



# THE RISE OF THE URBAN CREATIVE CLASS IN SOUTHEAST ASIA

**Cities**

The Cities Project at the Martin Prosperity Institute focuses on the role of cities as the key economic and social organizing unit of global capitalism. It explores both the opportunities and challenges facing cities as they take on this heightened new role.

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# **THE RISE OF THE URBAN CREATIVE CLASS IN SOUTHEAST ASIA**

Richard Florida  
Melanie Fasche

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## Executive Summary

Southeast Asia is at the center of a significant economic transformation. The region, which spans Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam, is undergoing rapid growth and urbanization. By 2030, Southeast Asia's urban population will swell by an estimated 100 million people, growing from 280 million people today to 373 million people.

This report examines the intersection of urbanization and the rise of the new creative or middle class in Southeast Asia. In particular, it assesses the connection between the rise of the creative class and urbanization in seven Southeast Asian countries and their major cities. These include Cambodia (Phnom Penh), Indonesia (Jakarta), Malaysia (Kuala Lumpur), the Philippines (Manila), Singapore, Thailand (Bangkok), and Vietnam (Ho Chi Minh City). We benchmark the development of these Southeast Asian nations and cities against others in Asia — including China (Beijing and Shanghai), Hong Kong, India (Delhi and Mumbai), Japan (Tokyo), and South Korea (Seoul), as well as other advanced nations like the Australia (Sydney), Canada (Toronto), and United States (New York).

Our research informs the following key findings:

Southeast Asian nations fall into four tiers of economic development.

- Singapore occupies the first tier, ranking third in terms of the share of its population who work in the creative class occupations and ninth on the Global Creativity Index, with levels of development and of the creative class similar to the most advanced nations of the world. Singapore generates \$51,149 in economic output per person, making it one of the richest and most developed nations in the world — ahead of Canada and the United States. Singapore’s biggest constraint is its relatively low level of tolerance, especially of the gay and lesbian community, which may limit its ability to attract and retain talent from other nations, and compete with the largest and most open countries in the world.
- Malaysia and the Philippines occupy a second tier with economies that are developing rapidly and a substantial middle class. The creative class makes up a quarter of Malaysia’s workforce and a fifth of that of the Philippines, approaching the levels of advanced nations. They rank among the top 50 or so of the world’s nations both in terms of their share of creative class workers and their performance on the Global Creativity Index. Malaysia has a level of economic output per capita (\$9,748) which places it among the world’s “upper-middle income” nations. Roughly three-quarters of its population is urbanized, not far off from that of the United States and other advanced nations.
- Thailand and Vietnam fall into a third tier. The creative class comprises roughly 10 percent of their workforces. They rank among the second half of nations globally both in terms of their share of creative class workers and the Global Creativity Index.
- Indonesia and Cambodia occupy a fourth tier of development. While Indonesia’s share of the creative class keeps up with that of Thailand and Vietnam, its performance on the Global Creativity Index falls back. Cambodia’s creative class share of four percent of its workforce is just half of Indonesia’s. While its creative economy development is still nascent, with per person economic output of \$869, Cambodia ranks among the world’s “low-income” nations. Just a fifth of Cambodia’s population is urbanized, much lower than other Southeast Asian nations.

Urbanization will continue to increase substantially across the region. By 2030, urban areas in Southeast Asia are projected to grow by another 100 million, with a total urban population of 373 million, putting the region ahead of the United States. By 2030, Malaysia is projected to have an urban share of more than 80 percent, similar to the current level of urbanization in Canada and the United States. Indonesia and Thailand’s urbanization levels are projected to grow to more than 60 percent. Urbanization is projected to slightly grow in the Philippines to 46 percent, while Vietnam is projected to significantly urbanize and cross 40 percent. Cambodia is expected to grow to roughly a quarter of the population.

We also examined the size and status of the region’s largest cities and metro areas. The region has two mega-cities with populations bigger than 10 million: Manila and Jakarta. Four others have populations between five and 10 million: Bangkok, Ho Chi Minh City, Kuala Lumpur, and Singapore. By 2030, four cities in Southeast Asia are projected to have populations greater than 10 million with Bangkok and Ho Chi Minh City joining Manila and Jakarta. Kuala Lumpur will have a population close to 10 million while Singapore will be approaching seven million.

Southeast Asia's cities and metros reflect the region's tiered development pattern.

Singapore occupies the top tier. It ranks as the fourth most advanced global city in the world behind only New York, London and Tokyo and one of the most prosperous and advanced cities on the planet, ranking just below New York City with more than \$66,000 in economic output per capita, greater than Tokyo, Toronto, Seoul and Hong Kong.

Kuala Lumpur occupies a second tier with economic output per capita of \$28,000, considerably greater than either Shanghai or Beijing. With \$172 billion in total economic output, it generates more than half of Malaysia's GDP and is a bigger economy than Stuttgart or Stockholm.

Bangkok and Manila fall into the third tier, with economic output per person of roughly \$20,000 and \$15,000 respectively. Bangkok's economic output of more than \$300 billion accounts for more than three quarters of Thailand's total GDP, making it a bigger economy than Miami or Frankfurt. With nearly \$200 billion in economic output, Manila accounts for nearly two-thirds of the Philippine's GDP, and is a considerably bigger economy than Stockholm.

Jakarta and Ho Chi Minh City occupy the fourth tier with economic output per person of around \$10,000 and \$8,700 respectively. With total economic output of more than \$300 billion, Jakarta's economy is bigger than Toronto, while Ho Chi Minh City with \$71 billion in output is just slightly smaller than Turin or Oslo.

Ultimately, our research suggests that urbanization is leading to economic development across the region and its nations and cities. That said, the level of economic development across the region and its cities is highly uneven, mirroring the broader pattern of uneven development between the advanced nations and cities of the Global North and the struggling nations and cities of the Global South. The region spans Singapore, one of the most affluent and urbanized places on the planet, and Cambodia one of the very poorest. While some areas of Southeast Asia are urbanized and developed, others have yet to make this transformation. The question is whether urbanization can continue to propel economic development in the region's less developed cities and nations or whether some will fall victim to urbanization without growth.

# Introduction

Southeast Asia is at the center of a significant economic transformation. As its economies expand, its middle and creative classes grow, and its population moves to cities, the region — which spans Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam — is at the center of the world's third great wave of urbanization. The first great wave took place over the nineteenth and twentieth centuries in the advanced nations of the West, helping to propel economic development, the growth of a middle class, and rising living standards. A second wave is currently underway in China.

Today, more than half of the world's population — 3.9 billion people — live in urban areas and more than 70 percent of global economic output comes from cities and urban areas. Each and every week, some 1.4 million people flock to urban areas. By 2030, 65 percent of the world's population — almost five billion people — will live in cities. By that time, Southeast Asian's urban population will swell by an estimated 100 million people, growing from 280 million to 373 million people. Across Asia as a whole, two billion people will be urbanites by 2030, and the region will account for 40 percent of global economic output. The twenty-first century, it seems, will be a distinctly *creative, urban, and Asian* century.

In the West, urbanization has gone hand in hand with economic development and the rise of an affluent middle class. But, today's middle class is no longer made up of the blue-collar working class. Rather, it is populated by the professional

and knowledge workers who make up the creative class.<sup>1</sup> The creative class, which makes up between a third to more than 40 percent of the workforce in advanced nations, spans workers in science and technology; arts, culture, design, media and entertainment; business, finance, and management; and the professions of health-care, education and law. In the United States, where the creative class makes up a third of the workforce, it accounts for half of all wages, more than \$2 trillion dollars and three-quarters of all discretionary purchasing power. Across the world, the creative class is strongly clustered in urban areas.

The future growth of Southeast Asia turns on two key issues which are at the center of this report. The first is whether urbanization can continue to propel economic development. In the twentieth century, Western urbanization went hand in hand with economic development and rising living standards. This pattern repeated

itself in China, helping the nation to become a leading world economy. It remains to be seen whether this path to growth and prosperity will hold for Southeast Asia. The second revolves around the future growth of the new urban creative middle class. While some Southeast Asian nations have already developed a sizeable creative class, in others, such a middle class is just beginning to emerge.

This report examines the intersection of urbanization and the rise of the new middle class, or urban creative class, in Southeast Asia. In particular, it assesses the connection between the rise of the creative class and urbanization in seven Southeast Asian countries and their major cities. These include Cambodia (Phnom Penh), Indonesia (Jakarta), Malaysia (Kuala Lumpur), the Philippines (Manila), Singapore, Thailand (Bangkok), and Vietnam (Ho Chi Minh City). We benchmark the development of these Southeast Asian nations and cities against others in Asia — including China (Beijing and Shanghai),

Hong Kong, India (Delhi and Mumbai), Japan (Tokyo), South Korea (Seoul), as well as other advanced nations like Australia (Sydney), Canada (Toronto), and the United States (New York). *Exhibit 1* highlights Southeast Asian nations and metros that are the focus of our study and the benchmarks to which we compare them.

The remainder of this report is structured in three main parts. The first section examines how the Southeast Asian nations stack up in terms of the creative class and key indicators of the “3Ts of economic development” — Talent, Technology, and Tolerance. The second section looks at the relationship between the creative class and the creative economy and the competitiveness and prosperity of Southeast Asian nations. The third section turns to urbanization and the rise of global cities in Southeast Asia. The concluding section summarizes the main findings and their implications for the future economic development and rise of an urban creative class in Southeast Asia.

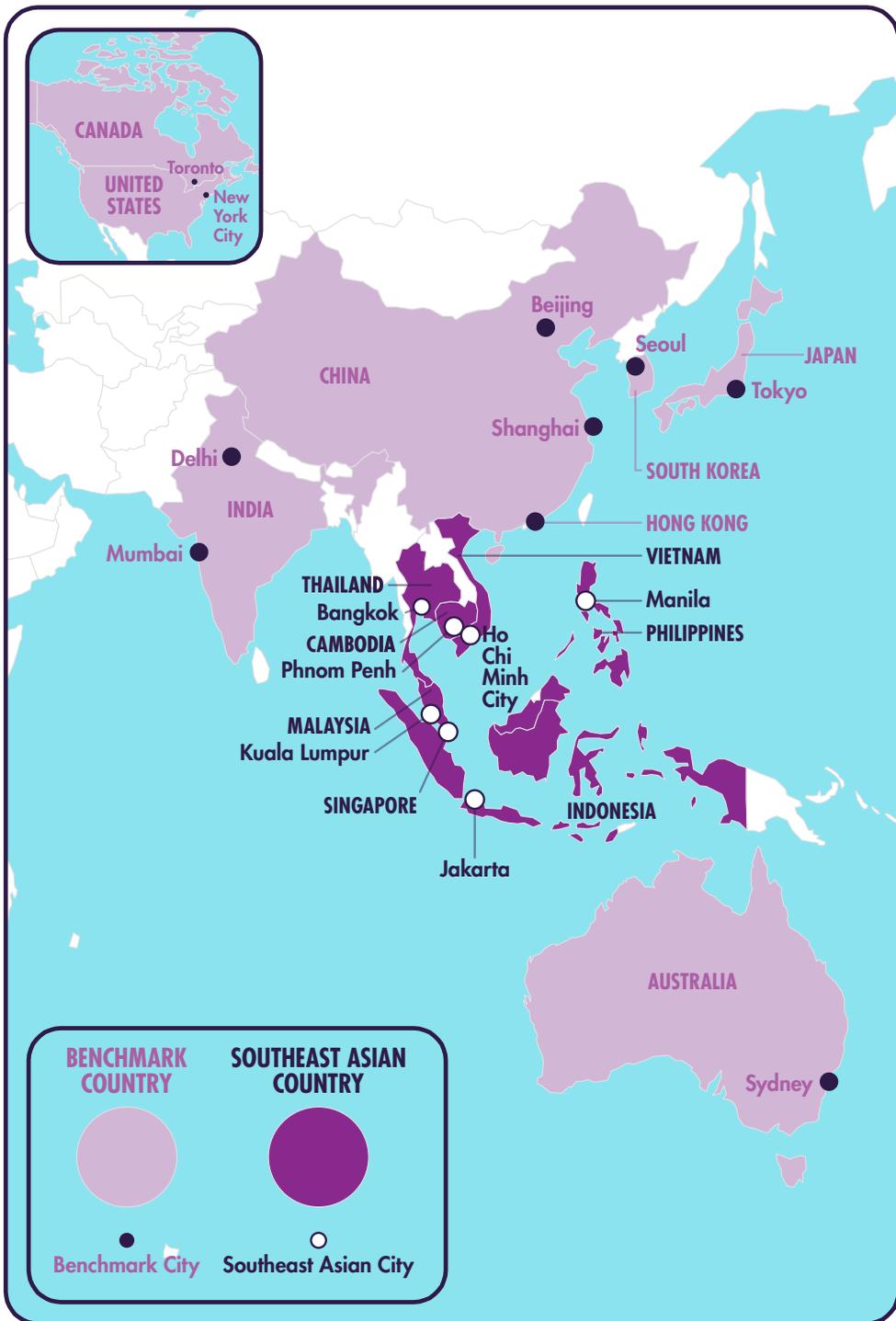


Exhibit 1: Southeast Asian Countries and Cities and their Asian and International Benchmarks

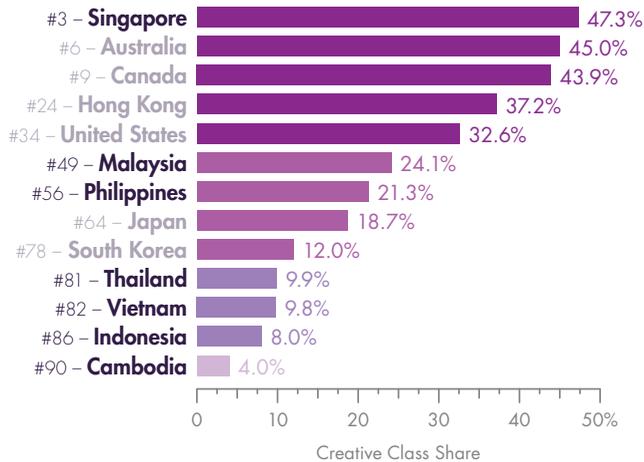
# The Creative Class in Southeast Asia

Today, the creative class makes up anywhere from one third to 40 percent of the workforce in advanced nations.<sup>2</sup> The creative class can be thought of as the middle class of the post-industrial economy. The creative class is paid to think and create, engaging in complex problem solving that generates new ideas, technology, and products, whereas the working and service classes apply physical and routine skills to their work. Nations and cities that are able to attract and retain the creative class are more competitive.

We measure the creative class based on the kind of work people do. To do so, we utilize data from the International Labour Organization (ILO), identifying occupations spanning computer science and mathematics; architecture, engineering; life, physical, and the social sciences; education, training, and library science; arts and design work, entertainment, sports, and media; and professional and knowledge work occupations in management, business and finance, law, sales management, and healthcare.<sup>3</sup> A creative class level of roughly 30 percent of the workforce indicates the development of a large, vibrant, new middle class in the postindustrial economy.

*Exhibit 2* shows how the Southeast Asian nations stack up in terms of the share of their workforce that make up the creative class and compares them to the international benchmarks.

Aside from Singapore, Southeast Asian nations lag behind the West in terms of the development of their creative or middle class. Singapore's share ranks among the leading nations in the world. With nearly half (47.3 percent) of its workforce in the creative class, Singapore is third out of 139 countries worldwide, ahead of the United States (32.6 percent) and on par with Australia (45.0 percent) and Canada (43.9 percent). The remaining Southeast Asian nations trail far behind. Malaysia is next with 24.1 percent, 49th in the world followed by the Philippines (21.3 percent, 56th), Thailand (9.9 percent, 81st), Vietnam (9.8 percent, 82nd), Indonesia (8.0 percent, 86th), and Cambodia (4.0 percent, 90th).



**Exhibit 2: The Creative Class in Southeast Asia**

Note: Data are not available for China and India

Source: International Labour Organization (ILO), *Labour Statistics*, 2010 to 2012.

## Talent in Southeast Asia

Talent or “human capital” is a key driver of economic development and rising living standards. During the 1950s and ’60s, when manufacturing was flourishing in advanced economies, the thinkers like Peter Drucker and Fritz Malchup noted the importance of knowledge workers in future economic development.<sup>4</sup> Paul Romer formalized the role of knowledge and technology in his theory of endogenous growth.<sup>5</sup> A large body of research has demonstrated the close connection between talent and economic growth at both the regional and national levels.<sup>6</sup>

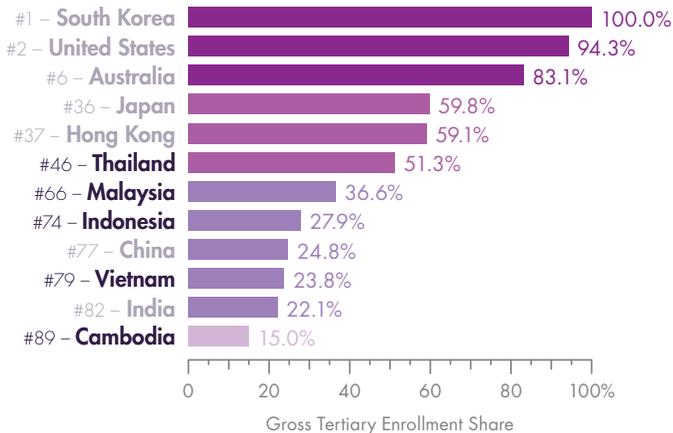
In addition to the creative class, talent can be measured in terms of education or educational attainment. Our measure of educational attainment is one that is commonly employed in cross-national analysis. It is called the “gross tertiary enrollment ratio.” As defined by the World Bank, tertiary education refers to post-secondary institutions such as universities, colleges, community colleges, and technical training institutes. The gross tertiary enrollment ratio measures those involved in tertiary education compared to the age group spanning five years after leaving secondary school.<sup>7</sup> It is another indicator of the growth of an educated middle class. *Exhibit 3* lists the shares of gross tertiary enrollment for the Southeast Asian nations and their international benchmarks.

Aside from Singapore, gross tertiary enrollment ratios for Southeast Asian nations lag behind those in the West. Thailand has a gross tertiary enrollment ratio of 51.3 percent, 46th out of 139 countries worldwide, a little bit behind Hong Kong (59.1 percent), but substantially below Australia (83.1 percent), and the United States (94.3 percent). The remaining Southeast Asian nations are much further behind. Malaysia is next with a ratio of 36.6 percent (66th), followed by Indonesia (27.9 percent, 74th) and Cambodia (15.0 percent, 89th).

## The Talent Index in Southeast Asia

The Talent Index in Southeast Asia combines our measures of the creative class and educational attainment into a single measure (see *Exhibit 4*). It is a broad measure of the development of an educated, knowledge-based middle class.

Here again we can see the substantial differences across Southeast Asian nations. Again Singapore is among the leading nations with a talent score of 0.937, fifth out of 139 countries worldwide. This is in line with Australia (0.963) and the United States (0.941), and ahead of Canada (0.889) and Hong Kong (0.767). The Philippines (0.552, 65th) and Malaysia (0.522, 69th) are nearly on par, followed by Thailand (0.396, 84th), Vietnam (0.233, 104th), Indonesia (0.207, 108th), and Cambodia (0.137, 118th).



**Exhibit 3: Education in Southeast Asia**

Note: Education is measured as gross tertiary enrollment. Data are not available for Singapore, the Philippines, and Canada. The latest figure for Canada is 58.8% for the year 2000.

Source: World Bank, *World Development Indicators*, [Gross Enrollment Ratio, Tertiary](#), 2010–2012.



**Exhibit 4: The Talent Index in Southeast Asia**

Source: International Labour Organization (ILO), *Labour Statistics*, 2010 to 2012; World Bank, *World Development Indicators*, *Gross Enrollment Ratio, Tertiary*, 2010–2012.

## Technology in Southeast Asia

Technology has long been recognized, alongside talent, as a key driver of wealth and progress. Both Karl Marx and Joseph Schumpeter noted that advances in technology generate new industries and spur economic growth.<sup>8</sup> Technology development is a good indicator of a nation's overall level of economic development. We utilize two measures of technology: a measure of innovation (patent applications) and of research and development (R&D expenditure). Both are from the World Bank's World Development Indicators.<sup>9</sup>

### Innovation in Southeast Asia

*Exhibit 5* shows how the Southeast Asian nations and their international benchmarks rank on our measure of innovation, based on patent applications per million people.

Singapore again stands among the world leading nations, placing third out of 139 countries with 1,878 applications per one million people. Singapore's number of patent applications is higher than in the United States (1,644), Australia (1,144), and Canada (1,026), and comparable to Hong Kong (1,797), but trails behind South Korea (3,606) and Japan (2,691). The rest of Southeast Asia trails substantially behind. Malaysia is next in line with 229 patent applications per million people (22nd). Thailand is next with 63 patent applications per million people (51st) followed by Vietnam with 42 patent applications per million (64th), the Philippines with 34 patent applications (72nd), Indonesia with 24 (81st), and Cambodia with almost 3 (96th).

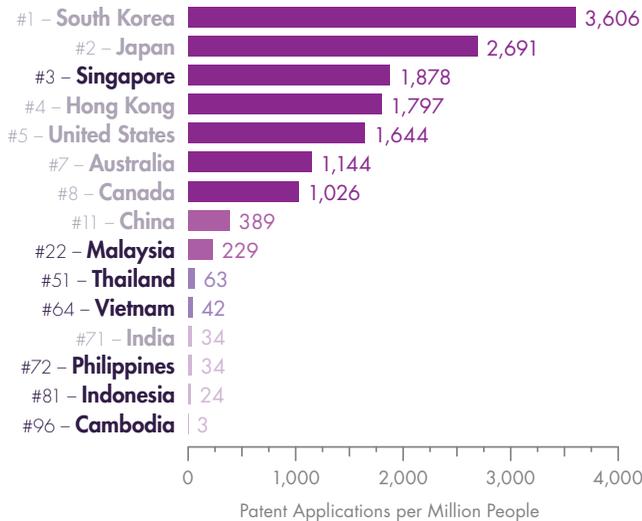
### R&D in Southeast Asia

R&D investment is a measure of technological capacity or innovation effort. We use the conventional measure of total R&D expenditure (including the private and public sectors) as a share of economic output or GDP.<sup>10</sup> Singapore again leads the Southeast Asian nations with 2.1 percent of economic output devoted to R&D, ranking 13th in the world, slightly higher than Canada (1.8 percent), but significantly lower than the United States (2.8 percent), Japan (3.3 percent), and South Korea (3.7 percent).

### The Technology Index in Southeast Asia

The Technology Index in Southeast Asia combines innovation and R&D investment into a single index. It provides a benchmark for a country's overall level of technological development. *Exhibit 6* shows how the Southeast Asian nations stack up on this measure.

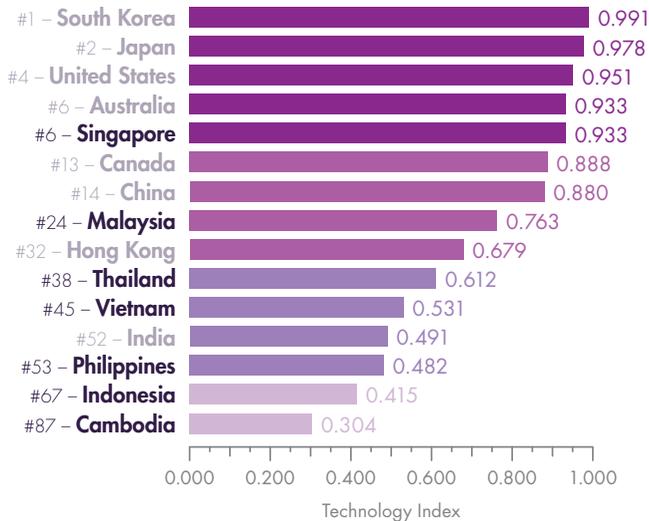
Singapore again ranks among the world's leaders, with a score of 0.933, ranking sixth, comparable to South Korea (0.991), Japan (0.978), and the United States (0.951). Four Southeast Asian nations occupy a middle level. Malaysia is next in line with a score of 0.763, 24th worldwide, followed by Thailand (0.612, 38th), Vietnam (0.531, 45th), and the Philippines (0.482, 53rd). Indonesia and Cambodia are further behind with scores of 0.415 (67th) and 0.304 (87th).



**Exhibit 5: Innovation in Southeast Asia**

Note: Innovation is measured as patent applications per million people

Source: World Bank, *World Development Indicators*, [Patent Applications](#), 2010 to 2012.



**Exhibit 6: The Technology Index in Southeast Asia**

Source: World Bank, *World Development Indicators*, [Patent Applications](#), 2010 to 2012; World Bank, *World Development Indicators*, [Research and Development Expenditure](#), 2010 to 2012.

## Tolerance in Southeast Asia

Tolerance is the third T of economic development. It provides the broader context for both technological innovation and attracting and retaining talent. Nations that are open to newcomers, immigrants, minorities, and gays and lesbians signal that their community is open to all types of people. A growing body of research shows that openness to diversity can enhance a region's competitiveness.<sup>11</sup> We employ two measures of tolerance: tolerance toward ethnic and racial minorities and tolerance toward gays and lesbians, both from Gallup's World Poll surveys.<sup>12</sup>

### Ethnic and Racial Tolerance in Southeast Asia

*Exhibit 7* shows the ethnic and racial tolerance of Southeast Asian nations compared to their international benchmarks. It is based on Gallup surveys of the share of people who say that their community is a good place for ethnic and racial minorities.

Singapore (89.8 percent) tops the list, ranking sixth in the world, ahead of the United States (82.7 percent), about the same as Australia (88.3 percent), but behind Canada (90.8 percent). Indonesia is next (72.3 percent, 63rd), followed by Vietnam (71.8 percent, 66th), Malaysia (68.4 percent, 75th), and Cambodia (64.4 percent, 85th). Closing out the list are the Philippines (56.1 percent, 102nd) and Thailand (31.2 percent, 127th).

### Tolerance toward the Gay and Lesbian Community in Southeast Asia

*Exhibit 8* shows how the Southeast Asian nations and their global peers stack up on tolerance to the gay and lesbian community. Again our measure is based on Gallup surveys of the share of people who say that their community is a good place to live for gay and lesbian people.

All of the Southeast Asian nations lag on this measure of tolerance. The Philippines tops the list (59 percent, 23rd in the world), far behind Canada (81 percent), Australia (72 percent), and the United States (70 percent). Thailand is next (27 percent, 54th), followed by Singapore (25 percent, 57th), Cambodia (22 percent, 62nd), Vietnam (16 percent, 75th), Malaysia (6 percent, 104th), and Indonesia (2 percent, 125th).

### The Tolerance Index in Southeast Asia

The Tolerance Index in Southeast Asia combines these two measures into a single index. *Exhibit 9* lists the Southeast Asian nations and their global benchmarks on this measure.

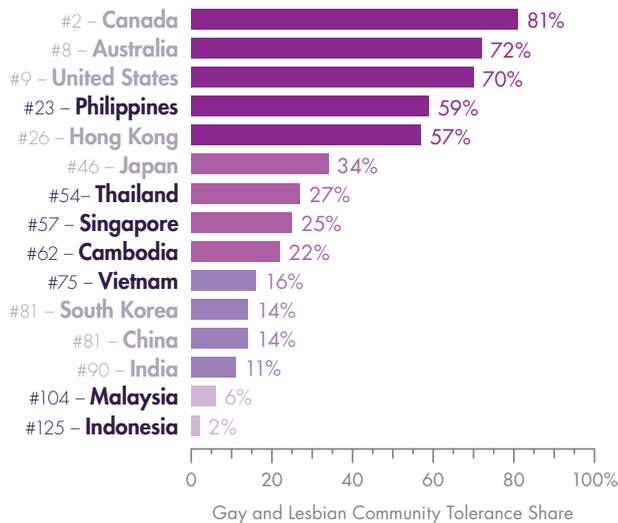
The Southeast Asian nations lag behind the world. Singapore tops the list (0.761, 23rd in the world), considerably behind Canada (0.989), Australia (0.945), and the United States (0.901). The Philippines is next in line (0.528, 53rd), followed by Vietnam (0.465, 73rd), Cambodia (0.434, 78th), Malaysia (0.313, 100th), Thailand (0.309, 104th), and Indonesia (0.278, 115th).



**Exhibit 7: Ethnic and Racial Tolerance in Southeast Asia**

Note: Ethnic and racial tolerance is measured as the percent of survey respondents reporting that their community is a good place for racial and ethnic minorities.

Source: Gallup Organization, *World Poll*, 2014.



**Exhibit 8: Tolerance toward the Gay and Lesbian Community in Southeast Asia**

Note: Tolerance toward the gay and lesbian community is measured as the percent of survey respondents reporting that their community is a good place to live for gay and lesbian people.

Source: Gallup Organization, *World Poll*, 2012.

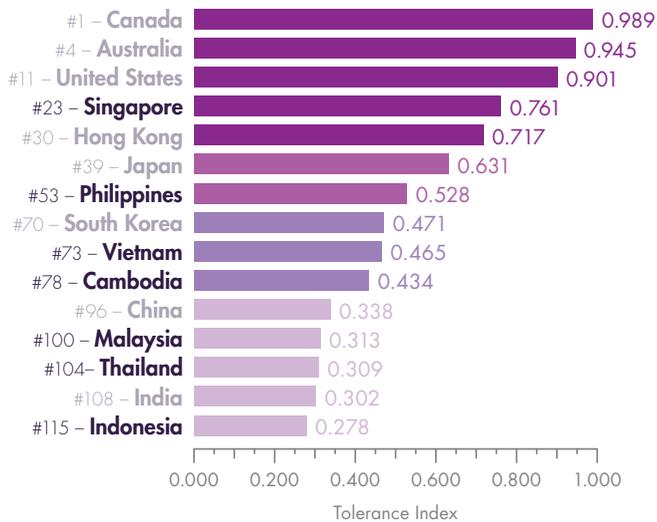
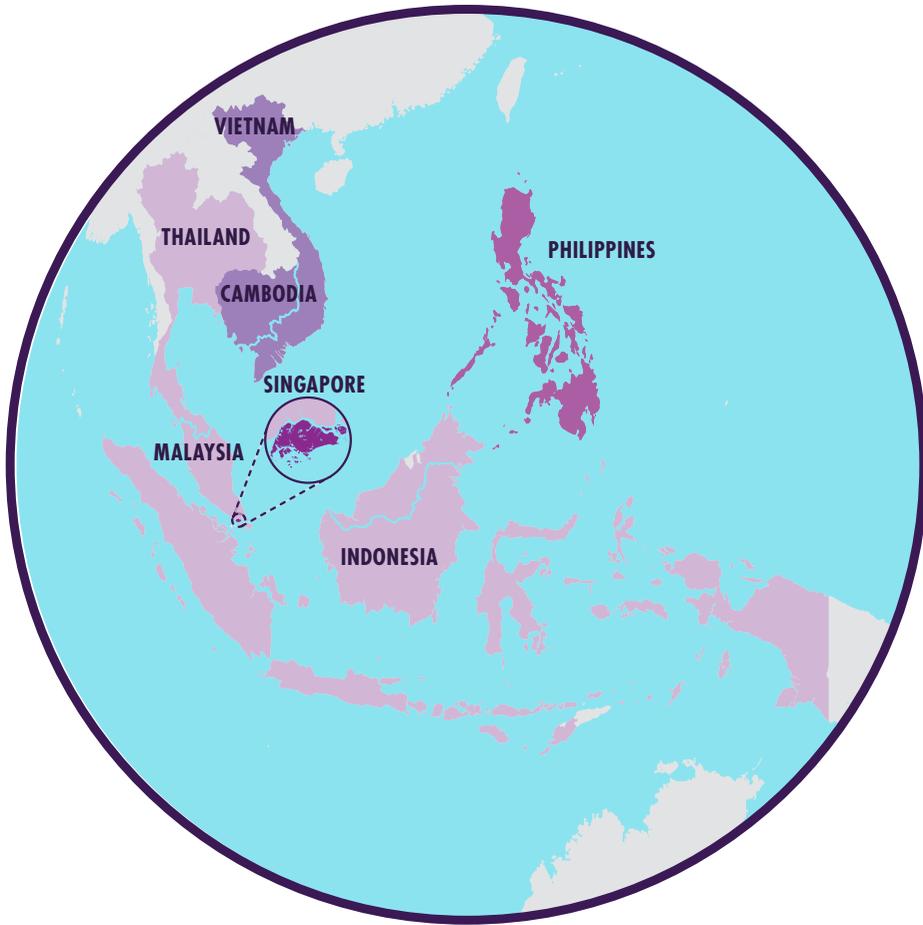


Exhibit 9: The Tolerance Index in Southeast Asia

Source: Gallup Organization, *World Poll*, 2012, 2014.

## The Global Creativity Index in Southeast Asia

Each of the 3Ts is important to broader economic development and rising living standards. However, a single T alone is not sufficient to sustain economic growth and prosperity. An economy needs to perform well on all 3Ts to develop a strong creative economy. The Global Creativity Index in Southeast Asia combines the 3Ts of economic development into a single index, providing a benchmark for the level of overall creative economy development for 139 nations. *Exhibit 10* ranks the Southeast Asian nations in terms of their overall level of creative economy development.

Again, we see the wide variation among Southeast Asian nations. Singapore ranks among the world leaders, with a score of 0.896, ninth out of 139 countries worldwide, ahead of Hong Kong (0.715) and Japan (0.708), but slightly behind the United States (0.950) and Canada (0.920). The remaining Southeast Asian nations fall further behind. The Philippines is next (0.487, 52nd) followed by Malaysia (0.455, 63rd), Vietnam (0.377, 80th), Thailand (0.365, 82nd), Cambodia (0.213, 113th), and Indonesia (0.202, 115th).

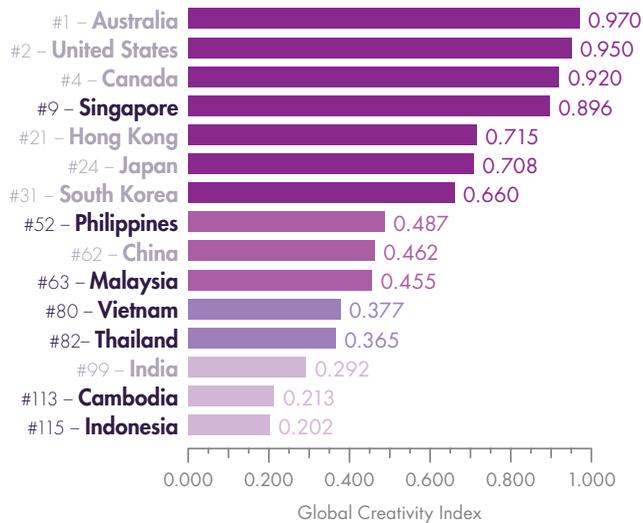
Ultimately, our analysis of the creative class, each of the 3Ts of economic development, and the overall Creativity Index suggests that Southeast Asian nations fall into four tiers of economic development and development of their middle class.

**First Tier:** Singapore occupies the first tier, ranking third on the creative class and ninth on the Global Creativity Index, with levels of economic development and of the creative class similar to the most advanced nations of the world. Singapore's biggest constraint is its relatively low level of tolerance, especially of the gay and lesbian community, which may limit its ability to attract and retain talent from other nations and compete with the most open nations in the world.

**Second Tier:** Malaysia and the Philippines occupy a second tier with rapidly developing economies and a substantial middle class similar to China. The creative class makes up a quarter of Malaysia's workforce and a fifth of the Philippines, approaching the levels of advanced nations. They rank among the top fifty or so of the world's nations both in terms of their creative class and performance on the Global Creativity Index. While the Philippines scores almost equally on all 3Ts, Malaysia's biggest constraint, similar to Singapore, is its low level of tolerance, especially of the gay and lesbian community, which will certainly limit its ability to attract and retain talent from other nations, and keep up with the most open nations in the world.

**Third Tier:** Thailand and Vietnam fall into a third tier. The creative class comprises roughly 10 percent of their workforces. They rank among the second half of nations globally both in terms of their creative class and Global Creativity Index performance, outcompeting India. Thailand's biggest constraint to creative economy development, similar to Singapore and Malaysia, is its low level of tolerance, while Vietnam's biggest constraint is its lower level of talent.

**Fourth Tier:** Indonesia and Cambodia occupy a fourth tier of development. While Indonesia's creative class keeps pace with that of Thailand and Vietnam, the country falls back due to its performance on the Global Creativity Index. Indonesia's biggest constraint to creative economy development, similar to Singapore, Malaysia, and Thailand, is its low level of tolerance. Finally, Cambodia's four percent share of creative class workers is just half of Indonesia's, and its creative economy development is still nascent.



**Exhibit 10: The Global Creativity Index in Southeast Asia**

Source: Richard Florida, Charlotta Mellander, and Karen M. King, *The Global Creativity Index 2015*, 2015.

# Creativity and Prosperity in Southeast Asia

We now know how the Southeast Asian nations stack up on various metrics of talent, technology, and tolerance. But how does this effect their prosperity and economic growth?

To get at this, we compare the performance of these Southeast Asian countries to other nations of the world on key measures of competitiveness and prosperity. Specifically, we compare their rankings on the Global Creativity Index (GCI) to five key dimensions of prosperity: economic output per person, economic competitiveness, entrepreneurship, human development, and inequality.

## Economic Output per Person in Southeast Asia

Economic output per person is a basic measure of a nation's economic development and provides a clear indication of the development of a middle class.<sup>13</sup> Again, we see a wide divergence among Southeast Asian nations (see *Exhibit 11*).

Singapore leads the region with \$51,149 in economic output per person, making it the 10th richest nation in the world — ahead of Canada (\$50,555, 11th) and the United States (\$49,989, 12th), and slightly lower than Australia (\$60,447, 7th). The rest of the Southeast Asian nations trail substantially behind. Malaysia (\$9,748, 53rd) and Thailand (\$5,158, 75th) have levels of economic output per person, which places them among what the World Bank calls “upper-middle income” nations. Indonesia (\$3,323, 88th), the Philippines (\$2,360, 96th), and Vietnam (\$1,544, 101st) occupy the ranks

of the World Bank's “lower-middle income” nations. Cambodia (\$869, 116th) is among the “low-income” nations.<sup>14</sup>

*Exhibit 12* shows the relationship between economic output per person and the GCI.

The fitted line slopes strongly upward, indicating a positive relationship between the two. The correlation between them is 0.65, indicating a substantial connection. Singapore is in the upper-right hand corner along with the United States, Canada, and Japan. Malaysia, Thailand, and the Philippines are clustered toward the middle of the graph alongside China. Indonesia and Cambodia are toward the lower left-hand corner, indicating a lower level of development. Singapore, Malaysia, Thailand, and Indonesia are above the fitted line, indicating a higher level of economic output per

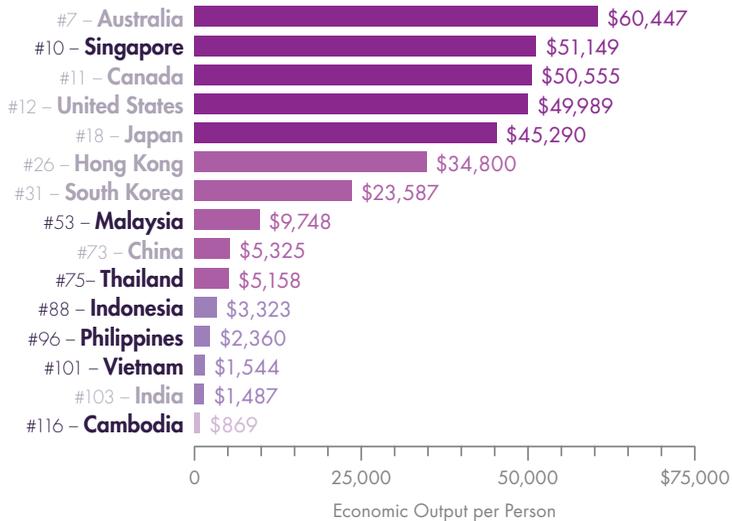


Exhibit 11: Economic Output per Person in Southeast Asia

Source: World Bank, *World Development Indicators*, GDP Per Capita, 2010–2012.

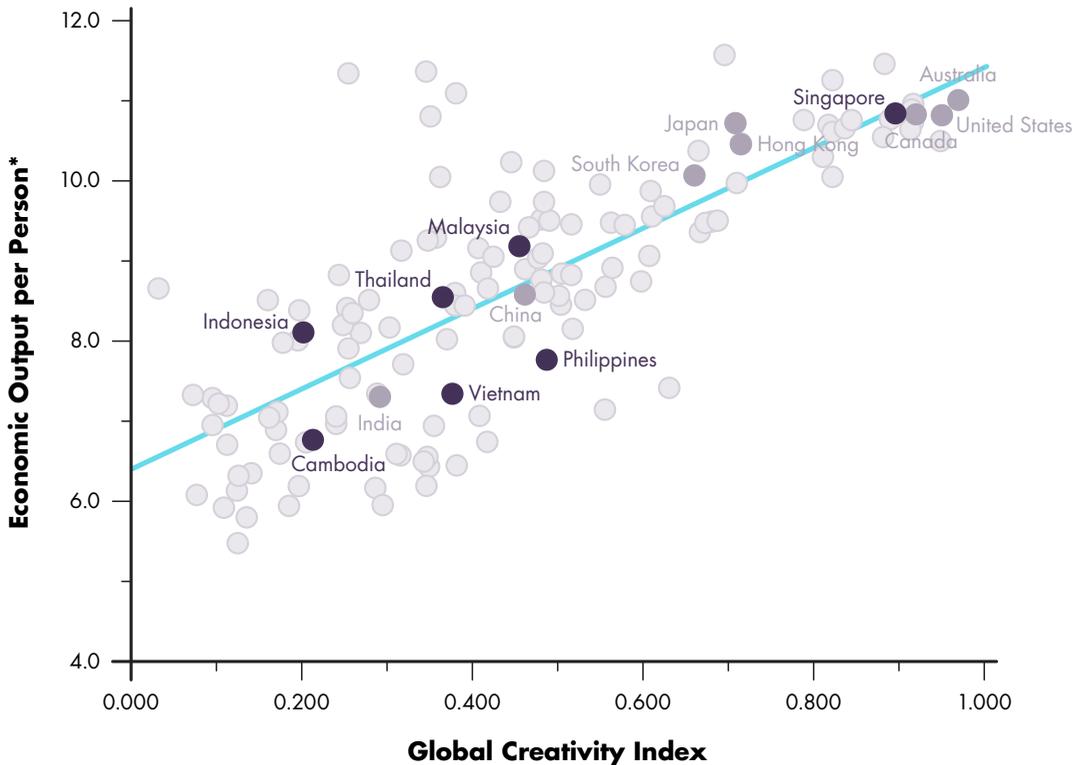
person than their GCI scores would predict, while the Philippines, Vietnam, and Cambodia are below the line, suggesting a lower level of economic output per person than their GCI scores would predict.

### Competitiveness in Southeast Asia

Competitiveness is a key indicator of the quality of institutions, policies, and other factors that determine a country's productivity and economic output. More competitive nations are likely to increase their productivity and economic output over time. Our measure of competitiveness is based on the [Global Competitiveness Index](#), developed by Harvard University economist Michael Porter.<sup>15</sup> *Exhibit 13* shows how the Southeast Asian nations and

their international peers stack up on economic competitiveness.

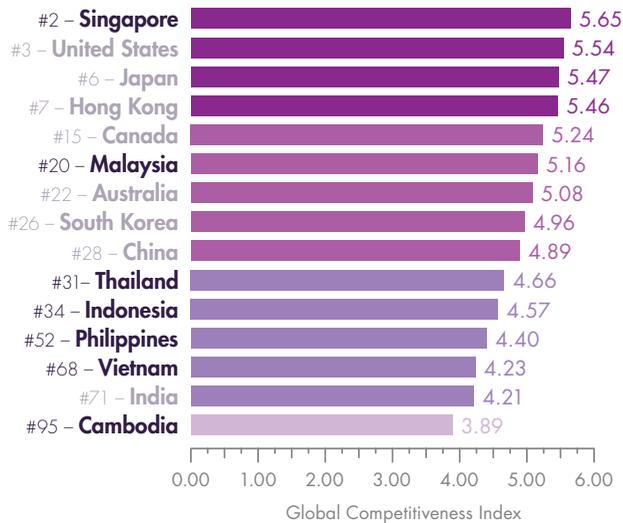
Singapore tops the list with a global competitiveness score of 5.65, ranking second in the world ahead of the United States (5.54, third), Japan (5.47, sixth), and Hong Kong (5.46, seventh). Malaysia (5.16, 20th) also does well with a competitiveness score comparable to Canada (5.24, 15th) and ahead of Australia (5.08, 22nd), South Korea (4.96, 26th), and China (4.89, 28th). Thailand (4.66, 31st), Indonesia (4.57, 34th), the Philippines (4.40, 52nd), and Vietnam (4.23, 68th) have lower competitiveness scores, roughly comparable to India (4.21, 71st). Cambodia takes last place among Southeast Asian nations with a score of 3.89



**Exhibit 12: Economic Output per Person and the GCI in Southeast Asia**

Note: \*Logged.

Source: The GCI is from *The Global Creativity Index 2015*, 2015; Economic output per person is from the World Bank, *World Development Indicators, GDP Per Capita*, 2010–2012.



**Exhibit 13: Competitiveness in Southeast Asia**

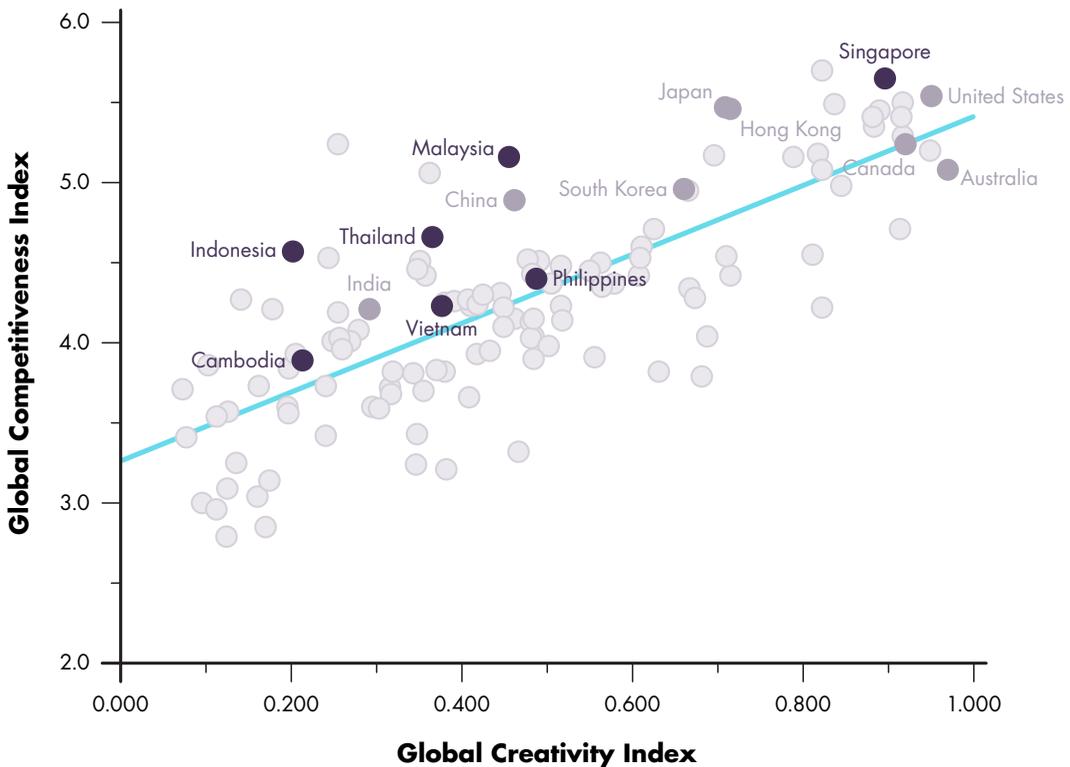
Source: World Economic Forum, *Global Competitiveness Report 2014–2015*, 2015.

and ranks 95th, comparable to Namibia, Serbia, and Mongolia.

*Exhibit 14* shows the relationship between competitiveness and the GCI. At 0.78, the correlation between the two is substantial. Again, Singapore is in the far upper right-hand corner alongside the United States and other advanced nations. Malaysia, the Philippines, and Thailand are in the middle of the chart, similar to China. Indonesia, Vietnam, and Cambodia are further down. All of the Southeast Asian nations — Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam — are situated above the fitted line, indicating that they have a higher level of competitiveness than their GCI scores would predict.

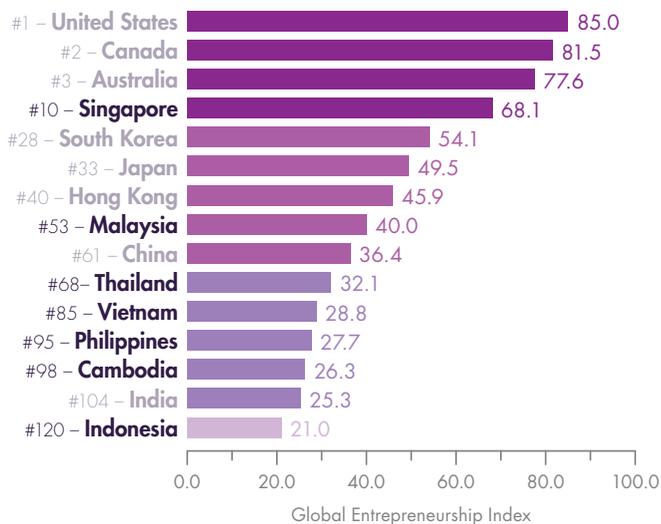
## Entrepreneurship in Southeast Asia

Entrepreneurship is a critical factor in innovation and economic growth. In advanced countries like the United States, start-up companies have played a vital role in generating new industries like semiconductors, personal computers, mobile phones, biotech, and social media that power economic development. In emerging countries like those of Southeast Asia, entrepreneurship can help generate economic development and the development of a broader middle class. We measure entrepreneurship via the [Global Entrepreneurship Index](#), a broad measure of entrepreneurial activity across 130 countries.<sup>16</sup> *Exhibit 15* ranks the Southeast Asian nations and their international peers on this metric.



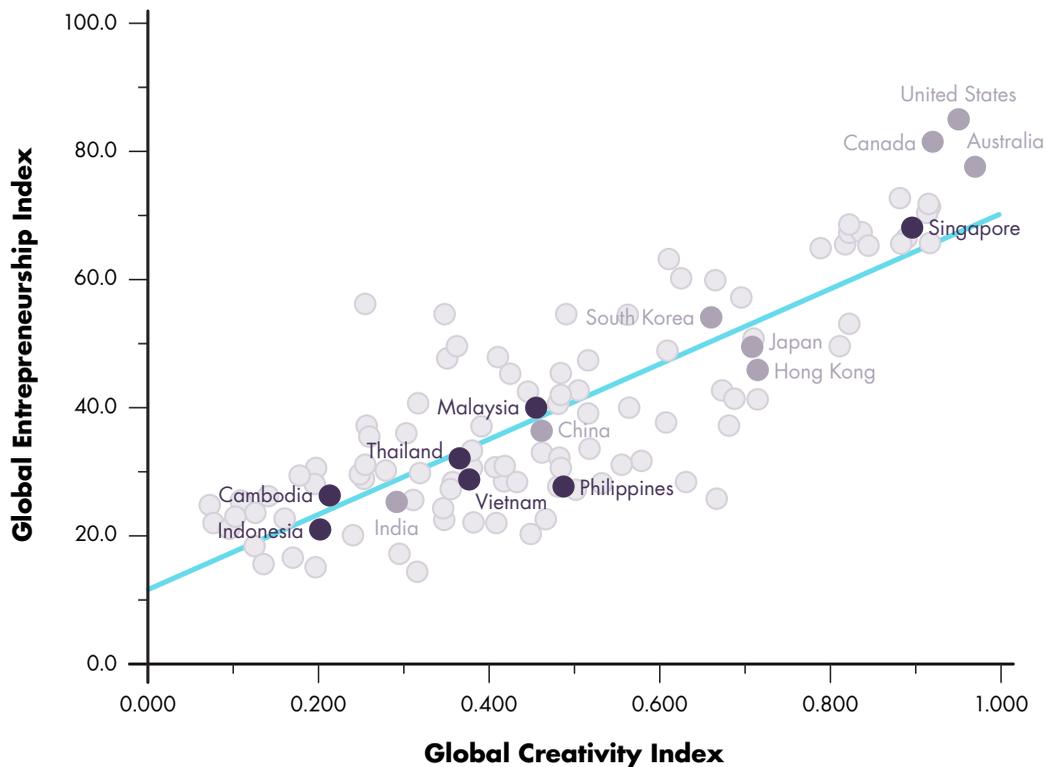
**Exhibit 14: Competitiveness and the GCI in Southeast Asia**

Source: The GCI is from *The Global Creativity Index 2015*, 2015; Economic competitiveness is from the World Economic Forum, *Global Competitiveness Report 2014–2015*, 2015.



**Exhibit 15: Entrepreneurship in Southeast Asia**

Source: Zoltán Ács, László Szerb, and Erkkó Autio, *2015 Global Entrepreneurship Index*, The Global Entrepreneurship and Development Institute, 2015.



**Exhibit 16: Entrepreneurship and the GCI in Southeast Asia**

Source: The GCI is from *The Global Creativity Index 2015*, 2015; The global entrepreneurship ranking is from Zoltán Ács, László Szerb, and Erko Autio, *2015 Global Entrepreneurship Index*, The Global Entrepreneurship and Development Institute, 2015.

Singapore (68.1, 10th) has the highest entrepreneurship rating ranking, ahead of Asian peers like Hong Kong (45.9, 40th), Japan (49.5, 33rd), and South Korea (54.1, 28th), but behind leading advanced nations like the United States (85.0), Canada (81.5), and Australia (77.6) who occupy the top three spots. Malaysia is a fairly distant second (40.0, 53rd) ahead of China (36.4, 61st). Thailand is next (32.1, 68th) followed by Vietnam (28.8, 85th), the Philippines (27.7, 95th), and Cambodia (26.3, 98th), and behind India (25.3, 104th) and Indonesia (21.0, 120th).

*Exhibit 16* shows the relationship between entrepreneurship and the GCI. The correlation between the two is 0.83, indicating a very close

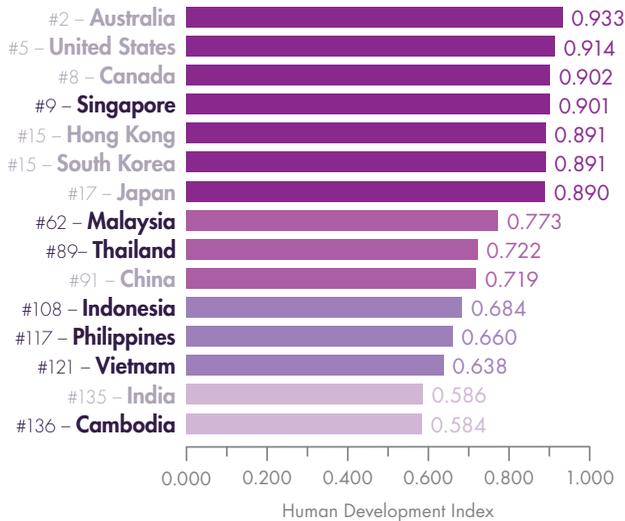
association. Singapore is in the upper right-hand corner, but this time just slightly below the United States and other advanced nations. Malaysia, Thailand, the Philippines, and Vietnam occupy a middle position, somewhat close to China, while Cambodia and Indonesia are further down. Singapore, Thailand, and Cambodia are roughly on the fitted line indicating that their levels of entrepreneurship are more or less in line with what their GCI scores would predict. Malaysia is above the fitted line, indicating a higher level of entrepreneurship than its GCI score would predict, while Vietnam and Indonesia are below it, indicating a lower level of entrepreneurship than their GCI scores would suggest.

## Human Development in Southeast Asia

Human development — the overall advancement of people through education, living standards, and length of life — is a key factor in determining the wealth of nations. To measure it, we utilize the United Nations Development Program (UNDP)'s [Human Development Index](#) (HDI), which takes into account the ability to live a long and healthy life, the acquisition of knowledge, and the ability to have a decent standard of living. The HDI is measured annually on a scale between 0 and 1.0, with higher scores indicating higher levels of human development.<sup>17</sup> *Exhibit 17* arrays Southeast Asian nations and the global benchmarks on this metric.

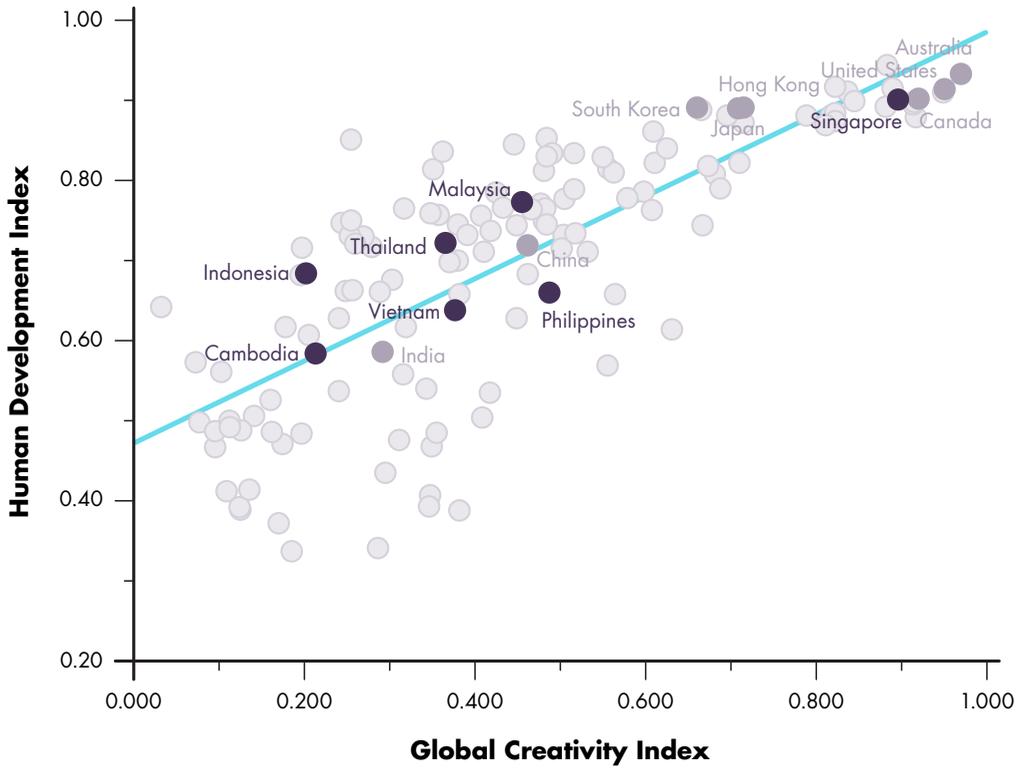
Singapore tops the list among Southeast Asian nations with an HDI of 0.901 and ranks within the top 10, almost on par with Canada (0.902, eighth) but behind Australia (0.933, second) and the United States (0.914, fifth). It is followed by Malaysia (0.773, 62nd) and Thailand (0.722, 89th), and ahead of China (0.719, 91st), all of which the UNDP classifies as countries with “high human development.” Indonesia (0.684, 108th), the Philippines (0.660, 117th), and Vietnam (0.638, 121st) are ahead of India (0.586, 135th), and followed by Cambodia (0.584, 136th), which are all classified as countries with “medium human development.”

*Exhibit 18* shows the relationship between human development and the GCI. The correlation between the two is 0.78, indicating a close relationship. Malaysia, Thailand, and Indonesia are situated well above the fitted line, indicating that their human development is higher than the GCI would predict. This potentially reflects their move up the value chain of manufacturing.



**Exhibit 17: Human Development in Southeast Asia**

Source: United Nations Development Program (UNDP), *Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*, New York, 2014.



**Exhibit 18: Human Development and the GCI in Southeast Asia**

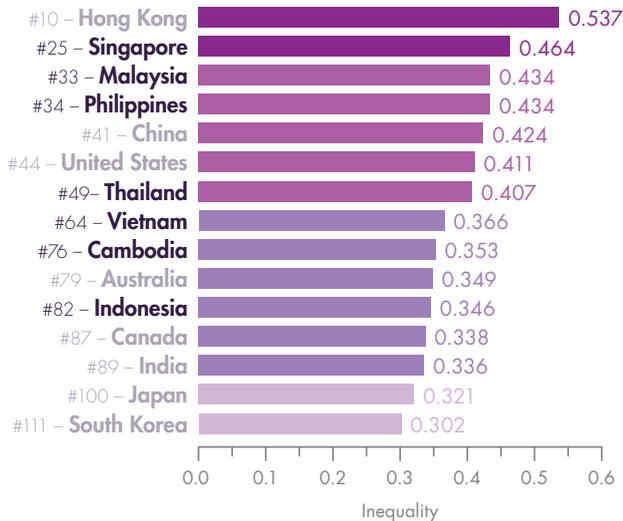
Source: The GCI is from *The Global Creativity Index 2015*, 2015; The Human Development Index is from the United Nations Development Program, *Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*, New York, 2014.

### Inequality in Southeast Asia

Inequality — the economic gap between the rich and the poor — has surged across the world. We measure it based on the Gini coefficient, the conventional metric for income inequality. It is measured on a 0 to 1 scale where higher values indicate higher levels of inequality.<sup>18</sup> Exhibit 19 shows levels of inequality for Southeast Asian nations and their global benchmarks.

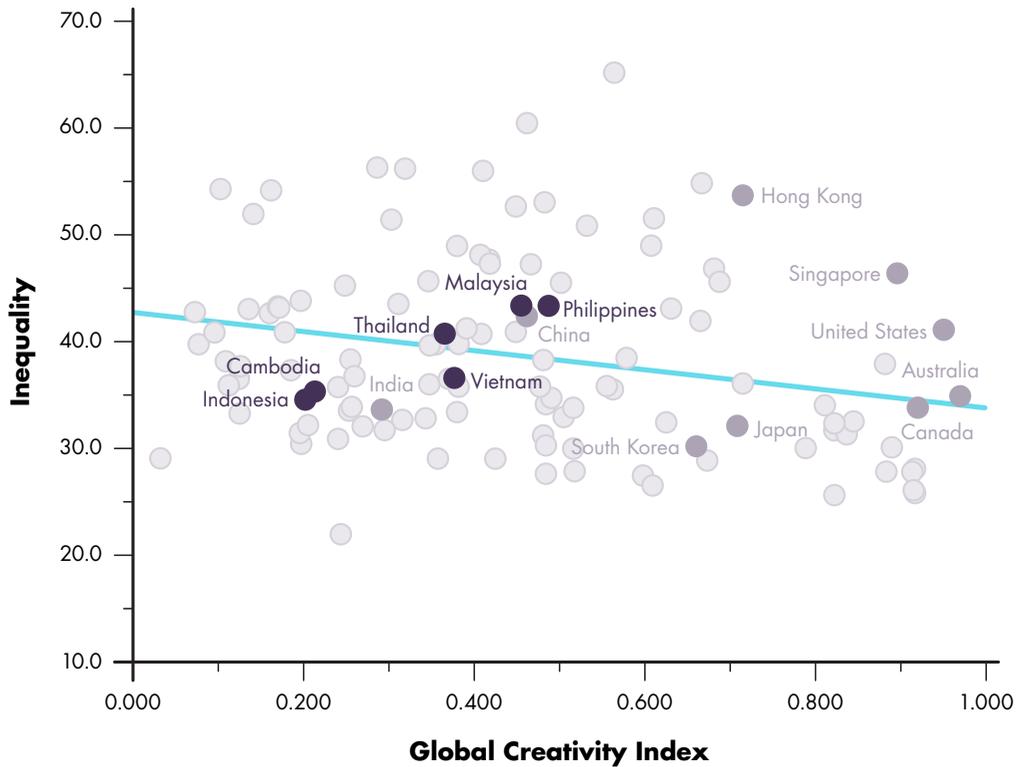
Singapore (0.464, 25th) has the highest level of inequality in Southeast Asia and one of the highest levels among the advanced nations in

the world, comparable to Hong Kong (0.537, 10th). Malaysia (0.434, 33rd), the Philippines (0.434, 34th), and Thailand (0.407, 49th) also have high levels of inequality, comparable to China (0.424, 41st) and the United States (0.411, 44th). Vietnam (0.366, 64th), Cambodia (0.353, 76th), and Indonesia (0.346, 82nd) have lower levels of inequality, and are comparable to Australia (0.349, 79th) and Canada (0.338, 87th), but higher than India (0.336, 89th), Japan (0.321, 110th), and South Korea (0.302, 111th).



**Exhibit 19: Inequality in Southeast Asia**

Source: World Bank, *World Development Indicators*, Gini Index, 2004–2013; Central Intelligence Agency (CIA), *The World Factbook*, Distribution of Family Income — Gini Index, 2011–2014.



**Exhibit 20: Inequality and the GCI in Southeast Asia**

Source: The GCI is from *The Global Creativity Index 2015*, 2015; Inequality based on the Gini coefficient is from the World Bank, *World Development Indicators*, *Gini Index*, 2004–2013 and *The CIA World Factbook*, *Distribution of Family Income – Gini Index*, 2011–2014.

*Exhibit 20* shows the relationship between inequality and the GCI. Here, the line slopes more gently and downward to the right, indicating a negative association between the two. The correlation is  $-0.25$ , indicating a modest negative relationship between inequality and the GCI. In other words, more developed nations that score higher on the GCI, are overall more equal. Singapore is on the far right hand side of the graph, near Hong Kong and above the United States and other advanced nations. The Philippines, Malaysia, Vietnam, and Thailand occupy a more middle position similar to China, with Cambodia and Indonesia further down, similar to India. Singapore, Malaysia, the Philippines, and Thailand are sit-

uated above the fitted line, indicating that their levels of inequality are higher than their GCI scores would predict. These countries can be said to have a low-road path to inequality and economic development, similar to that of the United States, where higher levels of creative economic development go along with higher levels of inequality. Vietnam, Cambodia, and Indonesia are situated below the fitted line, indicating that their level of inequality is lower than their GCI score would predict. This is in line with the high-road path taken by Scandinavia and Northern European nations as well as Japan and South Korea, where higher levels of creative economic development go along with lower levels of inequality.

# Urbanization and Global Cities in Southeast Asia

Urbanization, economic development, and the rise of the middle class have historically gone hand in hand. As the nations of the West urbanized during the nineteenth and twentieth centuries, their economies developed and their urban middle classes grew.

Up until now, the world has gone through two great waves of urbanization. The first occurred in the West, and the second is the more recent urbanization of China. Southeast Asia promises to be the third great wave of urbanization. The region's urban population has grown from 82 million in 1980 to 280 million people in 2015 and is projected to increase to 373 million by 2030. Southeast Asia's 280 million urbanites are comparable to that of the United States, who the region is projected to overtake in the next decade and a half.<sup>19</sup>

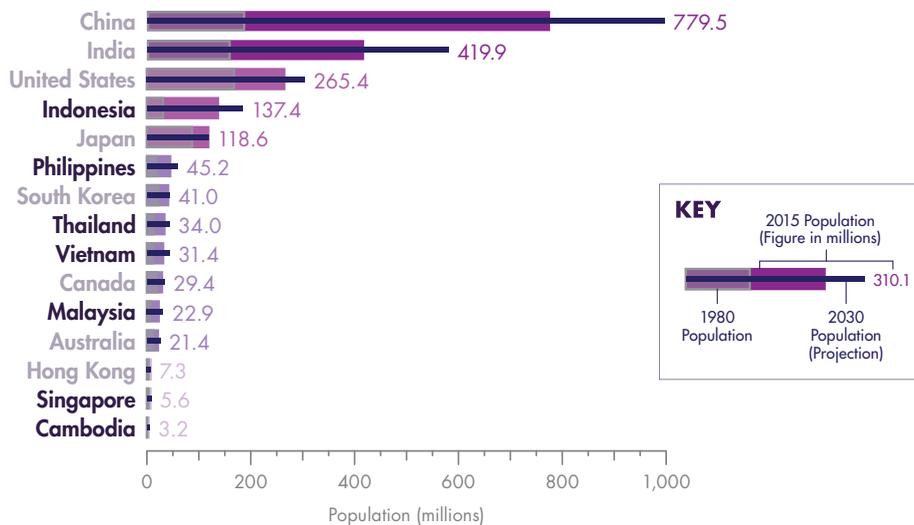
## Urban Population in Southeast Asia

*Exhibit 21* shows the growth of the urban population in Southeast Asian nations and their global benchmarks in 1980, 2015, and projected out to 2030.

With 137.4 million urban residents, Indonesia accounts for almost half (49 percent) of Southeast Asia's urban population. It is followed by the Philippines (45.2 million), Thailand (34.0 million), and Vietnam (31.4 million, about the same as Canada), Malaysia (22.9 million, about the same as Australia), Singapore (5.6 million), and Cambodia (3.2 million).

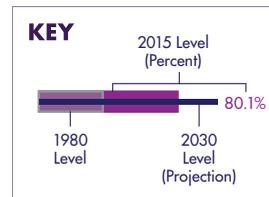
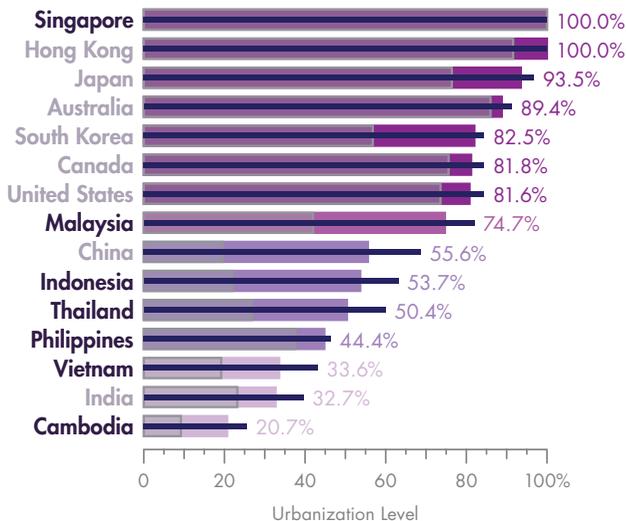
## Urbanization Levels in Southeast Asia

Next we look at the share of the population that lives in urban areas, the so-called urbanization rate.<sup>20</sup> Urbanization is a key factor in the rise of a middle class, with higher rates of urbanization typically signalling a larger urban middle class. *Exhibit 22* shows how the Southeast Asian countries and their global benchmarks stack up in terms of their urbanization rates, or share of population that is urban, in 1980, 2015, and projected out to 2030.



**Exhibit 21: Urban Population in Southeast Asia**

Source: United Nations, *World Urbanization Prospects, 2014 revision, Urban Population at Mid-Year by Major Area, Region and Country, 1950–2050, 2014.*



**Exhibit 22: Urbanization Level in Southeast Asia**

Source: United Nations, *World Urbanization Prospects*, 2014 revision, [Percentage of Population at Mid-Year Residing in Major Area, Region and Country, 1950–2050](#), 2014.

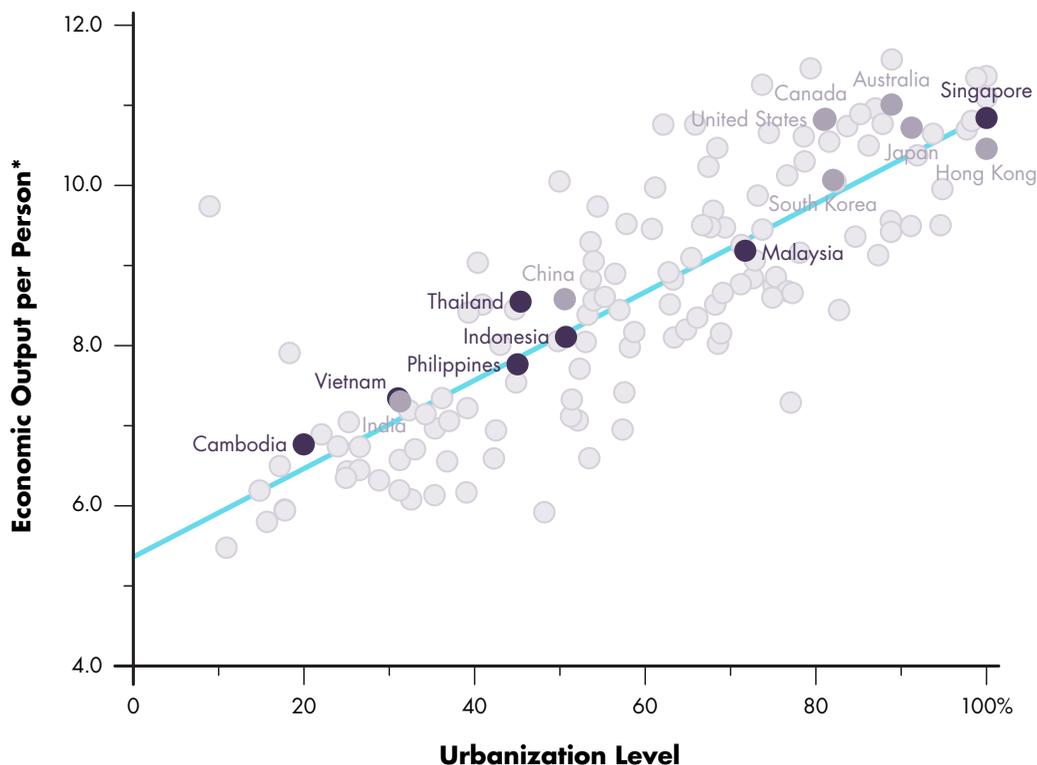
Topping the list is Singapore where 100 percent of the population is urbanized. The city-state is ahead of Japan (93.5 percent), Australia (89.4 percent), Canada (81.8 percent), and the United States (81.6 percent). Malaysia, where three-quarters of the population is urbanized, is next, not far off that of the United States and other advanced nations. About half the population is urbanized in Indonesia and Thailand, and 44 percent of the population in the Philippines is urbanized. A third of the population of Vietnam is urbanized while just a fifth of the population is in Cambodia.

These urbanization rates are projected to grow considerably by 2030. By that time, Malaysia is projected to have an urban share of more than 80 percent — similar to the current level of urbanization in Canada and the United States. Indonesia and Thailand's urbanization levels are projected to grow to more than 60 percent, not far behind that of China (68.7 percent). Urbanization is projected to slightly grow in the Philippines to 46 percent, while Vietnam is projected to significantly urbanize and cross 40 percent while urbanization in Cambodia is expected to grow to roughly a quarter of the population.

### Urbanization and Economic Development in Southeast Asia

Urbanization is a factor in economic development and the development of a large middle class. In the advanced nations, both have occurred in tandem over the past century or so. But economists worry that this historical relationship may be weakening. We may be entering a new phase of development where urbanization is not necessarily associated with higher levels of economic growth and a rising middle class. This has been referred to as “urbanization without growth.”<sup>21</sup>

*Exhibit 23* shows the association between urbanization and economic output per person.<sup>22</sup> The fitted line slopes upward, indicating a positive relationship between the two, and the correlation is 0.82, indicating a substantial association between urbanization and economic output per person. Singapore is in the upper right hand corner, alongside the United States and other advanced nations, followed by Malaysia. Thailand, Indonesia, and the Philippines are toward the middle of the graph, similar to China, with Vietnam and Cambodia lower down toward the bottom left. Singapore and Malaysia are located below the fitted line, indicating that their levels of urbanization are slightly higher than their levels of economic output per person would predict. The Philippines and Indonesia are located on the line. Thailand, Vietnam, and Cambodia are located above the line, indicating that their levels of urbanization are a bit less than their level of economic output per person would predict.



**Exhibit 23: Economic Output per Person and Urbanization in Southeast Asia**  
 Note: \*Logged.

Source: Economic output per person is from the World Bank, *World Development Indicators*, [GDP Per Capita](#), 2010–2012, and urbanization is from the World Bank, *World Development Indicators*, [Urban Population](#), 2010–2012.

### Global Cities in Southeast Asia

In the globally connected knowledge economy, global cities are key to the economic success of nations. Cities like New York, London, Tokyo, and Paris play a substantial role in the wealth and innovativeness of their respective nations. How do the Southeast Asian nations stack up as global cities?

*Exhibit 24* lists the seven largest global cities in Southeast Asia along with their international benchmarks according to their population sizes in 1980, 2015, and their projected sizes for 2030.<sup>23</sup>

Two metros in Southeast Asia have more than 10 million people: Manila with 13.0 million

and Jakarta with 10.3 million. Four others have populations between five and 10 million: Bangkok (9.3 million), Ho Chi Minh City (7.3 million), Kuala Lumpur (6.8 million), and Singapore (5.6 million).

In 2030, four metros in Southeast Asia are projected to have populations greater than 10 million. Manila will grow to 16.8 million people, followed by Jakarta (13.8 million), Bangkok (11.5 million), and Ho Chi Minh City (10.2 million). Kuala Lumpur will have a population close to 10 million (9.4 million) while Singapore will be approaching seven million (6.6 million).

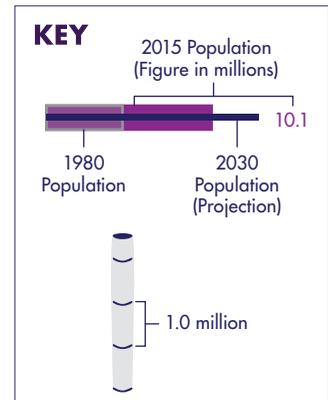
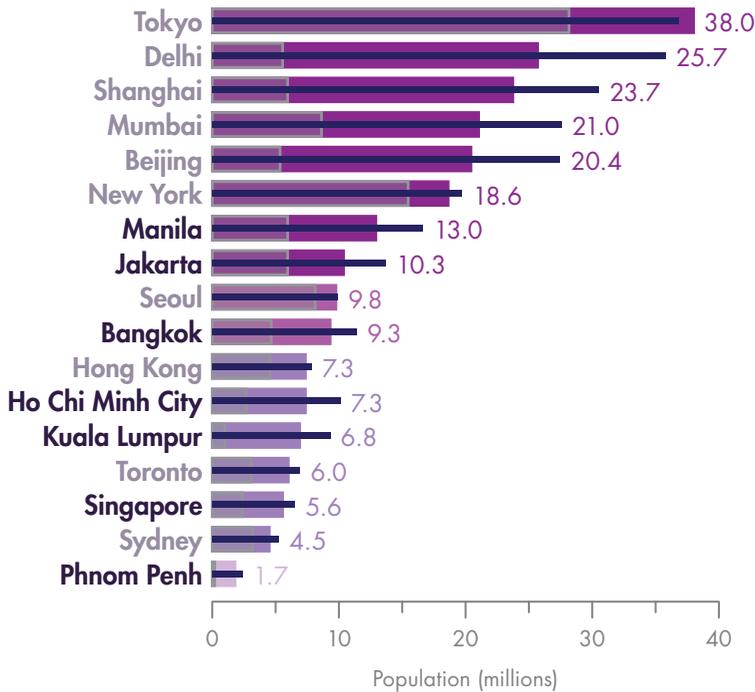
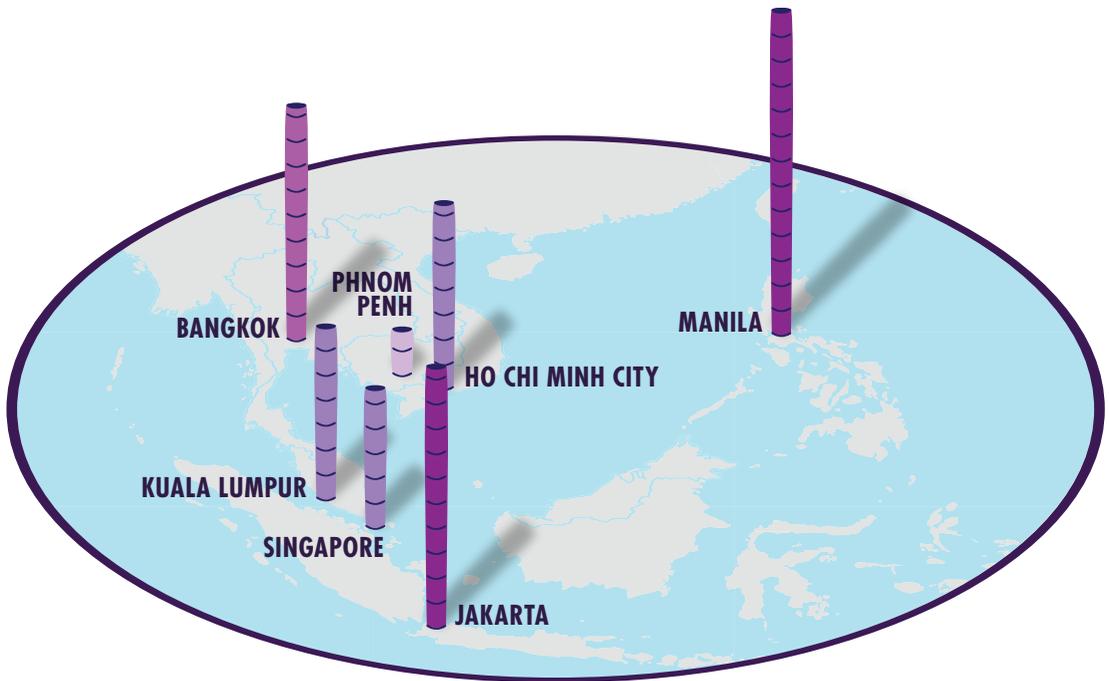


Exhibit 24: Population of Global Cities in Southeast Asia

Source: United Nations, *World Urbanization Prospects, 2014 revision, Population of Urban Agglomeration with 300,000 Inhabitants or More in 2014, by Country, 1950–2030, 2014.*

## Economic Output of Southeast Asian Metros

Population is a key measure of size. But cities can be large and poor, small and affluent, or anywhere in between. So it is useful to look at the economic size of Southeast Asian metros based on their economic output or metropolitan GDP.<sup>24</sup> *Exhibit 25* compares Southeast Asia's metros to their global benchmark metros on this metric. Southeast Asia's metros reflect the region's tiered development pattern. Singapore occupies the top tier with economic output of \$366 billion, more than Milan (\$313 billion). Jakarta is next with metro output of \$321 billion, followed by Bangkok with \$307 billion, more than Toronto (\$276 billion), Miami (\$263 billion), or Frankfurt (\$230 billion). Manila and Kuala Lumpur occupy a third tier with \$183 billion and \$172 billion in economic output respectively, more than Stockholm (\$143 billion) and Stuttgart (\$158 billion). Ho Chi Minh City occupies a fourth tier with \$71 billion in economic output, slightly less than Turin (\$78 billion) and Oslo (\$74 billion).

But, how important are these metro areas to their overall national economies? We get at this by looking at their share of national economic output as shown in *Exhibit 26*.<sup>25</sup>

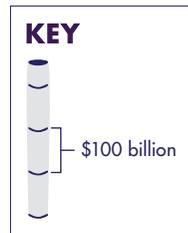
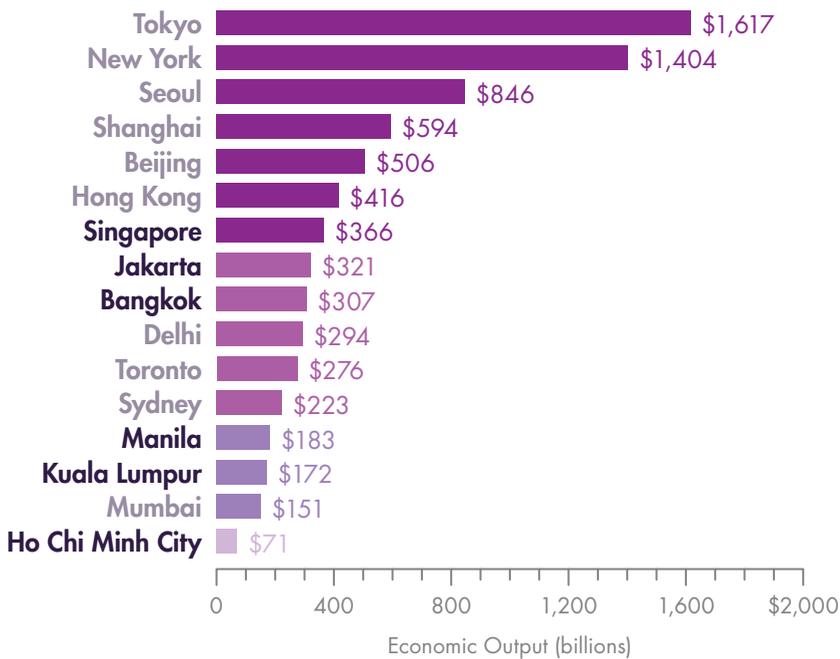
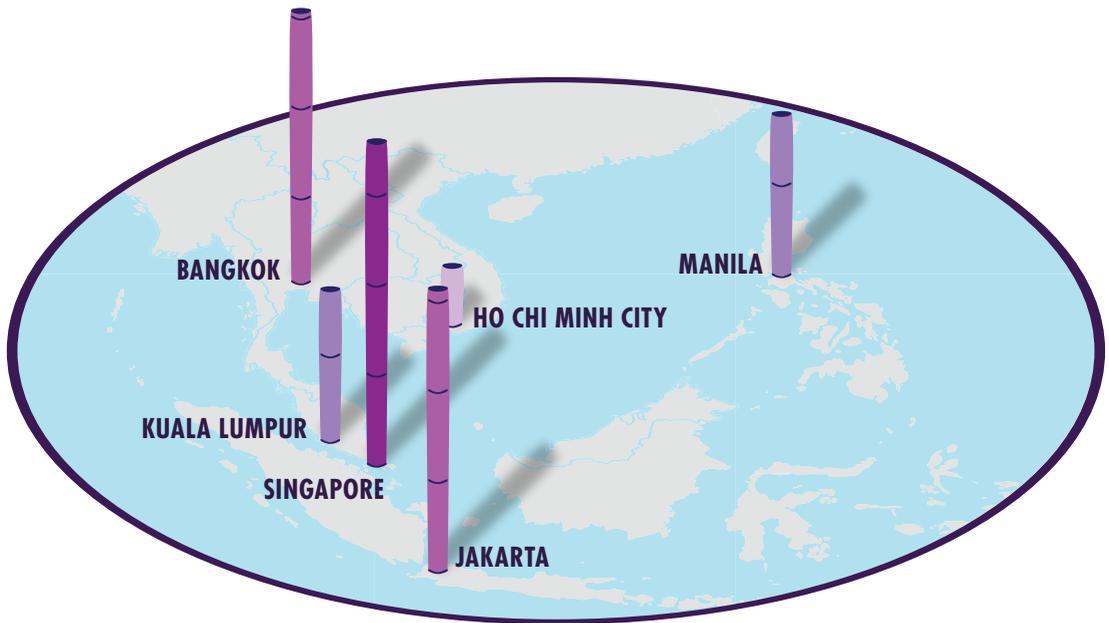
Southeast Asia's leading metros account for strikingly high levels of their country's economic output, much higher than cities and metros in the advanced Western nations. Bangkok accounts for more than three quarters (75.9 percent) of Thailand's economic output. Manila accounts for almost two-thirds (64.2 percent) of all economic output in the Philippines and Kuala Lumpur (50.8 percent) half of Malaysia's economic output. Jakarta (36.1 percent) and Ho Chi Minh City (38.2 percent) account for more than a third of their country's economic output. This is about the same as Tokyo (35.2

percent) and much greater than for Toronto (15.5 percent), New York (8.1 percent), Shanghai (5.7 percent), or Beijing (4.9 percent). It is safe to say that the economies of the Southeast Asian nations literally turn on the performance of these cities and metro areas.

Economic output provides a gauge of overall economic strength, but economic output per person provides an even better gauge of productivity and of the development of a middle class. *Exhibit 27* lists the seven major Southeast Asian cities according to their economic output per person.

With \$66,864, Singapore has the highest economic output per person among Southeast Asian metros. It numbers among the world's richest places, higher than Hong Kong (\$57,244), significantly higher than Sydney (\$46,344), Toronto (\$45,771), and Tokyo (\$43,664), but lower than New York City (\$69,915).

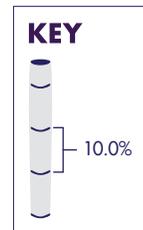
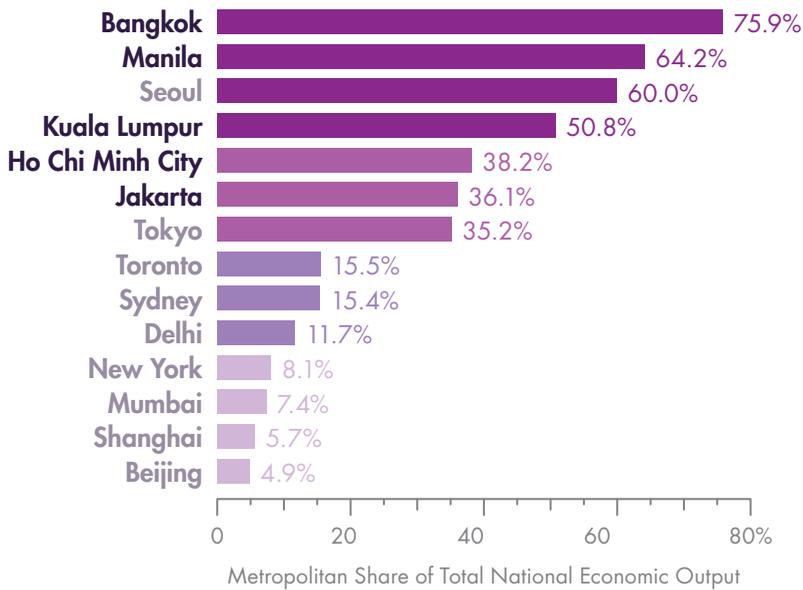
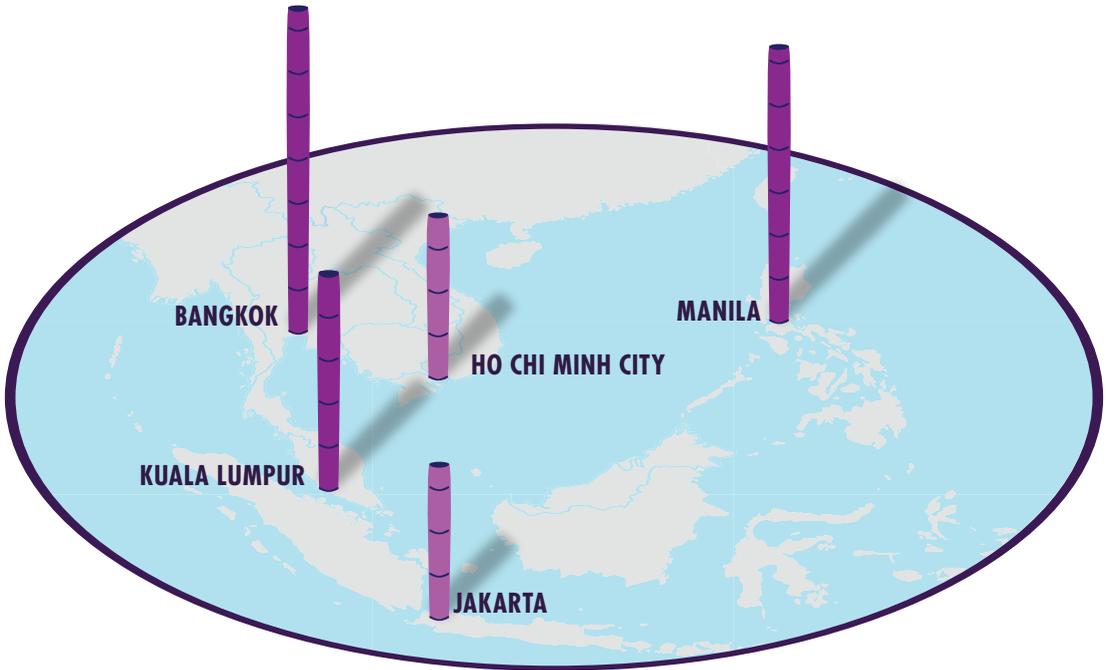
The remaining metros are quite a bit behind. Kuala Lumpur is next with a per person economic output of \$28,076, less than half of Singapore, though it is higher than Shanghai (\$24,065) or Beijing (\$23,390). It is followed by Bangkok (\$19,705), Manila (\$14,222), Jakarta (\$9,984), and Ho Chi Minh City (\$8,660).



**Exhibit 25: Metropolitan Economic Output in Southeast Asia**

Note: Economic output is metropolitan GDP in purchasing power parity terms. Metropolitan GDP is not available for Phnom Penh.

Source: Brookings Institution, *2014 Global Metro Monitor*, 2015.



**Exhibit 26: Metropolitan Share of Total National Economic Output in Southeast Asia**

Note: Economic output is metro GDP in purchasing power parity terms. National GDP is at purchaser's prices in current US dollars. Metro GDP Data is not available for Phnom Penh. Singapore and Hong Kong are city-states where metro and national GDP are essentially the same by definition.

Source: Brookings Institution, *2014 Global Metro Monitor*, 2015; World Bank, *World Development Indicators*, *GDP*, 2014. GDP is in current US dollars.

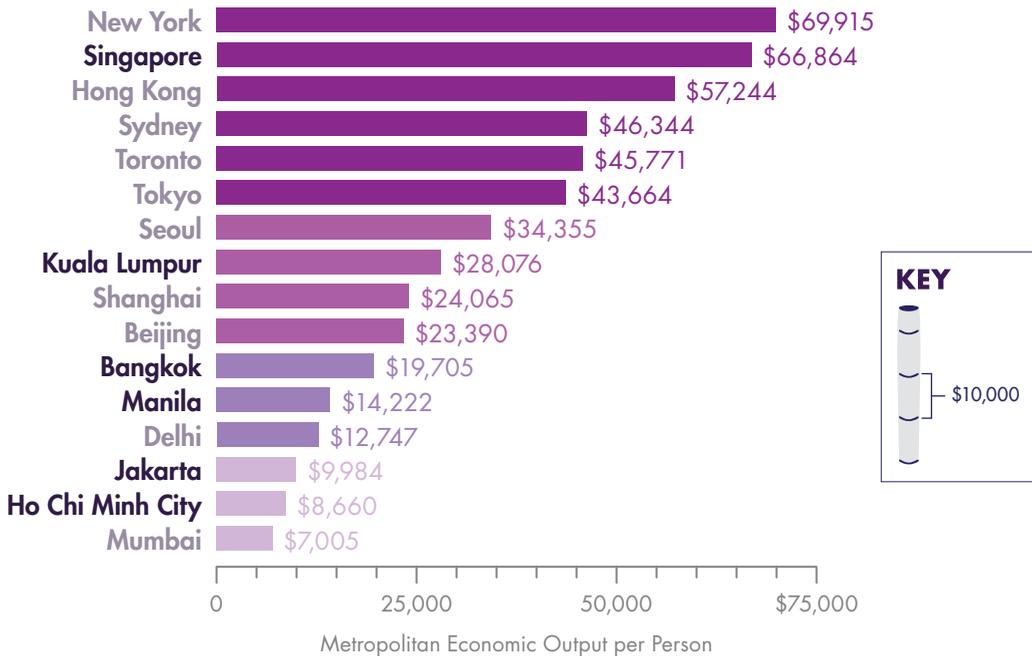
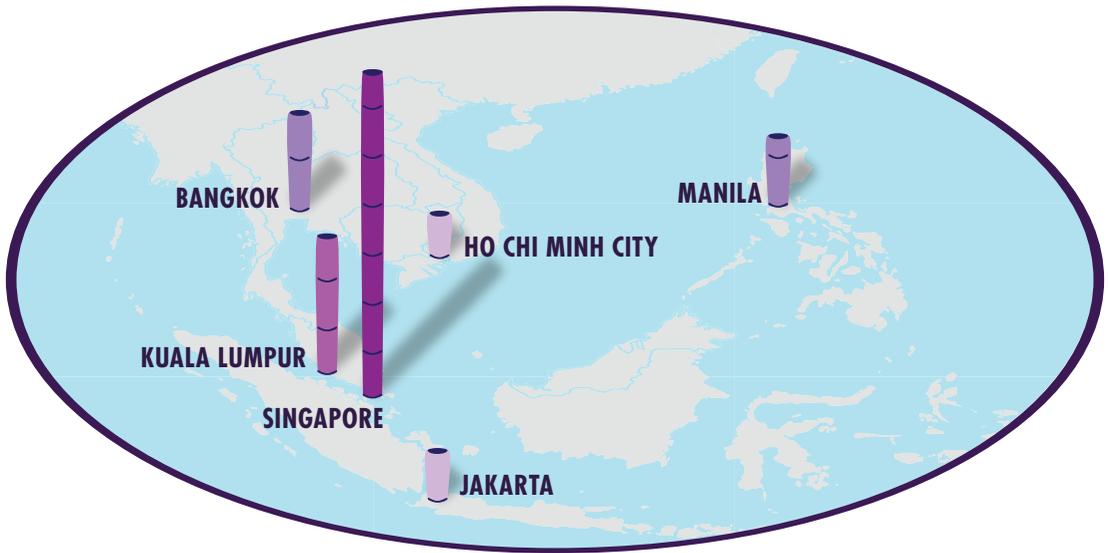


Exhibit 27: Metropolitan Economic Output per Person in Southeast Asia

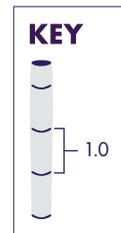
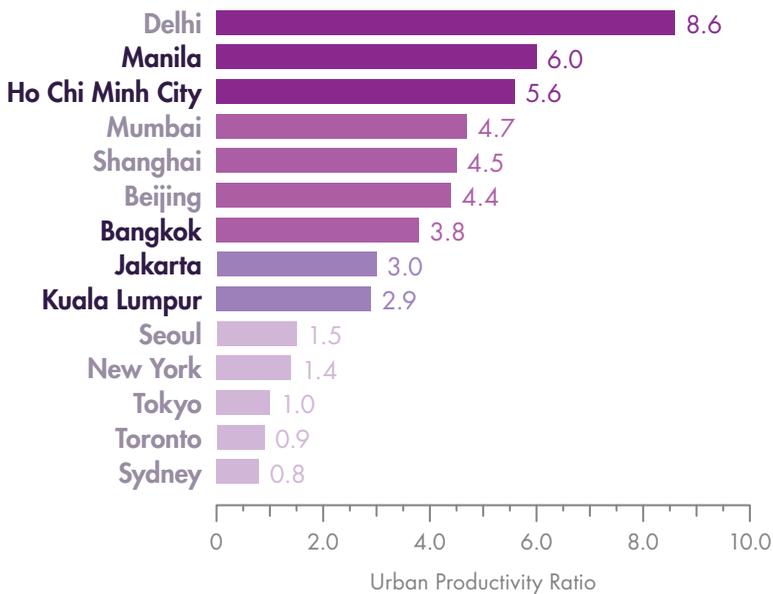
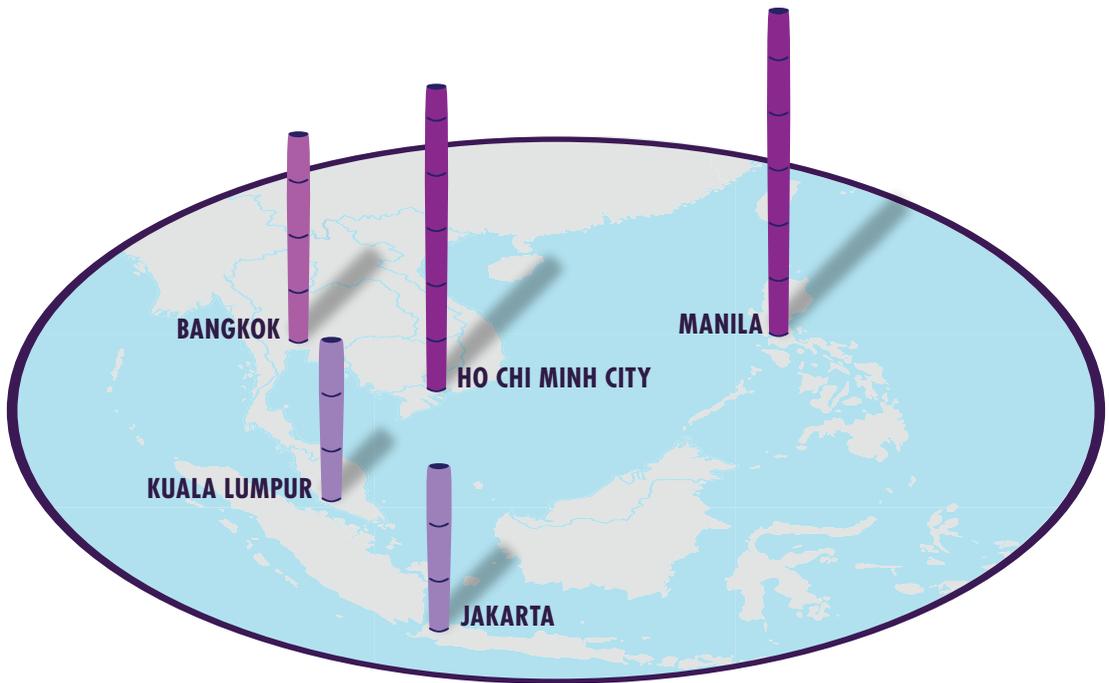
Note: Metropolitan economic output is not available for Phnom Penh.

Source: Brookings Institution, *2014 Global Metro Monitor*, 2015.

## The Urban Productivity Ratio in Southeast Asia

Another way to capture this city-based edge is through a measure we call the “urban productivity ratio.”<sup>26</sup> Basically, this measure compares the productivity of cities to that of their nation. Specifically, it is a ratio of the per person economic output of a city to that of its nation. The higher the ratio, the greater the difference in productivity between a major city and the country as a whole. In the United States and the advanced nations, the most productive cities have urban productivity ratios between 1.5 and 2.0. *Exhibit 28* lists the urban productivity ratios for the seven key Southeast Asian metros and their global benchmarks.<sup>27</sup>

Comparing the urban economic output per person to the national economic output per person reveals the differences in living standards and economic development levels between metros and the rest of the country. All Southeast Asian cities have significantly higher economic output per person than their country. Manila and Ho Chi Minh City’s economic output per person are six times higher than that of their countries. Bangkok’s is almost four times higher than Thailand’s, while Jakarta and Kuala Lumpur’s are three times higher than that of Indonesia and Malaysia.



**Exhibit 28: The Urban Productivity Ratio in Southeast Asia**

Note: Metro Economic output is not available for Phnom Penh. Singapore and Hong Kong are city-states where metro and national economic output are essentially the same by definition.

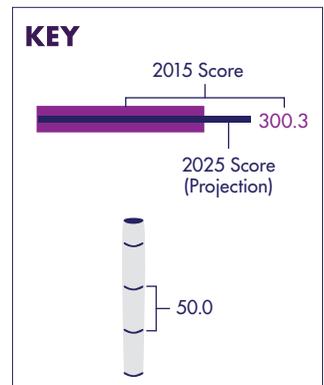
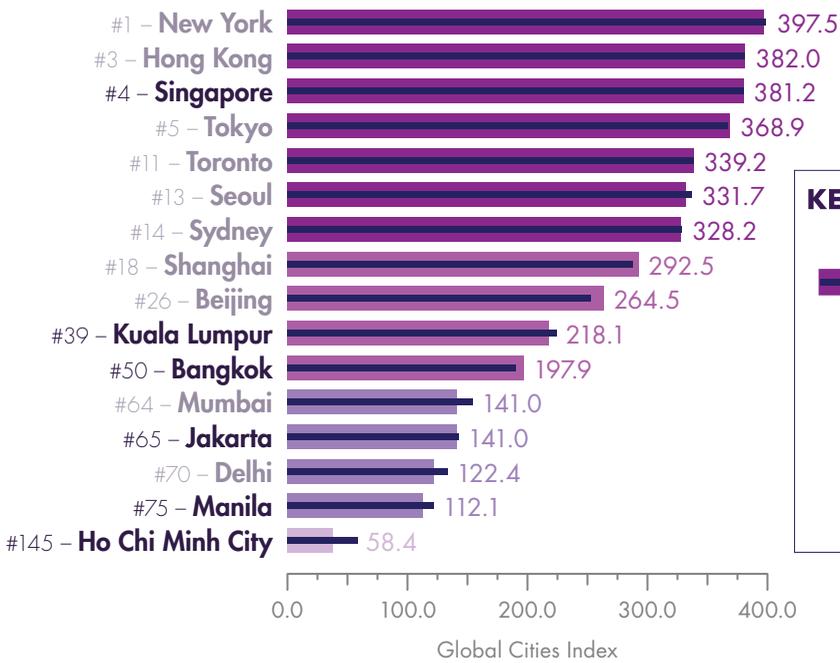
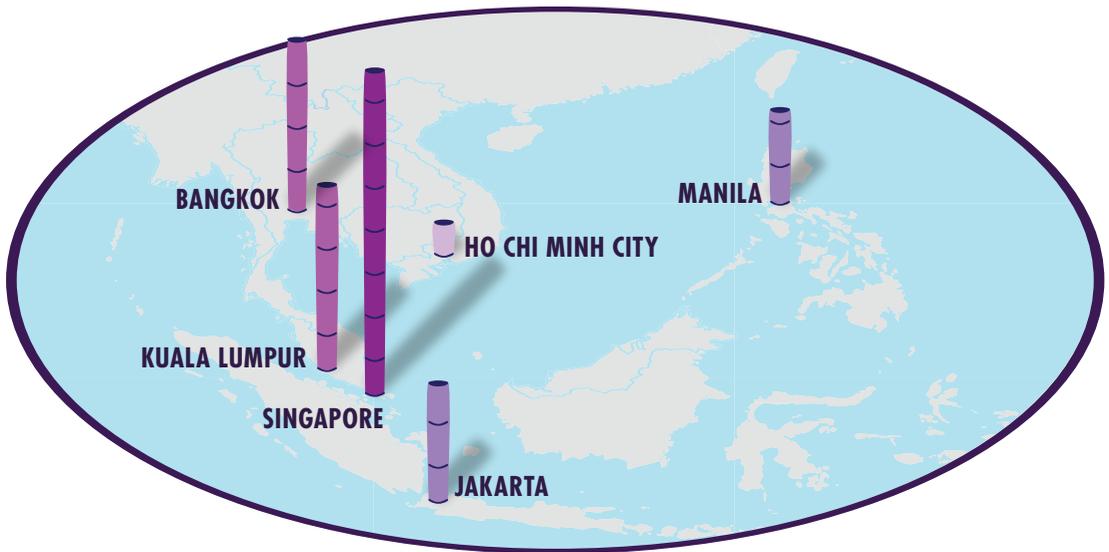
Source: Brookings Institution, *2014 Global Metro Monitor*, 2015; *World Development Indicators*, *GDP Per Capita*, 2010–2012.

## The Global Cities Index in Southeast Asia

But how do Southeast Asian cities compare to the great global cities of the world?

To get at this, we developed a Global Cities Index by combining four key indicators and rankings that cover: (1) their economic output, (2) the strength of their banking and finance industries, (3) their overall economic competitiveness, and (4) their quality of place.<sup>28</sup> The ranking in *Exhibit 29* provides an approximation of a metro's position in the global urban hierarchy today and projected for 2025, compared to their global benchmarks.

Singapore takes the top spot among South Asian global cities. It ranks fourth, with a score of 381.2 and closely behind New York and Hong Kong, but ahead of Tokyo, Toronto, Seoul, and Sydney. The second tier includes Kuala Lumpur (218.1, 39th) and Bangkok (197.9, 50th) which are behind Shanghai (292.5, 18th) and Beijing (264.5, 26th). Jakarta (141.0, 65th) and Manila (112.1, 75th) comprise the third tier, on par with Mumbai (141.0, 64th) and Delhi (122.4, 70th) and still within the top 25 percent of all 338 cities. Ho Chi Minh City (58.4, 145th) occupies a fourth tier, but still within the top 50 of all 339 cities. Phnom Penh is not yet recognized as a global city. The rankings are similar in our projections out to 2025.



### Exhibit 29: Global City Index in Southeast Asia

Note: Data are not available for Phnom Penh

Source: The Global City Index is based on the following sources (the Appendix provides further detail on it): Brookings Institution, *2014 Global Metro Monitor*, 2015; Z/Yen Group, *Global Financial Centres Index 15*, 2014; A.T. Kearney, *2014 Global Cities Index*, 2014; *The Economist's Hot Spots 2025*, 2013.

# Conclusion

This report has examined the rise of an urban creative class in Southeast Asia and its cities. It finds that Southeast Asia can be divided into four tiers of development.

Singapore occupies the first tier. With \$51,149 in economic output per person it is one of richest and most developed nations in the world — ahead of Canada (\$50,555) and the United States (\$49,989). Singapore's biggest constraint to continuing strong creative economy development is its lower level of tolerance, especially of the gay and lesbian community, which will certainly limit its ability to attract and retain talent from other nations, and compete with the most open nations in the world.

Malaysia and the Philippines occupy a second tier with economies that are developing rapidly and a substantial middle class. The creative class makes up a quarter of Malaysia's workforce and a fifth of that of the Philippines, approaching the levels of advanced nations. They rank among the top 50 or so of the world's nations, both in terms of their share of creative class workers and performance on the Global Creativity Index. Malaysia has a level of economic output per person (\$9,748) which places it among the world's "upper-middle income" nations. Roughly three-quarters of its population is urbanized, not far off that of the United States and advanced nations.

Thailand and Vietnam fall into a third tier. The creative class comprises roughly 10 percent of their workforces. They rank among the lower half of nations globally both in terms of their creative class and Global Creativity Index.

Indonesia and Cambodia occupy a fourth tier of development. While Indonesia's creative

class keeps up with Thailand and Vietnam, its performance on the Global Creativity Index falls back. Cambodia's four percent share of creative class workers is just half of Indonesia's, while its creative economy development is still nascent. With per person economic output of \$869, Cambodia ranks among the world's "low-income" nations. Just a fifth of Cambodia's population is urbanized, much lower than other Southeast Asian nations

Our research also examined the status of the region's largest cities and metro areas. The region has two mega-cities with populations bigger than 10 million: Manila and Jakarta. Four others have populations between five and 10 million: Bangkok, Ho Chi Minh City, Kuala Lumpur, and Singapore. By 2030, four cities in Southeast Asia are projected to have populations greater than 10 million. Manila and Jakarta, plus Bangkok and Ho Chi Minh City. Kuala Lumpur will have a population close to 10 million while Singapore will be approaching seven million.

Southeast Asia's cities and metros also reflect the region's tiered development pattern.

Singapore occupies the top tier. With economic output of \$66,864 per person, it is one of the most prosperous and advanced cities on the planet, ranking just below New York City and ahead of Tokyo, Toronto, Seoul and Hong Kong. It ranks as the fourth most advanced global city in the world behind only New York, London and Tokyo.

Kuala Lumpur occupies a second tier with economic output of \$28,076 per person, more than Shanghai (\$24,065) or Beijing (\$23,390). This is considerably nearly three times bigger than

Malaysia as a whole (\$9,748). With \$172 million in total economic output, more than Stuttgart (\$158 million) or Stockholm (\$143 million) it generates more than half (50.8 percent) of Malaysia's GDP. Kuala Lumpur is three times as productive as Malaysia. It ranks 39th on the Global City Index, not too far behind Beijing.

Bangkok and Manila fall into the third tier, with economic output per person of \$19,705 and \$14,222 respectively, considerably greater than for Thailand (\$5,158) or The Philippines (\$2,360) as a whole. Bangkok's economic output is \$307 billion, more than Miami (\$263 billion) or Frankfurt (\$230 billion), and accounts for more than three quarters of Thailand's total GDP. Manila generates \$183 billion in economic output, more than Stockholm (\$143 billion), which makes up nearly two-thirds of the Philippine's GDP. Bangkok is nearly four times more productive than Thailand as a whole, and Manila six times more productive than the Philippines.

Jakarta and Ho Chi Minh City occupy the fourth tier with economic output per person of \$9,984 and \$8,660, which while lower than the other Southeast Asian cities is still considerably larger than for Indonesia (\$3,323) or Vietnam (\$1,544). With total economic output of \$321 billion, Jakarta is a bigger economy than Toronto (\$276 billion), while Ho Chi Minh City with \$71 billion in output is just slightly smaller than Turin (\$78 billion) or Oslo (\$74 billion). Both account for more than 35 percent of their respective national economies. Productivity in Jakarta is three times higher than for Indonesia as a whole, while it is more than five times higher in Ho Chi Minh City than for the Vietnamese economy.

So is urbanization helping to propel economic growth in Southeast Asia or not? The answer, from our research, is a qualified yes. That said, the level of economic development across the region and its cities is highly uneven, mirror-

ing the broader pattern of uneven development between the advanced nations and cities of the Global North and the struggling nations and cities of the Global South. The region spans Singapore, one of the most affluent and urbanized places on the planet, and Cambodia one of the very poorest.

There are two big takeaways that flow from our research which bear on the future growth of the middle class and the further economic development of Southeast Asia. The first is whether urbanization can continue to propel economic development and the rise of a new middle class. In the twentieth century, Western urbanization went hand in hand with economic development and rising living standards. This pattern repeated itself in China, helping the nation to become a leading world economy. It remains to be seen whether this path to growth and prosperity will hold for Southeast Asia. While some areas of Southeast Asia are urbanized and affluent, many others have yet to undergo this transformation. These less-developed parts of the region appear to be suffering from "urbanization without growth," urbanization is failing to lead to greater economic growth and the rise of the middle class. Today, many Southeast Asian cities face the challenge of transitioning from centers with eroding manufacturing and service based economies to more propulsive urban creativity- and knowledge-based economies.

The second revolves around the future growth of the new creative middle class. While some Southeast Asian nations have a sizeable creative class, in others it is just beginning to develop. It is harder today to develop a middle class based on blue-collar manufacturing. The urban middle class is either developing slowly or failing to develop in some Southeast Asian nations and cities. This will continue to be a critical challenge for the region, its nations, and cities for the future.

# Research, Variables, and Data

This appendix provides detail on the variables, indexes, and data sources used in this report. For the most part, these data cover the seven Southeast Asian nations and 139 nations for the period of 2010 to 2012. We sometimes use different years for different variables and utilize running averages, depending on the availability of data.

*Creative Class:* The creative class is calculated as the share of a country's labor force that is engaged in creative, knowledge-based, and professional occupations spanning computer science and mathematics; architecture, engineering; life, physical, and the social sciences; education, training, and library science; arts and design work, entertainment, sports, and media; and professional and knowledge work occupations in management, business and finance, law, sales management, and healthcare. The [Labour Statistics](#) are from the International Labour Organization (ILO), covering the years 2010 to 2012, except for Singapore and New Zealand, where the values are for the period 2004–2007.

*Educational Attainment:* This variable is based on a measure of “gross tertiary enrollment.” [Tertiary education](#) includes universities, colleges, community colleges, technical training institutes, and other post-secondary institutions. Specifically, we use the conventional measure of the “gross tertiary enrollment ratio” which is the ratio of all those involved in tertiary education compared to the age group spanning five years after leaving secondary school. The data are from the World Bank's [World Development Indicators](#) for the period 2010 to 2012.

*Talent Index:* The Talent Index combines these two variables in a single index based on the

rank of each. The correlation between the creative class and educational attainment variables is 0.64.

*Innovation:* The variable for global innovation is based on patent applications per million people. The data are from the World Bank's [World Development Indicators](#) for the period 2010–2012.

*R&D Investment:* This variable measures R&D investment as a share of economic output or GDP. It includes R&D expenditures for basic research, applied research, and experimental development. The data are from the World Bank's [World Development Indicators](#) for the period 2010–2012.

*Technology Index:* The Technology Index combines these two variables into a single measure. It is based on the ranks of the variables; a country must have a value for at least one of the two variables in order to create a technology index score. The correlations between R&D investment and global innovation is 0.57.

*Tolerance Toward Ethnic and Racial Minorities:* The variable is based on the survey question “Is your city or area a good or bad place to be in for ethnic and racial minorities?” from the Gallup Organization's [World Poll](#). The World Poll survey is based on approximately 1,000 interviews per country (adjusted for population size) which are conducted in approximately 150 countries. The sample represents roughly 95 percent of the world's adult population and is stratified proportionally, with the distribution of the population across cities and rural areas of different sizes. The target population is all civilian, non-institutionalized, and ages 15 years or older.

*Tolerance toward the Gay and Lesbian Community:* This is based on the survey question “Is your city or area a good or bad place to be in for gays and lesbians?” from the Gallup Organization’s [World Poll](#).

*Global Creativity Index:* The Global Creativity Index is a composite index based on the three overall indexes for talent, technology, and tolerance. We rank each by giving the highest value to the top performer. We then add the ranks together and divided by three. In cases where a value for only two of the three variables was available, these two were added and divided by two. To create the overall index score, we divide the average score of the 3Ts by the number of observations overall.

*National Economic Output Per Person:* This variable is based on the conventional measure of economic output based on gross domestic product or GDP. We use the average for the years 2010 to 2012 and all values are expressed in US dollars. Data are from the World Bank’s *World Development Indicators* [GDP Per Capita](#), 2010–2012.

*Economic Competitiveness:* This variable is based on the [Global Competitiveness Index](#) developed by Michael Porter for the World Economic Forum.

*Entrepreneurship:* This variable is based on the [Global Entrepreneurship Index](#). The index is based on measures of entrepreneurial attitudes, activity, and aspiration.

*Human Development:* This variable based on the [United Nations Human Development Index](#), a composite measure which aims to capture three dimensions of human development: health and measured life expectancy, education level, and standard of living.

*Income Inequality:* This variable is based on the standard measure of income inequality — the Gini Coefficient. The Gini Coefficient ranges from 0 to 1, with higher values indicating higher levels of inequality. The data are from the World Bank’s [World Development Indicators](#) and is an average for the years 2004–2013, and the Central Intelligence Agency (CIA)’s *The World Factbook* [Distribution of Family Income — Gini Index](#), with values mostly for the years 2011–2014.

*Urban Population:* Urban population refers to people living in urban areas as defined by national statistical offices. This data is from the United Nations’ *World Urbanization Prospects*, 2014 revision. The variable is [Urban Population at Mid-Year by Major Area, Region and Country, 1950–2050](#).

*Urbanization:* Urbanization refers to the percentage of people living in urban areas and cities. The data is from the United Nations’ *World Urbanization Prospects*, 2014 revision. The variable is [Percentage of Population at Mid-Year Residing in Major Area, Region and Country, 1950–2050](#).

*Urbanization and Economic Development:* The data are from the World Bank’s *World Development Indicators*, [GDP Per Capita](#), for 2010–2012, and [Urban Population](#), 2010–2012.

*Population of Global Cities:* The data is from the United Nations’ *World Urbanization Prospects*, 2014 revision. The variable is [Population of Urban Agglomeration with 300,000 Inhabitants or More in 2014, by Country, 1950–2030](#).

*Metropolitan GDP:* Economic output is metropolitan GDP in purchasing power parity terms. The data are from Brookings Institution’s [2014 Global Metro Monitor](#), 2015.

*Metropolitan Share of Total National Economic Output:* The metropolitan share of the total national economic product is based on metro GDP from the Brookings Institution's [2014 Global Metro Monitor](#), and the World Bank's World Development Indicators, [GDP](#), for 2014. GDP is in current US dollars. It is important to note that the methodology of calculating the GDP values differ in both sources.

*Metropolitan GDP Per Person:* The data for metropolitan GDP per person are from the Brookings Institution's [2014 Global Metro Monitor](#), 2015.

*Urban Productivity Ratio:* The urban productivity ratio measures the difference in productivity between per person metropolitan economic output based on data from the Brookings Institution's [2014 Global Metro Monitor](#), and the World Bank's *World Development Indicators* [GDP Per Capita](#), 2010–2012. The higher the ratio, the greater the difference is in productivity between the city in question and the country as a whole. It is important to note that the methodology of calculating the GDP values differ in both sources.

*Global City Index:* The Global City Index is based on the following measures: (1) Economic Power is based on economic output and economic output per capita from the Brookings Institution's, [2014 Global Metro Monitor](#); (2) Financial Power is based on [Global Financial Centres Index 15](#) which measures a range of factors related to a city's banking, finance, and investment industries; (3) Competitiveness is based on A.T. Kearney's [2014 Global Cities Index](#), which tracks elements of business activity, talent, and competitiveness; and (4) Competitiveness and Quality of Place based on *The Economist's* [Hot Spots 2025](#). We calculate a city's overall score as the sum of their scores on the individual indices which range from 1 to 100 with 100 being the highest score. We provide two rankings, for 2015 and for 2025.

*Research Travel:* This research is informed by field work, site visits, and in-person conversations with regional experts and senior level executives in Hong Kong and at the [New Cities Summit 2015](#) in Jakarta.

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# About the Authors

## Richard Florida

Richard is Director of Cities at the Martin Prosperity Institute at the University of Toronto's Rotman School of Management. He is also Global Research Professor at New York University, and a senior editor for *The Atlantic*, where he co-founded and serves as Editor-at-Large for *CityLab*.

## Melanie Fasche

Melanie is a Postdoctoral Fellow with the Cities team at the Martin Prosperity Institute at the University of Toronto's Rotman School of Management. She is leading the research project on "Urbanization and the rise of the creative/middle class in Southeast Asia".

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Martin Prosperity Institute  
Rotman School of Management  
University of Toronto  
105 St. George St., Ste. 9000  
Toronto, ON M5S 3E6

w [martinprosperity.org](http://martinprosperity.org)  
e [assistant@martinprosperity.org](mailto:assistant@martinprosperity.org)  
t 416.946.7300  
f 416.946.7606

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