1. Introduction

As women’s labor force participation has risen around the globe in the past few decades, scholarly and policy discourse on the impacts of this employment growth has intensified. Not only have more women become engaged in market work, but the nature of employment has also evolved as women have shifted from agriculture into manufacturing and services. In addition, women have entered into non-traditional occupations that were formerly open only to men. Moreover, the growing informalization of work arrangements combined with shifting family structures have led to ongoing changes in the relationship between women’s market work and child well-being. Alongside these dynamic effects in labor market and household structures, the availability of high quality childcare options has remained a priority for working families around the globe.

This book explores the links between maternal employment and the nutritional status of young children using an international perspective that is grounded in economic theory and rigorous empirical methods. Maternal employment can affect children’s well-being through multiple channels, including income effects, decisions about health inputs, and time spent with children. Overall, women’s employment affects child health largely because their paid work raises household income, which in turn strengthens families’ abilities to finance health care needs and afford more nutritious food. More specifically, greater household income affects child health and nutritional status through a set of intermediary mechanisms that encompass household composition, dietary intake, medical treatment, and environmental factors. The time that mothers spend with children also affects these mediating factors, particularly during children’s early years when they are more dependent on their mothers. Therefore, time away from the home could potentially counteract some of the benefits of greater household income and higher socio-economic status that accrue from maternal employment.

The primary contribution of this book is to provide new empirical evidence on the potentially competing effects of maternal employment on children’s health using data from a group of Asian countries. While previous studies have examined a range of different indicators of children’s health and development, this book focuses primarily on measures of children’s short-term and longer-term nutritional status. To identify mechanisms for the association between children’s nutritional status and maternal employment, the study analyses birth size, which depends on factors during gestation, and low height-for-age
(stunting) and low weight-for-height (wasting), which are affected by factors that operate after birth.

Although the book’s conceptual framework and empirical work include parental inputs from fathers, the model and associated discussion focus mostly on maternal employment and the resources that mothers need to provide care for their children. Men’s educational attainment and occupational status have a strong impact on child health, mostly through the channel of household income and socio-economic status. However, in countries around the world, men on average spend less time caring for children. This feature of men’s versus women’s time devoted to childcare is particularly salient in developing countries. Men’s labor force participation is greater than that of women in most countries, which is correlated with men having less time for childcare. In addition, cultural attitudes and social traditions play an important causal role in the intra-household allocation of caring labor. These norms and traditions, on average, leave mothers with longer hours of childcare compared to fathers. Moreover, nurturing newborns and infants is especially time-intensive for mothers, especially when they are breastfeeding. Of course fathers around the globe invest substantial time and effort into the care of their children, and this book’s focus on maternal employment is not intended in any way to devalue the importance of fathers’ devotion to their children. Instead, the book’s focus on mothers’ employment and access to resources stems from the need to better understand the nuanced relationship between women’s labor market participation and time for childcare.

OVERVIEW OF ASIAN COUNTRY SAMPLE

Central to the book’s contribution is the original analysis of Demographic and Health Survey (DHS) data for a sample of nine Asian countries: Bangladesh, India, Maldives, Nepal, and Pakistan in South Asia; and Cambodia, Indonesia, the Philippines, and Timor-Leste in Southeast Asia. The focus on a single region makes the execution of the empirical analysis more manageable. It also helps to ensure that the sample encompasses countries with broadly comparable geographical, historical, and cultural contexts, as opposed to utilizing data that cover countries from different developing regions around the world. For each of the nine South and Southeast Asian countries, the analysis uses the most recently available wave of the DHS database, with the entire sample spanning the 2005–09 period.

Although comprehensive descriptions of each country’s main historical events and defining characteristics go well beyond the scope of this introductory chapter, a few summary remarks and a brief comparison of development indicators can prove helpful in establishing an overall context. The summary
Introduction

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Remarks are drawn mainly from the DHS final reports that accompany each DHS dataset, with supplementary sources as noted. The development indicators follow after the summary remarks and are based primarily on descriptive statistics published by the World Bank.

South Asia

As shown in the map of South Asia in Figure 1.1, Bangladesh is bordered mostly by India—with a small border shared with Myanmar—and the southern coast lies on the Bay of Bengal. For hundreds of years Bangladesh was part of India under British rule. In 1947, the territory with today’s Bangladeshi borders became East Pakistan (part of the new state of Pakistan). However, after more than two decades of political isolation and economic stagnation, Bengali residents declared war against West Pakistan in 1971 and subsequently gained independence. At the present time, agriculture still comprises the largest single economic sector, contributing to about one fifth of GDP and employing close to half of the country’s labor force. Led by ready-made garments, the manufacturing sector has grown rapidly in recent decades. Bangladesh’s garment industry took off in the early 1980s after a major structural adjustment program emphasized greater export orientation. Garment manufacturers in Bangladesh have relied on a large supply of low-wage female labor, an important input into production for this high-volume, low-margin segment of the world market. In addition, weak enforcement of labor laws and poor adherence to international labor conventions have provided the basis for competitive labor costs. More generally, Bangladesh still has deep pockets of poverty and ranks close to the bottom of the United Nation’s Human Poverty Index. An extremely high population density (the highest in the world excluding Singapore and Hong Kong) has added to the strain on national funding for poverty reduction.

Not only is India the second-most populous country in the world, it also has one of the fastest growing economies. In recent years most of this growth has been driven by the manufacturing and service sectors, while agricultural growth has slowed to the point that the contribution of agriculture to GDP dropped from 25 percent in 2000–01 to 19 percent just six years later. Many attribute the growth in manufacturing and services to a comprehensive set of trade and industrial policy reforms beginning in the early 1990s. Like most developing countries in the post-WWII era, India had based its economic development and trade policies on an import substitution strategy. In 1990 and early 1991, a series of external, political, and macroeconomic shocks precipitated a financial crisis. The Indian government requested standby assistance from the International Monetary Fund, and in return, agreed to what has become a fairly standard policy prescription of stabilization and structural adjustment policies. Manufacturing industries across the board experienced some degree
Maternal employment and child health

SOUTH ASIA

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Source: United Nations, South Asia, Map No. 4140 Rev. 3 (January 2004)

Figure 1.1 Map of South Asia
of tariff reductions during and after the initial reform package. India’s imports and exports grew dramatically as a result, together with the creation of new employment opportunities in the face of strong downward pressure on labor costs. Another notable policy reform was India’s rural social banking program, which the government initiated following the nationalization of banks in 1969. This state-led expansion of the banking sector focused primarily on opening new bank branches in previously unbanked rural locations, and it contributed to self-employment growth as well as reduced poverty in rural India. As noted in IIPS and Macro International (2007), while these policy reforms removed some of the constraints on India’s economic growth, India has demonstrated less progress in promoting literacy, improving health indicators, and providing greater access to piped water and sewage.

Maldives is a small archipelago in the Indian Ocean, south west of both India and Sri Lanka. Although the country is geographically small and ranks among the world’s least populous countries, it has done well overall in the past two decades in terms of attaining high GDP growth and improving measures of social well-being. Because the economy is so small and relies predominantly on two industries—tourism and fishing—it is vulnerable to external shocks and also highly dependent on imports. The tsunami in December 2004 caused a severe economic recession due to physical damage from flooding as well as declines in revenues from tourism. According to MOHF and ICF Macro (2010), the tsunami set economic development back by about 20 years. Another challenge is the spread of Maldives’ 1200 islands over an extremely large geographical area, making it one of the most dispersed nations in the world. This relative isolation of numerous island communities increases the difficulty of delivering quality health care services to all residents. Despite this obstacle, public and private sector health care services have expanded quickly to achieve doctor-to-population and nurse-to-population ratios that come close to internationally recommended targets.

Nepal is a landlocked South Asian country known for its rugged terrain (it is located in the Himalayas) and its agrarian-based economy. Given the country’s mountainous terrain, about half the population lives in less than a quarter of the land area, a fertile part of the country referred to as the terai zone. Nepal remains one of the world’s poorest countries and has lagged behind its regional neighbors, in large part due to a civil war that not only took a toll on human lives, but also destroyed infrastructure and delayed investments in new projects. The conflict, which started in 1996, resulted from a movement by Maoist insurgents to take advantage of the growing dissatisfaction among the people, especially those living in rural areas, with the lack of economic reforms they had expected from a new democratically-elected government. The conflict ended in 2006 when, following a prolonged state of emergency, the Maoist party succeeded in brokering a peace agreement that led to the
Maternal employment and child health

establishment of a people’s republic. During this ten-year period, the conflict led to thousands of deaths and injuries, and it caused major economic disruptions. In an attempt to turn the economy around, the government has attempted to attract more foreign direct investment in the country’s hydropower and tourism industries. It has also turned greater attention to achieving family planning goals, improving school enrollment rates, and discouraging the out-migration of skilled labor.

The final South Asian country in this book’s sample, Pakistan, also exhibits some of the characteristics exhibited among its neighbors: it ranks among the world’s most populous countries, it has extraordinary diversity in terms of geographical terrain (ranging from mountainous to desert landscape), and it has a history of cross-border conflict with India. Pakistan is known as the crossroads of Asia, connecting South Asia with Central Asia and the Middle East, and it contains major trade routes to China and India. Just as Pakistan’s geographical location has contributed to an ethnically diverse population, its mixed geographical terrain has also led to considerable variation in weather patterns and agricultural production. The macroeconomy has exhibited strong growth in the past decade, driven by strong performances across the agricultural, manufacturing, and service sectors. Within manufacturing, Pakistan has established itself among the leading exporters of ready-made garments, an industry that has thrived due to low-wage female labor. Remaining challenges include high rates of poverty, illiteracy, and fertility, as well as inadequate health care services in rural areas.

Southeast Asia

As shown in the map of Southeast Asia (Figure 1.2), Cambodia shares its borders with Thailand, Lao PDR, and Vietnam, and its southwestern coast lies on the Gulf of Thailand. The shared border with Vietnam accounts for a portion of Cambodia’s history of conflict and disruptions to social and economic prosperity. Following independence from France in 1953, years of internal disputes and challenges from leftist opposition groups ultimately led to a military coup in 1970. However, civil war and US bombing raids in Cambodia weakened the military’s control during the Vietnam War. A revolutionary group, the Khmer Rouge, overturned the regime in April 1975. Led by Pol Pot, the Khmer Rouge envisioned an ideal agrarian state under communist principles, and it forced people from urban areas into labor camps, eradicated private property, restricted freedom of movement, executed perceived enemies, and destroyed most of the country’s health and educational infrastructure. Almost four years later, Vietnamese forces attacked and defeated the Khmer Rouge. The genocidal Khmer Rouge regime caused the deaths of approximately 1.5 to 2 million people due to political violence, starvation, exhaustion, and disease.
The Khmer Rouge violence had long-term repercussions for today’s population, not only in terms of high overall poverty and inadequate health and social services, but also in terms of family structures. Cambodia’s economy remains highly dependent on agriculture, although manufacturing has grown rapidly since the mid 1990s, led by ready-made garments. Access to a large workforce consisting of low-wage female labor has also proved instrumental in Cambodia’s export performance. About 90 percent of Cambodia’s garment sector workers are women, a percentage that is even higher than the average of 75 percent across Asian garment exporters.5

Indonesia, like India, also embarked on an extensive set of trade, industrial, and financial policy reforms that contributed to growth of exports and per capita GDP. Indonesia started these reforms even earlier than India when a sharp drop in the price of crude oil and natural gas in the mid-1980s forced the government to restructure the economy away from its dependence on oil (Indonesia was a member of OPEC from 1962 until 2008). Although these extensive market-oriented reforms achieved their macroeconomic targets and helped Indonesia to strengthen its non-oil export sector, the economy suffered another major setback with the onset of the 1997–98 Asian financial crisis, which hit Indonesia particularly hard. Not only did the economy reduce by 13 percent, but Indonesian politics also became more volatile—including the removal of long-term President Suharto—and the financial crisis caused substantial hardship at the household level. Unemployment and poverty rates both increased in the face of declining real wages and household consumption. In an attempt to prevent even sharper drops in consumption, women increased their labor force participation and average working hours during the crisis.6

The macroeconomy recovered by the year 2000, with robust GDP growth rates and the resumption of government efforts to raise educational attainment, reduce poverty, improve health services, and increase household access to safe water and sanitation. Remaining challenges include reducing the disparity in per capita income and well-being between the island of Java (home to 60 percent of Indonesia’s population as well as the capital city) and the outer islands.

As the other large archipelago in Southeast Asia, the Philippines is also home to people of diverse ethnic and cultural backgrounds. And like Indonesia, the Philippines has a tumultuous history of political and economic crises, including civil unrest and martial law during the 20-year rule of President Ferdinand Marcos, which ended with the bloodless People Power Revolution in 1986. Robust macroeconomic growth during the 1990s ended abruptly with the 1997–98 Asian financial crisis. Although the Philippine economy did not contract as much as that of Indonesia, the financial crisis still hit hard: GDP growth dipped to minus 3 percent in 1998, and the unemployment rate jumped to 10 percent and remained stubbornly high well into the 2000s.7 In fact, the
Introduction

Macroeconomic recovery of the early 2000s is known as the time of “jobless growth” in the Philippines’ industrial sector and is attributed mainly to inefficient regulations and capital-intensive production techniques. The Philippines faced another set of crises in 2008 and 2009 with a major spike in international food and fuel prices that partially overlapped with the global financial crisis. The impacts on GDP growth and the labor market were not as severe as the earlier financial crisis, largely due to the government’s proactive response, a vibrant service sector, and continued high remittances from overseas workers. Looking to the future, remaining challenges include reducing disparities between the main islands and the smaller islands, with crucial areas centering on health and education services, worker retraining, and the provision of investment incentives.

The final country, Timor-Leste, is also the newest nation in the sample, having gained international recognition as an independent country in 2002. Timor-Leste is comprised of the eastern side of the island of Timor (with West Timor belonging to Indonesia), along with two nearby islands and the district of Oecussi, an exclave in West Timor. Although Timor-Leste gained independence from Portugal in November 1975, the Indonesian army invaded days later and incorporated Timor-Leste as another province of Indonesia. Indonesian occupation lasted until 1999 and resulted in more than 100,000 conflict-related deaths of Timorese residents, predominantly due to starvation and disease. After residents voted for independence from Indonesia in a 1999 UN-sponsored referendum, Timorese militias who opposed independence joined Indonesian military forces in a “scorched earth” campaign that resulted in more deaths, along with the destruction of most of Timor-Leste’s infrastructure and residential buildings. Although this violent campaign was brought to an end by a multinational peacekeeping force within months and Timor-Leste gained independence, the country has continued to face political instability and long-term repercussions from the violence. Poverty reduction remains one of the government’s top priorities, along with rebuilding schools, health facilities, and utilities. International aid and revenues from substantial oil and natural gas reserves have helped to finance these efforts.

Cross-country Comparisons

As shown in Table 1.1, these nine countries exhibit quite some variation in terms of economic development and social well-being. The poorest country in the sample, Nepal, has a per capita Gross National Income (GNI) of just $1180, which amounts to less than one fourth of the per capita GNI of the country at the other end of the distribution, Maldives. Bangladesh and Cambodia also rank among the poorest Asian economies and have per capita GNI levels that fall below $2000 per year. As a point of comparison, the United States has a
Table 1.1  Selected Development Indicators for South and Southeast Asian Countries in Sample (2009)

<table>
<thead>
<tr>
<th>Country</th>
<th>GNI per capita PPP$</th>
<th>Population Total</th>
<th>Poverty Rate (%)</th>
<th>Adult Literacy Rate: (%)</th>
<th>Life Expectancy at Birth: (yrs)</th>
<th>Mortality Rate: (per 1000)</th>
<th>Births Attended (%)</th>
<th>Maternal Mortality (per 100 000)</th>
<th>Immunization DPT (%)</th>
<th>Improved Water Source (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Asia</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Bangladesh</td>
<td>1550</td>
<td>162 220 762</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>67</td>
<td>65</td>
<td>41</td>
<td>52</td>
<td>24</td>
</tr>
<tr>
<td>India</td>
<td>3250</td>
<td>1 155 347 678</td>
<td>42</td>
<td>51</td>
<td>75</td>
<td>65</td>
<td>62</td>
<td>50</td>
<td>66</td>
<td>53</td>
</tr>
<tr>
<td>Maldives</td>
<td>5250</td>
<td>309 430</td>
<td>16</td>
<td>98</td>
<td>98</td>
<td>73</td>
<td>70</td>
<td>11</td>
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<td>84</td>
</tr>
<tr>
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<td>29 330 505</td>
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<td>45</td>
<td>71</td>
<td>67</td>
<td>66</td>
<td>39</td>
<td>48</td>
<td>19</td>
</tr>
<tr>
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<td>169 708 303</td>
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<td>40</td>
<td>67</td>
<td>67</td>
<td>66</td>
<td>71</td>
<td>87</td>
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<tr>
<td>Southeast Asia</td>
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<tr>
<td>Cambodia</td>
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<td>14 805 358</td>
<td>26</td>
<td>71</td>
<td>85</td>
<td>63</td>
<td>59</td>
<td>68</td>
<td>88</td>
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<tr>
<td>Indonesia</td>
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<td>229 964 723</td>
<td>29</td>
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<td>95</td>
<td>73</td>
<td>69</td>
<td>30</td>
<td>39</td>
<td>75</td>
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<tr>
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<td>4060</td>
<td>91 983 102</td>
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<td>93</td>
<td>74</td>
<td>70</td>
<td>26</td>
<td>33</td>
<td>62</td>
</tr>
<tr>
<td>Timor-Leste</td>
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<td>1 133 594</td>
<td>37</td>
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<td>60</td>
<td>48</td>
<td>56</td>
<td>370</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Data are for 2009 or the most recent year available since 2004, and ‘..’ indicates data not available. GNI per capita is Gross National Income per capita in current purchasing-power-parity adjusted $; poverty rate is the poverty headcount ratio at $1.25 a day (PPP, percent of population); literacy rates are for ages 15 and above; infant mortality rate is per 1000 live births; under-5 mortality rate is per 1000 children in that age group; births attended refers to percent of births attended by skilled health staff; maternal mortality is per 100 000 live births; immunization rate is for children ages 12–23 months; and improved water source is the percent of total population with access.

**Source:** All indicators are from World Bank (2010), except for the poverty rate for Maldives, which is from ADB (2007).
per capita GNI of $45,640 in the same year, and Norway, one of the richest countries in the world, ranks even higher at $54,880.

Countries in the Asian sample have an enormous range in terms of population size. At one end of the spectrum, Maldives constitutes one of the world’s smallest countries with about 310,000 people. Also extremely small in terms of population size is Timor-Leste, with just over one million people. At the other end of the spectrum, India has a population of about 1.16 billion people, second in the world only to China. Pakistan and Bangladesh also rank among the world’s ten most populated countries, with populations approaching 170 million people each. Also shown in Table 1.1, poverty rates are fairly high, especially in the South Asian economies. At the top of the range, 55 percent of people in Nepal and 50 percent of people in Bangladesh live on less than $1.25 a day, at 2005 international price levels. India also has an extremely high poverty rate. Despite its geographical proximity to countries with high rates of poverty, Maldives falls more on the other end of the spectrum with extremely low poverty. The Southeast Asian economies have poverty rates in between these two extremes, with the Philippines having a relatively lower rate (23 percent) and Timor-Leste a relatively higher rate (37 percent).

The remainder of the development indicators shown in Table 1.1 correlate fairly closely with income per capita, so that the countries with the lowest per capita incomes—Nepal, Bangladesh, and Cambodia—often have poorer measures of social development. At the extremes, Nepal has the lowest percentage of births attended by a skilled health professional (19 percent of all births) and the highest maternal mortality rate (380 per 100,000 live births); Bangladesh has the lowest adult literacy rate for men (60 percent); and Cambodia has the lowest life expectancy for men (59 years), highest under-5 mortality rate (88 per 1000 children under age 5), and the lowest percentage of the total population with access to an improved water source (61 percent). In contrast, countries with high per capita incomes (Maldives and the Philippines) often have the strongest indicators of social development.

The main exception to this general conclusion is Timor-Leste. Within the sample, Timor-Leste’s per capita income ranks second only to Maldives, but this nation’s development indicators resemble more closely those of the lowest-income economies. This discrepancy reflects the positive effects of oil revenues and international aid on national income, in the face of lingering negative effects of the long-term violence on most aspects of social development and well-being. Another exception to the conclusion about the correlation between per capita income and social development is the indicator for the percent of children ages 12 to 23 months who are immunized for diphtheria, pertussis (whooping cough), and tetanus. DPT immunization rates are very high for Bangladesh and Cambodia, two of the poorest countries in the sample. These high rates reflect the results of large-scale immunization campaigns.
undertaken by the respective national governments with the technical and financial assistance of international agencies.

The selected indicators of Table 1.1 also show greater gender inequality in the South Asian economies compared to the Southeast Asian economies. With the exception of Maldives, women’s literacy rates in the South Asian countries range between 40 and 51 percent and are at least ten percentage points lower than those of men. The lowest literacy rate for women and the largest gender gap both occur in Pakistan, where only 40 percent of adult women are literate compared to 67 percent of men. Nepal’s gender gap in literacy is also substantial. In terms of gender differences in life expectancy at birth, international patterns indicate that women normally have higher life expectancies at birth due to a combination of biomedical, behavioral, and hormonal differences between men and women. While this advantage holds for women in all the sample countries, it is smaller in South Asia, especially in Nepal and Pakistan. These patterns highlighted for gender inequality in South Asia are consistent with outside evidence of strong degrees of son preference as well as entrenched social norms that have favored men over women in educational attainment and labor market attachment.8

INTRODUCTION TO ANALYSIS

The book utilizes a conceptual model, a detailed literature review, descriptive statistics, and a series of multivariate regressions to study the different channels through which women’s employment affects child health. To begin the analysis, the next chapter discusses patterns related to different aspects of women’s employment and pay around the world. In particular, it explores differences between men and women in labor force participation; the prevalence of occupational and industrial segregation; explanations for the gender wage gap; the generation of productive self-employment opportunities for women; and women’s relatively larger unpaid work burdens. The chapter also explores how forces associated with globalization and with different types of economic and political crises have affected employment patterns and the conditions under which women work. One of the main points arising from the descriptive statistics and associated discussion is that women’s relatively greater unpaid work responsibilities impede the attainment of gender equality in employment, occupational attainment, and pay.

Chapter 3 sets the stage for the remaining empirical analysis by presenting a conceptual framework that captures the trade-off between income and time that is associated with maternal employment. In this framework, the income that mothers earn contributes to the household’s ability to purchase goods and services that improve children’s health and nutritional status. Hence the
effects of maternal employment on children’s nutritional status accrue through the household’s socio-economic status, which in turn operates through a set of “proximate determinants” of child health. In this proximate determinants framework, household income and socio-economic status affect children’s nutritional status through a series of intermediary mechanisms that include fertility factors, environmental hazards, feeding practices, and medical treatment. However, mothers’ labor market participation could reduce the quantity or quality of time spent caring for children, with potentially negative effects on children’s health. As with income earned in the labor market, the time that mothers have at home also influences their ability to participate in care behaviors that affect child development and health. Time away from children while working in the labor market could reduce the ability of mothers to engage in such activities as breastfeeding, preparing nutritious foods, seeking health care, and taking children to enhanced services. The chapter presents this trade-off in a theoretical framework and examines the causal role of different types of care resources in influencing child health.

Having set the stage with a formal model, the next chapter discusses some of the main themes and common findings across previous studies on the impact of maternal employment on children’s cognitive development, behavioral outcomes, and health status. In examining this sizeable body of research, the review focuses on how well previous studies support the model’s hypothesized link between various care resources and child health. Because industrialized country and developing country studies tend to focus on different measures of child well-being, this chapter examines industrialized and developing country patterns separately. Among the main conclusions for industrialized countries, previous studies have tended to find that maternal employment during children’s first year of life has deleterious effects on their cognitive and social development, while there are fewer consistent effects and even gains from maternal employment thereafter. Similarly, developing country studies have found positive, negative, and no substantial impacts of maternal employment on children’s nutritional status. However, there is some consensus that children of employed mothers are at greater risk of nutritional deprivation if the children live in poverty, are very young, are left with childcare providers of inferior quality, or live in households in which the mother has little autonomy.

The fifth chapter provides an in-depth discussion of the data and methodology used to generate this study’s original results on maternal employment and children’s nutritional status. Data construction for each country started with the Children’s Recode of the Demographic and Health Survey. This recode contains observations for matched mother-child pairs in which mothers are 15 to 49 years old and children are 0 to 59 months old. The sample construction process involved selecting mother-child pairs with observed values for child birth size and/or child height and weight at the time of the survey. This process
Maternal employment and child health

resulted in sample sizes ranging from 2347 observations in Maldives to 40,676 observations in India, with the remaining countries falling in between.

To better understand the mediating factors through which maternal employment affects children’s nutritional status, the methodology utilizes a bivariate and a multivariate approach in which children’s nutritional status is measured by three indicators: small birth size, stunting (low height-for-age), and wasting (low weight-for-height). Each of these indicators represents a different dimension of child health and development. While birth size is influenced by factors that operate during the mother’s pregnancy—including genetics and the mother’s prenatal nutrition and health—stunting and wasting are influenced by factors that operate after a child is born—including the child’s dietary intake, environmental toxins, illnesses, and other determinants linked to the household’s socio-economic status and household composition. Stunting is an indicator of long-term nutritional and health history that captures chronic deprivation such as that experienced by people in low socio-economic households. In contrast, wasting is an indicator of short-term nutrition and health, and tends to reflect recent illness or nutritional deprivation. The multivariate analysis focuses on a series of probit estimations of the effects of maternal employment, socio-economic status, household composition, and environmental toxins on the likelihood of a child being small at birth, stunted, or wasted.

The estimation results, which are presented in Chapter 6, are consistent with the underlying conceptual framework and show strong support for the argument that household socio-economic status serves as a mediating factor through which maternal employment affects children’s nutritional status. Among the results for small birth size, maternal employment in India is associated with up to a 4 percent reduction in the likelihood of small birth size. This result implies that mothers’ employment during pregnancy has beneficial effects beyond socio-economic status and contributes to improved prenatal health and healthy birth outcomes. In contrast, maternal employment is associated with a large increase in the likelihood of small birth size in Nepal, even after controlling for the full set of household characteristics. The most plausible explanation for this heightened risk of poor prenatal health and negative birth outcomes is the extremely high proportion of women in Nepal who perform physically arduous work in agricultural jobs.

The results for stunting indicate that virtually all of the impact that maternal employment has had on stunting is mediated through socio-economic status. Once these variables are included in the equation, maternal employment no longer has a statistically significant impact on the risk of childhood stunting. Finally, maternal employment leads to a roughly 3 percent increase in the probability of child wasting in Bangladesh, Maldives, and Timor-Leste, even after including the full set of household characteristics in the equation. A likely reason is that wasting reflects nutritional deprivation that is often caused
Introduction

by recent illness or some sort of trauma or catastrophic event. This type of deprivation is more likely to cut across households of different socio-economic status. Hence the adverse effect of women’s employment in these three countries may be capturing the opportunity cost of women’s time away from children during times of heightened need.

The concluding chapter focuses on public policies and employer arrangements that address women’s caring responsibilities in order that women may compete on a more level playing field in the labor market while safeguarding the well-being of their children. Results from the empirical analysis support the implementation and enforcement of a number of interventions in the labor market and innovations in the social security net. These policy recommendations include public funding for maternity and parental leave benefits; enforcement of labor standards that improve women’s wages and working conditions; incentives and training to support women in productive, remunerative self-employment; increased public support for childcare services; greater emphasis of public sector investments in infrastructure and health; and continued innovations in conditional cash and in-kind transfer programs. One lesson that arises several times is that measures to back-mandated paid benefits with public funds, ideally through a system of national insurance, will promote greater compliance among firms and will limit the extent to which the costs are passed on to women through lower wages. Another lesson from this discussion is that transfer programs only work as well as the quality of the service providers, thus reiterating the importance of public investments in infrastructure and service provision so that the supply of social services can meet expansions in demand arising from program reforms. The bottom line of most of these reforms and programs is that effective targeting can help tight budgets go a long way in improving societal well-being.

NOTES

1. Other countries in South and Southeast Asia are excluded from the sample due to the lack of recent DHS surveys with the required information.
3. The points about Bangladesh’s ready-made garment sector draw from Berik and Rodgers (2010).
4. The discussion of India’s trade policy reforms draws from Menon and Rodgers (2009), and the discussion of the rural banking reforms draws from Menon and Rodgers (2011a).
5. The points about Cambodia’s genocide draw from Rodgers (2009), and the points about Cambodia’s ready-made garment sector draw from Berik and Rodgers (2010).
7. The discussion of how the two financial crises affected the Philippine economy draws from Rodgers and Menon (2010b).
8. Subsequent chapters in this book take a closer look at existing studies on gender inequality and son preference in South Asia.