B. (1964), 'The Purchasing-Power Parity Doctrine: A Reappraisal', *Journal of Political Economy*, 72, pp.584-96.
- Basu, A.M. (1987), "Household Influences on Childhood Mortality", *Social Biology*, vol.34, no.3-4, pp.187-205.
- Becker, Gary S. (1990), *A Treatise on the Family*, Cambridge, Massachusetts: Harvard University Press.
- Boserup, Ester (1970), *Women's Role in Economic Development*, London: George Allen and Unwin Ltd.
- Boserup, Ester (1990), *Economic and Demographic Relationships in Development*, Edited by T. Paul Schultz, Baltimore: The Johns Hopkins University Press.
- Clark, Roger, et al. (1991) "Culture, Gender, and Labor Force Participation: A Cross-National Study." *Gender & Society*, Vol. 5, No. 1: 47-66.
- Cochrane, S.H., J. Leslie, D.J. O'Hara (1980), "The effects of Education on Health", World Bank Staff Working Paper, 405, Washington D.C.
- Collier, Paul. (1993), 'The impact of adjustment on women', in L. Demery, M. Ferroni, C. Grootaert with J. Worg-Valle (eds.), *Understanding the Social Effect of Policy Reform*, Washington DC: World Bank.
- Elson, Diane, (1991), "Male Bias in the Development Process: The Case of Structural Adjustment." In Diane Elson, ed., *Male Bias in the Development Process*. London: Macmillan.
- Galor, Oded and David N. Weil (1996), "The Gender Gap, Fertility, and Growth", *American Economic Review*, vol.86,no.3, June, pp.374-387.
- Haddad, Lawrence, et al. (1995), "The Gender Dimensions of Economic Adjustment Policies: Potential Interactions and Evidence to Date." *World Development*, vol. 23, no. 6: 881-896.
- International Labour Office (ILO), (1990), *Yearbook of Labour Statistics, Retrospective Edition on Population Censuses, 1945-89*, Geneva.
- International Labour Office (ILO), (1990), *Yearbook of Labour Statistics*, Geneva.
- Kandiyoti, Deniz, (1988) "Bargaining with Patriarchy." *Gender & Society*.
- Karshenas, Massoud, (1994), *Macroeconomic Policies, Structural Change and Employment in the Middle East and North Africa*. Geneva: ILO.
- King, Elizabeth and M. Anne Hill (eds.), (1993), *Women's Education in Developing Countries: Barriers, Benefits, and Policies*. Baltimore: The Johns Hopkins University Press.
- Kravis, Irving B., and Robert Lipsey, (1983), 'Toward an Explanation of National Price Levels', *Princeton Studies in International Finance*, No.52, Princeton, NJ.
- Moghadam, Valentine M. (1993), *Modernizing Women: Gender and Social Change in the Middle East*. Boulder, CO: Lynne Rienner Publishers.
- (1995), "The Political Economy of Women's Employment in the Arab Region." In Nabil Khoury and Valentine M. Moghadam, eds., *Gender and Development in the Arab Region*. London: Zed Books.
- (1996) "Women's Employment Issues in the Islamic Republic of Iran: Problems and Prospects in the 1990s." *Iranian Studies*, vol. , no. :
- (Forthcoming), *Liberalizing Economies and Working Women: Gender and Economic Reform in the Middle East and North Africa*.
- Morvaridi, Behrooz. (1992) "Gender Relations in Agriculture: Women in Turkey." *Economic Development and Cultural Change*, vol. 40, no. 3: 567-86.



- Palmer, Ingrid. (1991), *Gender and Population in the Adjustment of African Economies: Planning for Change*. Women, Work and Development Series No. 19. Geneva: ILO.
- Schultz, T. Paul (1994), 'Human Capital, Family Planning, and their Effects on Population Growth', *The American Economic Review*, May 1994, vol.84, no.2, pp.255-260.
- Shaban, Radwan A., Ragui Assaad, and Sulayman Al-Qudsi. 1993. "Employment in the Middle East and North Africa: Trends and Policy Issues." Prepared for the ILO (October).
- Shami, Seteney, S. Morsi and L. Tamimian (1990), *Women in Arab Society: Work Patterns and Gender Relations in Egypt, Jordan and Syria*, Paris: Unesco.
- Stewart, Frances. (1992), "Can Adjustment Policies Incorporate Women's Interests?" In Haleh Afshar and Carolyne Dennis, eds., *Women and Adjustment Policies in the Third World*. London: Macmillan.
- Summers, Robert and Alan Heston, (1991), 'The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-1988', *Quarterly Journal of Economics*, pp.327-368.
- Van der Hoeven, R., M. Karshenas and G. Szirascki, (1997), 'Privatization and labour issues in the context of economic reform', in *The Social Impact of Economic Reform on Arab Countries*, International Monetary Fund.
- World Development, (1995). Special Issue on "Gender, Adjustment and Macroeconomics." Vol. 23, No. 11 (November).
- Youssef, Nadia. (1978), 'The Status and Fertility Patterns of Muslim Women', in Lois Beck and Nikki R. Keddie, eds., *Women in the Muslim World*, pp.69-99, Cambridge, MA: Harvard University Press.

Table 1: GROWTH OF GDP AND ITS SECTORS

	GDP		AGRICULTURE		INDUSTRY		MANUFACT		SERVICES	
	1965-80	1980-91	1965-80	1980-91	1965-80	1980-91	1965-80	1980-91	1965-80	1980-91
Algeria	5.3	2.5	0.6	4.1	5.1	1.5	9.1	2.4	7.7	2.9
Iran, Islamic Rep.	10.5	-0.9	4.1	3.9	13.4	-3.1	14.0	1.0	13.2	-1.3
Iraq	6.3	-0.8	1.2	3.8	6.0	0.8	10.1	1.2	10.0	0.2
Egypt, Arab Rep.	7.3	4.8	2.7	2.4	6.9	4.2			13.7	6.2
Morocco	5.7	4.2	2.4	6.8	6.1	3.0	5.9	4.2	7.1	4.2
Syrian Arab Rep.	9.1	2.6	5.9	-0.6	12.0	6.8	2.3	1.6	10.5	1.6
Turkey	6.2	3.9	3.2	2.8	7.2	4.2	7.5	4.7	7.6	4.3
Jordan	6.8	3.9	3.2	3.5	20.4	0.8	13.4	0.0	5.5	3.1
Tunisia	6.5	3.7	5.5	3.1	7.4	2.9	9.9	5.8	6.4	4.3
<b>MENA region</b>	6.7	2.1	4.3	3.6	6.3	0.9	--	3.4	10.9	1.9
<b>Sub Saharan Africa</b>	4.2	2.1	2.0	1.8	7.2	2.0	--	3.1	4.7	2.5
<b>East Asia and Pacific</b>	7.3	7.7	3.2	4.3	10.8	9.4	10.3	12.4	8.9	8.0
<b>South Asia</b>	3.6	5.4	2.5	3.3	4.3	6.4	4.5	6.8	4.5	6.3
<b>Latin America</b>	6.0	1.7	3.1	1.9	6.6	1.4	8.3	1.7	6.6	1.7

Notes: Growth rates for Iraq refer to 1965-80 and 1980-89, and for Jordan refer to 1970-80 and 1980-87. Growth rates of manufacturing for broad regions refer to 1965-80 and 1980-90. Growth rates for Iran and Turkey refer to 1965-77 and 1977-90

Source: UN, MEDS for Jordan, and World Bank, World Tables for the rest.

Table 2: Average Annual Growth of Investment in Selected MENA Countries

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	<b>1970-80</b>	<b>1980-90</b>
Algeria	10.7	-0.1
Iran, Islamic Rep.	17.6	-7.9
Iraq	18.9	-4.0
Egypt, Arab Rep.	16.8	2.7
Morocco	7.0	3.7
Syrian Arab Rep.	9.8	-5.9
Turkey	10.5	1.4
Jordan	14.1	-2.0
Tunisia	9.2	0.7

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Notes: Growth rates for Iran and Turkey refer to 1970-77 and 1977-90, for Jordan and Iraq to 1970-80 and 1980-77. The data is for fixed investment except for Jordan and Iraq which include change in stock as well.

Source: UN, MEDS for Jordan and Iraq, World Bank, World Tables for the rest..

Table 3: Structure and Growth of Labour Force

	Share of Labour Force 1965			Share of Labour Force 1980			Annual Growth of Labour Force		
	Agriculture	Industry	SERVICES	Agriculture	Industry	SERVICES	1965-80	1980-85	1985-2000
Algeria	57	17	26	31	27	42	2.2	3.6	3.7
Iran, Islamic Rep.	49	26	25	36	33	31	3.2	3.3	3.2
Iraq	50	20	30	30	22	48	3.6	3.7	4
Egypt, Arab Rep.	55	15	30	46	20	34	2.2	2.6	2.7
Morocco	61	15	24	46	25	29	2.9	3.3	3.1
Syrian Arab Rep.	52	20	28	32	32	36	3.3	3.5	4
Turkey	75	11	14	58	17	25	1.7	2.3	2
Jordan	37	26	37	10	26	64	1.7	4.4	4.2
Tunisia	49	21	29	35	36	29	2.8	3.1	2.8
<b>MENA Region</b>	<b>60</b>	<b>16</b>	<b>24</b>	<b>45</b>	<b>23</b>	<b>32</b>	<b>2.4</b>	<b>2.9</b>	<b>2.8</b>
<b>Low-and middle-income economies</b>	65	12	23	55	16	29	2.4	2.6	2.5
<b>Low-income economies</b>	77	9	14	72	13	15	2.1	2.3	1.9
<b>Middle-income economies</b>	56	17	27	43	23	34	2.6	2.3	2.3
<b>Industrial Market Economies</b>	14	38	48	7	35	58	1.3	1	0.5
<b>Sub-Saharan Africa</b>	79	8	13	75	9	16	2.5	2.4	2.7

Notes: MENA region figures are weighted averages of the countries in the Table

Source: World Bank, World Development Report, 1987, Table 32, p.264.

Table 4: Adult Illiteracy in Selected MENA region Countries, 1990  
(per cent)

	<b>Total</b>	<b>Female</b>
Algeria	43	55
Iran, Islamic Rep.	46	57
Iraq	40	51
Egypt, Arab Rep.	52	66
Morocco	51	62
Syrian Arab Rep.	36	49
Turkey	19	29
Jordan	20	30
Tunisia	35	44
<b>MENA</b>	<b>47</b>	<b>60</b>
<b>Low Income</b>	<b>40</b>	<b>52</b>
<b>Middle Income</b>	<b>22</b>	<b>27</b>
<b>Lower</b>	<b>25</b>	<b>32</b>
<b>Upper</b>	<b>16</b>	<b>19</b>
<b>Low and Middle Income</b>	<b>36</b>	<b>46</b>

Source: World Development Report, World Bank, 1993

**Table 5: Per Capita GDP by Region, 1960-90**

	<b>1960</b>	<b>1979</b>	<b>1990</b>
<b>MENA(1)</b>	<b>100</b>	<b>194</b>	<b>176</b>
Syria	94	247	232
Turkey	96	176	222
Iran	177	271	202
Iraq(2)	204	510	190
Jordan	69	191	173
Tunisia	65	141	173
Algeria	102	167	165
Morroco	49	112	128
Yemen(2)	45	74	118
Egypt	48	91	114
<b>East Asia(3)</b>	<b>50</b>	<b>115</b>	<b>199</b>
Hong Kong	134	472	979
Korea	53	197	396
Malaysia	84	206	304
Singapore	97	395	695
Taiwan	75	252	479
Thailand	56	128	212
<b>ASIA</b>	<b>41</b>	<b>63</b>	<b>97</b>
India	46	50	75
China	34	52	79
Bangladesh	56	65	83
Indonasia	38	71	117
<b>Industrial Block(4)</b>	<b>387</b>	<b>708</b>	<b>885</b>

Notes: 1- MENA, 1960=100, at 1985 international prices in US \$. MENA refers countries in the Middle East and North Africa, excluding the small Persian Gulf states.

2- Dates for Yemen refer to 1969, 79, 90, and for Iraq refer to 1960, 79, and 87.

3- East Asia refers to Asia Pacific region excluding China.

4- Industrial Block refers to OECD countries excluding Turkey & Mexico.

Source: World Penn Tables, Mark 5.

**Table 6, Female Share of Employment in Non-Agricultural Activities**

<b><i>MENA</i></b>	<u>All Workers</u>		<u>Paid Employment</u>		<u>Unpaid Family Labour</u>		<u>Employers etc.</u>	
	Manufac- turing	Non-Agri- culture	Manufac- turing	Non-Agri- culture	Manufac- turing	Non-Agri- culture	Manufac- turing	Non-Agri- culture
<b>Egypt</b>								
1960	4	11	3	12	14	12	5	6
1966	5	10	4	13	8	11	6	5
1976	7	14	7	12	8	7	6	4
1984	--	--	8	16	--	--	--	--
1989	--	--	9	18	--	--	--	--
<b>Iran</b>								
1956	34	23	30	24	65	43	39	28
1966	40	21	33	22	86	69	43	18
1976	38	22	20	17	87	84	29	10
1986	15	11	7	11	75	59	18	6
<b>Jordan</b>								
1961	16	11	3	10	20	9	35	11
1979	6	10	5	12	16	6	9	2?
<b>Morocco</b>								
1960	30	16	22	22	--	--	--	--
1971	--	--	--	--	--	--	--	--
1982	36	26	--	--	--	--	--	--
<b>Syria</b>								
1960	7	10	7	12	21	17	5	4
1981	11	12	9	13	20	15	15	8
<b>Tunisia</b>								
1956	22	17	8	12	--	--	37	--
1966	23	13	--	--	--	--	--	--
1975	52	29	29	21	94	80	78	--
1984	56	30	34	24	96	84	80	--
<b>Turkey</b>								
1965	8	8	--	--	--	--	--	--
1970	23	13	14	12	61	45	34	13
1975	18	13	16	15	54	33	15	6
1980	15	13	14	15	52	30	10	4
1985	15	13	15	13	46	23	9	4
1991	--	--	14	14	--	--	--	--
<b>UAE</b>								
1975	1	5	0.4	6	7	8	2	1
1980	1	7	1	8	10	11	2	0.7
<b><i>Far East</i></b>								
<b>China</b>								
1980	39	35	39	35	--	--	--	--
1991	45	39	45	39	--	--	--	--
<b>Hong Kong</b>								
1961	33	30	35	32	67	68	17	19
1976	46	37	48	39	67	67	11	16
1986	46	40	47	42	84	79	15	20
<b>Korea</b>								
1960	27	27	26	26	57	63	19	23
1975	38	34	38	33	63	72	25	30
1980	36	34	38	34	63	78	20	26
<b>Indonesia</b>								
1961	38	30	--	--	--	--	--	--
1971	43	35	35	25	72	62	43	--
1980	45	35	36	24	73	67	48	--
<b>Malaysia</b>								
1957	17	14	14	14	40	30	20	13
1980	41	31	42	32	48	50	33	25
<b>Thailand</b>								
1960	38	39	27	23	67	73	39	38
1980	47	44	43	37	67	75	46	46

Source: ILO, 1990, 1995

**Table 7, Distribution of Female Labour Force Accross Non-Agricultural Sectors**

<i>MENA</i>	Manufacturing	Community & Personal Services	Other Services	Total Non-Agriculture
<b>Egypt, 1976</b>				
Paid Employment	9	39	11	59
Self Employed	2	0.2	3	5
Unpaid Family	0.1	+0	1	1
<b>All workers</b>	<b>11</b>	<b>40</b>	<b>14</b>	<b>65</b>
Unemployed				35
<b>Iran, 1986</b>				
Paid Employment	8	52	7	66
Self Employed	12	2	2	17
Unpaid Family	7	0	0.4	8
<b>Total</b>	<b>29</b>	<b>58</b>	<b>13</b>	<b>100</b>
<b>Jordan, 1979</b>				
Paid Employment	4	73	7	84
Self Employed	2	1	1	4
Unpaid Family	0.2	0.0	0.1	0.3
<b>All workers</b>	<b>6</b>	<b>75</b>	<b>8</b>	<b>88</b>
Unemployed				12
<b>Morocco, 1961</b>				
Paid Employment	15	42	11	68
Self Employed	21	1	3	24
Unpaid Family	2	0.1	0.4	2
<b>All workers</b>	<b>40</b>	<b>43</b>	<b>14</b>	<b>96</b>
Unemployed				4
<b>Syria, 1981</b>				
Paid Employment	15	53	11	80
Self Employed	9	1	1	12
Unpaid Family	2	0.1	0.4	2
<b>All workers</b>	<b>26</b>	<b>55</b>	<b>13</b>	<b>94</b>
Unemployed				6
<b>Tunisia, 1984</b>				
Paid Employment	18	17	13	47
Self Employed	27	0.1	1	29
Unpaid Family	7	0.0	0.3	7
<b>All workers</b>	<b>52</b>	<b>17</b>	<b>18</b>	<b>87</b>
Unemployed				13
<b>Turkey, 1985</b>				
Paid Employment	22	37	16	76
Self Employed	3	1	3	6
Unpaid Family	3	0.1	1	4
<b>All workers</b>	<b>29</b>	<b>38</b>	<b>20</b>	<b>87</b>
Unemployed				13
<i>Far East</i>				
<b>Hong Kong, 1986</b>				
Paid Employment	41	21	26	88
Self Employed	1	1	3	5
Unpaid Family	1	0.1	2	3
<b>All workers</b>	<b>45</b>	<b>23</b>	<b>32</b>	<b>100</b>
Unemployed				0.4
<b>Korea, 1980</b>				
Paid Employment	33	12	16	61
Self Employed	2	2	14	19
Unpaid Family	1	1	8	10
<b>All workers</b>	<b>36</b>	<b>15</b>	<b>37</b>	<b>88</b>
Unemployed				12
<b>Malaysia, 1980</b>				
Paid Employment	23	27	15	65
Self Employed	4	2	40	47
Unpaid Family	0.5	0.4	4	5
<b>All workers</b>	<b>27</b>	<b>30</b>	<b>40</b>	<b>97</b>
Unemployed				3
<b>Thailand, 1980</b>				
Paid Employment	12	21	15	48
Self Employed	5	3	15	23
Unpaid Family	3	2	15	20
<b>All workers</b>	<b>20</b>	<b>26</b>	<b>45</b>	<b>91</b>
Unemployed				9

Source: As Table 6.



Table 8: Manufacturing Wages in the MENA region, Indonesia Korea & Malaysia, 1963-91

	<u>1963-65</u>	<u>1978-80</u>	<u>1989-91</u>	<u>1963-65</u>	<u>1978-80</u>	<u>1989-91</u>
				<i>INDONESIA =100</i>		
	<i>Current Dollars at Market Exchange Rate</i>			<i>Current Dollars at World Consumption Prices</i>		
Algeria	2173	5770	5521	742	495	250
Egypt	611	1400	1906	219	245	174
Iran	671	7734	4064	383	781	224
Iraq	896	3025	8969	734	663	232
Jordan	762	3611	3262	273	348	188
Morocco	1420	4010	3074	705	489	269
Syria	570	1688	4219	166	305	596
Turkey	1457	4913	5702	447	518	494
Tunisia	1052	3164	3003	364	382	255
Libya	2190	7506	---	na	na	na
Indonesia	139(1)	668	758	100(1)	100	100
Korea	260	2646	9529	153	274	471
Malaysia	678	1828	3000	350	240	248

Notes: 1- At current US \$

Notes: 1- Refers to 1970

Table 9, Logistic Regression Model of Female Labour Force Participation

Variable		(I)		(II)		(III)		(IV)		(V)		(VI)	
		Coefficient	T-Statistic	Coefficient	T-Statistic	Coefficient	T-Statistic	Coefficient	T-Statistic	Coefficient	T-Statistic	Coefficient	T-Statistic
Constant	C	4.47	8.01	3.94	4.97	3.96	5.99	4.03	5.60	5.10	6.24	5.70	5.68
Income	Y	-1.18	-4.06	-1.00	-2.52	-0.83	-2.32	-0.84	-2.26	-2.90	-2.56	-3.33	-2.04
Education Ratio	ER	-9.27	-9.80	-8.31	-6.27	-8.40	-7.46	-8.55	-7.06	-9.88	-8.29	-10.81	-7.76
Islam Dummy	DISL			-0.20	-0.84			0.05	0.13				
MENA Dummy	DMENA					-0.36	-1.66	-0.39	-1.10				
R-squared		0.62		0.63		0.65		0.65		0.65		0.64	
Adjusted R-squared		0.60		0.60		0.62		0.62		0.63		0.62	
Log likelihood		-33.39		-32.76		-31.44		-31.42		-25.34		-21.88	
No of Observations		51		51		51		51		40		33	

Notes: T-Statistics are based on White's heteroskedasticity consistent standard errors

List of Sample Countries: Algeria, Argentina, Bahrain, Bangladesh, Bolivia, Botswana, Brazil, Burundi, Cameroon, Chile, China, Colombia, Costa Rica, Ecuador, Egypt, El Salvador, Ghana, Guatemala Honduras, Hong Kong, India, Iran, Iraq, Jamaica, Jordan, Kenya, Korea, Kuwait, Malawi, Malaysia, Mexico, Morocco, Mozambique, Pakistan, Panama, Paraguay, Peru Philippines, Qatar, Singapore, Sri Lanka, Sudan, Syria, Thailand, Tunisia, Turkey, Venezuela, Zambia, Zimbabwe, Yemen

*Table 10, Logistic Regression Model of Female Labour Force Participation and Education*

Variable		(I)		(II)		(III)	
		Coefficient	T-Statistic	Coefficient	T-Statistic	Coefficient	T-Statistic
Constant	C	4.47	8.01	4.27	1.75	-2.38	-11.55
Income	Y	-1.18	-4.06	-1.18	-3.98	-1.03	-3.55
Education Ratio	ER	-9.27	-9.80	-9.01	-2.75		
Female Education	F.EDU			0.08	0.09	2.46	8.82
R-squared		0.62		0.62		0.55	
Adjusted R-squared		0.60		0.59		0.53	
Log likelihood		-33.39		-33.39		-37.40	
No of Observations		51		51		51	

Notes: T-Statistics are based on White's heteroscedasticity adjusted standard errors.

Table 11, Real Wage Growth in the Manufacturing Sector

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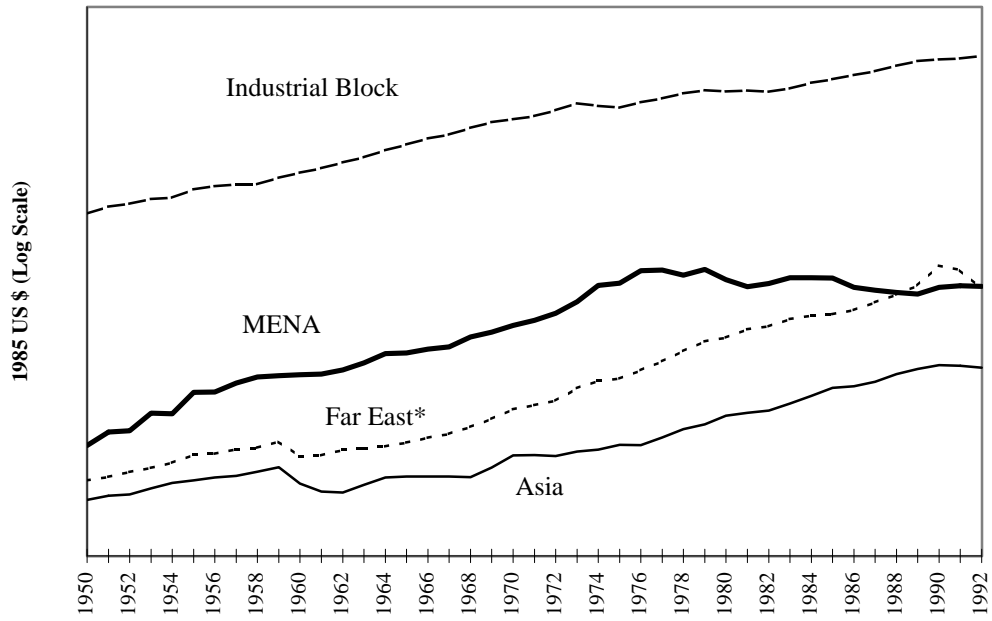
<b>Average Annual Rates of Growth</b>	
<b>MENA</b>	
Egypt (85-92)	<b>-9.5</b>
Iran (77-92)	<b>-2.2</b>
Morocco (78-92)	<b>-5.7</b>
Tunisia (80-92)	<b>-1.4</b>
Turkey (79-88)	<b>-3.5</b>
<u>Median</u>	<u><b>-3.5</b></u>
 <b>Latin America</b>	
Argentina (75-92)	<b>2.0</b>
Brazil (80-92)	<b>1.7</b>
Colombia (80-92)	<b>0.0</b>
Mexico (80-92)	<b>-2.9</b>
Chile (73-82)	<b>6.4</b>
<u>Median</u>	<u><b>1.7</b></u>
 <b>Asia</b>	
India (80-92)	<b>4.9</b>
Korea (80-92)	<b>7.3</b>
Malaysia (80-92)	<b>3.1</b>
Pakistan (80-92)	<b>1.4</b>
Thailand (80-92)	<b>7.0</b>
<u>Median</u>	<u><b>4.9</b></u>

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Nortes: Figures refer to growth of real product wages in manufacturing.

Sources: World Bank, UNIDO

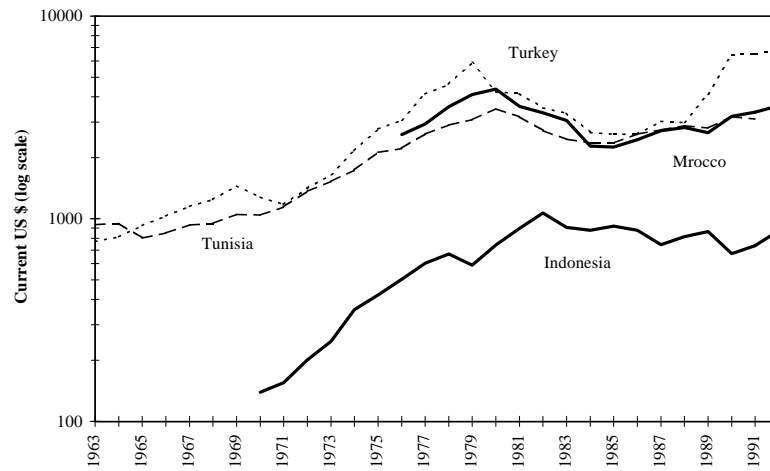
**Figure 1, Per Capita GDP Trends in MENA and Other Regions**



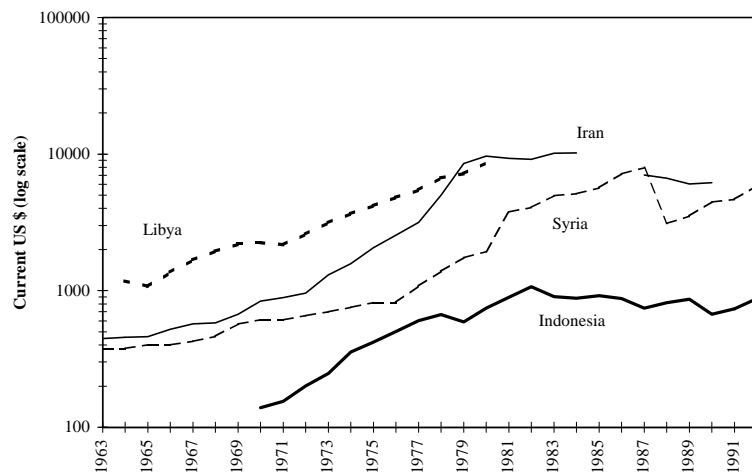
Notes: \* Excluding China

Source: Penn World Tables

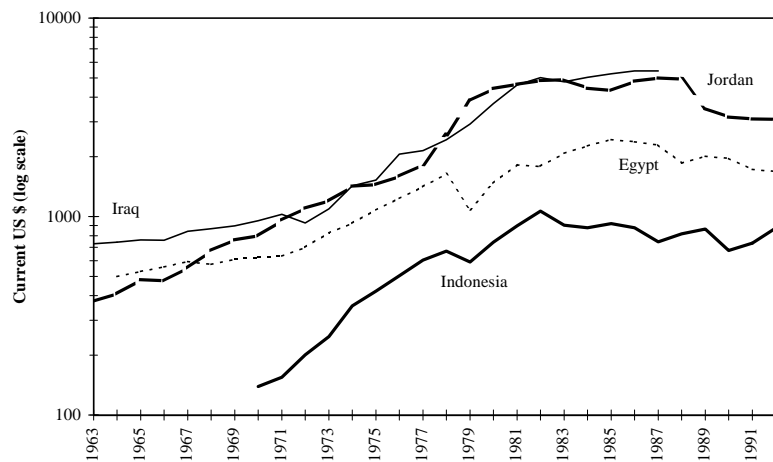
**Figure 2, Manufacturing Wages in Morocco, Tunisia and Turkey, 1963-92**



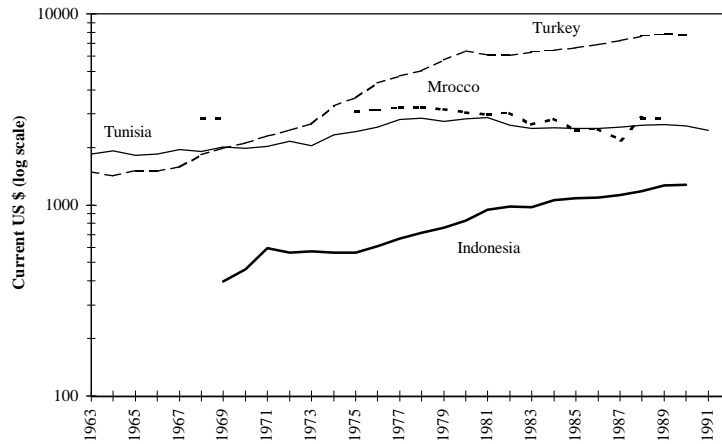
**Figure 3, Manufacturing Wages in Iran, Libya and Syria, 1963-92**



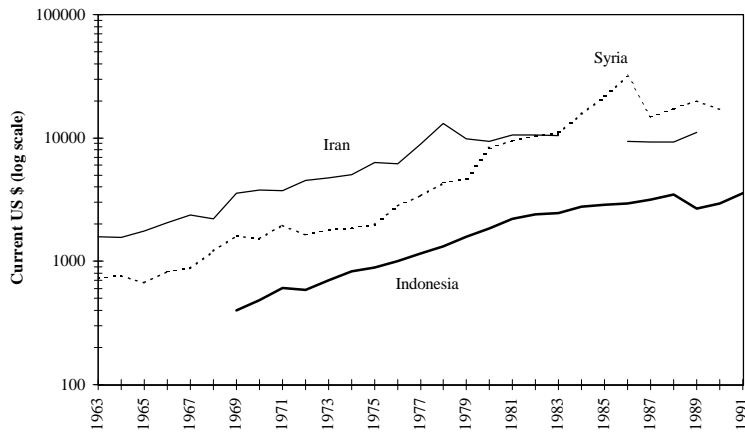
**Figure 4, Manufacturing Wages in Egypt, Iraq and Jordan, 1963-92**



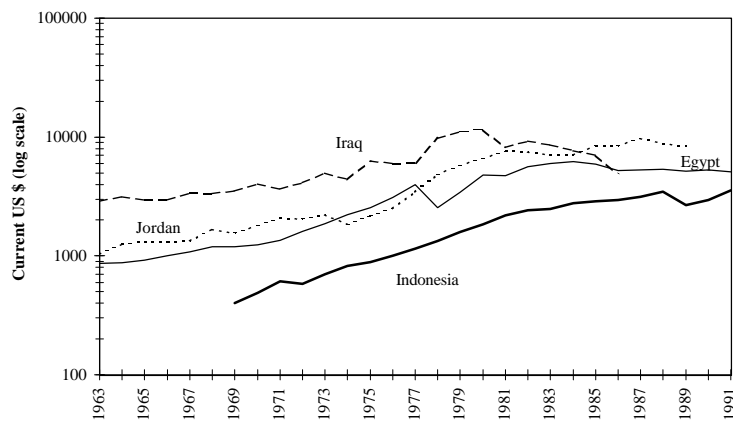
**Figure 5, Manufacturing (Consumption) Wages in Morocco, Tunisia, Turkey, and Indonesia, 1963-92**



**Figure 6, Manufacturing (Consumption) Wages in Iran, Syria and Indonesia, 1963-92**



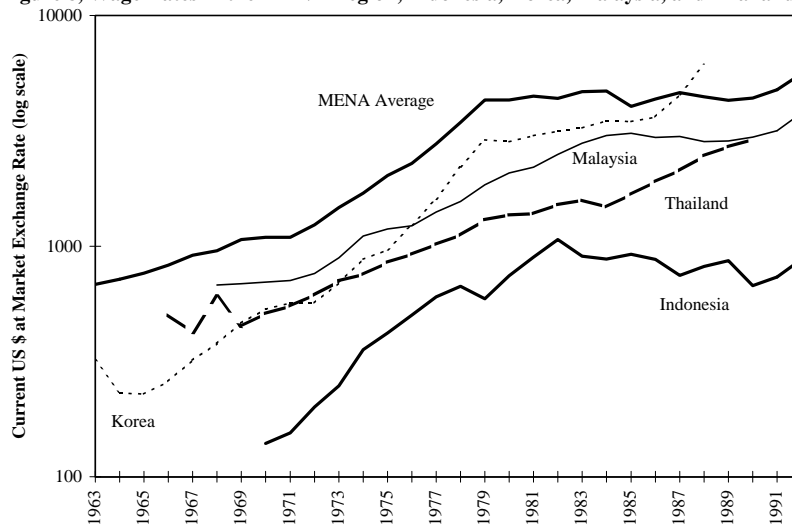
**Figure 7, Manufacturing (Consumption) Wages in Egypt, Iraq and Jordan, 1963-92**



Source: PENN World Table (Mark 5), and UNIDO, INDSTAT 95

Notes: Consumption wages are measured in terms of consumption purchasing power parity index with the US price index equal to 1 for all periods.

Figure 8, Wage Rates in the MENA Region, Indonesia, Korea, Malaysia, and Thailand, 1963-92



Source: UNIDO, INDSTAT 95

Notes: Wage rates refer to total annual compensation per worker in manufacturing

MENA region refers to Algeria, Egypt, Iran, Iraq, Jordan, Morocco, Syria, Tunisia and Turkey.



**Figure 9: Hypothetical Per Capita Income Paths**

