Insights on...

DEMOGRAPHICS

IT'S MORE THAN JUST THE NUMBERS

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Northern Trust Global Investments
50 South La Salle Street
Chicago, Illinois 60603
northerntrust.com

James D. McDonald
Chief Investment Strategist
jxm8@ntrs.com

Daniel J. Phillips, CFA
Investment Analyst
dp61@ntrs.com

By 2050, the world's population is expected to top 9 billion. Where these people live, their ages, education and savings and investment rates have tremendous implications not only for their home country's productivity and gross domestic product (GDP) but also for the investment outlooks of companies domiciled there.

DRIVERS OF GROWTH

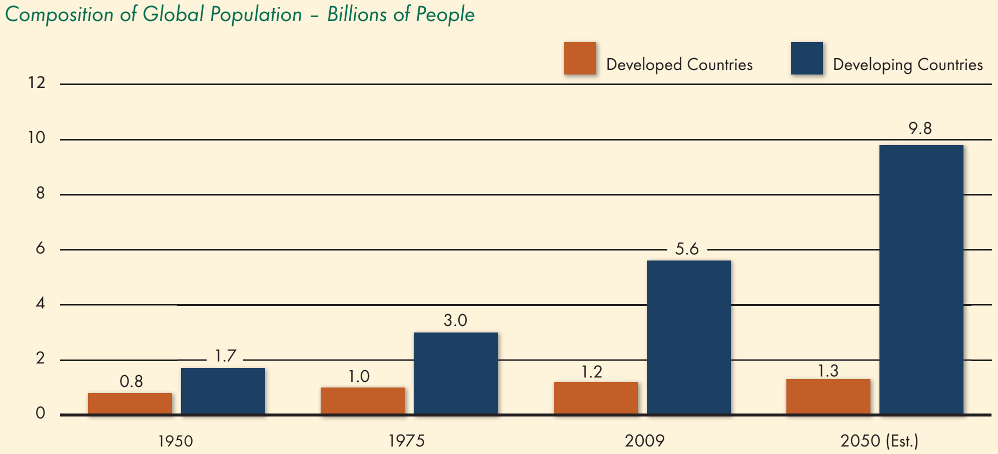
At its core, growth in an economy's GDP is a function of growth in the working-age population and productivity. Substantial evidence exists that the proportion of working-age citizens to dependents is a reliable driver of economic growth but one that may explain only one-fourth of overall increase in output. Additional factors contributing to economic growth include levels of savings, investment and productivity.

From this, we can draw several broad, noteworthy conclusions that may affect investment decisions:

- The growing importance of emerging market economies means they should play an important direct and indirect role in portfolios.
- Additionally, India's better long-term demographic picture may mean it increasingly will challenge China as the emerging market darling over the next decade.
- As developed economies struggle with high levels of indebtedness and aging populations, investment in those regions may benefit from a focus on exporters targeting emerging market growth.
- Relative to its developed counterparts, the United States appears to be better positioned to benefit from a growing population for decades to come.
- Finally, globalization is leading to an increased differentiation between companies and countries – a company's country of domicile is increasingly a misleading characterization of the business opportunities facing today's leading companies.

CHART 1: THE DEVELOPING EXPLOSION

Composition of Global Population – Billions of People



Source: United Nations, World Population Prospects, *2008 Revision.*

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Certain additional trends appear likely to dominate the global economy over the next several decades, as demographic trends are fairly predictable.

- People will be living (and working) longer than ever.
- As developing economies overshadow the developed economies in sheer scale, increasing proportions of the population will live in urban centers.
- And, as evidenced by growing immigrant populations in developed regions like the United States and Europe, we are likely to also see increasingly multicultural societies in the future.

POPULATION GROWTH

The current global population stands at approximately 6.8 billion people and is expected to rise to more than 9 billion people by 2050. Of the current population, 5.6 billion (82%) live in developing countries. Assuming a constant growth rate, the percentage of people living in countries currently classified as developing will grow to 89% by 2050. Doing the math, this leaves 18% of the population living in developed countries now and 11% living in developed countries in 2050. Challenging a constant growth rate assumption as countries develop are factors such as better contraception methods and the desire for fewer children, as families shift to urban environments from agrarian ones where offspring are needed to work the fields. However, even using the lowest fertility rates modeled by the United Nations (U.N.) for developing regions, while maintaining a constant growth rate for developed nations, results in an 85/15 split between the two regions, slightly more tilted toward developing countries versus the current 82/18 breakdown.

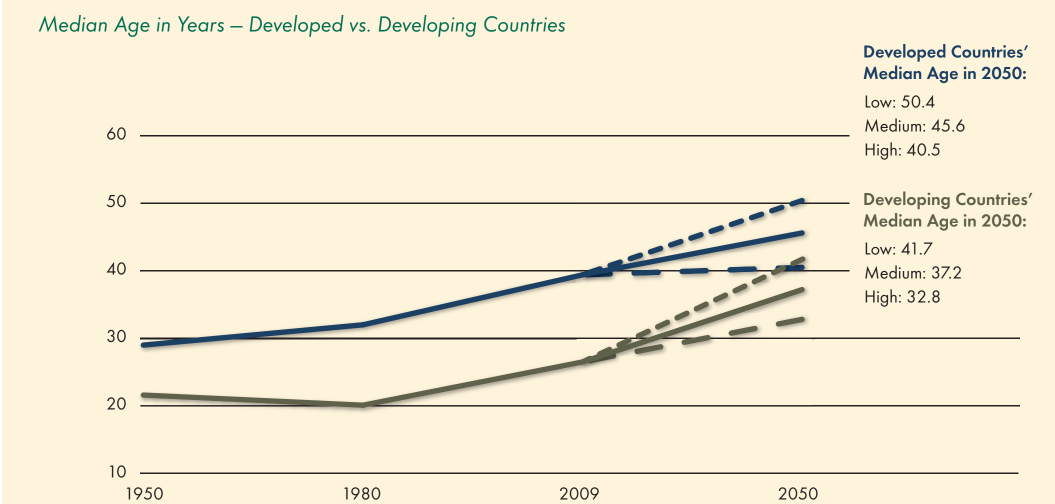
TABLE 1: POPULATION RANKINGS

LARGEST COUNTRIES RANKED BY POPULATION SIZE			
2009	POP (MIL)	2050 (EST)	POP (MIL)
China	1,346	India	1,614
India	1,198	China	1,417
United States	315	United States	404
Indonesia	230	Pakistan	335
Brazil	194	Nigeria	289
Pakistan	181	Indonesia	288
Bangladesh	162	Bangladesh	222
Nigeria	155	Brazil	219
Russia	141	Ethiopia	174
Japan	127	Congo	148

Source: United Nations, World Population Prospects, *2008 Revision.*

The world population is aging, most significantly in the developed countries. Better health care and falling birth rates mean the median age in developed countries may continue rising, with the attendant pension and health cost pressures on public finances. Looking at the age characteristics of each of these regions and using the median age as the gauge, we find that developing countries are considerably younger. Currently, the median age of a developing country inhabitant is 27 while the median age of a citizen of a developed country is 39 years. To forecast the median age of both developed and developing regions in 2050, the U.N. used three different fertility assumptions: low, medium and high. In the chart below, the medium (base case) assumption is represented by the solid line and is bracketed by the low and high (risk case) scenarios, shown as dotted lines. In both regions, median age is expected to increase, a result of moderately falling fertility levels and longer life expectancies. However, the median age in developing countries in 2050 will still be below the current median age in developed countries (and still very much in the "productive" years assumed to be between the ages of 15 and 59, as defined by economists).

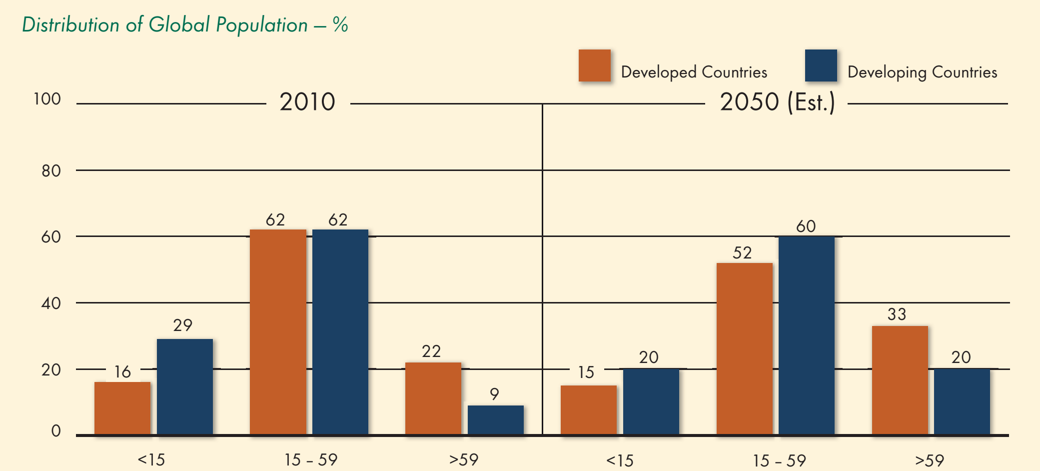
CHART 2: HOW ARE WE AGING?



Source: United Nations, World Population Prospects, *2008 Revision.*

We can take an even closer look at the topic of age by grouping each region into those between the ages of 15 and 59 and those younger than 15 and older than 59. Doing so, we find that 62% of both developed and developing country populations are currently between the ages of 15 and 59. They are assumed to be supporting the other 38%, resulting in a dependency ratio just over 0.6. However, whereas the "dependent" within the developed nations are fairly evenly split between old and young, the developing region profile is much more skewed to the young with a staggering 29% of the population below the age of 15.

CHART 3: HOW OLD IS OLD?



Source: United Nations, World Population Prospects, *2008 Revision.*

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Fast-forwarding to 2050, the dependency ratio for developed nations will rise while developing nations will largely stay the same. Prior retirement age assumptions are changing, as poor public finances in many developed countries are leading to either voluntary extension of the retirement age (United States) or involuntary extension (Europe). Within developing nations, expected dependency ratios are less prohibitive and could facilitate higher economic growth.

PRODUCTIVITY GROWTH

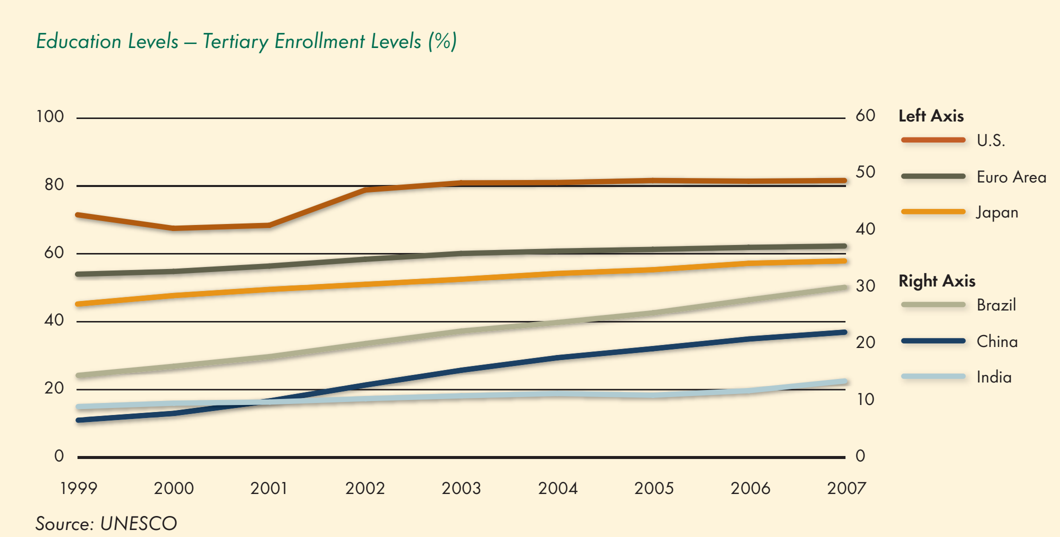
However, investors should remember that growth in working age population is only a piece of the puzzle needed to support economic growth. Productivity is also a key factor, as its growth is a major long-term determinant of a country's standard of living, which will allow growth of the emerging market middle class and bring along with it a demand for goods.

A research project by the Federal Reserve Board of San Francisco (Number 2006 – 02, February 24, 2006) highlights several conclusions about innovation, the fundamental cause of productivity, focusing on the actual inventing process and the ensuing adoption cycle. As the volume of knowledge has grown, it has challenged researchers to single-handedly innovate breakthrough inventions, hence the importance of collaborative inventing.

Adoption of these breakthrough innovations is influenced by education levels and also by social networking ("spreading the word"). Societies using top-notch communications networks and well-educated work forces will come out ahead.

Finally, the Fed's project analyzed the large productivity differential realized between the United States and the European Union since 1995. The well-known increase in technological innovation in the United States was the primary contributor to our gains, while the European Union lost some productivity due to labor market reforms that introduced less-productive (but cheaper) labor into the market.

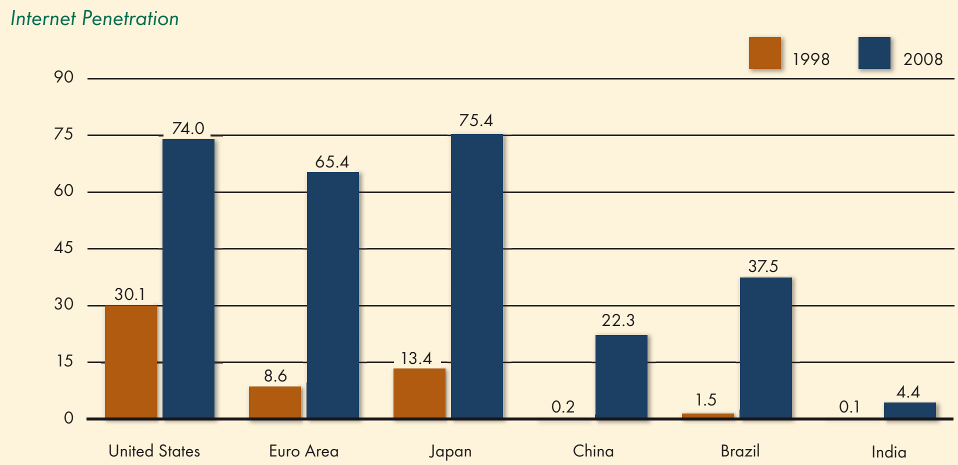
CHART 4: HOW EDUCATED IS THE POPULATION?



Source: UNESCO

Since education is such a critical driver of productivity, demographic trends in education levels are important long-term economic indicators. The United States leads the major regions with a tertiary (college, university or professional school) enrollment level just north of 80%. While the emerging markets tertiary enrollment is at a much lower level, it has been increasing rapidly. Brazil, for example, has seen its tertiary enrollment increase from 14.5% in 1999 (77th in the world) to around 35% in 2007 due to a national policy implemented in 2001 to boost education levels.

CHART 5: HOW MANY HAVE ACCESS TO THE INTERNET?



Source: United Nations.

This data indicate that further gains in developed countries like the United States are unlikely, so immigration of highly skilled and educated people likely will be required for additional gains in productivity. Conversely, the emerging markets can benefit from this increase in schooling but may have problems placing the growing number of graduates.

Having chosen education levels as a proxy for the ability to invent, we have selected Internet access as a proxy for a society's ability to foster adoption through communication. Be it social network, data communications or as a symbol of a country's investment in infrastructure, Internet access seems a reliable benchmark for a society's focus on development and communication. The developed nations clearly lead this race, with Euro-area penetration at 65% in 2008, the United States at 74% and Japan at 75%. While the overall rates in China and Brazil are much lower, the pace of adoption has been relatively quick. India still lags, reflecting the much earlier stage of development of its economy. As these developing economies continue to increase penetration over the next decade or two, the ability to expand the adoption of new innovation will clearly benefit.

The ability to invest in labor and capital requires domestic savings to be sustainable on a long-term basis. According to a study done by BCA Research on developing economies, there is a reasonable correlation between demographic trends and savings patterns, and an expanding proportion of the population being of working-age is consistent with a rising savings rate. This holds true primarily because the non-working age population (either young or elderly) tends to not be employed and therefore has a relatively low savings rate.

One takeaway for investors is this: countries with higher savings rates have more domestic capital available for investment, meaning their economies benefit from lower interest rates and higher productivity gains. The higher domestic savings rates also reduce an economy's reliance on foreign capital, which tends to leave those countries better insulated from turmoil in global financial markets.

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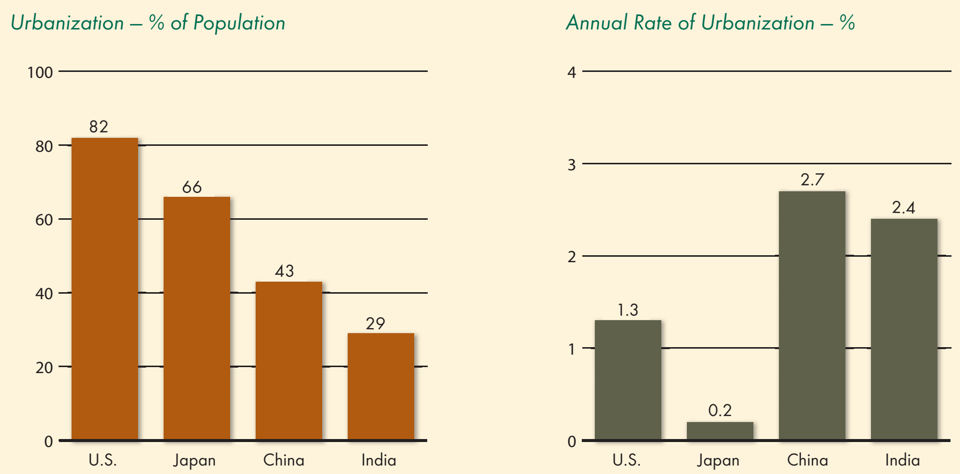
CHART 6: DO THEY LIVE IN THE CITY OR COUNTRY?

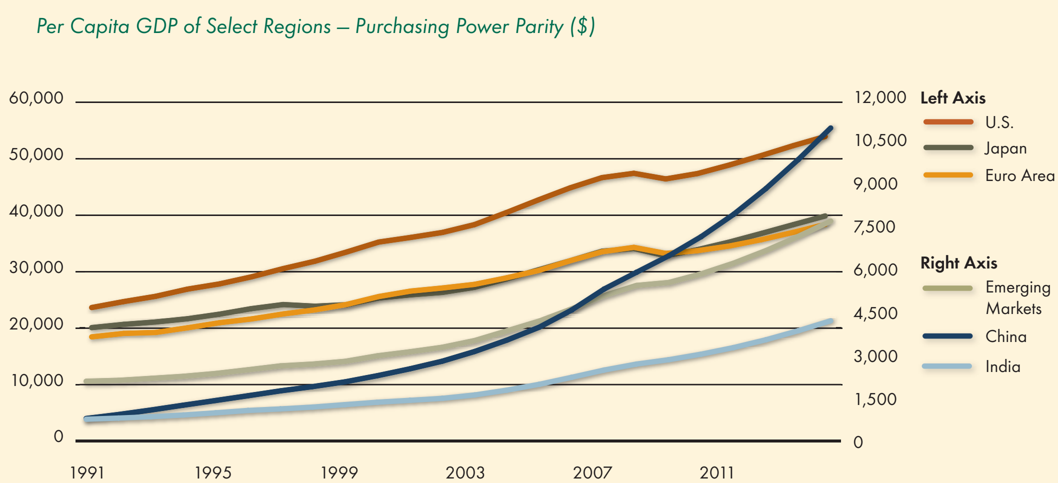


Source: CIA World Fact Book. Data as of 2008.

Productivity can also be examined from the angle of urbanization. As workers move from low productivity agriculture jobs to urban centers, productivity rates for the economy as a whole should rise through the use of automation and new technology. Looking at the United States' example, 82% of the population lives in urban areas, and this is still increasing at a 1.3% annual rate. At the other end of the spectrum, India has a 29% urbanization rate but is seeing a 2.4% annual rise in citizens moving to urban areas. Of the major global economies, India has the longest runway for growth over the next several decades through urbanization.

Combining the impacts of the above discussion, Chart 7 below shows productivity trends across both developed and developing economies. Reflecting the adolescent nature of the emerging markets, they are scaled differently (right-hand scale) but the message is clear: developing economies experienced very high rates of productivity growth during the last 20 years.

CHART 7: HOW PRODUCTIVE ARE THEY?



Source: IMF. Annual data through 2008; forecasts beginning in 2009.

INVESTMENT IMPLICATIONS

Many investors might believe that strong economic growth naturally equates with strong stock market returns. However, legitimate debate exists about that correlation: Does a stronger-than-average growth outlook for an economy lead to above-average market returns? The answer is, not always. Strong economic growth – unaccompanied by sound fiscal policies – can lead to poor stock market returns as investors discount the eventual correction of fiscal policies and the resulting economic effects. So the likelihood of strong economic growth leading to superior stock market returns is not definitive.

What investors should understand is that there does appear to be a strong correlation between weak economic growth and sub-par economic returns. Of those countries showing below-average GDP growth, their stock markets underperformed 60% of the time, as shown in Table 2. Therefore, the highest probability investment situation appears to be to underweight those countries with below-average GDP growth.

TABLE 2: SELL THE SLOW-GROWERS

PROBABILITY DISTRIBUTION		
	BELOW AVERAGE GDP GROWTH	ABOVE AVERAGE GDP GROWTH
ABOVE AVERAGE MARKET PERFORMANCE	22.9%	19.9%
BELOW AVERAGE MARKET PERFORMANCE	34.8%	22.4%

Source: World Bank and MSCI Barra (October 2009).

One additional factor worth noting that contributes to the above phenomenon is the increasing globalization of the world economy. Investing in the leading stocks in the United States, for example, is not just a bet on the United States. It is a bet on global growth as the top 20 companies (representing nearly 32% of the value of the Standard & Poor's (S&P) 500) generate nearly 48% of their revenue from outside the United States. Similarly, one should not become too bearish on European stocks, as many of their leading companies generate a significant portion of revenue outside of Europe and therefore also represent plays on global growth. Emerging markets, due to their earlier stage of development, have the largest concentration of domestic revenue among these three regions.

THOUGHTS FOR DECISION-MAKING

Demographic analysis, when combined with an assessment of economic policy and politics, may help direct investment decisions. The more attractive growth outlook for emerging markets over the next several decades means investors may want to make sure they have good exposure to this growth dynamic through both direct investment and investment in the exporters to these markets. Within the developed markets, aging and dependency trends mean many economies will likely not grow at rates commensurate with history – and the companies in those markets will need to increasingly focus on exports. The United States stands out, among its major developed peers, as having the best population growth outlook. But within developing economies, the most interesting long-term dynamic could be the ascension of India to challenge China as a world growth engine due to its superior demographic trends.

TABLE 3: A GLOBAL COMMUNITY

REVENUE DISTRIBUTION				
REGION	INDEX	% OF INDEX REP. BY TOP 20 COMPANIES	% REVENUE DOMESTIC	% REVENUE FOREIGN
United States	S&P 500	31.5%	52.2	47.8
EAFE	MSCI EAFE	20.6%	44.8	55.2
Emerging Markets	MSCI EM	24.8%	55.9	44.1

Source: Bloomberg, Company Reports. Domestic revenue was generally defined as from the country of domicile, but European-based companies were treated as pan-European. Due to the greater globalization of the largest companies, the percentage of foreign revenue for the entire index is likely lower. See full detail in appendix.

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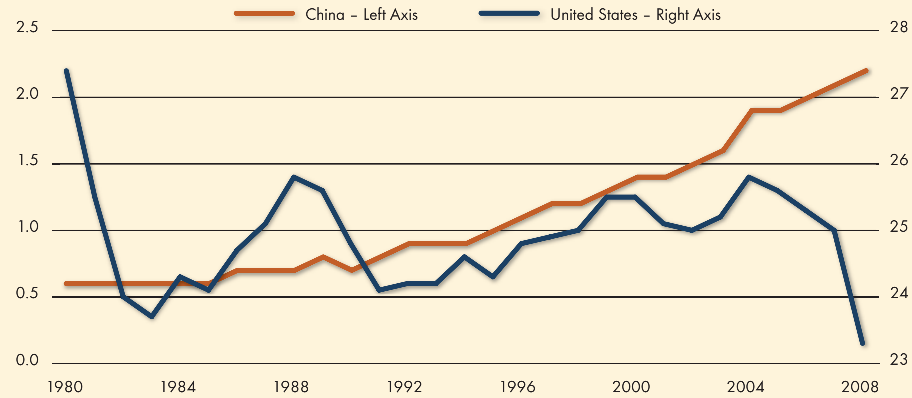
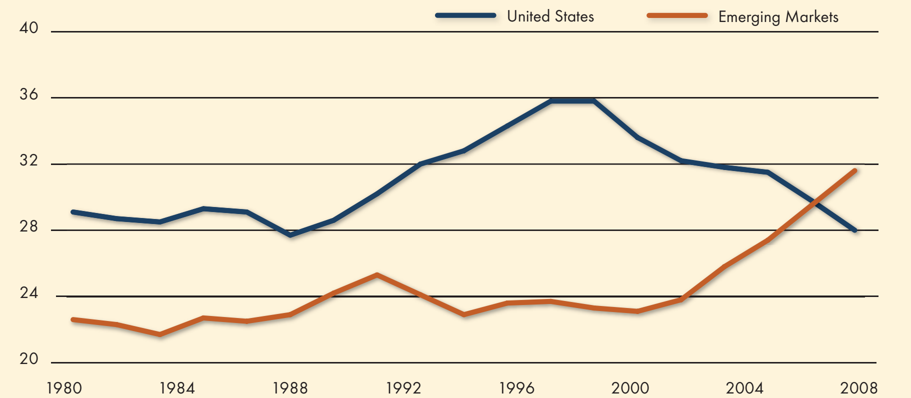
APPENDICES

Annual Oil Consumption – Barrels per Person



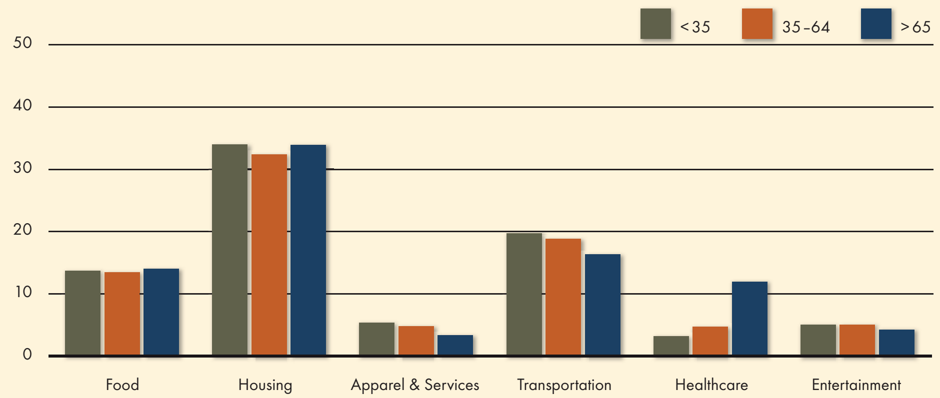
Source: BP Statistical Review. Annual data through 2008.

% of Global Consumer Spending



Source: JP Morgan. Annual data through 2008.

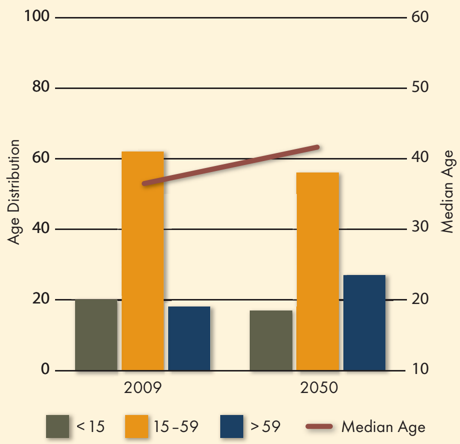
United States Expenditure Shares by Age Bracket



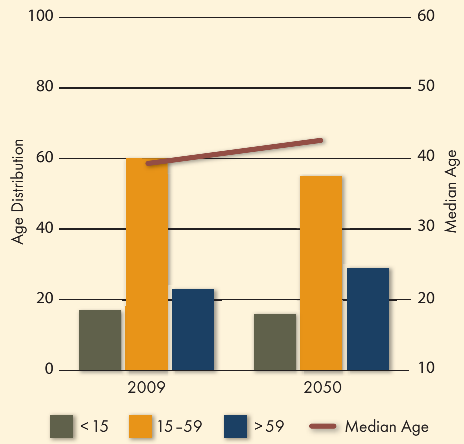
Source: Bureau of Labor Statistics; 2000 report.

DEMOGRAPHIC SNAPSHOTS BY COUNTRY – DEVELOPED COUNTRIES

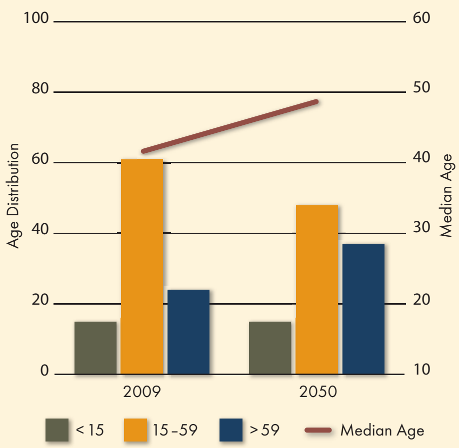
U.S. Demographic Snapshot



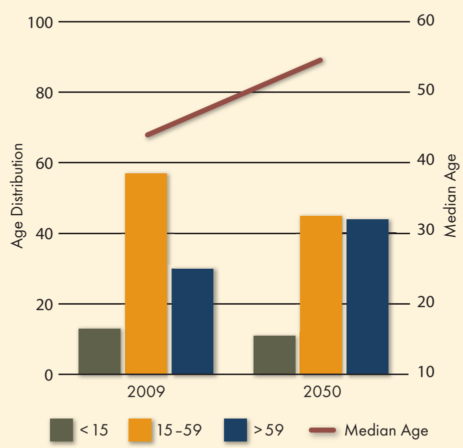
U.K. Demographic Snapshot



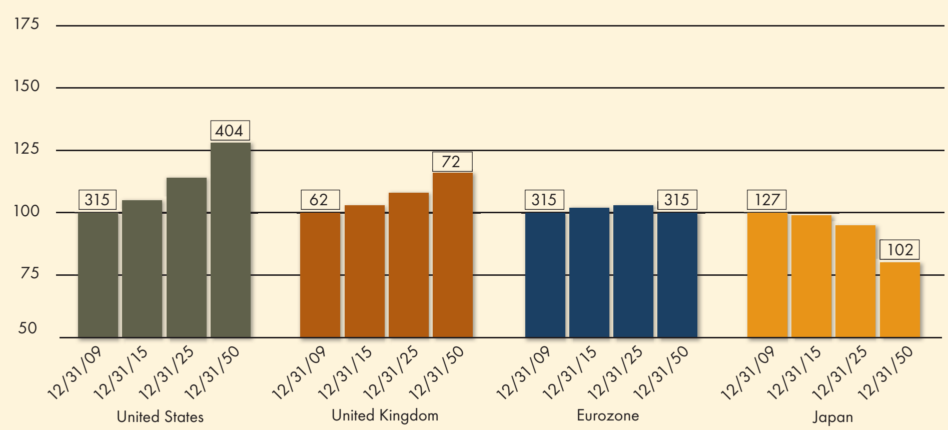
Eurozone Demographic Snapshot



Japan Demographic Snapshot



Estimated Changes in Population (2009 =100) — Actual Population in Boxes



Source: United Nations. World Population Prospects, *2008 Revision.*

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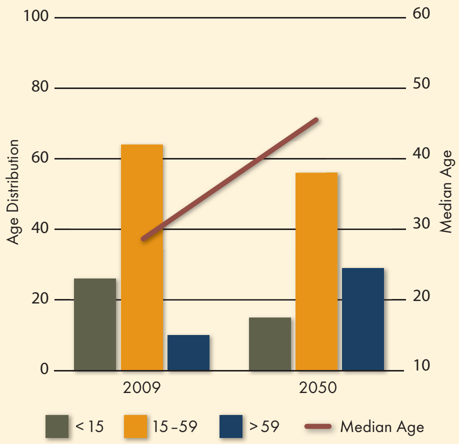
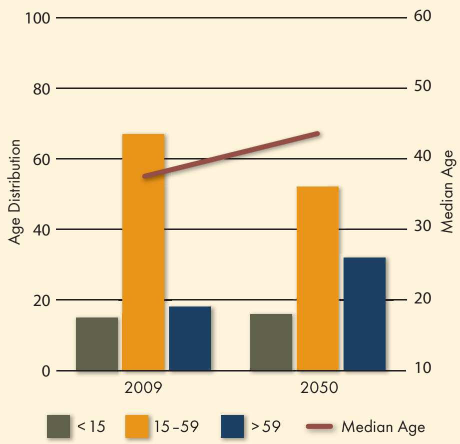
DEMOGRAPHIC SNAPSHOTS BY COUNTRY – EMERGING COUNTRIES

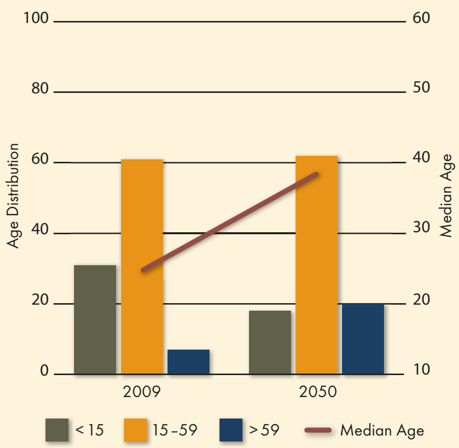
Brazil Demographic Snapshot



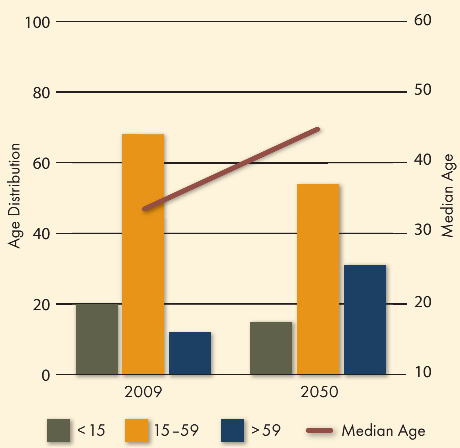
Russia Demographic Snapshot



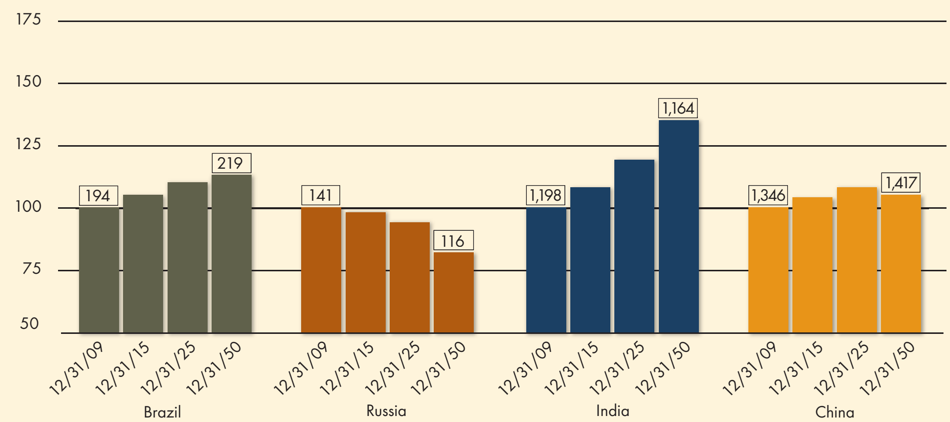
India Demographic Snapshot



China Demographic Snapshot



Estimated Changes in Population (2009 =100) — Actual Population in Boxes



Source: United Nations. World Population Prospects, *2008 Revision.*

GEOGRAPHIC FOCUS OF LEADING GLOBAL MARKETS

S&P 500					
NAME	INDEX WEIGHT	DOM. REV.	NAME	INDEX WEIGHT	DOM. REV.
Exxon Mobil	2.9%	23.2%	Chevron	1.5%	42.0%
Apple	2.5%	44.0%	AT&T	1.5%	100.0%
Microsoft	2.0%	56.6%	Cisco Systems	1.4%	53.6%
Procter & Gamble	1.8%	43.0%	Pfizer	1.3%	43.5%
General Electric	1.8%	46.2%	Coca-Cola	1.2%	33.0%
Johnson & Johnson	1.7%	49.9%	Intel	1.2%	20.3%
IBM	1.7%	42.0%	Google	1.2%	47.3%
Bank of America	1.6%	80.0%	Wal-Mart Stores	1.1%	75.3%
JPMorgan Chase	1.6%	75.5%	Hewlett-Packard	1.1%	36.0%
Wells Fargo	1.5%	100.0%	Merck	1.1%	52.5%
TOP 20 SHARE OF INDEX:		31.5%	WGT. AVG. DOMESTIC REV:		52.2%

MSCI EAFE					
NAME	INDEX WEIGHT	DOM. REV.	NAME	INDEX WEIGHT	DOM. REV.
HSBC	1.8%	35.9%	GlaxoSmithKline	1.0%	31.9%
Nestle	1.8%	22.4%	Banco Santander	0.9%	60.1%
BP	1.3%	44.9%	Telefonica	0.9%	61.2%
BHP Billiton	1.2%	9.2%	Siemens	0.8%	52.8%
Vodafone	1.2%	72.4%	Rio Tinto	0.7%	17.0%
Total	1.1%	70.5%	CB of Australia	0.7%	82.4%
Toyota Motor	1.1%	30.2%	Sanofi-Aventis	0.7%	41.2%
Roche	1.1%	39.6%	BA Tobacco	0.7%	38.8%
Novartis	1.1%	41.5%	Mitsubishi Financial	0.7%	77.7%
Royal Dutch Shell	1.1%	37.2%	Westpac Banking	0.6%	84.1%
TOP 20 SHARE OF INDEX:		20.6%	WGT. AVG. DOMESTIC REV:		44.8%

MSCI EMERGING MARKETS					
NAME	INDEX WEIGHT	DOM. REV.	NAME	INDEX WEIGHT	DOM. REV.
Samsung Electronics	2.4%	16.7%	Hon Hai Precision Ind.	1.0%	0.8%
China Mobile	1.9%	100.0%	Reliance Industries	1.0%	40.5%
Gazprom	1.8%	29.8%	Bank of China	0.9%	78.5%
Petroleo Brasileiro	1.7%	86.8%	CNOOC	0.9%	75.8%
Vale	1.6%	16.3%	Banco Bradesco	0.9%	98.9%
Taiwan Semiconductor	1.5%	9.8%	Infosys Technologies	0.9%	1.2%
America Movil	1.5%	36.1%	POSCO	0.8%	65.0%
I & C Bank of China	1.3%	97.2%	MTN Group (Africa)	0.8%	100.0%
China Constr. Bank	1.2%	97.8%	PetroChina	0.8%	77.6%
China Life Insurance	1.1%	100.0%	Lukoil	0.8%	45.9%
TOP 20 SHARE OF INDEX:		24.8%	WGT. AVG. DOMESTIC REV:		55.9%

Source: Bloomberg, company reports. Domestic revenue was generally defined as from the country of domicile, but European-based companies were treated as pan-European. Due to the greater globalization of the largest companies, the percentage of foreign revenue for the entire index is likely lower.

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