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Population and Globalization

Preface

ABE Shigeyuki*, Sumner J. LA CROIX** and Andrew MASON***

The connections between population and globalization are pervasive and important. International labor migration provides a paradigmatic example of such connections, but the links between demography and globalization are broader and deeper than this example might suggest. The major components of demographic change—fertility, mortality, and migration—have been greatly influenced by global forces throughout history. In some instances, such as with the spread of the HIV/AIDS epidemic, globalization has abetted tragedy. In other instances, such as with the improvements of reproductive health services, immunization programs, and many other public health measures, globalization has facilitated rapid improvements in the human condition in both rich and poor countries.

Conversely, the pace and nature of globalization have also been influenced by demographic change. Demographic divergence between the developing and the developed worlds has provided an important incentive for trade, foreign investment, and international capital flows. As populations age during the coming decades and as the demographic center of gravity shifts increasingly toward Asia and the developing world, these changes will continue to influence globalization.

This special volume of *Southeast Asian Studies* addresses these and other issues. Most of the articles are drawn from the 2002 IUSSP Regional Population Conference, Southeast Asia's Population in a Changing Asian Context, held in Bangkok, Thailand, June 10–13, 2002. The conference was a collaborative effort of the International Union for the Scientific Study of Population and the College of Population Studies, Chulalongkorn University.

The first article, "Population and Globalization," by Sumner J. La Croix, Andrew

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Mason, and Abe Shigeyuki, can be regarded as a position paper for this special issue. It discusses how globalization has affected demographic trends on the one hand and how demographic trends have affected globalization on the other. The authors focus on developments over the past 200 years and emphasize "economic globalization" — the integration of product, capital, and labor markets and the rapid diffusion of technology and information across borders. On the basis of their review of demographic trends over that extended period of time, they conclude that the global demographic transition is still incomplete. Continuation of the mortality revolution in the developing world will likely depend to a considerable extent on the ability of developing countries to put institutions in place that facilitate the transmission and acceptance of public health knowledge and new medical practices. The adoption of social institutions that facilitate information transmission and allow adaptation to changing circumstances is the critical element. The vital task for any society is to get the institutions living in poverty.

Matthew Higgins and Jeffrey G. Williamson contributed the second article, "Explaining Inequality the World Round: Cohort Size, Kuznets Curves, and Openness." It is an empirical analysis of relationships between inequality, development, and demography. The authors explore three hypotheses regarding sources of inequality: (1) the effect of demographic conditions (cohort size), (2) the effect of development (Kuznets Curve), and (3) the effect of globalization (degree of openness in trade and migration). Using Deininger and Squire's inequality database, they have tested these hypotheses while allowing for the effects of other variables suggested by the literature.

The empirical results provide strong support for demographic effects on inequality the world round: large mature working-age cohorts are associated with lower aggregate inequality, and large young-adult cohorts are associated with higher aggregate inequality. In addition, the analysis reports strong evidence that inequality follows the Kuznets' inverted-U pattern, tending to rise as low-income countries grow, and tending to fall as medium-income countries grow. It should be stressed that this work differs from most previous studies of the Kuznets hypothesis, as it examines the inequality-development relationship conditional on other variables. Finally, the authors extend their analysis to clarify its implications for the recent debate about rising wage inequality in the United States and other OECD economies in the 1980s. They find little support for the hypothesis that a policy commitment to globalization has an impact on inequality.

Thus the first two articles discuss general issues. The following four articles deal with more country- or region-specific and issue-oriented analyses, or case studies. The first of these is "Employment Transitions in an Era of Change in Thailand," by Soumya Alva and Barbara Entwisle. This article considers the implications of globalization in Thailand from a rural perspective by examining both the direct impact on employment of rural residents who migrate to urban areas and the indirect impact on rural residents through the experiences of urban migrants. Within this framework, they consider

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whether men and women have similar migration and associated employment outcomes, and whether those outcomes vary by changes in the individual's stage in the life course. They discuss the factors influencing some individuals to remain employed in Nang Rong, while others migrate, either permanently or temporarily, to urban areas. They compare categories based on sector of employment, including individuals not employed, to examine these questions. Their research reveals some interesting patterns, such as the growing trend of nonagricultural employment in both urban and rural areas, which validates their hypothesis that recent macroeconomic changes in Thailand have penetrated rural areas as well as urban ones. They provide further confirmation for the trends revealed by the cohort analysis mentioned above.

Tsuya Noriko O. and Napaporn Chayovan's article, "The Economic Crisis and Desires for Children and Marriage in Thailand," examines the relationships between young Thai women's and men's experiences of economic difficulties due to the economic crisis and their desires for marriage and children. They use data from a recent national survey on the economic crisis and demographic and family dynamics. This study shows that the experiences of economic hardships due to the crisis were widespread among Thai women and men in their 20s and 30s, although there were considerable gender, regional, and urban-rural differences in the extent of such hardships. The multivariate analyses reveal that the effects of the crisis on desires for children and marriage were diverse and indirect. The authors found that husbands' hardship reduced the desired fertility of married women aged 25-39. In other words, a husband's employment is a major factor in determining a woman's perception of the financial feasibility of having children. This finding leads to their assertion that the crisis, if prolonged, may result in lower marital fertility in Thailand. Marriage desires of young unmarried women aged 20-34 have been dampened not by their own hardships but by their mothers' economic difficulties. This suggests that the widely documented close emotional ties between mothers and daughters in Thailand may have played a role in their marriage and fertility decisions.

In his article, "Unauthorized Migrants as Global Workers in the ASEAN Region," Graziano Battistella reports that, although globalization is an inevitable process and widespread, labor is not free to move where productivity is highest. Unauthorized migration has been found in all countries, however. This article explores three migration subsystems in the Asian region characterized by various types of population flows. The loci of the three migration subsystems are the Malay Peninsula (including Singapore), the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA), and the Northern ASEAN countries. The article first examines the current trends in migration flows. It then examines the characteristics of unauthorized migration and the significance of these characteristics for regional relations. Finally, the article explores the following questions: Is the large unauthorized migration in the region a consequence of the characteristics of the regional process adopted in ASEAN? Is unauthorized migration the result of increasing globalization or does it depend on other factors? Are migration

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policies consistent with regional and globalization policies?

Battistella reaches the following conclusions. On the one hand, migrants are a by-product of globalization, which disrupts national labor markets and redirects workers to internationalized labor markets; on the other hand, migrants are excluded from the benefits of globalization, as they are not free to move where productivity is higher. Unauthorized migration can be considered to be the response of workers to the regulation of manpower, which during the process of globalization remains strictly local. The ultimate solution, deregulating migration in favor of the free circulation of labor, may appear utopian now. But the economic integration envisaged in ASEAN cannot be successful until migrant labor is factored into it.

Ching-lung Tsay concentrates upon a more specific migration problem in his article, "Labor Migration and Regional Changes in East Asia: Outflows of Thai Workers to Taiwan." Since the early 1980s the migration of workers across borders has become an increasingly controversial issue. In fact, Japan, the Asian NIEs (South Korea, Taiwan, Hong Kong, Singapore) and Malaysia and Thailand have begun to absorb growing numbers of workers from other countries at earlier stages of demographic and economic transitions. This article investigates the existing migration systems between Thailand and the destination countries in East Asia. The focus is upon the migrant flows to Taiwan before and after the legalization of labor importation there in the early 1990s. The labor market segments into which Thai workers were recruited are identified and their earnings as well as working and living conditions in Taiwan are explored. The research also specifies the costs and benefits of labor exports for Thailand, since this issue appears to be particularly crucial in light of the 1997 economic crisis. On the one hand, it has to be expected that the prospects of working abroad may not be so promising now that the Asian economies are slowing down. On the other hand, the Thai government is interested in sending more laborers overseas in response to economic pressures at home. This research has important policy implications for both Thailand and Taiwan.

The last section of this issue consists of a report of the panel at the final plenary session of the 2002 IUSSP Regional Population Conference on Southeast Asia's Population in a Changing Asian Context. It summarizes a discussion entitled "Does Globalization Adversely Affect Population and Poverty? The Views of Five Panelists." The panel provides a concluding general discussion that addresses the effects of globalization on population and poverty. Richard Leete of the United Nations Population Fund (UNFPA) organized and chaired the session. Two panel members, Andrew Mason and Simeen Mahmud, agreed to stimulate debate by presenting the case that globalization *was not* adversely affecting population and poverty. The other two panelists, Ogawa Naohiro and Rafiqul Huda Chaudhury, presented the case that globalization *was* adversely affecting population and poverty. Each of the panel members was asked to summarize the views presented at the forum. We hope that readers will find the panel discussion provocative and interesting.

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Finally, we would like to express our appreciation to the members of the International Organizing Committee and its chair, Mercedes Concepcion, to the National Organizing Committee, and to the conference coordinator, Pivan Prachuabmoh. We would also like to acknowledge the financial support of the Globalization Research Center of the University of Hawaii and the East-West Center. Special thanks go to Ms. Sandra Ward for her superb editorial work. Lan Chen and Ann Takeyasu, both of the East-West Center, provided outstanding editorial assistance, and Neil Jamieson, at the Center for Southeast Asian Studies, assisted greatly in editing this issue. Southeast Asian Studies, Vol. 40, No. 3, December 2002

Population and Globalization*

Sumner J. LA CROIX**, Andrew MASON*** and ABE Shigeyuki[†]

Abstract

We consider how globalization has affected demographic trends and how demographic trends have affected globalization. We focus on developments over the last 200 years and emphasize "economic globalization"—the integration of product, capital, and labor markets and the rapid diffusion of technology and information across borders. We begin by relating a brief history of economic globalization since 1850 and then identify demographic trends that may have significant effects on economic globalization. We consider how globalization has affected demographic trends and then discuss how demographic trends have affected globalization. We conclude by reflecting on how our analysis is affected by the increased pace of globalization over the last 40 years.

Keywords: globalization, population, trade, saving, international capital flows, investment, development

Globalization is not new, and neither is its interaction with demographic trends. Alexander the Great's conquest of the Middle East instilled Greek culture in a vast population ranging from North Africa to India; and Roman, Chinese, and Mayan empires brought dominant languages and new immigrants to conquered regions. The movement of goods along the thousands of miles of the Silk Road trade route raised wages and wealth in both China and Europe in the Middle Ages without inducing major flows of population from one region to another; at the same time it facilitated the transmission of the Black Plague from Mongolia to Europe. The global diffusion of vaccines preventing

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polio, smallpox, and measles reduced death rates dramatically in developed countries after 1870 and in developing countries after 1945. In contrast with continued increases in life expectancy in Asia, the Americas, and Western Europe, life expectancy has collapsed in sub-Saharan Africa, Russia, Central Asia, and Eastern Europe since 1990. The globalization of war over the last 250 years has entailed the temporary migration of millions of soldiers and the often more permanent migration of millions of refugees. Changing population age structures induced global flows of capital in both the nineteenth and twentieth centuries, while international immigration was a critical cause of relative and absolute factor price convergence across Europe and the Americas. And the large increase in world population over the last 300 years may be at least in part responsible for the recent surge in inventions that have markedly reduced computing and communication costs and, consequently, set off the most recent surge in globalization.

Our goal in this article is to consider how globalization has affected demographic trends and how demographic trends have affected globalization. Our survey of these issues is far from comprehensive, as we focus on developments over the last 200 years and emphasize economic aspects of globalization. The economic perspective is an important distinguishing feature of this article, entailing a narrow view of globalization that focuses on the integration of product, capital, and labor markets and the rapid diffusion of technology and information across borders. Demographers have spent considerable effort analyzing how global forces have affected demographic trends—that is, how the rapid international diffusion of birth control technology has reduced birth rates, how the international diffusion of public health measures has reduced death rates, and how changing relative wages have affected female labor force participation and marriage rates. Less attention has been paid to how demographic trends have affected globalization. Does a growing population necessarily lead to more integrated labor or product markets or to increased international diffusion of technologies? Does an aging population necessarily lead to increased international capital flows, or instead to increased xenophobia and increasingly closed markets?

We begin in Section I by considering why narratives of globalization differ so markedly depending on the perspectives of those telling the story. Section II relates a brief history of economic globalization since 1850. Section III focuses on identifying demographic trends that may have significant effects on economic globalization. Section IV considers how globalization has affected demographic trends, whereas Section V considers how demographic trends have affected globalization. We conclude, in Section VI, by reflecting on how our analysis is affected by the increased pace of globalization over the last 40 years.

I Globalization and Population: Perspectives and Prelude

Stories of globalization are widely contested. Some analysts view globalization as a process by which the powerful exploit the weak in increasingly remote areas of the globe; others view it as a process by which all countries increase their wealth. Both views have an element of truth and depend on the perspective of the analyst. Advantages in armaments and opponents' susceptibility to disease allowed a few European countries and their offshoots to colonize societies throughout Africa, the Americas, Europe, Asia, Australasia, and the Pacific between 1492 and 1945.¹⁾ In contrast, others emphasize how international flows of capital, labor, intermediate goods, and final goods in the nineteenth and twentieth centuries led to absolute factor price convergence across rich and poor countries whereas restrictions on those flows led to divergence. Similar contrasts can be drawn on numerous issues—for example, the spread of disease by global conquest, trade, and tourism versus the spread of vaccines by international agencies; and the development of virtual communities of dispersed ethnic groups versus the reduction in cultural variety induced by mass consumption of a hegemonic culture. Much of the debate can be traced back to whether the analyst believes in the enlightenment concept of progress or instead believes that unintended consequences of new production and organization technologies often have pernicious indirect effects that outweigh the direct gains accruing to societies with high levels of market integration, information flows, and technological innovation.

The contested-stories analogy carries over to the field of population. Debate has raged over the effects of a growing global population on the environment, resources, income, innovation, and social relations. Some demographers and economists have focused on how increasing global population could exhaust resources, alter the climate in life-threatening ways, and increase congestion costs to unacceptable levels. Others have focused on how larger global populations could generate new waves of innovation with the potential to offset most of the costs described above. Some analysts draw from both of the above perspectives while emphasizing that individual decisions concerning marriage, labor force participation, children, medical care, and education are made on the basis of private costs and benefits that frequently diverge from social costs and benefits and, therefore, result in outcomes that are often inefficient.

Our dating of "world wars" should be revised. A redating would show *five* world wars over the last 250 years rather than two. In this scheme the first world war was the war between Britain and France, known in the United States as the French-Indian War, which was fought over five continents between 1759 and 1764. The second world war consisted of the several Napoleonic Wars (1794–1815) that were fought over five continents and generated South America's independence revolutions. World Wars I and II (now III and IV) were, of course, followed by the Cold War (World War V).

The interaction between population and globalization clearly goes back to prehistorical periods when early human beings slowly migrated from Africa to distant land areas across the globe. One can, however, date an acceleration of the interaction at 1492. The arrival of European explorers in the Americas and their conquest of the Inca and Mayan empires set off an unprecedented wave of depopulation among Native Americans due to the spread of smallpox, measles, mumps, and other diseases to which Native Americans had little immunity.²⁾ Disease and the enslavement of conquered populations by the Portuguese and Spanish reduced the Native American population by roughly 90 percent during the sixteenth and seventeenth centuries. Similar demographic catastrophes would be repeated with Aborigines in Australia and Pacific Islanders in the eighteenth and nineteenth centuries after contact with Europeans.³⁾ The depopulation of the Americas and Australia was one of the factors that led to the enslavement and forced migration of 11-12 million Africans from the 1520s through 1888 and voluntary immigration of 54 million people between 1815 and 1930 from land-poor, labor-abundant Europe.⁴⁾ European susceptibility to tropical diseases limited settler immigration to Africa to the Northern and Southern extremes, but colonization of tropical Africa was eventually completed in the late nineteenth century [Curtin 1989]. World population growth, proceeding at low but positive levels since roughly 1,000, received a jolt with the agricultural revolutions of the seventeenth and eighteenth centuries. The improved nutrition, reduced mortality rates, and increasing population growth rates in Western Europe set the stage for the beginning of the demographic transitions (see Section III below), the signal demographic phenomena of the last 250 years.

II Economic Globalization since 1850

Although globalization trends have had enormous effects on demographic trends since 1492, we focus on globalization since 1850 because its ebbs and flows over the last 152 years provide key insights into our current situation. We subdivide the 1850–2002 period into three periods based on divergent trends in economic globalization: Globalization in a Colonial World (1850–1914), Retreat from Globalization (1914–45), and Globalization in a Postcolonial World (1945–present).

²⁾ See Bentley and Ziegler [2000] for an overview of the conquest of the Americas and population decline there.

³⁾ See Butlin [1983] for a discussion of Aboriginal population decline and Bushnell [1993] for a review of the controversy over the extent of the decline in Hawaiian population after European contact.

⁴⁾ See Baines [1991] for an overview of nineteenth-century European migration to the Americas and Hatton and Williamson [1998] for a more in-depth analysis of the causes of immigration and the effects on sending and receiving economies. See Fogel [1989] for a comprehensive discussion of the introduction of slavery to the Americas.

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Extent of Globalization in 1850

At the beginning of the first period (1850), market integration across Europe and across the globe was limited, and information and technology diffused slowly. Tariffs were high in most industrialized countries, and the effect was to limit international trade flows. Capital markets were growing in importance, yet were still undeveloped, trading few financial instruments and with listings for only the largest railroads, banks, trading companies, and utilities. Their limited development meant that capital flows across national borders constituted a large portion of investment for only a small number of countries. Foreign direct investment was extremely limited. Immigration from Europe to the Americas and Australasia had been slowly increasing, but the flows were still small proportions of the growing European populations. There are many well-known cases of rapid technology diffusion across national boundaries during this period—for example, Samuel Slater's transfer of cotton-spinning technology from England to Rhode Island in 1790—but, as a rule, technology diffused with long and variable delays. In sum, both dimensions of economic globalization, international market integration and information and technology diffusion, were extremely limited.

Globalization in a Colonial World: 1850-1914

During this first period (1850–1914), economic globalization proceeded at a rapid pace, leading to an unprecedented degree of capital, labor, and product market integration by the end of the century. The most important force behind the globalization push in this period was the reduction in land- and sea-transport costs, with the largest absolute reductions coming in land transport and the largest percentage reductions in sea transport [O'Rourke and Williamson 1999: Ch. 3]. The opening of the Suez and Panama canals during this period also helped to reduce transcontinental price gaps. The lower transportation costs led to a surge in international trade, which in turn produced a convergence in the Anglo-American prices of important products such as wheat (from a 57.6 percent gap in Chicago-Liverpool prices in 1870 to a 15.6 percent gap by 1913), meat (from more than a 100 percent gap in Cincinnati-London prices in 1880 to a 17.9 percent gap by 1913), iron bars (from a 75 percent gap in London-Philadelphia prices in 1870 to a 20.6 percent gap by 1913), copper (from a 32.7 percent gap in London-Philadelphia prices in 1870 to roughly no gap by 1913), coal, tin, wool, and coffee [Harley 1980]. Declining transportation costs massively reduced price gaps between Europe and Asia on cotton, jute, and rice (from a 93 percent price gap between London and Rangoon in 1870 to a 26 percent gap in 1913) [O'Rourke and Williamson 1999: Ch. 3; see also Williamson 2002]. Great Britain's 1846 repeal of its Corn Laws, which had imposed tariffs on grain imports, and the 1860 Cobden-Chevalier treaty between Great Britain and France, reducing tariffs substantially and providing for most-favored-nation treatment, led the way to a series of treaties liberalizing trade in Europe.

With tariffs and transport costs declining and the gold standard reducing exchange-

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Region	1870	1913	1950	1973	1998	
Western Europe	8.8	14.1	8.7	18.7	35.8	
Western European Offshoots	3.3	4.7	3.8	6.3	12.7	
Eastern Europe & Former U. S. S. R.	1.6	2.5	2.1	6.2	13.2	
Latin America	9.7	9	6.0	4.7	9.7	
Asia	1.7	3.4	4.2	9.6	12.6	
Africa	5.8	20.0	15.1	18.4	14.8	
World	4.6	7.9	5.5	10.5	17.2	

Table 1 Merchandise Exports as a Percentage of GDP in 1990 Prices

Source: [Maddison 2001: 127]

rate uncertainty, the share of trade in gross domestic product (GDP) increased in every region except Latin America, where it declined slightly (Table 1). Trade shares doubled in Asia, more than tripled in Africa, went up by 42 percent in Western settler economies, and increased by 60 percent in Western Europe [Maddison 2001: 127].

Falling transportation costs, lower prices of agricultural goods in Europe, and surging wages in the United States prompted a massive flow of immigrants from Europe to North America, South America, and Australia; from India to Africa and Asia; from China to Southeast Asia and the United States; and from Japan to North America, South America, and Hawaii in the late nineteenth and early twentieth centuries. Transport costs between Southern Europe and South America fell to such low levels that they supported seasonal flows of workers between the two regions.⁵⁾ Immigration to the United States increased from 4.9 per 1,000 population in 1850 to 11.3 per 1,000 in 1910, reaching record levels between 1870 and 1913. The growing integration of world capital and product markets was a major factor behind the increased immigration flows. Lower transportation costs and lower European tariff rates on agricultural products induced a flood of U. S. agricultural exports to Europe in the later decades of the nineteenth century. The declining prices of agricultural products and other imported products hurt European farmers and industrial workers in import-competing industries, and some decided to emigrate to the Americas and Australasia.

The spread of the gold standard over the second half of the nineteenth century; the development of broader and deeper equity markets in the United States, Canada, and Europe; the higher saving rates in France, England, and Germany—possibly generated by the demographic transition in these countries; and an increasing propensity to invest overseas in Germany and Great Britain led to large flows of capital from Western Europe to Eastern Europe, South America, and North America between 1870 and 1913. Large balance-of-payments deficits by the resource-rich, labor-poor, capital-poor countries of the Americas were common during this period and facilitated immigration from Europe

⁵⁾ See Hatton and Williamson [1998] for a discussion of Southern Europe-Argentina seasonal immigration and La Croix and Fishback [2000] for a discussion of temporary migration from Japan to Hawaii.

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to the Americas by ensuring that new immigrants would be equipped with new capital.⁶⁾

Retreat from Globalization: 1914-45

A backlash against economic globalization began to emerge near the end of the first period [Williamson 1998]. The United States restricted immigration from Asia with the Chinese Exclusion Act (1882) and the Gentlemen's Agreement with Japan (1907). In reaction to the flood of American agricultural products entering Europe in the 1880s, Germany, Sweden, France, and many other European countries began to re-impose tariffs on grain imports and raw materials in the late 1880s and early 1890s. Only Great Britain, Denmark, the Netherlands, and some countries (*e. g.*, Japan) and colonies with gunboat-imposed trade policies retained relatively liberal trade policies.

The beginning of the second period was marked by a shattering global war, World War I, which brought economic globalization to a halt and set in motion forces that would ultimately reverse virtually all of the labor, capital, and product market integration achieved in the earlier Globalization Period. Newly created states in Europe produced refugee flows and fragile, short-lived democracies [Mazower 1999]. Most industrialized countries left the gold standard during World War I and did not resume the standard again until the 1920s [Feinstein, Temin and Toniolo 1997]. With the notable exception of Great Britain, most countries did not resume the gold standard at the previous parity, thereby impairing investor confidence that foreign investments were not subject to severe exchange-rate risk.⁷ Britain's large wartime borrowings converted it from a net creditor to a net debtor and diminished its role as the main international financier. The United States, now a net creditor nation, was unable to replace the British flows because it did not have the requisite institutional infrastructure or depth of knowledge to undertake large-scale international lending. International capital flows to South America and Asia resumed at much lower levels after World War I (2-3 percent rather than 4-5 percent), declined during the 1920s, and descended to very low levels in the 1930s (1-1.5 percent), as international financial and domestic banking crises slowly unraveled the gold standard during the Great

⁶⁾ O'Rourke and Williamson [1999: 280-282] find that a large proportion of the catch-up and falling-behind of countries in Europe and the European periphery during the 1870-1914 period was due to labor migration and capital flows. Trade played a surprisingly small role in their convergence with or divergence from the GDP leaders.

⁷⁾ See Eichengreen [1996]. Most countries involved in World War I financed part of their wartime expenditures and postwar expenditures with inflationary finance. To resume the gold standard at "parity"—the same exchange rate between the currency and gold when they left the gold standard, a country would have to be subjected to a difficult period of deflation. Given the expanded franchise and the weak condition of political parties in new European democracies, few governments could choose this course.

Depression.8)

Immigration from Europe to the United States was almost totally curtailed during World War I and World War II and was severely restricted in the interwar period by national legislation (1924 and 1927) that restricted annual immigration to just 160,000 people from outside the Americas and mandated that 40 percent of immigrants be from Great Britain and 33 percent from Germany.⁹⁾ The redrawing of European borders at the 1919 Paris Conference stimulated large migration flows in Central and Eastern Europe. European countries responded by imposing immigration restrictions in the 1920s and 1930s, with only France remaining open to Eastern European migrants.

Higher tariffs were imposed throughout the industrialized world in the 1920s and 1930s, with the U.S. passage of the Smoot-Hawley tariff in 1930 provoking retaliatory responses in France, Great Britain, Germany, and most other industrialized countries. France, England, the United States, and Germany responded to the disintegration of the world financial and trading systems by forming regional trading blocs with colonial and regional partners during the 1930s. Although economics historians have debated whether the collapse of world trade during the 1930s was due to higher tariffs or the collapse of the world monetary system, the segmentation of national capital, labor, and product markets is widely accepted. The drastic decline in the share of trade in GDP during this period provides graphic evidence (Table 1). Increasing transportation costs also played a significant role in reducing the share of trade in GDP during the 1920s and 1930s [Estevadeoral, Frantz and Taylor 2002].

Other trends affecting economic globalization during this period of retreat were more positive. The expansion of the telephone network, the rapid adoption of the radio, the spread of the newsreel in theaters, and the expansion of higher-education institutions facilitated a more rapid dissemination of technologies and information. Expenditures on research and development declined during the Great Depression of the 1930s in Europe and the United States, but a large flow of new public health, medical, and nutritional technologies was still generated.

World War II provides a fourth example of global war. Capital was destroyed throughout the world; weapons of mass destruction were used on civilian populations in Asia and Europe; regional transportation networks and mobile extermination facilities reduced Hitler's costs of decimating Europe's Jewish population; and roughly 50–70 million people lost their lives through wartime combat, genocide, or famine. Two world wars in combination with the interwar depression left national factor and product markets operating virtually in isolation at the end of World War II. The international monetary system was in shambles; tariffs were high in virtually every country—a

⁸⁾ See Eichengreen [1998] for a full discussion of these issues. See Obstfeld and Taylor [1998] for data on capital flows between 1870 and 1990.

⁹⁾ The 1927 legislation reduced the annual flow to 150,000 people. By comparison, annual immigration to the United States in 1910 had been 1,041,570 people.

hangover from the 1930s; and voluntary immigration was severely restricted, while post-war refugee flows numbered in the tens of millions in Japan, China, Korea, Europe, India, and Pakistan.

Globalization in a Post-Colonial World: 1945-Present

The flawed revival of the gold standard after World War I severely limited international capital flows, and after World War II countries acted to replace the gold standard with the Bretton Woods Agreement. Retaining fixed exchange rates and the veneer of a tie with gold, the new financial system allowed countries to implement exchange-rate controls that limited international capital flows. The dollar was linked to gold whereas other currencies were linked to the dollar. Most European currencies became convertible on the current account (but not on the capital account) only in 1958, and binding capital controls remained in place in the United States, Europe, Japan, and most of the developing world through the mid-1970s. As a result, capital flows stagnated at only 1 percent of GDP for 14 of the world's industrialized countries over the 1945–75 period [Obstfeld and Taylor 1998]. With the United States leading the way in the 1960s, Japan and the European countries began to remove capital controls in the 1970s, with the trend accelerating in the 1980s. Developing countries, under pressure from the International Monetary Fund, began the process of removing capital controls in the 1980s and 1990s.¹⁰

The gradual restoration of integrated product markets in manufactured goods was accomplished over a 50-year period by gradual tariff reductions under the General Agreement on Tariffs and Trade (GATT)-now the World Trade Organization (WTO)as well as by unilateral tariff reductions. Limited progress in trade in services has been made over the last 15 years, and the 1994 Uruguay Round Agreement specified a back-loaded dismantling of the Multifibre Agreement, an elaborate maze of quotas on textiles manufactured in low- and middle-income countries. Trade in agricultural products is still heavily protected by most industrialized countries, with elaborate systems of tariffs and quotas in place and complex political obstacles blocking future reform. The asymmetric liberalization of trade in manufactures relative to agriculture and textiles has hurt income growth in developing countries specializing in such labor- and landintensive products. Despite the asymmetric liberalization, Sachs and Warner [1995] find that countries that liberalized trade in the post-World War II period experienced higher than average GDP growth. Incomes in poor countries with liberal trade policies generally converged with those in rich countries. This contrasts with results from the overall sample of countries in which incomes of poor and rich countries diverged over the course of the three globalization periods [Pritchett 1997].¹¹⁾

¹⁰⁾ Some economists blame the removal of capital controls in Asian countries for the Asian financial crisis in the late 1990s. See, *e. g.*, Bhagwati [2000].

Poor countries with poor data are excluded from such cross-country studies, often biasing the results. See Frankel and Romer [1999] for additional supporting arguments and Rodríguez and Rodrik [2001] for contrary views.

Immigration, a major contributor to GDP convergence in the 1850–1914 period, has increased gradually in the post–World War II period and has served as an attenuating force on the demographic transition. Immigration can, for example, dampen population growth or the swings in age structure that occur during the transition. Sending populations are often those that are growing rapidly with heavy concentrations at young ages. Receiving countries are often those that are experiencing slower population growth and aging populations. Immigrants are frequently young workers who have children or begin families once they have relocated. The high rate of immigration into the United States over the last three decades is one of the key reasons why the U. S. age structure is expected to stay much younger than Japan's.

Between 1945 and 1965, immigration to the United States was very limited and restricted to European countries. Legislative reforms in 1965 opened the door to larger immigrant flows from a broader mix of countries.¹²⁾ U. S. immigration flows are currently about the same as in the early twentieth century, but have a smaller impact on the U. S. economy and on sending economies because the U. S. population has almost tripled, growing from 99 million in 1910 to 287 million in 2002, and world population has more than tripled, increasing from 1.75 billion in 1910 to 6.14 billion in 2001. Some countries sending migrants to the larger U. S. economy have experienced significant reductions in their workforces in recent years.

Migration flows have also had large implications for other sending and receiving countries. Ethnic German populations migrated to West Germany after World War II and after the fall of the Berlin Wall. Repatriation of colonial populations after World War II, and refugees from civil wars generated large refugee flows in central Africa, Venezuela (from Colombia), Pakistan and Iran (from Afghanistan), Taiwan (from China), Korea (from North to South), and Vietnam. Temporary and permanent immigration within Europe and to Europe-from Africa, Asia, and Turkey-after World War II markedly increased the share of migrants in the labor forces of Switzerland (19 percent), Luxembourg (36 percent), Belgium (9 percent), Germany (9 percent), and Austria (9 percent); whereas inter-Asian migration has led to large shares of migrant workers in the labor forces of Hong Kong (9 percent), Malaysia (13 percent), and Singapore (44 percent). Since the mid-1990s, Europe has tightened regulations with respect to refugees, making it more difficult for them to enter and settle. Many of the small oil economies of the Middle East, including Saudi Arabia and Kuwait, have large percentages of migrant workers in their labor forces, many of them from Asian countries. And Israel's population has swelled as a result of migration from the Middle East and countries in the former Soviet Union.

Communication and transportation costs have continued to decline since World War II. The digitization of information and the expanding use of the Internet to distribute information have led to large declines in the cost of gathering information. The

¹²⁾ Our discussion of immigration relies heavily on Martin and Widgren [2002].

introduction and improvement of the jumbo jet and the continued standardization of sea and rail container shipment have combined to reduce the costs of transporting people and goods. As in the earlier two periods, continuing improvements in transportation and communication costs have the potential to diffuse information more rapidly and to increase life expectancy, via improvements in public health, nutrition, and medical treatment. The proliferation of nonprofit and intergovernmental organizations dedicated to improving economic, social, environmental, and demographic conditions in developing countries has also helped to speed the pace of globalization.

III Demographic Transitions

The demographic transition is a singular historical period during which mortality and fertility rates decline from high to low levels in a particular country or region. The broad outlines of the transition are similar in countries around the world, but the pace and timing of the transition have varied considerably. In this section we describe this important demographic phenomenon, emphasizing three demographic variables that bear most directly on globalization: the size of national populations, their rates of growth, and their age structures. We then discuss the ways in which globalization has influenced the transition through its affects on fertility, mortality, and immigration.

The transition began earliest in Europe and in former European-settler colonies. Death rates began to decline in some European populations in the mid- or late-1700s. Fertility declined with a substantial lag in some cases and with a very short lag in others. The transition from high to low fertility took nearly 200 years in France but roughly 100 years in the United States.

The transition began later elsewhere, and the changes were often much more rapid once they began to occur. Mortality decline in Africa and Asia (Japan aside) was concentrated in the twentieth century, with substantial advances occurring both before and after World War II. Life expectancy in India was only 24 years at the beginning of the twentieth century, and life expectancy in China was only 24 years in 1929–31 [Maddison 2001: 30]. The total fertility rate did not drop below five births per woman in Japan until the 1930s, and in other Asian countries fertility decline did not begin until the 1950s or later. As a result, Asia and the rest of the developing world experienced rapid population growth in the decades after World War II and consequently rapid changes in their age structure. The United States and many other countries in the West experienced a post–World War II baby boom, which produced large swings in age structure that are in some respects similar to the swings in age structure produced by the demographic transition in Asia. The baby boom in the West resulted from rising birth rates, whereas the "baby boom" in the developing world resulted from declining infant and child mortality rates.



Perhaps the most striking aspect of the demographic transition is the enormous gap in life expectancy that emerged between Japan and the West on the one hand and the rest of the world on the other. By 1820 a substantial gap in life expectancy at birth of 12 years had already emerged. By 1900 the gap had increased to 20 years as essentially all of the gains in life expectancy were confined to Japan and the West. Between 1900 and 1950 life expectancy improved significantly throughout the world, but the gap in life expectancy continued to rise, reaching 22 years in 1950. Only in the second half of the twentieth century was there any convergence, with the gap declining to 14 years in 1999.¹³

Of course, averages sometimes hide important details. The gains in life expectancy outside the West would have been much greater had it not been for the devastating impact of the HIV/AIDS epidemic in sub-Saharan Africa and deteriorating conditions in Russia and some other Eastern European and Central Asian republics (see Fig. 1).

The differences in the timing of the demographic transition led to significant shifts in the global distribution of population. During the nineteenth century the populations of Europe and Western offshoots grew significantly in relation to the rest of the world. Between 1820 and 1900 their share of the world's population increased from 22.3 percent to 33.0 percent. The population share of Asia and Oceania dropped from 69.0 percent to 56.7 percent during the same period because its population was growing at only 0.2 percent per annum (Table 2). India and China both experienced long periods of economic stagnation and decline during the nineteenth century. India's decline was

¹³⁾ Maddison [2001: 31] estimates a life expectancy at birth of 36 years in 1820, 46 years in 1900, 66 years in 1950, and 78 years in 1999 for Japan, Western Europe, and Western offshoots. For the other countries of the world he estimates a life expectancy of 24 years in 1820, 26 years in 1900, 44 years in 1950, and 64 years in 2000.

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Year	Western Europe (23)	Western Offshoots (4)	Southern Europe (7)	Eastern Europe (9)	Latin America (44)	Asia & Oceania (56)	Africa (56)	World (199)
	Population	(thousands	s at mid-ye	ar)				
1820	103,005	11,255	33,644	89,821	20,307	736,836	73,026	1,067,894
1870	144,572	45,708	39,981	140,689	37,905	768,472	82,815	1,260,142
1900	178,595	86,396	44,543	208,485	63,919	887,430	95,281	1,564,649
1950	238,957	176,094	68,470	286,116	162,463	1,357,096	223,015	2,512,211
2000	307,577	336,903	132,181	393,418	517,946	3,528,759	737,039	5,953,822
2050	281,243	468,411	154,765	332,374	804,023	5,220,026	1,782,718	9,043,558
	Percentage distribution							
1820	9.6	1.1	3.2	8.4	1.9	69.0	6.8	100.0
1870	11.5	3.6	3.2	11.2	3.0	61.0	6.6	100.0
1900	11.4	5.5	2.8	13.3	4.1	56.7	6.1	100.0
1950	9.5	7.0	2.7	11.4	6.5	54.0	8.9	100.0
2000	5.2	5.7	2.2	6.6	8.7	59.3	12.4	100.0
2050	3.1	5.2	1.7	3.7	8.9	57.7	19.7	100.0
	Annual rat	e of growth	n for interv	al (percen	tage)			
1820-1870	0.68	2.80	0.35	0.90	1.25	0.08	0.25	0.33
1870-1900	0.70	2.12	0.36	1.31	1.74	0.48	0.47	0.72
1900-1950	0.58	1.42	0.86	0.63	1.87	0.85	1.70	0.95
1950-2000	0.50	1.30	1.32	0.64	2.32	1.91	2.39	1.73
2000-2050	-0.18	0.66	0.32	-0.34	0.88	0.78	1.77	0.84
Increase of population as a percentage of total								
1820-1870	21.6	17.9	3.3	26.5	9.2	16.5	5.1	100
1870-1900	11.2	13.4	1.5	22.3	8.5	39.1	4.1	100
1900-1950	6.4	9.5	2.5	8.2	10.4	49.6	13.5	100
1950-2000	2.0	4.7	1.9	3.1	10.3	63.1	14.9	100
2000-2050	- 0.9	4.3	0.7	- 2.0	9.3	54.7	33.8	100

 Table 2
 Population of Major Regions of the World, 1820–2050

Sources: Figures for 2000 and 2050 are from United Nations [2001]; figures for 1820–1950 are from Maddison [2001]. Regional classifications follow Maddison [2001].

Note: Numbers in parentheses under the headings refer to the number of countries in each grouping.

coupled with severe famines toward the end of that century.

During the twentieth century, population growth rates increased to high levels in Latin America, Asia, Oceania, and Africa, reversing the global shift in population shares. The share of Europe and its former European-settler countries declined to only 19.7 percent of the global population by the year 2000, less than its share in 1820. Latin America's share more than doubled, and Africa's share almost doubled.

The shift is even more dramatic if we look at the growth in population. Between 1820 and 1980, 69.3 percent of the world's population growth occurred in Europe and Western offshoots. Between 1950 and 2000, however, only 11.7 percent occurred in that region.

United Nations projections imply that the center of gravity of the global population will shift toward Africa during the coming decades. By 2150 Africa's share of the world



Fig. 2 Age Structure, Selected Countries, 1850-2000

Sources: Available from the authors.

Notes: The depecdency ratio is the young population (0-14)+the old population (65 +or 60+, depending on data availability) divided by the working-age population. Russia (2) consists of former non-Russian members of the Soviet Republic. Data for Japan prior to 1920 include *honseki*.

population will increase to almost 20 percent as compared with only 7 percent in 1820 and 6 percent in 1900. Population growth will by no means be confined to Africa, however. The combined population of Asia and Oceania is projected to increase by 1.7 billion and that of Latin America by almost 0.3 billion by 2150.

Changes in population size and growth rates provide an incomplete picture of the demographic transition because there are also important changes in age structure. The limited data that are available indicate that changes in age structure have been very different in Japan and the West than in the rest of world (Fig. 2). Beginning in 1850 the dependency ratio varied from about 0.5 to 0.7 in Western European countries (France, Italy, Spain, Sweden, and England and Wales). The United States had a much higher dependency ratio in 1850, over 0.8, due to its much higher birth rate, but by 1890 its dependency ratio had fallen within the range found among Western European countries. The overall trend was downward until 1950, when the dependency ratio was close to 0.5 for all of these countries. The post–World War II baby boom, which occurred throughout the West and was most pronounced in the United States, produced a correspondingly large, but temporary, increase in the dependency ratio. Currently, the dependency ratio in the Western countries within a relatively narrow band near levels observed in 1950.

Japan's experience is somewhat distinctive. Its dependency ratio increased fairly substantially between 1888 and 1920, when the first population census was conducted.¹⁴⁾ Between 1920 and the early 1950s its dependency ratio was significantly higher than ratios found in the West. Japan experienced a precipitous decline in childbearing during the 1950s, however, and its fertility rates in recent years are among the lowest in the world. As a consequence, its dependency ratio dropped to a level similar to values found in Western countries in 1970 and later.

The most noteworthy feature of Fig. 2 is the distinctive trend found in the developing countries. The dependency ratios for India and the Philippines were somewhat higher than in the West around 1900. Taiwan's dependency ratio was less than 0.6 in 1905. But the precipitous decline in infant and child mortality and the continuation of high levels of fertility produced an enormous increase in the dependency ratio and the emergence of a huge gap that reached its peak around 1970.

During the last few decades, the gap in the dependency ratios has begun to disappear as birth rates have dropped throughout the world. Taiwan and Thailand have already achieved low dependency ratios, and in countries where fertility has declined more slowly, the gap between the West and the developing world had become much smaller by 2000 than it was in 1970.

If we were to trace out the changes in dependency ratios over the next 50 years, we would likely find that the positions of the developing world and the West would be reversed. As populations begin to age, the dependency ratio will rise precipitously. This will happen first in the West, producing dependency ratios that are substantially higher than today's and higher than those found in Latin America or Asia's developing countries.

IV The Impact of Globalization on Population

The impact of globalization on population is both direct and indirect. Globalization has influenced the speed of development, serving as an impetus for faster growth in some countries and retarding growth in others. Increasing factor, product, and capital-market integration allowed GDP to increase in Europe and North America at a faster rate than it would have otherwise. In the long run, all groups gained from the market integration, but some groups gained more than others. In the short-to-medium run, some groups may have lost because of competition from other countries' imports. The pace of development, in turn, has influenced nutritional levels, economic structure and urbanization, levels of literacy, opportunities for women, and other social and economic conditions that

¹⁴⁾ Data for 1888 to 1918 are based on Japan's household registration system. See Taeuber [1958] for a detailed discussion of these data and their consistency with population census data.

influence fertility, mortality, and migration.

Globalization can also have a potent direct influence on population. Perhaps most obvious is the influence on migration of policies toward the international flow of refugees, workers, and their families. The forces of globalization have also directly influenced fertility and mortality. In some instances globalization has been an important positive force, particularly with respect to the globalization of health care. The most notable example of a negative impact is probably the effect of globalization on the spread of disease.

It is beyond our grasp to offer definitive evidence or firm conclusions about the importance of globalization on the important demographic processes described above. Our effort here will be more suggestive in that we hope to identify potentially important ways in which globalization has influenced population.

Divergence in the Demographic Transition

We hypothesize that market integration was an important factor driving the demographic transition in Europe and North America in the nineteenth century. Increases in life expectancy, in particular, were driven by more rapid development and by the international diffusion and implementation of public health knowledge, nutritional practices, vaccines, and birth control practices [Fogel 1992]. The speed of diffusion increased with globalization, as transportation and communication costs declined throughout its first period (1850–1914), with the telegraph in wide use and, later, telephone networks rapidly expanding. Globalization also led to higher incomes in most countries, thereby allowing new and old practices to be implemented more broadly and deeply. Record population growth rates in Europe and North America were the result.

Why were the enormous gains in life expectancy achieved in the West and, to some extent, in Japan not shared by the rest of the world? Three factors seem to be important, all of which are related either directly or indirectly to the globalization processes that existed at the time. First, living standards improved much more rapidly in Japan and in the West than in the rest of the world. Maddison [2001: 213] estimates that per capita income grew four times as fast in Japan and the West as in other countries between 1820 and 1998. Second, new public health developments and new knowledge about the causes, prevention, and treatment of disease did not diffuse quickly and without cost throughout the world. Third, globalization directly raised death rates in many countries by exposing populations to pathogens for which they had developed no immunities. Europe itself experienced devastating contact with the plague. But other populations in Latin America and the Pacific suffered enormously from their contacts with the West. Japan, on the other hand, enjoyed a higher life expectancy than other Asian countries in part because of its isolation. As compared with China, Japan experienced less devastation from war or disease introduced by outside forces [*ibid.*].

During the interwar period, globalization and de-globalization trends pulled in

opposite directions, accelerating the demographic transition in the West. On the one hand, the disintegration of international capital, labor, and product markets reduced or slowed national incomes significantly during the 1930s and thereby reduced the demand for children and consequently lowering birth rates. On the other hand, continuing advances in communication technology and networks facilitated the rapid diffusion of the new and old stock of public health information and technologies, thereby increasing life expectancy. Sweden provides a good example of a country in which incomes fell in the first half of the 1930s, communication networks expanded during the interwar period, and World War II generated few wartime casualties. Swedish life expectancy continued its secular rise throughout the 1914–46 period, while the downward trend in Swedish birth rates accelerated in the low-growth interwar period, only to stage a momentary recovery when Sweden mounted a vigorous economic recovery in the late 1930s *[ibid.: 33]*.

Demographic Convergence

The re-emergence of globalization after the end of World War II was accompanied by convergence in birth and death rates. What is the connection, if any, between the two events? Some countries, particularly in East Asia, achieved extraordinarily rapid economic growth and rapid demographic change. Japan and Singapore now rank number one and two in the world in life expectancy. South Korea, Taiwan, Thailand, Hong Kong, and Singapore all have fertility rates lower than in the United States. The evidence is quite clear that these Asian countries owe a large part of their development to their success at integrating themselves into the global economy and that their rapid economic growth accelerated their demographic transitions.

A more widespread phenomenon, however, is the delinking of demography and development. Relatively poor countries have now achieved relatively high life expectancies and low or moderate birth rates. The demographic gap between the rich and the poor has declined much more rapidly than the economic gap.

What accounts for this phenomenon? We believe that an important cause is the successful globalization of the health sector. Communication costs have become so small that many people in even the most isolated areas are exposed to new ideas that allow them to achieve better health and to regulate their childbearing. The reduction in transportation costs have also facilitated efforts to increase the supplies of drugs and other medical commodities to populations that were previously isolated.

Complementing these changes, and possibly more important, has been the development of global institutions committed to improving health and reproductive health care throughout the world. Prior to 1950, the effort to improve health in the developing world was the province of underfunded missionaries, a few private foundations, and the nascent efforts of the League of Nations. Large-scale efforts by national, multinational, and private nonprofit organizations became an important force only after World War II. Foreign aid from the United States under the aegis of the Marshall Plan sped the recovery

of Europe and, to a lesser extent, of Japan, South Korea, and Taiwan. Development assistance from Japan, Western Europe, and the United States to poor countries peaked in the 1970s and has declined as a percentage of GDP in the United States over the last 25 years and in Japan in the last 2 years. Aid from donor countries has been particularly important for some developing countries. For example, donor aid funded roughly 20 percent of the health-care expenditures of sub-Saharan Africa countries (not including South Africa) in 2000.

Aid efforts by international organizations have complemented national bilateral programs. The World Health Organization played an important role in introducing environmental sanitation measures; providing essential drugs; vaccinating children in the developing world against such infectious diseases as tetanus, diphtheria, measles, tuberculosis, polio, and whooping cough; and eradicating such diseases as smallpox. The World Bank, the United Nations Children's Fund, Project Hope, Oxfam, and the United Nations Development Programme have all played significant roles in upgrading health care in developing countries and spreading the revolution in death and birth rates to poor and middle-income countries. Relief organizations including the U. S. Agency for International Development, CARE International, the International Red Cross, Medecins Sans Frontieres, the Food and Agriculture Organization, the World Food Programme, and the UN High Commissioner for Refugees have all been instrumental in reducing mortality from disasters and wars.

The Post-World War II Baby Boom

Completion of the demographic transition in the West was interrupted by the post–World War II baby boom. In Europe, North America, and Oceania, birth rates rose to levels more than sufficient to replace lost wartime fertility. Japan experienced a substantial, but short-lived, increase in birth rates in the early 1950s. Economists disagree about why the baby boom occurred, and the role that globalization processes played depends very much on which theory is accepted.

The Chicago school emphasizes the competing effects of income on the ability to afford children and the value of women's time on the affordability of children [Becker 1960; Becker and Lewis 1973; Willis 1974]. Butz and Ward [1979] argue that fertility increased after the war because rising income led to an increased demand for children. Although the wages of women and, hence, the opportunity costs of childbearing were also rising, the effects were muted because many women were not part of the labor force. Rising wages did draw women into the labor force during the 1950s and early 1960s. Thus, increased female labor force participation and rising wages combined to increase the "price" of children and led to declining fertility in the mid-1960s in the United States.

If this explanation of the baby boom is correct, re-globalization played only an indirect role by stimulating simultaneous economic recovery from the global war throughout the West. Aid provided to Europe by the United States under the aegis of the

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Marshall Plan was a critical factor in Europe's fast recovery and could be identified as a global force inducing higher birth rates in Europe. Similar global forces, however, were not present in the United States and could not have caused the U.S. baby boom.

Easterlin [1968] offers an alternative view in which globalization forces played a much more direct role. (See also Easterlin, Wachter, and Wachter [1978].) Prior to 1914, fluctuations in the U. S. economy produced fluctuations in immigration rates. The entry of workers ebbed and flowed depending on domestic economic conditions. When the United States and other countries closed their borders to immigrants after World War I, economic fluctuations produced a fertility swing rather than an immigration swing. Thus fertility declined to low levels during the Depression. Economic recovery after World War II increased the demand for workers at the same time that an unusually small cohort—those born during the Depression—was entering the work force. This led to a rapid increase in wages and rising fertility. Two forces led to the subsequent baby bust. The first was the endogenous cycle generated by successive generations of large and small cohorts. Baby boomers began to enter the labor force in record numbers, depressing wages and their own fertility. The second was that, with re-globalization after World War II, immigration became an important attenuating force so that economic cycles were once again absorbed by immigration as well as by fertility.

Twenty-First Century Mortality Disasters

The mortality revolution has been disrupted in sub-Saharan Africa and Asia by the spread of HIV, the human immunodeficiency virus that causes AIDS (acquired immunodeficiency syndrome) and in Russia by the collapse of life expectancy. Both phenomena may be due to failed globalization. In sub-Saharan Africa, HIV has been spread by the regionalization of labor markets, refugees fleeing civil wars, and rural residents escaping drought by migrating to cities. Traditional social norms giving men greater power than women in determining sexual practices have combined with migratory labor patterns to produce a situation particularly conducive to spreading HIV [Kauffman and Volks 2002]. Public health systems in sub-Saharan countries have generally failed to communicate information to citizens or to persuade them of its validity. This situation stands in stark contrast to that in Thailand, where campaigns by public health authorities have been successful in markedly reducing infection rates since the mid-1990s.

The decline in life expectancy in Russia stems from increasing rates of alcohol consumption, rising suicide rates, declining levels of medical care, and increasing public health hazards. Most explanations of this deterioration in mortality rates trace back to Russia's decline as a superpower and, more importantly, to its sharp decline in living standards. The fall in Russia's income could be attributed to its de-globalization—manifested in falling international trade—after the dismantling of the communist bloc in 1989 and to its failed attempts at economic reform and integration into the global economy.

V The Impact of Population on Globalization

Historically, population growth has served as an impetus for exploration and colonization. This is true to some extent in the case of European colonization of the Americas and Oceania, where colonization involved substantial emigration. In both cases, colonization may have served as an outlet from Malthusian pressures in Europe. The same cannot, however, be said of European conquests in Asia and Africa, because they did not lead to substantial emigration. We hypothesize that there are two ways in which population factors may have influenced colonization. First, in the sixteenth and seventeenth centuries European population growth led to increased shortages in agricultural land and provided the impetus for migration to and exploitation of the land-rich, labor-poor Americas, which had undergone depopulation through contact with Europeans. Second, larger populations—and economies—gave European countries the power and wealth needed to mount expeditions and to secure military conquests. How population influences war and security remains a controversial topic, however, about which no strong consensus has emerged [Angell 1936; Simon 1989; Cashman 1993: Ch. 5].

In recent years, population has influenced globalization via two channels: by influencing relative factor endowments and by influencing the national distribution of global income [Helpman and Krugman 1985]. Our analysis emphasizes the first channel and pays particular attention to how this channel has led to the rapid development of East Asian countries over the last 50 years [Mason 2001].

Trade, foreign investment, and immigration are influenced by a variety of forces, with one of the most important being differences in factor endowments—of labor, physical capital, and human capital. Countries with a limited supply of one of these important economic resources gain by "cooperating" with countries with an abundant supply of the same resource. The cooperation can take several forms. The factors themselves can be exchanged, with the labor-abundant economy exchanging labor for capital. Or the countries can specialize in the production of final goods and services and engage in trade. Thus the economies with abundant labor produce labor-intensive goods, and the economies with abundant capital produce capital-intensive goods. Through this specialization, production costs can be minimized and higher standards of living attained.

Important intercountry differences exist in factor endowments, and sometimes rapid changes occur. For example, capital per worker was much greater in the United States in 1965 than in Japan, Taiwan, South Korea, or Thailand. But between 1965 and the early 1990s, high rates of investment in those countries allowed them to greatly reduce the gap and, in the case of Japan, eliminate it altogether (Fig. 3).

There is a striking relationship between demographic variables and factor endowments. Countries with early and fast demographic transitions are relatively well en-



 Fig. 3
 Capital-Labor Ratio: Selected Asian Countries, 1965–92

 Source:
 [Summers et al. n. d.]

Note: Values in parentheses in the legend are annual growth rates of the capitallabor ratio.

dowed in physical and human capital, whereas countries with late demographic transitions are relatively well endowed in labor. Consequently, countries that are at an early stage in their demographic transition tend to be labor exporters, capital importers, and producers of labor-intensive goods and services. Countries at a late stage in their demographic transition tend to be labor importers, capital exporters, and producers of capital and skill-intensive goods and services. Hong Kong and Singapore, among the first Asian countries to achieve low fertility, are major labor importers, while leading labor exporters are the Philippines and Bangladesh, two countries with delayed demographic transitions.

The relationship is not just a statistical one, however. Population change has a fundamental bearing on factor endowments and the substantial differences between the wealthiest and the poorest countries in the world. The importance of population to relative endowments of physical capital and labor follows from the tautological relationship between capital per worker, investment, and labor force growth. Either a rise in the rate of investment or a decline in the rate of labor force growth produces an increase in capital per worker, known as capital deepening.¹⁵⁾ The importance of changes in labor force growth is shown empirically in Fig. 4. Countries with the slowest rates of population growth have the highest rates of capital deepening, whereas countries with the highest rates of labor force growth have the lowest rates of capital deepening. Conse-

¹⁵⁾ This is a well-known implication of the Solow-Swan neoclassical model. In the simplest case, consisting of no technological progress and Cobb-Douglas production technology, the equilibrium capital-labor ratio is equal to $K/L = (s/n)^{1/(1-b)}$ where *s* is the investment rate (or saving rate in a closed economy) and *n* is the rate of growth of the labor force.



Fig. 4 Capital Deepening and the Rate of Labor Force Growth Source: [Mason 2001: 213]

quently, those countries that first completed the transition from high to low rates of labor force growth and first completed their demographic transition are relatively well endowed in capital.¹⁶

Although the correlation between labor force growth and capital deepening is unmistakable in Fig. 4, there is substantial variation around the regression line. Particularly noteworthy are the unusually high rates of capital deepening achieved in several East Asian countries—Japan, South Korea, Taiwan, and Thailand. What accounts for the discrepancy? The answer is changes in investment rates.

The rise of investment and the resulting increase in capital per worker is one of the most important and distinctive features of the successful economies of East and Southeast Asia. Fig. 5 compares investment rates in 1960 with those in 1990 for the countries of the world for which such data are available. For the most part, countries with low rates of investment in 1960 had low rates of investment in 1990. Countries with a high rate of investment in 1960 actually experienced some deterioration over the ensuing three decades. But the successful economies of East Asia are notable exceptions to the general pattern. Most of the Asian "miracle" economies had relatively low rates of investment in 1960, but much higher rates of investment in 1990. Japan was distinctive in that it managed to achieve a high rate of investment in 1960 and an even higher rate in 1990 (Fig. 5). It was this increase in investment rates among the countries of East Asia that

¹⁶⁾ If countries maintained a constant labor force growth rate for a sustained period of time, then the capital-labor ratio would stabilize. But in recent years countries with low labor force growth rates have generally experienced declining labor force growth rates, and countries with high labor force growth rates have experienced rising labor force growth rates.



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Fig. 5 Investment Rates of 104 Countries, 1960 versus 1990 Source: [Mason 2001: 214]

accounts for their rapid capital deepening.

Recent studies have established important connections between the demographic transition and both labor force growth rates and rates of saving and investment. In some simple economic models, population growth rates and labor force growth rates are not even distinguished. Indeed, there is a close connection between the two. But during the demographic transition the labor force growth rate can deviate substantially from the population growth rate. This phenomenon, often referred to as the demographic bonus or dividend, occurs for two reasons. First, the working-age population may grow substantially more rapidly than the total population and, second, female labor force participation may increase substantially as fertility rates decline. Both phenomena have been prominent in Asian countries that have proceeded the most rapidly through their demographic transitions [Bloom and Williamson 1998; Mason 2001].

The systematic differences between population growth and labor force growth are apparent in Fig. 6, which is based on all countries for which data are available for the 1960–90 period. At very high rates of population growth, the growth rate of the working-age population was somewhat slower than that of the total population. As a result, for example, Africa's labor force grew more slowly than its population—a demographic penalty. As population growth declines from high levels, however, the working-age population grows more rapidly than the total population. For the entire 30-year period, 1960–90, labor force growth exceeded population growth by nearly 0.5 percent for countries with an intermediate rate of population growth (about 1.5 percent per annum).

In some countries the gap between labor force growth and population growth has





been especially large. Singapore, South Korea, and Taiwan are three notable examples. Their labor force growth rates were so rapid because they experienced very large swings in their age structures and large increases in female labor force participation rates. Even though their population growth rates declined rapidly, their labor force growth rates did not. As these countries continue through the demographic transition they will begin to experience much slower labor force growth. This will serve as an additional impetus to capital deepening. However, between 1960 and 1990 it was rising investment rates, not slowing labor force growth, that was responsible for capital deepening in those countries [Mason 2001].

The changes in investment rates presented in Fig. 5 reflect changes in domestic saving rates and international capital flows. Recent research provides persuasive evidence that changes in age structure and increases in life expectancy have had an important effect on domestic saving rates, although the strength of the effect is a matter of continuing debate. Studies by Kelley and Schmidt [1996], Toh [2001], and Williamson and Higgins [2001] conclude that declines in the dependency ratio have had a large positive effect on gross national saving rates. Deaton and Paxson [2000] find that changes in age structure had a more modest effect on household saving, but one that is nonetheless economically important. Simulation studies by Lee, Mason, and Miller [2000; 2001] conclude that increases in life expectancy and declining dependency ratios were both important factors in the rise in domestic saving rates but that demographic change was only partly responsible for the large increases in saving observed in East Asia.

The bottom line: to a significant degree the demographic transition has driven the changes in factor endowments. Countries with rapid population growth and high dependency ratios have, as a consequence, been relatively well endowed in labor and relatively poorly endowed in capital. Countries that completed their demographic

Fig. 6 Labor Force Growth and Population Growth: 104 Countries, 1960–90

Source: [Mason 2001: 211] Note: Diagonals represent growth rates of the support ratio.

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transitions earlier are, as a consequence, relatively well endowed in capital rather than labor. A smaller group of countries, primarily found in East and Southeast Asia, have made the transition to low birth and death rates—demographics that favor high capitallabor ratios and have experienced rapid capital deepening.

The connections between demographics and factor endowments are all the more important in light of the major divergence in age structure between the countries of the West and most of the rest of world during the demographic transition. As discussed above, dependency ratios, life expectancies, and population growth rates differed much less during the nineteenth century than they did during the twentieth century. The divergence in age structure, population growth rates, and life expectancy was responsible to a significant degree for divergent factor endowments and increased incentives for international trade, immigration, and capital flows. The effects of the demographic transition are far from complete. In the coming years, rapid aging and, in some instances, depopulation in Japan, Europe, and to a lesser extent the United States will provide a new impetus for trade, immigration, and foreign investment. The important connection between population and globalization will continue for the foreseeable future.¹⁷

Our discussion emphasizes the connection between factor endowments and globalization because of its historical and continuing importance to the relationship between the industrialized and the developing economies of the world. Other forces are also driving globalization, and, as just mentioned, we believe that they will become more important over time.

Most global trade is already between high-income countries with similar factor endowments, not between low- and high-income countries. Modern trade theory offers a variety of explanations for this phenomenon, but emphasizes the importance of specialization and scale economies in the production of goods and services [Helpman and Krugman 1985]. During the last few decades the U. S. share of global manufacturing production has declined in favor of Japan, Europe, South Korea, and other countries. As a consequence, trade within member countries of the Organization for Economic Cooperation and Development (OECD) has increased substantially.

Population growth plays a role in this phenomenon because differential rates of growth in the population (or labor force) will lead to further changes in the regional distribution of production and manufactured production. As noted in section III, the global distribution of population is shifting away from the West toward the rest of the world, especially Africa and Asia. Other things being equal, growth of the working-age population in non-OECD countries should lead to a rise in their share of global manufac-

¹⁷⁾ The empirical literature on this issue is not well developed, but one recent study [Williamson and Higgins 2001] concludes that age structure is having an important effect on international capital flows.

turing production. This in turn should lead to a rise in OECD imports from non-OECD countries and to a decline in trade within OECD (as a fraction of OECD production).

It is unclear whether the shift in the global distribution of manufacturing will produce a substantial increase in global trade or merely influence the trade patterns by shifting trade from within OECD to between OECD and non-OECD countries. Bergoeing and Kehoe [2001] argue that changes in the regional distribution of production cannot account for the rapid rise in global trade in recent years.

VI Conclusion

The global demographic transition is still incomplete. African nations and some Asian nations are still in early stages of the transition. As their transitions proceed, the potential for changes in trade patterns, capital flows, and immigration looms large. At the same time, the revolution in life expectancy is likely to continue in the developed world unless it is disrupted by widespread use of weapons of mass destruction or the emergence and spread of new infectious diseases. Whether the mortality revolution continues in the developing world is likely to depend upon whether developing countries are able to put institutions in place that facilitate the transmission and acceptance of public health knowledge and new medical practices.

The adoption of social institutions that facilitate information transmission and allow adaptation to changing circumstances is surely the critical element for any society, as efficient institutions will also generate strong economic growth. Globalization and demography are likely to generate a virtuous circle of benefits only when attention is paid to the underlying institutions through which they are filtered. Without wellfunctioning political and economic institutions, globalization can be dysfunctional for any society. Filtered through a system of incentives that does not reflect social costs or benefits, globalization and demography can interact to produce large populations living in poverty. In sum, the critical task for any society is to get the institutions right.

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Explaining Inequality the World Round: Cohort Size, Kuznets Curves, and Openness*

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Abstract

Klaus Deininger and Lyn Squire have recently produced an inequality database for a panel of countries from the 1960s to the 1990s. We use these data to decompose the sources of inequality into three central parts: the demographic or cohort-size effect; the so-called Kuznets Curve or demand effects; and the commitment to globalization or policy effects. We also control for education supply, the so-called natural resource curse, and other variables suggested by the literature. While the Kuznets Curve comes out of hiding when the inequality relationship is conditioned by the other two, cohort size seems to be the most important force at work. We offer a resolution to the apparent conflict between this macro finding on cohort size and the contrary implications of recent research based on micro data.

Keywords: inequality, demography, Kuznets Curve, openness

The empirical results presented in this article provide strong support for cohort-size effects on inequality the world round: large mature working-age cohorts are associated with lower aggregate inequality, and large young-adult cohorts are associated with higher aggregate inequality. This finding is consistent with the writings of Richard Easterlin and others regarding the fallout from America's previous baby boom. It is also of interest because standard theoretical models associated with Angus Deaton and others point in the opposite direction. In addition, the article reports compelling evidence that inequality follows the inverted-U pattern described by Simon Kuznets, tending to rise as a country passes through the later stages. This is a littered academic battlefield, but our work differs from most previous studies of the Kuznets hypothesis by examining the

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inequality-development relationship conditional on other variables. In particular, and as we have noted, the analysis stresses a country's position in the demographic transition, as measured by the mature adult share of the labor force, and on a country's degree of economic openness. However, and consistent with so much of recent inequality debate about rising wage inequality in the United States and in other OECD economies in the 1980s, we find only limited support for the hypothesis that a policy commitment to globalization has an impact on inequality.

Section I surveys the three main hypotheses upon which this article dwells: cohort size, Kuznets Curves and openness. Section II describes patterns in inequality, openness, and cohort size across regions and since the 1950s. Section III presents pooled and fixed-effects estimates of the relationships among inequality and cohort size, Kuznets Curve effects, openness, and other variables. It also explores the quantitative significance of the estimated effects. Section IV conducts simulation exercises to evaluate potential sources of the negative link between cohort size and inequality. Section V presents our conclusions.

I Reviewing the Three Hypotheses

Inequality and Cohort Size

The cohort-size hypothesis is simple enough: fat cohorts tend to get low rewards. When those fat cohorts lie in the middle of the age-earnings curve, where life-cycle income is highest, this labor market glut lowers their income, thus tending to flatten the ageearnings curve. Earnings inequality is moderated. When instead the fat cohorts are young or old adults, this kind of labor market glut lowers incomes at the two tails of the age-earnings curve, thus tending to heighten the slope of the upside and the downside of the age-earnings curve. Earnings inequality is augmented. This demographic hypothesis has a long tradition in the United States, starting with the entry of the baby boomers into the labor market when they faced such poor prospects [Easterlin 1980; Freeman 1979; Welch 1979], and it was surveyed recently by David Lam [1997: 1023-1024, 1044-1052]. Murphy and Welch [1992] and Katz and Murphy [1992] have now extended this work to include the 1980s. All of these studies have shown that relative cohort size has had an adverse supply effect on the relative wages of the fat cohort in the United States since the 1950s. This tradition ignores the potential endogeneity of hours and weeks worked, educational attainment, and labor force participation rates with respect to cohort size. We shall do the same in this article, but it should be noted that one effort to endogenize those effects for the United States has concluded that:

almost all of the change in the experience premium over the past 30 years (younger and older relative to prime-age workers) and a significant portion of the change in the college wage premium can be explained solely as a function of changing age structure. [Macunovich 1998: 263]

If the cohort-size hypothesis helps explain U.S. postwar experience with wage inequality, it might do even better worldwide. After all, there is far greater variance in the age distribution of populations between regions and countries than there has been over time in the United States. Furthermore, the post–World War II demographic transition in the Third World has generated much more dramatic changes in relative cohort size than did the baby boom in the OECD countries. The higher demographic variance between countries at any point in time versus within countries over time can also be illustrated by a pair of summary statistics from the data set used in this analysis. Define the variable MATURE as the proportion of the adult population (taken to be persons in the age range 15–69) who are 40–59. When the standard deviation of MATURE is calculated between countries in the sample, we get a figure, 5.10, that far exceeds the standard deviation over time within countries for the sample, 1.66. Thus the variance in cohort size across countries and regions is more than nine times the variance for countries over time.

All of this suggests that cohort size is likely to matter in explaining inequality the world around since the 1950s, fat young-adult cohorts creating inequality whereas fat prime-age cohorts doing just the opposite. Interestingly, a recent and influential paper by Deaton and Paxson [1997] identifies forces linking faster population growth (and thus fat young and thin prime-age cohorts) with *reduced* inequality. The resolution of the apparent conflict is, we think, straightforward, but is reserved for section IV.

Two caveats are in order before we proceed. First, we have relied on the microeconomics literature on cohort size to motivate the discussion of demographic effects on inequality. This literature assumes that cohort-size effects reflect the competitive market-clearing equilibrium, driven by imperfect substitutability in production between workers of different experience levels. We are unable to test this assumption, and the validity of our empirical results does not rest on it. It is also possible, for example, that more mature workers are better at "gaming" the economic system, and thus in extracting rents from other age groups. Cohort-size effects on income require only that the total income accruing to a cohort rises less than proportionately with cohort size, whatever the causal mechanism. Second, as a related matter, the micro-cohort-size literature focuses on earnings; the international macro-inequality data pertain to total income, and sometimes consumption. We know of no way to address this mismatch without abandoning the attempt to link international demographic variation with international variation in inequality. Given the much greater demographic variation in the international data, we hold that this would be throwing out the baby with the bathwater. In effect, we assume that what holds true for earnings holds true for income as well. The true links between demography and income inequality are no doubt more complex, depending on the links among demography, savings rates, the transmission of wealth across generations, and the mean and variability of returns to accumulated assets.

Inequality and Openness

After 1973 and especially in the 1980s, the United States experienced a dismal real wage performance for the less skilled, due mostly to declining productivity growth coupled with increasing wage inequality between skills.¹⁾ The ratio of weekly wages of the top decile to the bottom decile increased from 2.9 in 1963 to 4.4 in 1989 [Kosters 1994; Freeman 1995]. This inequality was manifested primarily by an increasing wage premium for workers with advanced schooling and age-related skills. While the same inequality trends were apparent elsewhere in the OECD countries in the 1980s, the increase was typically far smaller [Kosters 1994]. Most of the current debate has focused on explaining these inequality facts, and it started with the observation that rising inequality coincided with rising globalization in the form of rising trade and immigration. The latter underwent rising rates and a decline in "quality" [Borjas 1994]. Trade shares in the United States increased from 12 percent of GNP in 1970 to 25 percent in 1990 [Lawrence and Slaughter 1993, while World Bank figures document that the share of output exported from low-income countries rose from 8 percent in 1965 to 18 percent in 1990 [Richardson 1995: 34]. These inequality developments also coincided with a shift in U.S. spending patterns, which resulted in large trade deficits. Thus economists have quite naturally explored the linkages between trade and immigration on the one hand and wage inequality on the other.

The standard Heckscher-Ohlin two-factor, two-good trade model makes unambiguous predictions. Every country exports those products that use intensively abundant and cheap factors of production. Thus a trade boom induced by either declining tariffs or transport costs will cause exports and the demand for the cheap factor to boom too. Globalization in poor countries should favor unskilled labor and disfavor skilled labor; globalization in rich countries should favor skilled labor and disfavor unskilled labor. Lawrence and Slaughter [1993] used the standard Heckscher-Ohlin trade model to explore wage inequality and concluded that there is little evidence to support it. Instead, they concluded that technological change was the more important source of rising wage inequality. Hot debate ensued.

This strand of the debate stressed the evolution of labor demand by skill, ignoring the potential influence of supply. Borjas [1994] and his collaborators [Borjas, Freeman and Katz 1992] took a different approach, emphasizing instead how trade and immigration served to augment the U. S. labor supply. In order to do this, they first estimated the implicit labor supply embodied in trade flows. Imports embody labor, thus serving to augment effective domestic labor supply. Likewise, exports imply a decrease in the

¹⁾ This subsection is taken from Williamson [1997: 119-121].

effective domestic labor supply. In this way, the huge U.S. trade deficit of the 1980s implied a 1.5 percent increase in the U.S. labor supply; and, since most of the imports were in goods, which used unskilled labor relatively intensively, it also implied an increasing ratio of unskilled- to skilled-effective labor supplies. In addition, there was a shift from the 1960s to the 1980s in the national origin of immigrants: an increasing proportion was from less developed areas (*e. g.*, Mexico and Asia) and thus less skilled. This in turn meant that a far higher fraction of immigrants were relatively unskilled just when there were more of them.

These shifts in relative supply gave economists the desired qualitative result—wage inequality between skill types. The quantitative result, at least in Borjas's hands, also seemed big. Borjas estimated that 15 to 25 percent of the wage decline of high school graduates in relation to that of college graduates was due to trade and immigration. He also estimated that 30 to 50 percent of the decline in the relative wage of high school dropouts *vis-à-vis* all other workers was due to these same globalization forces, one-third of which was due to trade and two-thirds to immigration. Migration was the more important globalization force producing U. S. inequality trends in the 1980s, according to Borjas.

Thus far, the discussion has focused mainly on the United States, perhaps because this is where rising inequality and immigration have been greatest. But the question is not simply why the United States and even Europe experienced a depressed relative demand for low-skilled labor in the 1980s and 1990s [Freeman 1995: 19], but whether the same factors were *stimulating* the relative demand for low-skill labor in the poor Third World. This is where Wood [1994: Ch. 6; 1995] entered the debate. Wood was one of the first economists to examine systematically inequality trends across rich industrial countries in the North and poor developing countries in the South.

Basing his results on insights derived from classical Heckscher-Ohlin theory extended by Stolper-Samuelson (hereafter cited as SS), Wood [1994] concluded that trade globalization could account for rising inequality in the rich North and falling inequality in the poor South. Wood's research has been met with stiff critical resistance. Since his book appeared, we have learned more about the inequality and globalization connection in the Third World. The standard SS prediction is that unskilled labor-abundant poor countries should undergo egalitarian trends in the face of globalization forces, unless those forces are overwhelmed by industrial revolutionary labor-saving events on the upswing of the Kuznets Curve [Kuznets 1955], or by young-adult gluts generated by the demographic transition [Bloom and Williamson 1997; 1998]. A recent review by Davis [1996] reports the contrary, and a study by Robbins [1996] of seven countries in Latin America and East Asia shows that wage inequality typically did not fall after trade liberalization, but rather rose.²⁾ This apparent anomaly has been strengthened by other

²⁾ An even more recent survey by Lindert and Williamson [2002] suggests some reasons why the SS result was not forthcoming at the time Robbins was writing but now is [Robertson 2001].

studies, some of which have been rediscovered since Wood's book appeared. Of course, none of these studies is very attentive to the simultaneous role of emigration from these developing countries.

As detailed below, we have designed our empirical specification with an eye to the possibility of nonstandard SS effects. Here Davis's study is of particular interest. Davis shows that, given partial specialization, the textbook SS propositions linking external prices hold only *within* a given cone of specialization. For example, Mexico might be the capital-rich country within its cone, even if it is capital-poor in relation to the United States. The rough empirical analogue of this observation is that greater openness may raise the returns to capital or skilled labor (and thus raise inequality) only for the poorest countries, and may lower the returns to capital or skilled labor only for the richest countries. As a result, we interact our measures of openness with dummy variables capturing the top and bottom thirds of the world's national income distribution.

As with our discussion of demographic effects, two caveats are in order before we proceed. First, the standard SS predictions can fail for reasons other than partial specialization. The possible violation of these standard assumptions should be kept in mind in interpreting our empirical results. Second, the SS predictions apply to relative factor rewards, *e. g.*, capital versus labor or skilled versus unskilled labor. Relative factor rewards have a clear intuitive connection with aggregate inequality measures, but the actual correspondence between factor rewards and inequality is no doubt fairly rough.

Strong versus Weak Versions of the Kuznets Curve Hypothesis

Simon Kuznets [1955] noted that inequality had declined in several nations across the mid-twentieth century, and supposed that it probably had risen earlier. Furthermore, Kuznets thought it was demand-side forces that could explain his curve: that is, technological and structural change tended to favor the demand for capital and skills, while saving on unskilled labor. These laborsaving conditions eventually moderated as the rate of technological change (catching up) and the rate of structural change (urbanization and industrialization) both slowed down. Eventually, the laborsaving stopped, and other, more egalitarian forces were allowed to have their impact. This is what might be called the *strong version* of the Kuznets Curve hypothesis, that income inequality first rises and then declines with development. The strong version of the hypothesis is strong because it is unconditioned by any other effects. Factor demand does it all.

The *weak version* of the Kuznets Curve hypothesis is more sophisticated. It argues that these demand forces can be offset or reinforced by any other forces if they are sufficiently powerful. The forces of a demographic transition at home may glut the labor market with the young and impecunious early in development, reinforcing the rise in inequality. Or emigration to labor-scarce OECD or oil-rich economies may have the opposite effect, making the young and impecunious who stay home scarcer (while the old receive remittances). It depends on the size of the demographic transition and whether

the world economy accommodates mass migration. A public policy committed to high enrollment rates and to the eradication of illiteracy may greatly augment the supply of skilled and literate labor, eroding the premium on skills and wage inequality. Or public policy may not take this liberal stance, allowing instead the skill premium to soar, and wage inequality with it. A commitment to liberal trade policies may allow an invasion of labor-intensive goods in labor-scarce economies, thus injuring the unskilled at the bottom of the distribution. Or trade policies may protect those interests. And a commitment to liberal trade policies in industrializing labor-abundant countries may allow an invasion of labor-intensive goods in OECD markets, the export boom raising the demand for unskilled labor and thus augmenting incomes of common labor at the bottom. Or trade policies may instead protect the interests of the skilled in the import-competing industries. Finally, natural-resource endowment may matter since an export boom in economies having one will raise the rents on those resources and thus augment the incomes of those at the top who own those resources.

The strong version of the Kuznets Curve has received most of the attention since 1955, whereas the weak version has received very little. A phalanx of economists, led by Hollis Chenery and Montek Ahluwalia at the World Bank [Chenery *et al.* 1974; Ahluwalia 1976], looked for unconditional Kuznets Curves in a large sample of countries; the results are illustrated in Fig. 1. The inequality statistic used by Ahluwalia was simply the income share of the top 20 percent. Based on his 60-country cross-section from the 1960s and 1970s, it looked very much as though there was a Kuznets Curve out there. True, the



Cross-section from the 1960s and 1970s Source: [Ahluwalia 1976: Table 8, 340–341]



 Fig. 2 The Kuznets Curve: Historical Time Series from Five European Countries and America
 Source: See Appendix

more robust portion of the curve lay to the right; income inequality clearly fell with the development of economically mature economies. The left tail of the curve appeared to be less robust; there was enormous variance in inequality experience during earlier stages of development. This strong version of the Kuznets Curve also seemed to be supported by the historical data available at that time, some of it reported in Fig. 2.

Oddly enough, the attack on the Kuznets Curve continued to take aim at the strong and unconditional version long after the 1970s. Even as late as 1993, Sudhir Anand and S. Kanbur published a paper critical of the Kuznets Curve that contained no other explanatory variable but GDP. As is by now well known, it turned out that the Kuznets Curve disappeared from Fig. 1 when dummy variables for Asia and Latin America were added. The Latin American countries tend to have higher inequality, and in the 1960s, before the Asian "miracle," they were located closer to the middle of the income per capita ranking. The Asian countries tend to have lower inequality, and were located closer to the bottom of the income per capita ranking in the 1960s.

It seems to us that the more effective attacks on the Kuznets Curve (including that by Kuznets himself) have always been based on the quality of the income-distribution data. The World Bank data were poor: there was simply very little consistency as to how income was measured, how the recipient unit was defined, or how comprehensive was the coverage of the units. Thanks to Deininger and Squire [1996], we now have an excellent inequality database, which this article exploits. Even with this new database, however, Deininger and Squire were unable to find any evidence supporting the Kuznets Curve that Ahluwalia saw 25 years ago in Fig. 1. Once again, the strong version of the Kuznets Curve in the late twentieth century, just as many did not.

But for which countries does the strong version of the hypothesis fail, and why?

When it does fail, is it because some combination of other forces, including cohort size and openness, is overwhelming demand?

II Inequality, Cohort Size, and Openness: The Data

Deininger and Squire subject their inequality data to various quality and consistency checks. In order to be included in their "high quality" data set, an observation must be drawn from a published household survey, provide comprehensive coverage of the population, and be based on a comprehensive measure of income or expenditure. The resulting data set covers 111 countries and four decades (the 1960s through the 1990s), yielding 682 annual observations. We exclude from our analysis here 19 countries with insufficient economic data, yielding a data set covering 92 countries and including a total of 600 annual observations. Although many countries contribute only one or two annual observations, 19 countries contribute ten or more, permitting the analysis of inequality trends over time.

We focus on two measures of inequality, the Gini coefficient (GINI) and the ratio of income earned by the top income quartile to income earned by the bottom quartile (Q5/Q1). To highlight inequality patterns across regions and over time, Table 1 reports unweighted averages of these inequality measures by region and decade.³⁾ Inequality follows the expected regional patterns. It is quite high in Latin America and sub-Saharan Africa, with Gini coefficients in the 1990s of 50 and 46.4, respectively. Inequality is much lower among OECD countries and along the Pacific Rim, with Gini coefficients in the 1990s of 33.0 and 39.2, respectively.

Schultz [1998] has also used these data to decompose statistically the sources of world inequality into its within and between components, concluding that two-thirds of world inequality are due to between-country variation. Two-thirds represent a big number, one that justifies all the recent attention of the new-growth theory on country growth performance since the 1960s. Yet it is the within-country variance that motivates this analysis. The within-country inequality data summarized in Table 1 also confirm a point already noted by Deininger and Squire [1996] and Li, Squire, and Zhou [1998]: inequality displays little apparent variation over time within regions. The OECD's Gini coefficient, for example, moves from 33.6 to 33.0 between the 1970s and the 1990s; and the Gini coefficients for Latin America and the Pacific Rim are also quite stable over the past four decades, despite impressive growth, switches in policy regimes, and demographic transitions.

³⁾ Note that, for each period, the total number of observations is greater than the sum of the observations in the four regional aggregates. We consider the remaining, miscellaneous countries as too heterogeneous to merit reporting as a separate category. See the Appendix for details as to regional-group membership.

Table 1 Inequality: Patterns by Region and Decade						
Region and Measure	1960s	1970s	1980s	1990s		
Full sample						
Gini coefficient	37.7	38.8	37.6	39.7		
	(10.3)	(9.71)	(9.20)	(9.68)		
Q5/Q1 ratio	9.25	9.74	8.2	8.86		
	(7.68)	(6.41)	(4.95)	(5.86)		
No. of countries	37	61	73	63		
OECD						
Gini coefficient	34.7	33.6	32.6	33.0		
	(7.86)	(5.72)	(4.30)	(4.86)		
Q5/Q1 ratio	6.94	6.64	6.20	6.49		
	(3.73)	(2.60)	(1.79)	(2.28)		
No. of countries	12	19	20	13		
Africa						
Gini coefficient	45.3	49.8	41.6	46.4		
	(10.5)	(8.39)	(7.74)	(9.35)		
Q5/Q1 ratio	12.2	17.5	9.63	12.88		
	(9.01)	(3.17)	(5.81)	(8.91)		
No. of countries	4	4	11	15		
Latin America						
Gini coefficient	53.6	50.4	50.1	50		
	(5.26)	(4.94)	(5.47)	(5.35)		
Q5/Q1 ratio	21.2	17.0	16.2	13.3		
	(10.9)	(6.54)	(5.26)	(3.30)		
No. of countries	6	12	12	10		
Pacific Rim						
Gini coefficient	37.4	39.0	38.5	39.2		
	(7.05)	(7.03)	(6.76)	(7.45)		
Q5/Q1 ratio	8.28	8.96	7.88	8.14		
	(3.89)	(3.98)	(3.10)	(4.25)		
No. of countries	6	9	10	7		

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Note: Mean values, with standard deviations in parentheses. See the Appendix for data sources and regional membership. For each decade-region pair the number of countries with available inequality data is indicated under that line item. Apparent trends in inequality may reflect changes in data availability.

However—and this point deserves stress—data limitations make it almost impossible to draw firm conclusions about regional-inequality trends over the four recent decades. For example, the Gini coefficient for Latin America in the 1970s is based on 12 countries, whereas the Gini for the 1990s is based on 10 countries; only 6 Latin American countries, not necessarily representative, can be observed during both decades. Data limitations are even more severe for the Q5/Q1 variable, which, it turns out, is even more easily distorted by changes in sample membership.

To study Kuznets effects, we rely on real GDP per worker, measured at purchasingpower parity. Some earlier studies have relied on real GDP per capita rather than per worker, but we are persuaded that labor productivity is more closely connected to the Kuznets notion of stages of development. GDP per worker is viewed as a proxy for a constellation of variables that have unequal derived-demand impact on factor markets, an impact that Kuznets himself summarized as (unskilled) laborsaving in early stages of development. Following many earlier studies, adding a quadratic GDP per worker term to the model captures the possibility that this inequality turning point appears at later stages of development. Table 2 reveals the expected labor-productivity growth pat-

Decade				
Region and Measure	1960s	1970s	1980s	1990s
Full sample				
RGDP per worker	7,425	10,063	11,237	12,265
	(6,580)	(8,222)	(9,074)	(9,965)
Open	0.329	0.383	0.425	0.648
	(0.422)	(0.481)	(0.462)	(0.456)
Mature	28.4	27.5	26.9	27.1
	(4.66)	(4.10)	(4.56)	(5.02)
OECD				
RGDP per worker	16,194	21,734	24,860	28,083
	(5,836)	(5,999)	(6,052)	(6,835)
Open	0.825	0.900	0.925	1.0
	(0.337)	(0.308)	(0.236)	(0.0)
Mature	34.3	32.9	32.4	33.8
	(2.92)	(2.14)	(2.93)	(3.04)
Africa				
RGDP per worker	2,398	3,272	3,490	3,380
	(1,765)	(2,584)	(2,755)	(3,056)
Open	0.032	0.045	0.141	0.318
	(0.113)	(0.213)	(0.305)	(0.454)
Mature	25.5	25.3	24.4	23.7
	(2.20)	(1.99)	(2.07)	(1.95)
Latin America				
RGDP per worker	8,059	10,413	10,364	9,334
	(5,109)	(5,565)	(5,173)	(4,217)
Open	0.320	0.227	0.273	0.822
	(0.407)	(0.413)	(0.349)	(0.278)
Mature	25.2	24.3	23.8	24.3
	(1.47)	(1.20)	(1.92)	(2.24)
Pacific Rim				
GDP per worker	3,995	6,995	10,472	14,612
	(2,071)	(4,166)	(6,341)	(9,046)
Open	0.490	0.900	0.900	0.900
	(0.375)	(0.316)	(0.316)	(0.316)
Mature	27.4	26.8	26.5	27.9
	(2.47)	(3.05)	(3.91)	(4.42)

 Table 2
 Income, Openness, and Cohort Size: Patterns by Region and Decade

Note: Mean values, with standard deviations in parentheses. See the Appendix for data sources and regional membership. All available data are used, even if no corresponding inequality data are available for some country-decade pairs.

terns: real GDP per worker grows rapidly along the Pacific Rim, grows moderately in the OECD economies, and stagnates in sub-Saharan Africa and Latin America.

Our openness measure comes from Sachs and Warner [1995], who classify an economy as closed (dummy = 0) if it is characterized by any of the following four conditions: (1) a black market premium of 20 percent or more for foreign exchange, (2) an exportmarketing board that appropriates most foreign-exchange earnings, (3) a socialist economic system, or (4) extensive nontariff barriers on imports of intermediate and capital goods. The black market premium is generally the most decisive criterion of the four, by itself identifying the vast majority of countries considered closed. According to the Sachs-Warner index, the OECD region has been quite open since the 1960s. The Pacific Rim became open in the 1970s. Latin America waited until the first half of the 1990s to make a significant switch toward economic openness, whereas sub-Saharan Africa still remains closed. Since there is no generally accepted metric for assessing a country's degree of economic openness [Anderson and Neary 1994; Rodriguez and Rodrik 2001], we experiment with alternative measures of openness to test the robustness of our results based on the Sachs-Warner index.

To capture the effects of cohort size, we rely on the fraction of the labor force in its peak earning years (MATURE). Because data concerning age-specific labor force participation rates are unavailable, we approximate this by the fraction of the adult population aged 40–59. This cohort size measure has been relatively stable within regions over the past three decades, but it varies substantially across regions, standing far higher in the developed world than elsewhere (Table 2). Evidently the mature adult share of the labor force rises substantially only during later stages of the demographic transition.

III Empirical Results

Our benchmark empirical model treats the data as decadal averages by country, following Deininger and Squire [1998]. We first estimate the standard unconditional Kuznets Curve, with only real output per worker and its square as explanatory variables. We then add measures of openness and cohort size to the conditional Kuznets Curve. To assess the robustness of our results, we consider the stability of the estimated relationships over time, add to the model several additional variables identified in the literature as potential inequality determinants, experiment with alternative measures of economic openness, and explore alternative demographic variables for which our cohort size measure might act as a proxy. Our results provide considerable support for the hypotheses that inequality follows an inverted U as an economy's aggregate labor productivity rises, and that inequality falls as an economy's population matures. We find only limited support, however, for the hypothesis that economic openness brings increased inequality. Cohort size has a consistent and powerful effect throughout.

Pooled Estimates

Since the benchmark model relies on decadal averages, each country contributes between one and four observations. The average number of observations per country in our largest sample is 2.4, or about two and a half decades. All specifications include three dummy variables describing whether an inequality observation is (a) measured at the personal or household level, (b) based on income or expenditure, or (c) based on gross or net income.⁴ All specifications also include a dummy variable for the presence of a socialist government as well as decade dummies, the latter ensuring that the estimates are driven entirely by cross-sectional variation. The standard errors used to generate our test statistics are robust to heteroskedasticity of an unknown form.

We begin by estimating the unconditional Kuznets Curve—that is, a model containing only real output per worker and its square as explanatory variables (RGDPW and RGDPW²), along with the various dummy variables. These initial results point to a relationship between inequality (GINI or Q5/Q1) and labor productivity, significant at the 1 percent level, but the relationship does not follow the expected inverted U (Table 3,

	Dependent Variable						
	Gini C	oefficient	Q5/Q1 Inc	ome Ratio			
RGDPW	— 7.14 E–02	— 2.55 E-02	4.77 E-03	1.290 E-03			
	(0.31)	(0.13)	(0.31)	(0.10)			
$\rm RGDPW^2$	— 1.34 E-02	- 9.52 E-03	— 8.08 E-04	- 4.22 E-04			
	(2.01)	(1.67)	(1.87)	(1.16)			
Joint significance	<.0001	<.0001	<.0001	.0013			
Turning point	NA	NA	\$2,952	\$1,528			
Africa dummy		10.64		0.614			
		(6.22)		(5.45)			
Latin dummy		12.63		0.751			
		(10.99)		(8.94)			
R ² adj.	0.373	0.624	0.336	0.587			
Observations	223	223	196	196			

Table 3 The Unconditional Kuznets Curve

Note: The Q5/Q1 income ratio is measured in logs. Absolute *t*-statistics, in parentheses, are based on heteroskedasticity-corrected standard errors. Data are pooled by decade, with countries contributing between one and four observations. All specifications include the following dummy variables: (i) inequality data based on expenditure rather than income; (ii) inequality measured at household rather than personal level; (iii) inequality data based on gross rather than net income; (iv) socialist government; and (v)-(vii) decade. See the Appendix for data sources and definitions. NA—Not applicable.

⁴⁾ Deininger and Squire [1996] note that measured inequality levels vary systematically along these dimensions, making it important to control for them in empirical work.

columns 1 and 3). The estimated coefficients in GINI for RGDPW and RGDPW² are both negative, implying that inequality declines monotonically with the level of economic development. When inequality is measured instead by Q5/Q1, the inverted U does appear, but the individual coefficients are very imprecisely estimated, reflecting a high degree of collinearity between the two variables. Much the same holds true when the model is estimated for the four decades in our sample (not reported): for both the GINI and Q5/Q1 variables, RGDPW and RGDPW² are always jointly significant at the 1 percent level, but the estimated sign pattern is often perverse. Adding regional dummy variables for sub-Saharan Africa and Latin America changes these results but little (columns 2 and 4).

It is, of course, possible that the inverted U posited by Kuznets is masked by other forces, such as cohort size and economic openness. After all, economic relationships are seldom expected to hold unless other relevant influences are controlled.⁵⁾ In this spirit, we add to the model the measures of openness and cohort size discussed earlier, and when we do so the Kuznets Curve emerges (Table 4, columns 1 and 2, 3 and 4). RGDPW and $RGDPW^2$ are jointly and individually significant at the 1 percent level, and they display the expected sign pattern. It is worth noting, however, that the estimated inequality turning point is quite high, at about \$15,000 evaluated at purchasing-power parity in 1985 prices.⁶⁾ For comparison, as of 1990, real output per worker stood at \$36,800 in the United States, \$16,000 in South Korea, and \$6,800 in Thailand. According to Kuznets, the transition from a traditional, agricultural economy to a modern, industrial economy should be essentially complete at the estimated turning point, or at least the economy should undergo a pronounced slowdown in the rate of structural change at the turning point. Thus it is difficult to interpret these results in the manner Kuznets would have preferred, as showing the path of inequality over the course of the agricultural-industrial transition.

Next, note that Table 4 reports emphatic support for a link between cohort size and aggregate inequality. The estimated coefficient for MATURE is negative and easily statistically significant at the 1 percent level for both the GINI and Q5/Q1 variables, indicating that a more experienced labor force is associated with reduced inequality, regardless of schooling levels or its distribution. The estimated quantitative impact is also large. According to the estimated coefficients, a one-standard deviation increase in

⁵⁾ The distinction between unconditional and conditional convergence in country income levels provides an apt analogy [Williamson 1998]. Numerous studies fail to find support for unconditional convergence, but they do find powerful evidence of convergence after controlling for determinants of steady-state income levels.

⁶⁾ Recall that these estimates are based on output per worker, which is generally about twice as high as output per capita. Also, developing country productivity levels evaluated at purchasing power parity are often more than twice as high as productivity levels evaluated at current prices and exchange rates [Summers and Heston 1991].

	Dependent Variable					
	(Gini Coefficie	nt	Q5/Q	1 Income Ra	tio
RGDPW	0.739 (3.22)	0.801 (3.63)	0.580 (2.77)	4.61 E-02 (2.90)	5.14 E-02 (3.51)	3.07 E-02 (2.29)
$RGDPW^2$	- 2.57 E-02 (4.16)	- 2.65 E-02 (4.23)	- 2.01 E-02 (2.74)	- 1.38 E-03 (3.34)	- 1.49 E-03 (3.72)	- 9.34 E-04 (2.02)
Joint significance	<.0001	<.0001	.0002	.0030	.0010	.0441
Turning point	\$14,377	\$15,113	\$14,428	\$16,703	\$17,248	\$16,435
Open	- 3.74 (2.30)	-3.71 (2.47)	-1.14 (0.92)	- 0.152 (1.50)	- 0.179 (1.93)	- 2.04 E-02 (0.24)
Open×Rich	1.10 (0.54)			2.08 E-02 (0.16)		
Open×Poor		1.58 (0.39)			0.177 (0.61)	
Mature	- 1.15 (7.65)	- 1.13 (7.95)	- 0.852 (6.89)	- 6.57 E-2 (6.69)	- 6.52 E-2 (7.39)	- 4.44 E-2 (4.98)
Africa dummy			9.71 (5.81)			0.555 (4.95)
Latin dummy			9.02 (6.92)			0.550 (5.39)
R ² adj.	0.554	0.554	0.688	0.494	0.496	0.627
Observations	219	219	219	193	193	193

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Table 4 The Kuznets Curve, Openness, and Cohort Size

Note: The Q5/Q1 income ratio is measured in logs. Absolute *t*-statistics, in parentheses, are based on heteroskedasticity-corrected standard errors. Data are pooled by decade, with countries contributing between one and four observations. All specifications include the following dummy variables: (i) inequality data based on expenditure rather than income; (ii) inequality measured at household rather than personal level; (iii) inequality data based on gross rather than net income; (iv) socialist government; and (v)–(vii) decade. See the Appendix for data sources and definitions.

this variable would lower a country's Gini coefficient by 6.5 and reduce the value of its Q5/Q1 variable by 2.8. We return below to the quantitative impact of these cohort-size effects, as well as of the other two explanatory variables; but these cohort-size effects appear to be very big.

Finally, note that Table 4 does not support the view that economic openness is closely connected with higher inequality. Nor does Table 4 support the more complex predictions of standard trade theory, namely that poor countries that go open should become less unequal whereas rich countries that go open should become more unequal. There are two specifications each under GINI and Q5/Q1. The first specification interacts OPEN (here, the Sachs-Warner measure) with an indicator variable that equals 1 if a country was in the top third of the labor-productivity distribution in 1975–79; this new variable is called RICH. The second specification interacts OPEN with an indicator variable that equals 1 if a country was in the bottom third of the labor-productivity distribution in 1975–79; this new variable that equals 1 if a country was in the bottom third of the labor-productivity distribution in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity was in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity was in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity was in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity distribution in the labor-productivity was in the labor-productivity distribution in the labor-pr

distribution in 1975–79; this new variable is called POOR. As Table 4 shows, OPEN \times RICH and OPEN \times POOR are always small and insignificant, indicating that the impact of openness (as measured here) does not vary with income, productivity, or human-capital endowment. Standard Stolper-Samuelson trade theory does not survive in these data.

As noted earlier, the theoretical predictions of standard trade rest on several ancillary assumptions; the failure of our empirical results to support those predictions may mean that one or more of the assumptions are violated. Perhaps more important, our tests may simply lack statistical power against the null hypothesis that inequality is unrelated to openness. Remember, we interact the Sachs-Warner openness measure with a dummy variable that selects members of (depending on the specification) the top or the bottom third of the world-income distribution. It turns out that, by this measure, almost all countries in the top third of the world income distribution are rated as open, and almost all countries in the bottom third as closed. Because the available data may not permit a sharp test of the hypothesis that the openness-inequality relationship should vary with the level of development—and in light of the negative openness results reported above—the remainder of this article treats the openness-inequality relationship as independent of the level of development.

Turning to the direct effect of openness, the coefficient on the Sachs-Warner variable is negative and statistically significant at the 1 percent level for the GINI variable (columns 1 and 2), and negative but significant at the 10 percent level in only one of the two specifications for the Q5/Q1 variable. According to these estimated coefficients, an economy rated as fully open (dummy = 1) would have a Gini coefficient of 3.5 below that of an economy rated as fully closed (dummy = 0). Given that the cross-country standard deviation for Gini coefficients is close to 10, the maximum quantitative impact of 3.5 does not appear to be very large (and only 7 percent of the Latin American Gini in the 1990s). Similarly, according to the estimated coefficients, the Q5/Q1 variable is only 14 percent higher for a closed than for an open economy, a reduction of only about 1.3 percent evaluated at the sample average for the 1990s.⁷⁾

Checking Robustness

To evaluate the robustness of these results, we experiment with a number of alternative specifications. We begin by adding dummy variables for sub-Saharan Africa and Latin America to control for unobserved factors peculiar to these regions (Table 4, columns 3 and 6).⁸⁾ Now how do our three main hypotheses perform? First, and most important,

⁷⁾ The cross-country standard deviation is close to 5.0.

⁸⁾ We experimented with adding additional regional dummies for OECD and Pacific Rim economies. These dummy variables were statistically insignificant, and coefficient estimates for other variables remained essentially unchanged.

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the link running from older working-age populations to lower inequality remains significant at the 1 percent level. Second, the Kuznets Curve persists. Deininger and Squire [1998] found that the Kuznets Curve disappeared when African and Latin American dummies were introduced, a finding consistent with those of observers writing in the 1970s and 1980s in the wake of Ahluwalia's [1976] work for the World Bank. In contrast, the addition of these regional dummies to our conditional model makes only modest changes in the evidence supporting the Kuznets Curve. For the GINI variable, RGDPW and RGDPW² are easily significant at the 1 percent level, while the estimated productivity turning point falls slightly. For the Q5/Q1 variable, the statistical significance of the productivity variable falls from the 1 percent level, but still retains significance at the 5 percent level. Third, the evidence of any link between economic openness and inequality essentially disappears. The coefficient for OPEN retains its negative sign, but is far from significant statistically.

We next explore the stability of the empirical relationships over time, estimating the models separately for each decade.⁹⁾ The results lead to some softening of the evidence supporting the Kuznets Curve (Table 5). For the GINI variable, the coefficients for

	Dependent Variable								
-		Gini Co	efficient			Q5/Q1 Income Ratio			
	1960s	1970s	1980s	1990s	1960s	1970s	1980s	1990s	
RGDPW	1.20 (2.10)	1.29 (2.74)	0.565 (2.07)	0.175 (0.29)	6.32 E-02 (0.86)	9.810 E-02 (2.33)	4.05 E-02 (2.26)	- 1.88 E-02 (0.39)	
RGDPW ²	- 3.16 E-02 (2.01)	- 4.32 E-02 (1.67)	- 2.13 E-02 (4.32)	- 9.91 E-03 (0.71)	- 6.95 E-04 (0.29)	- 2.92 E-03 (2.44)	- 1.21 E-03 (2.45)	9.55 E-05 (0.09)	
Joint significant	ce .0997	.0124	.0029	.4023	.2799	.0498	.0480	.4894	
Turning point	\$18,987	\$14,931	\$13,263	\$8,829	\$45,468	\$16,798	\$16,736	NA	
Open	- 9.63 (2.17)	-4.55 (1.48)	- 0.348 (0.16)	- 1.23 (0.31)	- 0.699 (1.69)	- 0.178 (0.88)	1.23 E-02 (0.10)	- 1.02 E-02 (0.03)	
Mature	- 1.22 (2.08)	- 1.09 (2.77)	- 0.734 (2.93)	-1.39 (4.43)	- 8.73 E-2 (1.34)	- 7.09 E-2 (2.30)	- 4.76 E-2 (3.24)	- 8.74 E-2 (3.85)	
R² adj. Observations	0.539 34	0.620 56	0.629 69	0.399 60	0.367 28	0.553 49	0.581 64	0.357 52	

 Table 5
 Stability of Regression Estimates over Time

Note: The Q5/Q1 income ratio is measured in logs. Absolute t-statistics, in parentheses, are based on heteroskedasticity-corrected standard errors. All specifications include the following dummy variables: (i) inequality data based on expenditure rather than income; (ii) inequality measured at household rather than personal level; (iii) inequality data based on gross rather than net income; and (iv) socialist government. See the Appendix for data sources and definitions.

NA—Not applicable.

⁹⁾ The estimates will also be influenced by decadal differences in the availability of the inequality data.

RGDPW and RGDPW² are of the expected signs and jointly statistically significant at or close to the 1 percent level for the 1970s and 1980s; they are also significant at the 10 percent level for the 1960s. However, there is no evidence of a Kuznets Curve in the 1990s. Similarly, for the Q5/Q1 variable, coefficients for RGDPW and RGDPW² are of the expected signs and jointly statistically significant at the 5 percent level for the 1970s and 1980s; but they switch signs and fall well short of statistical significance for the 1990s. In short, it seems wise to be tentative even about the emergence of a conditional Kuznets Curve in these data. After all, while the poor results for the 1960s may reflect the small sample size (in particular, there are few inequality observations for Africa or Latin America), the results for the 1990s are just plain negative.

Splitting the sample by decade tends to increase the already strong support for cohort-size effects on inequality. The MATURE variable attains 5 percent significance levels in all cases but one—for the Q5/Q1 variable in the 1960s, a period for which the sample size is small. In contrast, the Sachs-Warner openness measure—treated here as the simple additive variable OPEN because Table 4 rejected complex interactions— attains a conventional statistical significance level for only one specification, that for the GINI variable in the 1960s.

The extensive theoretical and empirical literature on inequality has identified many other potentially important inequality determinants. We further examine the robustness of our empirical results by adding a number of these other determinants to our benchmark equations (Table 6). Bourguignon and Morrisson [1998] focus on the role of relative labor productivity in agriculture and nonagriculture to capture Kuznets's notion that the differential development of these sectors plays a key role in explaining inequality. These authors also include arable land per capita to capture a potential link between natural resource endowment and inequality, and the secondary-school enrollment ratio to capture the intuitive notion that broader access to education reduces inequality.

Table 6 confirms the importance of the Bourguignon-Morrisson agricultural variables in explaining inequality. The productivity ratio between industry and agriculture is statistically significant at the 1 percent level, bigger productivity gaps contributing to greater inequality. The estimated coefficient implies that a reduction in the productivity ratio from 7.0 to 1.5 (the values, respectively, for Peru and the United States in the early 1990s) would lower a country's Gini coefficient by 2.2, compared with a cross-sectional standard deviation of about 9.7. Similarly, a more abundant agricultural endowment is associated with higher inequality, supporting the view that abundant resources can be a social "curse" as well as a drag on growth [Sachs and Warner 1995].¹⁰ The secondary-

¹⁰⁾ We experimented by measuring natural resource abundance as the share of natural resource exports in GDP, rather than as agricultural land per capita. The alternative variable was statistically insignificant. Natural resource exports include fuels, minerals, and primary agricultural products.

	Dependent Variable					
-	G	ini Coefficier	ıt	Q5/G	Q1 Income Ra	itio
RGDPW	1.04	1.00	0.600	5.22 E-02	4.85 E-02	3.03 E-05
	(4.63)	(4.22)	(2.54)	(3.43)	(2.92)	(1.74)
$RGDPW^2$	— 3.02 E-02	— 2.95 E-02	— 1.94 E-02	— 1.40 E-03	— 1.33 E-03	— 8.52 E–10
	(4.54)	(4.20)	(2.88)	(3.19)	(2.84)	(1.79)
Joint significance	<.0001	<.0001	.0126	.0028	.0130	.1893
Turning point	\$17,219	\$16,949	\$15,464	\$18,643	\$18,233	\$17,782
Mature	-1.15	- 1.09	-0.945	- 8.95 E–2	— 8.94 E-02	— 6.34 E-02
	(6.01)	(5.06)	(6.03)	(6.74)	(6.19)	(5.26)
Secondary enroll.	— 6.61 E-2	- 4.92 E–2		- 5.39 E-4	6.67 E-04	
	(1.74)	(1.17)		(0.22)	(0.25)	
Ind./agr. labor prod.	0.398	0.370	0.300	1.80 E-2	1.61 E-02	8.56 E-03
	(2.61)	(2.33)	(2.12)	(2.16)	(1.72)	(1.05)
Arable land/pop.	1.22	1.52	0.657	9.37 E-2	0.114	5.76 E-02
	(3.16)	(3.52)	(1.82)	(3.57)	(3.66)	(2.52)
M 3/GDP		- 1.02 E-02			— 1.03 E-03	
		(0.32)			(0.48)	
Freedom		0.430			2.04 E-02	
		(1.03)			(0.67)	
Africa dummy			8.50			0.50
			(4.83)			(3.93)
Latin America dummy			7.76			0.41
			(5.50)			(3.49)
R ² adj.	0.561	0.526	0.643	0.541	0.502	0.586
Observations	162	153	164	141	132	143

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Table 6 Extending the Basic Regression Model

Note: The Q5/Q1 income ratio is measured in logs. Absolute *t*-statistics, in parentheses, are based on heteroskedasticity-corrected standard errors. Data are pooled by decade, with countries contributing between one and four observations. All specifications include the following dummy variables: (i) inequality data based on expenditure rather than income; (ii) inequality measured at household rather than personal level; (iii) inequality data based on gross rather than net income; (iv) socialist government; and (v)–(vii) decade. See the Appendix for data sources and definitions.

school enrollment ratio has the expected sign, but it is statistically significant at the 10 percent level for only the GINI inequality measure. For both the GINI and Q5/Q1 variables, however, the Kuznets Curve and cohort-size effects remain significant at the 1 percent level, with little change in the coefficient estimates.

Note that Table 6 also adds a measure of financial depth (M3/GDP) and political freedom (FREEDOM), $^{11}\,$ both of which were suggested by Squire and two collaborators

¹¹⁾ FREEDOM is taken from the Barro-Lee data set and is a geometric average of two indices, one measuring civil liberties and the other measuring political rights.

[Li, Squire and Zhou 1998]. Regarding the former, some inequality theories argue that countries with poorly developed financial systems will have higher inequality because the poor, lacking collateral, will be unable to make profitable investments. In any case, neither variable is significant in our data. A final specification drops variables that are insignificant at the 10 percent level and adds dummy variables for Latin America and Africa, with little effect on the results.

The largely negative results described above concerning the relationship between inequality and economic openness could reflect the choice of a poor or misleading index of the latter. Similarly, the positive results concerning the relationship between inequality and our measure of cohort size could reflect a proxy relationship between this variable and some relevant, omitted demographic variable. To explore these possibilities, we experimented with several alternative measures of openness and added several alternative demographic variables to the model.

As alternative measures of openness, we used measures of the presence of capital controls,¹²⁾ quantitative and tariff restrictions on imports, the share of imports plus exports in GDP, and the portion of this variable orthogonal to variables designed to capture a country's "natural" level of openness: the logs of country size, population, per capita income, per capita crude proven oil reserves, the average distance from trading partners, and two dummy variables describing, respectively, whether a country is an island or is landlocked.¹³⁾ None of the alternative openness measures was significant at the 10 percent level when used in place of the Sachs-Warner OPEN index.¹⁴⁾ The cross-country data, it appears, do not support the hypothesis that more open economies will suffer from higher inequality. It should be stressed, however, that the evidence support-

¹²⁾ The IMF records four policies restricting capital flows: (1) separate exchange rates for capital-account transactions, (2) payment restrictions for current transactions, (3) payment restrictions for capital transactions, and (4) mandatory surrender of export proceeds. For each of the four possible restrictions, we define a dummy variable equal to 1 when the restriction is in place, and 0 otherwise. We then take the sum of the four dummy variables as our measure of the presence of capital controls. We thank Leonardo Bartolini and Alan Drazen for providing a tabulation of the IMF data.

¹³⁾ Exports plus imports as a share of GDP are often used as a measure of openness—indeed, Summers and Heston [1995] simply label the variable as OPEN—although it has no clear connection with openness in an economically relevant sense. Standard trade models imply that a country's product and factor prices may be determined entirely in the world market even with a low trade share, or diverge substantially from their free-trade values even with a high trade share. Moreover, country size and population size explain much of the variation in the trade/GDP ratio, although these variables should be unrelated to a country's trade policy. We take the residual of OPEN from the variables listed in the text as a crude attempt to capture the variation in the trade/GDP ratio potentially explained by economic policy.

¹⁴⁾ For brevity, we do not report those results here. The specifications correspond to Table 4, columns 1 and 4, but with only a simple, non-interacted measure of openness.

ing a Kuznets Curve was unaffected during these experiments, remaining significant at the 1 percent level for both the Q5/Q1 and GINI variables. The same held true for the cohort-size impact on inequality.

To check the robustness of the cohort-size effect and our choice of MATURE, we added the following demographic variables to the model, one at a time: the total fertility rate, the population growth rate, the labor force growth rate, the infant mortality rate, and life expectancy at birth. Our preferred cohort-size measure, of course, depends on the behavior of age-specific fertility and mortality rates over several previous decades. Even so, MATURE could serve as an excellent point-in-time proxy for such demographic variables: for the 1990–94 period, the cross-country correlation of MATURE with labor force growth and the total fertility rate is -0.88 and -0.74, respectively. This point is important because some models of fertility choice imply that fertility will fall as income inequality declines [Perotti 1996]. According to this reasoning, the negative estimated coefficient for MATURE could be capturing the endogenous response of fertility to inequality, rather than a cohort-size effect, as we have inferred.

Our robustness tests suggest that our inference is correct: our principal cohort-size findings are unaffected by adding the alternative demographic variables to the model. Of the new variables, the total fertility rate and life expectancy at birth are statistically significant at the 5 percent level, but only when the model does not include dummy variables for sub-Saharan Africa and Latin America.¹⁵⁾ In contrast, MATURE is always statistically significant at the 1 percent level, with little change in the estimated coefficient. RGDPW and RGDPW² remain jointly significant at the 1 percent level, with little change in the estimated inequality turning point.

The results described above provide emphatic support for the link between inequality and cohort size. They also offer strong, even if not unequivocal, support for a Kuznets Curve. Even so, our empirical models are not without their flaws. First, the estimates suffer from possible simultaneity bias, as is true of most other work in this area. The dearth of variables correlated with the relevant explanatory variables, and clearly uncorrelated with disturbances to inequality, makes it difficult to address this issue in a satisfactory way. Equally important, the estimates are likely to suffer from omittedvariable bias. Our strategy has been to address this issue by testing the robustness of our principal results to the inclusion of other variables identified in the literature as potential inequality determinants.¹⁶

¹⁵⁾ Again, for brevity, we do not report these results here. The specifications correspond to Table 4, columns 1 and 4, but with only a simple, non-interacted measure of openness, and including both MATURE and the alternative demographic variable.

¹⁶⁾ An alternative strategy, explored in Higgins and Williamson [1999], is to rely on a fixed-effects model by adding country-specific dummy variables to the regression specification. A fixed-effects estimator eliminates bias arising from unobserved country-specific characteristics that (a) affect inequality and (b) are correlated with included explanatory variables.

Quantitative Implications

Tables 7 and 8 explore the impact on inequality of demand (proxied by the Kuznets Curve), openness, and cohort size. The figures in Table 7 show how inequality would be affected were the regional values of the three explanatory variables replaced by OECD values (columns 1 and 2) or by Pacific Rim values (columns 3 and 4). The biggest effects coming from this exercise are those associated with cohort size. Compared with the OECD economies, both Africa and Latin America had much greater inequality, the Gini coefficient being 13.4 points higher in the 1990s in Africa and 17 points higher in Latin America (see Table 1). Table 7 shows that if Africa had the same demographic mix as the OECD, inequality (measured by the Gini coefficient) would have been lower by 8.61 points, cohort size accounting for almost two-thirds of the difference between the two regions. If Latin America had the same demographic mix as the OECD, inequality would have been lower by 8.09 points, cohort size accounting for almost half of the difference between the two regions. Compared with the Pacific Rim countries, inequality (again measured by the Gini coefficient) in Africa and Latin America in the 1990s was much higher, bigger by 7.2 points in Africa and by 10.8 points in Latin America (Table 1). Table 7 shows that if Africa had the same demographic mix as the Pacific Rim, inequality would have been lower by 3.58 points, cohort size accounting for about half of the difference between the two regions. If Latin America had the same demographic mix as the Pacific Rim, inequality would have been lower by 3.07 points, cohort size accounting for almost a third of the difference between the two regions.

Openness (OPEN) also helps account for the inequality differences between regions in

 $^{^{}arphi}$ The authors' results, based on annual data, support the presence of a conditional Kuznets Curve, as well as a strong negative link between inequality and the MATURE cohort share. However, there is good reason to take these results with a grain of salt. First, the fixedeffect procedure removes the dominant cross-sectional variation from the data: the authors find that more than 85 percent of the variation in inequality and the principal explanatory variables is across countries, rather than within countries over time. Thus, any reduction in estimation bias comes at a substantial potential cost in estimation efficiency. Second, the regression residuals displayed significant serial correlation, implying that the estimated standard errors are biased (or worse yet, that relevant, serially dependent explanatory variables have been omitted from the model, leaving both coefficient and standard-error estimates biased [Davidson and MacKinnon 1993: 364]). However, extant techniques for controlling for serial dependence require a fairly large number of consecutive observations-a standard that the available inequality data do not accommodate. In our data set, only 10 countries have as many as 7 adjacent annual observations for inequality and the relevant macroeconomic variables. Judson and Owen [1997] show that lagged dependent-variable models with fixed effects are subject to substantial bias even with as many as 30 timeseries observations. Similarly, the panel data estimators proposed by Anderson and Hsiao [1981] and Arellano and Bond [1991] instrument for the lagged dependent variable using deeper lags; while the panel-data estimator proposed by Arellano and Bover [1995] transforms the data into deviations from forward-looking means. These estimators are also infeasible given an unbalanced panel with few complete consecutive observations.

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	Changes in O	ECD Values	Changes in Paci	fic Rim Values
	Gini Coefficient	Q5/Q1 Ratio	Gini Coefficient	Q5/Q1 Ratio
Full sample				
RGDP per worker	-3.65	-0.92	0.09	0.12
Open	-0.40	-0.06	- 0.29	-0.05
Mature	-5.71	-2.28	-0.68	-0.31
OECD				
RGDP per worker	NA	NA	3.75	0.85
Open	NA	NA	0.11	0.01
Mature	NA	NA	5.03	1.94
Africa				
RGDP per worker	-1.29	0.43	2.45	2.18
Open	-0.78	-0.18	-0.66	-0.15
Mature	- 8.61	-4.65	-3.58	- 2.19
Latin America				
RGDP per worker	-3.23	-1.01	0.52	-0.35
Open	- 0.20	-0.05	-0.02	-0.02
Mature	-8.09	-4.58	- 3.07	-1.96
Pacific Rim				
RGDP per worker	-3.75	-0.94	NA	NA
Open	-0.11	-0.02	NA	NA
Mature	-5.03	-1.88	NA	NA

Table / Regional Counterfactua	able 7	gional Counterfactual
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Note: The figures above show how inequality would be affected were regional variable values replaced by the values for, respectively, the OECD and the Pacific Rim. Real GDP per worker, Open, and Mature are averages for the 1990–94 period, as reported in Table 2. The calculations are based on the pooled regression estimates, reported in Table 4, columns 3 and 6. See the Appendix for details as to data sources and variable definitions. NA—Not applicable.

Table 7 (whether GINI or Q5/Q1), but its contribution is tiny compared with cohort size. The Kuznets-factor demand effects (RGDP per worker) are also smaller than cohort size, and they account for none of the differences between Africa and the Pacific Rim or Latin America and the Pacific Rim.

While Table 7 explores the impact of the three explanatory variables on betweenregion inequality differences in the 1990s, Table 8 explores their impact on within-region inequality changes from the 1970s to the 1990s. It shows that within-region inequality change over the two decades was small, and that cohort-size changes were serving to raise inequality in Africa, lower it in the OECD and the Pacific Rim, and change it not at all in Latin America.

The Future

The estimation results can also be used to assess the effect of anticipated demographic change on inequality. As is well known, the currently developed world is grayer than the currently developing world. The contrast is starkest for the OECD region and sub-

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Region and Measure	Gini Coefficient	Q5/Q1 Gap
Full sample		
RGDP per worker	0.29	0.21
Open	-0.30	-0.05
Mature	0.34	0.17
OECD		
RGDP per worker	-2.67	- 0.63
Open	-0.11	-0.01
Mature	-0.77	-0.26
Africa		
RGDP per worker	0.05	0.05
Open	-0.31	-0.10
Mature	1.36	1.29
Latin America		
RGDP per worker	-0.20	- 0.22
Open	-0.68	-0.21
Mature	0.00	0.00
Pacific Rim		
RGDP per worker	1.11	0.75
Open	0.00	0.00
Mature	-0.94	-0.43

Table 8The Impact of Demand, Globalization, and Cohort
Size on Inequality: Changes, 1970s to 1990s

Note: The figures above show the estimated impact on regional inequality of changes in RGDPW, Open, and Mature, comparing 1970–79 with 1990–94. The figures rely on the coefficient estimates reported in Table 4, columns 3 and 6, and the regional data reported in Table 2. These "fitted value" inequality changes are based on all available data for the three explanatory variables and cannot be directly compared with measured regional inequality changes (see Table 1), which are based on shifting sample of fewer countries.

Saharan Africa. MATURE, the share of the 40–59 age group in the adult population 15–69, stood at 33.8 percent among OECD countries in the early 1990s, but at only 23.7 percent in Africa (Table 9). Even among Pacific Rim countries, the mature-adult share was only 27.9 percent.

The coming decades will witness substantial convergence among regional age distributions, as birth rates and adult mortality in the currently developing world continue to fall.¹⁷⁾ In Latin America and the Pacific Rim, MATURE is expected to rise by about 9 percentage points between the early 1990s and 2025, to 33.4 and 36.9, respectively. For

¹⁷⁾ The figures cited here come from the United Nations' "medium variant" population projection.

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Region and Measure	1990s	2025	2050
Full sample			
Mature	27.1	33.8	35.8
Gini coefficient	39.7	34.0	32.3
Q5/Q1 ratio	8.9	6.6	6.0
OECD			
Mature	33.8	38.7	36.7
Gini coefficient	33.0	28.8	30.5
Q5/Q1 ratio	6.5	5.2	5.7
Africa			
Mature	23.7	26.8	33.6
Gini coefficient	46.4	43.8	38.0
Q5/Q1 ratio	12.9	11.2	8.3
Latin America			
Mature	24.3	33.4	36.4
Gini coefficient	50	42.2	39.7
Q5/Q1 ratio	13.3	8.9	7.8
Pacific rim			
Mature	27.9	36.9	36.9
Gini coefficient	39.2	31.5	31.5
Q5/Q1 ratio	8.1	5.5	5.5

 Table 9
 The Future: Cohort-Size Effects on Inequality

Note: 21st-century age distributions are taken from the United Nations' "medium variant" population projection. The estimated effects of expected demographic change on inequality are based on the pooled estimation results (Table 4, columns 3 and 6). The inequality figures for the early 1990s are based on the available data for 1990–94, and repeat Table 1, column 4.

Latin America, a further, more modest increase is expected for the years between 2025 and the middle of the century. In Africa, the expected sequences is the opposite: MATURE shows a moderate increase between the early 1990s and 2025, but a much larger increase between 2025 and 2050. Among OECD countries, a moderate increase in the mature-adult share is expected between 1995 and 2025, with a slight decline in the subsequent decades.

Our empirical results suggest that these demographic changes will be a powerful force promoting reduced inequality throughout the world. The impact should be strongest in the currently developing world, where the rise in MATURE will be most pronounced. According to our estimates, the rise in the mature-adult share of the labor force, taken by itself, will reduce Latin America's Gini coefficient from 50 to 42.2 by 2025, with a further, more modest decline between 2025 and 2050. The Gini coefficient for Pacific Rim countries is estimated to fall from a relatively low 39.2 to a still lower 31.5 by 2025 before stabilizing. Population aging is estimated to bring only a modest decline before 2025 in African inequality, with the Gini coefficient falling to 43.8 from 46.4 in the

early 1990s. However, the rapid rise in MATURE during 2025–50 would push the region's Gini coefficient down to 38.0. The OECD, for its part, would see a moderate decline in inequality until 2025, followed by a modest rise. Note that these demographic changes would leave inequality in Latin America and Africa well above OECD or Pacific Rim levels, although the gap would be reduced.

Before concluding this section, it is worth emphasizing the obvious: this analysis considers only the potential effect of demography on inequality. It ignores the many other factors that drive it.

IV Explaining Cohort-Size Effects on Inequality

This section attempts to place the cohort-size effects estimated above in context, by drawing on earlier theoretical and empirical work linking demographic variables and inequality. We find that our estimated cohort-size effects are roughly twice as large as typical estimates from the U.S. micro literature.

The effect of steady-state changes in population growth on aggregate inequality can be broken down into three channels. First, slower population growth increases the share of older, high-earning workers at the expense of younger, low-earning workers. Thus the contribution of age structure to aggregate inequality is altered, even without any change in the age-earnings profile. Deaton and Paxson [1997] show that slower steady-state population growth *raises* aggregate earnings inequality, so long as the age-earnings profile slopes upward throughout the lifecycle.¹⁸ Second, different age groups may be characterized by different inequality levels. Deaton and Paxson [1994; 1997] present evidence that income inequality has tended to increase with age for several countries examined.¹⁹ Slower population growth, by raising the average age of the population, should *raise* aggregate inequality through this channel. Finally, slower population growth tilts the population age distribution toward older, more experienced cohorts, possibly reducing the experience premium, and *lowering* aggregate inequality. As noted above, the consistent empirical finding is that smaller youth cohorts enjoy higher mean earnings, although estimates of the magnitude of this effect vary widely.

The first two channels identified above work through changes in the relative population weights of age groups that differ in the mean or variance of earnings, treating the age-income profile as fixed (in both first and second moments). There is no attempt

¹⁸⁾ The effect of slower population growth on inequality, operating through this channel, is ambiguous if labor earnings tend to decline during the final years of working life. The ambiguity is compounded if labor force participation declines for older adults.

¹⁹⁾ The authors present evidence that within-cohort inequality in consumption, income, and earnings has tended to rise with age in the United States, the United Kingdom, Taiwan, and Thailand.

to assess the impact of these two demographic events on labor markets. The third channel works through the effect of cohort size on the age-income profile itself; this channel works entirely through labor-market effects. Notably, the first two channels work against the empirical results found here, implying that a higher share of mature adults in the labor force should be associated with higher aggregate inequality, while the third channel supports those results. Which dominates: composition effects or labormarket effects? To our knowledge, nowhere is there an attempt in the existing literature to assess how these three channels, working together, might affect aggregate inequality.

We rely on simulations to answer this question. The simulation results depend on three key sets of parameters: the age profile of labor productivity over the lifecycle, the age profile of the variance of earnings over the lifecycle, and the elasticity of substitution in the aggregate production function between different age groups or experience levels. A high elasticity of substitution implies of course small cohort-size effects. To fix ideas, assume that there are only two age groups, the mature and the young. The ratio of

expected earnings for old and young individuals is then given by: $\frac{\overline{w}_m}{\overline{w}_y} \parallel \frac{\gamma_m}{\gamma_y} \left(\frac{L_y}{L_m}\right)^{1/\varepsilon}$,

where γ is an age-specific productivity parameter, and ε is the elasticity of substitution in production between young and mature workers. Mature adults enjoy higher expected incomes both because they are more productive ($\gamma_m > \gamma_y$) and because (given positive population growth) they are relatively scarce ($L_m < L_y$).

For the age profile of the mean and variance of log income, we draw on estimates for the United States from Deaton and Paxson [1994; 1997]. It is important that we treat the estimated mean age income as representing the age profile of labor productivity.²⁰⁾ We select various values for the elasticity of substitution across age groups. We then evaluate the inequality indexes associated with various steady-state population growth rates (and the corresponding labor force age distributions). The Appendix contains a more complete description of the simulation experiments.

Several simulation details deserve note. First, the age profiles for the mean and variance of log income refer to total, rather than simply labor, income. This choice corresponds to our country inequality data, which also refer to total income. Second, we apply the assumed cohort-size effects to total, rather than to simply labor, income. We make this simplifying assumption for lack of information concerning the evolution of the mix between labor and nonlabor income over the course of the lifecycle. If nonlabor income rises to a sizeable fraction of labor income during the later years of working life, the simulations will overstate the effect of relative cohort size on the age-income profile. Third, in deriving cohort-size effects, we assume that all surviving, nonelderly adults are

²⁰⁾ Deaton and Paxson [1994] divide household survey data into age x cohort (year of birth) cells, and calculate the mean and variance of log income for each cell. The cell observations are then regressed on a set of age and cohort dummies to derive estimated age effects.

active in the labor force. We make this simplifying assumption to avoid having to specify the potential endogenous response of relative labor force participation rates to relative cohort size. To the extent that labor force participation is lower among more mature adults (boosting their relative scarcity), the simulations will understate the effect of cohort size on the age-income profile.²¹⁾ Finally, estimated age effects on the mean and variance of log earnings are based on household rather than personal income, with households identified by age of household head. It is possible, of course, that sustained changes in population growth may have systematic effects on changes in household composition, but it is beyond the scope of this exercise to evaluate the effect of such changes on aggregate inequality.

The first three sets of simulations provide a point of reference by assuming perfect substitutability in production across age groups (Table 10). The first set of simulations considers the effect of population growth rates on the mix between older, high-earning workers and younger, low-earning workers; the variance of log earnings over the life-

	Inequality Measure					
	Gini	Q5/Q1	Gini	Q5/Q1	Gini	Q5/Q1
Population Growth Rate	4 %	4 %	2 %	2 %	0 %	0 %
Population-weight effects only						
Fixed-age tilt: mean log earnings	32.1	5.1	32.3	5.2	32.5	5.3
Fixed-age tilt: variance log earnings	39.7	7.8	41.4	8.7	43.1	9.6
Fixed-age tilt: mean and variance	41.0	8.3	42.5	9.2	43.9	10.1
Adding cohort-size effects						
Elas. of substitution $= 3.0$	44.3	9.6	43.9	9.7	44.0	10.1
Elas. of substitution $= 1.5$	49.1	12.5	45.9	10.7	44.2	10.1
Mature	0.289	0.289	0.350	0.350	0.400	0.400
Pop 45-54/Pop 20-29	2.84	2.84	1.75	1.75	1.07	1.07

Note: Population growth rates refer to the steady state. The surviving population, given any birth-cohort size, is based on current U.S. age-specific mortality rates. Given the size of the surviving cohort, the pseudo-survey "sample" incorporates age-specific probabilities of household headship, computed by using average values from the U.S. CPS for 1960–94. Importantly, however, simulated cohort-size effects are based on the entire surviving cohort, not the population of household heads, assuming 100 percent labor force participation for those aged 20–64. Basing the pseudo-survey sample on the entire surviving population has little effect on our results, however. The simulation age profiles for the mean and variance of log earnings are based on Deaton and Paxson's [1994] estimates for the United States.

²¹⁾ Lower labor force participation among older adults would raise the *level* of the age premium. The derivative of total labor income with respect to cohort size depends on whether labor force participation responds positively or negatively to higher wages—that is, on whether the substitution effect outweighs the income effect. If the substitution effect is the stronger, the impact of relative cohort size on relative labor income will be magnified.

cycle is held constant. The second set of simulations considers the effect of population growth rates on the mix between older, more unequal workers and younger, more equal workers; the mean of log earnings over the lifecycle is held constant. The third set of simulations considers these two channels working together. We show the Gini coefficient and the Q5/Q1 income ratio at population growth rates of 0, 2, and 4 percent per annum, along with the associated values for MATURE.

The most striking result is the small magnitude of changes in inequality working through changes in the mix between older, high-wage workers and younger, low-wage workers (row 1). Moving from steady-state population growth of 0 to 4 percent indeed lowers inequality, as suggested by Deaton and Paxson, but only from 32.5 to 32.1 for the Gini coefficient and from 5.3 to 5.1 for the Q5/Q1 income ratio. (The low aggregate inequality statistics are due to the fact that we have held within-cohort inequality constant at the estimated value for the 20–24 age group.) Additional simulations (not reported here) show that any decline in inequality would be quite small even if the age-income profile sloped upward throughout the lifecycle, rather than declining gently after ages 50–54.

The effect of changes in the mix between younger, low-variance workers and older, high-variance workers is evidently more powerful (row 2). Moving from 0 to 4 percent steady-state population growth lowers inequality appreciably, from 43.1 to 39.7 for the Gini coefficient, and from 9.6 to 7.8 for the Q5/Q1 income ratio. Taking the mean-earnings and variance effects together results in an inequality reduction of similar magnitude (row 3).

Could cohort-size effects be powerful enough to reverse the conclusion that slower population growth (and a higher mature-adult population share) brings greater inequality? The answer to this question depends on the elasticity of substitution between older and younger workers. We take an elasticity of substitution of 3.0 as representative of the estimates from the microeconomics literature on the U. S. baby boom (see the Appendix). Under that assumption, the addition of cohort-size effects is enough to reverse the presumption that faster population growth reduces aggregate inequality (row 4); inequality now remains essentially unchanged in moving from 0 to 4 percent population growth, as measured by both the Gini coefficient and the Q5/Q1 income ratio.

Our estimates concerning the effects of cohort size evidently imply a lower elasticity of substitution across age groups than is typically found in the microeconomics literature on the U. S. baby boom. We have already observed that such work usually ignores the potential endogeneity of hours and weeks worked, educational attainment, and labor force participation rates with respect to cohort size, suggesting that estimates based on total cohort population and income may yield larger elasticities. It is also possible, of course, that substitutability across age groups is higher in the United States than elsewhere, or that the variance of log income rises more steeply with age in the United States than elsewhere. We can only raise these possibilities here. For now, we merely ask

whether our macro results might correspond to a lower, but still plausible, elasticity of substitution.

Accordingly, the next simulation considers an elasticity of 1.5 (row 5). Cohort-size effects now overwhelm the pure population-weight effects. As the steady-state population growth rate falls from 4 to 0 percent, inequality falls substantially, from 49.1 to 44.2 for the Gini coefficient, and from 12.5 to 10.1 for the Q5/Q1 income ratio. Notably, the bulk of the inequality decline occurs in moving from 4 to 2 percent population growth. Because 4 percent is an extremely fast population growth rate, and 2 percent is still considerable, it might be wondered whether the simulation results are informative about actual country experiences.

It turns out, however, that the steady-state assumption used in generating the simulation results dramatically understates the typical variation in relative cohort size. For example, in the simulations the ratio of the 20–29 age group to the 45–54 age group is 2.84 at a 4 percent steady-state population growth rate, and 1.75 at a 2 percent steady-state growth rate. Yet in 1985, fully 75 percent of 133 countries had 20–29/45–54 age ratios above 1.87; 50 percent were above 2.39; 25 percent were above 2.69; and 10 percent were above 2.87. The typical demographic transition, which features rapid and then slowing population growth, evidently results in cohort-size ratios corresponding to very fast steady-state population growth rates. Thus the simulation experiments comparing 4 percent and 2 percent steady-state population growth should be quite informative about actual country experiences.

V Conclusion

The empirical results presented in this article provide strong support for cohort-size effects on inequality the world round: large mature working-age cohorts are associated with lower aggregate inequality, and large young-adult cohorts are associated with higher aggregate inequality. In addition, the analysis reports strong, even if not unequivocal, evidence that inequality follows the inverted-U pattern described by Simon Kuznets, tending to rise as a country passes through the early stages of development, and tending to fall as a country passes through the later stages. Our work differs from most previous studies of the Kuznets hypothesis by examining the inequality-development relationship conditional on other variables. Finally, in accordance with much of the recent debate about rising wage inequality in the United States and other OECD economies in the 1980s, we find little support for the hypothesis that a policy commitment to globalization has an impact on inequality.

Our results concerning cohort size and inequality should be accompanied by an important caveat. Throughout our analysis, we have worked with data concerning aggregate or economy-wide income inequality. The cohort-size hypothesis, however,

concerns the relationship between relative size and the slope of the age-earnings profile. Aggregate inequality data can provide only an indirect window on such cohort-size effects. A definitive analysis of cohort-size effects awaits the development of internationally comparable data concerning age-earnings profiles.

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Appendix

Data Sources

Inequality data come from Deininger and Squire [1996]. The data can be downloaded from the World Bank web site: <u>http: //www.worldbank.org/growth/dddeisqu.htm</u>. Demographic data are taken from the United Nations diskettes *Age and Sex Quinquennial*, *1950–2050* [1996a] and *Demographic Indicators*, *1950–2050* [1996b]. Data documenting real output per worker and exports plus imports as a share of GDP come from the data diskette *Penn World Tables (Mark 5.6)*, available from the National Bureau of Economic Research (NBER) in Cambridge, MA. Our principal measure of openness comes from Sachs and Warner [1995]. Data concerning the incidence of capital controls were developed by the International Monetary Fund, compiled by Leonardo Bartolini and Alan Drazen, and obtained from those authors via personal communication. Data concerning political rights and civil liberties were taken from Barro and Lee [1994]. The complete Barro-Lee data set is available from the NBER web site at <u>http: //www.nber.org/pub/barro.lee/zip</u>. The original source of the political rights and civil liberties data is Gastil and Wright [1988–]. All other data come from the World Bank's [1998] CD-ROM *World Development Indicators: 1998*.

Regional Aggregates

- <u>Sub-Saharan Africa</u>: Botswana, Cameroon, Central African Republic, Cote D'Ivoire, Gabon, Ghana, Guinea-Bissau, Kenya, Lesotho, Madagascar, Mauritania, Mauritius, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Uganda, Zambia, Zimbabwe.
- Latin America: Bolivia, Brazil, Chile, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Venezuela.
- <u>OECD</u>: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Turkey, United Kingdom, United States.
- Pacific Rim: China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand.
- <u>Other</u>: Algeria, Bangladesh, Barbados, Bulgaria, Czechoslovakia, Egypt, Fiji, Guyana, Hungary, India, Iran, Jamaica, Jordan, Laos, Morocco, Nepal, Pakistan, Poland, Romania, Soviet Union, Sri Lanka, Trinidad and Tobago, Tunisia, Yugoslavia.

Simulation Details

The simulation experiments concern a population ranging in age from 20 to 79. The parameters describing the age profile for the mean and variance of log income are taken from Deaton and Paxson's [1994; 1997] estimates for the United States. The parameters are taken from [1994: Table 1], and from various graphs in [1994; 1997] via visual approximation. Deaton and Paxson's estimates are

quite similar to our own estimates using the Current Population Survey (CPS) data for the United States. As noted in the text, we use the estimated age profile of mean log income as a baseline; and then alter this profile to reflect different experimental assumptions about the age distribution of the labor force and the elasticity of substitution in production between different age groups. The key exception here is that we assume that persons aged 65–79 are no longer in the labor force. For this age group, we begin with a mean log income for 64-year-olds and adjust it downward using the appropriate age factors estimated by Deaton and Paxson.

An assumed steady-state population growth rate fixes the population age distribution at zero mortality. We then apply a Metropolitan Life Insurance Company mortality table to find the surviving population for each age group. Finally, we calculate age-specific probabilities of house-hold headship using the CPS data for the United States and apply these probabilities to the surviving population to generate experimental survey samples. (Note that this procedure affects the number of *observations* by age group, not the total *population* by age group; the latter is relevant for assessing cohort-size effects.) We adopt this procedure because the Deininger-Squire data set generally reports inequality at the household level rather than the individual level. Sampling the entire surviving population has little effect on our results.

The final simulation experiment relies on an age-year rather than an age-cohort model to assess the age profile of the variance of log income. We begin by estimating age-year and age-cohort models for the variance of log income using the 1967–97 CPS data for the United States. We break age groups and cohorts into five-year periods. As noted earlier, our estimates for the age-cohort model appear very close to those reported by Deaton and Paxson [1994; 1997]. To ensure comparability with the earlier experiments, we then adjust the Deaton-Paxson age effects to reflect the difference we find in age effects from the age-year and age-cohort models.

Cohort Effects in the Micro Literature

Finis Welch [1979], in a seminal study on the subject, takes as his measure of cohort size the percentage of all workers belonging to a given age *x* education group. For new entrants to the labor force, he finds that the elasticity of annual earnings with respect to cohort size ranges from –. 240 for high school dropouts to –. 907 for college graduates [*ibid*.: Table 9, S90]. He finds, however, that the effects of cohort size diminish over the lifecycle: the permanent effect for high school dropouts is in fact the smallest, at –. 252; the effect for high school graduates (with no college) is the smallest, at – 0.08.

Welch's estimates do not correspond directly with the elasticity of substitution framework used in the simulations. In particular, the dependent variable is actual rather than relative wages. Moreover, in assessing the elasticity of substitution across age groups, we must remember that an increase in the young-adult age share implies a decrease in other age shares. We proceed as follows to translate Welch's results into our framework. First, we calculate the labor force age shares associated with population growth of 0, 1, 2, 3, and 4 percent per annum, focusing on the 20–24 and 50–54 age groups. For simplicity, we assume zero mortality and 100 percent labor force participation. At successive population growth rates (and the associated labor force shares) we apply the average *entry* elasticity across education classes to the wages of the 20–24 age group, and the average *permanent* elasticity across age groups to the wages of the 50–54 age group. We then compare the change in the log wage gap with the change in the log labor force ratio to calculate implicit elasticities of substitution. The implicit elasticities range from 2.6, in moving from 0 to 1 percent population growth, to 2.9, in moving from 3 to 4 percent population growth.

Murphy and Welch [1992] estimate elasticities of complementarity across various age and education groups. Using these estimates, the authors assess the labor-market effects of increasing the relative size of younger cohorts by 20 percent. They find that the wages of younger high school graduates would fall by 6 percent relative to older graduates, implying an elasticity of substitution of 3.3. They also find that the wages of younger college graduates would fall by between 9 and 15

percent relative to older graduates, implying an elasticity of substitution of between 2.2 and 1.3.

Katz and Murphy [1992] directly estimate the effect of changes in relative cohort size (measured by hours worked) and relative hourly wages. Aggregating across education categories, the authors find an elasticity of substitution of 2.9 [*ibid.*: 76, footnote 24].

Macunovich [1998; 1999] relies on the gross fertility rate during a cohort's year of birth as a measure of cohort size. (The gross fertility rate is the number of births per female population aged 15–44.) This measure has no natural interpretation in terms of relative steady-state cohort size. With mortality held constant, a high steady-state gross fertility rate implies a high steady-state population growth rate, making older workers relatively scarce. Yet the gross fertility rate at birth would be the same for both older and younger workers. As a result, we are unable to interpret Macunovich's estimates in an elasticity-of-substitution framework. It should be noted, however, that her estimates imply quite large cohort-size effects.
Employment Transitions in an Era of Change in Thailand*

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Abstract

The last three decades offer much evidence of greater access to new avenues of employment with globalization and rapid economic development in Southeast Asia, including a trend toward employment-related migration out of rural areas. This article considers the implications of globalization in Thailand from a rural perspective by examining the direct impact on employment of rural residents who migrate to urban areas, and the indirect impact on rural residents through the experiences of urban migrants. Within this framework, we consider whether men and women have similar migration and associated employment outcomes, and whether those outcomes vary by changes in the individual's stage in the life course. We use data for working-age individuals from Nang Rong District in Thailand in 1984, 1994, and 2000 to determine general employment trends in rural and urban Thailand. An associated analysis follows a single cohort of individuals aged 8-25 years in 1984 to examine changes in their employment patterns in subsequent years, 1994 and 2000. We discuss the factors influencing some individuals to remain employed in Nang Rong, while others migrate, either permanently or temporarily, to urban areas. We compare categories of sector of employment, including individuals not employed, to examine these questions.

Keywords: globalization, employment, labor force, migration, rural-urban, gender differences, developing countries, Thailand

Globalization and Employment

Until recently Thailand was a predominantly agricultural economy. Even now, 80

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percent of the population lives in rural areas. Over the past three decades, however, Thailand became a fast-growing, industrializing economy [Phananiramai 1996: 275]. Only half of the labor force is now engaged in agriculture [World Bank n. d. (a)] as compared with more than 75 percent in 1970 [Phananiramai 1996: 275]. Agriculture as a share of gross domestic product has also decreased, contributing only a little more than 10 percent by 2000. Industry, especially manufacturing, has increased its share to 40 percent, with services holding steady at about 50 percent of GDP. Average annual growth rates have varied, but they reached levels as high as 9 percent in the period 1985–89, sufficient to absorb a rapidly growing labor force [Mason and Campbell 1993: 14]. Growth rates in manufacturing have been particularly notable, reaching levels of 10 percent per annum in the period 1980–90 and 12 percent in 1999 [World Bank n. d. (b)]. The average annual rate of industrial growth peaked in the late 1980s as a result [Galenson 1992: 6].

These dramatic changes in the structure of Thailand's economy have occurred in the context, and in many ways as a consequence, of globalization. Globalization refers to the process by which economic, financial, technical, and cultural transactions between different countries and communities throughout the world become increasingly interconnected [Pearson 2000: 10]. The increasing integration of the world economy has had consequences for patterns and trends in employment within countries. In Thailand the growth in the manufacturing sector was (and is) tied directly to large increases in foreign investment and the growth of export-based manufacturing industry [Kurian 1999: 178], in addition to government policies to promote this sector [Rigg and Nattapoolwat 2001: 945]. Globalization has resulted in the movement of production activity from more to less developed countries, consolidating an international division of labor that takes advantage of cheap labor in the latter. Though not new [Moghadam 1999: 368; also see Dickinson 1997: 110], globalization has gained unprecedented impetus since the 1970s [Beneria *et al.* 2000: vii; Moghadam 1999: 368].

The impact of globalization on employment has been well documented. Job creation associated with this trend involves manufacturing activities as a result of direct foreign investment and particularly through the creation of export-processing zones [Pearson 2000: 11; Rama 2001: 16; Standing 1989: 1080]. Trade-related employment in the service sector such as tourism, finance, and information processing is also evident [Pearson 2000: 12; United Nations 1999: 11]. In Thailand, for instance, tourism has become an important provider of foreign exchange [Bell 1998]. The impact of these trends is most evident in urban areas—not surprisingly, as urban centers are foci of production activity and the provision of services, catering to both domestic and foreign markets. Accordingly, the literature linking globalization, international trade, and other economic changes with employment patterns and trends within countries has a distinct urban bias.

Although the economic forces associated with globalization have their most obvious impact in the major urban areas of developing countries, it is also important to consider their impact on marginal populations, especially on people living in the rural areas of

developing countries. Only a few authors have done this [e.g., Rigg and Nattapoolwat 2001: 946]. Globalization is implicated in the commercialization of agriculture and a shift to the production of more profitable cash crops in conjunction with Thailand's emphasis on economic development through export promotion, starting around 1970 [Charoenloet 1992: 55]. For instance, the cultivation of cassava as a cash crop in Thailand began in direct response to a demand for this product in Europe, where it is used as a supplement to cattle feed, and a change in European Economic Commission (EEC) import regulations that made it possible for Thai farmers to respond to this demand. Economic forces may operate "at a distance," as in the cassava example, or they may intrude directly into the rural economy. Some farmers in Thailand have subcontracted their family plots to multinational corporations in order to produce cash crops or raise shrimp under contract to those companies [Rigg and Nattapoolwat 2001: 950; Stephens 1995]. With the commercialization of agriculture, some household members in rural Thailand also diversified into employment as brokers and traders [Ayuwat 1997: 89]. Globalization may not always serve to increase economic opportunities in rural areas, however. Some argue that the opening of urban markets to cheaper agricultural imports and the removal of agricultural subsidies result in the loss of employment among small-scale farmers [United Nations 1999: 38].

In this study, we focus on economic change in the context of globalization in Thailand, emphasizing the growth of economic and employment opportunities. We further elaborate the consequences of globalization for rural populations, with particular reference to the situation in Thailand and especially the role that migration plays. Indeed, migration is part and parcel of the globalization process. Communities have become increasingly interconnected within as well as between countries. The economic, financial, technical, and cultural transactions that link communities together [see Pearson 2000: 10] involve the movement of people as well as flows of money, goods, information, and ideas. When migrants cross international borders, their role in the globalization process is clear [Massey et al. 1993: 459]. The same processes that give rise to international migration of labor from less to more developed countries motivate rural-to-urban migration of labor within developing countries [VanWey 2001]. In Thailand, as in many countries, the establishment and growth of manufacturing concerns in and around urban centers is associated with employment-related migration from rural areas. The seasonal nature of agriculture in Thailand is also responsible for considerable movement of individuals back to rural areas as well as between rural areas.

By migrating to urban areas, the rural population may participate directly in the growth of employment in manufacturing associated with foreign investment and exportoriented industry, and with the growth in construction and services that may accompany it. In turn, these migrants affect the rural economy in several ways. Migrants may send remittances to their households of origin, thus improving the quality of life in rural areas and possibly also providing the capital to create or expand household businesses [Guest 1996: 301]. They may return and bring with them a taste for an urban lifestyle, an unwillingness to work in agriculture, the skills to obtain some other kind of employment outside of agriculture, or the wherewithal to build some kind of nonagricultural concern. These migration-related consequences of globalization for the rural population are in addition to the effects on agriculture that are generally the focus in the literature (for an exception, see Rigg and Nattapoolwat [2001: 946]). Our study of the patterns and trends in employment in rural areas and of migration by rural migrants to urban areas thus fills a gap in the literature on globalization and employment.

Although our main interest is in general patterns and trends, similarities and differences in the experiences of men and women are also of interest. In an economy known for its high rate of female labor force participation [Sussangkorn and Chalamwong 1996: 97], the growth of economic opportunities outside of agriculture has encouraged the movement of women as well as men. In contrast to other developing countries, where men typically constitute a major part of the migrant labor force, in Thailand both men and women have been important. Women typically comprise the majority of the labor force in the new labor-intensive manufacturing sectors of developing countries that produce goods for the global economy [Rama 2001: 16; Standing 1989: 1080]. This has been true in the case of Thailand, where, in 1989, female workers exceeded male workers in the manufacturing, commerce, and service sectors [Phananiramai 1996: 282].

The Example of Nang Rong

Our study is set in Nang Rong, a rural district in the Northeast Region of Thailand (Map 1). The Northeast, one of the country's poorest regions, is a major supplier of migrants to the urban areas of Thailand, especially Bangkok and the Eastern Seaboard. According to the National Migration Survey, a significant proportion of the migrants to Bangkok comes from the Northeast [Guest 1996: 283; Guest et al. 1994: 536]. Many of them are temporary migrants and are registered in their region of origin [Chamratrithirong et al. 1995: 23]. According to other observers [Chalamwong 1998: 305; Krongkaew 1995: 58], migration in Thailand is more permanent. Migrants tend to stay year-round in urban areas, although without severing their ties with the rural households. Such employmentbased migration provides rural households with more wage-employment opportunities to supplement their earnings through seasonal migration. Alongside a greater demand for labor in urban centers in recent decades, the development of better transportation and infrastructure has facilitated the corresponding increase in the level of employmentbased migration. Although employment in urban areas in the global era has been characterized negatively as "flexible," "casual," and "informal," with a low wage potential, for residents of rural villages it offers a better wage than can be earned locally, along with the opportunity and access to an urban lifestyle.



Map 1 Study Area Location, Nang Rong District, Northeast Thailand

Among residents of the Nang Rong study villages, migration is exceedingly common. As we show later, two-thirds of young men aged 8–25 living in the study villages in 1984, and just over half of the young women, migrated away in the ensuing decade, many to Bangkok and other urban centers. The high level of migration is not surprising given the inhabitants' poverty, their reliance on agriculture, the population pressure on land, the low level of industrialization, and the limited access to other economic activities in Nang Rong and the Northeast generally. Paddy-rice cultivation is the dominant economic pursuit in the Nang Rong villages; and given the dependence on monsoon rains, there is only one crop each year. Many people migrate to urban areas during the slack agricultural season, returning when it is time to plant and transplant rice again. Others migrate for a longer period, although returning to help with the harvest, and perhaps returning for good later on. Still others migrate permanently.

Our study is set in the context of trends occurring in the late twentieth century, from 1984 to 2000. Taken as a whole, the period 1984–2000 was one of unprecedented economic growth in Thailand. However, the same forces that encouraged foreign investment and

created a global market for Thailand's industry also exposed the country to external influences and global crises. The consequences were especially evident in the financial crisis of 1997, which resulted in job losses in the urban areas and return migration to rural areas. There have been mixed reports on the impact of the 1997 crisis in rural areas. Some observers assert that the impact was decidedly negative [*e. g.*, Chalamwong 1998: 297; Phongpaichit and Baker 2000: 101]. Others argue that there was only a short-term impact [*e. g.*, Rigg and Nattapoolwat 2001: 956]. National data show that the growth of investment was positive in all years between 1994 and 2000 except for 1997 and 1998, and likewise, the growth of exports was positive in all years between 1994 and 2000 except for 1996, 1997, and 1998 [World Bank n. d. (b)]. The economy had recovered to some extent by 2000, the end point of our own study.

We use data from a set of surveys conducted by the Institute for Population and Social Research (IPSR), Mahidol University, and the Carolina Population Center, University of North Carolina-Chapel Hill, known collectively as the C-Bird Evaluation Program-Carolina Population Center (CEP-CPC) surveys, to analyze the employment picture in 1984, 1994, and 2000 for residents of rural Nang Rong, and in 1994 and 2000 to analyze the employment situation of rural-to-urban migrants. We investigate employment patterns from several perspectives. First, we consider trends in the employment of men and women in rural Nang Rong villages during 1984-2000 and in the employment of migrants from these villages to Bangkok and other urban destinations during 1994-2000. In particular, we are interested in whether, and to what extent, employment in agriculture declined in rural Nang Rong during the period, and whether nonagricultural activity increased. Were changes in the economic activities of migrants from Nang Rong to urban areas also evident during the period? We focus too on youth to examine whether their employment behavior changed in this evolving economic scenario, especially with respect to their transition from school to work. Second, we consider the aggregate and individual employment experiences of a cohort of young people aged 8-25 years in 1984 as they aged over the 16-year period through the year 2000. We examine the changes in their migration and employment activities over their life course, focusing on the trajectories of young men versus young women. We touch on the effects of the 1997 economic crisis in our analysis of the 1994-2000 data; but we do not attempt a full assessment of the 1997 crisis and its consequences for employment, which would require more detailed data than we report here.

The remainder of the article is organized as follows. The next section describes the data, measures, and analytic approach in greater detail. The following section documents employment trends over the 1984–2000 period for men and women of prime working age, first for residents of rural Nang Rong villages and then for migrants to urban areas. After that, we shift to a cohort perspective, taking advantage of the longitudinal strength of the data set to study change over the life course. The article concludes with a discussion of the trends shown in each part of the analysis, relating them to the context of globalization in which they occurred.

Data and Method

In the changing context of economic opportunities in Thailand, we examine employment patterns of men and women from a rural perspective. We analyze data from the Nang Rong CEP-CPC surveys. (For a more detailed description of the surveys, see http://www.cpc.unc.edu/projects/nangrong) The surveys are both prospective and retrospective, include migrants from Nang Rong to Bangkok and selected other urban areas, and cover a crucial period in the recent history of the country. With these data, it is possible to examine not only employment trends over the period, but also the experiences of a particular cohort of individuals as they move through their life course. The experiences of migrants can be compared with those of return migrants and nonmigrants. Migration is defined in the survey as a move lasting at least two months. As the first study to document employment trends with the Nang Rong CEP-CPC data, this article focuses on a description of major trends, the role of migration, and gender differences in employment patterns.

The Nang Rong CEP-CPC surveys began in 1984. The first surveys were fielded in 51 study villages in that year. Data were collected on all persons in all households in the 51 study villages. Likewise, in 1994 and 2000, data were again collected on all persons in all households in the 51 villages (including those affected by administrative splits).¹⁾ The 1994 and 2000 data cover persons who may have migrated into the study villages as well as those 1984 residents still (or perhaps again) residing in those villages. We use the data from the 1984, 1994, and 2000 cross-sections to describe employment patterns at each of these dates and, more specifically, to document whether a shift out of agriculture occurred among rural residents. We focus on men and women aged 18–35; but for information about trends in the timing of labor force entry, we also look at patterns among youth aged 11–17. Occupational data were collected for all household members aged 11 and older.

In addition to surveying all residents of the 51 study villages at each date, the CEP-CPC surveys followed up all the original 1984 residents in 1994 and 2000, and all the 1994 residents in 2000. As part of the 1994 survey, an annual life history was collected for those aged 18–35, and in 2000 for those aged 18–41. The life history provides retrospective information about migration experience and allows us to distinguish rural residents who migrated and returned from those who never migrated (since age 13, when the life history starts). Further, in 1994 and 2000, in a subset of 22 villages, we followed out-migrants to

Between 1984 and 2000, the original 51 villages split administratively—into 76 villages in 1994 and into 92 villages in 2000. All persons and all households in all descendant villages are included in the 1994 and 2000 data collections. For ease of exposition, we refer simply to the 51 study villages.

select urban destinations: Bangkok, the Eastern Seaboard, Korat (a regional city), and Buriram (the provincial city).²⁾ For 1994 and 2000, it is thus possible to examine the employment patterns of Nang Rong migrants who lived in urban areas. Here is where we might expect to see some effects of the 1997 financial crisis. The longitudinal design of the CEP-CPC surveys enables us also to examine the employment patterns of a cohort of young persons in 1984 as they migrated or not, returned or not, in the context of dramatic macroeconomic changes over the 1984–2000 period.

Measuring Employment

The key variable of interest in our descriptive analysis is the primary occupation of the individuals, recorded in the household roster of the Nang Rong household and migrant follow-up surveys. Although some of Thailand's working-age population has a secondary occupation, as is the case in many developing countries, we restrict our analysis to the primary occupation in order to focus on the productive activity to which individuals allocate most of their time. To be consistent with the rural context of the data collection, we did not use formal definitions of the labor force or of employment. The International Labour Organization (ILO) uses the term "labor force" as a formal concept to identify persons who are working (employed), or are without work but have looked for work during a specified reference period (unemployed). Such concepts do not apply well in agricultural settings, where seasonal unemployment is common. It is not our goal to describe patterns of seasonal unemployment, but rather to capture broad trends over time. In Nang Rong, the household surveys were fielded during the agricultural slack season-deliberately, so that people had time to participate. Thus, we were interested in people's usual occupation, not whether they were in fact working at the time of the survey. In addition, we were interested in unpaid as well as paid work. Rural Nang Rong is composed largely of small farmers, who work first for subsistence and then sell the surplus. Formal definitions of the labor force and employment, which do not always include unpaid family members working on family farms or in family businesses, may distort gender patterns of employment, especially in rural areas [Beneria 1981: 10; Dixon 1982: 539]. Thus, while broad and including a subjective element (i. e., respondents decide what constitutes an occupation), our measure of employment fits with the reality of the setting we are trying to describe.

We use information on primary occupation to classify employment into categories. All respondents aged 11 years or over provided information on their primary occupation. As Nang Rong is a poor district where agriculture or related activities are the predomi-

²⁾ In 2000, the migrant follow-up included a rural as well as an urban component. Migrants to other villages in Nang Rong (including nonstudy villages) were followed up in 2000. We do not use the rural migrant data in this analysis.

nant occupation, our interest lies in examining a move away from agriculture, with an expectation that nonagricultural opportunities increased in recent years. Therefore, at the first stage of this analysis, we broadly define employment sector on the basis of whether or not an individual is employed in agriculture (or related activities such as animal husbandry), in nonagricultural activities, or in no occupation. Individuals classified as not employed are those in school, in college, or undergoing vocational training; housewives or stay-at-home fathers; or those who have no job or occupation (who may or may not be seeking a job). All of these are individuals of working age with the potential to be employed.

We also examine primary employment in nonagricultural activities in more detail. This examination includes observing what individuals do when employed outside of agriculture. Furthermore, we are interested in examining patterns of movement between these nonagricultural sectors over time among rural residents (nonmigrants and return migrants) and among rural-to-urban migrants. We classify all nonagricultural activities as skilled or unskilled blue-collar work that involves any production activity; employment in the service sector; and government, professional, and other activities. We use this classification for two reasons. First, the literature on globalization and employment focuses primarily on the growth of the manufacturing and service sectors. It also alludes to a gender bias in employment in these sectors. Although globalization initially creates opportunities for unskilled and semi-skilled labor, especially for young women, a transition occurs in later years, when the development of industry creates a market for the service sector resulting in higher employment in service-sector work [Pearson 2000: 11]. Second, a simple descriptive analysis of the Nang Rong data confirms that these sectors are the most important (details not shown). In particular, employment in factories or in construction labor is the most important blue-collar work activity in our data. Employment as traders, food-service providers, commercial transport drivers, and domestic workers are the most important service activities in our data.

Analysis Samples

Our analysis of employment capitalizes on the information available in the Nang Rong CEP-CPC data. The analysis involves two steps. The first uses the data as a time-series of cross-sections to study trends; the second uses the data to follow the experiences of a cohort over time. Fig. 1 illustrates how the two samples overlap in the analysis.

The cross-sectional analysis represented by the solid gray bars in the figure is restricted to men and women of prime working age (18–35 years) at three time points: 1984, 1994, and 2000. The data for employment patterns in Nang Rong refer to residents of all 51 villages. There were 9,993 such individuals in 1984, 7,776 in 1994, and 8,693 in 2000. The respondents in each of the time periods are not necessarily the same because of aging



(into or out of the defined age group) and because of migration. Some of the residents of Nang Rong in 1984 had migrated out of Nang Rong by 1994 or 2000. Another possibility is that individuals who resided outside Nang Rong and were therefore not surveyed in 1984 may have migrated (back) into Nang Rong in 1994 or 2000. The cross-sectional analysis also includes urban migrants from Nang Rong in 1994 and 2000. The data for Nang Rong migrants refer to urban migrants from the 22 villages featured in the migrant follow-up survey. There were 2,013 urban migrants aged 18–35 in the 1994 survey and 2,173 in the 2000 survey. A secondary part of the cross-sectional analysis examines employment patterns of youth aged 11–17 years to see whether economic changes had a differential impact on their employment. The number of Nang Rong residents in this age category was 6,371 in 1984, 5,034 in 1994, and 4,477 in 2000. The number of urban migrants in this category was quite small, 286 in 1994 and 100 in 2000.

The longitudinal part of the analysis represented by the striped bars in Fig. 1 follows a cohort of 4,550 individuals aged 8–25 years who lived in 22 villages of Nang Rong in 1984 and were surveyed again in 1994 and 2000, either as residents of Nang Rong or as migrants to selected urban areas.³⁾ In 1994 and 2000, these individuals were in the age groups 18–35 and 24–41, respectively. We describe the experience of the cohort as a whole as well as investigate the experiences of the individuals who make up the cohort. This cohort analysis is based on cases for whom we have complete data. Therefore, we

³⁾ In this cohort analysis we focus on the residents living in 1984 in the 22 study villages featured in the 1994 and 2000 migrant follow-up surveys. We do this so that we can follow all individuals in the specified cohort through the period 1984–2000, whether they continued to reside in the same villages or migrated to urban areas.

include only individuals for whom we have information on their employment in the subsequent time periods, 1994 and 2000, as well as in 1984.⁴⁾ This means that individuals who left the study villages and moved to rural destinations are not included. Nor are migrants living in urban destinations who could not be found.

Employment Trends during 1984–2000

The first part of our analysis provides a rural perspective on general employment trends. Tables 1 and 2 present the picture for individuals 18–35 years old at three points in time—1984, 1994, and 2000. They are snapshots of male and female employment patterns as the Thai economy went through periods of dramatic economic growth, crisis, and initial recovery. Each table presents two sets of results. The upper panel differentiates the sample by employment sector—employed in agriculture, employed in a non-agricultural occupation, or not employed. The lower panel further explores the occupations of those employed outside of agriculture, as blue-collar workers, as service-sector workers, or in government, professional, or other occupations.

As expected, we find that a majority of the prime-working-age population residing in the Nang Rong villages is engaged in agriculture in each of the time periods (Table 1). In

Employment Sector/		1984			1994			2000			
Work Category	Males	Females	Total	Males	Females	Total	Males	Females	Total		
Employment sector											
Agriculture	79.6	84.8	82.2	81.6	83.7	82.7	72.1	68.2	70.1		
Nonagriculture	15.7	9.8	12.7	14.7	10.9	12.7	18.0	18.8	18.4		
Not employed	4.7	5.4	5.1	3.7	5.4	4.6	9.9	13.1	11.5		
Work category											
Agriculture	79.6	84.8	82.2	81.6	83.7	82.7	73.0	68.8	70.9		
Blue-collar work	7.4	5.5	6.4	8.4	6.5	7.4	10.3	11.4	10.9		
Service sector	1.6	2.8	2.2	2.8	2.9	2.8	4.6	4.0	4.3		
Govt./Professional/Othe	r 6.7ª	1.5	4.1	3.5	1.6	2.5	2.9	3.3	3.1		
Not employed	4.7	5.4	5.1	3.7	5.4	4.6	9.9	13.1	11.5		
Number	4,933	5,060	9,993	3,715	4,061	7,776	4,250	4,443	8,693		

 Table 1
 Employment Sector and Work Category of Residents, Ages 18–35, by Gender: Nang Rong District, Thailand, 1984, 1994, and 2000 (Percentage Distributions)

^a Soldiers and monks account for the substantial percentage of men employed in government, professional, and other jobs in 1984.

⁴⁾ As only respondents 11 years old or older provided information on their primary occupation, the cohort aged 8-25 in 1984 includes individuals who were too young and therefore did not provide any information on their employment. These individuals are nevertheless included in our analysis.

1984, 82 percent of the residents of the study villages who were in the 18-35 age group worked in agriculture; in 1994 the figure was 83 percent, and in 2000 it was 70 percent. A considerable decline occurred between 1994 and 2000, reflecting a trend observed in other research [Phananiramai 1996: 275]. The decline for women is especially noticeable, 15 percentage points as compared with 9 percentage points for men, causing a slight reversal in the differential. Nonagricultural employment increased over these same years, from 13 to 18 percent. Again, the increase was more pronounced for women than men, erasing an initial tendency for greater involvement in nonagricultural pursuits among men than women. Considering the 1994-2000 period within the context of economic growth overall, this trend might reflect a slow increase in nonagricultural opportunities in rural Nang Rong, as local factories were built, the rural economy grew and diversified, district towns increased in size, and the state pursued an active economic development policy emphasizing industrial development. There is also evidence of increased employment of individuals in rural areas as laborers as a result of the expansion of rural factories and the growing risks in cash-crop production [Ayuwat 1997: 90]. Given that the 1994–2000 period was punctuated by a major financial crisis in 1997, it may also be that more migrants returned as a consequence of that crisis, bringing with them a preference and skills that qualified them for nonagricultural employment [Chalamwong 1998: 310].

The decrease in agricultural employment in the rural villages coincided with an increase in the numbers of prime-age men and women without a job, from 5 percent in 1994 to nearly 12 percent in 2000. It is tempting to see the increase in relation to the financial crisis of 1997. Migrants who lost their jobs may have returned home; perhaps there was not enough work, or perhaps they were not willing to do it. This is a possible scenario, but before accepting it we need to consider an alternative explanation—namely, that either as part of economic growth and change generally, or in response to the crisis, young men and women began delaying their entry into the labor force. We shall return to this issue after first addressing employment patterns among Nang Rong migrants.

Changes in employment patterns among residents of Nang Rong District are apparent from Table 1, especially between 1994 and 2000. We might wonder whether the patterns changed for migrants to Bangkok and other urban destinations over the same period. Table 2 shows employment characteristics of migrants based on the migrant follow-up surveys in 1994 and 2000. It provides information on occupations of migrants 18–35 years old to urban areas from a subset of 22 villages in Nang Rong. Urban migrants were typically engaged in nonagricultural activities, especially as blue-collar workers in factories or on construction sites. An interesting trend, however, is the growing importance of the service sector. Whereas 17 percent of migrants were employed in the service sector in 1994, 23 percent of urban migrants were so employed in 2000. This shift may be part of a longer-term increase in the tertiary labor force associated with continued economic growth and urbanization. Alternatively, employment opportunities in manu-

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Table 2Employment Sector and Work Category of Migrants, Ages 18–35, by Gender, from
Nang Rong District to Urban Areas of Thailand in 1994 and 2000 (Percentage
Distributions)

Employment Sector/	Urba	an Migrants (1994)	Urba	Urban Migrants (2000)			
Work Category	Males	Females	Total	Males	Females	Total		
Employment sector								
Agriculture	2.5	2.0	2.2	2.6	1.5	2.0		
Nonagriculture	93.6	87.3	90.4	91.6	82.8	86.8		
Not employed	4.0	10.8	7.4	5.8	15.7	11.2		
Work category								
Agriculture	2.5	2.0	2.2	2.6	1.5	2.0		
Blue-collar work	68.8	67.2	68.0	56.0	56.8	56.5		
Service sector	18.0	15.6	16.8	28.2	18.2	22.8		
Govt./Professional/Other	6.7	4.4	5.6	7.3	7.7	7.6		
Not employed	4.0	10.8	7.4	5.8	15.7	11.2		
Number	1,009	1,004	2,013	996	1,177	2,173		

Note: Data on urban migrants are limited to 22 villages.

facturing and construction may have declined with the crisis, prompting a shift into service sector work. There is no way to know from our data whether the shift was due to a decline in economic opportunities in manufacturing and construction, an increase in opportunities in the service sector, or possibly both.

Another trend among urban migrants is an increase in those reporting no occupation, particularly among women. It is possible that the increase reflects the effects of the 1997 crisis and reduced opportunities in manufacturing work for women. It is also possible that a gender difference in return migration is responsible for this shift. Because of migration, the expected increase in unemployment may not be visible among urban migrants. Single men and women who lost their jobs in the 1997 crisis might have returned to Nang Rong. Married men who lost their jobs might also have returned, bringing their families with them. It is unlikely that married women who lost their jobs would have returned if their husbands did not also return, however. Moreover, even when times are good, not all women work. Among urban migrants, even in 1994, more than twice as many women as men did not have an occupation. Given their stage in the life course, possibly with young children, this was to be expected. If the economic downturn discouraged continued rural-to-urban migration, and encouraged return migration, housewives may have simply increased their representation among migrants in the 1994–2000 period. In spite of this, the data show that as much as 85 to 90 percent of women were employed, confirming the high level of female labor force participation in both urban and rural areas.

The above results refer to the working-age population. The large percentage increase in the nonworking population between 1994 and 2000 among both migrants and Nang Rong residents aged 18–35 raises the question whether it reflected harder times

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after the 1997 economic crisis. It is not clear whether these individuals of prime working age were unemployed because they had lost their jobs or whether they intentionally delayed their entry into the work force. Either way, it encourages us to examine whether a trend toward delayed entry of younger individuals existed.

Employment Sector/	Resid	ents of Nang I	Rong	Urban Migrants		
Work Category	1984	1994	2000	1994	2000	
Employment sector						
Males						
Agriculture	44.2	32.2	14.5	1.5	5.5	
Nonagriculture	4.8	5.3	4.2	83.8	40.0	
Not employed	51.0	62.6	81.4	14.7	54.6	
Total	3,223	2,625	2,210	136	55	
Females						
Agriculture	47.7	31.8	9.7	0.0	2.2	
Nonagriculture	5.2	4.5	4.1	81.3	35.6	
Not employed	47.1	63.7	86.2	18.7	62.2	
Total	3,148	2,409	2,267	150	45	
Total						
Agriculture	46.0	32.0	12.0	0.7	4.0	
Nonagriculture	5.0	4.9	4.1	82.5	38.0	
Not employed	49.1	63.1	83.9	16.8	58.0	
Total	6,371	5,034	4,477	286	100	
Work category						
Males						
Agriculture	44.2	32.2	14.5	1.5	5.5	
Blue-collar work	3.2	4.0	3.2	70.6	29.1	
Service sector	0.4	0.5	0.5	12.5	10.9	
Govt./Professional/Other	1.3	0.8	0.4	0.7	0.0	
Not employed	51.0	62.6	81.4	14.7	54.6	
Females						
Agriculture	47.7	31.8	9.7	0.0	2.2	
Blue-collar work	3.1	3.7	3.2	72.0	15.6	
Service sector	2.1	0.7	0.7	9.3	20.0	
Govt./Professional/Other	0.0	0.1	0.2	0.0	0.0	
Not employed	47.1	63.7	86.2	18.7	62.2	
Total						
Agriculture	46.0	32.0	12.1	0.7	4.0	
Blue-collar work	3.1	3.9	3.2	71.3	23.0	
Service sector	1.2	0.6	0.6	10.8	15.0	
Govt./Professional/Other	0.7	0.4	0.3	0.4	0.0	
Not employed	49.1	63.1	83.8	16.8	58.0	

Table 3 Employment Sector and Work Category of Young Residents and Migrants from Nang Rong District, Thailand, Ages 11–17, by Gender: 1984, 1994, and 2000 (Percentage Distributions)

Note: Data on urban migrants are limited to 22 villages.

Table 3, which compares the employment outcomes in 1984, 1994, and 2000 of male and female youth 11–17 years old residing in Nang Rong as well as migrants in urban centers, indicates a large decrease in the economic activity of youth in both areas over time. Whereas 51 percent of youth in Nang Rong were employed in 1984, only 37 percent were employed in 1994 and only 16 percent were employed in 2000. This decrease in gainful activity corresponds to increased schooling. Although a substantial percentage of youth aged 11–17 not employed was reported to be in school in 1984, the percentage was almost 95 percent in 1994 and 2000 (data not shown). There is no way to determine whether those in school were there as a matter of choice or because lean times limited their opportunity in the labor force. That the trend for increasing education among youth was well established before the 1997 crisis suggests that choice played at least some role. The patterns among youth in Nang Rong correspond with other national data.⁵

The decrease in the work activity of youth was even more substantial among migrants, although our sample is small. In 1994, most migrant youth were in the labor force, mainly in manufacturing and construction. This is not surprising given that much of the migration to urban centers in Thailand has been employment-driven [Phongpaichit 1993: 178]. It appears that in the period of growing economic opportunities during the early 1990s, the labor force attracted a large proportion of youth in urban areas. One study found that migrants to Bangkok generally had higher levels of employment than did nonmigrants in Bangkok [Guest 1996: 292]. Like older individuals, most of them worked as factory or construction workers. Young migrant females did even better than males in the urban labor force. However, the scenario appears to have changed by 2000; a significant percentage dropped out of the labor force. Table 3 shows that 58 percent of migrant youth in the 11-17 age group were not employed in 2000; almost all of them reported that they were still in school. We interpret this change in part as a trend toward delayed labor-force entry that is typically associated with economic development, and in part as a reaction to the economic crisis. The decline was most evident in agriculture in the rural areas and in factory and construction work among urban migrants.

Life-Course Transitions in Employment

The next part of the analysis follows a single cohort of 4,550 individuals through the period of interest, 1984–2000. The results are based on employment outcomes in 1984, 1994, and 2000 for individuals aged 8–25 in 1984 and at that time residing in the 22 Nang Rong

⁵⁾ Data from the World Bank corroborate the increasing levels of education in Thailand. Between 1980 and 1997, the gross enrollment ratio at the secondary level increased from 29 to 59 percent in Thailand [World Bank n. d. (c)].

villages featured in the migrant follow-up surveys. During the 16-year period of interest, some of the original residents remained in the villages, others moved to urban areas and were still there in 1994 and 2000, and still others returned to their original villages. We examine employment outcomes in the context of changes in the life course as well as changes in the macroeconomic context.

The first two tables in this series show employment in the aggregate in 1984 and 1994 (Table 4) and in 2000 (Table 5). In 1984 all members of the cohort resided in the subset of 22 study villages that were the focus of the migrant follow-up surveys. Most worked in agriculture at that time, although a sizeable minority did not have any occupation at all (a finding that is consistent with the ages of the younger members of the cohort). By 1994, when the cohort was 18-35 years old, the fraction working in agriculture was higher, and the fraction without an occupation was lower among those who stayed in, or returned to, the Nang Rong villages. Well over 80 percent of the cohort members living in Nang Rong in 1994 worked in agriculture. The fraction remained high in 2000, although there was some decline among return migrants. We observe some change in rural employment patterns associated with migration. Among those living in Nang Rong in 1994, we see an emerging difference in the work patterns of nonmigrants and return migrants. Those who had never migrated were less likely to have a nonagricultural job than were those with some migration experience, 6 versus 10 percent. This difference widened between 1994 and 2000. As the proportion without an occupation among the return migrants remained low over the interval, it seems that a shift occurred in the

	1984	(8-25 ve	ars)	1994 (18-35 years)									
Employment Sector/	in Nang Rong			Nev	Never Migrated			er Migra	ted	Urban Migrants			
WOLK Categoly	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	
Employment sector													
Agriculture	42.7	47.5	45.1	81.6	86.2	84.7	87.6	86.2	86.9	2.4	1.6	2.0	
Nonagriculture	9.7	5.7	7.7	6.2	5.9	6.0	9.5	10.2	9.9	92.8	89.9	91.3	
Not employed	26.6	24.2	25.4	12.3	8.0	9.4	2.9	3.6	3.3	4.8	8.5	6.7	
Too young	21.0	22.6	21.8	_	—	_	—	—	_	_	—	_	
Work category													
Agriculture	42.7	47.5	45.1	81.6	86.2	84.7	87.6	86.2	86.9	2.4	1.6	2.0	
Blue-collar work	5.0	3.7	4.3	4.5	2.9	3.4	4.8	5.6	5.2	64.3	68.7	66.6	
Service sector	0.6	1.3	1.0	1.7	2.7	2.3	2.1	2.3	2.2	19.1	17.8	18.5	
Govt./Professional/Other	4.3ª	0.8	2.5	0.0	0.3	0.2	2.6	2.3	2.4	9.4	3.4	6.2	
Not employed	26.6	24.2	25.4	12.3	8.0	9.4	2.9	3.6	3.3	4.8	8.5	6.7	
Too young	21.0	22.6	21.8	_	_	_	_	—	_	_	—	_	
Number	2,269	2,281	4,550	179	376	555	582	696	1,278	502	555	1,057	

Table 4Employment Sector and Work Category Based on Migration Histories of a Single
Cohort of Residents and Migrants from Nang Rong District, Thailand, Who Were Aged
8-25 in 1984 and 18-35 in 1994, by Gender (Percentage Distributions)

Notes: Results are based on analysis of data from 22 villages. Both never-migrated and ever-migrated individuals were residents of Nang Rong District in 1994.

^a Soldiers and monks account for the substantial percentage of men employed in government, professional, and other jobs in 1984.

Table 5Employment Sector and Work Category Based on Migration Histories of a Single
Cohort of Residents and Migrants from Nang Rong District, Thailand, Who Were Aged
24-41 in 2000, by Gender (Percentage Distributions)

		Resid							
Employment Sector/ Work Category	Never Migrated			Ev	ver Migrat	ed	Urban Migrants		
WOIK Category	Males	Females	Total	Males	Females	Total	Males	Females	Total
Employment sector									
Agriculture	81.7	86.9	85.7	80.8	79.2	79.9	3.7	1.7	2.6
Nonagriculture	3.3	10.1	8.5	16.5	15.5	15.9	93.5	88.0	90.5
Not employed	15.0	3.0	5.8	2.7	5.4	4.3	2.9	10.3	6.9
Work category									
Agriculture	81.7	86.9	85.7	80.8	79.2	79.9	3.7	1.7	2.6
Blue-collar work	1.7	6.0	5.0	8.6	8.0	8.2	47.7	56.4	52.5
Service sector	1.7	1.5	1.5	3.7	3.4	3.5	35.7	23.9	29.2
Govt./Professional/Other	r 0.0	2.5	1.9	4.2	4.1	4.1	10.2	7.7	8.8
Not employed	15.0	3.0	5.8	2.7	5.4	4.3	2.9	10.3	6.9
Number	60	199	259	547	763	1,310	384	468	852

Note: Results are based on analysis of data from 22 villages.

character of the work done by return migrants. Regardless of migration experience, however, rural employment patterns differed sharply from those of rural-to-urban migrants. By 1994, those moving to Bangkok and other urban areas had jobs almost entirely outside of agriculture, and this high level was maintained in 2000, although there was a shift from blue-collar to service work, especially among men (Table 5).

These patterns and trends can be interpreted in terms of the life course embedded in a context of macroeconomic change [Elder 1998: 962]. Basically, we see a cohort entering the prime working years. The percentage without an occupation declines from 1984 to 1994. For many in the cohort, migration is part and parcel of the early work years. The likelihood of migration, and therefore of return migration, is low initially but increases over the adolescent years. This is one reason why the percentage without an occupation is lower among return migrants than among nonmigrants. Migration to urban areas moves young men and women into nonagricultural work. What that work is depends on the opportunities available, which appear to have shifted between 1994 and 2000. Whereas in 1994, two-thirds of the urban migrants had blue-collar occupations (Table 4), the number had declined to just over half by 2000 (Table 5). Some migrants return; others do not. Female migrants to urban areas appear less likely than male migrants to return, perhaps because of ties created after they arrive. Marital ties may explain the greater level of unemployment among women than men who migrate to urban areas, and the fact that they remain rather than return to the rural villages. Those who return appear to bring with them a preference for nonagricultural work, skills that make them attractive to potential employers, or possibly the capital to start a small business. Return migrants are more involved in nonagricultural work than nonmigrants, although of course not at the same level as in urban areas. Either because of an increasing labor pool of experienced return migrants, or because of shifts brought about by the activities of the migrants themselves, their involvement in nonagricultural work increased between 1994 and 2000. In contrast to the considerable shift from blue-collar to service work among urban migrants, both increased among the return migrants.

We extend this analysis of life-course transitions in employment to better examine what happened to individuals in our selected cohort over the 16-year period, especially with rural employment. Table 6 shows the patterns for individuals in 1994 and 2000, given the categories of employment in 1984: agriculture, nonagriculture, no occupation, or no occupation because too young (those who were aged 8–10 in 1984). Each row of the table shows the distribution of employment outcomes, given 1984 employment. Table 6 is best read and interpreted in conjunction with Tables 4 and 5. As an example, it shows that, among males 8–25 years old in 1984 who were engaged in agriculture, 34 percent lived in the village and were employed in agriculture in 1994, 2 percent worked outside of agriculture, virtually none was without employment, and 63 percent had moved outside the village. Thus, for example, 43 percent of males 8–25 years old were engaged in agriculture in 1984 (Table 4); 10 years later 34 percent of those males—or only 15 percent of all males in the 8–25 year age group—were in agriculture in 1994 (Table 6).

Especially in relation to Tables 4 and 5, Table 6 demonstrates the centrality of migration to the life-course experiences of young people in Nang Rong. Among males

	inage Dist	.11041101	10)								
	1994					2000					
			Not				Total	Total			
1984	Agriculture	Nonagri.	Employed	Migrants	Agriculture	Nonagri.	Employed	Migrants	%		
Males											
Agriculture	34.3	2.4	0.1	63.2	30.9	3.6	0.5	65.0	42.6	967	
Nonagriculture	20.4	5.9	0.0	73.8	15.4	7.7	1.4	75.6	9.7	221	
Not employed	22.6	4.7	1.7	71.1	15.9	5.0	1.3	77.7	26.5	602	
Too young	30.7	3.5	6.2	59.5	25.2	4.2	2.5	68.1	21.2	482	
Total	29.1	3.6	1.8	65.5	24.2	4.5	1.3	70.1	100.0		
Number	661	81	41	1,489	543	101	28	1,572		2,272	
Females											
Agriculture	54.2	3.4	0.8	41.6	50.2	5.4	2.3	42.2	47.4	1,084	
Nonagriculture	25.4	8.5	1.5	64.6	20.8	10.8	1.5	66.9	5.7	130	
Not employed	28.0	5.5	2.2	64.4	26.2	7.9	2.8	63.2	24.1	550	
Too young	29.7	2.9	6.4	61.1	29.2	6.5	2.0	62.4	22.7	519	
Total	40.7	4.1	2.5	52.8	37.9	6.5	2.3	53.3	100.0		
Number	928	93	56	1,206	853	147	51	1,200		2,283	

Table 6 Transition in Employment Sector from 1984 to 2000 for Individuals from a Single Cohort Aged 8-25 in 1984 from 22 Villages of Nang Rong District, Thailand, by Gender (Percentage Distributions)

Note: The total size of the cohort aged 8-25 in 1984 does not match the cohort size in 1994 and 2000 because of missing information on employment in 1994 and 2000.

8–25 years old in 1984, 66 percent had moved away by 1994, and 70 percent had moved away by 2000. The fraction is a little lower (53 percent in 1994 and 2000), but still substantial for young women. Although a greater number of young men than young women left their villages, as indicated by Table 5, slightly more young women were found and interviewed in urban destinations. As we discuss more fully below, young men have less to keep them in the village than young women, and so they leave, some of them going to urban places but others going to other rural places. Although women are less likely to leave, those who do are more likely to move to major urban destinations and not return [Entwisle and VanWey 2000].

Table 6 confirms the movement toward nonagricultural employment in the rural areas. In Tables 4 and 5 we saw an increasing trend in this direction over the life course, particularly among return migrants. In Table 6 we see that young people with a nonagricultural job in 1984 were slightly more likely than others to hold such a job in 1994 and 2000, but what is striking is the extent to which this is not the case. Among young men with a nonagricultural job in 1984, 6 percent had one in 1994 and 8 percent had one in 2000. Certainly, this is not a picture of strong job continuity. The same is true for young women. If anything, young persons having a nonagricultural job in 1984 were more likely than others to leave the village. Turning it around, Nang Rong residents with nonagricultural jobs in 1994 and 2000 were as likely or more likely to have held an agricultural as a nonagricultural job in 1984. Putting this together with our interpretation of Tables 4 and 5, it seems that migration has an important influence on the preferences and skills for nonagricultural work. This conclusion is speculative, but migration appears to mitigate the impact of initial differences in skills and preferences.

Table 6 also reveals an important gender difference in employment trajectories. For both young men and young women, agriculture was the most likely occupation in 1984 according to Table 4: 43 percent among males and 48 percent among females 8-25 years old. Table 6 shows that in 1994 and 2000 the young women were more likely than the young men to be engaged in agriculture, but what follows from that involvement differs sharply by gender. More than half of the young women in agriculture in 1984 were still in agriculture a decade later, whereas this was true of only a third of the young men. The different trajectories are possibly due to differences in the demand for male and female labor in places of destination, perhaps in conjunction with efforts to control the movements of young women more than young men. It is possible that despite the socioeconomic changes in Thailand, women are still trying to perform the traditional roles expected of them, including the role of caregiver to elderly parents [Curran 1995: 40]. At the same time, out-migration is common for both genders, and similarities are more striking than differences in the employment of urban migrants. It is possible that agricultural employment has a different significance for young men and young women in rural villages of Thailand. Although there are exceptions, the traditional pattern is for daughters to inherit family land, and for the youngest also to inherit the parental home [Foster 1984: 86; Richter and Podhisita 1992: 9]. Perhaps for young women, agricultural employment is a step in this direction. Interestingly, the migration propensities of young women not initially in agriculture resemble those of young men.

Discussion

In this study we have examined employment trends of young men and women in Thailand using data from 1984 to 2000, a period of increasing globalization, exportoriented development, and unprecedented economic growth in Thailand despite the 1997 financial crisis. Globalization has economic, financial, technical, and cultural implications. Thailand has witnessed changes in all these areas. Our analysis has focused primarily on economic growth and its consequences for economic opportunities and employment outcomes.

We examined changes in occupations among residents of rural Thailand, including those employed in rural areas or as temporary or permanent migrants to urban centers. Given the strong ties—financial as well as social and cultural—that urban migrants have to their households of origin in rural areas, we believe that changes in rural areas are closely connected to the economic changes occurring in urban areas. This is particularly true in poor, primarily agricultural rural areas such as Nang Rong District, areas that otherwise offer little opportunity for employment outside of agriculture, especially in the dry season. We have further conceptualized employment and migration as varying according to the stage of an individual's life course. Using the Nang Rong CEP-CPC data, we have relied on this connection between rural and urban areas in examining employment trends over an extended period of time, based on individuals' past migration history as well as the stage in their life course, all situated in a context of increasing economic opportunities.

Our research reveals some interesting patterns. Most apparent is the growing trend of nonagricultural employment in urban and rural areas, validating the hypothesis that the macroeconomic changes in Thailand have permeated to rural areas as well. An increasing percentage of men and women are employed as skilled or unskilled labor in factories, rice mills, and construction work. Therefore, a trend toward the diversification of household activities outside of agriculture is taking place, even in Nang Rong, although it is slow and delayed or even small, as compared with what urban migrants do. The largest increase in nonagricultural activity is evident between 1994 and 2000, indicating possibly a lag in the impact of growing opportunities on poor rural areas such as Nang Rong.

Migrants, both urban and rural, are likely players in this process, as an examination of past migration patterns of individuals in rural areas indicates. With poverty and population pressures on land in rural areas, both seasonal and permanent migration from

rural areas has increased. The development of transport and infrastructural facilities in rural Thailand in conjunction with the country's overall focus on economic development has facilitated this movement. Individuals who have had the opportunity to migrate in the past are more likely to move into nonagricultural employment, especially in factories or even as construction labor, even when they return to rural areas. Given the drudgery of agricultural work, they now have an added incentive to move into nonagricultural activities, which are becoming increasingly available, particularly in small towns adjoining rural areas. Equally likely is the possibility that the remittances of urban migrants have led to a slow transformation of rural areas, creating new employment opportunities there. A change is evident in urban areas as well. Especially in the late 1990s, there was a trend toward greater employment in the service sector as manufacturing activities led to the need for better services. This change, though small, is evident in rural Nang Rong too and is significant, given that our conservative definition of employment in the service sector includes only employment as traders, food-service workers, transportation workers, and domestic workers.

These trends are further confirmed in our cohort analysis, which follows a single cohort of individuals aged 8-25 from 1984 to 2000. They also display gender differences in the patterns of movement from rural Nang Rong to urban areas. Much of the globalization and migration literature on Thailand and other Southeast Asian countries alludes to the large role played by youth, particularly women, in the growth of laborintensive industries and the service sector. This is evident in Nang Rong as well. Both women and men play a part in the migration process, but with gender differences. While all young men have a tendency to migrate to urban areas, only some women do, mainly those women who previously engaged in some nonagricultural activity. It appears, therefore, that those young women who have stronger ties to land remain in their villages, while a majority of men seek out new opportunities in urban and other rural areas. But patterns of return migration are also interesting, again with distinct gender differences. They tend to be small, even between 1994 and 2000, despite reports in other research of high rates of return migration after the 1997 financial crisis. Whereas men maintain ties to their households of origin and are likely to return, it is the opposite case with women.

Throughout this study, we have made references to the 1997 financial crisis in our discussions of changing employment and migration patterns, levels of unemployment, and a possible delay in the entry to work among youth. We intend to be cautious in assessing its impact, however. As others have indicated [*e. g.*, Rigg and Nattapoolwat 2001: 956], the effects of the crisis may have been immediate but without creating a major dent in the high growth levels in Thailand over the long term (see Chalamwong [1998: 297] for a contrasting view). It is also difficult to assess the impact on the rest of the economy. Most analyses, for example of the impact of the crisis in Indonesia, are based on aggregate statistics and so do not always present a true picture of the changes over

time [Aslanbeigui and Summerfield 2000: 88; Frankenberg, Thomas, and Beegle 1999: 31]. Even in Thailand, our analysis of the situation between 1994 and 2000 possibly misses some subtle short-term changes that occurred during that period. It is possible that high levels of unemployment after the crisis reflected only job turnovers rather than longer stints of unemployment. Other researchers have shown that return migration as a result of the economic crisis in Thailand was not permanent [TDRI 2000: 35]. We have found that the levels of unemployment were consistently low at all three time points, including 2000, except possibly among adolescents and youth who were still in school. A deeper analysis of the retrospective employment-history data for individuals from Nang Rong, which we will undertake in a subsequent study, is required to explore this subject more thoroughly.

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The Economic Crisis and Desires for Children and Marriage in Thailand*

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Abstract

This study examines the relationships between young Thai women's and men's experiences of economic difficulties due to the economic crisis and their desires for marriage and children, using data from a recent national survey on the economic crisis and demographic and family dynamics. The study found that the experiences of economic hardships due to the crisis were widespread among Thai women and men in their 20s and 30s, although there were considerable gender, regional, and urban-rural differences in the extent of experiencing such hardships. Our multivariate analyses reveal that the effects of the crisis on desires for children and marriage were diverse and indirect. Desired fertility of married women aged 25–39 was reduced, not by their own experiences of economic hardships, but by their husbands'. This implies that the husband's employment is a major factor in determining a woman's perception of the financial feasibility of having children and suggests that, if prolonged, the crisis could lead to lower marital fertility in Thailand. Marriage desires of young unmarried women aged 20–34 were dampened, not by their own hardships, but their mothers' economic difficulties, hinting that the widely documented close emotional ties between mothers and daughters in Thailand may have played a role.

Keywords: the economic crisis, Thailand, desired fertility, marriage desires

The Asian economic crisis began in Thailand in June 1997 with the near-collapse of its financial markets [Bhaopichitr 1997; Facts on Life News Services 1998]. In the late 1980s and early 1990s the country had experienced remarkable economic growth, transforming itself into an Asian "economic miracle" [Ito 1998; Lee and Rhee 1999]. This miracle was enhanced primarily through the globalization of Thailand's financial markets, interna-

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tional trades, and direct foreign investments [Jansen 1997; 2001]. Thailand needed foreign capital because its domestic savings were not great enough to finance the high level of investment necessary for rapid growth.¹⁾ During the early 1990s the dependency on foreign capital continued to grow while the government failed to develop a system for sound macroeconomic management of domestic and international financial markets [Jansen 2001; Kaosa-ard *et al.* 2000]. Consequently, the private sector went on a borrowing spree, which resulted in a skyrocketing foreign debt and a burgeoning current account deficit. This in turn caused a massive exodus of foreign capital, culminating in the financial meltdown during the summer of 1997 [Bello 1998]. Showing what the vulnerability to variations in foreign-capital inflows and outflows can do to a society, Thailand's economic crisis represents an extreme consequence of the malcontents of globalization.

After five years the Thai economy and society are still not out of the devastating effects of the crisis [The Economist 2002]. Those effects continue to ripple throughout the country, creating many economic and social problems, including lower wages and salaries, higher living expenses, upsurges in unemployment, and increases in the number of school dropouts [Kaosa-ard et al. 2000]. Macroeconomic stress of this magnitude must also have demographic and family consequences. Assessing the effects of economic downturn on fertility and mortality in developing countries in the 1980s, Mason [1997] found that, although the evidence was mixed, the adverse effects of a major and prolonged economic slump on childbearing and survival were not widespread. Comparatively little, however, is known about the demographic effects of an abrupt economic bust after a prolonged boom. It is therefore of interest to study the demographic and family impacts of the Thai crisis because the crisis also occurred in other parts of Asia, and its effects will likely continue to shape the demographic landscape of the region as a whole for some time. Examining how the crisis has influenced families and households, we can also develop a fuller picture of the far-reaching outcome of economic globalization.

Using data drawn from the 2001 National Survey on the Economic Crisis, Demographic Dynamics, and Family (hereafter referred to as the ECODDF), this study examines the relationships between young Thai women's and men's experiences of economic difficulties due to the economic crisis and their desires for marriage and children. We begin by describing the data and measurements employed by the study. Next we look at the degrees and patterns of experiences of economic hardship due to the economic crisis for women and men separately. We then examine the patterns of our two dependent variables—fertility desires among currently married women and men aged 25–39 and marriage desires among never-married women and men aged 20–34. Turning to multi-

¹⁾ According to Jansen [1997], its dependency on external capital did not begin in the late 1980s; rather, the dependency had been a long-standing characteristic of Thai economic development.

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variate analyses of desires for children and marriage, we first look at the results of a logistic regression analysis of the effects on women's and men's fertility desires of their experiences of economic hardship related to the economic crisis. We then examine the results of the logistic regression analysis of the effects of economic hardship on desires for marriage among young single women and men. The article concludes with a summary of the findings and a discussion of their implications.

Few comprehensive studies have been made of the sociodemographic impacts of Asia's economic crisis, with the notable exceptions of the Indonesia Family Life Surveys, a collaborative project conducted by the RAND Corporation, the University of California at Los Angeles, and the Demographic Institute of the University of Indonesia [*e.g.*, Frankenberg, Thomas and Beegle 1999] and a case study of Thailand's economic crisis and reproductive health conducted by the College of Population Studies at Chulalongkorn University [Chayovan, Peracca and Ruffolo 2000]. Admittedly, unlike the Indonesia Family Life Surveys, the ECODDF is not a longitudinal survey covering the period prior to the economic crisis. Nonetheless, it provides a unique opportunity to examine the multidimensional consequences of the economic crisis for people and families in Thailand. Through this study, we seek to shed light on the paths through which the crisis influenced individuals' attitudes and perceptions about marriage and the family.

Data and Measurements

Data

The data for this study are drawn mainly from the ECODDF, the first national family survey covering both women and men of all marital statuses throughout the reproductive age range in Thailand. The survey was intended to collect nationally representative data on a variety of issues pertaining to economic conditions, demographic situations, and family life in Thailand, including experiences and attitudes related to the economic crisis, fertility and other life histories, reproductive health and family planning, family activities, and attitudes toward marriage and the family, as well as the demographic and socioeconomic backgrounds of respondents, their spouses, and other family members. The ECODDF was also intended to parallel the 2000 National Survey on Family and Economic Conditions in Japan. Conducted during March–June and October 2001 by the College of Population Studies (CPS) at Chulalongkorn University in Bangkok, the survey was designed by a research team from Keio University in Tokyo and the CPS.

The ECODDF was based on a national, stratified multistage probability sample of the Thai population, in which 6,100 urban and 6,000 rural households were randomly selected, with the 2000 population census used as the sampling frame. Stratifying Thailand into five regional strata—the North, Northeast, Central Region (excluding Bangkok), South, and Bangkok Metropolis, the CPS randomly selected 21 provinces by probability propor-

tional to population size, except for Bangkok, which was self-representative. Then, dividing the sample provinces into two substrata—municipal (urban) and nonmunicipal (rural) areas—the researchers selected a total urban sample of 6,100 households (2,100 households in the provincial cities and towns and 4,000 households in Bangkok) and a total rural sample of 6,000 households, using multistage systematic or simple random-sampling methods. From these sample households, 9,102 eligible persons—6,068 women and 3,034 men of all marital statuses between the ages of 15 and 49—were selected, with twice as many women as men being sampled (*i. e.*, women were double-sampled). Among those sampled individuals, face-to-face interviews were successfully conducted with 5,065 women and 2,923 men, a response rate of approximately 88 percent.

Our study has two dependent variables, desired fertility and desires about marriage, and therefore uses two subsamples of the ECODDF.²⁾ The analysis of desired fertility focuses on currently married women and men aged 25–39 who had been married for at least four years—that is, to those who were married when the economic crisis began. This restriction to couples married for at least four years led us to choose age 25 instead of age 20 as the lower age limit so that we would minimize a possible bias due to the inclusion of outliers who had married at very young ages.

We imposed the upper age limit of 39 mainly to minimize the bias that would be introduced by including women and, to a lesser extent, men who were not at risk of childbearing. Women's physiological ability to bear children drops precipitously in their 40s with the onset of menopause, and for those older women (and for men whose wives are also likely to be of similar ages) a question about desired fertility would in many cases be irrelevant.³⁾ Our data therefore include 1,935 currently married women and 920 currently married men aged 25–39 who had been married for four or more years.

Our analysis of marriage desires focuses on never-married women and men aged 20–34. We again imposed the lower age limit of 20 because the question about experiences of economic hardship due to the economic crisis pertains to the four-year period prior to the 2001 survey. If we had included respondents in their upper teens at the time of the survey, this might have biased the results because of the inclusion of a small minority who started working in their early teens and therefore had a low level of education. We chose the upper age limit of 34 for the analysis of marriage desires because including another type of outlier, unmarried persons at older ages, would distort the results. In our data the proportion never-married was 16.0 percent for women aged 25–29 and 30–34; the corresponding proportions for men aged 25–29 and 30–34 were

²⁾ The cleaning of the survey data is still ongoing, and therefore the results of the analyses reported here are preliminary.

³⁾ It was possible to set (and we considered setting) higher upper age limits for men, or to use the wife's age instead of the man's own age. We decided against doing so primarily because having different age limits for the two sexes would unduly complicate the analysis.

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36.0 percent and 12.4 percent.⁴⁾ The sample of single respondents included 468 women and 481 men aged 20–34.

Dependent Variables

As we have already mentioned, the two dependent variables we examine in this study are desired fertility and desires about marriage. Desired fertility is measured by a dichotomous variable indicating whether or not a married woman or man wants to have more children. The ECODDF asked respondents, "Do you want to have more children?" Three precoded responses were Yes, Uncertain, and No. As we shall see later, only a small percentage of the respondents gave an uncertain response. Therefore, in our measure of desired fertility, we scored the responses as 1 for a positive answer and 0 for a negative or indefinite answer.

We measured marriage desires by a variable indicating whether or not a nevermarried woman or man wanted to marry someday.⁵⁾ Five precoded responses to this question were Definitely yes, Yes, Uncertain, Probably not, and Definitely not. As we shall see, only a small proportion gave a negative answer (Probably not or Definitely not). We therefore coded our measure of marriage desires as 1 if a respondent chose Definitely yes or Yes, and 0 if otherwise.

Independent Variables

In the multivariate analyses of desires for children and marriage, we estimate by logistic regression the likelihood of wanting to have more children or wanting to marry, using as the independent variables the economic hardships due to the economic crisis experienced by respondents themselves or by their family members. To measure such experiences, the ECODDF asked respondents:

Since the economic crisis, have you and other people you know experienced any such

⁴⁾ Alternatively, we could have used different upper age limits for women and men, namely age 29 for women and 34 for men. We decided against doing so in part because the results were not notably different, and also because we wanted to keep our results as simple and straightforward as possible.

⁵⁾ The ECODDF also asked all those who did not indicate that they definitely did not want to marry someday how soon they would like to marry. Using this variable, we constructed variables indicating whether or not respondents wanted to marry within three years or five years, respectively. However, these additional analyses did not yield significantly different results. Furthermore, a considerable proportion (around 24 percent of both women and men) indicated that they were not sure about when they would like to marry; and even among those who indicated a specific time frame, 16 percent of women and 34 percent of men answered that they would like to marry in ten or more years, a response we considered to be too vague to be realistic. Consequently, we decided not to use this variable as our dependent variable.

economic problems as: unable to find a job; losing a job or [being] laid off; demotion, cut in work hours or salary/wage cut; forced transfer of position or office; forced early retirement; failure or deterioration of [your] own business; drop in the prices of products/produce; or abrupt increases in costs of living/necessary capital investments?

The "other people you know" included the respondent's spouse, brothers, sisters, father, mother, other male or female relatives, male or female friends, and male or female co-workers. About each of these categories of people whom the respondents knew, the above question was asked, and their responses were precoded as Yes or No.⁶ We scored responses as 1 for Yes and 0 for No.

In our analysis of desired fertility among the currently married sample, we use two dichotomous variables as the independent variables: whether or not the respondent or the respondent's spouse had experienced any economic crisis-related hardships. In the analysis of marriage desires among single women and men, the independent variables are three dichotomous variables indicating whether or not the respondent him- or herself, the respondent's father, or the respondent's mother had experienced at least one of the above-mentioned economic hardships due to the economic crisis. Thus our measures of experiences of crisis-related hardship of the spouse or parents are based on proxy reports from respondents, whereas the reports of economic hardship experienced by the respondents themselves are, of course, self-reports.

Control Variables

Our analysis of desired fertility has four groups of control variables: (1) basic demographic characteristics including age, region, urban versus rural residence, and number of living children; (2) characteristics of marriage as measured by the age difference between spouses, and whether the current marriage was the first or not; (3) basic socioeconomic characteristics, including the respondent's own and the spouse's education and the couple's income; and (4) household structure as measured by coresidence with the respondent's own parents or spouse's parents.

Our multivariate analysis controls for the respondent's number of living children because desired fertility (wanting to have more children or not) is very much a function of a couple's existing family size. As we shall show later, because the relationship between the number of living children and desired fertility is in general linear, we specify this covariate as a continuous variable. The respondent's age is included in the model because, even after we control for family size, desired fertility is, to an extent, a function

⁶⁾ For the categories of people other than themselves, we provided a response category of "not applicable" so that we could identify respondents who did not have a spouse, parent, sibling, other relative, friend, or co-worker.

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of age. Our preliminary analysis indicated that the effects of age on desired fertility was not always linear, and so we specified age as a categorical variable consisting of three five-year age groups.

Although the Thai population is relatively homogeneous, there are clear demographic, socioeconomic, and cultural differentials by region [Knodel, Chamratrithirong and Debavalya 1987]. Evidence also suggests that the effects of the economic crisis have varied among regions, with the Northeast having been affected most seriously [Thailand, NSO 1997; 2000a; 2000b]. Our model therefore includes a categorical variable that accounts for the five major regions of Thailand—North, Northeast, Central, South, and Bangkok Metropolis. The model also controls for possible urban/rural differences in desired fertility by including a dichotomous variable indicating whether a respondent resided in an urban (municipal) area or not.

Our analysis of desired fertility takes into consideration characteristics of marriage. Those characteristics include age differences between the husband and wife and whether the current marriage is the first marriage or a remarriage. (We did not include age at marriage or duration of marriage in the model primarily because marriage duration and age at marriage are known to have a fairly strong multicolinearity with the number of children already born.) The age difference between spouses reflects both norms and the status relationship between husband and wife. Previous studies indicate that in contemporary Thailand the average age difference between spouses is small (three to four years), with women being much more likely to marry older men than younger men [Limanonda 1994; Prachuabmoh *et al.* 1972]. Given a possible curvilinearity of the effect of the age difference between spouses, our model specifies this variable as a categorical variable consisting of five categories: husband is younger than the wife; both spouses are of the same age; husband is older by one or two years; husband is older by three to five years; and husband is older by six or more years.

Marital separation, dissolution, and remarriage are not unusual among Thais [Knodel, Chamratrithirong and Debavalya 1987: 76; Limanonda 1994]. To control for the possible effects of the number of times a respondent had married, our model includes a dichotomous variable indicating whether current marriage was the first marriage or not. Around 7 percent of married women and men included in the analysis of desired fertility reported that they had been married more than once.

Our model controls for basic socioeconomic characteristics of spouses by including the number of years of education of the wife and husband and also the couple's income. Because our preliminary analysis did not clearly indicate curvilinearity or a threshold in the effects of the wife's or husband's education on desired fertility, we introduce these covariates as continuous variables. The mean number of years of education was 7.8 years for married women included in the analysis and 8.7 years for their husbands, whereas it was 9.2 years for married men and 8.1 years for their wives.

As another indicator of the economic status of couples and households, the model

includes the couple's average monthly income for the period from April 2000 to the time of the interview.⁷⁾ Because there were a considerable number of missing cases for couple's income (23 percent of the women and 29 percent of the men), the model includes a dichotomous variable indicating whether the couple's income information was missing or not. By including this variable, we minimize a possible estimation bias resulting from the exclusion of a large number of cases from the analysis.

Our model for the analysis of desired fertility controls for household structure by accounting for the respondent's coresidence with his or her own parents or the spouse's parents. We measure coresidence with parents or parents-in-law by using four dichotomous variables: coresidence with the respondent's own father, own mother, spouse's father (father-in-law), and spouse's mother (mother-in-law). Although considerable urban/rural and regional differences are known to exist in Thailand, living with the wife's parents after marriage (postnuptial matrilocal coresidence) has traditionally been more prevalent than patrilocal coresidence [Limanonda 1994; Podhisita 1994]. As expected, we found matrilocal coresidence to be more prevalent than patrilocal coresidence among both wives and husbands in our study: 23 percent of the wives indicated that they lived with their own parents, whereas only 9 percent of the wives reported living with their spouse's parents. Similarly, 21 percent of the husbands indicated that they lived with their wife's parents, whereas the proportion of husbands who reported living with their own parents was 13 percent. Few individuals (only four wives and no husbands) reported living with both sets of parents.

Our analysis of marriage desires has four groups of control variables: (1) basic demographic traits including age, region, and urban/rural residence; (2) basic socioeconomic characteristics including years of education and respondent's own income; (3) household economic status as measured by parents' home ownership; and (4) household structure measured by coresidence with parents.

Our multivariate model for the analysis of marriage desires controls for respondents' basic demographic traits such as age, region, and urban/rural residence. A desire to marry is a function of age. Because our preliminary analysis indicated that the relation-

⁷⁾ We attempted to use the respondent's own income and the spouse's income, rather than couple's income, but decided not to use them primarily because a considerable proportion of married women and men included in the analysis of desired fertility were self-employed or working in agriculture. For those wives and husbands, it would be difficult to assess their income separately. We also tried using such indicators of household living standards as housing quality and ownership of durable consumer goods. We decided against using them primarily because they are influenced by region, urban/rural residence, and occupation/industry of the couples. We attempted to include respondents' and spouses' occupations in the model but decided not to use them in part because a considerable proportion of respondents and their spouses held more than one occupation, or their occupation had changed or was temporary, and also because occupation was found to be correlated with couples' income.

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ship between age and marriage desire was not necessarily linear, we specified age as a categorical variable consisting of three five-year age groups. We specified region and urban/rural residence in the same ways as in the analysis of desired fertility of married women and men.

As in the analysis of desired fertility, the model accounts for two basic socioeconomic characteristics, years of education and income. Years of education are measured by a continuous variable. Interestingly, in our data the mean number of years of education was higher (14.9 years) for never-married women aged 20–34 than for never-married men in the same age group (12.8 years). This suggests that as their age goes up, single women become increasingly more selective about marriage in the sense that highly educated women are more likely to stay single than are their less educated counterparts. We measured respondents' own income by a continuous variable indicating the average monthly income for the period from April 2000 to the month of the survey.⁸⁾

To measure the household economic status of young, never-married women and men independently of their own economic situations, we used parents' home ownership, primarily because the ECODDF did not collect information on parents' income (nor on the income of coresiding siblings). Although information on household income was available, we found that respondents' own income and their household income were associated because household income included the respondents' income. This was especially the case for single men whose household income was low.⁹⁾ Approximately 52 percent of the parents of our respondent single women owned the home in which they resided; the corresponding proportion for our respondent single men was 55 percent. Parental home ownership was strongly associated with their ownership of the land on which the residential home was located: roughly 85 percent of the parents of young single women and men who owned their home also owned the land.

Our model for the analysis of marriage desires includes coresidence with respondents' own parents. This covariate is specified as a categorical variable consisting of four categories: living with both parents, living with the father only, living with the mother only, and not living with parents. We introduced this specification in part because, as mentioned earlier, marital separation and dissolution are not unusual in Thailand, and also because marriage desires of the young, unmarried Thais may differ according to whether they live with both parents or with a single parent. Among

⁸⁾ We also tried to include respondents' occupations in the model but decided not to include them for most of the same reasons that we did not include them in the model for married respondents.

⁹⁾ We considered using some other indicators of household living standard such as ownership of durable consumer goods. But we decided not to employ that variable because such ownership was highly correlated with respondents' own income. This was so probably because respondents themselves had purchased some durable household goods, such as a television set, mobile phone, automobile, motorcycle, or computer.

unmarried women and men in our sample, approximately 45 percent lived with both parents; the proportions living with the father only or the mother only were around 4 percent and 15 percent, respectively.

Experiences of Hardship Due to the Economic Crisis

Before turning to the results of our multivariate analyses, we look first at the patterns of experiences of economic hardship due to the economic crisis, as reported by respondents. As shown in Table 1, around one-half of married women and 58 percent of married men reported that they themselves had experienced one or more economic hardships due to the economic crisis. Fifty-two percent of the married women in our study also reported that their husband had had economic difficulties, and 43 percent of the married men indicated that their wife had experienced such economic hardships. As for never-married respondents in our sample, 31 percent of the women and 43 percent of the men reported that they themselves had experienced hardships due to the economic crisis. Thus, regardless of respondents' marital status, a higher proportion of men than of women were found to have experienced economic hardships since the onset of the crisis.

Characteristic	Married	Women	Marri	ed Men	Sir	ngle Wor	nen	S	Single Me	en
Characteristic	Self	Spouse	Self	Spouse	Self	Father	Mother	Self	Father	Mother
Total	51.1	51.8	57.6	43.3	30.5	22.2	24.5	43.5	20.6	21.8
Own age										
20-24	_	—		—	25.6	29.5	30.2	40.3	25.3	24.1
25-29	52.4	56.6	59.9	46.2	33.0	17.9	19.2	46.0	16.8	20.0
30-34	51.5	52.6	53.7	37.3	39.3	10.3	17.8	51.1	10.0	16.2
35-39	49.7	47.5	59.7	46.6	—	—	—	—	—	_
Region										
North	40.3	40.4	48.5	37.6	21.6	16.9	16.9	41.8	25.0	27.4
Northeast	64.2	62.6	67.2	51.8	44.3	22.6	22.1	56.2	21.0	23.4
Central	38.9	44.0	49.6	35.7	21.6	20.8	25.9	31.7	12.2	12.3
South	54.9	57.4	65.8	50.6	34.2	33.1	38.1	50.7	27.6	34.6
Bangkok	41.6	40.1	46.9	28.9	35.4	20.9	21.7	35.6	21.2	17.1
Place of reside	nce									
Urban	39.5	36.2	43.2	30.1	28.4	22.8	24.5	33.6	14.7	13.4
Rural	55.4	57.6	62.3	47.5	34.1	21.0	24.5	51.9	25.8	29.1
(No. of cases)	(1,924)	(1,923)	(912)	(909)	(467)	(459)	(466)	(479)	(475)	(475)

Table 1Percentages Experiencing Economic Difficulties Due to the Economic Crisis among
Respondents Themselves and Their Family Members, by Selected Characteristics:
Currently Married Women and Men Aged 25–39 and Never-married Women and Men
Aged 20–34, Thailand, 2001

Notes: Percentages shown above are weighted, but the numbers of cases are unweighted. Currently married men and women are limited to those who have been married for four or more years.

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Considerably higher proportions of married men and women than of unmarried men and women reported having experienced economic hardships. This was probably because our subsample of currently married respondents, being slightly older, tended to have been in the labor force longer than their never-married counterparts and therefore had been exposed longer to the risk of experiencing hardships related to the economic crisis. It may also be the case that marriage leads men and women to shoulder major economic responsibilities, thus exposing married individuals to a higher risk of experiencing economic hardships.

We found notable age patterns in reported experiences of economic hardships due to the crisis. Table 1 shows that the proportion of married women (and of their spouses) experiencing economic difficulties tends to decrease at higher ages, whereas for married men and their spouses the relationship between age and experiences of crisis-related hardships is U-shaped. On the other hand, the proportion of never-married women and men experiencing economic hardships increases almost linearly as their age increases. Regardless of single respondents' sex, the proportion of parents (both father and mother) reported to have experienced such economic difficulties tends to decrease as the age of respondents (and therefore their parents) goes up.

From Table 1 we can also see large regional differentials in the proportion experiencing economic hardships since the economic crisis began, with notably higher proportions of women and men in the Northeast and the South reporting such difficulties. Proportionately more residents in rural areas than in urban areas also reported economic hardships due to the crisis. This finding is contrary to evidence given by earlier reports that were published shortly after the economic crisis began in Thailand, according to which urban areas suffered higher unemployment and other forms of economic downturn than rural areas [Daorueng 1998; Sugisaki 1999]. The crisis may have hit urban areas harder initially because in Thailand it started with the meltdown of the financial sector, resulting in the collapse of scores of financial houses and the closure of factories that were concentrated in urban areas. Our finding suggests that economic hardship subsequently spread to rural areas, causing greater labor uncertainty and restlessness there. The higher level of economic hardship in rural areas may also be due in part to the fact that the government's labor and social welfare offices earlier supported the return of unemployed urban workers to their hometowns and villages to ease urban joblessness [Daorueng 1998].

Our multivariate analysis indicates that the Northeast and the South continue to have greater economic hardship than other regions (data not shown). Urban areas also continue to have significantly lower levels of hardship related to the crisis than do rural areas. The analysis indicates that men and women in primary industries and women in service industries have a significantly greater likelihood of experiencing economic hardship than do those in other sectors of the economy. This finding suggests not only that persons in primary and service industries have been more vulnerable to economic stress, but also that people who had been engaged earlier in other occupations (*e. g.*, in professional, technical, white-collar, and blue-collar jobs) moved into agriculture and service industries in response to restructuring due to the crisis. We found men and women with higher levels of education more likely to have avoided economic hardship than their less educated counterparts.

Levels and Patterns of Desires for Children and Marriage

We next look at the levels and patterns of our two dependent variables, desires for children and marriage. Table 2 presents the percentage distribution of fertility desires among currently married women and men aged 25–39 who had been married for at least four years, by the number of living children, in 2001. We notice first that the proportion of respondents wanting no children or no more children is unexpectedly high among those with no children or only one child. Among women who were childless or had only one child, the proportions not wanting any (more) children are 18 percent and 42 percent, respectively.¹⁰ As for men, the corresponding proportions are 17 percent and 30 percent. Nonetheless, as expected, the proportion of women and men who wanted to have more children decreases dramatically (and the proportion who did not want to have any more children increases) as their family size increases. The proportion of women and men who were uncertain about wanting more children was very small and shows no clear parity

Sex and Whether (More)	Number of Living Children:										
Children Are Desired	Zero	One	Two	Three	Four +	Total					
Women											
Yes	80.1	54.2	17.4	7.2	2.1	28.0					
No	17.8	41.6	81.0	92.6	97.9	70.0					
Uncertain	2.1	4.3	1.6	0.2	0.0	2.0					
(No. of cases)	(102)	(530)	(931)	(299)	(70)	(1,932)					
Men											
Yes	76.5	67.1	25.3	23.7	5.4	40.6					
No	17.4	29.7	70.6	72.3	92.8	55.5					
Uncertain	6.1	3.2	4.1	4.0	1.8	3.8					
(No. of cases)	(58)	(307)	(418)	(103)	(31)	(917)					

Table 2Percentage Distribution of Fertility Desires by the Number of Living Children:
Currently Married Women and Men Aged 25-39 Married for at Least Four Years,
Thailand, 2001

Note: Percentages shown above are weighted, but the numbers of cases are unweighted.

¹⁰⁾ For comparison, in Japan in 1994 the percentages not wanting (more) children among wives under age 45 who had no children or one child were 13 percent and 17 percent, respectively. The corresponding proportions for South Korean wives under age 45 in 1994 were 7 percent and 34 percent. For details, see Tsuya and Choe [2003].
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pattern, with merely 2 percent of women and about 4 percent of men giving an uncertain answer.¹¹⁾

We can also see that the level of fertility desired by women is lower than the level desired by men, and that this gender difference increases as family size increases. A study conducted in Japan and South Korea in the mid-1990s found similar gender differences in desired fertility [Tsuya and Choe 2003]. This result is as expected because, although both parents undoubtedly feel the financial costs and time pressures related to childbearing and childrearing, it is the mother who normally shoulders most of the childcare responsibilities on a day-to-day basis.

Turning to the levels and patterns of marriage desires among the unmarried subsample, we can see from Table 3 that while a large majority of single women and men aged 20–34 said that they wanted to marry someday, the proportion wanting or definitely wanting to marry was lower among women than among men (60 percent versus 78 percent). The degree of uncertainty was also higher among women than among men (28 percent versus 20 percent). Further, although the proportions indicating that they definitely or probably did not want to marry constitute small minorities, the total proportion for those who did not want to marry is much higher among women than among men (12 percent versus 3 percent). The proportion expressing a firmly negative answer ("definitely do not want to marry") is especially high among women in the 30–34 age group, implying a possible selectivity of highly educated women who are much less marriage- or family-oriented (and more career-oriented) in this age group than are women in the other age groups. These findings indicate that although a large majority of young, single Thai women and men desire to marry someday, women have less enthusiasm for

Desire for Morrison		Wo	men		Men			
Desire for Marriage	20-24	25-29	30-34	20-34	20-24	25-29	30-34	20-34
Definitely yes	30.1	18.0	21.0	24.7	39.7	35.4	30.1	37.2
Yes	37.1	39.4	24.7	35.3	44.2	34.6	39.8	40.7
Uncertain	25.8	32.4	26.8	27.9	15.0	26.0	23.9	19.5
Probably not	4.4	4.6	6.4	4.9	0.2	2.0	0.0	0.8
Definitely not	2.6	5.6	21.1	7.2	1.0	1.9	6.1	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(No. of cases)	(242)	(137)	(89)	(468)	(260)	(153)	(68)	(481)

Table 3Percentage Distributions of Marriage Desires by Age: Never-married Women and Men
Aged 20–34, Thailand, 2001

Notes: The distributions above are based on responses to the question "Do you want to marry someday?" The percentages are weighted, but the numbers of cases are unweighted.

¹¹⁾ In Japan and South Korea the level of ambivalence was much higher among currently married women and men under age 45 in 1994. The percentages of wives in the two countries giving an indefinite answer were 19 percent and 9 percent, respectively; the corresponding percentages for men were 24 percent and 9 percent.

marriage than men and that single women are more ambivalent about marriage than their male counterparts.

Results of the Multivariate Analysis of Desired Fertility

Using multivariate analysis, we examined the effects of experiencing economic hardship since the onset of the economic crisis on desired fertility among our sample of currently married Thai women and men. Table 4 presents the means of the covariates used in the

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Variables	Women	Men
Experienced economic hardships		
Self	0.493	0.569
Spouse	0.503	0.424
Own age (Ref: 25–29)		
30-34	0.372	0.352
35–39	0.373	0.476
Number of living children	1.856	1.723
Region (Ref: Central)		
North	0.208	0.196
Northeast	0.260	0.220
South	0.204	0.239
Bangkok	0.148	0.145
Living in an urban area	0.316	0.300
Age difference between spouses		
(Ref: Husband older by 1-2 years)		
Husband younger	0.099	0.130
Same age	0.078	0.110
Husband older by 3–5 years	0.315	0.301
Husband older by 6+ years	0.307	0.162
Remarriage	0.067	0.067
Years of education		
Own education	7.814	9.250
Spouse's education	8.667	8.063
Couple's average monthly income ^a	9.158	8.811
Couple's income missing	0.230	0.290
Coresidence with parents		
Own father	0.125	0.074
Own mother	0.184	0.120
Spouse's father	0.050	0.112
Spouse's mother	0.080	0.164

Table 4Means of the Covariates Used in the Analysis of Wanting to Have
More Children: Currently Married Women and Men Aged 25–39
Married for at Least Four Years, Thailand, 2001

^a Average income of a couple per month in 1,000 bahts for the period from April 2000 to the month of interview. (100 bahts=US \$2.3)

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Table 5Estimated Odds Ratios from the Logistic Regression Analysis of
Wanting to Have More Children: Currently Married Women and
Men Aged 25–39 Married for at Least Four Years, Thailand, 2001

Variable	Women	Men
Experienced economic bondshine	Wollien	Wiell
Solf	1 1 2 9	1 909
Spouse	0.725*	0.781
	0.120	0.101
25-20	1 000	1.000
20 29	0.707*	0.738
35-39	0.343**	0.515**
Number of living children	0.203**	0.250**
	0.205	0.230
Region	0.011	0.000
North	0.811	0.939
Northeast	1.490	1.920
Central	1.000	1.000
South	1.130	1.379
Dangkok	0.780	1.109
Living in an urban area	0.941	1.106
Age difference between spouses		
Husband younger	0.648*	0.561*
Same age	0.564*	1.063
Husband older by 1–2 years	1.000	1.000
Husband older by 3–5 years	0.643**	1.133
Husband older by 6+ years	0.457**	1.093
Remarriage	1.940*	3.052**
Years of education		
Own	0.984	0.987
Spouse	1.003	1.014
Couple's average monthly income ^a	1.006#	1.007
Couple's income missing	1.082	1.037
Coresidence with parents		
Own father	0.613*	0.868
Own mother	1.023	0.867
Spouse's father	1.037	1.027
Spouse's mother	1.016	0.855
Log-likelihood	- 848.61	-481.23
LR chi ² (23)	524.60	227.18
Prob>chi ²	0.000	0.000
No. of observations	1,884	877

[#] Significant at .10 level. * Significant at .05 level. ** Significant at .01 level. ^a Average income of a couple per month in 1,000 bahts for the period from

April 2000 to the month of interview. (1 baht=US 0.023)

logistic regression analysis of wanting to have more children among those respondents. Table 5 presents the estimated odds ratios of the effects of the covariates for women and men, separately. We can see in Table 4 that characteristics of female respondents and male respondents under consideration are in general similar, with most of the gender differences in expected directions. An exception is age difference between spouses. Our respondent women tended to be married to men who were considerably older than they were, whereas our respondent men tended to be married to women who were closer in age.

We can see from Table 5 that husbands' experiences of economic hardship due to the crisis significantly lowered women's fertility desires, whereas their own experiences of such hardships did not have statistically significant effects. We interpret this finding as suggesting that married women's desires for children were dampened by their husbands' (but not by their own) economic difficulties, probably because a woman's perception of the financial prospects of the family hinged upon how well her husband had done in providing for their family. A husband's job loss, pay cut, or other employment setback related to the crisis may have led the wife to feel more insecure about having more children because such hardships for the husband, who was likely to be the main breadwinner of the family, signaled future uncertainty about the financial basis for raising a larger family. We observe similar patterns in the relationship between economic hardship and desired fertility for men, but the effects of their own and their wives' experiences of economic hardship on men's fertility desires all proved to be statistically insignificant. This finding suggests that men's desires for children have been largely unaffected by their own and their wives' experiences of economic setbacks since the crisis began.

Turning to the effects of the control variables, we can see that desires for children decline significantly and almost linearly as women and men age. The degree of decline by age is stronger and clearer for women than for men. This finding suggests that, net of the other covariates of the model, women's desires for children decline more sharply than men's as they age, producing a wider gender gap in desired fertility at older ages (ages 30–39).

As expected, for both women and men, desired fertility drops dramatically as the number of living children increases. With the other factors of the model held constant, one additional child reduces the proportion of women and men wanting to have more children by 20 and 25 percent, respectively.

We see statistically significant regional differences in the desired fertility of Thai women and men. Compared with those living in the Central region, women and men living in the Northeast were more likely to want more children. Being the poorest and least developed region of the country, the Northeast is also the most traditional in its marriage and family-building patterns [Knodel, Chamratrithirong and Debavalya 1987; Limanonda 1994; Podhisita 1994]. Our finding suggests that the Northeast has the highest

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level of desired fertility among both women and men. Net of the other factors in the model, however, we found no statistically significant urban-rural difference in desired fertility for either women or men.

Among the covariates of our model, the most influential factors are characteristics of marriage as measured by age differences between spouses and the number of times married. For women, the relationship between age difference and fertility desires assumes an inverted U-shape. Specifically, women who were older than or the same age as their husbands had a significantly lower level of desired fertility than did women who were younger than their husbands by one or two years. Women whose husbands were at least three years older than they were also likely to have significantly lower desires for children, compared with women who were younger than their husbands by only one or two years. Moreover, the older the husband, the lower the level of a woman's desired fertility. Thus the husband's being older than the wife by a few years, the husband's being younger than the wife, the husband's having the same age as the wife, or the husband's being much older than the wife all seem to reduce a woman's fertility desires. As for men's desired fertility, an age difference between spouses does not have a statistically significant effect, except for a small group of men whose wives were older than themselves. Among that group the desire for children was significantly lower than it was among men who were older than their wives by one or two years.

Compared with respondents who were in their first marriage, women and men who had remarried were much more likely to want more children. This tendency was especially strong among men: remarried men were about three times more likely to want more children than first-married men. Respondents (especially men) who had remarried tended to have a strong desire to have children with their new spouse, possibly because they viewed children as a means to solidify the marital bond.

With regard to socioeconomic characteristics of women and men, net of the other factors of the model, the educational level of both spouses did not affect their fertility desires. Having a higher household income somewhat increased women's (but not men's) desire for children, although this finding is not statistically significant at the conventional level of 5 percent. It suggests that as more financial resources are available for herself and her husband, a woman is more likely to want more children. This again implies the importance of financial resources and security to women when they consider their fertility desires.

Finally, coresidence with their parents or their husband's parents affected women's desired fertility. Women who lived with their own father had significantly less desire for children than did women who did not live with their parents or parents-in-law. This result is puzzling because coresidence with their own mother or their husband's parents had no effect women's desires for children. Coresidence with parents or parents-in-law did not have statistically significant effects on men's desires for children.

Results of the Multivariate Analysis of Marriage Desires

We now turn to the results of the logistic regression analysis of desires to marry someday among young, never-married women and men. Table 6 presents the means of the covariates used in the analysis, and Table 7 presents the estimated odds ratios of these covariates. We can see from Table 6 that in our sample young, unmarried women tended to be more urban than young, single men, with a higher concentration in Bangkok. As mentioned earlier, these young women were also better educated than their male counterparts.

From Table 7 we can see that the experience of crisis-related economic hardship by young women's mothers significantly reduced the young women's desire for marriage, whereas neither their own nor their fathers' experience of such economic difficulties affected their desire for marriage. With regard to young, single men, their own and their parents' experiences of economic hardship since the onset of the crisis did not significantly influence their marriage desires. As to why their mothers' experiences of eco-

· · · · · · · · · · · · · · · · · · ·		
Variables	Women	Men
Experienced economic hardships		
Self	0.321	0.430
Father	0.224	0.221
Mother	0.247	0.232
Own age (Ref: 20–24)		
25-29	0.293	0.318
30-34	0.190	0.141
Region (Ref: central)		
North	0.130	0.168
Northeast	0.109	0.170
South	0.175	0.208
Bangkok	0.389	0.306
Living in an urban area	0.654	0.526
Years of education	14.874	12.796
Own average monthly income ^a	6.440	6.637
Parents' home ownership	0.521	0.552
Coresidence with parents		
(Ref: neither)		
Both parents	0.453	0.447
Father only	0.035	0.036
Mother only	0.139	0.160

Table 6Means of the Covariates Used in the Analysis of Wanting to
Marry: Never-married Women and Men Aged 20–34, Thailand, 2001

^a Average income of an individual per month in 1,000 bahts for the period from April 2000 to the month of interview. (1 baht=US \$0.023)

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Variables	Women	Men
Experienced economic hardships		
Self	1.225	1.109
Father	1.296	1.191
Mother	0.497*	1.238
Own age		
20-24	1.000	1.000
25-29	0.532*	0.589*
30-34	0.357**	0.798
Region		
North	0.830	0.738
Northeast	1.509	5.618**
Central	1.000	1.000
South	1.973^{*}	1.347
Bangkok	1.124	1.083
Living in an urban area	0.853	0.864
Years of education	1.024	1.111**
Own average monthly income ^a	1.025	0.980#
Parents' home ownership	1.372	0.623
Coresidence with:		
Both parents	0.515*	0.734
Father only	0.395	5.198
Mother only	0.560	0.733
Neither	1.000	1.000
Log-likelihood	-285.43	-223.887
LR chi ² (23)	30.65	55.22
Prob>chi ²	0.015	0.000
No. of observations	453	463

Table 7 Estimated Odds Ratios from the Logistic Regression Analysis of Wanting to Marry: Never-married Women and Men Aged 20–34, Thailand, 2001

 $^{\sharp}$ Significant at .10 level. * Significant at .05 level. ** Significant at .01 level. $^{\rm a}$ Average income of an individual per month in 1,000 bahts for the period

from April 2000 to the month of interview. (1 baht=US \$0.023)

nomic hardship lowered young women's desire to marry, we speculate that the strong emotional ties between daughters and their mothers may have played a role. Because Thai daughters tend to be emotionally closer to parents than are sons [Keyes 1976; Podhisita 1994], and also because children are usually emotionally closer to their mother than to their father [Limanonda 1994; Mulder 2000: 69–73], the strong emotional bonds between the young women in our study and their mothers may have made them less inclined to marry when their mothers had economic difficulties.

The single women's desires for marriage tend to decrease almost linearly with age. For the single men, the relationship between their age and their marriage desires is curvilinear: the level of marriage desires was the lowest for men at ages 25–29. We found

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significant regional differences in marriage desires of single women and men. Compared with women living in the Central region, women in the South were more likely to want to marry someday. Compared with men in the Central region, men residing in the Northeast were much more likely to want to marry. We found no statistically significant urban-rural differences in the level of marriage desires, however.

Socioeconomic traits of single men influenced their desires for marriage. On the one hand, education had a strongly positive and significant effect: a one-year increase in education raised the proportion of single men who wanted to marry someday by 11 percent. On the other, higher income tended to reduce men's marriage desires, although this result is not statistically significant at the conventional level of 5 percent. By contrast, education and income did not significantly affect women's desire for marriage. Nor did the economic status of their parents, as measured by parents' ownership of the home, affect women's (or men's) marriage desires.

Coresidence with parents influenced women's desire to marry in the sense that women who lived with both parents were significantly less likely to want to marry than were women who did not live with their parents. Interestingly, women living with their father but not with their mother were also less likely to want to marry. In contrast, men who lived with their father but not with their mother tended to have much stronger marriage desires than did men who were not living with their parents. These results are not statistically significant because the proportions of women and men living with only their father were very small (around 4 percent). Nonetheless, women living with only their father were less likely to want to marry, probably because they played the role of homemaker, taking care of the father and other family members. In contrast, young men living with only their father had strong desires for marriage, probably because they felt acutely the inconveniences caused by the absence of the mother, who would normally shoulder household tasks and care for the father and other family members.

Summary and Discussion

This study has found that the effects of the economic crisis as measured by experiences of economic hardship among Thai women and men in their 20s and 30s have been pervasive, with more than one-half of the married women and men surveyed reporting such experiences. Even among the young, single respondents, the effects of the economic crisis have been substantial: nearly half of the single men and 30 percent of the single women surveyed reported having experienced economic hardships since the crisis began. We also found gender, regional, and urban-rural differences in the effects of the crisis. A higher percentage of men than of women reported experiencing economic hardship. The percentages of women and men who experienced economic difficulties were notably higher in the Northeast and the South than in other regions. For both sexes the TSUYA N. O. and N. CHAYOVAN: The Economic Crisis and Desires for Children and Marriage

proportion experiencing such difficulties was higher among rural residents than among those living in urban areas.

Judging from the relatively high proportions of married women and men with no children or only one child who did not want to have any children or more children, the level of desired fertility in Thailand today is not high. Nonetheless, for both men and women, we found the level of desired fertility to decrease drastically as the number of children they already had increased. Women's desired fertility was lower than men's, and the gender difference in desired fertility was greater at older ages. It is mostly the woman who shoulders major responsibilities for raising children, and the costs and pressures associated with childrearing tend to increase as family size becomes larger. This in turn results in an increasing gender gap in desires for children among women and men with larger families.

Although a large majority of young, unmarried women and men expressed the desire to marry someday, our study reveals a large gender difference in the desire for marriage, women expressing less interest than men. Moreover, the level of ambivalence toward marriage was higher among single women than among single men.

Our multivariate analysis of desired fertility suggests that the economic crisis has negatively affected women's fertility desires through their husbands' economic difficulties, those difficulties including a job loss, pay cut, or other employment-related setback. This finding in turn implies that the husband's employment is a major factor in determining a woman's perception of the financial feasibility of having children and suggests that, if prolonged, the crisis could lead to lower marital fertility in Thailand.

Not only do such demographic factors as age, number of living children, and region affect fertility desires, but also characteristics of the marriage as measured by the age difference between spouses and the number of times married have strong effects on the fertility desires of both sexes. We found that although couples' socioeconomic characteristics did not exert strong effects on desired fertility, a higher income tended to increase women's (but not men's) desire for children. This again seems to indicate the enhancing effect of a couple's financial security on women's desired fertility.

The crisis may have also dampened the marriage desires of young, single women by causing economic hardships for their mothers. Our multivariate analysis shows that having a mother who experienced economic hardship due to the crisis significantly reduced the marriage desires of young, unmarried women. Though we are not certain why their mothers' economic setbacks negatively affected women's desires for marriage, the widely documented close emotional ties between mothers and daughters in Thailand may have played a role.

Our study suggests that the paths through which the economic crisis has affected desires for children and marriage are diverse and indirect. By implication, to account fully for its sociodemographic effects on family formation and family planning, it is necessary to take into consideration the economic and demographic situations of not only individual women and men but also their family members, including their parents and, if married, the spouse and his or her parents.

We are not certain whether the identified effects of the crisis on desires for children and marriage among Thai women and men are short-term responses, or more or less irrevocable. Mason [1997] suggests that the effects of economic downturns on the demand for children tended to be temporary and procyclical in developing countries at late stages of demographic transition in the 1980s. According to recent reports on the economic conditions in Thailand [*e. g.*, Kaosa-ard *et al.* 2000; *The Economist* 2002], the Thai economy is on the way to recovery. If Mason's suggestion applies to the recent and more acute crisis in Thailand, once the economy recovers, women's and men's desires for marriage and children may also bounce back. We cannot ignore the possibility, however, that once having experienced such a shock, young Thais may have undergone changes in their desires for children and marriage that are likely to linger long after the recovery. More studies are needed to explain the magnitudes and the mechanisms of the demographic effects produced by the economic crisis in Thailand and elsewhere in Asia.

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Unauthorized Migrants as Global Workers in the ASEAN Region

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Abstract

Globalization is a social phenomenon that by definition does not admit limitations. However, of the various factors of production, labor is not free to move where productivity is highest. The traditional reasons limiting the movement of labor (political, economic, social and cultural) have been reinforced by current discussions that link migration and terrorism. Thus, it is foreseeable that migration policies will become more restrictive in the near future.

However, regardless of policies or sometimes in response to them, unauthorized migration has developed in all countries. Is unauthorized migration the expression of the globalization of foreign work? Is it a response to the futile attempts to limit the overreaching power of globalization?

This paper will explore the significance of unauthorized migration as an outcome of globalization by analyzing migration flows in Southeast Asia. There are currently three migration subsystems in the region characterized by various types of population flows. The paper will first examine the current trends of such flows. It will then examine the characteristics of unauthorized migration and their significance for regional relations. It will finally consider the following questions: Is the large unauthorized migration in the region a consequence of the characteristics of the regional process adopted in ASEAN? Is unauthorized migration the result of increasing globalization or does it depend on other factors? Are migration policies consistent with regional and globalization policies?

Keywords: unauthorized migration, migration policies, globalization, ASEAN

In November 2001 Malaysia vowed to reduce unauthorized migration, exercizing tougher control on the entry of migrants in its territory and repatriating those present with unauthorized status. Although Malaysia had embarked on many such operations in the past, this one smacked of unusual determination and resolve. Even if 124,000 irregular workers had been repatriated in 2001, as reported by the Immigration Department, 450,000 unauthorized Indonesians were still said to remain in the country, 300,000 in Peninsular Malaysia and 150,000 in Sabah [*AMN*, 30 November 2001]. The government's intention to

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repatriate 10,000 Indonesians a month led to riots among migrants detained in the Pekan Nenas detention centre and the subsequent deportation of most of them. A similar move of massive repatriation was announced in Sabah on February 26, 2002, to tackle the estimated 150,000 unauthorized migrants who had remained after the regularization of 1997 or who had since failed to renew their permits [AMN, 28 February 2002]. The announcement was followed by quick action targeting the demolition of squatter shanties and the repatriation of Filipinos and Indonesians.

On the other frontier, the one between Thailand and Burma, government action has proceeded with similar determination. After the registration of some 568,000 migrants in September 2001, perhaps 600,000 mostly Burmese migrants are still considered to be in the country in an unauthorized status. A four-month crackdown on unauthorized migrants in major cities of nine provinces was announced in February, to last until June 10 [*AMN*, 15 February 2002]. Burma agreed to cooperate in the process, taking repatriated workers in the Myawaddy holding centre just across the border from Thailand's Tak Province.

These references to current migration issues in two of the three most important countries of destination within the ASEAN region are sufficient to indicate how relevant unauthorized migration has become to government policies in the region. The significance of this phenomenon and of the policies toward it deserve special attention because it is occurring in the most successful regional experiment in Asia. Three questions need to be addressed: Is the large unauthorized migration in the region a consequence of the characteristics of the regional process adopted in ASEAN? Is unauthorized migration the result of increasing globalization, or does it depend on other factors? Are migration policies consistent with regional and globalization policies?

To answer these questions this article will first analyse migration flows within the ASEAN region by examining three distinct migration subsystems. It will then examine the dynamics of unauthorized migration in each of the three subsystems. Finally it will discuss the three questions raised above.

Migration within the ASEAN Region

If migration within the ASEAN region is examined from a continental perspective, it appears to constitute one fairly coherent migration system. A system can be understood as comprising a group of countries with one, or more than one, core country, which functions as a destination, and others as periphery countries from which migrants originate. Because of differences in demographic, economic, social, and political contexts (see selected indicators in Table 1), which serve as a premise to the population movement, and because of specific linkages of various kinds (historical, cultural, technological), which function as triggers to the actual movement, migration has taken place and continues to take place reinforced by feedback and adjustments, and by the facilitative

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Country	Population (Thousands)	Unemployment Rate ^a	Rate of GDP Growth ^b	GDP per Capita	Inflation Rate ^b (Average	Trade Balance
country	(Thousands)	(%)	(%)	(US \$)	Period, %)	(US\$ m)
Brunei	346	u	2.97	14,094	1.08	1,869
Cambodia	13,441	u	4.50	289	-0.79	-245
Indonesia	214,840	6.2	4.77	723	3.77	25,087
Lao PDR	5,403	u	5.74	315	23.16	- 87
Malaysia	23,639	3.1	8.54	4,016	1.56	20,926
Myanmar	48,364	u	6.23	155	3.4	-797
Philippines	77,131	11.2	3.95	990	4.4	6,915
Singapore	4,148	3.1	9.89	25,864	1.35	11,400
Thailand	62,968	3.2	4.31	1,986	1.56	5,519
Vietnam	79,175	7	6.75	396	- 0.6	628
ASEAN	529,455		5.41	1,121	2.7	71,215

 Table 1
 Selected Social and Economic Indicators: ASEAN Region, 2001

Source: [ASEAN Secretariat 2001]

u—unavailable.

^a 1999 figure.

^b As a proxy, the ASEAN rate of GDP growth and the ASEAN inflation rate are computed as a weighted average of its 10 member countries' figures using PPP-GDP of the IMF-WEO of May 2001 as the weight.

 Table 2
 Stock of Authorized Migrants in Selected ASEAN Countries (thousands)

То			
From	Thailand ^a	Malaysia ^b	Singapore ^c
Indonesia		517.8	165.6
Philippines		30.5	99.3
Thailand		2.9	99.3
China			76.2
Bangladesh		129.0	
Myanmar	447.1		
Other	112.5	22.1	304.6
Total migrants ^d	559.6	702.3	745.0

^a Registered during September-October 2001 [AMN, 31 October 2001].

^b February 2000 [Battistella 2001: 12].

 $^{\rm c}$ 2000 [AMN, 31 August 2001]. Distribution recalculated based on ILO estimates, 1998.

^d Includes non-Asians.

role of migration networks [Kritz et al. 1992].

In fact, ASEAN includes some of the major countries of origin of migration (the Philippines, Indonesia, and Burma) and also some of the countries with the largest number of migrants (Malaysia and Thailand) (Tables 2 and 3) or the highest share of migrants in their populations (Singapore and Malaysia). When examined from a closer perspective, however, the ASEAN region presents some distinctive characteristics. Most of the immigrant population originates within the system, except for some flows that are exogenous, most notably the one from Bangladesh toward Malaysia. At the same time,

Table 3	Estimated Numbers of Unauthorized Migrants in Selected Asian Countries

From	Malaysia ^a	Singapore	Thailand ^b
Bangladesh	81,000		
Myanmar			421,719
Cambodia			42,119
Indonesia	333,000		
Philippines	9,000°		
Others	27,000		56,159
Total	450,000	$35,000^{d}$	520,000

^a Estimate from *MN* [2002a].

^b Estimate from AMN [31 October 2001].

^c Add approximately 150,000 Filipinos still irregular in Sabah.

^d [Dawes 2001: <u>www.asiaweek.com</u>]

countries of origin also exchange migrants within other systems. For example, migration flows from the Philippines to non-ASEAN destinations are more substantial than those within the region. Finally, migration flows within the region appear polarized in specific directions. For this reason, it is better to examine three subsystems of migration within the ASEAN region—the Malay Peninsula (including Singapore); the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA); and the Northern ASEAN countries. I recognize that these major groupings are not economically and politically cohesive.

The Malay Peninsula

The Malay Peninsula constitutes the most dynamic economic region within ASEAN. Malaysia and Singapore combined (including East Malaysia) were responsible for 31 percent of the total GNP of ASEAN in 2000. Even more significantly, they accounted for 56 percent of ASEAN exports. This economically dynamic area, however, is deficient in population (approximately 27 million); hence it needs foreign workers. As of the 2000 census, foreign workers constituted 29 percent of the workforce in Singapore, while the share of foreign workers in the Malaysian work force was 16 percent.

The origin of foreign labour in this area goes back to the colonial era, when the British Empire introduced workers from India and China. The heritage of those movements is particularly evident in the multiethnic composition of the populations of Singapore and Malaysia. The separation of Singapore from Malaysia did not sever traditional ties. In fact, Malaysians were originally the only migrants allowed to work in Singapore, and they remain as the traditional source of foreign labour. In addition, Malaysian workers commute daily between the southern Malaysian state of Johor and Singapore.

Although they can be considered part of the same migration system because of economic links, Singapore and Malaysia have developed different migration policies. The differences reflect different initial conditions as well as differences in the pace of absorbing the local workforce.

Singapore early factored migration into the growth process of its economy. It adopted a different treatment for professionals and highly skilled workers from that for unskilled migrants. Although it encouraged the contribution of professionals, offering them incentives to remain in Singapore and acquire permanent residence, it discouraged the migration of unskilled workers. Control policies were aimed not just at making migrant labour precarious (through lack of long-term residence possibilities) but also at profiting from it by collecting a levy imposed on employers who hired foreign workers. When it became apparent that the demand for migrant labour was increasing, because migrants performed jobs that local workers shunned and that could not be eliminated through automation, the government adopted policies that discouraged an increasing dependency ratio [Wong 1997].

Accurate data on the number and origin of migrants in Singapore are not available. Newspapers have reported that in a population of 4.3 million people the number of foreigners has reached 745,000 [AMN, 31 August 2001], of whom perhaps 600,000 are migrants. Women domestic workers constitute an important component (perhaps one fifth) of the foreign workforce and come mostly from the Philippines (three quarters), Indonesia, and Sri Lanka [Yeoh *et al.* 1999: 117]. Migrants are also widely employed in construction; most come from Thailand, Bangladesh, and India.

Singapore's migration policy is often characterized as pragmatic, aimed at maximizing the contribution of foreign workers and minimizing social costs. Social costs are minimized, as mentioned earlier, by discouraging the hiring of unskilled workers, while encouraging highly skilled workers, particularly in the area of the new economy, to settle in Singapore. Social costs are also minimized by discouraging unskilled migrants from remaining in Singapore or even intermarrying with the local population. The pragmatism of Singapore's policy was particularly evident during the economic crisis of 1998, when the government encouraged employers to retain workers not on the basis of nationality, but rather productivity. Measures against unauthorized migration are severe, including caning for those caught violating immigration policies. Punishment is meted not just for hiring unauthorized migrants; providing lodging to unauthorized migrants also constitutes an offence punishable by imprisonment and fines.

Immigration to Malaysia originated in the 1970s, as local workers moved out of agriculture and construction to better-paying jobs. Migrants came mostly from Indonesia and settled in Malaysia under a laissez-faire policy. The Malaysian govenment began to control the movement of foreign workers with the 1984 Medan Pact with Indonesia, which was followed by similar agreements with the Philippines, Bangladesh, and Thailand. The state took a more proactive role in the 1990s, particularly with the intention to reduce the large number of unauthorized migrants. Nevertheless, various amnesties and repatriations did not substantially modify the situation. Perhaps the largest reduction of

foreign labour took place in 1998, in reaction to the financial crisis, but the current repatriation of Indonesians indicates it was an unfinished job. Overall, Malaysian migration policy can be considered flexible and aimed at promoting growth and upgrading industry [Kanapathy 2001]. Like Singapore, Malaysia does not make public its data on migration. Recent newspaper reports indicate the number of registered foreign workers in Malaysia to be 770,000, of whom 576,000 are Indonesians, 105,000 Bangladeshis, 48,000 Nepalese, 17,000 Filipinos, 6,500 Burmese, 2,400 Thais, 1,200 Pakistanis, and the rest from other countries. In addition, approximately 450,000 are considered unauthorized migrants, most of them from Indonesia and Bangladesh. Occupations are clustered by ethnic origin. Thus Indonesians are predominantly in plantation work and construction, Bangladeshis in manufacturing and services, and Filipinos in services.

Malaysia's frequent policy changes make it difficult to have an overall grasp of the current system. For instance, hiring for specific occupations has been restricted and relaxed at various times, as has been the hiring of particular ethnic groups. The hiring of Filipinos was suspended in October 2001, but was lifted in January 2002 after Indonesians were placed at the bottom of the list following their involvement in riots [AMN, 31 January 2002]. Like Singapore, Malaysia encourages the hiring of professionals; in February, the hiring of foreign doctors was approved. It also aims at reducing the number of unauthorized migrants, an objective it has pursued during the past 15 years with limited results.

In addition to the Philippines and Thailand, which send large numbers of migrants to Singapore, the major sources of migration to this subsystem are Indonesia and Bangladesh, two highly populated countries with social and economic conditions that fuel instability. Ethnic clashes and independence movements in Indonesia have subsided under President Megawati, but their underlying causes have not found a solution. Formal labour migration from Indonesia, which experienced a large transfer of population within its own territory through the government's programme of *transmigrasi*, started in the 1980s and consisted mostly of domestic workers heading for the Middle East, Malaysia, and Singapore. Preceding and overshadowing the formal programme, however, has been the unauthorized movement of migrants who enter Peninsular Malaysia by crossing the Straits of Malacca. Religious, linguistic, and cultural proximity have facilitated this unauthorized transfer to Malaysia. Intermediaries (illegal recruiters, travel agents, and transport operators) play a prominent role. Several agreements and regularizations have not succeeded in bringing order to a movement that is based on marked demographic and economic disparities between the two countries, with their close borders and well-established migration networks. In recent years, however, Indonesia has also developed significant migration flows toward other destinations. About 65,000 Indonesians, mostly domestic workers, are in Hong Kong, and 91,000 are in Taiwan, working in domestic and care services and also in manufacturing.

Bangladesh also sends most of its migrant labour force to other destinations, partic-

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ularly the Middle East; and an unspecified number of Bangladeshis, perhaps 500,000, have moved to the Indian state of Assam. Nonetheless, ties established through migration flows will ensure that Bangladesh remains an important source of migrant labour in Peninsular Malaysia. At the same time, an increasing diversification of origins is expected, particularly after the recent action taken by the Malaysian government to reduce the number of unauthorized Indonesians and to relegate them to the bottom of the hiring list (domestic workers excluded). As soon as this happened, India and Nepal moved to secure a niche in that labour market. Malaysia's Human Resource Ministry has expressed the intention to source workers from Vietnam, particularly in the construction and plantation sectors [*AMN*, 15 March 2002].

The BIMP-EAGA Subregion

Because of its location, its history, and the configuration of its economy, East Malaysia has developed autonomous immigration procedures. On the one hand, the two states, Sabah in particular, have become the destinations of migrants mainly from the Philippines and Indonesia. On the other, the Sultanate of Brunei, with its high standard of living, due to the export of oil, also attracts migrants. Therefore, this region can be considered a separate migration subsystem within the ASEAN region. The boundaries of this subsystem coincide with the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area commonly referred to as BIMP-EAGA.

Established in 1994, BIMP-EAGA covers the sultanate of Brunei, East Malaysia (Sabah, Sarawak, and Labuan), Mindanao and Palawan in the Philippines, and 10 provinces in the Indonesian islands of Kalimantan, Sulawesi, Maluku, and Irian Jaya. It is a vast region of 1.54 million square kilometres and a population of approximately 50 million. The intention in establishing the growth area was to take advantage of the opportunities it provides and create incentives for the economic growth of the least developed areas in each nation (except for Brunei). Natural resources (forests, oil, gas, and water) are plentiful; and agriculture specializes in coconut and corn in Mindanao, rubber in Indonesia, and oil palm in Indonesia and Malaysia. Industrialization in the region at large is below the level of the respective countries, however, and wages (except in East Kalimantan) are also lower than national wages. Complementarities are not significant enough to suggest a spectacular increase of intraregional trade; but there are possibilities, particularly in tourism and labour complementarities, as well as in attracting more foreign direct investment.

Since its establishment, BIMP-EAGA set up air and sea linkages to facilitate transportation and communication, though the private sector did not respond as expected to the idea. BIMP-EAGA seems to be having a second life since President Arroyo revived the attention of the other partners in 2001. Regardless of the success of the growth area, however, the region has developed migratory flows that respond not only to economic but also to historical factors.

Sabah has long been part of a geopolitical zone with linkages to both Malaysia and the Philippines. It remains a source of territorial dispute between the two countries, although the Philippines' recent establishment of a de facto consulate in Kota Kinabalu indicates that the Philippines may consider the possibility of obtaining sovereignty over Sabah as remote. Population movement to Sabah (also to Sarawak) from Western Mindanao in the Philippines and from Kalimantan in Indonesia began in precolonial times, and the state boundaries established by colonial powers had limited impact. The importation of labour during British colonial rule and the arrival of Filipinos seeking refuge during the conflict in Mindanao in the 1970s reinforced the migrant population, which has now reached about 600,000 and is managed by the autonomous State Immigration Department. As in Peninsular Malaysia, efforts in Sabah and Sarawak to bring unauthorized migration under control have met with little success. The largest operation was the regularization programme implemented in 1997, which registered 413,832 migrants, including 284,704 Indonesians and 119,128 Filipinos [Kurus 1998: 284]. Malaysian authorities estimated that approximately 80,000 failed to register. Some 150,000 unauthorized migrants are said to remain in the state, and a new crackdown was launched on February 26. Toward the end of March, 7,351 migrants were deported from Sabah, of whom 4,322 were Filipinos, 2,930 were Indonesians, and 99 were of other nationalities.

Migrants in Sabah are involved in the same sectors (forestry, plantation, construction, manufacturing, and domestic service) as those in Peninsular Malaysia. But the level of settlement is higher because nearly 200,000 Indonesians and Filipinos live with their dependents. In addition to employment in sectors traditionally associated with migrants, they are also involved in various aspects of the informal economy.

Similar to the economies of the Gulf countries, which depend largely on oil exports, the economy of Brunei relies heavily on foreign labour. In 1988 immigrants already represented 71 percent of the labour force in the private sector. Government efforts to reduce foreign labour have not been very successful [Mani 1995]. Accurate figures on the number and origin of migrants are not available, but Indonesians number perhaps 25,000, and other migrants come from the Philippines and the neighbouring Malaysian states.

Besides Indonesia, the other major country of origin for this subsystem is the Philippines. In fact, the Philippines is the country with the largest and most developed overseas labour programme in Asia. Even so, the ASEAN region does not constitute a major destination for Filipino migrants. As shown in Table 4, only 6 percent of all Filipino workers were deployed to ASEAN countries in 2001. The highest number of Filipino migrants within ASEAN is in Sabah, but it is a migration flow that developed largely outside the formal system of recruitment and deployment. Filipinos in Sabah include those who fled to Sabah in the early 1970s and obtained refugee status. In April 2001, there were 57,179 Filipino refugees in the state living in 34 settlements, with 17,580 children studying in local primary and secondary schools [*AMN*, 30 April 2001]. Their refugee status was revoked in July, but they were allowed to remain provided they could

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Table 4 Overseas Filipino Workers Deployed to ASEAN Countries, 1990–20	001
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Country	1990	1991	1992	1993	1994	1995	1996	1997	1998^{a}	1999	2000	2001
Brunei	4,206	8,738	10,865	10,960	9,731	6,807	7,651	9,594	16,264	12,978	13,649	13,068
Cambodia	2	10	5	28	74	130	483	293	179	224	355	524
Indonesia	332	639	760	812	922	1,225	1,497	2,031	2,471	1,706	1,507	1,411
Laos	0	1	1	11	26	118	96	82	63	82	118	174
Malaysia	4,397	5,361	7,095	12,409	11,674	11,622	12,340	13,581	7,132	5,978	5,450	6,228
Myanmar	1	6	34	1	9	7	73	92	153	96	153	215
Singapore	4,698	7,697	8,656	11,568	11,324	10,736	15,087	16,055	23,175	21,812	22,873	26,305
Thailand	33	43	109	278	442	748	916	1,269	1,384	1,014	1,015	2,056
Vietnam	148	173	42	458	593	603	800	718	802	531	494	549
Total	13,817	22,668	27,567	36,525	34,795	31,996	38,943	43,715	51,623	44,421	45,614	50,530
Total Deployment	446,095	612,019	686,371	696,630	719,602	654,022	660,122	747,696	831,643	837,020	841,628	866,590

Source: [POEA 2002]

^a From 1998 the deployment data are derived from actual departures at the airport.

secure a work permit. A second group comprises migrants in possession of a regular work permit (380,000 according to some estimates), while the third group is made up of perhaps 150,000 unauthorized migrants [*AMN*, 31 July 2001].

Whereas Filipinos in Peninsular Malaysia and in Singapore are employed mainly in the service sector, particularly in domestic services, those in Sabah are employed in a variety of occupations. The Filipino population in West Malaysia and Singapore is mostly female, but in Sabah many Filipinos have dependents. The small stock of Filipinos in Brunei (fewer than 20,000) is composed mostly of labourers and teachers.

Northern ASEAN Countries

Before becoming a labour-importing county, Thailand played an important role in the movement of population in the region that comprises the Northern ASEAN countries. In the 1970s it was a country of first asylum for refugees, providing assistance to Vietnamese, Cambodians, and Laotians. Between 1975 and 1997 it assisted nearly 1.2 million refugees. Approximately 100,000 Karens from Burma are still in refugee camps.

After the 1970s Thailand developed an overseas labour programme, sending workers mostly toward the Middle East. A diplomatic incident in Saudi Arabia in 1989 reduced the flow of overseas workers to 60,000 a year; but the flow increased again in the 1990s (Table 5) with the opening of job opportunities in Taiwan, where Thai workers are the largest group (139,924 at the end of July 2001).

While continuing to send migrants abroad, Thailand also rapidly became a destination for migrant labour from neighbouring countries, exemplifying the concept of migration transition in Southeast Asia. The transition, however, is not occurring rapidly, and the 1997 crisis revived the need to send workers abroad.

Labour immigration to Thailand developed rapidly and unexpectedly in the 1990s,

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			(thousands)
Year	Indonesia ^a	$Philippines^{b}$	Thailand ^c
1990	86.3	334.8	63.2
1991	149.8	486.3	63.8
1992	172.2	549.7	81.7
1993	160.0	550.9	137.9
1994	176.2	565.2	169.7
1995	120.9	488.6	202.3
1996	517.3	484.7	185.4
1997	235.3	559.2	183.7
1998	411.6	562.4	191.7
1999	427.6	640.3	202.4
2000	339.0	643.3	193.0

 Table 5
 Annual Outflow of Migrant Workers: Selected ASEAN Countries, 1990–2000

^a [Adi 2002: Table 1]

^b [POEA 2002]

 $^{\rm c}$ [Soonthorndhada 2001: Table 9]

reaching unforeseen dimensions. Although the prerequisites were in placethat is, rapid economic growth throughout the 1980s and decreasing unemployment in Thailand, with stagnation and instability in the neighbouring countries-not many expected that approximately one million migrants would be working in Thailand in just a few years. The vast majority (84 percent) have come from Burma, while the rest are from Cambodia and Laos. Employment in the booming construction industry of the precrisis years and in agriculture functioned as the main magnets. Per-

haps 50 percent of the labour force in fisheries is Burmese [Stern 1996: 101]. The lack of a clear immigration policy and the easy recourse to irregular venues facilitated a largely irregular immigration flow. To try to manage this huge number of unauthorized migrants, the government implemented a regularization programme in 1996 by allowing employers to register migrants. The initiative applied to only 43 of 76 provinces and produced a little more than 300,000 registered migrants. A large majority of migrants did not participate in the registration programme, either because they were not entitled to it, or because employers were unwilling to shoulder the registration fee of \$40 and the bond of \$200 imposed by the government. In addition, of those who were regularized, not many renewed their annual working permit or remained with the same employer.

The crisis forced a substantial rethinking of Thailand's immigration policy. Faced with an abrupt increase in unemployment, the government turned to the repatriation of foreign workers in order to provide job opportunities to domestic workers. It targeted 300,000 workers for repatriation to their countries by the end of 1998 and more in 1999. When repatriation started, it became apparent that some industries (*e. g.*, fisheries, rice mills, swine raisers, rubber growers) were adversely affected by the loss of foreign workers. Thai workers were not replacing the departing migrant workers. The government made a new effort to bring unauthorized migration under control in 2001, when 562,527 migrants were registered in September and October and given six-month renewable work permits [*MN* 2002a]. Recently new initiatives were taken, such as the setting up of a task force to repatriate the remaining unauthorized migrants.

In this migration subsystem, Vietnam occupies a distinctive place. Between 1975 and 1996, 839,228 refugees left Vietnam, of whom 755,106 were resettled and 81,136 returned to Vietnam voluntarily [UNHCR 1997: 6]. When the refugee crisis was resolved in 1989 by the Comprehensive Plan of Action, the Vietnamese communities established in North

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America and Australia induced additional migration for family reunification. Between 1980 and 1991 another stream of Vietnamese migrants moved to countries of the Soviet bloc for work. More recently, an agreement signed with Taiwan in May 1999 has provided an important destination for overseas labour. At the end of July 2001, there were 10,869 Vietnamese in Taiwan's manufacturing sector and care services.

The description of labour mobility in the region, clustered around three subsystems, presents several common aspects. First, the absolute number of migrants is not a huge figure compared with the total population of the region (less than 1 percent). In fact, the total number of migrants in the three subsystems can be estimated at 3.3 million (Tables 2 and 3), not considering the foreigners in the countries of origin, who do not constitute a large number. It is necessary to cite estimates since the available data are not reliable. In addition, the number of unauthorized migrants is not easily ascertained. Thus migration does not constitute in itself a phenomenon of alarming proportions. Second, in the receiving countries, the relative importance of migrant labour varies considerably. Foreign labour constitutes 29 percent of the labour force in Singapore, 16 percent in Malaysia, and 3 percent in Thailand. Although such numbers do not present a problem to an economy or society in times of prosperity, they become an issue in times of crisis. Third, the number of unauthorized migrants in the region is absolutely disproportionate, constituting perhaps 40 percent of the total number of migrants. This indicates that policies are most likely not in step with the needs of the economy or, to put it in different terms, that the demand for migrant labour (and conversely, the pressure to migrate) are larger than what policies intend to accommodate. A better understanding of unauthorized migration in the region requires a further examination of its dynamics.

The Dynamics of Unauthorized Migration within the ASEAN Region

Unauthorized migration, as briefly described in the three migration subsystems, is not purely the result of a demand for labour from labour-scarce economies, matched by available manpower from countries with a high level of unemployment, that cannot be addressed by adequate policy measures. A variety of other aspects must also be considered to understand the extraordinary development of unauthorized migration within ASEAN.

First is the *geographic* aspect. Geographic contiguity between Indonesia and Malaysia, between Burma and Thailand, and between western Mindanao and Sabah provides opportunities for border crossing to people who cannot or do not know how to follow formal procedures. In this respect, most unauthorized migration within ASEAN is of the border-crossing type, unlike that in other areas, such as East Asia, where it consists mostly of unauthorized stay after legal entry. Obviously, the possibility to cross borders depends on the control that is exercized. Control measures are limited where borders are

very long or traditionally porous.

Second is the *historical* aspect. In the development of Asian states, the jurisdiction over peripheral areas, often forested and mountainous, shifted according to whichever state was strongest; such areas sometimes straddled two or several states. The movement of population in the areas followed dynamics that were not determined by political sovereignty. The establishment of clearer borders by colonial powers led people to discover that movement within traditional economic areas entailed crossing international borders [IOM 1999].

Third is the importance of *intermediaries*. Migration traditionally relies on social networks to provide the necessary information to facilitate departure, entry, and insertion in the country of destination. In the case of unauthorized migration, such networks are essential and offer a vast typology. Often intermediation for unauthorized migration combines and colludes with the formal labour-recruiting system put in place in Asian countries to facilitate the expansion of the overseas labour programmes.

Considering these aspects, which are not unique or clearly specific to the ASEAN case, it seems advisable to go beyond the macro perspective to acquire a better understanding of the dynamics of unauthorized migration. To explore the phenomenon within specific contexts, in 2000 several of my colleagues and I conducted a four-country study of the experience of unauthorized migrants. The study covered two countries of origin, Indonesia and the Philippines, and two countries of destination, Malaysia and Thailand. Some of the results from the study are relevant to the current discussion.

At the core of unauthorized migration from Indonesia is the migrants' need for information. The need covers the whole migration process, from its origin at the village to employment in Malaysia. In most cases—70 percent in the sample interviewed by Adi [2002]—migrants obtain information through friends and relatives. Often, friends and relatives can also provide assistance, particularly in the final stage of the process, securing employment and perhaps a place to stay. Professional intermediaries, called *tekong*, also play a crucial role. Sometimes their role is limited to taking the prospective migrant to a recruiting agent, sometimes it involves financing the cost of migration (which the migrant must repay twice over), and sometimes it covers the whole process. The *tekong* is often a former migrant who has established a network of contacts in Malaysia, knows how to obtain documentation, and accompanies the migrant to the employer in Malaysia. The picture that emerges from the Indonesia-Malaysia flow is one of a migration system in which social networks play a decisive role. Intermediaries offer services throughout the migration process, but relatives and friends are more trusted because they can provide assistance while the migrant is abroad.

Unauthorized migration from the Philippines to ASEAN destinations is primarily to Sabah. Filipino migration to Sabah is organized around two major routes. The unofficial one, known as the Southern backdoor, originates from the small islands of the Sulu Archipelago, and is part of traditional trading that goes back to time immemorial. Another unofficial route to Sabah originates from Palawan. People involved in the trading do not consider going to Sabah as going to a foreign country. Perhaps 80 percent of residents in Tawi-Tawi have relatives in Sabah [Battistella *et al.* 1997: 28]. Travelling in small vessels, migrants go to Sabah for various reasons—to look for a job, to visit relatives, or to buy goods for training. As there is no immigration office in the small islands, the movement is outside the official system. The official route entails passing through immigration requirements in Zamboanga City, which is far away and impractical to reach. The second route transports migrants by way of a ferry from Zamboanga City to Sandakan, Sabah. The ferry service was established in 1995 as part of the BIMP-EAGA accord. It is the legal gateway to Sabah, as passengers must travel with documents. This does not imply that unauthorized migration does not occur, since documents are sometimes forged and passengers may enter Sabah as visitors and then remain beyond the period of stay allowed them and find work. Smugglers use this route to traffic women to Sabah and Labuan to work as prostitutes.

A different dynamic of unauthorized migration from the Philippines to ASEAN countries involves migrants, mostly domestic workers, in Singapore. Little information is available on the volume of unauthorized migration to Singapore, except for the increasing number of migrants arrested and repatriated (14,000 in 1997, 23,000 in 1998) and the fact that many unauthorized migrants are employed in the construction sector. However, Filipinos can be considered unauthorized migrants not so much for breaking Singapore law as for not complying with Philippine regulations. Most Filipinos in Singapore—8 out of 10 according to some estimates [Yeoh *et al.* 1999: 131]—have entered Singapore with a tourist visa and been employed through a preapproved work permit arranged by the employment agency. Leaving as tourists to find employment as migrants is considered unauthorized migration in the Philippines because the migrants circumvent the process requiring the submission of a standard labour contract, passing physical tests, attending predeparture seminars, and contributing to the welfare fund.

Measures in the Philippines against unauthorized migration have been directed mostly against illegal recruitment. The Migrant Workers and Overseas Filipinos Act of 1995 contains detailed provisions defining illegal recruitment, which can be committed also by a licensed agency, and harsh penalties for violators. Nevertheless, the law has not succeeded in eliminating illegal recruitment because the demand for migration remains strong. Many cases are settled outside of court, and perpetrators are allowed to continue operating.

From the perspective of the country of destination, unauthorized migration is a parallel system that continues to function alongside the formal system of foreign-labour recruitment. The formal system is the typical procurement of labour for employers who use the services of local employment agencies, which are in contact with recruitment agencies in the country of origin. Unauthorized migration instead consists in entry to Malaysia through the intermediation of *tekongs* and, more commonly, of friends and

relatives, and the procurement of employment on site. Interestingly, Wong and Afrizal [2002] have compared this system to the arrival of Chinese workers in Malaya during the nineteenth century. Whereas Indian labourers obtained assisted passage from rubber companies, Chinese workers paid their way and consequently entered a much more open labour market. "One consequence was that the Chinese labour was highly mobile, moving constantly in search of higher wages and better working conditions, whilst Indian labour was confined to the low-wage plantation economy" [*ibid.*: 206].

The results of the study in both pairs of countries emphasized the prevalent role of social networks in unauthorized migration—with intermediaries having a say in it, benefiting from it, and sometimes victimizing their clients. That role has significance for policies to control unauthorized migration. Furthermore, the historical parallel with earlier experiences of foreign labour in Malaysia show that some dynamics have the possibility to prosper. Consequently, "the current system of migrant labour regulation, namely the establishment of a rigid system of migrant labour recruitment on the one hand, and the criminalization of informal channels of recruitment on the other, is unrealistic, counter-productive and damaging" [*ibid.*: 208].

Research in Thailand by Amarapibal *et al.* [2002] has shed light on another aspect of the dynamics of unauthorized migration. I have already indicated that migration to Thailand increased dramatically in the 1990s, coinciding with growing development, particularly before the 1997 crisis, as well as with difficult conditions in the military regime of Burma. In 1996 Thailand changed its migration policy from a laissez-faire approach to requiring registration, allowing 43 provinces to hire migrants from neighbouring Burma, Cambodia, and Laos. New requirements were introduced in the years following the crisis, for the purpose of reducing the number of migrants and providing employment opportunities to Thais. A quota system was adopted, and registrations for the year 2000 were allocated, based on employers who had registered workers in 1999. This system was criticized for being shortsighted and limited; dependents were not included, and it did not provide adequate protection to workers. The number of registered migrants (usually fewer than 100,000) perhaps never surpassed 10 percent of the migrant population.

Unauthorized migration to Thailand, however, presents a variety of situations. According to Amarapibal and her colleagues, the low-income border province of Tak has a migrant population of perhaps 70,000, mostly Burmese, largely employed in factories, which were relocated along the border precisely to take advantage of low-cost migrant labour. Unlike single migrants employed in factories, migrants with families work in agricultural jobs. Ninety percent of the migrants interviewed crossed from Burma without much recruitment assistance, and most found jobs by themselves or with the help of relatives. The same percentage of migrants interviewed had relatives in the province. Most maintained ties with families in Burma; 55 percent sent remittances regularly and 61 percent visited their families once a year. Only 20 percent knew of the

registration process, and even fewer were aware that the employer was responsible to pay the registration fees.

The coastal province of Samutsakhon, south of Bangkok, presents a different scenario. Samutsakhon has the fifth highest income among the 76 provinces in Thailand. Migrants, who numbered 143,892 in 2000, form 19 percent of the province's population. Ninety percent of them are below 30 years of age, and most are from Burma; of these, 51 percent are Mon, 27 percent are Burmese, and 14 percent are Karen. Sixty percent are married. Family members accompany most migrants, although not all migrants bring their children with them.

Unlike the group in the border province of Tak, 53 percent of migrants in Samutsakhon sought the assistance of recruiting agents, while the rest relied on relatives and friends. In most cases the migrants contacted agents or their social networks in Burma before starting the migration process. Thai agents were used only for crossing and transportation. More than 65 percent did not cross the border at a checkpoint. Those who did so had border passes, which allow for only a short stay and in specific areas. The migrants obtained employment through friends or agents, or by themselves almost in equal proportion. They found employment in fishing and fish processing, which are the main industries of the province. Awareness of registration and its benefits is greater in Samutsakhon than in Tak, but the rate of registration is far from satisfactory. Migrants have grown sceptical of the system because registration costs, which should be borne by the employers, are passed on to the workers. Some migrants find little advantage in registering, claiming harassment by enforcers who extort money from them. Examining the correlation between registration and other variables, Amarapibal et al. [ibid.: 266] found that only a few were significant. Women were more likely to be registered than men (66 percent versus 43 percent); those employed in industries were more likely to be registered than those in the agricultural sector and fishing. Knowledge of the system or the rights of workers did not have much effect on registration.

The registration process that took place in 2001, although insufficient to cover the whole migrant population, appears to have been a temporary measure pointing toward a more comprehensive change of the migration policy. The benefits of the recent approach is that it was not limited to specific occupations or specific provinces, thus discarding the quota system, which relied heavily on the ties between local businesses or politicians and central authorities. "It provides a system of health and welfare support; it can assist greatly in reducing corruption; it can provide a more secure environment for a greater number of people" [*ibid.*: 270].

Unauthorized migration in Thailand has acquired the characteristics of a flow sustained by some local industries that have organized to take advantage of migrant labour to the point that there is no substitution for it. In fact, even during the region's economic crisis unemployed Thai workers did not want to replace migrants in jobs that paid low salaries and had low prestige. Employers can take advantage of the precarious

situation of unauthorized migrant labour by not providing social benefits and often by paying below-minimum wages. In this situation it is not surprising that control policies, which simply aim to reduce irregular migration by repatriating migrants, have been highly ineffective because the demand for migrant labour is embedded in the system. Migrants are widely available and capable of entering the system through well-organized social networks, and officials can also benefit through extortions.

The exploration in this section of the dynamics of unauthorized migration within the ASEAN region has revealed the existence of two major systems. One derives from the shifting of borders between contiguous countries, with a long tradition that predates the current political borders drawn by colonial powers. The other is the result of development in sectors that require menial, dirty, unskilled jobs, or jobs with little social prestige. The availability of foreign workers for such jobs, which are normally shunned by most local populations, allows those sectors to maximize profits by employing underpaid foreign labour rather than modernizing those sectors. The involvement of social networks and recruitment agencies is essential for unauthorized migration to continue.

Unauthorized Migration and Policies within ASEAN Countries

Having described migration within the ASEAN region as organized into three distinct subsystems, and having explored the dynamics of unauthorized migration, it is now possible for me to attempt to address the questions posed at the beginning of the article. It is an initial exploration, as appropriate data would be needed for more conclusive answers.

Migration and the Regional Process of ASEAN

ASEAN was established in 1967, during the cold war. It is no surprise that its charter did not consider the movement of labour. In fact, of the three objectives set forth for the association, the predominant one was promoting regional peace and stability. Initiatives toward economic cooperation were taken, but not with a vision of an integrated regional economy. This occurred in 1992, at the Fourth Summit in Singapore, when strong American leadership toward economic liberalization affected the international climate. The ASEAN Free Trade Area (AFTA) was created with the primary objective of facilitating trade among the member countries by lowering tariffs to a 0–5 percent range by 2008. The date was later advanced to 2003 and then again, in spite of the financial crisis, to 2002. Thus, for the original six member countries of ASEAN, AFTA is already a fact. Nevertheless, the circulation of labour remains a subject on which the association does not want to engage; and since the tragedy of September 11, governments have become less interested in multilateral approaches to the subject.

The reasons for avoiding discussing migration are various and understandable.

Countries of destination, in particular, oppose consideration of this subject because they want to maintain their freedom to regulate migration according to policies that are in their national interest, unencumbered by limitations imposed by international agreements. Countries of origin, on the other hand, desire more protective measures and benefits for their nationals, which would diminish the benefits that foreign labour brings to destination countries in terms of flexibility in the labour market. Discussing migration implies examining the character of societies, for migrants are not commodities and require some form of integration. Political, social, and cultural differences among member countries present obstacles to consensus on this issue. Furthermore, migration has security implications, which need to be addressed from a national perspective.

Perhaps the same reasons would constitute an argument for a regional approach to migration, however. The security concern, in particular, which tends to demonize migrants and regard them as potential terrorists, should bring the issue of unauthorized migrants to the table, since it is difficult to curb unauthorized migration without the cooperation of the country of origin. In this respect, some bilateral arrangements have been made, particularly for the orderly repatriation of unauthorized migrants. However, these are limited to dialogue on logistics, such as providing the ship for the transport of migrants or setting up a camp for processing repatriated migrants.

Unauthorized migration cannot be approached in isolation from migration in general or from economic integration in particular. If the experience of the European Union can be of any help, it is important to observe that the circulation of labour among member countries was envisioned from the very beginning, together with the design of economic integration. That it took the EU 40 years to fully implement it only attests to the need for continued discussion, rather than shelving the subject. Some movement of unauthorized migrants indicates, as illustrated in the previous sections, that people already perceive a level of integration that goes beyond political boundaries. Unauthorized migration can be properly addressed only when a regional framework for migration, based on human rights and common objectives, exists.

Unauthorized Migration and Globalization

The climate surrounding the discussion of globalization is certainly much more cautious than it was a few years ago, particularly before the Asian crisis. In the meantime, we have witnessed popular protest against relentless globalization, which is perceived as beneficial only to some and managed in an undemocratic fashion. Moreover, some recent episodes, such as the increased tariffs on steel in the US and then in the EU, and the increased tariffs on cement in the Philippines, expose the hypocrisy of liberalization ideology. Touted as the panacea for all development problems, liberalization is quickly abandoned as governments adopt protectionist measures to defend their national interests.

Globalization remains a complex phenomenon that includes much more than just

trade issues. It is here to stay in some modified form or other. In considering the relationship between globalization and migration, it is important to avoid simplistic conclusions. (For a comprehensive discussion of this issue, see Stalker [2000].) The Asian crisis could be considered the worst example of globalization woes, particularly the damaging effect that open financial markets can have when they are not accompanied by a system of checks and balances. However, the effects that the crisis was supposed to have on migration—massive repatriation from countries of destination, increased migration pressure from countries of origin, increased levels of unauthorized migration—were not as dramatic as expected [Battistella and Asis 1999]. Large repatriations took place from Malaysia, Thailand, and, to a lesser extent, South Korea. Soon afterward, however, the number of foreign workers in those countries rose to previous levels. An increase in migration, such as that which occurred in Indonesia, was due mostly to the opening of new opportunities, such as in Taiwan, rather than to unbearable migration pressures in Indonesia. As for unauthorized migration, there is no evidence that it increased, perhaps because of better border controls.

Within ASEAN it might be too soon to craft a new analysis of the relationship between globalization and migration. Using trade as a proxy for globalization (and the implementation of AFTA as an indication of increased globalization within the region), one could argue that an increase in migration within the region is to be expected. This is in line with Martin's [1993] "migration hump" hypothesis, which postulates an initial rise in migration as a result of increased trade, but one that tapers off in the long run. In examining the issue, one should bear in mind the three migration subsystems described at the beginning of this article. Indeed, it is difficult to imagine a sudden change in the direction of migration flows within the region. Not much is expected in the short term in the North ASEAN subsystem, as AFTA is not yet applicable to the countries of origin in that subsystem. Likewise, the Eastern Malaysia subsystem, where trade is not that significant, will not be much affected by the implementation of AFTA. The most significant change may occur in the Malay Peninsula subsystem, which has at its core Malaysia and Singapore, the two countries with the highest volume of trade. Together they account for almost 70 percent of exports within ASEAN (Table 6). Both countries have toughened their migration policies. It must be remembered that globalization implies the free circulation of goods, capital, and services, but not the free circulation of labour. Although this might appear to be a contradiction within the system, security concerns after September 11 have reinforced migration controls, and the potential impact of trade in the short run will be offset by migration policies to the extent that they are enforceable.

Unauthorized Migration and Migration Policies

Policies of ASEAN countries to control unauthorized migration deal with various aspects of the phenomenon. Countries of destination have addressed in particular border

Year	Brunei	Indonesia	Malaysia	Philippines	Singapore	Thailand
1993						
Import	2.3	6.9	23.0	4.9	48.4	14.6
Export	1.1	11.4	29.7	1.8	42.1	13.8
1994						
Import	2.1	7.0	23.3	5.3	47.3	15.1
Export	0.8	10.0	26.0	2.4	47.1	13.6
1995						
Import	1.9	7.9	23.4	4.6	45.8	16.5
Export	0.8	9.2	26.3	3.4	45.3	15.1
1996						
Import	4.4	8.6	22.9	6.2	42.6	15.2
Export	0.6	10.3	28.0	3.7	42.5	15.0
1997						
Import	1.5	8.4	23.0	7.5	47.0	12.6
Export	0.6	10.4	27.2	4.0	41.9	15.8
1998						
Import	1.1	8.8	25.1	8.6	45.8	10.5
Export	0.3	13.5	31.2	5.5	37.5	12.0
1999						
Import	1.6	8.4	21.9	7.9	46.2	14.1
Export	0.5	11.1	29.3	6.7	39.2	13.3
2000 ^a						
Import	0.8	9.8	23.0	7.2	48.1	11.1
Export	0.7	12.0	27.0	6.6	41.8	11.9

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 Table 6
 Share of Intra-ASEAN Import-Export (Selected Countries)

Source: [ASEAN Secretariat 2001]

^a From January to September only.

controls, sanctions against the employment of unauthorized migrants, and reducing the number of unauthorized migrants through registration and repatriation. Penalties have been increased for offenders, whether they be migrants, intermediaries, or employers. Singapore has gone further, by addressing also the harbouring of unauthorized migrants. Homeowners who provide lodging to such migrants can be put in jail. Of all the measures, however, the one that is not implemented with sufficient resolve is the inspection of job sites and imposition of penalties on employers who hire unauthorized migrants. It appears particularly evident in Thailand and Malaysia that some sectors—small industries such as fisheries and plantations—have become dependent on unauthorized labour. Employers are reluctant to assume the added labour costs that derive from regularized migration. When it is enforced, migrants end up at the losing end, as they are laid off or costs are passed on to them. Another policy aspect that is insufficiently addressed is migration enforcement, where corruption is said to be rampant.

Countries of origin have attempted to address illegal recruitment as a crucial node in the unauthorized-migration process. However, the balance between the interests of

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_					(million US\$)
	Year	Burma	Indonesia	Philippines	Thailand	
	1990	6	166	1,465	973	
	1991	2	130	1,850	1,019	
	1992	0	229	2,537	445	
	1993	28	346	2,587	1,112	
	1994	42	449	3,452	1,281	
	1995	81	651	5,360	1,695	
	1996	122	796	4,875	1,806	
	1997	147	725	6,799	1,658	
	1998	136	959	5,130	1,424	
	1999	138	1,109	6,896	1,460	
-						-

 Table 7
 Remittances to Selected ASEAN Countries, 1990–99

Source: [MN 2002b]

government, private sectors, and migrants does not necessarily intersect at the zero irregularity level. Ideally, recruiters should be the most adamant against unauthorized migration because it translates into a loss of revenues for them. In fact, they are involved in it, sometimes directly and sometimes in cooperative schemes with illegal recruiters. Governments of origin do not favour unauthorized migration, but ultimately they see it mostly as a problem of the countries of destination. The volume of migrants' remittances constitutes valuable contributions to their countries' economic well-being (Table 7). As for migrants, unauthorized migration offers some short-term advantages, the most important one being fast deployment; hence they resort to it in spite of long-term problems.

Developing a regional perspective on unauthorized migration has been attempted in the region. In the mid-1990s the International Organization for Migration (IOM) initiated a dialogue on unauthorized migration among Asian countries in Manila, and it has since been called the Manila Process. In 1999 a ministerial conference was organized in Bangkok and ended with the Bangkok Declaration, highlighting commitments to cooperate in addressing unauthorized migration. The Asian Regional Initiative Against Trafficking (ARIAT) took place in Manila in March 2000 at the initiative of the US and Philippine governments to establish programmes and modes of cooperation to combat trafficking in women and children. The latest of these regional initiatives was the Bali Ministerial Conference on People-Smuggling, Trafficking in Persons and Related Transnational Crime convened by the governments of Australia and Indonesia during February 26–28, 2002. It predictably ended with a low-profile statement by the co-chairs, reiterating the need to share information and coordinate efforts. All these initiatives were useful to further the discussion but ineffective in eliciting specific commitments from participating governments.

What is difficult to determine is why, in spite of all the measures to combat it, unauthorized migration continues to prosper. One reason is insufficient implementation. But unauthorized migration also needs to be seen against a larger perspective. On the one hand, migrants are a by-product of globalization, which disrupts national labour markets and redirects workers to internationalized labour markets; on the other, migrants are excluded from the benefits of globalization, as they are not free to move where productivity is higher. Unauthorized migration can be considered to be the response of workers to regulations of manpower, which during the process of globalization remain strictly local. The ultimate solution, deregulating migration in favour of the free circulation of labour, may appear utopian now. But the economic integration envisaged in ASEAN cannot be successful until migrant labour is factored into it.

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Labor Migration and Regional Changes in East Asia: Outflows of Thai Workers to Taiwan*

Ching-lung TSAY**

Abstract

The Thai economy grew dramatically in the past few decades, particularly between 1985 and 1995. During that period Thailand ceased to be solely a labor-exporting society and became one that both sends workers abroad and receives foreign labor. At present the number of foreign professionals working in the kingdom exceeds 200,000. The stock of workers from neighboring countries was nearly 1 million before the 1997 economic crisis. On the contrary, Thai laborers started moving overseas in the early 1970s to work in the Gulf region. The direction of labor flow gradually shifted to East Asia, as Japan and the NIEs began having labor shortages in the 1980s. In light of the Thai experience, the link between international labor migration and regional economic changes becomes an intriguing topic for research. This article investigates the migration systems that exist between Thailand and the destination countries in East Asia. It focuses on the migrant flows to Taiwan before and after the legalization of labor importation in the early 1990s, identifying the labor market segments into which Thai workers have been recruited. The main concern is the consequences of the labor movements on individual workers, in particular their earnings and their working and living conditions in Taiwan. The analysis also addresses key policy implications for both Thailand and Taiwan, which are closely linked not only by labor movement but also by trade and direct investment.

Keywords: international labor migration, regional economic changes, East Asian development, Thailand, Taiwan

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The movement of workers is a natural response to differences in labor conditions between markets. In other words, labor migration is a mechanism for adjusting the supply of and demand for labor across economic sectors and geographic divisions. The international migration of workers is distinct in its interaction with boarder controls, institutional arrangements, and cultural differences between countries. In addition to economic elements, many noneconomic factors influence the cross-border mobility of human resources. Compared with internal migration, the market-adjustment mechanism is often more limited at the cross-national level of worker flows.

Political, social, and economic conditions in the sending and receiving countries affect the international migration of workers. International relations and regional interactions further influence the mobility of manpower. The study of cross-country labor migration should assume a broad, regional perspective when considering political, economic, and cultural conditions. Its focus should not be limited to the labor-sending and labor-receiving countries only.

In the past two decades, Japan and the Asian NIEs of Taiwan, South Korea, Singapore, and Hong Kong experienced rapid economic development and demographic transitions. As a result, they all entered a stage of labor shortages and sharp increases in the cost of producing labor-intensive goods. Reinforced by currency appreciation, the new situation induced significant labor flows in East and Southeast Asia. According to estimates by the ILO [1998: 1–2], the volume reached 6.5 million people in 1997.

Between the early 1980s and the mid-1990s, Southeast Asian nations enjoyed significant economic growth. Thailand, Malaysia, the Philippines, and Indonesia became known as the Four Asian Little Tigers. Since mid-1997, however, those countries have been seriously hit by the region-wide financial crisis and have experienced periods of negative growth. Japan and the NIEs have also been affected by the turmoil. Whether these regional economic dynamics have had strong impacts on international labor migration is a question that deserves attention.

Thailand has a long history of exporting labor. In the early years, beginning in the 1970s, most Thai workers headed for the oil-rich countries of the Middle East. More recently the major labor flows from Thailand have been re-directed to the East Asian countries of Japan, Taiwan, Singapore, and Malaysia. Since the early 1990s, Thailand has also become a receiving country for workers from less developed neighboring countries such as Myanmar, Cambodia, and Laos. This unique status makes Thailand an interesting case for the study of international labor migration. For Taiwan, Thailand is the largest supply country of foreign contract workers, accounting for about half the total. Among the destination countries of Thai laborers, Taiwan receives the biggest share, from one-third to one-half. At the same time, Thailand and Taiwan have close linkages through trade and foreign direct investment. For these reasons, this article investigates the relationship between labor migration and structural changes in East Asia by examining the outflows of Thai workers to Taiwan.

Background and Changes in Labor Outflows

With an area about 14 times larger than Taiwan, Thailand in 2000 had a population of 61 million and a labor force of 33 million. In the earlier stages of development, from the 1960s to the 1980s, Thailand had a very low unemployment rate of 1–2 percent.¹⁾ In those years, slightly more than half of the employed were engaged in the agricultural sector. Agricultural activities are seasonal, however, and therefore a substantial number of laborers have traditionally been underemployed in rural Thailand. Furthermore, the average educational level of the Thai working population is low. More than 80 percent has received no more than six years of basic schooling. Most workers can do only manual work, for which there is a limited demand. As a result, labor underutilization has been a common problem in the kingdom, especially in rural areas.

Because job opportunities were limited and wage levels low in the past, many Thais lived in poverty. The Thai National Statistical Office [Sussangkarn 1995: 238, Table 2] estimates that almost 60 percent of the population lived under the poverty line in the early 1960s. The proportion of Thais who were poor decreased to 40 percent in the late 1960s and to one-third in the mid-1970s, remaining at that level or slightly lower throughout the 1980s. With rapid economic growth in the early 1990s, however, the proportion of Thais who were poor slid from 27 percent in 1990 to 13 percent in 1998 [Soonthorndhada 2001: 101, Table 8]. The high poverty rate in the 1960s and 1970s, especially in rural Thailand, created strong pressure for young adults to work overseas. The employment opportunities and higher wages in the Gulf and other overseas countries were the main pull factors.

Most of the Thai workers who began moving overseas for employment in the 1970s headed for the Middle East, especially to Saudi Arabia. It was rumored that by the mid-1980s some 400,000 Thais were working in the Gulf region, but this number has not been confirmed by official records. According to the register at the Thai Ministry of Labor and Social Welfare, 117,341 Thais went to work overseas in 1982 (Table 1). The great majority of them (97 percent) landed in the Middle East and North Africa. The major host country was Saudi Arabia (nearly 40 percent), followed by Libya (nearly 10 percent), Iraq, and Qatar (not shown in Table 1). In 1989 the registered number of Thai migrant workers going to the Middle East and North Africa was 86,761, just 76 percent of the 1982 figure. Its share in the total volume of Thai workers abroad, however, declined significantly, from 97 to 71 percent. In the same period, the share of Thai workers going to ASEAN countries and East Asia increased substantially, from 3 percent to 25 percent.

¹⁾ As a result of the 1997 financial crisis, the unemployment rate jumped from 1.0 percent in 1996–97 to 3.5 percent in 1998–99.
	Table 1	Share of	Registere	d Thai Mi£	rant Wor	kers Goir	ig to Selec	ted Host C	ountries s	ınd Regior	ıs, 1982–20	00	
Region/Country	1982	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000ª
							Persons						
1. Middle East ^b	114,135	86,761	27, 892	22,356	23,027	18,816	25,248	19,987	22,607	17,421	17,789	18,890	9,652
2. East Asia	72	10,729	12, 229	17,676	25,147	78,321	106,602	136,035	113,263	119,631	126,652	129,209	84,212
Japan	41	3,825	4,210	6,263	6,748	5,588	8,848	8,303	10,118	10,099	10,790	5,278	3,186
Taiwan		I	111	2,237		66,891	91,162	120,360	96,097	100,916	106,828	115,096	73,031
Hong Kong		I	7,908	8,431		5,182	5,851	5,861	4,301	3,906	4,709	4,339	3,547
South Korea	I	I	Ι	I	I	126	186	453	994	1,455	1,234	1,871	2,726
Others	31	6,898	I	745	18,399	534	555	1,058	1,753	3,255	3,091	2,625	1,722
ASEAN	3,134	20,580	17,263	20,801	21,505	40,279	43,885	44,746	47,678	44,301	41,346	49,898	40,471
Singapore	1,975	11,056	6,464	9,488	6,510	14,171	15,100	15,624	17,601	17,770	17,069	24,525	16,893
Malaysia	199	611	2,087	2,473	2,151	11,358	12,232	11,830	9,363	8,860	9,031	17,716	18,370
Brunei	960	8,630	8,009	8,840	12,729	14,750	16,553	17,292	20,714	17,671	15,246	7,657	5,208
Others	Ι	283	703		115	Ι			Ι	Ι	Ι		Ι
4. All Others ^e	I	4,990	6,140	3,890	2,031	2,331	1,663	1,528	1,888	2,206	5,954	4,059	3,467
Total	117,341	123,054	63,024	64,723	71,710	139,747	177,398	202, 296	185,436	183,559	191,735	202,056	137,802
						Ρe	ercentage (%)					
1. Middle East ^b	97.27	70,51	43,46	34,54	32,11	13,46	14,23	9,88	12,19	9,49	9.27	9,35	7,00
2. East Asia	0,06	8,71	19,40	27,31	35,07	56,04	60'09	67,25	61,08	65,17	66,06	63,95	61,11
Japan	0,03	3,11	6,68	9,68	9,41	4,00	4,99	4,10	5,46	5,50	5,63	2.61	2,31
Taiwan	0,00	00'0	0,18	3,46	00'0	47.87	51,39	59,50	51,82	54,98	55,72	56,96	53,00
Hong Kong	0,00	00'0	12,55	13,03	0,00	3,71	3,30	2.90	2,32	2.13	2.46	2,15	2.57
South Korea	00'0	00'0	00'0	0,00	00'0	60'0	0,10	0.22	0,54	0.79	0,64	0,93	1,98
Others	0,03	5,61	00'0	1.15	25,66	0,38	0,31	0,52	0,95	1.77	1,61	1,30	1.25
ASEAN	2.67	16.72	27,39	32,14	29,99	28,82	24,74	22,12	25,71	24,13	21,56	24.70	29,37
Singapore	1,68	8,98	10,26	14,66	9,08	10,14	8,51	7.72	9,49	9,68	8,90	12.14	12.26
Malaysia	0,17	0,50	3,31	3,82	3,00	8,13	6,90	5,85	5,05	4,83	4.71	8.77	13,33
Brunei	0.82	7.01	12.71	13,66	17.75	10,55	9,33	8,55	11.17	9,63	7.95	3.79	3.78
Others	00'0	0.23	1,12	0,00	0,16	00'0	00'0	00'0	00'0	00'0	00'0	0,00	00'0
4, All Others ^c	0,00	4,06	9.74	6,01	2,83	1.67	0,94	0.76	1,02	1,20	3,11	2.01	2.52
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Source: Number	s of perso	ons were i	from spec	ial tabulat	ions mad	e by Ove	erseas Em	ployment	Administ	ration Off	ice, Roya	l Thai Mi	nistry
As of August 2	3000	^b Includin	g North A	frica	° Includi	ng United	l States, U	nited King	rdom, Gerr	nany, Den	mark, Ital	y, and Aus	stralia

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Fig. 1 Registered Number of Thai Migrant Workers and the Shares for Selected Host Countries and Regions, 1982–2000

* As of August 2000

** Including North Africa

In the early 1990s, demand for labor in the oil-producing countries decreased as a result of the drop in oil prices. In addition, Saudi Arabia closed its door to Thai workers in response to several incidents involving Thais. Three officials in charge of labor business in the Saudi Arabia Embassy in Bangkok were murdered, and there were reported cases of theft by Thai maids in the households of Saudi Arabia's royal family. Consequently, the registered number of Thai workers in Saudi Arabia dropped to 9,970 in 1990. Afterward the figure continued to shrink, reaching 1,392 in 1999. For the Middle East and North Africa as a whole, the size of the migrant-worker stream from Thailand declined sharply, from 86,761 in 1989 to 27,392 in 1990. The corresponding market share dropped from 71 to 43 percent.

During the 1980s, East Asia experienced rapid economic growth and structural transformation. This fact, along with demographic, social, and cultural influences, created labor shortages in Japan and the Asian NIEs of Taiwan, Singapore, Hong Kong, and South Korea. There, the demand for foreign workers increased rapidly, and a large number of Thai workers came in response [Tsai and Tsay 2000]. As shown in Table 1, by 1990 the combined share of Thai workers in East Asia and the ASEAN region (47 percent) exceeded that of workers in the Middle East and North Africa (43 percent). The shift in the major migration flows from Thailand is depicted in Fig. 1. As this trend continued, the market shares of the three regions—the Middle East and North Africa, East Asia, and the ASEAN region—became more equal, ranging from 30 to 35 percent in 1992. A year later, however, 56 percent of Thai workers headed to East Asia, while the proportion going to Middle East and North Africa continued to decline and ASEAN's share remained

Source : Table 1

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roughly the same. Between 1994 and 2000 the East Asian countries hosted 60 percent or more of the registered Thai workers in the world. Among them, Taiwan played a key role in the shift of direction in Thai labor migration. As I have shown elsewhere [Tsay 1995b; Tsay and Lin 2001], Taiwan started to officially import contract workers from Thailand, the Philippines, Indonesia, and Malaysia in 1989.

Generally speaking, Taiwanese employers like to hire Thai migrant workers because they are diligent, cooperative, and friendly. Since Taiwan legalized labor importation in the 1990s, Thailand has been the most important source country of contract workers in Taiwan. For migrant Thai workers, Taiwan replaced Saudi Arabia as the favored host nation. According to Taiwanese records [Taiwan, Council of Labour Affairs 2001: 168, Table 11–4], the market share of Thais was 69 percent in 1994, with 105,152 workers. During 1995–2001 the number fluctuated between 127,000 and 141,000 while the share declined constantly from 67 to 43 percent. Besides Taiwan, other recent destinations of Thai workers have included Singapore, Malaysia, Brunei, Hong Kong, Japan, and South Korea (Table 1); but the volume of legally imported Thai migrant workers to each of these countries is far smaller than that to Taiwan. It is evident that the market for foreign contract workers in Taiwan has played an important role in the process of labor exportation from Thailand.

Recent Developments in Labor Migration

Destinations and Volumes

Thailand registered an average annual rate of economic growth at 7 percent or higher during 1960–95. The records of 9.9 percent during 1985–90 and 8.3 percent during 1990–95 are most remarkable [Chalamwong 1998: 299; Sussangkarn and Chalamwong 1996: 95–98]. The kingdom has been recognized as a newly industrialized country (NIC). Nonetheless, the rapid development of the past 15 years did not spread evenly across national subdivisions and over economic sectors. The manufacturing industry, especially medium- and high-technology manufacturing, has been concentrated in and around the capital city of Bangkok. The wage gap that existed between Bangkok and other *changwats* (provinces) widened substantially in the 1980s. Economic development has benefited mostly the well educated, by providing them with opportunities for increased earnings and other kinds of income. The improvement in earnings has been much slower for workers with little education [Sussangkarn 1995].

As a result of these factors, the rural-urban income difference has increased. GNP per capita in Bangkok was 4.8 times that of other parts of the kingdom in 1981. The corresponding figures for 1991 and 1995 were 5.6 and 5.5. Low-income Thai workers, especially the rural workforce and the less educated, have thus been motivated to search for overseas jobs promising higher pay. Working abroad is a goal for many who want to

	Per	Rank of							
	Capita	Human	Mid-year	Annual	% of W	orking	% of Mi	gratory	Projected
	GNP	Development	Population,	Pop.	Age (15-64)	Age (15-34)	Population,
	$(1995)^{a}$	Indicator	1998^{a}	Growth	Popul	ation ^c	Popul	ation ^a	2020 ^a
Countries	(US dollars)	$(\mathrm{HDI})^{\mathrm{b}}$	(000s)	(%) ^a	1995	2050	1995	2050	(000s)
Labor-impo	rting countr	ies							
Brunei	9,386 (est.	.) 35	325	3.1	62.8	62.8	35.2	26.0	428
Hong Kong	22,990	25	6,700	3.0	70.7	52.6	33.1	19.3	6,543
Japan	39,640	8	126,380	0.2	69.6	54.1	28.3	20.4	123,809
Singapore	26,730	28	3,929	1.2	70.5	58.9	34.5	24.4	4,280
Taiwan	11,280	N. A.	21,894	0.8	68.6	61.2*	35.7	23.6^{*}	25,025
Labor-importing and -exporting countries									
Malaysia	3,890	60	22,174	2.3	58.1	65.3	33.9	26.8	29,787
Thailand	2,740	59	61,201	1.0	66.7	61.6	39.5	24.3	70,503
Labor-exporting countries in Southeast Asia									
Cambodia	270	140	11,662	2.4	52.4	68.7	32.1	29.1	19,295
Indonesia	980	96	204,336	1.4	62.7	64.2	37.3	26.5	263,802
Laos	350	136	5,354	3.0	52.2	68.7	31.6	30.4	9,339
Myanmar	765 (est.	.) 131	47,602	1.8	58.5	66.9	36.5	27.1	64,319
Philippine	s 1,050	98	72,070	2.0	58.3	66.1	35.2	27.0	99,948
Vietnam	240	122	78,925	1.8	57.8	66.9	36.9	26.5	104,170
Labor-expo	rting countr	ies in South	Asia						
Banglades	h 240	147	124,178	1.6	57.5	66.5	34.1	26.7	104,170
Pakistan	460	138	141,680	2.7	52.7	67.5	33.9	28.8	247,802
Sri Lanka	700	90	18,459	1.0	63.5	61.7	35.5	25.0	23,072

Table 2Economic and Demographic Indicators of Major Labor-Exporting and Labor-Importing
Countries in East Asia, Recent Years

Sources: ^a [ESCAP 1998]

^b [World Bank 1998: 21, Table 1.3]

° [Hugo 1998: 13, Table 6]

* Taiwan data for 2036 [Taiwan, CEPD 1996]

improve their economic position and social status.

Table 2 presents economic and demographic indicators for major labor-exporting and labor-importing nations in East Asia. Compared with most labor-receiving countries, Thailand (as of 1995) appears to have a slightly higher percentage of its population in nonworking ages, whereas the Thai population is clearly more migratory (39.5 percent aged 15–34). The data reveal a greater push factor in the Thai population structure. Economically speaking, Thailand is far behind the labor-importing countries. In 1995 Japan's GNP per capita was 14.5 times that of Thailand. Taiwan's was 4.1 times greater than Thailand's, despite being the lowest GNP per capita among major labor-importing countries. For Singapore and Hong Kong, the difference ranged between 8 and 10 times greater. Malaysia, the other labor-exporting and labor-importing nation, had a GNP per capita 42 percent higher than Thailand's. It is evident that all these countries have exerted a pull force on Thai workers.

	to by bource of	WOILEIS			
Source of Workers	Japan ^a (1997)	Korea ^b (1998)	Taiwan ^c (1996)	Malaysia ^d (1996)	Thailand ^e (1996)
East Asia					
China	38,957	53,429	—		—
Korea	52,854	—	—		—
Taiwan	9,403				
Southeast Asia					
Cambodia	—	—	—	—	81,000
Indonesia	—	1,013	2,700	475,200	—
Malaysia	10,926		400		—
Myanmar	5,957		—	25,600	810,000
Philippines	42,627	6,302	5,150	9,600 ^f	—
Thailand	38,191	2,528	6,000	8,000	—
Vietnam		3,181			
South Asia					
Bangladesh	5,865	6,940	—	246,400	—
Pakistan	4,766	3,350	—	12,000	—
Others	72,242	18,285	5,750	23,200	109,000
Total	281,157	95,627	20,000	800,000	1,000,000

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 Table 3
 Estimates of Illegal Foreign Workers in Some Major East and Southeast Asian Countries by Source of Workers

^a Overstayers, end of 1997 [Watanabe 1998: 246, Table 6]

^b Overstayers, June 1998 [Park 1998: 230, Table 5]

 $^{\circ}$ Estimate based on overstayers and apprehensions [Lee 1998: 163–165]

 $^{\rm d}$ Estimate based on 1996 regularization [Kassim 1998: 7–9]

^e Estimate based on 1996 regularization [Chalamwong 1998: 305–307]

 $^{\rm f}$ Add approximately 150,000 Filipinos still irregular in Sabah

According to the registration data shown in Table 1, the volume of labor outflow during 1995–99 was around 200,000 Thais each year. Owing to coverage problems and confusion over the concepts of stock and flow, the registration data probably underestimate the actual situation. As labor-importing countries have different policies and regulations, there are quite sizable numbers of illegal Thai workers in those nations. According to the estimates for the late 1990s presented in Table 3, the number of illegal Thai workers in Japan (in 1997) was 38,191. The figures for South Korea, Taiwan, and Malaysia, were approximately 2,500, 6,000, and 8,000, respectively. Taking into account incomplete registration coverage and the prevalence of illegal workers, I believe that the number of Thais working abroad was about a half million during 1995–97. About 30 percent of them were in Taiwan, with the majority (130,000 to 140,000) having been legally imported and the rest illegally imported.

Owing to Japan's restrictive immigration policy, most foreign workers there are illegal. For Thailand, the official records show that the volume of annual flows to Japan was close to 10,000 during 1994–98 (Table 1). Basing his estimate on the number of overstayers, Watanabe [1998: 246] reports that the number of illegal Thai workers in Japan in July 1997 was 38,191. In Thailand it is believed that the number could well be

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double that estimate, or around 80,000 [Sussangkarn 1995: 249]. These disparate data indicate considerable uncertainty about the number of Thai workers in Japan.

Singapore and Malaysia are the two neighboring countries of Thailand that received some Thai workers. In 1989 the registered number of Thais working in Singapore was around 11,000. It decreased substantially in 1990 and 1992, before jumping to over 14,000 in 1993. Between 1993 and 1999, the annual number rose from 14,171 to 24,525, accounting in the latter year for 12 percent of the total number of Thai workers abroad. The number of Thais in Malaysia also rose sharply in the 1990s, from 2,000 to nearly 18,000. As in the case of Singapore, the increase was particularly remarkable between 1992 and 1993 and between 1998 and 1999. With a long border between the two nations, it would not be difficult for Thai migrants to enter and work in Malaysia illegally. Using data on regularization, Kassim [1998: 5] estimates the stock at 8,000 in 1996.

Brunei is another important destination for Thai migrant workers. The registered volume of annual flows was 8,000–9,000 between 1989 and 1991 (Table 1). It increased gradually, reaching a peak of almost 21,000 in 1996, then declined to 15,000 in 1998. In 1999 it dropped precipitously to 7,657 and continued to decline in 2000. For Hong Kong the registered number of annual migrants was about 8,000 in the early 1990s, and then decreased to around 4,000 in the rest of the decade. South Korea, despite having a need for foreign workers, has accepted them mainly as trainees in limited numbers. The annual number of Thais going to work legally in South Korea was far less than a thousand until 1997. It then increased to almost 2,000 in 1999 and was nearly 3,000 in mid-2000 (Table 1).

The Foreign Workforce in Thailand

There are two types of foreign workers in Thailand: white-collar workers—that is, professionals and technicians—and laborers. Some of the foreign professionals and technicians have lived in the kingdom for a long time. Others are recent arrivals who work for multinational corporations or large enterprises. Many arrived when the economy was booming, between the mid-1980s and mid-1990s. The size of the semi-permanent foreign white-collar workforce has remained at around 140,000. The number of new arrivals rose from 17,881 in 1988 to 30,186 by 1991 [Chalamwong 1998; Sussangkarn 1995]. This trend reflects the economic development and structural change that took place in Thailand in the 1980s and 1990s.

The annual growth rate in the value of Thailand's manufacturing exports was 25 percent in 1991 (Table 4). For the manufacturing exports of middle and high technology, the rate was nearly 40 percent, while that of labor-intensive commodities was 12 percent. As a result, in 1993 the share of the middle- and high-technology commodities in the total value of manufacturing exports (37.4 percent) exceeded that of the labor-intensive commodities (34.5 percent). These developments created a strong demand for skilled workers and professionals. Given that it takes time to upgrade the level of education and

Table 4 Value of Manufacturing	g Exports from	n Thailand, Sel	ected Years, 1 U	989–96 hit: Million Baht
Type of Export Commodities	1989	1991	1993	1996 ^a
Labor-intensive commodities				
Export value	177,527	223,761	259,602	324,409
Annual growth (%)	—	12.27	7.71	7.71
Middle-/high-technology commodities				
Export value	90,182	176,314	281,441	567,595
Annual growth (%)	—	39.82	26.34	26.34
Others				
Export value	86,445	153,113	211,514	343,423
Annual growth (%)	33.09	17.53	17.53	17.53
Total				
Export value	354,154	553,188	752,557	1,235,427
Annual growth (%)		24.98	16.64	17.97
Percentage distribution				
Labor-intensive commodities	50.13	40.45	34.50	26.26
Middle-/high-technology commodities	25.46	31.87	37.40	45.94
Others	24.41	27.68	28.11	27.8
Total	100.00	100.00	100.00	100.00

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Source: [Thailand, Bank of Thailand 1989-93: Tables 7, 9]

^a Estimate based on the average growth rate for 1991–93

training of a labor force, it is not surprising that Thailand began to experience a serious manpower shortage at higher skill levels. The situation was particularly acute in the fields of scientific and industrial research and development, and in business management.

Economic development and structural change in Thailand have also attracted huge numbers of foreign workers from neighboring countries, mainly Myanmar, Cambodia, and Laos. As shown in Table 2, those three countries are far behind Thailand in their economic development. Demographically, they all reveal a high potential for labor out-migration. The foreign workers, some of whom are refugees, initially scatter along the border and then spread into the interior of the kingdom. The best-known place for foreign workers is Changwat Ranong on the Burmese border. Most of them work in agriculture, construction, cottage industries, small manufacturing, and personal services. A majority of them enter Thailand illegally and remain in Thailand without legalizing their status.

The population of undocumented foreign workers is believed to be quite large. Stern [1997: 243] estimates it at 200,000 to 300,000 in the early 1990s. Chalamwong [1998: 309] estimates the number for 1996, the year before the 1997 financial crisis, at 1 million. Of those, 810,000 were from Myanmar, 81,000 from Cambodia, and 109,000 from Laos and other South Asian countries (Table 3). The International Labour Organization [1998: 7–8] reports that the financial crisis reduced the number of foreign workers in Thailand by 460,000 in the second half of 1998.

Labor Importation Policies²⁾

The world has acknowledged East Asia's success in the 1970s and 1980s in managing the region's national economies to achieve rapid economic growth. Now most of the Asian nations face a new challenge: managing migration. There are about 3 million foreign workers in the major labor-importing countries of East and Southeast Asia—Japan, Taiwan, South Korea, Hong Kong, Singapore, Brunei, Malaysia, and Thailand. Most of them come from the five main exporting nations of the region—Indonesia, the Philippines, China, Thailand, and Malaysia. Will the Asian nations provide the world with another "miracle" in the management of labor migration? Abella [1995] notes that the process through which Asian nations opened their doors to foreign workers was very similar to that of Western Europe and North America. When countries found themselves short of labor in particular sectors after domestic reservoirs of flexible labor were exhausted, they permitted or tolerated the entry of foreign workers.

Asia may have simply delayed rather than avoided the dilemmas associated with importing foreign workers. The countries now importing foreign workers can be ranked along a policy spectrum ranging from denial to management. At the denial end of the spectrum are Japan and South Korea, whose immigration laws do not permit the importation of unskilled foreign workers. There, unskilled foreign workers are students, trainees, or illegal workers. At the other end of the spectrum, Singapore has announced that it considers foreign workers to be an instrument of economic policymaking. Foreign workers are to be imported when needed, charged significant fees that increase government revenues, and sent home when they are not needed.

In between those extremes are countries such as Taiwan and Hong Kong, which recognize the need for guest workers. Their policies, however, zigzag as they are tugged first by labor-short employers to permit more foreign workers to enter, or to let those already there stay longer, and then persuaded by unions and other critics of foreign workers to reduce their number or to tighten restrictions on them. Malaysia and Thailand represent special cases of countries that both import and export labor. Both countries' workers seek high-wage jobs abroad, but the number of workers from poorer countries seeking to enter these fast-growing economies is rising sharply. Both countries have long borders with less affluent neighbors, making it impossible for them to keep out unskilled foreign workers without great effort.

The sending countries of the Philippines, Indonesia, and China have announced that exporting labor is a crucial part of their economic development plans for the next decade. All three countries would like to upgrade their labor exports by exporting higher-wage skilled labor rather than unskilled workers, and to better protect unskilled workers

²⁾ This subsection draws heavily on Martin, Mason, and Tsay [1995: 117-123]. More recent discussions can be found in Athukorala and Manning [1999], Kimura and Hayase [2000], Hayase and Tsay [2001], and Stahl [1999].

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abroad. Nevertheless, it is hard to see how they can achieve this goal, given that other labor-exporting countries are eagerly competing to supply workers to the international labor market.

East Asian nations have credibility in economic policymaking. But the new challenge of managing migration is an area in which they have little credibility. A growing gap exists between policies that prohibit the importation of unskilled foreign workers and the reality that such workers comprise over 1 percent of their workforces. Similarly, in labor-exporting nations, governments have little credibility when they promise to prevent the exploitation of migrants but allow migrants to be exploited by recruitment agents at home and employers abroad.

Three general trends in Asian labor migration affect prospects for labor-exporting nations. First, it appears that the "need" for additional skilled and unskilled laborers will persist throughout the region. Second, labor-short nations such as South Korea and Japan may try to hire foreign workers as trainees, both to avoid acknowledging their own dependence on foreign workers and to pay migrant workers lower wages. Third, migrant workers seem to be staying abroad much longer, demonstrating the axiom that there is nothing more permanent than temporary workers.

The Financial Crisis

In July 1997 the Asian financial crisis started in Thailand. Spreading rapidly into most East and Southeast Asian countries, it was called the *dom yam kuong*³⁾ Disease. The extent of a financial crisis can be expressed by the misery index, which is the percentage sum of currency devaluation and decline in stock prices. The upper panel of Table 5 shows that, in both June–December 1997 and June 1997–June 1998, South Korea, Indonesia, Malaysia, and Thailand were the four most affected countries. The data further indicate a recovery period in 1999 for the heavily affected economies of South Korea and Indonesia, while Taiwan and the Philippines did not perform as well. Indonesia, South Korea, Thailand, and the Philippines were hit by an economic downturn again in 2000. From mid-1997 to the end of 2000, Singapore, Hong Kong, and Japan suffered less in the crisis than the other economies.

Because of the crisis the Thai economy grew at -0.4 percent in 1997 and at -5.5 percent in 1998; it did not register positive growth (of 1 percent) until 1999 [Soonthorndhada 2001: 93–94]. Compared with other countries in the region, the economic performance of Thailand was unsatisfactory from June 1997 to December 2000. Unemployment increased from 290,000 in August 1997 (0.87 percentage rate) to 1.13 million jobless and an unemployment rate of 3.45 percent in August 1998. In the year from mid-1997 to mid-1998, about 630,000 workers were laid off by 7,537 enterprises. As economic conditions deteriorated, the unemployment rate surged to 5.6 percent and the number of

³⁾ Dom yam kuong (spicy and sour prawn soup) is a popular and well-known Thai dish.

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Country	Currency Devaluation ^a	Decline in Stock Prices	Currency Devaluation ^a	Decline in Stock Prices
	June 1997-	-Dec. 1997	June 1997-	-June 1998
South Korea	47.6	49.5	35.3	60
Indonesia	52.3	44.6	83.6	38.5
Malaysia	34.9	44.8	39	57.7
Thailand	46.1	29.3	38.7	49.3
Philippines	34.3	33.5	37.3	40.9
Japan	12	25.9	18.3	23.2
Singapore	14.7	23	15.4	46.3
Hong Kong	0	29.4	0	43.8
Taiwan	14.8	9.3	19	16.4
	Dec. 1998-	-Dec. 1999	Dec. 1999-	-Dec. 2000
South Korea	- 5.5	- 82.8	10.4	50.9
Indonesia	-13.4	-70.1	26	38.5
Malaysia	0	-38.6	0	16.3
Thailand	2.4	-35.4	13.3	44.1
Philippines	0	- 8.8	19.2	30.2
Japan	-13.3	-36.8	10.8	27.2
Singapore	0.4	-78	3.9	22.3
Hong Kong	0.3	-68.8	0.4	11
Taiwan	-2.5	- 2.3	3.2	36

 Table 5
 Extent of Currency Devaluation and Decline in Stock Prices in Selected East and Southeast Asian Countries, June 1997 to December 2000

^a In terms of the exchange rate against the US dollar

jobless was close to 2 million. The problem of *under*employment was also very serious. According to the government's labor force surveys, the number of employed who worked for less than 35 hours a week rose from 2.43 million in February 1997 to 4.41 million in February 1998, representing an increase of 2 million in one year [Thailand, NSO 1998].

To ease the effects of the crisis on the labor market, the Thai government cracked down on illegal foreign workers. At the same time, the labor authority was eager to send more Thai workers abroad to earn urgently needed foreign exchange. The two approaches were aimed at releasing the pressure of unemployment and underemployment. For Thai workers, especially those in rural places, the crisis created a strong desire to find jobs overseas. As Table 5 shows, however, all the host countries of Thai migrant workers in East Asia were also affected by the crisis and suffered from negative or little growth. The regional situation was so unfavorable for the Thai government's Program of Encouraging Labor Exportation that its efforts had very limited success [Chantavanich 2000; Soonthorndhada 2001].

During 1997–99, Malaysia was also seriously hit by the crisis. Illegal migrant workers in Malaysia were estimated at 800,000 in 1996 (Table 3). As in Thailand, the government of Malaysia took aggressive actions to apprehend and expel undocumented foreign laborers during the economic turndown. In the long run, however, Malaysia will need

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workers from abroad after the crisis ends [Kassim 1998; Pillai 1998]. In Singapore the volume of foreign workers to be accepted by the government will continue to be determined by the economic benefits of guest workers and the social costs associated with their presence.

In Japan, where the policy has been to deny the entry of unskilled workers from abroad, foreigners are permitted to work as trainees at discounted wage rates [Abella and Mori 1996; Athukorala and Manning 1999: 27–56; Oishi 1995; Okunishi 1995]. Despite the strict regulations, substantial numbers of irregular foreigners have been working illegally in Japan. The estimated number for 1997 was 281,157. About 14 percent of them are Thais (Table 3). It is believed that some of the illegal foreign workers in Japan are trainees who left their original employers to take higher paying jobs elsewhere in the country. According to Watanabe [1998], the recent decline in the illegal workforce was due mainly to tighter immigration control rather than the effects of the economic crisis. The wages of foreign workers, however, especially of illegal ones, were affected by the crisis.

The crisis affected Taiwan less than other countries in East and Southeast Asia except in 1999 (Table 5). Taiwan's liberal policy of labor importation has exerted a strong pull force on foreign workers, particularly Thais. In 1999 the performance of the Taiwan economy was the poorest among the East and Southeast Asian countries, partly because of the earthquake that struck the country in September of that year. The economic position of Taiwan improved only moderately in 2000. However, the stock of contract workers increased from 270,620 at the end of 1998 to 324,909 in January 2001. Given the existing economic conditions and trends, the Taiwanese manufacturing industry will continue to demand foreign workers. For some time the demand could be particularly strong for low-skilled laborers in that sector.

As a result of industrial restructuring in Taiwan, the demand for labor is expected to shift to highly skilled professionals [Lee 1998]. With the relocation of traditional manufacturing overseas, the demand for low-skilled workers will eventually decline relative to the demand for highly skilled workers. At the same time, the demand for health care and household services will continue to grow as the Taiwanese population ages and living arrangements change. This pattern has been observed in the most recent statistics [Tsay and Lin 2001]. In response to the 1997–98 crisis, Taiwan initiated the Program of Enlarging Domestic Demand. A major portion of the program concentrates on the construction of public infrastructure, an activity employing large numbers of relatively low-skilled workers. The demand for such workers increased with the need for reconstruction projects after the earthquake in September 1999. As pointed out earlier, Thailand supplies more than 90 percent of the imported construction workers in Taiwan. Unfortunately, the continued economic downturn in 2001–02, with a record-high unemployment rate of 5 percent, has forced Taiwan to review its labor importation policy. It recently decided to keep the number of foreign contract workers under 300,000.

Foreign Workers in Taiwan

Labor Importation

The inflows of migrant workers to Taiwan became significant in the mid-1980s, when a sizable number of laborers from Southeast Asian and other countries were observed in the manufacturing and construction industries and in the household sector [Tsay 1993; 1995a; 1995c]. Almost all of them entered as tourists and then overstayed their visas and illegally engaged in paid employment. According to my own estimate, the illegal foreign workforce stood at more than 50,000 by the end of 1989 [Tsay 1992: 653]. Some estimates, however, place the number as high as 100,000 clandestine migrant workers [*ibid*.: 637-639]. The existence of a very large number of undocumented foreigners working in the country presented major challenges for officials charged with their management and deportation. Concurrently, there was a general acceptance of the need to augment the labor supply. The authorities were pressured to grant special permissions allowing the importation of contract laborers to expedite several major public construction projects and to alleviate labor shortages in local manufacturing firms; and in 1989 Taiwan officially opened its labor market to foreign workers without having a solid legal ground. Two waves of contract laborers came to Taiwan in late 1989 and 1991 to meet the need of the construction industries involved in key national development projects and to supplement the shortages of manufacturing labor; but strictly speaking, the importation of those workers was unlawful. In May 1992 the government promulgated the Employment Services Act to provide a legal basis for labor importation.

Although the history of legal importation of foreign workers to Taiwan goes back only a decade, the liberalization process was quite rapid, resulting in a huge surge of contract workers from the four designated source countries: Indonesia, Malaysia, the Philippines, and Thailand. Vietnam was added to the list of labor-providing countries in 1999. The total volume of imported workers jumped from 3,000 in 1991, to 16,000 in 1992, to almost 100,000 in 1993, and then to 152,000 in 1994. The sharp increase was due to both the expansion of the importation schemes and the rise in the number of workers imported for existing schemes [Tsay 2000].

Between the end of 1995 and January 2001, the number of imported laborers continued to grow, rising from 189,000 to 325,000, a 71 percent increase. Table 6 reveals that Thailand has been the biggest supplier of import labor, followed by the Philippines and Indonesia. At the end of January 2001, Thai workers (141,179) accounted for 43 percent of the total 324,909 contract laborers, while the share of Filipinos and Indonesians was 30 and 24 percent, respectively. The number of Malaysian workers, never very large, has become neglible in recent years. In contrast, Vietnamese workers have just entered the

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											Foreign
Industry	Indon	esia	Philipr	nines	Thail	and	Vietr	am	Tot	al	Workers
	Number		Number	0/	Number		Number		Number		as % of
	Number	70	Number	70	Number	70	Number	70	Number	70	Employees
Total	78,251	100.00	97,285	100.00	141,179	100.00	8,194	100.00	324,909	100.00	5.61^{a}
Agriculture (Crewme	n) 514	0.66	525	0.54	9	0.01	125	1.53	1,173	0.36	
Manufacturing	12,867	16.44	60,512	62.20	102,992	72.95	4,821	58.84	181,192	55.77	7.44
Food manufacturing	372	0.48	1,440	1.48	2,661	1.88	198	2.42	4,671	1.44	4.38
Textiles mill products	2,147	2.74	6,370	6.55	22,804	16.15	830	10.13	32,151	9.90	21.76
Wearing apparel	173	0.22	1,374	1.41	1,183	0.84	420	5.13	3,150	0.97	3.56
Leather & fur product	s 140	0.18	315	0.32	1,431	1.01	23	0.28	1,909	0.59	5.46
Wood & bamboo product	s 631	0.81	196	0.20	796	0.56	10	0.12	1,633	0.50	5.86
Furniture & fixtures	24	0.03	26	0.03	246	0.17	· 0	0.00	296	0.09	0.61
Pulp, paper & paper produ	cts 503	0.64	736	0.76	2,501	1.77	49	0.60	3,789	1.17	5.69
Printing processings	20	0.03	38	0.04	164	0.12	2 0	0.00	222	0.07	0.37
Chemical matter	184	0.24	395	0.41	1,281	0.91	111	1.35	1,971	0.61	2.63
Chemical products	125	0.16	454	0.47	1,106	0.78	57	0.70	1,742	0.54	2.56
Rubber products	154	0.20	427	0.44	4,022	2.85	182	2.22	4,785	1.47	11.65
Plastic products	767	0.98	2,665	2.74	7,602	5.38	412	5.03	11,446	3.52	6.34
Nonmetallic mineral	516	0.66	1,223	1.26	4,881	3.46	247	3.01	6,867	2.11	8.10
Basic metal industries	955	1.22	1,666	1.71	8,320	5.89	105	1.28	11,046	3.40	10.32
Fabricated metal	1,218	1.56	3,604	3.70	13,076	9.26	155	1.89	18,053	5.56	6.93
Machinery & equipmen	t 574	0.73	1,475	1.52	5,651	4.00	62	0.76	7,762	2.39	4.42
Electrical & eletronic	s 3,426	4.38	34,114	35.07	14,518	10.28	1,621	19.78	53,679	16.52	8.87
Transportation equipment	s 390	0.50	1,356	1.39	5,954	4.22	128	1.56	7,828	2.41	5.89
Precision instruments	s 44	0.06	551	0.57	280	0.20	86	1.05	961	0.30	3.04
Miscellaneous industrial produ	icts 504	0.64	2,087	2.15	4,515	3.20	125	1.53	7,231	2.23	10.09
Construction	727	0.93	2,013	2.07	32,893	23.30	432	5.27	36,065	11.10	8.36
Social & Personal Services	64,143	81.97	34,235	35.19	5,285	3.74	2,816	34.37	106,479	32.77	25.01

Table 6 Foreign Contract Workers in Taiwan, by Nationality and Industry: January 2001

Source: [Taiwan, Council of Labour Affairs 2001: 168, Table 11-4]

^a Nonagricultural employees only

market and by January 2001 accounted for 2.5 percent of the total imported workforce.

The data in Table 6 indicate a sharp contrast between the industrial structure of Thai workers and that of Filipinos, Indonesians, and Vietnamese. Seventy-three percent of Thais are engaged in manufacturing employment, 23 percent work in construction jobs, and 4 percent are service workers. Among Filipinos, 62 percent are in the manufacturing sector, 2 percent are in the construction industry, and 35 percent work as health-care or household-service providers. The industrial structure of Indonesian workers is similar to that of the Filipinos, with a huge proportion (82 percent) in the service sector and a small share (1 percent) in construction. In the case of Vietnamese, almost two-thirds (59 percent) work in manufacturing and one-third (34 percent) are service providers.

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A closer look at Table 6 suggests that contract workers are segregated by nationality. Among the 36,065 contract workers employed by the construction sector, 91 percent are Thais. The share of Filipinos, Indonesians, and Vietnamese is only 6 percent, 2 percent, and 1 percent, respectively. On the contrary, the great majority of the 106,479 imported service workers are Indonesians (60 percent) and Filipinos (32 percent). For manufacturing employment, the market share is 57 percent for Thais, 33 percent for Filipinos, 7 percent for Indonesians, and 3 percent for Vietnamese. Thai laborers are fairly widely distributed across the manufacturing industries, with some concentration in textiles, electrical and electronics industries, fabricated metals, and basic metals. For the Filipinos, 56 percent of the manufacturing workers (or 35 percent of the total) are in the electrical and electronics industry, followed by 11 percent in the textile industry (which accounts for 7 percent of the total). The Vietnamese tend to be concentrated in electrical and electronics industries than Thais, their distribution is less concentrated than that of Filipinos.

In sum, irregular migrant workers emerged in the labor market of Taiwan in the mid-1980s. In late 1989 the market was opened for the first time to contract laborers from Southeast Asia, although the legal basis for importing workers was not provided until the Employment Services Act was promulgated in May 1992. After that, the industrial coverage of importation schemes expanded and the number of contract workers increased rapidly. Virtually all industries in the manufacturing and construction sectors, as well as households in need of services found it easy to qualify for permits to use workers from abroad. In just a decade the number of foreign workers rose to the current level of about 325,000. The rapid increase in the number of care providers in recent years has been particularly remarkable.

After the legalization of labor importation and the subsequent sharp increase in the volume of foreign workers, the labor market in Taiwan changed significantly. Over the past few years the unemployment rate has shot up and the length of unemployment prolonged. Concurrently the growth rate of wages has slowed. All these changes occurred about two years after the rapid expansion in labor-importation schemes. It is thus reasonable to hypothesize that foreign workers have had some negative effects on the employment prospects of local workers. Recent analyses based on survey data [Tsay and Lin 2001] support this hypothesis, at least in part.

Thai Contract Workers

Taiwan is the major destination of Thai nationals working abroad, accounting for nearly one-third of the total. In Taiwan, Thai contract workers represent half of the whole imported labor force. For both the sending and receiving countries, it is important to understand the migration outcomes of Thai workers. The main reason given by Thais for moving to work in Taiwan is the pursuit of higher pay. Therefore in 1999 I conducted a

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survey of Thai migrant workers in Taiwan⁴⁾ to gain a better understanding of their working and living conditions. In addition, my staff and I used the survey data to compare their situation with that of Thai workers in Japan, Singapore, and Malaysia [Chantavanich *et al.* 2001].

A total of 183 Thai workers in Taiwan were successfully interviewed using "snowball" sampling method [Tsay and Lin 1999]. The study examined the characteristics of Thai migrant workers in two major industries: manufacturing and construction. The survey data indicate that all Thai workers were under age 40, but construction workers were on average older than manufacturing workers. The general level of educational attainment was limited. The majority (71 percent) of all workers had received no more than a primary education. The level was especially low among construction workers. Almost all Thai workers had not participated in any skill-training programs before coming to Taiwan. Most of them had no prior experience of working in another country.

Most of the workers were not household heads, a finding that indicates they were probably not the only breadwinner in the family. This was particularly true among construction workers. With regard to household income, the largest group (58 percent) earned less than 10,000 baht per month, followed by those earning 10,000–20,000 baht (25 percent). (In 1999, one US dollar was equivalent to 42.5 Thai baht.) A strong rural and agricultural background characterizes Thai workers in Taiwan. Some of them may be underemployed or even unemployed. We found that more than half of the respondents were hesitant to reveal their individual income, and reported ones indicated a low level, averaging about 5,000 baht per month.

As contract workers, most Thai migrants (78 percent) had been in Taiwan for less than a year. Their travel and job arrangements were all made by recruiters in Thailand. They were well informed about the working and living conditions in Taiwan. But the amount of money they paid to work in Taiwan was extremely high in relation to their potential wage rate in Thailand. Over 90 percent of the respondents had paid more than 80,000 baht, 48 percent had paid more than 140,000 baht, and 43 percent had paid 80,000– 140,000 baht. The cost of migration is substantially higher for construction workers than for those in the manufacturing sector. Just to pay back the migration cost, the Thai workers would have to work for at least half a year without spending any income.

Almost all the Thai workers took on debt to migrate. They were financed mostly by private lenders or through informal channels. The high interest rates charged by the private lending agencies in the underground market may explain part of the high

⁴⁾ The 1999 Survey of Thai Migrant Workers in Taiwan was a component of the Research Project on Thai Migrant Workers in East and Southeast Asia, coordinated by the Asian Research Center for Migration (ARCM) at Chulalongkorn University in Bangkok [Chantavanich *et al.* 2001]. The fieldwork supervisor of the survey was Samarn Laodumrongchai of ARCM. His successful conduct of the interviews is greatly appreciated.

migration cost. It is likely that the migrant workers did not have the required guarantee to apply for loans from the formal financial institutions. One way to address this problem is to involve Thai authorities in charge of labor exportation. The Thai government should be able to act as a guarantee to the banks for the migrant workers so that they can obtain credit loans at the market rate. Without having to pay the high interest rates of the underground market, the cost to migrants could be substantially reduced.

Most Thai workers in Taiwan are satisfied with their migration outcomes, as evidenced by respondents' indications of job fit and higher incomes. All the Thai contract workers we surveyed were paid more than the minimum wage (NT\$ 15,840 a month) in Taiwan, which was equivalent to US\$ 500 in 1999. Most of them earned more than this level by working overtime. Median earnings were close to NT\$ 25,000 a month, remarkably higher than their income in Thailand. Construction workers earned more than their manufacturing counterparts by taking on more overtime work. Probably as a result of differences in the nature of their work, construction workers reported far less satisfaction with their jobs than manufacturing workers when asked whether their job expectations had been realized.

Almost all the Thai workers (89 percent) were satisfied with their earnings in Taiwan, though the proportion was higher in the construction group than in the manufacturing category. The construction workers earned more than the manufacturing workers on average; even so, far fewer of them said they were highly satisfied with their income. Most construction workers (77 percent), however, indicated that they were paid fairly for their work. These findings reflect the hardship of construction workers, larger percentages of manufacturing workers were both highly satisfied with their earnings and dissatisfied with their earnings. This finding is probably related to the relative ease of manufacturing work and reduced opportunities to work overtime for extra income in that industry.

Thai workers reported some problems in their workplace in Taiwan. The construction workers experienced more difficulties with their job and workplace than did manufacturing workers and they also had more health problems. More than half of the construction workers claimed that their health had deteriorated, whereas the figure for the manufacturing workers was only 9 percent. The most serious problem of the Thai workers as a whole was loneliness. Their social isolation represents a serious psychic cost of migrating to work in Taiwan. The mental health of Thai workers deserves more attention from labor management.

In sum, the migration outcomes of Thai workers in Taiwan are generally satisfactory. Of course, there are some problems with the work, the workplace, and the living environment. The problems are particularly serious among the construction workers, even though their earnings are higher than those of manufacturing workers. The violent conflicts that recently broke out between Thai and Filipino workers at a major construction site in central Taiwan indicate a need to address foreign workers' concerns. More efforts should be made by employers, recruiters, the governments, and the workers themselves to avoid similar tragedies in the future.

Summary and Conclusion

International labor migration is an adjustment mechanism for responding to differences in labor market conditions among countries. Noneconomic factors such as international relations and regional conditions also spur cross-border movement. The study of international labor migration should not be limited to the economic and labor market considerations in the sending and receiving countries. Migration systems need to be understood in a regional perspective. In addition to economic elements, research should consider the social and cultural background of migrants and the receiving areas, and the policies and regulations affecting foreign workers.

Because of internal economic, social, and demographic factors, Thais have a long history of working abroad. In the 1970s and 1980s, most Thai migrants sought employment in the Middle East. Between the late 1980s and early 1990s, East Asia, including the ASEAN countries, replaced the Gulf Area as the major destination of Thai workers. The shift in migration direction was due mainly to the decline in oil prices but also in part to noneconomic factors. At the same time, Japan, the Asian NIEs (Singapore, Hong Kong, Taiwan, and South Korea), Malaysia, and Brunei began having labor shortages because of their rapid economic growth and demographic transition. The problem was particularly serious in industries requiring low-skilled laborers and jobs entailing hardship. Currently about half a million Thais are working in those countries. At least half of them are working there illegally. This situation represents a great challenge to the host governments in managing migrant workers and protecting their rights. It is also a sensitive issue in international relations that deserves more concern and understanding.

In the one and a half decades before the 1997 financial crisis, rapid growth of the Thai economy resulted in a significant shortage of skilled manpower. The number of foreign professionals working in the kingdom rose to more than 200,000, and the stock of undocumented migrant workers approached 1 million. Most of them came from the less developed neighboring countries of Myanmar, Cambodia, and Laos. During that period, Thailand changed from a labor-exporting country to one both sending workers abroad and receiving foreign workers. The Thai experience illustrates the link between labor migration and regional changes, presenting challenges for research and policy formulation.

The effects of the 1997 financial crisis have been tremendous throughout the region. An immediate response by Thailand was to expel illegal foreign workers and to encourage more Thais to work abroad. In practice the two strategies were difficult to imple-

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ment. In the long run the East Asian labor-importing countries will continue to demand foreign workers for various economic, social, and demographic reasons. The temporary migration of workers is likely to become a permanent phenomenon in East and Southeast Asia, as in other parts of the world.

The available data indicate that between one-third and one-half of all Thai workers abroad are in Taiwan, and Thai migrant workers account for almost half of the total labor imported to Taiwan. Among them, 73 percent are engaged in manufacturing employment and 23 percent in construction. More than 90 percent of foreign workers in the construction industry of Taiwan are Thais. Thus the labor migration from Thailand to Taiwan represents a close relationship between the two countries. Survey results reported here indicate that the migration outcomes of Thai workers in Taiwan are generally satisfactory with respect to income gains and working and living conditions. Not surprisingly, respondents identified problems related to their work, the workplace, and their living environments. Given the socioeconomic conditions and regional factors, Thai labor migration to Taiwan will continue to be beneficial to both countries and to the individual workers and their families.

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Does Globalization Adversely Affect Population and Poverty? The Views of Five Panelists

The final plenary session of the 2002 IUSSP Regional Population Conference on Southeast Asia's Population in a Changing Asian Context addressed the effects of globalization on population and poverty. Richard Leete of the United Nations Population Fund (UNFPA) organized and chaired the session. Two panel members, Andrew Mason and Simeen Mahmud, agreed to stimulate debate by presenting the case that globalization was not adversely affecting population and poverty. The other two panelists, Ogawa Naohiro and Rafiqul Huda Chaudhury, presented the case that globalization was adversely affecting population and poverty. Each of the panel members was asked to summarize the views presented at the forum.

Does Globalization Adversely Affect Population and Poverty?

Richard LEETE*

Globalization, the growing integration and interdependence of economies and societies, excites great emotions and has become a force triggering massive international demonstrations—in Seattle, in Doha, in Rome, and just about anywhere that the G8 and Bretton Woods Institutions' leaders meet. Paradoxically, both those who advocate more globalization and the anti-globalization campaigners contend that their route is the road that leads to poverty eradication.

On the one side, those subscribing to the Washington Consensus argue that globalization improves living standards and reduces poverty through employment growth stimulated by increased trade and capital flows, the sharing of ideas, and the extension of democratic institutions. Macroeconomic stability, low inflation, and fiscal discipline are seen as imperatives for sustained economic growth and sustainable development. Globalization is perceived as the means for achieving international-development goals and for

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creating a more inclusive and equitable global economy.

On the other side, the anti-globalization lobby argues that much of the world, especially the poorest countries, has been largely excluded from its benefits. Private investment flows are targeted to a minority of developing countries, bypassing poor countries because of their low human capital and perceived limited investment opportunities. The gap between rich and poor has tended to widen, inequalities have risen, debt has mounted—promised debt relief under the enhanced Heavily Indebted Poor Country initiative has been slow in coming—and trade subsidies, especially for agricultural produce, disproportionately benefit the North. Current levels of Official Development Assistance, less than 0.3 percent of annual GDP overall, are (for most Northern countries) far below the target of 0.7 percent that developed countries are committed to meeting—and for the United States, which has the world's biggest economy, just 0.1 percent of GDP.

There is fear of instability in the international economic and financial system, with large transnational companies often lacking social accountability and sometimes even appearing more powerful than governments of developing countries. Capital flows move swiftly, and as the Asian financial and economic crisis of the late 1990s showed, huge amounts can be moved at times of perceived macroeconomic instability. These massive outflows can seriously reverse development gains carefully built up over decades, as was the case in Indonesia, for example [UNFPA and ANU 1998]. And at times of financial and economic crisis, it is the social sectors that tend to be most affected, their effects being felt disproportionately by the poor, especially women and children.

Then there is a further fear of loss of cultural diversity. Globalization is viewed as leading to cultural homogeneity, or Westernization. Increasing interaction and integration across borders diminish differences between nations, causing global norms, ideas, and practices to dilute local cultures. The spread of factors influencing culture is unbalanced and heavily weighted in one direction, from rich countries to poor ones. A contrary view is that a new heterogeneity and diversity stems from globalization, with the interaction between different societies leading to new mixtures of cultures and integration.

Globalization processes can be seen as national responses to internationally dictated economic prescriptions—reductions in state spending, decreased subsidies, increases in privatization, and so on. Further they can be seen as international responses, such as the cross-border movement of goods, services, capital, information, and investment. Or they can be viewed as a combination of both.

However globalization is viewed, the reality of widespread poverty continues to linger. The HIV/AIDS pandemic is devastating economies, communities, and individual families, especially in the poorest countries; and it is widening inequalities within countries. More than 1.2 billion people live on less than \$1 a day, a similar number lack access to safe water, and more than 2 billion lack access to improved sanitation [IMF *et al.* 2000]. Some 11 million children under age 5 die each year. About one child in three

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living in developing countries does not complete primary schooling. Approximately 120 million couples who want to space the births of their children or stop having children are not using contraception. Gender equality and women's empowerment remain distant targets in much of the world.

Poverty is multidimensional, as reflected in the international development goals and especially the Millennium Development Goals (MDGs) [UN 2001]. Without a more equitable distribution of the benefits of globalization both within and between countries, it is unlikely that the development goals will be achieved by the target date of 2015. We need in particular to monitor the MDGs targets that relate to international governance so as to determine to what extent developed countries can be counted as true partners in supporting the aspirations of the poorest countries to lift the curtain of poverty that undermines human dignity. As we move forward in the first decade of this new millennium, progress toward achieving the international-development goals, including the MDGs, can be used as a yardstick for measuring the effectiveness of globalization.

Globalization has direct effects on demographic processes. Those include movements of people within and across national borders, health and fertility outcomes, and changes in age structure. Over the next 15 years more than 1 billion persons will be added to the global total of 6.2 billion, and almost all of them will be net additions to the world's poorest countries. Urban populations will grow rapidly, posing challenges to sustainable development. The attainment of universal access to reproductive health that is, to gender-sensitive information and services—is crucial for achieving the development goals. Access to reproductive-health services not only is directly related to health, social, and economic outcomes; it also enables individuals, particularly women, to exercise choice and opens opportunities.

In sum, macroeconomic policies will need to be more carefully blended with social policies and protection measures to ensure that market forces do not neglect the needs of the poorest, and that poverty and inequality are not perpetuated. Put another way, globalization needs to be humanely managed and regulated. And there is a need for more developed countries to support the provision of global public goods and thereby contribute to national poverty-reduction strategies.

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Does Globalization Lead to Greater Poverty?

Andrew MASON*

"Does globalization lead to greater poverty?" That is the question that has been posed to us. Before addressing the question, however, it is useful to establish common ground about which all of those participating in this debate can surely agree. To do so helps to define the discussion more clearly.

First, I think all participants would agree that the extent of poverty in the world is unacceptably high. The developed countries of the world could and should do more to help those seeking to escape poverty. Globalization is an important issue because it may or may not offer an important avenue for reducing poverty.

Second, globalization, like development, is a destructive process. There are losers as well as winners. Companies and industries die as new ones are born. Workers lose their jobs as new jobs are created. Some investors lose their wealth and others become wealthy beyond imagination. This destructive/creative process is an essential feature of innovation and economic progress. Globalization also has had unintended consequences that our current political institutions have failed to control.

Third, peoples have the right to protect and nurture their culture, their identity, and their moral beliefs from the forces of globalization.

Population and Globalization

Population change has been an important force that has led to greater globalization. The benefits from exchange arise, in part, because of the differences between countries in factor endowments—in skilled and unskilled labor and in capital. The twentieth century was marked by an enormous divergence between the countries of the developed and the developing world because of differences in their demographic trends. As the developed countries of the world completed their demographic transitions, the proportion of the population in the dependent ages declined steady and the proportion in the working ages rose. The post–World War II baby boom reversed the trend for several decades, but the

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Does Globalization Adversely Affect Population and Poverty?

Fig. 1 Age Structure: Developed and Developing Countries Note: For sources and details see La Croix, Mason, and Abe in this issue.

rise was relatively modest as compared with the long-term secular trend.

In the developing world, if the eight countries for which we have data are representative, the dependency ratio was roughly 10–15 percent higher in the late nineteenth and early twentieth centuries. Between 1900 and 1965, however, the average dependency ratio for the eight developing countries shown in Fig. 1 increased very rapidly, producing an enormous dependency-ratio differential between the developing and the developed countries. Since that time, however, the dependency ratio has dropped very rapidly in many developing countries, and by 2000 the gap between the developing and the developed world was not very different from what it was in 1880. Taiwan is shown separately in Fig. 1 to illustrate an important point. In a number of East and Southeast Asian countries, fertility decline has been especially rapid, yielding an even greater swing in the dependency ratio. The proportion of Taiwan's population in the working ages is now smaller than the average for the seven developed countries shown in Fig. 1.

Because of these demographic changes some countries have experienced rapid labor force growth and others have experienced labor shortages. The demographic changes have also led to high saving rates in some countries and low saving rates in others. Globalization has allowed countries to respond to their own demographic conditions by engaging in trade, foreign investment, and international labor migration with countries experiencing complementary demographic conditions [Mason 2001; La Croix, Mason and Abe 2002]. The large demographic differences among countries have been an important force behind the increased integration of global markets.

Why does globalization benefit poor countries? There are three important ways that globalization benefits poor countries and the poor who live in those countries.

The first way is by creating jobs. In the most successful countries of Asia, employment increased more rapidly than the working-age population. Moreover, labor productivity and wages grew very rapidly. How was this accomplished? Through effective participation in the global economy. In the successful Asian countries exports grew rapidly. When saving rates were low, those countries imported and effectively used foreign capital to start new businesses. Their workers found jobs in the Middle East.

Second, globalization improves the value of and the incentives to develop new ideas. Innovation is the lifeblood of development and poverty reduction. Ideas about how to improve a product, combat a disease, or produce at lower cost all help the poor.

Third, globalization facilitates the diversification of risk. This benefit will become increasingly important as countries age and their larger elderly populations depend on personal savings and public and private pensions for their material needs. The integration of national capital markets will allow greater protection from investment risk. Those of us who live in the United States will be able to invest in Thailand and other countries likely to achieve high rates of economic growth in the coming decades. Those living in Thailand will be better able to hedge their bets by spreading their savings around the world.

Although I have emphasized the potential value of globalization, it is important to acknowledge that we have not yet achieved the idealized global economy. The United States and other countries in the West, for example, protect their agricultural industries much to the detriment of many developing countries [La Croix, Mason and Abe 2002]. The national and international institutions that currently regulate globalization processes are inadequate in many respects.

I have offered no empirical support of the proposition that globalization leads to a reduction in poverty, but a simple exercise is compelling. Make two lists, one of the Asian countries that have actively participated in the global economy and the other of the countries that have not. Those with a global orientation would surely include South Korea, post-reform China, Taiwan, Hong Kong, Singapore, and Thailand. Those without a global orientation would surely include North Korea, pre-reform China, Cambodia, and Pakistan. The results speak for themselves.

The solution to poverty is not to retreat from globalization. The poor of Asia will gain when globalization includes those groups and countries still left on the sidelines.

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Does Globalization Adversely Affect Population and Poverty?

Globalization and Its Impact on the Timing of Births in Japan

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Subsequent to Japan's short baby-boom period (1947–49), its fertility dropped dramatically [Hodge and Ogawa 1991]. Over the 10-year period between 1947 and 1957, the total fertility rate (TFR) declined by more than 50 percent, from 4.54 to 2.04 children per woman. This unprecedented decline of fertility resulted in a shift of personal-resource allocation away from childrearing and induced a rapid accumulation of physical capital during the 1950s, providing a strong base for Japan's phenomenal economic growth in the 1960s [Mason and Ogawa 2001]. In 1973, however, the first oil crisis hit the Japanese economy, after which the pace of its economic growth slowed substantially, as depicted in Fig. 1. In parallel with this change in economic-growth performance, Japan's fertility level started to fall again, as illustrated in Fig. 2. By the early 1990s its fertility was so low that the post-1973 decline was referred to by some demographers as Japan's second demographic transition [Ogawa and Retherford 1993]. The TFR in 2001 was 1.33 children



Fig. 1 Trend in Real GDP Growth Rate, Japan, 1956–2001 Source: [Japan, Cabinet Office 2001]

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Fig. 2 Trend in TFR, Japan, 1956-2001 Source: [Japan, Ministry of Health, Labour and Welfare various years]

per woman, an all-time low in postwar Japan.

The demographic sources of these fertility changes in postwar Japan have varied over time. Prior to the first oil crisis, the major source of decline in the TFR was the decreased marital fertility rate—that is, the reduced probabilities of having a third and fourth child. After the oil crisis, however, the mechanism of fertility reduction changed. In the 1980s the decreased probabilities of first marriage were the principal source of the decline in fertility. As a result, by the end of that decade Japan was no longer a society characterized by universal marriage.

Japan's fertility mechanism changed further during the 1990s. In the first half of that decade the main source of Japan's falling fertility shifted from the reduced probabilities of first marriage to the reduced probabilities of having a first birth. In the second half, it was again the decreased probabilities of first marriage that became the dominant factor, followed by the decreased probabilities of having a second birth.

One of the key factors accounting for these recent changes in the mechanism of fertility reduction in Japan has been its poor economic-growth performance. Since the early 1990s, Japan has been struggling to recover from its prolonged recession. After the Plaza Accord among the G5 countries in 1985, the Japanese economy entered into the bubble-economy phase, during which many Japanese firms purchased numerous properties in the United States and elsewhere. This investment boom abruptly ended in the second half of 1990, and a number of leading banks and other financial institutions went bankrupt. Government tax revenues dropped dramatically, and the government's debts accumulated at an unprecedented rate. Moreover, Japan's international competitiveness deteriorated quickly, and the unemployment rate rose to all-time high levels.

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It was unfortunate that the Japanese government implemented inappropriate macroeconomic policies to rectify these unfavorable economic conditions. Although many of Japan's economic problems were attributable to the influence of globalization, the Japanese government regarded them as part of a normal business cycle and thus increased government spending to boost its economy, a measure that had little success. It took the government several years to realize that more drastic economic restructuring was needed to make the Japanese economy more competitive in international markets. Because of the government's delayed policy responses, some economists call the 1990s "Japan's lost decade" [Yoshikawa 2001].

Japan's management style, which Vogel [1979] had highly praised in his well-known book *Japan As No. 1*, was no longer effective, and numerous government regulations and restrictions were subject to modification or abolition. In addition, Japan's unique practice of guaranteeing lifetime employment and its seniority-oriented wage system became a serious stumbling block to making the economy more competitive [Retherford, Ogawa and Matsukura 2001]. Since the late 1990s most business firms have introduced a series of management-restructuring adjustments, which in turn have reduced job security among their employees. The increased economic uncertainties have had a considerable effect on the fertility decisions of Japanese couples of reproductive age.

In the National Survey on Family Planning conducted in 2000, a question was included about the impact of the bursting of the bubble economy and the subsequent economic restructuring on respondents' fertility behavior. The question asked was: "Has the recent growth of economic insecurity in Japan as experienced in the bursting of the bubble economy and in the trend toward business restructuring due to globalization affected your personal decision about when you wish to have children and how many children you wish to have?" The response categories were "largely affected," "somewhat affected," "not affected very much," and "not affected at all." Eleven percent of the respondents who answered this question reported that they had been "largely affected," 18 percent had been "not affected at all." (Three percent of the respondents did not answer the question.) Thus approximately 30 percent of the respondents who answered the increased economic uncertainties arising from Japan's prolonged economic recession and employment restructuring had affected their fertility behavior.

To identify the characteristics of women whose reproductive behavior has been influenced by the long economic recession and a series of restructuring measures taken by business firms, I applied a logit regression analysis to a selected sample of 1,455 married women who were included in the survey. Because a detailed description of the statistical procedure is available elsewhere [Ogawa 2002], I will focus here on several of the major results.

A number of hypothesized explanatory variables were entered into the equation.

One explanatory variable found to be statistically significant was household income; married women belonging to the lower household-income category were more likely to be adversely affected by the prolonged recession than were those belonging to the higher household-income category. This was a plausible result because married women with lower household incomes have tended to face greater job insecurity in the process of Japan's economic restructuring due to globalization.

I further analyzed the impact of the prolonged recession on successive birth intervals, using the birth-history data gathered in the survey. One of the important conclusions I reached is that economic uncertainties have led to a significant delay between the birth of a first child and that of a second child. Among married women exposed to various economic risks arising from the exceptionally long recession and employment restructuring, the probability of having a second birth was 81.5 percent, as compared with 90.0 percent among those not exposed to such risks. The predictor representing the influence of the prolonged economic recession did not enter into equations for other birth intervals; that is, the increased economic insecurity did not affect the timing of other births.

These results indicate that the restructuring of the Japanese economy directly influenced only the interval between the first and the second birth. But the delay in the timing of the second birth affected the timing of subsequent births, and this suggests that the increased economic uncertainties due to globalization lowered Japanese marital fertility in the 1990s.

Because the reduction of fertility is a principal demographic factor accelerating population aging [Ogawa and Retherford 1997], the Japanese government recently has been making strenuous efforts to increase fertility by implementing policies and programs to mitigate the difficulties that couples face in rearing children. It is still premature to evaluate the effect of these government programs on actual fertility. In addition, because the prolonged economic recession is one of the primary reasons why Japan's marital fertility has been falling since the early 1990s, appropriate macroeconomic policies are urgently needed to place the Japanese economy on a stable growth path. Such policies should include further deregulation of government rules and restrictions and the privatization of some public services. Japan's recent experience with globalization suggests that the government has an extremely important role in minimizing its adverse effects on the domestic economy.

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Is Globalization Adversely Affecting Population and Poverty?

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Ours is a continuously globalizing world in the sense that the nations of the world are becoming more and more interconnected every day. During the last two decades both the pace and complexity of this ongoing phenomenon have reached unprecedented proportions. However, the degree of integration into the global economy and its impact have varied among countries, which are highly differentiated by whether they are in the North or the South, by the nature of the goods and services they produce and trade, by the level of human development of their populations, by their policies for social provisioning and protection, and by the degree of stability and maturity of their financial sectors, which in turn are influenced in large measure by the extent of each country's integration into the global information and communications network.

For developing countries generally, globalization has meant, among other things, increased exports from the South to the North, the increased flow of capital in the other direction, and the increased movement of skilled labor from labor-surplus countries of the South to the newly industrialized countries. Because these processes affect markets and institutions, they undoubtedly have enormous potential effects on a country's population and on people's livelihoods. It is not surprising, therefore, that

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the weak and vulnerable groups within a country's population are more likely to be adversely affected, at least in the transitional period, than other groups. In addition, given that labor markets and other institutions are governed by norms and rules reflecting a society's gender relationships and stereotypes, these processes will affect women and men differently, women being more likely than men to be adversely affected. The question "Is globalization adversely affecting population and poverty?" therefore deserves a thoughtful response.

There are two direct ways in which globalization processes affect people's livelihoods in developing countries, both of which have poverty and gender consequences. The first is by causing quantitative and qualitative changes in people's labor market participation, and the second is by requiring governments to curtail their own responsibility for public social and human-development provisioning.

The most visible change in the labor market induced by the globalization phenomenon is the "feminization" of the labor market—that is, a more than proportionate increase in the female share of the labor force, particularly paid employment in manufacturing industries. In Asia the evidence indicates that feminization of the labor force has taken place "via worsening income distribution and increased openness of adjusting economies" [Ozler 1999: 226]. Whereas the increased labor market availability of women has been due in some cases to worsening real incomes during the period of structural adjustment,¹⁾ in other cases it has been due to new economic opportunities and new modes of production that actually favored women because of low labor costs. Women have been considered more suited than men to work under the new conditions because they are seen as subsidiary wage earners, not requiring the regular jobs and stable incomes that men need. Female labor is also considered more suited to the flexible and informal new modes of production-for example, outsourcing, contract labor, casual and part-time labor, and home-based work, which allow easy entry and exit. These kinds of jobs allow the combination of reproductive work, considered to be primarily women's responsibility, and productive work.

Who has gained from this expansion of women's paid employment because of adjustment and trade reforms?

Governments have gained because a country's participation in export trade is influenced positively not only by the availability of "cheap" female labor but also by the attributes of women workers not captured by typical measures of skill, such as the willingness to work under flexible, informal, and diverse labor conditions, conditions under which men are generally unlikely to work. Firms and employers have gained by remaining competitive in the international market, their competitiveness made possible

¹⁾ In Bangladesh real wages declined in 1991, three years after the initiation of the adjustment program, and fluctuated afterward, especially in agriculture and construction, and to a lesser extent in manufacturing [CIRDAP 1997].

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by the low costs of hiring women under the new modes of production. The comparative advantage of "cheap" labor (by which I mean not only low wages but also all other conditions of labor that contribute to low labor costs) has meant that employers have gained access to the reserve female workforce, placing them in jobs in agriculture, service, and construction that men have traditionally done and in new kinds of jobs in manufacturing.

For families, the balance of gains and losses is not yet fully played out, since there is consumption gain offset by some welfare loss. On the one hand, there is immediate welfare loss for all family members, but particularly for dependents, due to the reduced supply of women's care-giving labor that is not compensated by an increased supply of men's care-giving labor. In all countries of the South women still undertake most of the work in the reproductive economy—that is, labor that provides for the care of dependents (children, elderly, and the ill) and for the sustenance of not-so-dependent adults, on a daily and intergenerational basis. Hence, changes in the supply of female labor for productive work is bound to have implications for the supply of labor for reproductive and care-giving work. Unfortunately, macroeconomics generally takes the reproductive economy for granted, assuming that it can continue to function adequately no matter how much its relation to the productive economy is disrupted. In other words, it assumes that an unlimited supply of female labor exists for reproductive or care-giving work. In Bangladesh, garment factory workers are usually unmarried daughters who migrate to cities for employment, reducing the amount of care-giving labor available to their rural households. Women workers with small children also reduce their care-giving time and rely upon childcare of lower quality (grandparents, siblings, paid help, neighbors).

On the other hand, families also gain because women's earnings supplement household income, often raising not only the quantity of consumption but also the quality because women spend a higher proportion of their income than men do on food, housing, clothing, education, and health care. Within families men gain because women share the work of income earning to meet the family's consumption needs, often allowing men to migrate to urban areas and get better jobs, to go to college, to obtain higher-skills training, or to go abroad for more remunerative employment. In Bangladesh, garment factory workers remit a part of their earnings to their natal families, help pay for the schooling of siblings, and save for their own marriage dowries. Their remittances not only are poverty reducing but also enhance human development and human capabilities.

Women have gained jobs, but whether this has been to their advantage or disadvantage is difficult to assess because an expansion in paid employment has both positive and negative dimensions. Women have to pay for the burden of additional work through health costs and reduced leisure time since there is no change in the gender division of labor in the reproductive economy. Women may also be losing out in the work place by being stuck in employment that has poorer returns, fewer prospects for upward mobility, and worse working conditions than those of male employment. Female employment is also riskier, being directly linked to swings in international demand and dependent upon how much individual countries can remain internationally competitive. There is also the risk of losing the "female" advantage and being replaced by men in more highly skilled jobs, a reversal that is already seen in many countries, including Bangladesh, where men are taking up the more skilled and more remunerative work in knitwear factories.

Nevertheless, although the deregulation of labor permitting flexible modes of production, easy entry and exit, and low labor costs has meant that jobs available to women have less favorable terms than jobs available to men, it has also meant that more jobs are available in situations where women are forced to seek paid work. Moreover, the conditions of work in the new factory jobs, both wages and working conditions, compare favorably with the conditions of work in jobs that women otherwise engage in, such as domestic service, construction work, or agricultural wage work. The expansion of jobs for women and the better working conditions in export manufacturing industries act as a leverage for improved working conditions in other sectors, particularly the informal sector. In Bangladesh, since the establishment of the export-oriented ready-made garment factories, which hire large numbers of unskilled women, there has been a scarcity of female labor for service and domestic work, a factor responsible for pushing up the wages of maids and service workers.

Although the number of factory jobs is insufficient to employ all women seeking paid work, they do represent expanded opportunity in a context of limited choice and raise women's hopes of getting a job because of the ease of entrance and the mobility between factories. In that respect they contribute to the increasing value of daughters to parents, a positive change indicated by parents' increased willingness to invest in the education and health of daughters as well. In Bangladesh, for example, the gender gap in primary school enrollment is closed (and maybe even reversed), and the gender gap in child mortality and nutrition is considerably reduced, a fact not readily accounted for by either economic or demographic explanations. Furthermore, in patriarchal societies like Bangladesh, these jobs have contributed to the creation of norms that are beneficial to women and society, such as young women working for pay, women delaying marriage in favor of employment, and women living on their own and moving visibly in the public domain.

Finally, the expansion of women's paid work, especially in the modern sectors, can contribute to more egalitarian gender relationships and a reduction in gender inequalities because of the links between women's empowerment and their decision-making role in the family, their mobility in the public domain, and the re-evaluation of women's work. The link is not automatic, however; rather, it depends on the extent to which women have control over their earnings and have a say in how to spend them. Evidence suggests that

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women do retain control over part of their earnings and spend it on themselves, although the major portion is spent on family consumption. Women workers report gaining a feeling of independence and seem to enjoy greater self-esteem and social prestige. They also report being more valued by their family members, although the lack of sharing of reproductive and caring work by men suggests that gender relationships in the family have not altered much. However, among women employed in export-oriented manufacturing industries the age at marriage has gone up, and those women enjoy greatly increased access to the public domain, and to services and information, which indicates an improvement in their absolute status in society.

For developing countries globalization has tremendously increased opportunities in the world's markets, but the extent to which gains in economic growth have been translated into improvements in human development and to poverty reduction depends more upon individual countries than upon the processes of global integration *per se* [UNDP 1999]. Some countries, like Malaysia and South Korea, were able to manage increased trade and economic growth to produce significantly reduced poverty levels and increased human-development levels, whereas others, like Pakistan, were unable to translate high rates of growth in exports to visible improvement in human development. Clearly, an individual country's ability to transform the gains from globalization into real gains for its people depends upon how comprehensive and pro-poor its adjustment packages have been at the national level.

It is not surprising that in the face of shrinking government resources and donor aid, public systems of social provisioning and protection have been, in many cases, downsized or even dismantled. In Asia generally the adverse effects of cutbacks in government spending have not been very severe because adjustment packages accompanying trade liberalization have tended to be sensitive to the need to increase income transfers to the poor by subsidizing health and education services and by providing safety nets for the very poor. Evidence of this can be seen in the "Asian Tigers" enormous and rapid strides in human development and poverty reduction during the decade prior to the financial meltdown in 1997 and their relatively quick recovery to pre-crisis levels despite the severe human cost of the crisis.

Moreover, although health and education subsidies often end up favoring the rich, they do reduce overall inequality in income because private spending is more unequal than public spending. For example, in 1999 the Bangladesh government spent 15 percent of all government expenditure on education and 5.3 percent on health. Government subsidies were greater for education, and some of the expenditure components in both health (essential-services package) and education (primary education) were strongly pro-poor. Bangladesh also has one of the world's largest programs of targeted food transfers, and it has been described as reasonably pro-poor.

In conclusion, the extreme vulnerability of people and the helplessness of national governments in the face of volatile financial markets cannot be glossed over. Southern-

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country governments should prepare to address new sources of vulnerability that are not directly linked to financial markets but rather to the fact that workers in geographically dispersed and economically diverse locations have come into direct competition with one another. The question of ethics in international trade has cropped up, and the issue of "fair" rather than "free" trade is becoming more relevant for countries of the South and for poor workers within those countries. Recent attempts to include a social clause in international trade agreements (for example, linking labor and environmental standards to exports from developing countries) should be tackled by governments in such a way that these international pressures result in improved working conditions for their workers rather than in the loss of employment for millions of poor workers, most of whom are women who have a very weak bargaining position *vis-à-vis* their employers.

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Does Globalization Adversely Affect Poverty and Population?

Rafiqul Huda Chaudhury*

I would argue that the globalization process, including structural-adjustment programs, which aim to accelerate economic growth through improved macroeconomic performance, fiscal discipline, greater reliance on private markets, and trade liberalization, may adversely affect poverty and a country's population dynamics (*e. g.*, fertility, mortality, nuptiality, migration), at least in the short run. Structural adjustment includes the liberalization of markets and wages; it also includes demand-contraction policies, such as

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cutbacks in public expenditures, the imposition of service charges, and exchange-rate devaluation—all of which are likely to erode household income and thereby increase poverty, lowering the quality of life, health, and education.

Liberalized market policies, such as the privatization of industries, which leads to the retrenchment of workers and unemployment, and the withdrawal of food subsidies, may also erode household income and consequently give rise to poverty. The wage-liberalization process may lead to the stagnation or decline of the real wage rate and thereby accentuate poverty.

Governments devalue their exchange rates to reduce trade deficits. Exchange-rate devaluation boosts exports by making foreign goods expensive and local goods cheaper; but among the imported goods that become more expensive are medicines, medical equipment, and fuel. Increases in the price of imported life-saving drugs and medical technologies can adversely affect the demand and quality of health services. Increases in fuel prices often lead to higher prices for food and other commodities by affecting transportation costs, and those higher prices negatively affect household income and weaken demand for health and education services.

Demand-contraction policies such as cutbacks in public expenditure in social sectors, particularly on health and education, are often introduced to reduce budget deficits. They negatively affect the accessibility and quality of those services and have a detrimental affect on the health and education outcomes of a population, particularly the poor.

Service charges, often imposed as a cost-recovery measure to compensate for the cutbacks in expenditures on public health and education, may lead to a reduction in household income, particularly for the poor, and their ability to pay for those services. This in turn will adversely affect their health and education. Ill health and poor education will further increase the vulnerability of the poor.

Since structural-adjustment programs emphasize economic growth and are geared toward allocating more resources to the productive sector, the health, education, and social services sectors receive smaller allocations or investments, and that may adversely affect both the coverage and quality of these services.

Overall, the negative impact of structural adjustment is likely to be especially severe in situations where social safety nets are inadequate to protect the poor and vulnerable groups (*e. g.*, children, women, particularly female-headed households, the elderly) against its immediate adverse affects during the transition period. Fig. 1 shows the pathways through which each of these features of structural adjustment may adversely affect household income and the quality of life, particularly health and education. 東南アジア研究 40巻3号



Fig. 1 Theoretical Framework Source: Based on Breman and Shelton [2001]

Empirical Evidence

Evidence of the consequences of structural-adjustment programs on poverty, health, education, and other social and demographic variables can be found in countries of Central, South, and East Asia. Among six Central Asian countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) I shall focus on Azerbaijan in this review because it mirrors most of the issues and consequences associated with structural adjustment and the transition process in other countries of the region. Five years after achieving independence in 1991, Azerbaijan experienced a severe economic contraction characterized by low productivity and high inflation [UNFPA 1999]. The economies of the East Asian countries experienced a major setback in 1997 following a period of impressive economic growth averaging 5.2 percent per annum between 1965 and the early 1990s [UNICEF 1999a]. Prior to the onset of globalization (before 1990), South Asia had experienced high levels of illiteracy, poor health standards, pervasive poverty, and inequitable distribution of wealth and income [MHHDC 2002]. Recently the governments of Azerbaijan, East Asia, and South Asia have adopted a series of structural and market liberalization programs to accelerate economic growth through more fiscally prudent economic management. These programs include the privatization of state enterprises, the closure of unprofitable state enterprises, the retrenchment of workers, the Does Globalization Adversely Affect Population and Poverty?

devaluation of national currencies, the relaxation of controls over capital flow, tariff reductions, cutbacks of public provisioning in the social sector, the withdrawal of state subsidies for health and education, and the imposition of service charges for health care and education. Structural-adjustment and liberalization programs have been in effect in Azerbaijan and South Asia since 1990, but most countries in Central and South Asia have not moved toward full-phase market liberalization. East Asian countries, on the other hand, have been implementing mixed liberal economic policies (via a confluence of public-sector and private market-driven development) over the past 20 years, and by the early 1990s they had achieved full-phase market liberalization. The impact of globalization, in particular of structural-adjustment programs, on population and poverty can be measured by comparing the situation in the pre-globalization period with that in the post-globalization period.

Economic, Social, and Demographic Consequences of the Globalization Process

Economic Consequences

In Azerbaijan the closure of a number of unprofitable state enterprises and the retrenchment of workers led to an unprecedented increase in unemployment, from nearly full employment before independence in 1991 to 25 percent unemployment of the labor force in 1995 [UNFPA 1999: 9]. In East Asia the unemployment rate skyrocketed with the closure of large numbers of private enterprises and the widespread retrenchment of workers. The rate doubled in Thailand and Hong Kong and increased more than threefold in South Korea between 1996 and 1998. Malaysia and Indonesia were hit even harder. Some 7.4 million people were unemployed in Thailand, South Korea, and Indonesia, roughly 10 percent of those countries' work force [UNICEF 1999a: 49]. In South Asia the privatization of state-owned enterprises also led to retrenchment of workers. For example, in Bangladesh 89,971 workers lost their jobs through retrenchment between 1995 and 1997. In India 227,103 workers lost their jobs owing to the privatization of state enterprises. In Pakistan the annual compound growth rate of overall employment declined from 2.0 percent in the pre-privatization period to 1.39 percent in the postprivatization period [SAAT 2000: Tables 2.3, 3.7, Fig. 5.8].

Loss of income, due largely to the loss of jobs and price hikes, led to increased poverty. In Azerbaijan the incidence of poverty, measured by whether annual household expenditure on food fell below the cost of minimal consumption, increased during the 1990s, reaching its highest level, 68 percent, in 1995. Real wages, measured as the ratio of the average wage to the cost of a basic consumer basket, dropped from 88 percent in 1991 to 29 percent in 1996 [UNFPA 1999: 9]. An estimated 20 percent of Indonesia's population, 12 percent of South Korea's, and 12 percent of Thailand's were poor in 1998 [UNICEF 1999a:

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50]. The incidence of poverty, defined as the proportion of a population having an income below \$1 per day, increased in three out of five South Asian countries for which data are available during two consecutive periods, 1989–94 and 1994–98 [MHHDC 2002: 48, Fig. 3.3].

With the increase in poverty, income distribution also worsened. In Azerbaijan it worsened in the 1990s, with the richest 10 percent of the population accounting for 24 percent of the national income and the poorest 10 percent accounting for only 4 percent [UNFPA 1999: 9]. Income distribution among various economic groups also worsened in South Asia. Between 1987 and 1998 the richest 20 percent of the region's population received between 41 and 46 percent of total income, while the poorest 20 percent received less than 10 percent of the total income [MHHDC 2002: 49, Table 3.1]. The benefits of economic growth in general tend to be limited to a small minority of educated, urban denizens. In East Asia the widening of the income gap has been dramatic; and basic human development—education, public health, and gender development—have suffered deeply from mounting pressures stemming from increased unemployment and the retrenchment of the public sector [UNICEF 1999a; 1999b].

Social Consequences

In 1996 government expenditures on public health and education, as a percentage of GDP, were less than half of the 1990 level in Azerbaijan [UNFPA 1999: 10–11]. This has adversely affected the health, nutrition, and educational status of the population. For example, in Azerbaijan more births have been taking place at home because many couples cannot afford to pay health-facility fees. As many as one-third of all children under age 1 were found to have been born at home in 1996, compared with nearly 100 percent of deliveries taking place at health facilities in 1990 [*ibid*.: 15]. This increase in home deliveries has had a serious effect on the maternal mortality rate, which increased from 17 per 100,000 live births in 1990 to 44 per 100,000 live births in 1996. Mortality rates among infants and children under age 5 also increased during the first 3 to 4 years following independence. Life expectancy at birth declined by 2 years, from 71 years in 1990 to 69 years in 1995. Structural adjustment has also taken its toll in the education sector in Azerbaijan. Enrollment in education institutions declined by 13 percent between 1990/91 and 1995/96 [*ibid*.: 10].

Drastic reductions in the budget allocations for health and education in East Asia have reduced the accessibility and quality of those services. The reductions are reflected in the closure of health facilities and in increased school-dropout rates in various countries. For example, half of the health facilities in one part of Greater Jakarta were reported to have been closed. The number of Indonesian children dropping out of primary and junior-secondary schools during 1998 were 1.6 and 1.1 million respectively, twice the levels in 1996 [UNICEF 1999a: 50].

Public expenditures on health and education, as a percentage of GDP, decreased in

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almost all South Asian countries during 1995–97, declining to levels lower than those in the pre-globalization period. These reductions have had negative health and education outcomes. For example, the progress made since 1960 in improving life expectancy and adult literacy and in reducing maternal and child mortality slowed in 1997 and 1998/99 following structural adjustment, owing to cutbacks in public-sector employment and service delivery. Moreover, the region experienced more cases of infectious diseases such as tuberculosis and malaria. The emergence of HIV/AIDS put a further strain on the health care system, which was already squeezed by the decrease in public spending [MHHDC 2002].

The Demographic Response

Here I focus on demographic responses to structural-adjustment programs in Azerbaijan because comparable data for other countries were unavailable at the time I prepared this report. Economic hardships triggered various demographic responses to meet the challenges stemming from structural-adjustment programs in Azerbaijan. These include: declining fertility, a declining marriage rate, and an increasing divorce rate and net exodus of population. The total fertility rate declined from 2.77 children per woman in 1990 to 2.29 in 1995. The proportion of women who had never married rose by 48 percent, from 23 percent in 1993 to 34 percent in 1996. The mean age at marriage for females increased by three years, from 20.5 years in 1992 to 23.5 years in 1997. Reduced job opportunities, created by the closure of unprofitable government enterprises and low domestic wages, encouraged young, qualified persons to seek employment outside the country. The annual net flow of emigrants from Azerbaijan grew by 152 percent, from 20,881 persons per year during the 1980–90 decade to 52,667 persons per year during 1991–97 [UNFPA 1999: 9–11].

Conclusion

Evidence from various countries in Central, South, and East Asia with different economic histories and at different stages of economic liberalization indicates that globalization, in particular structural-adjustment and market-liberalization programs such as the privatization of state enterprises, retrenchment of workers, and cutbacks in public expenditures on the social sector, have exacerbated poverty and inequality and have negatively affected health and education outcomes, at least during the transition period. So far globalization has not helped these Asian countries to break free of the vicious cycle of poverty, unemployment, illiteracy, and poor health. Instead, market liberalization and reductions in public investment in social services have intensified the plight of the poor and exacerbated income polarization. In order for the poor to benefit from market-driven development in an increasingly integrated world economy, there is a critical need to bolster the capacity of national and international institutions to provide inclusive social safety nets, investments in human capital, reductions in economic volatility, and the management of global public goods.

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Outflows of Thai Workers to Taiwan Ching-lung Tsay Does Globalization Adversely Affect Population

and Poverty? The Views of Five Panelists

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