

## Asia's Economic Integration in the Global Economy and the Importance of Investments in Female Education

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### Abstract

Over the last several decades, Asian labor markets have experienced significant adjustments resulting from their increased integration into the global market which have transformed women's relationship within the labor market. In general, women have gained access to jobs in primarily low-skilled manufacturing industries and the service sector but have secured limited access to higher-skilled positions where there is more room for advancement. This is, in part, a result of the shortfalls in women's education relative to males. Asia's future competitiveness in the global economy and women's economic empowerment in these countries hinge on the way Asia manages its investments in human capital. This paper evaluates the data on educational outcomes in Asia, drawing particular attention to regions that face significant gender gaps, and examines the directions in which Asia should take its investments in women's education in order to improve women's engagement in the economy and to allow these countries to take better advantage of the global market.

**Keywords:** women's education; Asian globalization; gender gaps

### 1. Introduction

It has been well argued that educating females is a necessary step to building gender equity and an effective approach to encouraging economic development. Over the recent decades, the international community has expressed its support for this objective through various declarations and programs such as the 1990 *World Declaration on Education for All*, which supports the objective of universal primary education, and the subsequent pledge by the United Nations as part of its 2000 *Millennium Development Goals* to bring gender equity in education, reiterating the need for universal primary education globally.

Today, education is situated prominently in most national policies in Asia as a means to battle poverty and encourage economic growth and development. And this emphasis in educational policy has included an outreach to boys as well as girls. As a result of these strategic policies, over the last decades, women's outcomes in education have improved throughout much of Asia, with literacy rates for adult females rising from 77% to 82% from 2000 to 2011 (Asian Development Bank 2013) and the ratio of girls enrolled in primary and secondary education relative to boys in South Asia climbing from 80% to 95% (World Bank 2013). Despite improvements in girls' education throughout the region, however, considerable gender disparities in access to education still exist across all levels of education in many parts of Asia. These gender gaps continue to impose severe consequences on the Asian region.

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One example from the International Labour Organization (2011b) estimates that “[t]he Asia and Pacific region is losing US\$42 billion to US\$47 billion annually because of women’s limited access to employment opportunities, and another US\$16 billion to US\$30 billion annually as a result of gender gaps in education” (p. 1).

Drawing further attention to these inequities in educational access is the changing structure of the economies in Asia which has accompanied Asia’s growing integration into the world market and has transformed women’s relationship within the labor market. Although women have gained considerable access to jobs in low-skilled manufacturing industries and the service sector, women have, in general, secured more limited access to higher-skilled positions where there is more room for advancement. This is, in part, a result of the shortfalls in women’s education relative to males. Undoubtedly, Asia’s future competitiveness in the global economy and women’s economic empowerment in these countries hinge on the way these Asian economies manage their investments in human capital. The World Bank emphasizes that education is an important apparatus for bridging today’s Asia into the future knowledge-based economy. Thus, addressing the educational needs of women in Asian countries is becoming more urgent, not only to reduce the vulnerability of Asian women in the labor market and improve their access to higher paying jobs, but also to allow these countries to take better advantage of the global market.

This paper evaluates the role of women’s education in Asia’s global development. The main objective of this study is to examine the directions in which Asia should take its investments in women’s education in order to improve women’s engagement in the economy and to allow women to access more of the benefits of Asia’s global integration.

In this paper, I begin by profiling the educational outcomes of women in Asia, paying particular attention to regions that face significant gender gaps. I then discuss the changes in women’s working relationship within Asia that have emerged with the intensifying assimilation of Asian economies into the global market. Next, I evaluate the implications of the latter changes on the educational needs of women, drawing reference to areas where women face educational deficits. I conclude with some considerations on managing policies to address these human capital concerns.

## **2. What does the Educational Profile of Asia Look Like? Trends in Gender Gaps in Education**

While outcomes in education show some impressive advancement across East and South Asia over the last few decades, which has translated to improved opportunities for women in the economy, gender biases in learning outcomes and access to education in this region remain a challenge. According to the World Bank (2003a), global progress in gender equity in education continues to be slow and uneven; the same can be said of Asia which has yet to reach the Millennium Development Objectives for universal primary and secondary education for girls and boys. Furthermore, many parts of Asia still face significant challenges in providing women access to higher education.

Education levels in Asia have been rising over the last several decades. Table 1 compares the average years of schooling from 1980 to 2010 for individual countries in the Asian region. As the data reveal, educational levels increased in all countries in the region over this time-frame, with the mean years of schooling rising from 4.69 to 7.45. Specifically, the female population reflects a similar pattern. As evident in Table 1, each country saw visible progress in the growth of the stock of educated females since the 1980s. However, when looking at individual outcomes across the region, the data indicate substantial variations across countries. For example, by 2010, Afghanistan and Nepal, despite their strong growth in female schooling, realized outcomes of only 1.84 and 3.57 average years of schooling, respectively, making these two nations among the lowest achievements in Asia. In contrast, three countries that stand out in South Asia, Sri Lanka (at 11.1 years), Malaysia (at 9.99 years) and Philippines (at 9.26 years), realized much higher educational attainments for females, sometimes even outstripping their male counterparts.

In spite of these pockets of outstanding success, as a whole, females in Asia still achieve fewer years of schooling as males on average: within South Asia, females receive an average of 4.25 years and males receive 6.20 years, and even in the East Asia and Pacific region, average education for females trails males by 0.92 years (Barro and Lee 2010).

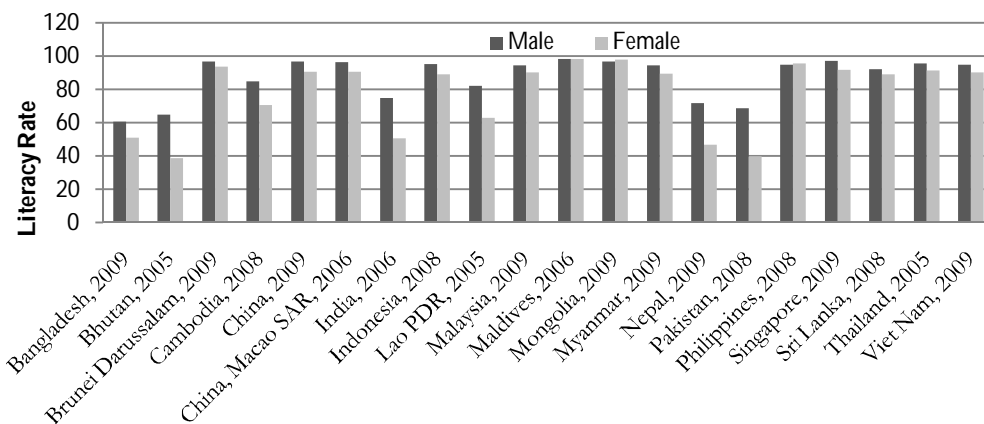
**Table 1: Mean Years of Total Schooling, Age 15+, in East and South Asia**

Country or Territory	1980		1990		2000		2010	
	Total	Female	Total	Female	Total	Female	Total	Female
Afghanistan	1.22	0.33	1.87	0.65	2.85	1.11	3.74	1.84
Bangladesh	2.25	1.26	3.15	2.41	4.48	4.02	5.91	5.65
Brunei Darussalam	6.61	5.75	7.68	7.16	8.17	8.06	8.69	8.71
Cambodia	3.07	2.06	3.5	2.53	3.95	3.12	4.82	4.22
China	4.75	4.04	5.62	5.34	7.11	6.42	8.11	7.56
Hong Kong SAR, China	7.97	6.93	9.35	8.65	9.25	8.89	10.4	10.17
India	2.34	1.37	3.44	2.25	4.22	3.03	5.2	4.14
Indonesia	3.63	2.91	4.09	3.47	5.03	4.62	5.95	5.67
Japan	9.25	8.77	9.97	9.57	10.93	10.6	11.59	11.36
Korea, Rep.	8.29	7.26	9.35	8.21	11.05	10.28	11.94	11.34
Lao PDR	2.8	1.72	3.58	2.61	4.26	3.44	5.16	4.53
Macao SAR, China	4.85	4.36	5.66	5.29	6.67	6.42	8.11	7.95
Malaysia	5.75	4.87	6.97	6.55	9.09	8.72	10.16	9.99
Maldives	4.54	4.14	4.45	4.13	4.26	4.11	6.02	5.85
Mongolia	6.19	5.71	7.71	7.58	7.81	7.91	8.31	8.46
Myanmar	2.2	1.83	2.73	2.72	3.6	3.68	4.67	4.87
Nepal	0.99	0.26	2.48	1.34	2.93	2.09	4.02	3.57
Pakistan	2.15	0.85	2.91	1.6	3.87	2.54	5.53	4.34
Philippines	6.63	6.55	7.47	7.57	8.27	8.44	8.95	9.26
Singapore	5.24	4.64	6.63	6.32	8.07	7.64	9.13	8.76
Sri Lanka	7.57	7.07	8.92	8.65	10.48	10.35	11.1	11.1
Thailand	4.4	4	5.46	5.2	6.11	5.84	7.41	7.24
Vietnam	5.29	4.55	4.14	3.81	5.09	4.83	6.34	6.19
<b>Average</b>	<b>4.69</b>	<b>3.97</b>	<b>5.53</b>	<b>4.94</b>	<b>6.42</b>	<b>5.92</b>	<b>7.45</b>	<b>7.08</b>

Source: World Bank (2014). Barro-Lee Dataset.

In addition, outcomes in literacy rates within Asia indicate a need for more attention to gender disparities in many countries. Figure 1 provides a gender perspective on adult literacy rates in the Asian region. Women's adult literacy, when compared to men, falls below parity in 16 out of 19 Asian countries featured in the graph. Among the countries in South Asia, 77% of the adult female population (aged 15 years and older) is literate compared to 87% of the adult male population.

Egregious gender gaps occur in Bhutan (.59), Pakistan (0.58) and Nepal (0.65) where women's literacy rates are less than two-thirds the rate of men (data reported in parenthesis are gender parity ratios). Furthermore, in each of these countries, less than half of the adult women are literate.

**Figure 1: Male and Female Adult Literacy Rates in Asia (aged 15+)**

Source: United Nations Statistics Division (2013)

Gender gaps in enrollment across Asia have been narrowing over the last decades. These improvements made great headway in reducing the gap in education between women and men, but females are still at a disadvantage in many parts of Asia as seen in Table 2. At the primary level, the data indicate that girls' net enrollment ratio has reached close to parity if not exceeded boys' enrollment in many parts of Asia. For example, the countries of Bangladesh, Bhutan, Myanmar and the Philippines exhibit strong outcomes for girls relative to boys. However, in nearly half the countries reported in Table 2, girls' enrollments fall below boys' enrollment; and few countries in South Asia have achieved universal primary education, as indicated by a net enrollment ratio of 100 percent (Millennium Development Goals Indicators). Large gaps are reported in Nepal and Pakistan where the ratio of girls to boys' net enrollment are 0.82 and 0.84, respectively. These deficiencies are made even more striking when one considers that girls are not likely to complete their primary education in many South Asian countries. UNESCO (2008) reports that nearly twenty percent of all children in the world who were out of school in 2005 were in South and West Asia, and among these children, two-thirds were girls.

In Pakistan, 49% of the girls who enter primary school are not expected to reach the final grade of primary school. And other countries report high primary drop-out rates for girls as well, such as Bangladesh (29%), Cambodia (31%), Lao PDR (29%), Myanmar (23%), and Nepal (44%) (World Bank 2014). These outcomes indicate that girls are likely to experience low attendance and low persistence in education.

Table 2 also reports enrollment ratios for secondary and tertiary education. At the secondary level, enrollment ratios decline considerably for both boys and girls; however, gender parity ratios for girls relative to boys improve in many countries. Strong gender gaps in favor of girls are reported in the Philippines, Thailand, and Maldives at the secondary level and, in general, the average enrollment for girls (at 61.4) is near parity to boys (61.28) for the reported countries. Despite these successes, many countries report very low female enrollment ratios for girls and also large gender gaps. For example, girls have low secondary school enrollments in Afghanistan (15%), Bangladesh (43%), Bhutan (49%), Cambodia (32%), Lao PDR (33%), and Pakistan (29%). Similarly, large gender gaps are reported in Afghanistan, Cambodia, Lao PDR, and Pakistan. Furthermore, at the tertiary level, enrollment ratios for girls show high deficiencies for many countries in the region. Countries such as Afghanistan, with a gender parity ratio of 0.24, Nepal (0.40), Cambodia (0.54), Bangladesh (0.56) and India (0.70) reveal large shortfalls for women's tertiary enrollment compared to men. Even in developed countries such as Korea and Japan, women's enrollment in tertiary education is well below that of males. Some considerably low outcomes for women are reported in Afghanistan, Nepal, Bhutan, Cambodia, Bangladesh, and Pakistan where 6% or less of women are enrolled in tertiary education.

All in all, the data indicate the need for more progress in women's human capital development in Asia. The data do show promising trends in spite of the uneven progress, as all countries experienced growth in various educational outcomes for males and females. However, these gains mask the troubling gender gaps and low outcome for women in literacy, average years of schooling, and enrollments at all levels of education that still exist in many countries in the region.

Table 2: Enrollment Ratios in East and South Asia by Gender

Country	Net enrollment ratio in primary education				Net enrollment ratio in secondary education				Tertiary gross enrollment ratio			
	Year	Girls	Boys	Ratio of Girls/Boys	Year	Girls	Boys	Ratio of Girls/Boys	Year	Women	Men	Ratio of Girls/Boys
Afghanistan	...	...	...		2007	15	38	0.38	2009	1	6	0.24
Bangladesh	2009	90	83	1.08	2007	43	40	1.05	2009	6	10	0.56
Bhutan	2009	88	86	1.03	2009	49	46	1.07	2008	5	8	0.59
Brunei Darussalam	2009	93	92	1.01	2009	91	88	1.03	2009	22	13	1.76
Cambodia	2008	87	90	0.96	2007	32	36	0.87	2008	5	9	0.54
China	...	...	...		...	...	...		2009	25	24	
China, Hong Kong SAR	2009	95	92	1.02	2009	76	73	1.03	2009	58	56	1.03
China, Macao SAR	2009	87	88	0.99	2009	76	76	1.00	2009	60	66	0.92
India	2007	88	91	0.96	...	...	...		2007	11	16	0.70
Indonesia	2008	94	97	0.97	2009	68	69	0.98	2008	20	22	0.92
Japan	...	...	...		2008	98	98	1.00	2008	54	62	0.88
Korea, Rep.	2008	98	100	0.98	2008	94	97	0.96	2008	79	115	0.69
Lao People's Democratic Republic	2008	81	84	0.96	2007	33	39	0.87	2008	12	15	0.78
Malaysia	2008	94	94	1.00	2008	71	66	1.07	2008	41	32	1.30
Maldives	2008	95	97	0.98	2002	54	47	1.15	...	...	...	
Mongolia	2009	90	91	0.99	2009	85	79	1.07	2009	64	41	1.55
Myanmar	2009	91	87	1.05	2009	50	49	1.02	2007	12	9	1.37
Nepal	2000	64	78	0.82	...	...	...		2004	3	8	0.40
Pakistan	2009	60	72	0.84	2009	29	36	0.79	2009	6	7	
Philippines	2008	93	91	1.02	2008	66	55	1.19	2008	32	26	1.24
Sri Lanka	2009	95	95	1.01	...	...	...		NA			
Thailand	2009	89	91	0.99	2010	76	68	1.12	2010	51	39	1.31
Viet Nam	2001	91	96	0.95	...	...	...		2001	8	11	0.73

Source: United Nations Statistics Division (2013).

Note: Net enrollment ratio is the share of children of official school age that are enrolled in that level of schooling. Gross enrollment ratio is the share of children of any age that are enrolled in that level and can include late entrants or repeaters.

### 3. Women's Changing Role in the Asian Labor Market

Over the last several decades, Asian labor markets have experienced significant transformations as countries have participated in reforms to increase their integration into the global market. As a result of these changes, women's relationship within the labor market has also undergone some noteworthy adjustments. In general, women have been able to take advantage of the growing interdependence of Asian and international markets by their improved access to formal jobs in certain industries, but at the same time, this interdependence with external markets has also increased women's exposure to instabilities drawn from the global market which has generated new levels of vulnerability for women in the economy. This section presents a summary of the leading transformations affecting women's work in the Asian region.

#### Feminization of Labor in Export-led Manufacturing

One of the most prominent outcomes of increased global integration has been the growth in the international goods trade, commonly experienced by both developing and developed countries in Asia. From 1980 through the mid-1990s, Asia surpassed other regions of the world economy in its participation in international trade and in the growth rate of aggregate output (Ghosh 1999).

Evidence of Asia's strong commitment to global outreach can be seen in the growth of exports as a share of GDP in the region, which increased from 21% to 33% in East Asia & Pacific and from 8% to 20% in South Asia during the post 1980s period (World Bank Indicators 2013, data cover 1980 to 2010). One important component of the expansion of export-led production within Asia has been the proliferation of export processing zones (EPZs), which were established to entice firms seeking cheap labor and low taxes to locate in the region. By 1997, Asia (outside of China) harbored 42% of the world's labor force in EPZs (Cling and Letilly 2001). Among the more successful countries to employ EPZs was Bangladesh, which focused heavily on building an export-focused garment industry that now accounts for 75% of their export earnings (World Bank 2011). Today, the proportion of exports originating from EPZs remains quite high for many Asian economies: 83% in Malaysia, 80% in both Macao SAR, China and Vietnam, 76% in Bangladesh, and 60% in the Philippines (World Bank 2011).

The growth of the export sector in Asia during the post-1980s period served as the impetus for the feminization of employment in the region. As Asian economies adopted an export-oriented strategy accompanied by industrialization, females became the backbone of factories producing goods for international consumption including factories in export processing zones and free trade zones (Moghadam 1999). According to World Bank estimates, female employees have historically comprised around 50% to 90% of the export manufacturing work force in developing countries (World Bank 2011). Specifically, within Asia, we observe improved participation of women in the adult labor force at the same time that the export sector began to take hold (Sen 1999). A striking example comes from Bangladesh which experienced an increase in women's labor force participation rate from 4.5% in 1981 to 62.6% by 1991 (International Labour Organization 2013). Recent data indicate that female employment in export processing zones remains high in many countries in the region such as Bangladesh (85%), Philippines (74%), Sri Lanka (78%) and Malaysia (54%) (World Bank 2011, 2005/06 data).

Encouraged by cultural stereotypes and traditions characterizing women as docile, easy-to-control workers who could be hired cheaply and exploited with limited repercussions, employers turned to mass numbers of female employees to fill these manufacturing industries (Gills 2002; Mukherjee 2004). Women have been typically relegated to low-skilled, labor intensive and repetitive jobs that are characteristically extensions of domestic and reproductive work (Cheng 1999). Once hired, these female employees often experience low wages, job discrimination, and even demeaning treatment from male management and sexual harassment (Gray et al. 2006; Pyle 2001). In fact, one of the attractions to hiring women for these entry level positions is that they can be easily hired because of the excess availability of unskilled female laborers and easily fired due to their lack of ability to collectively bargain, which, ultimately, provides optimum flexibility for companies but minimal job security for the female employees.

#### Service Sector Jobs

While the manufacturing sector has served as an important source of jobs for women, especially at the initial stages of industrialization, the service sector has become another growing outlet for employment for women in Asia. Regionally, women's share of employment in services has grown over the last several decades as declines in female share of agricultural employment have occurred. From 1999 to 2009, women's share of employment in services rose from 37% to 41.6% in the South-East and Pacific region, from 26.2% to 36.1% in East Asia, and from 13.9% to 15.3% in South Asia. Today, women's representation in the service sector exceeds their employment in industry across all regions of Asia. Out of the total number of women employed in the South-East and Pacific region, 41.6% work in the service sector and only 14.3% work in industry; and within South Asia, a smaller but positive gap exists between females employed in services (15.3%) compared to industry (13.5%) (International Labour Organization 2011a).

The growth in service-related jobs in various markets such as tourism, information, and finance developed as a result of firms intensifying their participation in outsourcing and the influence of the information technology industry (Moghadam 1999).

The types of jobs that women perform in this sector run the gamut of low-skilled activities such as maids or attendants (often associated with the tourism industry) to relatively more skilled work involving data entry, medical transcription or receiving calls for international call centers (Sen 1999; Mukherjee 2004). In India, educated women have seen increased opportunities for service work in the Information Technology (IT) sector such that female employees now constitute 19% of the IT labor force and 37% of the IT-enabled service jobs (Hafkin and Taggart 2001). Opportunities for highly skilled professionals in the finance, banking and computer industry have also opened up, although these opportunities are more widely available in developed Asian countries (Sen 1999). For example, Malaysian women have increasingly gained access to computer programming jobs in banking, telecommunications and insurance industries (Hafkin and Taggart 2001). The vast majority of women in South Asia, however, have not fared as well as men in this sector as a result of limited education and skill enhancement opportunities. The result is that women have tended to end up in low-skilled jobs within the service sector with limited opportunities for upward job mobility (Seguino and Grown 2006).

The growth in the service sector has also generated employment opportunities for Asian women through migrant work. Increased global integration has led to a more rapid movement of capital and labor around the world, expanding the opportunities for women to find work both domestically and internationally. Most female migrant workers in Asia come from South and Southeast Asia (namely Bangladesh, Cambodia, China, Indonesia, Myanmar, Nepal, Philippines, Sri Lanka and Vietnam) and it is estimated that in the Philippines, Indonesia and Sri Lanka (the three countries from which most female migrant workers originate) between 60-80% of all legal migrant workers are female (Ghosh 2007). In most cases, female migrant workers, who are relatively unskilled and have low levels of education, find jobs in the service sector in developed countries in areas related to the care or welfare industry (e.g., jobs as nurse technicians, nannies or domestic helpers) or the entertainment industry (which broadly includes the tourism and sex industries) (Raghuram and Kofman 2004). Often, these women arrive in their host nations without families or friends and are highly dependent on their contacts at their workplace. As Sen (1999) reports, the result is that female migrant workers are vulnerable to exploitation, physical abuse, and insecure job conditions. Furthermore, in cases where the worker illegally migrates into the nation, their vulnerability increases even further.

#### Increasing Labor Market Instabilities

While the number of job opportunities for women in the export-related manufacturing and services industries has improved because of global market integration in the Asian region, women are also developing more tenuous connections to the formal market, as observed by the number of women entering more informal labor arrangements, displacement from traditional sectors, and women's vulnerability to economic downturns.

Within the export-related manufacturing sector, researchers have observed that the feminization of labor may be coming to an end as economies advance to more sophisticated manufacturing processes (e.g., as seen in the Tiger economies) or as firms relocate to other low-waged economies to avoid rising wages for women in advancing economies (Seguino and Grown 2006). In the former case, firms are electing to shed low-skilled female workers in lieu of higher-skilled male employees. Sen (1999) adds that rising male unemployment may have also contributed to increased competition for jobs previously held by women in these manufacturing industries. Since the 1990s, female labor force participation rates have declined in many parts of Asia, particularly in the manufacturing sector (Ghosh 2007).

Ghosh (2007) provides evidence demonstrating declines in women's labor force participation in Bangladesh (65.9 to 55.9), Cambodia (82.6 to 73.5), and Thailand (73.5 to 64.2) starting from 1995 (the data cover the next three to six years after 1995); Indonesia and South Korea displayed modest declines as well. Furthermore, within export processing zones, the data reveal that newly industrialized economies such as Malaysia saw declines in the proportion of women employed in these sectors (from 75% to 54%) between 1980 and 1990 (United Nations 1999).

In addition, as markets become increasingly connected, local markets are potentially affected by the ebb and flow of global market fluctuations. Global integration penalizes sectors that are unable to adapt to modern production techniques or compete against contemporary products. In this fluctuating economic environment, women are more likely than men to be displaced in the labor market. Women, who often support themselves with traditional livelihoods, micro-enterprises, or from home production, have the greatest difficulty competing with large transnational companies because they are unable to adopt more modern approaches (Carr et al. 2000).

And, once displaced, women often lack the education and skills to compete for jobs that emerge in the modern sectors (Nicita and Zarrilli 2010). As an example, Elson (1999) describes how women weavers in the handloom industry in Indonesia and Sri Lanka lost jobs during the 1980s as the garment industry transitioned to modern textile mills to support the budding export industry.

Women's vulnerability to adjustments in global markets is further demonstrated by their high rates of displacement from jobs during economic downturns. According to Gray et al. (2006), women are the first to feel the brunt of financial turbulences. Take the case of the Asian financial crisis which led to widespread unemployment throughout Asia. Seguino and Grown (2006) report that during the Asian financial crisis women were more prone to lose their jobs than men. Such was the case for women in Indonesia and South Korea. Data on the most recent economic downturn indicate that women faced more unemployment than men in some South Asian countries because of their preponderance in the export-related industries and their work in family businesses. For example, in Thailand, women represented around 63.2% of the loss of jobs in the manufacturing sector during the fourth quarter of 2008 (Phu et al. 2010). Thus, while unemployment is a likely outcome of local Asian markets restructuring to global competition, women have seen a greater potential to face displacement from jobs.

As a result of displacement from the formal market, women often find refuge in the informal sector. In a competitive global economy where capital is highly mobile across markets, companies have the tendency to adopt cost-cutting techniques such as using flexible employment strategies and governments often relax standards on labor, the result of which is an increase in the informal or casual relationships between workers and employers (Carr et al. 2000; Mukherjee 2004). Carr et al. (2000) note that a significant proportion of economically active women in Asia work in the informal sector; this is fairly consistent with world-wide trends in developing countries which show the preponderance of economically active women working in informal markets. For example, in the Asian region, 65% of women (as a share of non-agricultural employment) are informally employed (International Labour Organization 2011b, 1994/2000 data). Among the highest proportions of informal female employment in South Asia are in Bangladesh, India and Nepal (91%, 88% and 92%, respectively) (International Labour Organization 2011b).

Typical jobs for females in the informal sector involve sub-contracted employment, casual work or self-employed trading and producing (Carr et al. 2000). While there are job opportunities for "high value-added jobs" in the growing IT-sectors (Ghosh 2007) or self-owned businesses with hired workers (Carr et al. 2000), women often do not qualify for these positions because of their lack of skills and education. All in all, positions in the informal sector place women in very insecure positions, such as receiving low and unpredictable income, or losing benefits that typically accompany formal job arrangements, such as maternity leave, safe working conditions, legal protection and health insurance.



#### 4. Women's Work and the Links to Education

The root of Asia's rapid integration into the global market and its subsequent success in industrializing its economies stems from its labor force. Today, Asian markets are experiencing new challenges as they adjust to more modern technologies, which suggests that the type of labor that Asia needs as it continues to integrate and develop into a dominant, knowledge-based economy is changing. This shift has serious implications on the human capital needs of women in Asia. Women in these economies have benefited from the global transition; however, they also continue to struggle with low wages, lack of empowerment in jobs and limited access to formal and high skilled positions, especially in areas emphasizing science and technology. The countries in this region need to harness their human capital potential if they want to take advantage of further integration into the global economy. Improving women's access to education is an important component of this latter endeavor.

Several key areas of educational development for females should be given further consideration. At the most fundamental level, developing Asian countries need to maintain their attention on improving basic human development (one key area is the education of girls) in order to maintain their ability to attract investment and compete in the global economy. Also, Asia must cultivate women's human capital to develop flexible workers who can adjust with the changing tides generated by global capitalism. Women need access to advanced technical skills in science and technology which are imperative for access to employment in the future knowledge-based economy. Finally, increasing women's access to education and subsequently their participation in formal jobs will go far in raising women's empowerment which will pay substantial dividends by improving women's engagement in the economy.

##### Basic Human Development

Much of South Asia is in need of vast improvements in their basic human development. A telling indication of the massive human development challenges facing South Asia can be found in the level of poverty in the region. The International Labor Organization (2011a) reports that 45% of South Asian workers live on less than \$1.25(US) a day and poverty rates in some countries in the South Asian region are among the highest in the world. Additionally, within Asia, vulnerable employment levels for women are quite substantial. Vulnerable employment offers a gauge of the level of insecurity faced by women, particularly during economic downturns, due to their attachments to informal employment and low income status. Women in South Asia experience among the highest levels of vulnerable employment, with the share of working women who are classified under this category at 84.5% (International Labour Organization 2011b). Even within Southeast Asia and East Asia, more than half of employed women are defined as vulnerably employed. These statistics illustrate the enormous development hurdles facing women in this region.

Primary and secondary education are principal components of basic human development. Ranis et al. (2000) argue that raising human development levels, especially through improved education and health, has the potential to advance standards of living and growth outcomes in the economy by improving the productivity of workers and by encouraging domestic and foreign investment in the economy. In particular, improving women's education carries distinctive benefits to human development through not only its effects on women's productivity but also on their children's welfare. It is for this reason that gender equity in education underscores many of the Millennium Development Goals and is considered a key objective for obtaining "sustainable global development" and "greater well-being" (World Bank 2008, pp. xviii). While the focus on poverty alleviation and reduction of inequalities in the 1990s propelled resources toward primary and secondary education, the continued shortfalls in women's achievements in basic literacy and in access to fundamental education continues to detract from economic development in the region.

Among the many recognized social benefits of educating women are the reduction in fertility and population growth, declines in infant mortality, enhanced health of children, and expansions in the education of future generations.

Overall, the children of educated women are perhaps the biggest beneficiaries of improved female education and, in particular, providing women with even basic primary education pays off enormously for their daughters. These relationships have been well documented by numerous empirical studies. For example, a multi-country study by Schultz (1993) showed that infant mortality rates in low income economies decline an average of 5% to 10% for each additional year of a mother's schooling. It is worthwhile to note that while children benefit from having an educated father as well, research shows that a mother's education plays a more decisive role in determining a child's survival and overall health, especially for female children (Dancer et al. 2008). A similar argument for encouraging maternal education can also be made in the case of improved outcomes in children's education, especially female children. A study on 68 countries by the UNESCO Institute of Statistics found that maternal education, more so than paternal education, was a leading determinant of the likelihood that a child would attend school (UNESCO 2005). Other country-specific results on Malaysia (Lillard and Willis 1994), Lao PDR (King and van de Walle 2007) and Pakistan (Lloyd, et al. 2007) echo these results, demonstrating that the more education a mother had, the more likely her children would be engaged in formal schooling.

Moreover, increasing female education produces some economy-wide benefits, such as reducing population growth and the associated dependency burdens on families. Reductions in the number of children per family raise income per capita and help to move households out of poverty. In Becker's (1991) analysis on human capital, he demonstrates how building women's human capital levels increases the opportunity cost of raising children and enhances a family's desire for higher quality children (i.e., investments in their children's education) which consequently reduces the desired family size. In addition, educated women are more likely to marry later and start their families later (Lewis and Lockheed 2008). In all, a mother's ability in basic reading and writing can go far in reducing fertility levels and further fertility reductions derive from increased proportions of women with secondary education (Subbarao and Raney 1995).

In terms of engagement in the labor market, illiteracy remains a major barrier to women's ability to access jobs in the formal sector. Even in unskilled positions in manufacturing factories, employers desire workers with basic literacy and job skills which can be attained from primary and lower secondary schooling (Ranis, et al. 2000).

Thus, one of the largest benefits of basic education for women is increased access to jobs in the formal market. Women's labor force participation rates in South Asia are among the lowest in the world, surpassing only the Middle East and North Africa, and are well below males' participation. In 2009, South Asia's female labor force participation rate was 34.9%, compared to 81.6% for males and the share of economically active females relative to males was only 40.6 per cent (International Labour Organization 2010). Psacharopoulos and Tzannatos (1989) present a summary of empirical research on individual countries showing that a positive relationship between female schooling and women's labor participation exists; they conclude that policies that encourage education for women is a sensible approach to raising women's participation in the formal job market. All in all, increasing girls' education will enable women to transition from informal work arrangements to the formal labor market and improve female productivity, wages and lifetime incomes (Lincove 2008; World Bank 2003b).

#### Flexible Workers and Technology

In addition to the benefits of education to raising human development, educating women can help Asian economies adjust to fluctuations in the global economy. Dupriez (2003) argues that the intense competition characteristic of the current economy necessitates Asian countries to develop more flexible workers.

Adding impetus to the need for continued investments in education is the rate at which technology is changing, which affects the type of skills workers need in order to effectively work with the new and constantly shifting modes of production of goods and services. As Fasih (2008) writes “[b]oth general and core competencies and skills have become increasingly valuable in labor markets that are characterized by change and in which there is a constant need to adapt to new developments in technology and working methods” (pg. 3). Workers in this environment need to continually upgrade their skills and technical abilities because skills become obsolete more rapidly with the development of new innovations. In this “knowledge-based economy,” production “relies primarily on the use of ideas rather than physical abilities and on the application of technology rather than the transformation of raw materials or the exploitation of cheap labor” (World Bank 2003b, pg. 1). As such, Tarabini (2010) maintains that the ‘knowledge worker’ will be the driving force of the new global economy and improving the educational systems in these countries is a fundamental strategy in generating the right type of future work force; this includes a strategy involving women’s education (Dupriez 2003; Tarabini 2010).

Ensuring girls’ access to high-quality primary education continues to play an important role in setting the groundwork for women to access the labor market and become workers who can adapt to changes in the demands of the work place (Tarabini 2010). Primary education, however, is not enough. The type of worker that employers are willing to invest in (i.e., a person with strong communication skills, flexible thinking, and entrepreneurial abilities) requires more advanced education. Fasih (2008) argues that primary education alone may not be offering the necessary “competitive skill sets” that the modern worker requires. The World Bank makes the case for more emphasis at the upper secondary level of education, where the returns to female education is highest and where large gender gaps still exist (World Bank 2008).

Certainly, a key requisite for transforming into a knowledge-based economy is providing appropriate human capital development through higher education (Dutta 2002) and access to continuous job training (World Bank 2003b). For example, investments in education specifically related to science or technology will go far in raising productivity in the economy and serve as an incentive to employers to make investments in further training their employees who possess the appropriate background education (Dupriez 2003). Some Asian economies have relied on the abilities of their semi-skilled labor (by investing relatively more in secondary education) to penetrate the global economy. However, Dupriez (2003) argues that without a more systematic investment in higher education, these countries run the risk of being confined to a low or semi-skilled production economy and will lose the ability to climb the global value chain.

A number of Asian economies have made headway into building technical skills by investing heavily in higher education over the past decades and now see fairly high enrollments in tertiary education (China, Philippines, Thailand, Korea, Mongolia, Japan, for example); however, tertiary enrollments remain quite low for many Asian economies, especially for women (as in the case in Bangladesh, Cambodia, Nepal, Pakistan, Vietnam). Furthermore, there are significant deficiencies in the percentage of females who enroll in science and technology fields in tertiary education in many Asian countries. For instance, only 10% of females in Cambodia, 15% in Lao PDR and 22% in Vietnam graduate from the science and technology fields (UNESCO 2010). It should be noted, however, that in some Asian countries, the proportion of women graduating in the sciences is quite high.

Women make up at least 50% of students enrolled in natural sciences in the Philippines and Singapore. And in Malaysia, at least half of the students enrolled in the information technology fields at public universities are women (Hafkin and Taggart 2001). These countries also exhibit strong outcomes for women’s participation in the skilled labor market.

### On-the-Job Training

As Asian economies have shifted to more technologically advanced production processes, women, when compared to men, have lost out on opportunities to train for emerging positions in these new areas (Mukherjee 2004). As noted earlier, women in Asia have gained access to remunerated labor with the rise of global capitalism, yet most are employed in low-skilled jobs with little opportunity for upward mobility. Women are typically concentrated in a narrow range of low-skilled occupations, work in the informal sector or migrate to find job prospects in primarily low-skilled positions; in each of these latter situations, women have little opportunity for formal training or advanced education (International Labour Organization 2011b; Ghosh 2007). Tan and Batra (1996) report that employers in large firms are less inclined to offer formal training to unskilled or a less educated workforce. Furthermore, research shows that there is a deep gender bias in offers given to workers for on-the-job training or upgrading skills. Firms are more likely to present these opportunities to males, who are not only considered the primary breadwinner in the family and therefore in greater need of these upgraded skills, but also the more stable worker because they are not tied to domestic obligations (Hafkin and Taggart 2001; World Bank 2011). Furthermore, in the case of capital intensive industrial upgrades, firms are reluctant to hire women in positions that are conventionally considered more "masculine." Finally, women are generally deemed to be a riskier investment by firms due to their inferior education relative to male workers and their lack of marketable job skills (World Bank 2011). In general, these biases perpetuate job segmentation in the labor market, making it difficult for women to move out of more traditional "feminine" vocations.

### Empowerment of Women

Lastly, it should be noted that educating women can inspire powerful changes in society and in the empowerment of women, both in the household and in the workplace.

Kabeer (2005) argues that women undergo some fundamental transformations in the way that they view, question, and respond to conditions in their lives when they receive an education. She writes that "[e]ducation appears to increase women's capacity to deal with the outside world..." (p. 17). And, as education brings about improvements in women's access to paid labor, female productivity, and opportunities for employment outside of the home, women's self-confidence and assertiveness improve which can bring about an expansion in women's bargaining power in the home (see Seguino 2002, Kabeer 2005, Richards 2007, World Bank 2011). Klasen and Lamanna's (2009) review of the literature suggests that as women's status within the family advances, this can improve the household's allocation of resources towards children, household savings, and productive investments, all of which carry efficiency and welfare benefits for the economy. And the treatment towards women improves in the household (as seen by the decline in domestic violence) (Kabeer 2005; Herz and Sperling 2004; Lewis and Lockheed 2008). These benefits offer the intrinsic advantage of enhancing the status of women in society and improving women's social capital. The World Bank (2003b) stresses the importance of social capital (or social ties) as a mechanism to improve women's social mobility, to generate a more open-minded society (especially towards gender equity) and to provide more equality in opportunities. Improvements in women's status in society imply a significant reorganization of power outside the household which should have a positive influence in reducing the abuse and exploitation of women in the workforce. All in all, investments in women's human capital can go far in raising women's social mobility, expanding economic development and improving women's engagement in the economy.

### 5. Final Considerations

For many countries in Asia, women represent a vast, underemphasized resource. Asia continues to see large gaps in women's educational outcomes and access to education in some countries, despite notable improvements and attention given to these areas over the last several decades.

Most prominently, in South Asia, women's human capital development lags behind men in fundamental areas such as basic literacy and access to primary education. There are also substantial shortfalls in women's access to higher education even in developed countries of Asia such as South Korea and Japan.

The World Bank predicts that international trade will deepen even further in the coming decades and will result in increased specialization through the expansion of production networks across firms and countries (World Bank 2007). Asia's participation and continued dominance in the future global economy rests on its ability to harness its human capital potential from both men and women. In the past, Asia's newly emerging economies benefited from the employment of cheap, low-skilled women to support the growing export-oriented manufacturing industries. While some women gained access to more highly skilled occupations, most women maintain their connection to the formal labor markets through low-skilled manufacturing jobs or through unskilled jobs in the growing service sector. Increased global competition has likewise increased the chance that women experience more unpredictable and fragile connections to these formal markets. Women have been displaced from traditional industries with the entry of foreign competition. Additionally, female employment in manufacturing export industries is now on the decline in many countries as these economies begin to transition into more sophisticated technological industries, which tend to hire more men. As a result of women's lack of access to formal employment in their local markets, many women have resorted to migrant work or employment in informal sectors, which limits their potential for human capital development.

Nicita and Zarrilli (2010) note that women are disadvantaged in education, training, social networks and access to credit, which reduces women's access to modern, skill-intensive jobs, and this prevents economies from reaping the full benefit of trade integration. Such is the case in India, for example, which has experienced significant industrialization and economic expansion recently; yet, the majority of women lack even basic literacy and skills to participate as fully as men in the knowledge-based economy (Dutta 2002; Mukherjee 2004). What is becoming more apparent with these global challenges in Asia is the potential loss of opportunities in global commerce and human development that arises from the educational backwardness of Asia.

Suffice to say, there are several important considerations that need to be addressed in order for policymakers to make headway in labor market reforms for women. First and foremost, gender biases remain strong in Asia and will continue to play a large role in the success of women's educational and employment access.

UNICEF (2005) describes South Asia as the "most gender-unequal and insensitive region in the world" (p. 25), which has contributed to low educational outcomes for girls in many countries in this region. Education about gender equity for both girls and boys, addressing such issues as cultural and social constraints on women, needs to be incorporated in the reform process to make progress in changing social norms (World Bank 2008). Social attitudes also influence the educational paths that girls pursue. For example, beyond the primary level of education, girls become less interested in pursuing mathematics, science and technology courses, which accounts, in part, for their subsequent low participation in science and mathematics related jobs (Hafkin and Taggart 2001; UNESCO 2007). Introducing science and technology earlier into the curriculum, creating gender-sensitive curricula that demonstrate girls' involvement in these fields, or showing the applicability of science and technology to social or work environments could help to alter girls' and society's attitudes about these fields (UNESCO 2007).

In a related issue, women's ability to access jobs and education is closely linked to their culturally assigned role in reproductive work, especially related to childcare. In most cases, women's increased participation in the labor market has not been associated with an adjustment in domestic and childcare responsibilities (Moghadam 1999).

Raghuram and Kofman (2004) caution that policy makers must acknowledge the competing demands for women's time in both the household and workplace in order to prevent skilled women from withdrawing from the labor market because no alternative public arrangement for household work and child care is available.

Finally, Asian countries will need to carefully consider the quantity and quality of jobs available to women. Increasing the stock of educated females will not go far in changing women's engagement in the economy if more and better jobs are not available to them. Thus, policymakers should assess whether there is an appropriate match between the labor market needs in the economy and the skills of their graduates. Mismatches in these needs can slow economic development and discourage educated workers who may seek employment opportunities in other countries due to the lack of appropriate jobs in their home country. The World Bank (2007) predicts that migration levels from developing to developed countries as a result of the job-skill matching process will rise in the future despite the probable improvements in living standards in developing countries.

Many issues are at stake here. As the skill and technology gap widens globally, the gap within both industrial and poor countries is also expected to grow (World Bank 2007), and so too will the gender divide in terms of access to jobs. Reducing women's opportunities to become engaged in formal wage employment and develop competitive skills for the future global economy means that women will only fall further behind, putting themselves and their daughters at risk. At this critical point, Asian countries have the potential to improve their competitiveness in the global economy by addressing the educational gaps of women. Countries that ignore these needs run the risk of potential marginalization in the global market. The long-run productivity and future economic growth of Asia rests on their ability to build a labor force that is skilled, competent, adaptive and highly productive. The World Bank (2003a) estimates that "[i]f the countries of South Asia, Sub-Saharan Africa and the Middle East and North Africa had closed the gender gap in schooling between 1960 and 1992 as quickly as East Asia did, their income per capita could have grown by an additional 0.5-0.9 percentage point per year" (p. 12). In short, substantial gains can be made from the investment in women's education.

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