



Investment in Early Childhood Education in a Globalized World

Policies, Practices, and
Parental Philosophies in China,
India, and the United States

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PREFACE

The world is undergoing rapid globalization, with increased competition yet interdependence among nations. The United States has been a land of opportunity and promise, with its dominant military, economic, and cultural superpower in the world for decades. However, rapid educational and economic development in other nations lead to increased global competition, which poses as a threat to America's ascendance, undermining confidence in the government's ability to restore economic growth and superiority.

Although the US economy is still ranked No. 1, it is weakening relative to other competitors such as China and India. For instance, in the United States the GDP annual growth rate dropped from 3.77 percent in 1996 to 1.57 percent in 2016 (OECD, 2019). Although the GDP¹ growth rate slowed down in China and India as well due to the global recession of 2008, the economy in China and India did grow at a much faster rate than that in the United States. In China, GDP growth rate was 6.72 percent and that of India was 7.11 percent in 2016 (OECD). China is poised to overtake the United States as the world's top economy as early as 2020, according to a new report by the Standard Chartered Bank. India is also estimated to overtake the US economy by 2030, contributing 42 percent of total global economy (Johnson, 2019).²

¹https://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1#.

²<https://bigthink.com/politics-current-affairs/china-worlds-biggest-economy-2020>.

Globalization presents potential opportunities as well as challenges to all nations. To succeed in the global race for intellectual and innovative standing, countries have to make substantial investments in human capital, starting with investing in quality education for young children. Economists argue that human capital investments are the key drivers of economic competitiveness in the long term (Eriksson, 1991; Heckman & Masterov, 2007; Schultz, 1961; Sweetland, 1996; Welch, 1975).

Using the human capital theory and cultural ecology theory as the conceptual framework, this book examines how the United States, China, and India invest in early childhood care and education (ECCE) as a strategy in response to rising expectations and fierce competition for jobs, leadership of the future, and the ultimate superpower in the globalized world. Cultural ecology theory proposes that human development is shaped by the cumulative impact of social interactions in proximal and distal settings, which are themselves influenced by social and economic forces (Bronfenbrenner & Morris, 1998; Silbereisen & Chen, 2010). In other words, cultural ecology theory believes that not only is child development shaped by the activities and interactions of the child, but also by the social and cultural context in which these activities and interactions occur. Research has investigated how different cultures have impacted parenting; however, our understanding of the links between microsystem-level factors (such as parenting styles and parent-child relationships) and child development in the context of globalization is limited. Developmental studies rarely link indicators of economic change, microsystem characteristics, and child development across large-scale economic and social transitions. Furthermore, there has been a notable lack of research examining microsystem characteristics and child development outside the United States. To fill this void, this book is a comparative study, aiming to answer the main research question: How might macro-level changes impact parenting philosophies and practices in the United States, China, and India?

The reason to focus on China and India lies in the fact that both nations have a huge population, each with more than 1 billion people, representing 19 and 18% of the world's population, respectively. It is projected that the population of India is expected to surpass that of China by 2022 (United Nation Department of Economic and Social Affairs, 2015). Moreover, both nations present one of the most dramatic economic transitions of the past four decades. For example, China is the world's second largest economy and the largest if measured in

purchasing price parity terms. China has been the largest single contributor to world growth since the global financial crisis of 2008 (The World Bank, 2016). Since the economic reform of 1978, China has moved from being a primarily agrarian society with a centralized economy dominated by state-owned enterprises to one that is increasingly urban, market-oriented, and dominated by state, private, and foreign enterprises. India also undertook an economic reform in 1991, which reduced tariffs and interest rates and ended many public monopolies, allowing automatic approval of foreign direct investment in many sectors. By the turn of the twenty-first century, India had progressed toward a free-market economy, with a substantial reduction in state control of the economy and increased financial liberalization (Ahuja et al., 2006). For this reason, it is an ideal³ context within which to examine the effects of economic change on microsystem processes such as family and child development.

The objectives of this book are threefold. First of all, the book examines how globalization has influenced the position and role of the United States, China, and India on the international stage and how each country is investing in early childhood/childhood education in response to globalization. Second, it examines issues such as educational attainment, academic performance, and well-being through a global tri-cultural perspective, providing a detailed account of educational policies and practices to invest in the next generation as a mechanism to alleviate poverty and inequality in the three countries and to improve their global competitiveness. Third, the book presents parents' views on investment in children to prepare them for living in a globalized world. It discusses how social changes may reflect and affect parents' philosophy of child-rearing and family involvement in child development.

This book presents a unique comparison of human capital investments in childhood development in the United States, China, and India. It further places early childhood/childhood education in a global context, with particular attention given to how the three education systems are responding to changing expectations and pressures that emerge from rapid globalization and social changes. The book questions, however, the effectiveness of current reform and practice in early childhood education and care in each country. For example, in the United States, due to the *No Child Left Behind Act*, *Race to the Top*, and *Common Core Standards*,

³Ahuja, S. et al. (2006). *Economic reforms in India: Task force report*. University of Chicago.

play and recess have been taken away from early childhood education and care. At all grades, children are spending more and more time on tedious, test-driven instructions. Nation's leaders and school officials urge education reforms, focusing on greater academic demands, longer school days, more technology in the classrooms, and greater parental involvement in children's education. Are these efforts promoting or hindering early learning? How may the changes affect parenting and children's learning?

The book is organized into four parts. In Part I, Chapter 1 serve as the introduction, discussing the conceptual framework of human capital theory and cultural ecology theory, providing an overview of early childhood care and education in the three countries; describing globalization and the changing world landscape; and comparing where each of the three countries stands on a global stage. Part II is comprised of Chapters 2–4. In this part, we present an overview of the history and development of ECCE in the United States, China, and India; the recent and current policies and practices; challenges faced by each nation; and government response to those challenges. Part III (comprising of Chapters 5–7) presents parents' perspectives on child-rearing; how globalization may have impacted their parenting philosophy and practices; educational expectations they have for their children; and how they understand policies regarding ECCE. Finally, Part IV includes Chapter 8 which concludes the book, summarizing lessons learned from the study, discussing implications for future research and policy making; and advocating to reclaim childhood and restore play in early childhood curriculum.

To our knowledge, this book is unique in its comparative approach in looking at early childhood/childhood education and parenting beliefs and practices in the United States, China, and India in the context of globalization. Furthermore, it uses human capital theory and cultural ecology theory as the conceptual framework to analyze state investment in human capital, especially in the education of young children to prepare them for the skills they will need to succeed and lead in the twenty-first century.

We hope this book will serve as a window of opportunity to researchers, educators, policy makers, curriculum planners, and parents to bring themselves into perceiving and enacting their role as a learner of local knowledge and a learner of children in both local and global context.

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This book is the result of the coming together of three early childhood educators and practitioners who were keen on breaking down cultural and geographical barriers. In this age of intense globalization, we wished to present the philosophies, policies, and practices permeating the fields of early childhood education in three countries with possibly the largest schooling systems in the world: China, India, and the United States. Our objective was to review current policies that are driving educational decisions for the youngest children in each of these geographical and cultural contexts and also provide a deeper understanding of how global and local influences might be shaping parents' beliefs, practices, and decision-making with regard to raising and educating their young children. Given the size and sociocultural-economic diversity of each of these countries, we do not claim that this book is representative of every facet of their societies. But what this book provides is an understanding of the current flux in the field of early childhood education within each of these countries, and a glimpse into how cultural worldviews and influences, both global and local, shape educational decisions of a society as well as of individual parents.

The three of us (Guangyu Tan, Amita Gupta, and Gay Wilgus) wrote alone in our own little corners within the great state of New York. What brought us together was our passion for early childhood and our desire to explore the connections between culture and education. Each of us was born and raised in the context we write about and thus have personal experiences of schooling and parental expectations within our own

particular cultures. Exploring these issues with the current generation of parents was, therefore, a natural extension of our own experiences. But the truth is that writing a book is not really a solitary venture. It entails much collaboration and consultations between the co-authors, the publisher, the editor, and other professionals. And most importantly, the authors write while living their lives amid real responsibilities to their families, to their friends, and to their jobs. Many times the book had to be prioritized at the cost of precious time with others in our lives. Acknowledgements serve to make visible the many ways in which others have contributed to the successful completion of this book. Most importantly, we wish to thank the parents who participated in this research and willingly shared their deepest beliefs about what they wished for their young children. Without their participation, this book would not have been possible.

It is also important for us to name those in our lives who allowed us to complete this project without ever complaining, but always supporting.

Amita: I wish to broadly acknowledge and thank my family and friends for their understanding and their support as I worked to complete this project. More specifically, I wish to thank my sons and my grandsons who have provided me with the opportunities to know and understand what it means to raise and educate young children in India and the United States. This personal knowledge and experience was an enormous asset to me in helping me write my parts of the book.

Guangyu: I am thankful for my parents, Mr. Diguang Tan (谭迪光) and Ms. Yucong Yao (姚玉聪), my sister, Ms. Xiyu Tan (谭新宇), other family members, and many friends for their support. More importantly, I would like to thank my son, Luke W. Ross, who was my inspiration for this book at first place.

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CONTENTS

Part I Introduction

- 1 Globalization, Human Capital Development,
and Cultural Ecology** 3
Amita Gupta and Guangyu Tan

Part II State Investments in Childhood Development: What Policymakers Need to Know?

- 2 Childhood Development and Education in China:
Breaking the Cycle of Poverty and Improving Future
Competitiveness** 27
Guangyu Tan
- 3 Early Childhood Education in India: Promises, Policies,
and Pitfalls** 69
Amita Gupta
- 4 From *A Nation at Risk* to *No Child Left Behind* to *Race
to the Top*: The US Response to Global Competition** 107
Gay Wilgus

Part III Parental and Family Involvement and Investments in Young Children: Parents' Perspectives	
5 One Child, Only Hope? No More: The Evolution of China's Population Control Policy and Its Impact on Parenting and Childcare	161
Guangyu Tan	
6 Early Childhood Parental Philosophies and Practices in Urban India: Education, Care, and Well-Being of Young Children in a Society Shaped by Traditional and Global Forces	215
Amita Gupta	
7 Ethnicity, Class, and Gender Dimensions of Child- Rearing in America	251
Gay Wilgus	
Part IV Conclusion	
8 Educational Policy, Parents, and Investment That Matters	303
Gay Wilgus, Amita Gupta and Guangyu Tan	
Correction to: Globalization, Human Capital Development, and Cultural Ecology	C1
Amita Gupta and Guangyu Tan	
Index	329

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LIST OF TABLES

Table 1.1	Performance in mathematics, reading, and science: PISA 2015	11
Table 1.2	Adult and youth literacy rate 2010	12
Table 1.3	The Global Competitiveness Index 4th pillar: health and primary education	14
Table 2.1	Development of kindergarten in China	39
Table 2.2	Regional disparity in GDP and education funds in 2015	41
Table 2.3	Kindergarten conditions of urban and rural areas in 2006 and 2011	47

PART I

Introduction



Globalization, Human Capital Development, and Cultural Ecology

Amita Gupta and Guangyu Tan

The world is undergoing rapid globalization, with increased competition yet interdependence among nations. The United States of America has been a land of opportunity and promise, with its dominant military, economic, and cultural superpower in the world for decades. However, rapid educational and economic development in other nations leads to increased global competition, which poses a threat to America's ascendance, undermining confidence in the government's ability to restore economic growth and superiority.

Although the US economy is still ranked No. 1, it is weakening relative to other competitors such as China and India. For instance, in the United States the GDP annual growth rate dropped from 3.77% in 1996 to 1.57% in 2016 (OECD, 2019a). Although the GDP growth rate slowed down in China and India as well due to the global recession of 2008, the economy in China and India did grow at a much faster rate than that in the United States. In China, GDP growth rate was 6.72% and that of India was 7.11% in 2016 (OECD). China is poised to overtake the United States as the world's top economy as early as 2020, according to a new report by the Standard

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Chartered Bank. India is also estimated to overtake the US economy by 2030, contributing 42% of total global economy (Johnson, 2019).

Globalization presents potential opportunities as well as challenges to all nations. To succeed in the global race for intellectual and innovative standing, countries have to make substantial investments in human capital, starting with investing in quality education for young children. Economists argue that human capital investments are the key drivers of economic competitiveness in the long term (Eriksson, 1991; Heckman & Masterov, 2007; Schultz, 1961; Sweetland, 1996; Welch, 1975).

This chapter starts with an overview of what globalization theories are and how globalization may have changed the world landscape. Using the human capital theory and cultural ecology theory as the conceptual framework, this chapter further examines how China, India, and the United States invest in early childhood care and education (ECCE) as a strategy in response to rising expectations and fierce competition for jobs, leadership of the future, and the ultimate superpower in the globalized world.

GLOBALIZATION

Globalization has become a buzz word since the late 1990s and early twenty-first century, but it is by no means a new phenomenon. As Wallerstein (1998) pointed out, the current “ideological celebration of so-called globalization is in reality the swan song of our historical system” (p. 32). Wallerstein (1974) suggested that globalization as a process originated in the late fifteenth and early sixteenth centuries in Western Europe, through which the capitalist world-economy spread across the globe. According to the world-system theory, a long-term crisis of feudalism in parts of Western Europe created a strong motivation to seek new markets and resources; technological innovations, superior military strengths, and means of transportations enabled Europeans to explore and establish economic ties with other regions that favored the accumulation of wealth in the European core (Wallerstein, 1974). By the mid-seventeenth century, the world-system became a capitalist world-economy, in which the accumulation of private capital through exploitation in production and sale for profit in a market were its driving forces. Thus, the world-system was “a system that operates on the primacy of the endless accumulation of capital via the eventual commoditization of everything” (Wallerstein, 1998, p. 10). In this world-system, the nation-states are the creatures of the worldwide systems of economic or political powers, exchange, and competition. The nation-state is thus less a bounded actor, more the occupant of a role defined by world economic and political/military competition. “Money and force, power

and interests, are the engines of global change” (Meyer, Boli, Thomas, & Ramirez, 1997, p. 147).

In the twentieth century, however, the world-system reached its geographic limit with the extension of capitalist market and the state system to all regions. It also witnessed the rise of the United States as a hegemonic power and the power shift from Europe to the United States. In the meantime, newly independent states and communist regimes challenged core control throughout the twentieth century. New crises of contraction and confrontation cannot be solved by exploiting new markets; challenges to core dominance gathered strength in the absence of a strong hegemonic power and a globally accepted ideology; polarization pushed the world-system to the breaking point. Such new developments in the twentieth century set the stage for a period of transition (Wallerstein, 1998). Although the transition has not produced a more equal and democratic world yet, it does spell the end of capitalist globalization and balance the power between the West and the East.

However, world cultural theory believes that globalization doesn't just occur in economy, but it is “the compression of the world and the intensification of consciousness of the world as a whole” (Robertson, 1992, p. 8). In other words, globalization accelerates the global interdependence and connects and stimulates awareness or consciousness of the global whole or unicity. According to this theory, the world is a single place, and therefore, how to share this space and how it must be ordered are universal questions. The answers to such questions vary, depending on the position of a nation in relation to both a system of society and the shared properties of humankind. Differences in perspectives and worldviews result in confrontations and conflicts, which means that globalization involves “comparative interaction of different forms of life” (Robertson, 1992, p. 27).

World cultural theory further argues that global interdependence and consciousness of the world as a whole precede the advent of the capitalist world-system. However, world cultural theory acknowledges that European expansion and widespread of capitalist world-system accelerated the process of globalization since the seventeenth century, especially after 1875 when international communications, transportation, and conflict dramatically intensified relationships across societal boundaries. In this process of globalization, the autonomy of nation-state and individual self was dissolved, and the position and identity of nation-state and individuals became relative. In other words, all parties involved in globalization are constrained to assume a role, to define an identity, and to interpret their existence as relative to the emerging global whole (Robertson, 1991, 1992). No nation-states and individuals can exist in separation and isolation; and therefore,

they are subject to universal standards derived from a common conception of humankind. To some extent, the common framework or conception has guided nation-states to respond to world order more consciously.

However, global consciousness does not imply global consensus and peace. In a matter of fact, globalization has turned the world order into a problem by the end of the twentieth century. The reason is that each nation-state interprets the world order differently and responds to the common predicament of living in one world reflexively, depending on the vantage point and history of the particular nation. For example, some portray the world as an assembly of distinct communities, highlighting the virtues of heterogeneity and diversity, while others view it as developing toward a homogeneous single place, representing the presumed interests of humanity as a whole. As Robertson (1992) vividly described, “globalization is a form of institutionalization of the two-fold process involving the universalization of particularism and the particularization of universalism” (p. 102). Thus, the comparison and confrontation of worldviews are bound to produce new cultural conflict. Religions play a special role in such cultural conflicts. The resurgence of fundamentalist groups and traditionalists with a global agenda is a case in point. A globalized world is therefore integrated but not harmonious, a single place but also diverse, a construct of shared consciousness but prone to fragmentation.

Echoing the world culture theory, the world polity theory believes that globalization is the growth and enactment of world institutional, cultural, and political order (Boli & Thomas, 1997). The world polity contains no single player or institution defining what is valuable for the world as a whole. “Instead of a central actor, the culture of world society allocates responsibilities and authoritative actorhood to nation-states” (Meyer et al., 1997, p. 169). In stateless world society, such lack of single authoritative actor, who has exclusive control over world culture, creates space for innovation and competition. The individual nation-state derives its authority from a world culture: a set of universally applicable models that define who are legitimate actors in world society, what goals they can pursue and how they can pursue them. Although world polity models define sovereign states as key actors, enabling authorities to construct collective goals and devise the means or programs to produce them, nation-states are not the only players engaged in such authoritative creation of value (Meyer, 1980). As the world cultural theory argued above, the position, identity, and existence of nation-states are relative to the world as a whole. Therefore, nation-states act as rationalized players that are systematically organized and operate according to formal

rules and the world models. For example, nation-states adopt similar constitutional forms, public education systems, policies on human rights, and the environment protection, etc., due to the pressure toward isomorphism exerted by globalization.

In pursuit of isomorphism, intense competition among nation-states arises. Meyer et al. (1997) argued, “The greater the number of entities, whether individuals, organizations, or nation-states, that pursue similar interests requiring similar resources, the more entities will come into conflict with each other and develop theories of one another as sources of social ills” (p. 170). A case in point is numerous wars fought in the name of human rights and democracy but in reality they are fueled by special interests of individual groups or nation-states.

Beyond conflicts of interests among individuals and among nation-states, there are also contradictions inherent in widely valued cultural beliefs: equality versus liberty; progress versus justice; standardization versus diversity, efficiency versus individuality. Yet these contradictions and contestations are the driving force for mobilization, innovation, protest, and social change. Events like Arab Springs, LGBTQ rights, refugee crisis, or global warming, which would be overlooked entirely not so long ago, are now of world significance.

Despite the different account for globalization and its impact by different theories, one thing is for certain, that is, globalization has changed the position and role of individual nation-state and shifted the power from Europe to North America to East and South Asia. There is no single authoritative actor on the global stage, who dictates the economic, cultural, social, and political order of the world. All nation-states engaged in the process of globalization are constrained to assume a position and define an identity relative to the emerging global whole. The following section overviews the changing world landscape as a result of globalization.

WHERE CHINA, INDIA, AND THE UNITED STATES STAND ON A GLOBAL STAGE: AN OVERVIEW

Economic Growth of Each Country: Overall Rank

Globalization has not established an equal and democratic world order yet. It indeed has accelerated the unequal distribution of economic growth and shifted the balance of social, cultural, and economic power. On the one hand, emerging markets and developing economies, particularly in Asia, have experienced a relatively strong economic growth and attracted

increasing financial investments. For instance, China and India posted an economic growth rate of 6.7 and 7.1%, respectively, in 2016 (OECD, 2019a). On the other hand, however, the developed economies, such as the United States, Japan, and some European countries, have witnessed a slow recovery from the global economic crisis, with decelerating growth rate and persistent high unemployment rate as well as continued financial vulnerability. In the United States, the gross domestic product (GDP) growth rate was 1.6% in 2016, and it was estimated to reach 2.9% in 2018 (OECD). In Japan, the devastating earthquake and outbreak of nuclear plant have further burdened the fragile economy and undermined investor and business confidence, casting a shadow of uncertainty over the country's economic outlook. In 2016, Japan's GDP was 0.6%, and it reached 0.8% in 2018. In Europe, where globalization was originated, high public deficit, debt levels, and continued fears of default have led to minus GDP growth. The GDP was -0.4% in 2012, and it rebounded since, reaching 1.8% in 2018 (OECD). This dismal situation in Europe has resulted in an increased vulnerability of the economy and much distress in global financial market.

Although the GDP growth rate in the United States has been declining and its share of the world economy has been shrinking, the United States remains the largest economic power with a total GDP of US\$14,657.8 billion and US\$47,284 GDP per capita (World Economic Forum, 2011, p. 362). Sophisticated and highly innovative US companies and excellent university systems, along with flexible labor markets and the scale opportunities afforded by the domestic economy, continue to make the United States competitive on the global stage. However, a number of escalating weaknesses, particularly the lack of macroeconomic stability and the repeated fiscal deficits, has led to burgeoning levels of public indebtedness that have lowered the US ranking in global competitiveness. According to the Global Competitiveness Index 2011–2012, the United States fell to 5th place out of 142 countries, but regained first place in 2018 (World Economic Forum, 2018). In 2010, China surpassed Japan and became the second-largest economy in the world, with an annual GDP of US\$5878.3 billion (World Economic Forum, 2011, p. 148). But because of the large population of 1.3 billion, China's GDP per capita is US\$4382, which is less than one-tenth of that of the United States. On a positive note; however, China is one of the world's least indebted countries, boasts a savings rate of

53% of GDP, and runs only moderate budget deficit. These factors, combined with good economic prospects, contribute to China's steady progression in the global competitiveness rankings (No. 28 out of 140 countries in 2018). Comparing to the United States and China, India still lags far behind, with a total GDP of US\$1538 billion and US\$1265 GDP per capita (World Economic Forum, 2011, p. 204). According to the Global Competitiveness Report 2011–2012 (the World Economic Forum), the gap between India and China is widening: “the score difference between the two economies has increased sixfold between 2006 and today, the gap expanding from less than 0.1 to 0.6 points” (pp. 29–30). Nonetheless, because of its vast domestic market, which allows for economies of scale and attracts investors, India does possess a number of remarkable strengths in the more advanced and complex drivers of competitiveness.

Despite their global competitiveness ranking, none of the three countries invested enough in human capital. In 2018, the United States ranked 21 out of 140 countries in human capital investment, with a score of 85.5 out of 100, whereas Switzerland ranked No. 1 with a total score of 93.5 (OECD, 2018). Due to its huge population, China and India were ranked further down, taking 52nd and 104th place accordingly.

Education Achievement in a Global Perspective

At a time of increased global competition as mentioned above, each nation wonders whether its schools are adequately preparing students for the twenty-first-century global market. The ability of a nation to thrive on the global stage is greatly influenced by how the future generation competes internationally. The Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) are commonly used to provide data on the mathematics and science achievement of US students compared to that of students in other countries (Mullis, Martin, Foy, & Arora, 2012). TIMSS data have been collected from students at grades 4 and 8 since 1995 every 4 years, whereas PIRLS data have been collected from only 4th graders since 2001 every 5 years (Institute of Education Sciences [ies]). According to TIMSS (2015), 4th graders in East Asian countries, such as Singapore, Hong Kong SAR, Korea, Chinese Taipei, and Japan, continue to lead the world in mathematics and science achievement. American students have improved their performance between 1995 and 2015, ranked 14th in mathematics and 10th in science. However, neither China nor India participated in 2015 TIMSS

and PIRLS, and thus the Programme for International Student Assessment (PISA) is an alternative to compare the skills and knowledge of students in these countries. PISA is a triennial international survey conducted by the OECD since 2000, which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students in three key subjects: reading, mathematics, and science. In the latest PISA (2015), approximately 540,000 students completed the assessment in 2015, representing about 29 million 15-year-olds in the schools of the 72 participating countries and economies (OECD, 2018). Over the decades, PISA has become the world's premier yardstick for evaluating the quality, equity, and efficiency of school systems. Moreover, by identifying the characteristics of high-performing education systems PISA allows governments and educators to identify effective policies that they can then adapt to their local contexts.

Results of PISA 2015 indicated that compared to other 71 OECD participating countries and economies, the United States performed below the OECD average in mathematics, with a mean score of 470 and ranked No. 36 (OECD, 2018). Furthermore, 13.6% of 15-year-olds in the United States do not reach the PISA baseline Level 2 of science, reading, and mathematics proficiency (OECD).

Performance of American students in reading and science are both close to the OECD average. The United States ranks 20 in reading, and 25 in science. No significant progress has been made in these performances since 2003. Students from Beijing, Shanghai, Jiangsu, and Guangdong (B-S-J-G) China outperformed American students in science and math (see Table 1.1).

Comparable data on learning achievement of Indian students are unavailable, since India didn't participate in TIMSS nor PISA. However, according to a World Bank study (2006), which applied TIMSS questions to secondary school students in two Indian states, i.e., Rajasthan and Orissa (both states which are ranked lower on literacy rates compared to other states in India), the mean scores of 8th graders on the math test in the two states were 34 and 37%, respectively, compared to the international mean score of 52%. Similarly, the international mean of achievement for Grade 12 students was 57%, whereas the corresponding scores for Indian students were 44 and 38% in Rajasthan and Orissa. Although the scores of the two states cannot represent India's student performance, they did indicate how Indian educational achievement in relation to other countries. Last but not least, adult and youth literacy rates are used as indicators for educational achievement. UNESCO (2012) reported that in 2010 India had the largest

Table I.1 Performance in mathematics, reading, and science: PISA 2015

	Mathematics		Reading		Science		Share of low achievers in all three subjects (below level 2)
	Mean score	Ranking (out of 72 countries)	Mean score	Ranking	Mean score	Ranking	
OECD average	490		493		493		1.3%
B-S-J-G China	531	5	494	26	518	10	10.9%
The United States	481	36	498	20	496	25	13.6%

Source: Adapted from OECD (2018). Retrieved from <https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf>

Table 1.2 Adult and youth literacy rate 2010

	<i>Adult (15 years and older) literacy rate (percentage)</i>	<i>Adult illiterate population (million)</i>	<i>Youth (15 and 24 years old) literacy rate</i>	<i>Youth illiterate population (million)</i>
World	84.1	775.4	89.6	122.2
China	94.3	61.882	99.4	1.356
India	62.8	287.355	81.1	41.275

Source Adapted from UNESCO (2012), *Adult and Youth Literacy, 1990–2015: Analysis of Data for 41 Selected Countries*. UNESCO Institute of Statistics

absolute numbers of adults, i.e., 287 million or 38% of 15 years or older population who lacked the basic literacy skills. In comparison, China had about 62 million or 5.7% of its adult population who were illiterate. China achieved almost universal youth (between 15 and 24 years old) literacy rate (99.4%), whereas India had a youth literacy rate of 81.1% in 2010 (see Table 1.2).

HUMAN CAPITAL INVESTMENTS

As mentioned above, globalization has changed the world landscape, and redistributed economic growth and shifted economic power toward the emerging and developing nations, a trend accentuated by the recent global economic crisis. For example, emerging markets and developing economies, especially in Asia (including China and India), have witnessed relatively strong economic growth and attracted increasing financial investments, whereas the advanced economies, such as the United States, Japan, and European Union, are experiencing slow and decelerating growth with persistent high unemployment rate and continued financial vulnerability.

The shift of economic power is also reflected in global competitiveness measured by 12 indicators or pillars of the Global Competitiveness Index (GCI). Competitiveness is defined as “the set of institutions, policies, and the factors that determine the level of productivity of a country” (World Economic Forum, 2011, p. 4). The level of productivity sets the level of prosperity and determines a country’s ability to sustain a high level of income and living standard. Moreover, the productivity of a country is one of the central determinants of its returns to investment, which in turn are the fundamental drivers of an economy’s potential growth. In other words,

the more productive a country is, the faster its economy grows, and the more competitive it is.

Competitiveness can be measured by 12 indicators or pillars of the GCI, including institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, good market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation (World Economic Forum, 2011). It is beyond the scope of this chapter to discuss all indicators, and therefore, it only focuses on the indicators or pillars that are directly related to human capital, i.e. education.

Economists have long debated on what the most important determinants driving productivity and competitiveness are. Theories engendered range from Adam Smith's focus on specialization and the division of labor to neoclassical theory of investment in physical capital and infrastructure (Schumpeter, 1942; Solow, 1956; Swan, 1956). But more recently, economists argue human capital investments, such as investments in education and training, and technology as the key drivers of economic competitiveness in the long term. Harvard University economist Gregory Mankiw (1995), for instance, has shown that in advanced countries such as the United States, human capital investment had three times the positive effect on economic growth as did physical capital investment. Moreover, he contended that educational investment was particularly important in early childhood development and learning. Along the same vein, the Nobel Prize-winning economist James Heckman suggested the return on investment from interventions, including prenatal care and early childhood program is higher than for virtually any class of financial assets over time. The return rates of rigorously evaluated ECCE programs range from 7 to 18% (Heckman & Masterov, 2007).

Echoing the primacy in human capital investments as the key to long-term economic competitiveness, the fourth indicator or pillar of GCI: health and primary education takes into account the quantity and quality of the basic education received by the population. Basic education is important in that it increases individual workers' efficiency. Supposing, workers with little or no basic education could carry out only simple manual tasks and would not be able to adapt to more advanced production process and techniques. Therefore, lack of basic education can constrain and deter high-technology-driven and value-intensive economic development. Well-educated workers with the necessary analytical and technical skills are much

needed in the twenty-first-century global marketplace. For example, McKinsey's Global Institute estimates that there will be a shortage of nearly 2 million educated and skilled workers over the next few years (Peterson, Woessmann, Hanushek, & Lastra-Anadón, 2011).

In this context, policymakers across the globe must put investments in early childhood education as a nation's top priority and adopt strategies of investing and promoting improved educational outcomes for children in order to strengthen their positions as highly qualified contenders in the global economy. China has been aggressively investing in its children and expanding access and quality to education. In 1978, China spent less than \$2 billion on education; by 2006 that number reached \$117 billion, a 58-fold increase (Cooper, Hersh, & O'Leary, 2012). As a result, by 2009, the number of Chinese children attending kindergarten was more than doubled, comparing to that of 1984, with 74% or 27 million children enrolled in ECCE (Cooper et al., 2012). Moreover, according to the GCI 2011, the quality of primary education of China was ranked 31 out of 142 countries, and primary education enrollment rate was ranked 9, with nearly universal access to basic education (99.4%) (see Table 1.3). India has made similar commitment to basic education. In 2008, India invested US\$44 billion in education, four times more than that in the late 1980s. By 2017, it is projected that there will be 20 million high school graduates annually, which is five times as many as that in the United States. In the meantime, the quality of primary education of the United States was ranked 37 and the enrollment rate was ranked 77 (World Economic Forum, 2011). If this trend continues, China and India will produce a massive skilled workforce that could soon outnumber and even out-compete America's counterparts

Table 1.3 The Global Competitiveness Index 4th pillar: health and primary education

<i>Country</i>	<i>Quality of primary education</i>		<i>Primary education enrollment, net %</i>	
	<i>Value</i>	<i>Rank/142</i>	<i>Value</i>	<i>Rank/142</i>
China	4.7	31	99.4	9
India	3.4	86	91.4	84
The United States	4.6	37	92	77

Source The Global Competitiveness Report 2011–2012

in the “global jobs war,” in which 3 billion people across the globe are competing for 1.2 billion jobs (Clifton, 2011).

*Academic Achievement, Economic Growth, and Human Capital
Investment in a Globalized World*

In response to globalization, the nation’s focus has shifted from investing in physical capital to human capital, starting at ECCE to remain competitive in the international stage. President Obama stated that “If we want America to lead in the twenty-first century, nothing is more important than giving everyone the best education possible — from the day they start preschool to the day they start their career” (<http://www.whitehouse.gov/issues/education/early-childhood>). He further said that “Expanding access to high quality early childhood education is among the smartest investments that we can make.” Research indicates that high-quality early learning programs can generate a return rate of 7 dollars or more on each dollar invested through a reduced need for spending on other services, such as remedial education, grade repetition, and special education, as well as increased productivity and earnings for these children as adults. Therefore, President Obama set a comprehensive early learning agenda in his 2013 State of the Union Address, which included *Preschool for All Initiative*, Boosting the Quality of Childcare through *the Child Care Development Fund*, Empowering Parents through *the Maternal, Infant, and Early Childhood Home Visiting Program*, Raising the bar for Early Learning by *Race to the Top—Early Learning Challenges (RTT-ELC)*, and Reforming and Expanding Head Start (<http://www.whitehouse.gov/issues/education/early-childhood>).

Like the United States, the Chinese government has also recognized the importance of human capital investment and thus substantially increased its investments in education, health care, student nutrition, and early childhood development. For example, between 1980 and 2010, China’s average life expectancy rose from 66 years to 73.5 years, and the average number of years of schooling increased from 3.78 to 7.55 years. Between 1990 and 2010, the prevalence of stunting growth among children under age 5 declined from 33.1 to 9.9%, and the rate of anemia among rural children under 24 months decreased from 38.7 to 20.8%. Furthermore, the Chinese government has committed to ensure that 70% of children have access to three years of early childhood education by 2020 (http://oecdobserver.org/news/fullstory.php/aid/3781/China:_Investing_in_human_capital.html#sthash.GfuYFC4z.dpuf). However, for