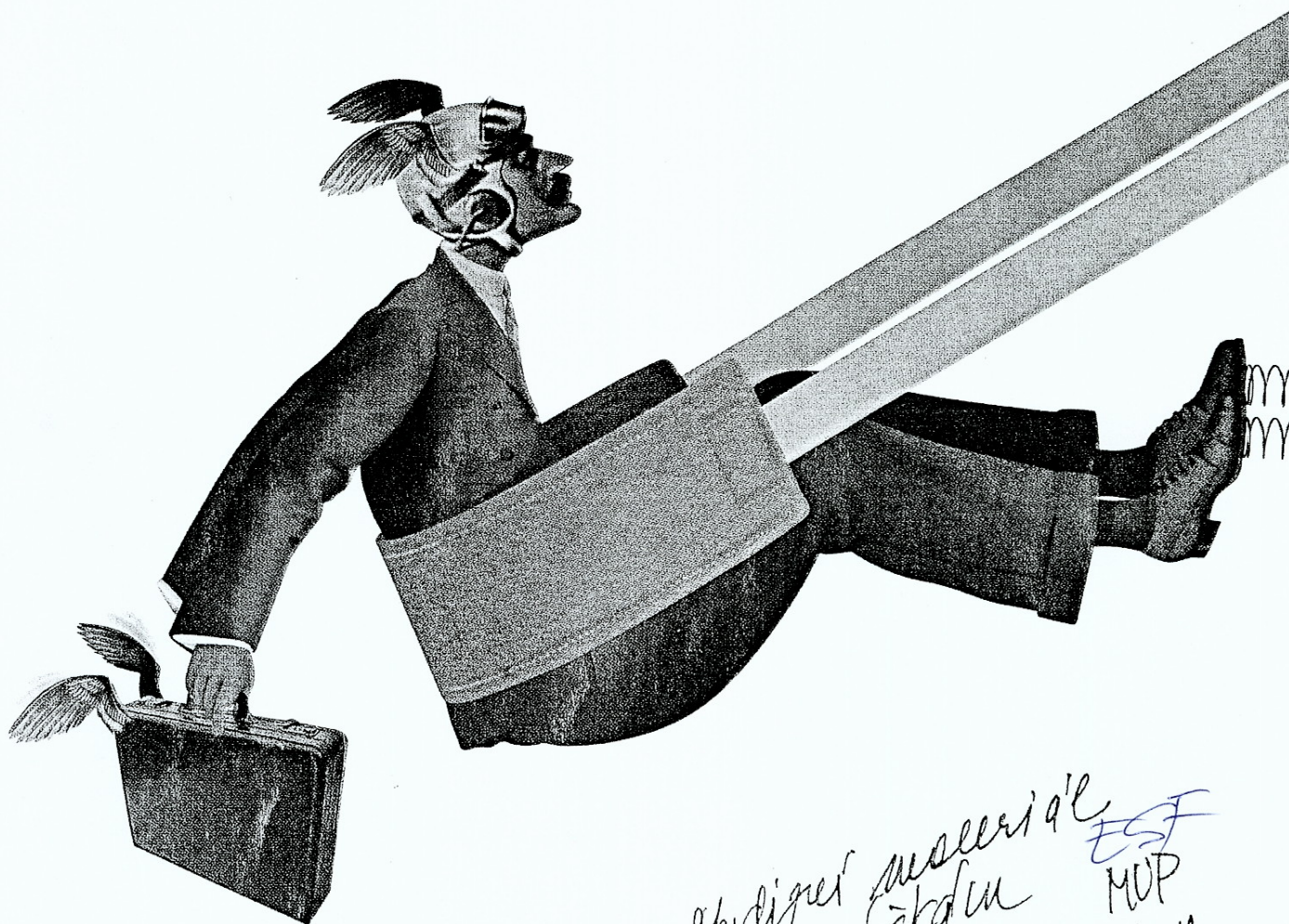


# A game of catch-up



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## A game of catch-up

The shift in economic power from West to East is accelerating, says John O'Sullivan. The rich world will lose some of its privileges

QUARRY BANK MILL is a handsome five-storey brick building set in the valley of the river Bollin at Styal, a small English village a few miles south of Manchester. It was built in 1784 by Samuel Greg, a merchant, who found profit in supplying cotton thread to Lancashire's weavers. The raw cotton shipped from America's slave plantations was processed on the latest machinery, Richard Arkwright's water frame. Later Greg extended the factory and installed coal-fired steam engines to add to the water power from the Bollin. All this gave a huge boost to productivity. In 1700 a spinster with a pedal-driven spinning wheel might take 200 hours to produce a pound of yarn. By the 1820s it would take her around an hour.

Greg's mill was part of a revolution in industry that would profoundly alter the world's pecking order. The new technologies—labour-saving inventions, factory production, engines powered by fossil fuels—spread to other parts of western Europe and later to America. The early industrialisers (along with a few late developers, such as Japan) were able to lock in and build on their lead in technology and living standards.

The "great divergence" between the West and the rest lasted for two centuries. The mill at Styal, once one of the world's largest, has become a museum. A few looms, powered by the mill's water wheel, still produce tea towels for the gift shop, but cotton production has long since moved abroad in search of low wages. Now another historic change is shaking up the global hierarchy. A "great convergence" in living standards is under way as poorer countries speedily adopt the technology, know-how and policies that made the West rich. China and India are the biggest and fastest-growing of the catch-up countries, but the emerging-market boom has spread to embrace Latin America and Africa, too.

And the pace of convergence is increasing. Debt-ridden rich countries such as America have seen scant growth since the financial crisis. The emerging economies, having escaped the carnage with only a few cuts and grazes, have spent much of the past year trying to check their economic booms. The IMF forecasts that emerging economies as a whole will grow by around four percentage points more than the rich world ▶▶

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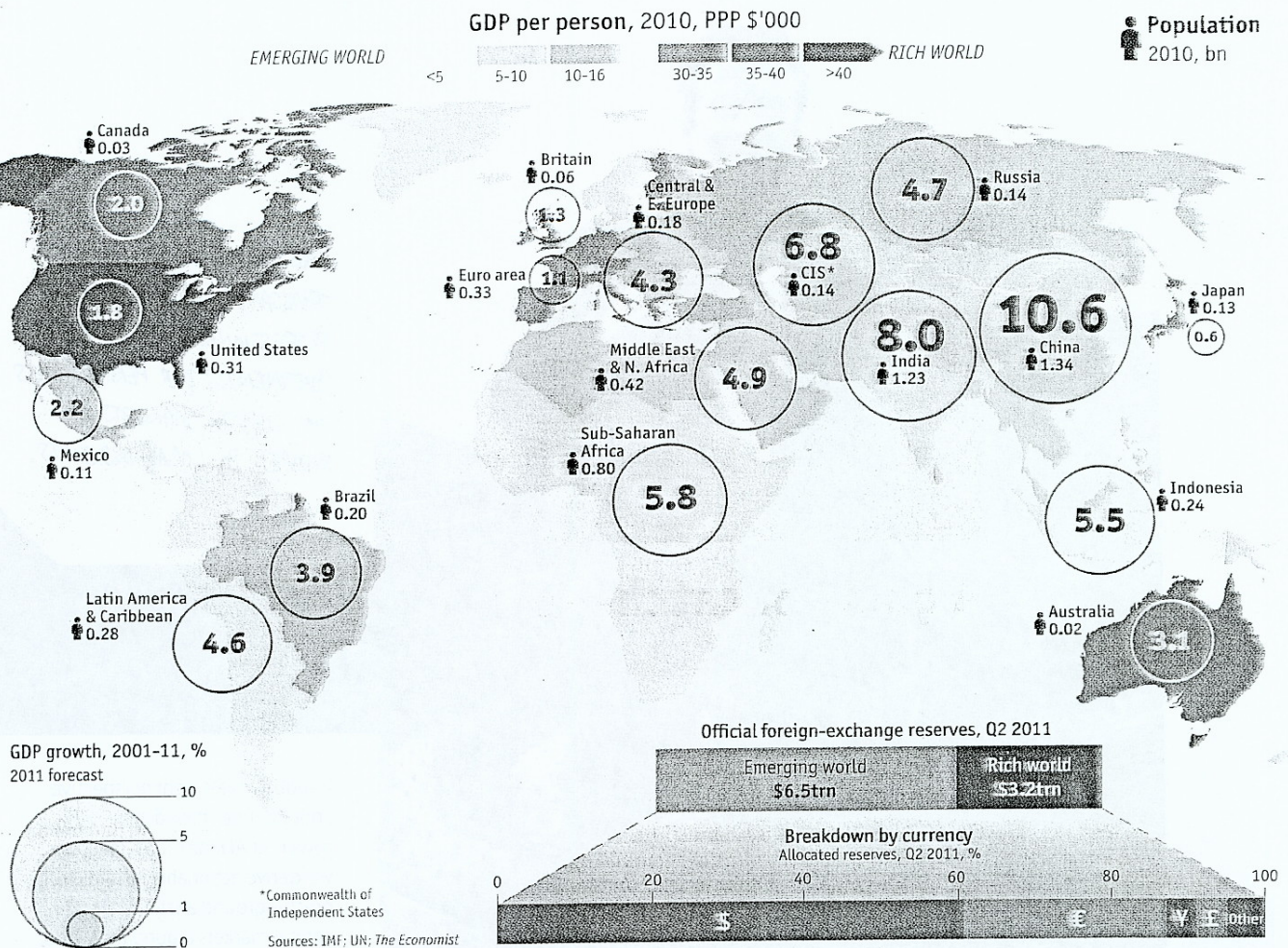
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A list of sources is at [Economist.com/specialreports](http://Economist.com/specialreports)

An audio interview with the author is at [Economist.com/audiovideo/specialreports](http://Economist.com/audiovideo/specialreports)





both this year and next. If the fund is proved right, by 2013 emerging markets (on the IMF's definition) will produce more than half of global output, measured at purchasing-power parity (PPP).

One sign of a shift in economic power is that investors expect trouble in rich countries but seem confident that crises in emerging markets will not recur. Many see the rich world as old, debt-ridden and out of ideas compared with the young, zestful and high-saving emerging markets. The truth is more complex. One reason why emerging-market companies are keen for a foothold in rich countries is that the business climate there is far friendlier than at home. But the recent succession of financial blow-ups in the rich world makes it seem more crisis-prone.

The American subprime mess that turned into a financial disaster had the hallmarks of a developing-world crisis: large capital inflows channelled by poorly regulated banks to marginal borrowers to finance a property boom. The speed at which bond investors turned on Greece, Ireland and then Portugal was reminiscent of a run on an overborrowed emerging economy.

Because there is as yet no reliable and liquid bond market in the emerging world to flee to, scared investors put their money into US Treasury bonds and a few other rich-country havens instead. So few are the options that even a ratings downgrade of American government debt in August spurred buying of the derided Treasuries. Indeed the thirst in emerging markets for such safe and liquid securities is one of the deeper causes of the series

of crises that has afflicted the rich world. Developing countries bought rich-world government bonds (stored as currency reserves) as insurance against future crises. Those purchases pushed down long-term interest rates, helping to stoke a boom in private and public credit.

Today's faltering GDP growth is a hangover from that boom and adds to the sense of malaise in the rich world. Many households in America, Britain and elsewhere have taken to saving hard to reduce their debts. Those with spare cash, including companies, are clinging on to it as a hedge against an uncertain future. A new breed of emerging-market multinational firms, used to a tough business climate at home, seem keener to invest in the rich world than most Western firms, which have lost their mojo.

#### Grandeur and decline

People who grew up in America and western Europe have become used to the idea that the West dominates the world economy. In fact it is anomalous that a group of 30-odd countries with a small fraction of the world's population should be calling the shots. For most of human history economic power has been determined by demography. In 1700 the world's biggest economy (and leading cotton producer) was India, with a population of 165m, followed by China, with 138m. Britain's 8.6m people produced less than 3% of the world's output. Even in 1820, as the industrial revolution in Britain was gathering pace, the two





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Asian giants still accounted for half the world's GDP.

The spread of purpose-built manufacturing like Quarry Bank Mill separated economic power and population, increasingly so as the West got richer. Being able to make a lot more stuff with fewer workers meant that even a small country could be a giant economic power. By 1870 the average income in Britain was six times larger than in India or China. But by the eve of the first world war Britain's income per head had been overtaken by that of America, the 20th century's great power.

America remains the world's biggest economy, but that status is under threat from a resurgent China. With hindsight, its change in fortune can be traced to 1976, the year of America's bicentennial and the death of Mao Zedong. By then income per person in China had shrunk to just 5% of that in America, in part because of Mao's extreme industrial and social policies.

The average Indian was scarcely richer than the average Chinese. Both China and India had turned inward, cutting themselves off from the flow of ideas and goods that had made Japan and other less populous Asian economies richer. India's economy, like China's, was largely closed. Huge swathes of industry were protected from foreign competition by high import tariffs, leaving them moribund.

China was first to reverse course. In 1978 Deng Xiaoping won approval for a set of economic reforms that opened China to foreign trade, technology and investment. India's big liberalisation came a little later, in 1991. The GDP of China and India is many times bigger now than it was in the mid-1970s. In both economies annual growth of 8% or more is considered normal. Average living standards in China are still only a sixth and in India a fourteenth of those in America at PPP exchange rates, but the gap is already much smaller than it was and is closing fast.

Moreover, the great convergence has spread beyond India and China. Three-quarters of bigish non-oil-producing poor countries enjoyed faster growth in income per person than America in 2000-07, says Arvind Subramanian, of the Peterson Institute for International Economics, in his new book, "Eclipse: Living in the Shadow of China's Economic Dominance". This compares with 29% of such countries in 1960-2000. And those economies are catching up at a faster rate: average growth in GDP per person was 3.3 percentage points faster than America's growth rate in 2000-07, more than twice the difference in the previous four decades.

If emerging markets keep on growing three percentage points a year faster than America (a conservative estimate), they will account for two-thirds of the world's output by 2030, reckons Mr Subramanian. Today's four most populous emerging markets—China, India, Indonesia and Brazil—will make up two-fifths of global GDP, measured at PPP. The combined weight in the world economy of America and the European Union will

## Becoming number one

IN 2010 CHINA shot past Japan to become the world's second-largest economy (based on current market prices). But when might it supplant America at number one? The answer depends on how the exchange rates are calculated. The IMF's forecasts and the long-run tables of GDP compiled by the late Angus Maddison, an economic historian, are based on purchasing-power parity (PPP), which makes allowances for the lower prices of non-traded services in poorer countries. On that basis, the size of China's economy is already close to America's and is likely to overtake it by 2016.

China is further behind when its economy is measured in current dollars (and much further in terms of GDP per person). America's GDP in 2010 was \$14.5 trillion at current market prices; China's was \$5.9 trillion. How quickly the gap is closed depends on three things: the relative speed of real GDP growth in China and America respectively; the inflation gap between the two economies; and the rate at which the yuan rises or falls against the dollar.

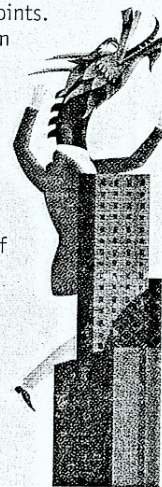
*The Economist* has crunched the numbers and found that, based on reasonable assumptions about these three variables, China could overtake America in the next decade. Its economy has grown by an average of more than 10% a year over the past ten years. As the country gets richer and its working-age population starts to shrink, that growth rate is likely to tail off to perhaps 8% soon. For the American economy the calculation assumed an average annual growth rate of 2.5%.

Inflation tends to be higher in fast-growing emerging economies than in slow-growing rich ones. This is because of

the Balassa-Samuelson effect, named for the two economists who first explained it. Fast productivity growth in export industries raises average wage costs across the economy, including in non-traded services where productivity is sluggish. That in turn pushes up average inflation. Our projection assumes a 4% inflation rate in China compared with 2% in America.

The third factor is the exchange rate. To sustain its catch-up with America, China needs to rebalance its economy away from exports towards consumer spending, which will require a rise in its real exchange rate. Some of this will come from having a higher inflation rate than its trading partners. But China's large current-account surplus and America's big deficit also suggest that the yuan will have to become much stronger and the dollar much weaker. We have allowed for an extra 3% annual rise in the yuan against the dollar on top of the inflation gap of two percentage points. That implies a slight slowdown in the yuan's recent appreciation.

If all this comes to pass, China's economy will be bigger than America's by 2020. On a different set of assumptions—a Chinese growth rate of 6%, an American one of 3% and an appreciation of the yuan of 2% a year—the date slips to 2024. Or you can make your own predictions, using the interactive chart on *The Economist's* website, by going to [http://www.economist.com/blogs/dailychart/2010/12/save\\_date](http://www.economist.com/blogs/dailychart/2010/12/save_date).



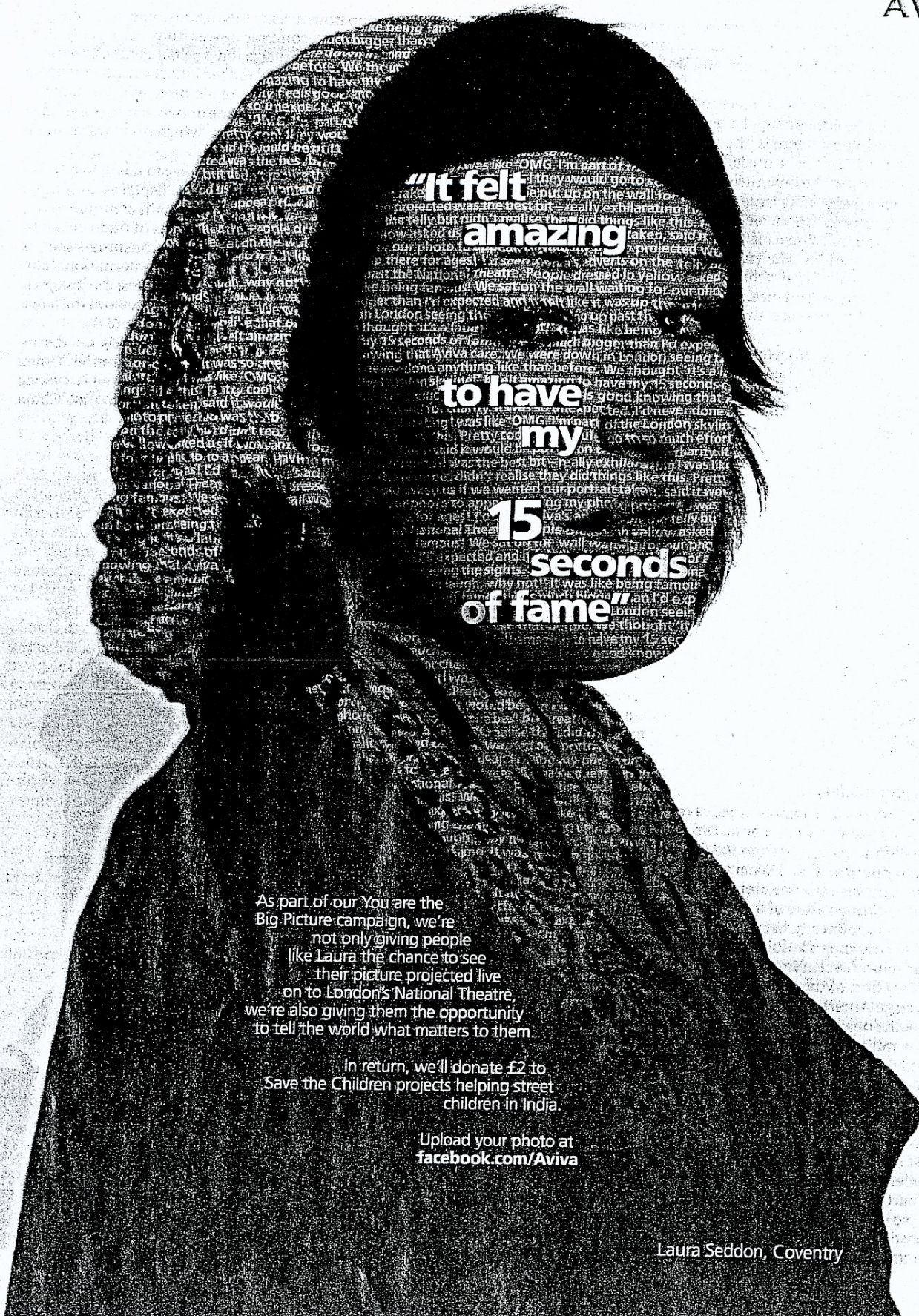
shrink from more than a third to less than a quarter.

Economic catch-up is accelerating. Britain's economy doubled in size in the 32 years from 1830 to 1862 as increased productivity spread from cotton to other industries. America's GDP doubled in only 17 years as it overtook Britain in the 1870s. The economies of China and India have doubled within a decade.

This is cause for optimism. An Indian with a basic college education has access to world-class goods that his parents (who might have saved for decades for a sputtering scooter) could only have dreamed of buying. The recent leap in incomes is visible in Chinese cities, where the cars are new but the bicycles look ancient, and in the futuristic skyline of Shanghai's financial district.

China is still a fairly poor country but, by dint of its large population, it is already the world's second-largest economy measured in current dollars. It may overtake America as the world's leading economy within a decade (see box), a prospect ▶▶





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that has given rise to many concerns in that country. More generally, there are worries about what the ascendancy of emerging markets would mean for jobs, pay and borrowing costs in the rich world.

The first worry is about direct competition for things that are in more or less fixed supply: geopolitical supremacy, the world's oil and raw materials, the status and perks that come with being the issuer of a trusted international currency. For most people, most of the time, their country's ranking in terms of military power is not a big issue. The emerging world's hunger for natural resources, on the other hand, has made rich-world consumers palpably worse off by pushing up the prices of oil and other commodities. The yuan's increased use beyond China's borders is a (still distant) threat to the dollar's central role in trade and international finance, but if the dollar were eventually shoved aside, it would make Americans poorer and raise the cost of their borrowing.

A second set of anxieties relates to job security and pay. Ever stronger trade links between rich and would-be rich countries will mean a reshuffle in the division of labour around the world, creating new jobs and destroying or displacing existing ones. Low-skilled manufacturing and middle-skilled service jobs that can be delivered electronically have been outsourced to cheaper suppliers in China, India and elsewhere (indeed, China is now rich enough to be vulnerable to losing jobs to Vietnam and Indonesia). The threat of outsourcing puts downward pressure on pay, though most American studies suggest that trade accounts for only a small part of the increase in wage inequality.

A third concern, which is at odds with the first two, is that the emerging markets are prone to crises that can cause a still-fragile world economy to stumble. Sluggish GDP growth in the rich world means developing countries have to fall back on internal spending, which in the past they have not managed well. It raises the risks of the overspending, excessive credit and inflation that have spurred past emerging-market crises. Even if crises are avoided, emerging markets are prone to sudden slowdowns as they become richer and the trick of shifting underemployed rural migrants to urban jobs becomes harder to repeat. The rapid growth rates of the recent past are unlikely to be sustained.

#### Status anxiety

Few forecasters expect America to be a poorer place in ten or 20 years' time than it is now. The present may be grim, but eventually the hangover from the financial crisis will fade and unemployment will fall. What rich Western countries face is a relative economic decline, not an absolute fall in average living standards (though a few of their citizens may become worse off). That matters politically, because most people measure their well-being by how they are doing in relation to others rather than by their absolute level of income.

The effect of the loss of top-dog status on the well-being of the average American is unlikely to be trivial. Britain felt similar angst at the beginning of the 20th century, noting the rise of Germany, a military rival. It seemed stuck with old industries, such as textiles and iron, whereas Germany had advanced into fields such as electricals and chemicals. That Britain was still well off in absolute terms was scant consolation. The national mood contrasted starkly with the triumphalism of the mid-19th century, says Nicholas Crafts of Warwick University. A wave of protectionist sentiment challenged the free-trade consensus that had prevailed since 1846. It was seen off, but not before it had split the Tory party, which lost the 1906 election to the Liberals.

No country, or group of countries, stays on top forever. History and economic theory suggest that sooner or later others will catch up. But this special report will caution against relying on

linear extrapolation from recent growth rates. Instead, it will suggest that the transfer of economic power from rich countries to emerging markets is likely to take longer than generally expected. Rich countries will be cursed indeed if they cannot put on an occasional growth spurt. China, for its part, will be lucky to avoid a bad stumble in the next decade or two. Emerging-market crises have been too quickly forgotten, which only makes them more likely to recur.

Education and social security will have to adapt to a world in which jobs continue to be created and displaced at a rapid rate. The cost of oil and other commodities will continue to rise faster than prices in general, shifting the terms of trade in favour of resource-rich countries and away from big consumers such as America. The yuan will eventually become an international currency and rival to the dollar. The longer that takes, the less pressure America will feel to control its public finances and the likelier it is that the dollar's eclipse will be abrupt and messy.

The force of economic convergence depends on the income gap between developing and developed countries. Going from poor to less poor is the easy part. The trickier bit is making the jump from middle-income to reasonably rich. Can China and others manage it? ■





## Converging economies

# One-track bind

To become rich, the emerging markets must spring the middle-income trap

WITH A MAXIMUM speed of 430kph (267mph), the Shanghai magnetic-levitation (or maglev) train is as much fairground ride as vital cog in the city's transport system. A stretch of the 30km track from Longyang Road to Pudong International Airport runs alongside a motorway. The speeding cars left behind are a guide to how fast the train is moving. For passengers who like to quantify their thrills, a digital speedometer in each carriage counts up the train's acceleration to its top speed before the numbers tumble again as the train slows towards the airport terminal.

The Shanghai maglev is a powerful symbol of China's modernity—even if the technology was developed in the 1960s in slowcoach Britain and the kit was made by Siemens, a German engineering firm. But the venture is not a money-spinner. On a midsummer afternoon, the train is half-empty and many of its occupants are tourists travelling just for fun. That is because, for all its impressive speed, the maglev is not a great way to get to or from the airport. Tickets are too pricey for all but rich business folk and foreign tourists, and those customers find the line inconvenient. Once they alight at Longyang Road they are still some way from the financial district and the best hotels.

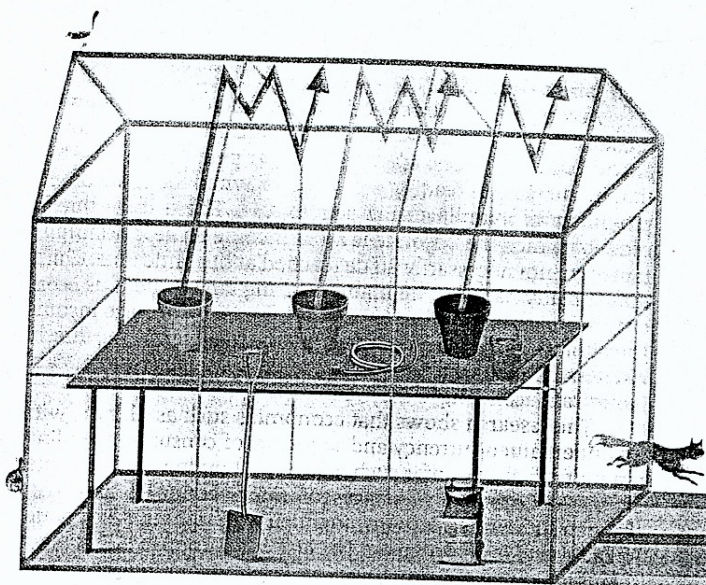
Sceptics about China's economic miracle see the Shanghai shuttle as an example of how badly state-directed banks allocate capital. China invests some 50% of its GDP, more than double the average in rich countries. The big capital projects of state-owned enterprises, such as railways, receive funding on easy terms, but interest rates paid on bank deposits are capped. A system that favours certain borrowers over ordinary savers or bank shareholders is bound to back ill-judged projects and run up bad debts, argue the bears. A collision between two high-speed trains in China on July 23rd, which killed 40 and left 191 injured, seemed only to confirm those suspicions.

### Let's leapfrog

But there is a kinder interpretation of China's appetite for prestige projects such as high-speed rail. Its leaders must know that as an economy develops it cannot rely indefinitely on copying the machinery and know-how of richer countries. The better-off a country becomes, the closer its technology is to best practice and the fewer of its workers are left in low-productivity jobs such as farming. The easy catch-up gains are exhausted and the economy slows or gets stuck. One way out of this "middle-income trap" is by trying to leapfrog the technology leaders.

China's recent growth has been so impressive that it seems churlish to question whether it can continue. Yet the country will find it more difficult to grow quickly as it becomes richer, as will India and Brazil. All three big emerging markets need to find ways to avoid the inflation that has bedevilled developing countries in the past, and to strike a good balance between consumption and investment, foreign and domestic demand.

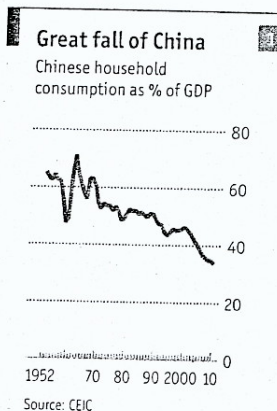
China's reliance on exports and on investment that supports export industries has reached its limits. The country now needs to shift the balance towards domestic demand, which requires capital to be redirected toward the smaller enterprises that serve consumers. Brazil is almost the mirror image of China.



It has a thriving consumer economy which it is finding hard to keep in check. Its high interest rates discourage the investment spending it needs to improve its poor productivity record. And it needs to make sure that the strong currency that comes with a booming commodity sector does not leave it with too narrow an industrial base. India, like Brazil, is prone to overheating and has a current-account deficit, though thanks to its high investment rate its productivity record is closer to China's.

The problems of middle-aged development will soon afflict China and others, according to research by Barry Eichengreen of the University of California, Berkeley, Donghyun Park of the Asian Development Bank and Kwanho Shin of Korea University. They examined middle-income countries (with earnings per person of at least \$10,000 in 2005 prices) which in the past half-century had enjoyed average GDP growth of at least 3.5% for several years but whose growth rate had subsequently fallen by at least two percentage points. The research confirmed their hunch that the loss of momentum is mostly due to economic maturity rather than a shortage of workers or a slackening in investment. The workforce grew at the same rate after the slowdown as before it, and its quality kept improving; indeed the average worker acquired skills at a slightly faster rate after the economy had slowed. The increase in physical capital (factories, offices, roads, machines and so on) tailed off, but this accounted for only a small fraction of the drop in GDP growth.

Instead, most of that drop was caused by a slump in "total factor productivity"—the efficiency with which workers and capital are used. "Growth slowdowns, in a nutshell, are productivity-growth slowdowns," write Mr Eichengreen and his colleagues. A decline in total factor productivity is what you would expect when the "easy" phase of economic development comes to a close. Moving underemployed villagers into urban jobs in factories and offices with imported equipment





raises productivity. But as rural slack is used up there are no more such gains to be had.

According to the three economists, this sort of slowdown is most likely to happen when average income reaches around \$16,000 in 2005 prices; when income per person rises to 58% of that in the world's leading economy; or when the share of employment in manufacturing gets to 23%. Those three thresholds—of which the absolute level of income is the most important—will not necessarily all be reached at the same time. China may already have hit the manufacturing target, and if its economy sustains a growth rate of around 9%, the average income threshold will soon be breached. But the relative income threshold remains far off. In 2010 China's income per person was 16% of America's, according to the IMF.

The research shows that economies such as China's, with an undervalued currency and a low rate of consumer spending, are more likely to suffer such a growth slowdown. These milestones are based on averages of many countries that lived through sudden slowdowns, and their experiences varied widely, cautions Mr Eichengreen. These are not iron laws. Even so, it seems certain that a slowdown will follow once the easier part of the catching up has been done. The question is whether China can mitigate this by changing its growth model.

#### Last year's model

That model has proved successful in other parts of Asia. It is export-led, so demand has been mainly from abroad. To meet it, China has mobilised its vast reserves of cheap labour, to which it has added a fast-growing stock of physical capital, much of it imported but financed from the country's own savings. Because of China's capital-intensive growth model, consumer spending has an unusually small share of GDP: in 2010 it fell to only 34% (see chart 1, previous page). This only adds to the reliance on exports.

China's financial set-up reinforces this model. The flow of capital across its borders is heavily policed. China has curbed the rise in its currency, and kept its exports competitive, by buying huge quantities of dollars and other foreign currencies, amassing \$3.2 trillion of foreign-exchange reserves, worth 54% of China's 2010 GDP.

The banking system is closely managed by the state. Foreign banks account for barely 2% of total bank assets. The cash created to keep the yuan down is mopped up by forcing China's banks to buy low-yielding "sterilisation" bonds or to hold more cash in reserve. Interest rates are set in favour of state-owned companies (often monopoly suppliers to exporters) but offer little reward for householders. Credit for consumers is still scarce.

China's growing weight in the world economy means it cannot rely indefinitely on other countries' spending. The debt overhang in parts of the rich world means that China's foreign customers are hard-pressed. And the country is a drain on demand from the rest of the world: its current-account surplus (a measure of its excess saving) rose above 10% of GDP in 2007, though it has since halved. This is a source of tension: the Americans complain that China's exchange-rate policy provides its exporters with an unfair subsidy at the expense of their own workers. The export-led strategy is also beginning to lose its potency. Each rural migrant set to work on machinery to serve China's foreign customers is harder to find than the last.

If China is to avoid the middle-income trap, it needs to develop its domestic market. It must switch from indiscriminately amassing factories, ports and other fixed assets to a more finely graded allocation of capital and workers that allows small service firms to flourish. That transition will be helped along by two factors. As the working population starts to shrink around 2015, the household saving rate should fall because countries with

fewer earners and a larger proportion of dependents tend to spend more. And China already devotes a bigger share of its GDP to research and development than do other countries with similar income levels. That gives it a better chance of sustaining productivity growth when the gains from adopting existing technologies run out. But other facets of China's economy militate against change. For example, the World Bank ranks China 65th out of 183 countries for giving companies access to credit, behind India (in 32nd place).

The obstacles are formidable. Shifting to an economy that concentrates on consumers will mean dislocating entire industries. Higher wages in China, which are needed for this sort of re-balancing, are already driving some textile jobs to Vietnam and Cambodia. Removing implicit subsidies to rents and interest rates would cut many firms' profits and stir opposition. Banks used to dishing out capital at the government's say-so would need to make finer judgments, withholding money from industries with low returns and moving it to promising new ventures. But will they be able to tell the difference between the two?

Brazil is the textbook example of a fast-growing country that hit a wall (though it is not covered in the study by Mr Eichengreen and his colleagues). Its economy grew by an average of almost 7% a year between 1945 and 1980. GDP per person rose from just 12% of America's to 28%, according to the Maddison statistics.

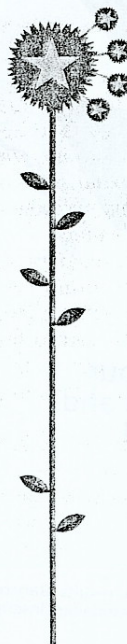
But then convergence went into reverse. The debts accumulated to pay for imported machinery became crippling as interest rates shot up. Industries that had served a protected home market were revealed as inefficient. A weak currency and wage indexation fed first inflation and then hyperinflation.

A series of monetary and fiscal reforms in the 1990s tamed inflation and arrested the decline in relative income. Brazil's income per person is now above 20% of America's level. But the economy suffers from frailties that are the mirror-image of China's. Investment is 19% of GDP, well below China's and quite low even by rich-world standards. That is one reason why productivity is feeble, though Brazil's woeful education system and decrepit infrastructure are also to blame. The economy tends to grow at around 4% a year, faster than most rich countries but more slowly than Brazil's emerging-market peers.

Weak investment reflects low domestic saving. Brazil still habitually runs a current-account deficit. This reliance on foreign capital has left it vulnerable to periodic balance-of-payments crises, though it has piled up \$344 billion of foreign-currency reserves to fend them off in future. Brazil's net foreign liabilities (private and public) amount to \$700 billion, compared with China's net assets of £1.8 trillion.

The flip side of Brazil's low saving is strong consumer spending, at 61% of GDP last year. The business of providing loans to householders is booming. This is in part because BNDES, the state-owned development bank, provides subsidised loans to Brazil's big state-directed compa- ▶▶

*China's growing weight in the world economy means it cannot rely indefinitely on other countries' spending*

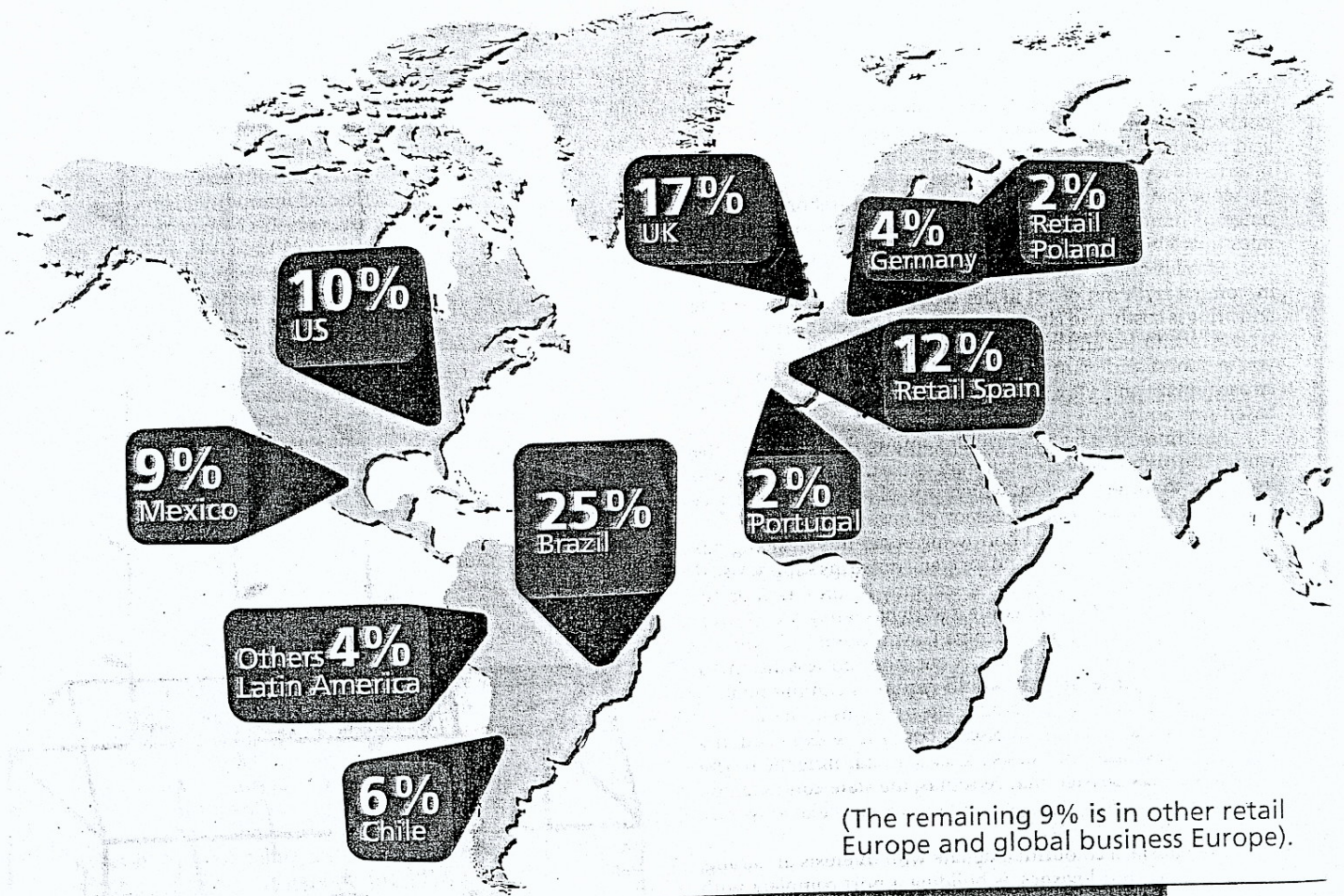




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panies and to some other firms. That limits opportunities for business lending, so private banks must look elsewhere.

Brazil's economy has two great strengths. Its population of working age is growing quickly, and it is rich in natural resources at a time when emerging markets are industrialising at an unprecedented rate. Brazil vies with Australia as the world's largest exporter of iron ore, much of it to China. Its plentiful arable land is astonishingly fecund (in some places three harvests a year are possible), thanks to an ample supply of sun and fresh water. The "sub-salt" reservoirs off Brazil's south-eastern shore contain at least 13 billion barrels of oil.

The commodities boom and the oil finds have freed Brazil from its traditional balance-of-payments constraints. Foreign money is flooding in, lured by Brazil's high interest rates and the expected earnings once the oil starts to flow. But that creates a new problem: a strong currency that hurts the country's exporters outside the resource industries.

The textbook remedy for this sort of "Dutch disease" is to raise productivity or lower costs in tradable industries that do not benefit from the resource boom. In August the government said it would abolish payroll taxes in four labour-intensive industries: footwear, clothing, furniture and software. There is ample scope to further lower the "Brazil cost"—local shorthand for a range of handicaps including ramshackle roads, high interest rates, jobs levies, taxes and bureaucracy.

Brazil is one of the most onerous countries to do business in, coming 127th out of 183 in the World Bank's ranking. Hiring and firing is costly and closing a business can take years. The tax system is complex and bedevilled by rules that often conflict. "If you're honest and want to comply with the tax code, you need an accountant and a tax lawyer for life," laments one São Paulo-based economist.

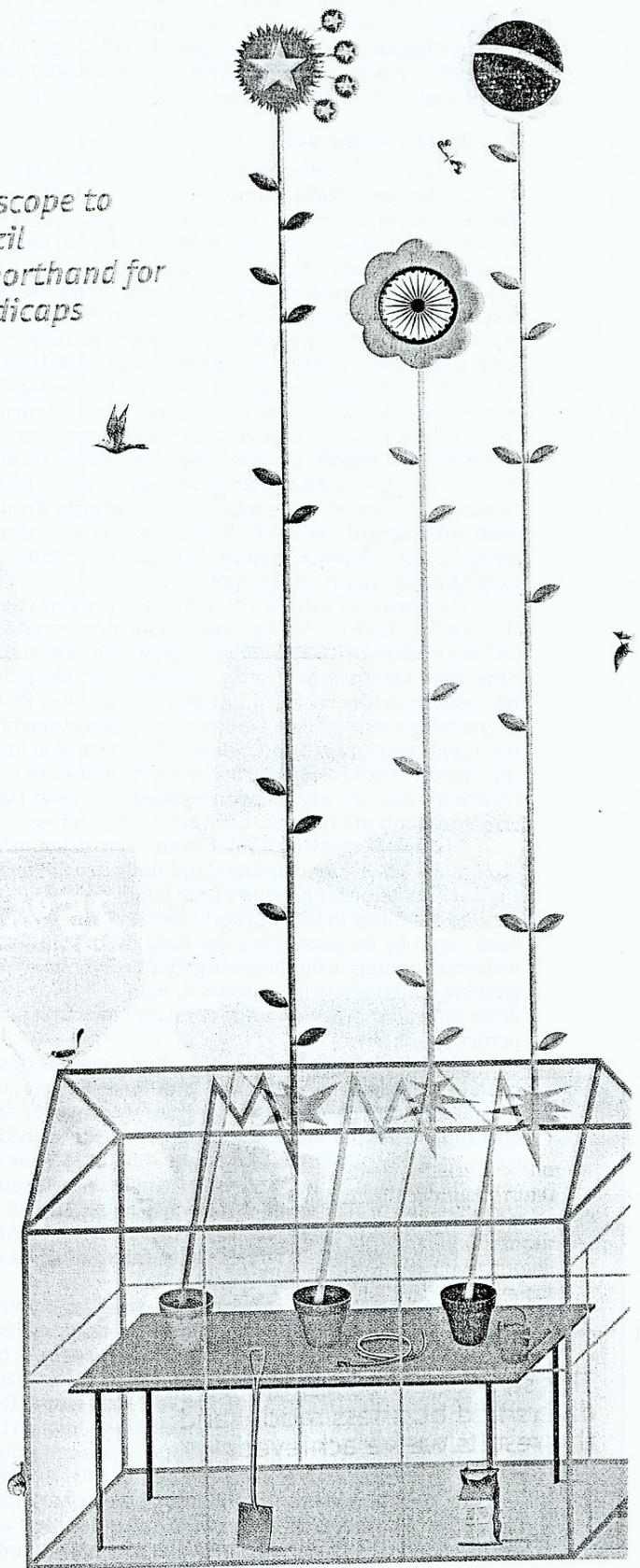
Real interest rates in Brazil are among the highest in the world. The central bank's benchmark rate is 12% and may need to rise again to tame inflation, which is well above the target of 4.5%. High rates are in part a legacy of past inflation that punished saving and rewarded borrowing. A culture of saving has yet to take firm root, so demand for credit outstrips supply. Fiscal laxity has also played a part. The economy is running at or beyond full capacity. The jobless rate is 6%; it has rarely been lower. Brazil's budget ought to be in surplus. Government debt is rolled over every three years and crowds out other borrowing. But a market for longer-term debt would require a commitment to keeping public-sector payrolls and state pensions in check.

Brazil hopes that the oil discoveries will be exploited in a way that helps other industries rather than harming them. The government has insisted that Petrobras, the state-controlled oil giant with sole operating rights in the sub-salt field, must buy most of its supplies in Brazil.

Eike Batista, a colourful magnate with interests in mining, oil exploration and logistics, is building a port complete with shipyard (in tandem with Hyundai, a South Korean firm) to comply with the local-content rules. "The demand from Petrobras could fill two shipyards," he says. A modern port will encourage foreign manufacturers to build factories along Brazil's coast and serve the domestic market. "Brazil will not be trapped in commodities," he insists. But others worry that Brazil is flirting with a state-influenced and inward-facing model of industrialisation that has failed before.

Brazil and China need to make different sorts of transitions if they are to sustain their development. Brazil has to save and invest more; China needs to consume more. Brazil is rich in re-

*There is ample scope to lower the "Brazil cost"—local shorthand for a range of handicaps*





sources; China is hungry for them. Brazil is short of good roads and railways; some of China's will attract too little traffic. Brazil is young; China is ageing. "Perhaps they should merge," is the wry suggestion of Arminio Fraga, a former central-bank governor of Brazil who now runs Gávea Investments in Rio de Janeiro.

### India's bumpy road

India's main challenges are a mix of those facing Brazil and China. Like China, India has enjoyed a recent growth rate above the emerging-market norm, at around 8% a year. It ought to be doing better still: after all, it is poorer than China, so the scope for catching up is greater. Investment is a healthy 38% of GDP. Much of India's investment is financed out of companies' own pockets, a symptom of an immature financial system. Most firms cannot rely on external funding, though giant Indian conglomerates, such as Tata, are able to tap into international capital markets.

Like Brazil, India is in desperate need of better roads to link its far-flung internal markets. It is a young country, with its working-age population set to grow at 1.7% a year until 2015, a faster rate even than Brazil's. But too many of its people are educated badly, if at all. As in Brazil, companies often have to provide remedial education to bring recruits up to scratch. Arcane laws stand in the way of a well-functioning jobs market. Corruption is a blight on infrastructure projects. The economy is prone to overheating and has a current-account deficit.

This speaks of a deeper weakness in emerging markets. In the past they have not been good at managing internal demand. Relying on exports allowed them to grow and save at the same time. Now that the rich world's economies are struggling, that has become harder, raising the prospect of the sort of ills that led to emerging-market crises in the past: excess government spending, rapid credit growth and inflation. The transition from middle-income to rich economy relies on sound monetary, fiscal and regulatory policies, says Raghuram Rajan, a former IMF chief economist now at Chicago's Booth School of Business.

The fear of renewed trouble in the debt-laden rich-world economies has meant that Brazil and India have been slow to stop local inflationary pressures from building. China passed its first big test filling in for rich-world demand when it increased bank credit by an astonishing one-third during 2009. It was a welcome stimulus to the local and global economy, but there are growing doubts about the wisdom of many of those loans. The debts run up by local authorities to finance infrastructure are of particular concern.

China bulls argue that the expenditure was essential to the country's rebalancing. Better transport links between the rich coastal cities and poorer western regions were needed to develop China's internal market. Sceptics see roads with no cars, trains with few passengers and empty buildings. Some reports say 2 trillion yuan of local-authority loans have gone sour. Worringly, some of the foreign investors who had rushed to take stakes in Chinese banks are slinking away. Bank of America, which has problems in its home market, has sold half its stake in China Construction Bank.

Even so, stabilising aggregate demand may prove easier than settling the social conflicts or tackling the industrial stasis that entrap middle-income countries. This depends not only on a well-tuned economic engine; it also relies on how fairly the pain of adjustment is shared, says Harvard University's Dani Rodrik. Societies torn by class or other rivalries are often set back by economic change. Democracies with rules and procedures for settling disputes and compensating losers tend to do better.

Mr Rodrik contrasts South Korea's bounce-back from the East Asian crisis in 1998 (as well as from earlier troubles) with the slump endured by Brazil and other Latin American countries in

the 1980s. South Korean industry had been tested in export markets so it could build a recovery on its industrial strength. Brazil had lacked that strength. But South Korea was also able to recover more quickly because each interest group agreed to absorb some of the pain from the downturn. The government said it would do its best to help the country get over the crisis but firms should do their bit by avoiding lay-offs and unions should moderate their wage demands. In Brazil, by contrast, everyone tried to shift the pain of lower living standards onto others. Inflation took off and Brazil's GDP per person stagnated for 15 years.

China may have the stronger economy, says Mr Rodrik, but Brazil and India are likely to be better at handling the social mobility that comes with being a middle-income country. All three of these emerging-market giants will have to work hard to avoid the middle-income trap. Their recent economic performance is good but experience suggests that there will be setbacks. Yet as the rich world stumbles from crisis to crisis, the prosperity gap is closing fast. America's claim to economic leadership looks increasingly threadbare, and one of its long-held privileges—having the world's main reserve currency—is under threat. ■

### Reserve currencies

## Climbing greenback mountain

### The yuan is still a long way from being a reserve currency, but its rise is overdue

AT THE FLAGSHIP store of Yue Hwa Chinese Products in Hong Kong customers can find exotic and everyday items from mainland China without having to cross the border. The offerings include silk brocades, sandalwood carvings, Sichuan peppers and traditional Chinese remedies such as ribbed antelope horns. Horn shavings, boiled in water, are said to quieten the liver and quell fevers.

Feverish visitors from the mainland can even pay for their shavings in their own currency, the yuan. The store charges 2,660 yuan (\$416) for a whole horn, at an exchange rate of 1.1 Hong Kong dollar per yuan. Nearby money-changers offer a better rate, but some Chinese visitors prefer the convenience of using their own money. That way they can still get a late-night snack at the 7-Eleven after the money-changers have closed.

That is how, not long ago, the yuan set out on its career as an international currency. It crept into Hong Kong in the wallets of mainland visitors. The trickle across China's borders quickened last year when the government allowed a broader range of Chinese firms to settle imports and exports in yuan. In the same year it set these offshore yuan free. Outside the mainland, the yuan could be transferred between banks, borrowed, lent and invested, just like any other currency.

This offshore experiment is, for many forecasters, a first tentative step towards making the yuan a fully fledged reserve currency to rival the dollar and the euro. But China's policymakers are in two minds, as they tend to be when it comes to freeing finance. Restricting the flow of money into and out of China protects the country's immature banking system. When Japan sanctioned the international use of the yen in the 1980s it set the stage for a damaging property bubble.

On the other hand China hates having to rely on the dollar. Officials are troubled by the Federal Reserve's notably loose ▶▶



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fair elections. For fast and accurate verification of each voter's identity on Election Day, NEC's Voter ID fingerprint identification with centralized voter database prevents duplicate IDs and election fraud. Fair elections preserve citizens' civil and political rights, and strengthen trust in election outcomes. Further, open and verifiable elections demonstrate the integrity of the government and its citizens.

### Controlling Access

Early detection of suspicious behaviour or individuals is the best approach to preventing serious damage or injury among citizens. NEC's automated bi-directional control gate solution utilizes facial, fingerprint, iris or vein recognition, as well as surveillance technologies, to ensure that only authorized individuals are granted access at public locations like airports and borders. Potentially dangerous breaches in clearance or procedure can be easily detected, including tailgating, jumping the gate, or leaving suspicious packages.

NEC's integrated surveillance solution with intruder detection uses image analysis technology. The video analytics with facial recognition technology can detect unauthorized access, unidentified objects, unusual behaviour, fire and any type of environmental abnormality. A video clip is sent instantly to security personnel so they can quickly respond to provide assistance.

Facial authentication offers the advantage of not requiring direct contact. Face images can be captured from crowds and authenticated discretely from a distance without causing congestion. NEC's facial recognition technology can identify dangerous or wanted individuals regardless of the vantage point and changes in appearance.

### Modernizing Civil Services

The Institute of Identification of the Civil Police of the Federal District in Brasília, Brazil performs fingerprint identifications to provide civilians with identity documents (IDs), as well as to help solve crimes. The manual identification system was not able to support demand for civilian IDs, criminal investigations or the judicial process, which left citizens at risk. The Brasília Civil Police needed to modernize its technologies in order to identify people by their fingerprints against millions of records quickly and accurately.

NEC delivered a complete Automated Fingerprint Identification System (AFIS) that performs both Civil ID and Criminal ID searches, analysis, and checks. With the new

NEC AFIS, the Civil Police now issues a record-breaking 22,000 IDs monthly, so there is no backlog of identity document requests. The NEC AFIS also eliminates the risk of duplicate identifications being issued and identity fraud.

In only eight days, investigators were able to identify 111 criminals in cold cases; while a thefts and robberies police task force solved 440 cases in only 22 days. The citizens of Brasília now enjoy more security, justice, dignity and citizenship.



### Fast & Accurate

NEC's facial authentication technologies have achieved top ranking in the NIST Multiple-Biometric Evaluation 2010 Still-Face Track testing with an accuracy rate of 99.7% (FAR 0.1%), well ahead of the second place competitor. While achieving the highest accuracy rating, NEC's average time to process a query from a total of 1.6 million images was by far the fastest among all participants.

*NIST test results do not constitute endorsement of any particular system by the government. For more information, visit [http://www.nist.gov/customcf/get\\_pdf.cfm?pub\\_id=905968](http://www.nist.gov/customcf/get_pdf.cfm?pub_id=905968)*

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"Helping communities improve public safety and quality of life through our identification technologies, as evidenced by our unrivaled matching algorithms, is a priority to NEC," said Takaaki Shimizu, Senior Vice President, NEC Corporation. "It is satisfying to know that NEC's extensive portfolio of public safety solutions is contributing to the protection and well-being of people around the world. NEC aspires to leverage the power of innovation to realize an information society friendly to humans and the earth."

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monetary policy and by America's rapidly rising public debt. They fear that stimulus measures put in place to revive America's flagging economy will sooner or later generate a burst of high inflation and weaken the dollar. That would hurt holders of US government bonds, including China. Around \$2 trillion of its currency reserves of \$3.2 trillion are in dollars, mostly in bonds. On August 5th America lost its triple-A credit rating from Standard & Poor's because it had failed to come up with a credible plan to cap its public debt. China's official news agency, Xinhua, immediately called for a new reserve currency.

Such calls have been made before, during bouts of dollar weakness in the late 1970s and mid-1990s, but the dollar still holds the privileged position in the world's monetary system it has occupied since the second world war. It faces no immediate challenge to its status, notwithstanding the debt downgrade, because there are few good alternatives. Despite a long and steady decline in its value against other currencies, it still accounts for 60.7% of the world's \$9.7 trillion of currency reserves. That is around three times America's weight in the world economy as measured by GDP. The dollar's closest rival, the euro, accounts for 26.6% of the world's reserves.

How does one currency maintain such dominance? Text-book economics says domestic money has three uses: as a unit of account against which the value of goods is measured; as a medium of exchange; and as a store of value used to conserve spending power for a rainy day.

The won fulfils these roles in South Korea; the yuan does the job in China; and the dollar provides these services in international markets as well as in America. It is the unit of account for commodities such as crude oil that are traded globally. Most trade that is invoiced in a currency other than those of the trading partners is quoted in dollars. And because the dollar is the benchmark for world prices and is used to settle cross-border trades, it makes sense for countries to keep stores of dollar reserves, both as a float and to bolster confidence in their own currencies.

The demand for reserve currencies is a boon to their issuers. Around \$500 billion of America's currency is used outside the country's borders. Some of this cash is used to lubricate dollar-based international trade. But much of it greases the wheels of cross-border crime such as drug trafficking: crooks need a unit of account, a medium of exchange and a store of value just like legitimate businesspeople.

Indeed, a reserve currency might almost be defined by its appeal to criminals. Of the €900 billion-worth of euro notes in circulation, a third by value comes in the form of the pink and purple €500 note. Cynics say it was issued to capture a share of the international black market from the dollar, for which the largest denomination is \$100. An illegal stash of €500 bills would be lighter, easier to conceal and easier to count. The €500 note was withdrawn by banks in Britain after police said its main use was in organised crime. That is a compliment of sorts to the euro. When Somali pirates or Russian gangsters demand payment in yuan, it will be the surest sign that economic power has shifted to China.

The cost of printing \$500 billion-worth of notes is negligible compared with the value of the goods and services they can command. In order for those notes to circulate outside America, they must first have been exchanged for \$500 billion-worth of goods and services. They represent a cost in real resources. The

gap between the printing cost of banknotes and their face value is called seigniorage. Governments that print reserve currencies benefit from extending seigniorage beyond their own borders.

Issuers of international currencies also enjoy protection from currency volatility. A Vietnamese exporter selling to China is exposed to exchange-rate risk: he pays his workforce in dong, the local currency, but receives payment in dollars. If the dollar falls, so do his earnings, but his labour costs are unchanged. American exporters do not have to worry about currency mismatch because both their domestic costs and their export earnings are in dollars.

Nor has America had much need to acquire costly reserves of its own. Under the Bretton Woods system of fixed exchange rates that governed rich-country trade until 1971, members were constantly at risk of running short of dollars if their exports became uncompetitive, whereas America could always print more dollars. This was an "exorbitant privilege", grumbled France's finance minister at the time, Valéry Giscard d'Estaing.

#### Exorbitant privilege v original sin

The privileges of reserve-currency status were not confined to the dollar, though it enjoyed the lion's share. They include being able to borrow cheaply. The dollars and euros (and, to a lesser extent, the pounds, Swiss francs and yen) that other central banks keep in reserve are mostly in the form of government bonds. The extra demand weighs on bond yields and sets a lower threshold for the cost of credit for businesses and consumers.

This part of the exorbitant privilege contrasts with the emerging world's "original sin", a term coined by Barry Eichengreen of the University of California, Berkeley, and Ricardo Hausmann of Harvard University for some countries' inability to borrow in their own currencies. Borrowing in foreign currencies (as Brazil and other Latin American countries had done before the 1980s debt crisis) leaves original sinners at risk of default if their currency loses value. Trouble-prone countries have often had to keep interest rates high, even in a recession, to support their currencies and stave off default on foreign-currency debts. Hungary is a recent example of a country in this sort of trap. The Federal Reserve has never had to worry about such things.

The divide between the exorbitantly privileged and the



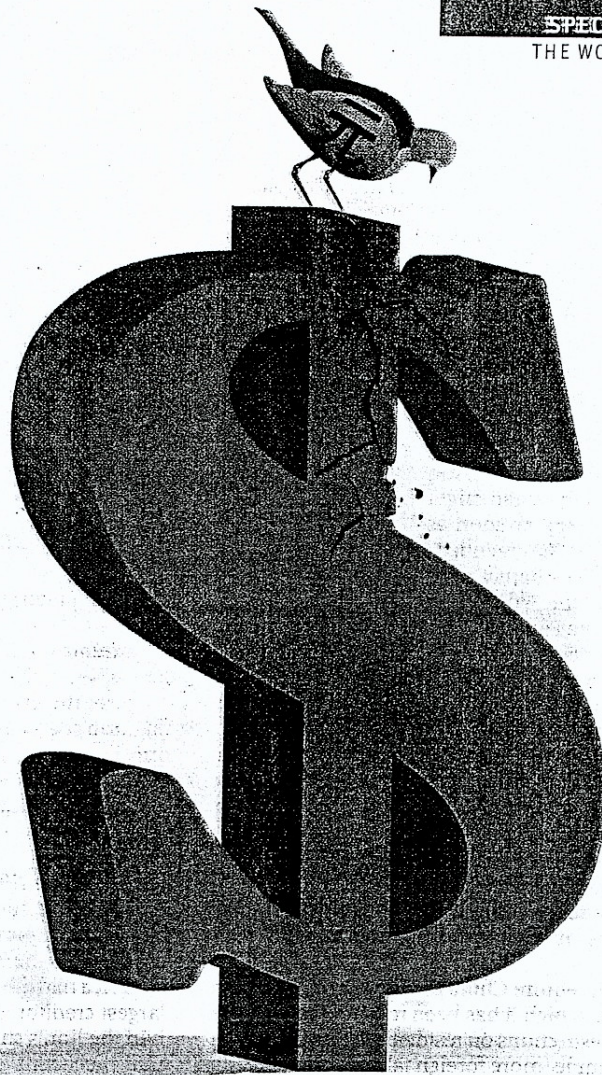
*China hates having to rely on the dollar. Officials are troubled by the Federal Reserve's loose monetary policy and by America's rapidly rising public debt*

original sinners was especially deep after the East Asian crisis of 1997-98. The lesson from that crisis was never to be short of reserves. The investment rate in emerging Asia fell, the saving rate stayed high and the excess saving was sent abroad. It marked the start of an unprecedented build-up of foreign exchange to insure against future balance-of-payments problems. The world's currency reserves increased from \$1.9 trillion in 2000 to \$9.3 trillion in 2010. Much of the increase was in China.

The surge in demand for safe and liquid assets in dollars, euros and pounds pushed down long-term borrowing costs. The savings of the emerging world allowed the rich world to spend too freely, one of the deeper causes of the wave of crises that has afflicted the rich world since 2007. America's financial markets met the global demand for "safe" dollar assets by repackaging the mortgages of marginal borrowers as bonds, which turned sour. But the resulting financial crisis hit mainly the rich world rather than the emerging markets.

Rich-world banks and investors seeking higher returns ▶▶





► when interest rates were low had bought a lot of the rosy mortgage securities. That made room for reserve managers in emerging markets to buy more bonds backed by governments or issued directly by them. Investors were so anxious for yield that they barely distinguished between good and bad credits. Countries with large public debts, such as Greece and Italy, could borrow as cheaply as countries with sound public finances such as Germany. Windfall tax revenue from housing booms fuelled by cheap foreign credit made the public finances of Ireland and Spain look sound until recession (and, in Ireland's case, the terrifying cost of bank bail-outs) caused public debt to explode.

Some believe the exorbitant privilege is really a curse that lures the reserve-currency country into too much borrowing or printing too much money. Over time this saps the economic and political strength that was the source of the privilege. This paradox was first noted in 1947 in a Federal Reserve paper written by Robert Triffin, a Belgian-born economist.

Under the Bretton Woods arrangement currencies were pegged to the dollar at fixed exchange rates. The dollar in turn was tied to gold at a fixed price. Triffin spotted a dilemma. A rising stock of dollars was needed to finance world trade. The more dollars were supplied, the more the currency's link to gold would be questioned since America's gold stocks would support an ever-larger pile of banknotes. This came to a head in August 1971 when heavy selling forced President Nixon to suspend the

conversion of dollars into gold.

The Triffin dilemma is echoed in contemporary worries about the rich world's public debts and its currencies. Easy access to credit lured the euro zone's periphery into overborrowing. Greece is insolvent, Ireland and Portugal are not far off. For reserve currencies, what is safe is in conflict with what is convenient, argues Stephen Jen of STJ Macro Partners, a hedge fund, adding that "the euro is efficient but it's not safe." Reliable and liquid repositories for rainy-day saving are scarce, which is why reserve managers and bond investors continue to push money into the Treasury market. But this tempts America to overextend itself, amassing debts it may one day struggle to service.

As America's weight in the global economy drops, supplying the world with most of its reserve currency needs may become too big a job for the country. In his recent book, "Exorbitant Privilege", Mr Eichengreen argues that a reserve-currency system will emerge in which the dollar, the euro and the yuan share the privileges and the responsibilities. That would make the world a safer place, he reckons, because each issuer would nudge the others towards financial and fiscal discipline.

It is not obvious that one currency needs to play a pre-eminent part. In its heyday, sterling was rarely as dominant as the dollar has been since it took over. On the eve of the first world war the pound accounted for only around half of all reserves: most of the rest was in French francs and German marks. By 1924 more re- ►►



erves were held in dollars than in sterling.

The dollar is flawed, but so are the candidates to displace it. The euro has no single fiscal authority standing behind it. Nor is there a single issuer of sovereign debt to match the size and liquidity of the market for US Treasuries—although the bonds issued by the European Financial Stability Facility (EFSF), the euro area's emergency bail-out fund, may foreshadow a single euro bond backed by all its members. For all its shortcomings, the euro still accounts for a quarter of the world's reserves. Even as the region's sovereign-debt crisis has deepened over the past year, its currency has gained ground against the greenback.

The speed at which the dollar rose to prominence suggests that the yuan might be an international currency as soon as 2020, says Mr Eichengreen. The greenback overtook sterling in reserves barely a decade after the founding of the Federal Reserve in 1913 as the backstop of dollar liquidity. The Fed pushed the dollar by fostering a liquid market for trade acceptances, the credit notes used to fund shipments. By the mid-1920s more trade was carried out in dollars than pounds and more international bonds were issued in New York than in London.

However, the obstacles to the yuan becoming a reserve currency are bigger than those faced by the dollar in 1913. At that time America was already a trusted storehouse for capital, a democracy where the rule of law was firmly established. China's recent history is less reassuring, so it will take a while before foreigners feel secure keeping their savings in yuan. The currency would have to be fully convertible so that investors could park their yuan reserves in assets of their choosing and redeem them when needed.

This in turn would require China to allow capital to move freely across its borders, which it has been reluctant to do. In recent years it has eased restrictions on residents taking capital out of the country; for example, more foreign takeovers by big Chinese firms have been allowed to go ahead. But foreigners face formidable barriers to bringing money into China because the government is reluctant to cede control of the yuan's value or of domestic bond yields to the ebb and flow of foreign capital.

China has taken some baby steps toward setting the yuan free. It has allowed trade in goods to be invoiced and paid in yuan. The proceeds can be put to work in a fledgling offshore yuan market in Hong Kong with restricted links to the mainland. Trade settlement in yuan has grown rapidly, reaching 600 billion in the second quarter of 2011 (around 10% of total trade), according to the People's Bank of China.

So far such trade settlement has been a rather one-sided affair: most has been for imports (ie, Chinese firms paying foreigners in yuan for supplies). Few of China's exporters are willing or able to demand yuan from foreign customers, though those customers should not find it hard to get hold of the currency. China's central bank has set up swap agreements with the central banks of many of its emerging-market trading partners, ranging from Singapore to Kazakhstan, allowing foreign banks to supply yuan to their customers.

By the end of July yuan deposits in Hong Kong had swollen to 572 billion. The IMF said in July that 155 billion of yuan-denominated bonds (so-called "dim sum" bonds) had been issued in Hong Kong since the market was set up, many by branches of mainland banks. Issues by non-financial foreign companies are less common, in part because firms still need permission to bring the cash raised into China. There have been some high-profile deals, though the bonds have short duration. McDonald's sold a three-year bond last year. Caterpillar, an American maker of

earthmoving equipment, has issued a couple of two-year bonds so far. A recent sale in Hong Kong of 20 billion yuan of government debt was heavily oversubscribed.

The offshore yuan market has quickly come up from nowhere and China's central bank has continued to strike bilateral swap deals to keep it growing. But it is a big leap from being a currency in which a chunk of your own trade is settled to being a fully fledged international currency, and a further jump to reserve-currency status. Only a small fraction of the world's \$4 trillion in foreign-exchange deals each day are for trade settlement.

### *It is a big leap from being a currency in which your own trade is settled to being a fully fledged international currency, and a further jump to reserve-currency status*

The bulk of currency dealing is for hedging or related to trading in stocks, bonds and other assets. The dollar is one side of 85% of all currency trades, according to the Bank for International Settlements (see chart 2). The yuan accounts for just 0.3% of turnover.

Yet the exorbitant curse will catch up with the dollar one day and the yuan is its most likely replacement. China's economy is second only to America's in size and is likely to overtake it soon. It is already the world's largest exporter. And it has net foreign assets of \$1.8 trillion, whereas America owes a net \$2.5 trillion to foreigners. Only Japan is in a stronger position.

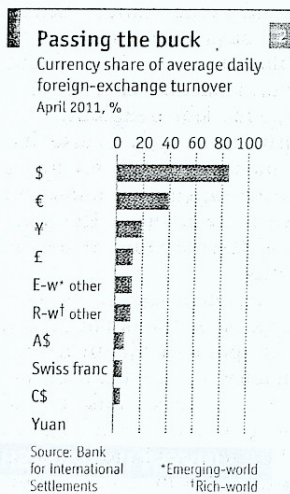
#### A global yuan?

Reserve-currency status depends on these three gauges of economic dominance—size of economy, exports and net foreign assets—says the Peterson Institute's Arvind Subramanian. By 1918 America had the world's biggest economy and would soon be its largest creditor and exporter; within a few years the dollar also had the lion's share of the world's foreign-exchange reserves. If that precedent is anything to go by, the yuan should soon become the main global reserve currency, and not merely a junior alternative to the dollar or the euro.

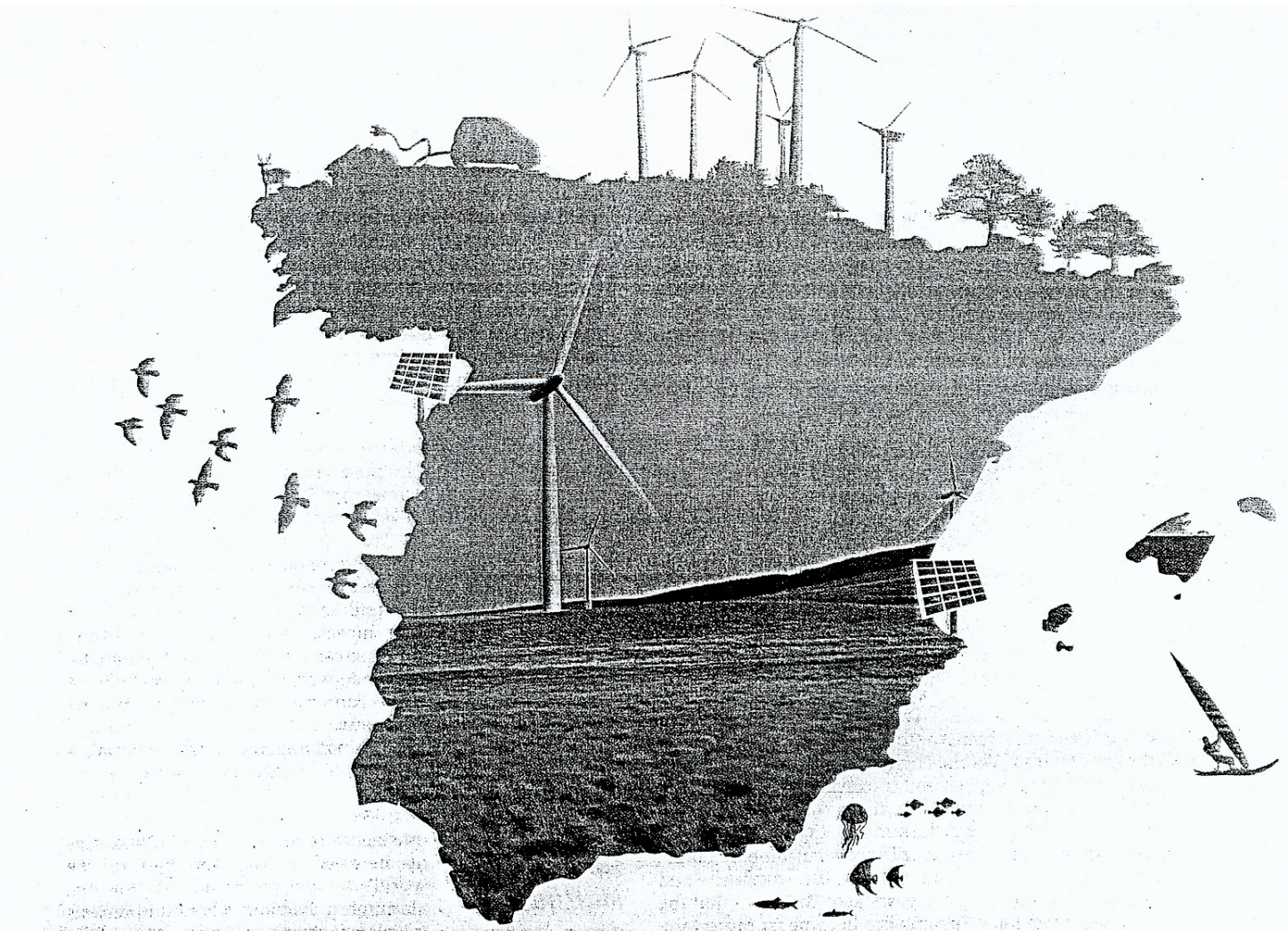
The rewards to China of opening up fully to foreign capital trump the risks, reckons Mr Subramanian. Turning the yuan into a reserve currency offers China a way out of its mercantilist growth model, which has run its course. Demand for yuan reserves would push up the exchange rate, discourage exports and give China's consumers greater purchasing power. A push for reserve

status for the yuan would go hand in hand with the development of China's financial system—a necessary step to support the small- and medium-size businesses it needs to serve its domestic market, and for many other reasons. For China to escape the middle-income trap, it will have to let go of the yuan.

The rich world's monopoly on reserve-currency privileges has given it first call on the world's precautionary savings. For now, it is clinging on to its privileges. But rivalry from developing countries in the markets for oil and commodities is already exacting a price from the West. ■







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Commodities

# Crowded out

## Chinese demand had ended a century of steadily falling raw-material costs for rich-world consumers

LOOK OUT ON any day from Pier Two at the Tubarão Port complex in Brazil and you will see at least half a dozen ships on the horizon. The queue of waiting vessels allows the port's loading manager, Leonardo Barone, to keep its three piers in constant use. Tubarão is owned by Vale, the world's largest iron-ore company. A record 104m tonnes of ore was shipped from here last year.

Back from the water's edge a phalanx of huge dumpers unload iron ore from the trains arriving from Vale's mines in Minas Gerais. The 905km railroad carries 40% of Brazil's rail freight on just 3% of its track. A standard freight train on this line has 252 carriages and three locomotives. Around 4,000 carriages are emptied in Tubarão each day.

The unloaded ore is blended and stockpiled in a vast yard enclosed by fine-mesh screens to stop the dust from blowing towards the nearby city of Vitória. Then it is scooped by giant rotating buckets onto a moving belt and conveyed to a long chute at the pier where it is poured into the hold of a waiting vessel.

The port's construction in the mid-1960s was sponsored by steelmakers from Japan. Today Brazil's main customer is China, which takes 15% of its exports (mostly iron ore, soyabeans and oil), up from almost nothing ten years ago. The cargo that the ships are queuing up for at Tubarão has become far more valuable. Iron ore now fetches \$178 a tonne, compared with \$13 a tonne in 2001.

Broader measures of raw-material costs have jumped as well. *The Economist's* index of non-oil commodity prices has trebled in the past decade. The recent surge has reversed a downward trend that had lasted a century. Industrial raw-material prices fell by around 80% in real terms between 1845, when *The Economist* began collecting data, and their low point in 2002 (see chart 3). But much of the ground lost over 150 years has been recovered in the space of just a decade.

This has raised the incomes of commodity-rich countries such as Brazil and Australia as well as parts of Africa. It has also caused even sober analysts to speak of a "new paradigm" in

commodity markets. Even though GDP has slowed to a near-standstill in many parts of the rich world, the price of crude oil is close to \$100 a barrel—as high in real terms as after the oil shocks of the 1970s (see chart 4 on next page).

What accounts for this turnaround? The price spikes over the past century were linked to interruptions in supply, notably during the first world war. But recent price rises have been too broad-based and long-lasting to be adequately explained by frost or bad harvests. Nor is it obvious that producers are hoarding supplies. At Tubarão everybody is straining to get the ore onto the ships more quickly. Valuable time is lost in docking and in starting the loading.

There is a more straightforward explanation for the scarcity: the surge in commodity prices is simply the result of exploding demand and sluggish supply. The demand side has been boosted by industrial development unprecedented in its size, speed and breadth, led by China but not confined to it. Growth in

emerging markets is both rapid and resource-intensive. The IMF estimates that in a middle-income country a 1% rise in GDP increases demand for energy by the same percentage. Rich economies are far less energy-hungry: the oil intensity of OECD countries has steadily fallen in recent years.

China's appetite for raw materials is particularly voracious because of the country's size and its high investment rate. Though it accounts for only about one-eighth of global output, China uses up between a third and half of the world's annual production of iron ore, aluminium, lead and other non-precious metals (see chart 5 on page 16). Most of the energy for Chinese industry comes from coal—a dirty fuel that contributes to China's poor air quality. Its consumption of oil roughly tallies with the economy's size but is likely to grow faster than GDP as

China gets richer and buys more cars.

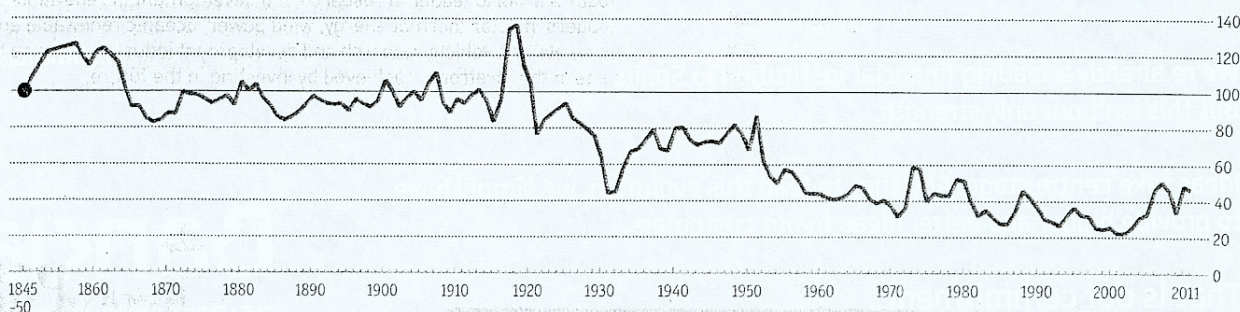
Supply has struggled to keep pace with this burgeoning demand. The world's iron-ore production has doubled over the past decade but prices have risen 13-fold. The metal content of copper ore has been falling since the mid-1990s as existing mines are depleted. This mismatch between demand and supply is an age-old problem in commodity markets. It takes years to find and develop new mines and oil reservoirs and to build the infrastruc- ▶▶



*Optimists bet on human ingenuity to spring the Malthusian trap, as it has done so often before*

### Metal detector

The Economist industrial commodity-price index, real\* \$ terms, 1845-50=100



Sources: *The Economist*; Thomson Reuters

\*Adjusted by US GDP deflator



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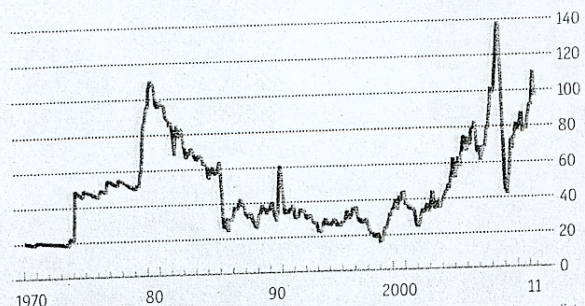
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### Crude awakening

Oil price\*, \$ per barrel at 2011 prices



Sources: *The Economist*; Thomson Reuters

\*West Texas Intermediate

► ture (rigs, pipelines, railways, ports) to bring the commodities to market. Supply responds slowly to price increases and delay often leads to excessive investment which then depresses prices.

The extractive industries had only just recovered from such a binge when prices began to rise again. By the start of the millennium a long bear market in commodities had purged the excesses of the 1970s, says Dylan Grice at Société Générale. The sector was poised for contraction but instead faced the biggest and fastest industrialisation in history.

The supply of commodities is again slowly catching up. The big reserves are mainly in remote and sparsely populated areas. That is in part why the economies of Australia, Canada, Brazil and sub-Saharan Africa have been growing quickly. Brazil is blessed with timber, exceptionally fertile land, metal ores and now oil reserves—though the biggest of these are in hard-to-reach places, far off the coast and in deep water beneath a layer of salt. There is now a shortage of geologists who can help with the search for oil. OGX, an oil firm founded by Eike Batista, a Brazilian magnate, has tempted some retired ones back to work.

Brazil's offshore oil will be expensive and difficult to recover. If this is what the world is relying on, say the pessimists, the shortage of oil is truly critical. They argue that the resource limits to growth first noted by Thomas Malthus in the late 18th century still apply. Optimists bet on human ingenuity to spring the Malthusian trap, as it has done so often before.

#### Why it matters

The imbalance in commodity markets is likely to persist at least until resource-hungry countries become richer and new supplies come on stream. In the meantime the surge in emerging-market demand will continue to hurt the advanced economies. The rise in oil and commodity prices has pushed up inflation in rich countries and acted like a tax on consumers.

The IMF reckons that a 10% rise in oil prices knocks 0.2-0.3% off global GDP growth in the first year, but the impact on a big oil consumer like America is twice as large. The sluggish growth in America's economy in the first half of this year was due in part to higher oil prices, which in turn were caused partly by strong GDP growth in China (though supply disruptions also played a role).

The commodities boom has also made monetary policy more complicated. Inflation targets allowed governments and central banks to argue that price stability and full employment were complementary goals. If too many workers were idle, that would bear down on prices and allow central banks to keep interest rates low to boost spending and jobs and to guard against deflation. For a decade after 1997 China's effect on world prices had made life easier for the rich world's central banks. Imports of

cheap goods from China brought down prices in America and elsewhere, keeping inflation low. But now that Chinese wages are rising, the effect of the country's rapid industrialisation on world commodity prices is pushing up rich-world inflation.

Because of the persistent rise in commodity prices, inflation has not come down even though there is lots of slack in most advanced economies. The textbook response to commodity-led inflation is to regard it as temporary and ignore it. But that becomes harder if it persists and raises expectations of future inflation. In Britain, for instance, inflation has been above the Bank of England's 2% target for most of the past four years, yet interest rates have been close to zero. Some complain that the inflation target has simply been abandoned.

Commodity prices are acting as regulators of global growth. The emerging markets are first in the queue for supplies because they are often able to use each extra barrel of oil or shipment of ore more gainfully. Their demand raises prices and lowers real incomes in the rich world, which gets crowded out. Rich countries had become used to unlimited access to cheap raw materials: prices had been falling for a century or more. Now there is competition for primary resources. Producers are benefiting and rich-world consumers are suffering, at precisely the time when they are also increasingly anxious about job security as China and India rise and rise. ■

#### Exporting jobs

## Gurgaon grief

#### Now for the next shake-up in the global labour market

AS THE DELHI metro snakes its way out of the crowded south of the city the scene turns more rural, with the occasional water buffalo, schoolgirls playing hopscotch outside a village school and crudely built brick houses. But by the time the train draws up to the suburb of Gurgaon, the cacophony of urban India is heard once again.

Twenty years ago Gurgaon was farmland. Now it is a sea of villas, shopping malls, office blocks and apartment buildings with names like Beverly Park and Oakwood Estate. The metro hoardings advertise the best places to buy officewear or the Lovely Professional University's record for getting people into jobs. On a busy Friday the roads are crammed with honking Tata Sumos, the local sports-utility vehicle. Many drivers are on their way home after a night working the American shift.

Gurgaon is a global centre for outsourcing back-office services. Here and in other such hubs around India, routine office work and data analysis are carried out for a variety of corporate customers, many from rich countries (so their tasks have been offshored as well as outsourced). The work can be sophisticated: crunching the profit-and-loss numbers of listed companies for Wall Street analysts, or teasing spending patterns from the data gathered by supermarket tills.

Wages in Gurgaon are a small fraction of those of a back-office clerk in Newcastle or New York. That lowers costs for consumers. But it also raises anxiety among workers about low pay and a drain of jobs to cheaper locations. The range of tasks that can be outsourced and offshored is constantly expanding.

The notion that trade kills jobs is based on the false premise that there is a fixed amount of work to do. The world's leading ►



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Economies have been ceding jobs to low-income rivals since the industrial revolution. The cotton industry in Britain was in the vanguard of that transformation but soon faced competition—first from New England, then from America's South. The mills have largely disappeared and the spinning and weaving jobs replaced by better-paid ones. As the division of global labour becomes ever more fine-grained, small tasks rather than whole industries move abroad. Trading partners share the efficiency gains. The world is better off, even if some individuals lose out.

### Many more to go

This sort of gradual restructuring is not new, and neither is the job insecurity that stems from it. But anxiety about offshoring has risen, for three reasons. First, jobs are already scarce because the hangover from recessions caused by financial crises lasts longer than that from other sorts of downturns. Second, China and India between them have around 2.5 billion people, so the potential for further offshoring from the rich world is immense. Third, advances in computing and communications allow for a wider range of jobs to be shifted across borders.

These last two factors mean that offshoring will be a hugely disruptive force, says Alan Blinder, a professor at Princeton University. A recent study carried out in America with a Princeton colleague, Alan Krueger, found that a quarter of the workers interviewed considered their work potentially “offshorable”. This figure includes all manufacturing jobs, as goods are readily traded across borders. But it also covers many occupations that used to be thought safe from foreign competition.

Any service job that can be delivered down a wire without any diminution in quality is offshorable, reasons Mr Blinder. That means high-paying jobs in accountancy, financial analysis or computer programming are at risk. Jobs that involve face-to-face contact or require the worker to be present are safer: think of taxi drivers, plumbers, police officers or janitors. Mr Blinder makes a distinction between personal and impersonal services. Only the latter are offshorable. A contract lawyer or radiologist is vulnerable to offshoring; a divorce lawyer or family doctor isn't.

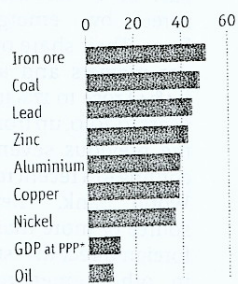
Yet not all the jobs that can be offshored will be. Even in manufacturing the savings on labour from offshoring are often outweighed by other cost considerations. Low-value bulky goods, such as bricks or bottles, tend to be made close to where they are consumed because transporting them is expensive. Cars are also mostly made in the countries where they are sold.

High-tech manufacturing relies on a skilled labour force working closely with design teams. There is little cost advantage to offshoring for small batches of goods or where fast delivery to local customers is important. Economies of scale mean industries are “sticky”: Britain's cotton industry, for instance, did not go into serious decline until the 1960s even though wages were high.

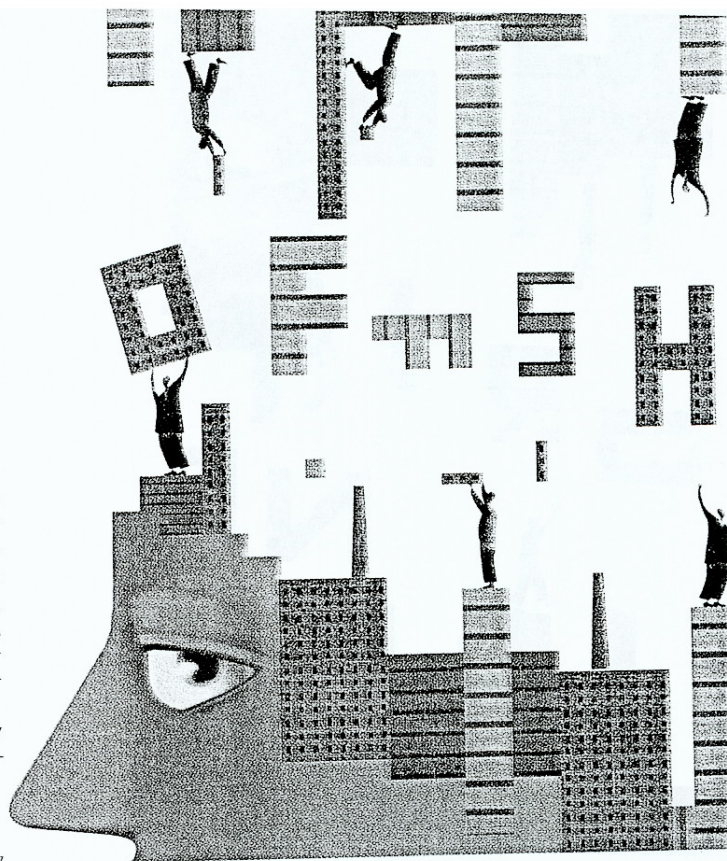
The alarm over the threat to jobs from India and China echoes the anxiety about Japan's rise in the 1970s and 1980s. America's economy has survived the shake-up of its steel, electronics and car industries, as have other rich countries. The scale of the challenge is large but may not be so much

### Wok, stock and barrel

China's share of world commodity consumption 2010, %



Sources: BP Statistical Review; IMF; Thomson Reuters; World Bureau of Metal Statistics  
\*Purchasing-power parity



larger than in the past. A quarter of American jobs in 1970 were in manufacturing and hence potentially offshorable. Many did move offshore but were replaced by jobs in service industries.

A lot also depends on what happens in emerging markets. If China can successfully switch from export-led growth to domestic sources of demand it will create more opportunities for American exports. As China and India become better off the wage gap with the rich world will narrow and the pace of offshoring will slow. And as technology opens up more sorts of work to cross-border trade it will create openings for rich-world economies whose comparative advantage is in services.

If services become more tradable that will be good for America's workers. But it might also exacerbate the growing wage divide within its own labour market. Economic theory suggests that trade with emerging markets creates a wage premium for the skilled workers in rich countries. The world's division of labour is determined by the relative abundance of skilled and unskilled workers. Rich countries have more of the former, so specialise in traded goods with a high skill content. Poor countries have more of the latter, so concentrate on low-skilled work. Skilled workers in rich countries benefit from trade, but the wages of the less skilled suffer from foreign competition.

Most studies so far have found that trade explains only a small part of the increase in income inequality in America since the 1980s. The decline of trade-union power and below-inflation increases in the minimum wage also played a role. But most of the growing inequality is probably due to technological change which makes a college education more valuable—in much the same way that trade does, in fact. It is possible that the effect of trade on wages is more significant than those studies have found. Much of the stuff that China makes is no longer produced in the rich world, so it is difficult to establish a direct link.

That may also be because the data are not detailed enough to capture the effects on relative wages within industries, says Josh Bivens of the Economic Policy Institute, a think-tank in Washington, DC. Only those with a four-year college degree (perhaps a quarter of America's workforce) are clear winners ▶▶





## South-north FDI Role reversal

### Emerging-market firms are increasingly buying up rich-world ones

THE HALEWOOD CAR plant near Liverpool was once notorious for strife. In the 1970s its bolshie workforce frequently clashed with tetchy managers. In the peaceful interludes the plant turned out fleets of Ford Escorts, a popular family car.

The plant is now part of Jaguar Land Rover (JLR), owned by Tata Motors, the car division of an Indian conglomerate. These days it is a cheerful and contented place. At one end of the plant workers examine the body parts shaped by one of ten giant metal presses. At the other end, in the paint shop, a sprayer dressed in a protective suit squirts a mist of colour inside the back door of a car shell. Fork-lift buggies, owned by DHL, a logistics firm with an on-site operation, distribute parts from outside suppliers around the factory.

The reason for the activity and the good humour is that production has recently started on the new Land Rover Evoque, a mini sports-utility vehicle. Before the car had appeared in the showrooms, JLR had taken 18,000 orders for it and it was already for sale on eBay. Thanks to the contract for the Evoque, Halewood's workforce has doubled to 3,000 in the past year. Local suppliers will also benefit.

Two centuries ago the rise of the cotton trade in the mills around Manchester and the port of Liverpool spelled doom for India's textile industry. Today Indian firms own large chunks of Britain's old industrial north-west. The Stanlow oil refinery close to Halewood was bought earlier this year by Essar, an Indian conglomerate. Brunner Mond, a chemicals firm started in 1873 just a few miles from Quarry Bank Mill, was bought by Tata Chemicals in 2006. Blackburn Rovers, a founder member of England's professional football league in 1888, is owned by V&V Group, an Indian poultry firm.

These Indian outposts are part of a broader shopping spree by emerging-market firms. Their share of cross-border mergers and acquisitions (M&A) rose to 17% in the seven years to 2010, up from just 4% in the previous seven years, according to a recent report by the World Bank. They are the source of more than a third of foreign direct investment (FDI) in other emerging markets. Typically this sort of FDI is "or- ▶▶

▶ from growing trade, reckons Mr Bivens.

The most striking feature of rising wage dispersion is not the wider gap between the skilled and unskilled but the bigger slice that goes to a tiny elite. The share of income claimed by the top 0.1% of earners increased from 2% in 1970 to 8% by 2007, according to research by Emmanuel Saez of the University of California, Berkeley, and Thomas Piketty of the Paris School of Economics. Much of this trend, says Harvard University's Richard Freeman, is explained by stock options, which are counted as part of pay. "This goes back to something we have thought of as old-fashioned: capital versus labour," says Mr Freeman.

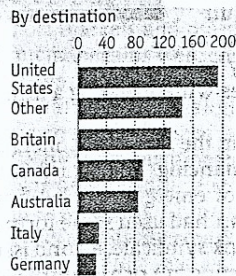
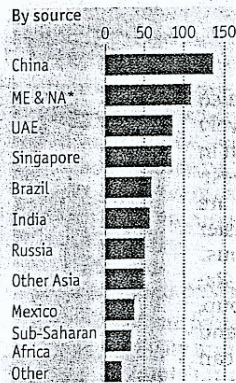
### Waiting for intelligent robots

There are dangers in extrapolation. The recent rapid growth rates in emerging markets are unlikely to be sustained. And perhaps the wage premium paid to workers with a college degree will shrink again, for reasons unrelated to trade. Scarce and expensive skilled labour is often a spur to invention. Before the industrial revolution the hand-spinning of raw cotton into thread was the main bottleneck in the production of cloth. It took six spinsters to feed each handloom used to weave thread into cloth. The introduction of mechanised spinning (of the sort carried out at Quarry Bank Mill) changed that, creating a dearth of handweavers. Then power looms destroyed the wage premium for hand-weaving, so the Luddites destroyed some of the looms in response. It is conceivable that advances in artificial intelligence might spell the end of the wage premium for skilled workers, too.

But for the immediate future skilled workers in the rich world still seem to have the best prospects. College-educated workers are more likely to be able to switch jobs in response to outsourcing than those with little education. And the rewards for those with jobs that compete in the global market for tradable services are likely to be higher than for those in low-skill personal services—though the risks of losing their jobs are also greater.

The anxiety about offshoring has obscured another change in the economic landscape that will bring jobs to rich countries: the rise of the emerging-market multinational. ■

**Uphill rush**  
Cross-border M&A deals from emerging world to rich world 2000-10



\*Middle East & North Africa excluding United Arab Emirates (UAE)  
Source: World Bank



ganic", which involves setting up a local factory or branch office. By contrast, direct investment by emerging-market firms in rich countries (so-called south-north FDI) tends to be "acquisitive", which means one company buying another.

The bulk of the emerging-markets' M&A in rich countries comes from five countries, led by China but also including India. America is the rich world's main recipient, with Britain not far behind, even though its economy is only around one-sixth America's size. Other big targets are commodity-rich Canada and Australia (see chart 6 on previous page).

Firms from America and Europe are falling over themselves to invest in fast-growing emerging markets like China and India to escape sluggish economies at home. But why are emerging-market firms rushing in the other direction? The main reason is that, like rich-world multinationals, they seek access to new customers. "As a company you don't want to be confined to local growth," says Mansoor Dailami, one of the authors of the World Bank report. "You want to have the global economy as your market."

An acquisition is often the quickest (and sometimes the only) way to gain a foothold in a country. JBS Friboi, a big meat company based in Brazil, had no presence in the American market until it bought Swift, a struggling American rival, in 2007 (see box). Tata's purchase in 2000 of Tetley, a British tea firm, gave it instant access to consumers in North America, as well as in Britain.

### Slow but steady

Emerging-market firms may also want to limit their exposure to their lively but often brittle home market. Growth in the rich world may be slow but the investment climate is often warmer. There are better regulations; the tax laws are easier to live with; the courts are less capricious.

Brands are a consideration too. Ratan Tata, the chairman of the Tata group, said the chance to own the Jaguar brand was "irresistible". Building a brand can take years and pots of money; buying an established one is often cheaper. Acquiring a rich-world company can also be a quick way to get hold of technology as well as the tacit know-how that comes with operating a firm in mature markets.

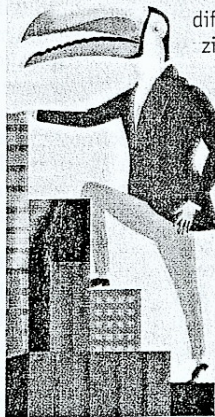
Moreover, a corporate presence in the rich world offers access to cheaper and more reliable financing. The World Bank study found that around two-thirds of emerging-market firms which were active in cross-border M&A had used some form of international financing to do so—a bank syndicate, a bond issue in foreign currency or a stockmarket listing in a rich country. Corporate bond markets in places like China and India are still underdeveloped, so a big, globally financed M&A deal paves the

## Beefed up

The world's largest meat company is Brazilian but mostly operates abroad

JBS STARTED IN 1953 as a butchers founded by José Batista Sobrinho in Anápolis, a city in Brazil's central state of Goiás. The firm expanded initially thanks to a fast-growing Brazilian economy and more recently by acquiring other companies. It is now the world's largest meat producer. In 2010 it had revenues of 55 billion reais (\$31 billion), only a third of which were from its operation in Brazil.

The JBS plant at Lins, 450km from São Paulo, is one of the firm's largest and employs 5,000 people, working two eight-hour shifts. Inside teams of butchers fillet and trim the carcasses that arrive on a conveyor belt, tossing the cut meat into plastic-lined trolleys. Much of the raw beef is cooked and canned at the plant. It is first ground into mince and then steamed and rotated in an oven angled like a cement mixer so that the juices run off. Fat, salt, sugar and colouring are added to the half-cooked mix before it is canned. The cooking is completed at high temperatures in the cans which are then dried and labelled. The market for this sort of processed meat is global: the plant supplies canned meat for Princes, a British firm, as well as beef toppings for pizza parlours in Belgium and Holland.



Fresh meat is a different matter. Brazilian companies like JBS are banned from exporting it to America for fear of foot-and-mouth disease. This is one reason why in 2007 JBS bought Swift, then America's biggest beef processor, based in Colorado. Two years later it

purchased Pilgrim's Pride, a Texan chicken producer. The deals were in part opportunistic: both companies were in financial trouble and JBS was able to raise money quickly, some of it in Brazil's equity market. But they also gave JBS a presence in and access to the American market. That in turn allowed it to export to Japan and other Asian markets from which it had previously been shut out.

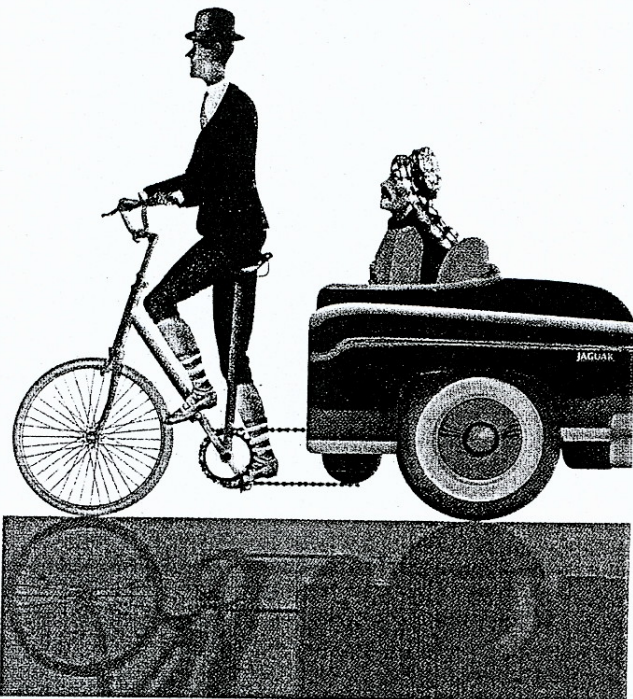
Like other emerging-market firms, JBS found it cheaper to buy brands than to build them. A fleet of small vans sporting the Swift logo sells fresh meat in the area around the Lins factory. The firm is also launching a branded range of high-quality steaks. JBS already sells fresh beef from Brazil to the European Union under the Hilton quota scheme, which cuts import tariffs on meat produced to a high standard. JBS buys 2,500 Hilton-grade cattle each year from Edson Crochiquia's Santa Izabel farm, an hour or so from Lins. It is his only customer and sends inspectors to the farm four times a year to monitor the cattle's food and board.

Because freshness is vital to high-quality food, jobs at food-processing firms cannot easily be shifted to wherever labour costs are lowest. "You have to be where the cows are," says Wesley Batista, one of the founder's sons, who runs the firm. As it happens, the cost advantage is shifting towards the firm's rich-world operations. The strong real makes it more expensive to export from Brazil and the weak dollar is a boon to the American arm. America has other advantages, too. Taxes are simpler and the jobs market is much slacker than in Brazil. "There are more people available who have the right skills and are well-educated," says Mr Batista. Moreover, it is now easier to persuade senior staff to move from Colorado to Brazil than the other way around—another sign of a world turned upside down.

way for future capital-raising.

A deeper macroeconomic force behind south-north FDI is the need to put emerging-market savings to work. The three largest emerging-market buyers of rich-world firms, China, the United Arab Emirates and Singapore, all run large current-account surpluses and so acquire claims on foreigners. (Acquisitions by firms in Brazil and India are part of a more even two-way flow of capital with the rich world.) By contrast, America funds its current-account deficit by selling assets to foreigners. Much of the imbalance in savings between the rich world and the emerging





The path ahead

## Cottoning on

The West's relative decline is inevitable but the East's rise will still be troublesome

IT IS A crisp Friday morning in Santa Isabel, a small Brazilian town 60km north-east of São Paulo. Gabriel de Matos, technology director at Paramount Textiles, is taking delivery of the latest machine for dyeing the wool yarn that is made here. It won't look out of place: most of the equipment is less than ten years old. The machines for spinning yarn are 40% faster than the ones they replaced. The new kit has allowed Paramount to supply finer-grade wools for the men's suits its customers make.

The factory refit and the move upmarket was a response to competitive pressures that have driven many local rivals out of business. The global market for woollens has halved since the mid-1990s. Consumers these days prefer casual clothes, but Brazil is now too rich to compete with cotton producers in Vietnam or Indonesia. "We need a premium product like wool to cover our costs," says Mr de Matos. China also produces wool and its land, labour and capital are often cheaper. "Thank goodness we are so far away," he says. "Time is money and that gives us some breathing space."

Paramount is copying the tricks long used by rich-world businesses to fend off low-cost rivals from emerging markets: better designs, newer machinery, shorter production runs (to give rarity value to each line) and faster delivery to local markets.

Britain bounded ahead in textile production two centuries ago, and established firms have been looking over their shoulder ever since. An early challenge came from the textile industry in New England, where countless townships called Manchester were founded (of which one survives). That cluster soon faced competition from factories in the low-wage American South.

The cotton industry has carried on travelling: its technology moves easily to wherever labour costs are low. The pattern has been repeated for other sorts of ventures. More complex technologies are harder to copy, so their diffusion has been slower. But technology eventually spreads. It is what drives economic convergence, making large parts of the developing world better off year by year.

### Demography is destiny again

For much of the past two centuries the know-how that determines productivity and living standards has been concentrated in the West. That is true of hard engineering technology as well as the tacit knowledge of how best to organise production, support markets and manage aggregate demand. Because large productivity gains were confined to the West, the populous parts of the world stayed poor.

That was anomalous. Population has determined economic power for most of human history. Now demography and productivity are pushing in the same direction. America and Europe are demographic minnows compared with the developing world's two giants, China and India. And the rich world's financial crisis and its aftermath is accelerating the shift of economic power eastwards. Just as the catch-up in emerging markets is speeding up and broadening out, the rich world's economies seem to be grinding to a halt. If China can avoid a blow-up in the next decade, it is likely to become the world's biggest economy—▶

▶ markets is made up by the sale of government bonds. But emerging markets such as China already have their fill of low-yielding Treasuries and want to acquire assets with better prospective returns, including rich-world companies.

The pattern of developed-country deficits and emerging-market surpluses is likely to continue. Except for China, the developing world is mostly young, which means that its savings tend to be higher than those of the ageing rich world. If the commodities boom continues, it will leave the oil-rich Middle East with bulging trade surpluses. The up-and-coming economies may seek to emulate China's model, which relies on others to do the spending. The resulting balance of global saving will mean that emerging-market firms will spread themselves around the rich world and employ a growing share of its workforce.

Emerging-market buyers usually offer cash and tend to overpay. A study by Ole-Kristian Hope and Dushyantkumar Vyas, of the University of Toronto, and Wayne Thomas, of the University of Oklahoma, found that firms from developing countries generally bid higher than rich-world rivals to buy companies in developed markets, often for patriotic, social or political reasons. Tata's 2007 acquisition of Corus, an Anglo-Dutch steel firm, is a case in point. Yet although Tata may have paid over the odds, it got a big confidence boost out of it, as did India as a whole. "The psychological and cultural dimensions of the deal were enormous," says Shamik Dhar, who covers Asian economies for Aviva Investors, a London-based fund manager.

Apart from a good price, the targets of such acquisitions also get a welcome infusion of animal spirits and an appetite for investment that are frequently missing from rich-world boardrooms. Developing-country bidders have created a more vibrant market for the control of rich-world companies that keeps managers on their toes.

They often gain speedier access to emerging markets too. China is JLR's fastest-growing market and might soon be its biggest one. A few of the cars made at Halewood are shipped in kit form to India for assembly. That makes the cars cheaper for Indian consumers, as there is less import duty to pay. Carworkers at Halewood seem happy to be working for an emerging-market multinational. Above all, they are happy to be working. ■





though its citizens would still be poor by American standards.

The big question for the global economy is whether the rapid growth in emerging markets can continue. The broad economic logic suggests more of the world economy's gains should come from convergence by emerging markets than from the rich world pushing ahead. Each innovation adds less to rich-world prosperity than the adoption of an established technology does to a poor country. At the start of the industrial revolution the cotton industry alone could make Britain's productivity jump. But now that the frontier is wider, there is less scope for leading economies to surge ahead. More of the world's growth ought to come from catching up.

But contrary to some excited forecasts, the growth of emerging economies is unlikely to continue at the same pace, or in a straight line. Economic convergence is a powerful force but cannot knock over every obstacle. And the barriers to growth become bigger as economies enter the difficult middle-income phase of development.

Moving capital and workers from dying to rising ventures is trickier than transplanting poor rural migrants to cities in the early phase of catch-up. As economies become richer they can rely less and less on the brute force of additional machine power to drive their prosperity. They have greater need of a skilled workforce and a financial system that is attuned to where the best returns are likely to be made. Countries that have relied on exports to fuel their growth need to shift to internal sources of spending, with all the associated headaches for monetary and fiscal policy. In the past many middle-income economies have run aground because they have failed to meet such challenges.

#### Careful what you wish for

The biggest emerging markets, with their huge foreign-exchange reserves, appear to be almost crisis-proof (at least outside eastern Europe) in contrast to the seemingly crisis-prone rich world. But setbacks in making the shift from poor to rich are inevitable. Indeed a lesson of recent economic history is that countries and regions that ride out a crisis well are all the more vulnerable to the next one. Hubris leads to policy mistakes, as the developed world has proved so devastatingly. So thick is the gloom pervading the rich world that the once-regular emerging-market crises have almost been forgotten. But this makes it even likelier that they will one day return.

Those anxious that the rich world's economic power is ebbing might welcome a few emerging-market slip-ups. A less frantic rate of growth in the developing world would also slow the relative decline of the West and allow it to cling on to some of its privileges for longer. The dollar and the euro could maintain a reserve-currency duopoly for longer; commodity-price pressures on businesses and consumers would ease; and the impact of developing economies on relative wages and jobs turnover might be less jarring.

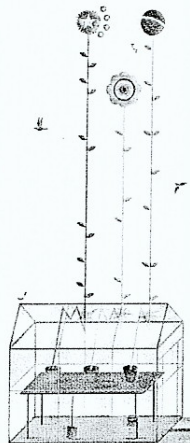
Yet the emerging markets are the best hope for global growth—for the next few years at least. Japan's economy is in a funk; the euro zone is in danger of imploding; and much of the rest of the rich world is hung-over from a giant credit boom. America, Britain and others took on debts that now look steep

compared with incomes and the value of the homes against which much of the money was borrowed. They are saving hard to fill the gap. Those with cash (including a chunk of the corporate world and not a few households that gained from the housing boom) are clinging on to it because of uncertainty about future demand, job prospects, taxes, the supply of credit and much else.

That is the main reason why a fast rate of catch-up by the emerging markets would be better for the West than a faltering one. A richer and more consumer-led China would be likelier to buy more of the services in which developed countries have a comparative advantage.

It would be healthy, too, if the developing world could break the rich world's monopoly on international finance. The emerging markets account for almost half of global GDP but have no reserve currency of their own. For now there seems little alternative to the dollar as a financial lodestar and the main storehouse for the world's precautionary saving. The yuan is the likeliest candidate to supplant it but has so far taken only baby steps to becoming international. The longer it takes for the yuan to emerge, the more risky the global financial set-up will become. The worry is that strong demand for Treasuries as reserves might tempt America to overstretch itself. The wreckage from the rich world's housing bust shows the dangers of money that is too cheap.

In other ways, too, it might be better for the rich world if China and others caught up with it sooner rather than later. Faster catch-up would narrow the wage gap between emerging and rich countries and help to relieve the downward pressure on un-



*The growth of emerging economies will not continue at the same pace, or in a straight line. Setbacks in making the shift from poor to rich are inevitable*

skilled wages. A mature Chinese economy would waste fewer natural resources on hard-to-justify investments. Many in the rich world fear the loss of economic dominance that will be the eventual outcome of convergence. But perhaps losing it is worse than having lost it.

And perhaps the pessimism about America and Europe is as overdone as the optimism about emerging markets. The rich world is an enticing place when viewed from the developing world. For all its troubles, America's economy is a source of envy. Europe's high-end industries and luxury goods are not easily mimicked. Emerging-market firms find it easier to do business, to raise finance and to find skilled workers in the rich world. Such attributes are hard to replicate. If it were easy, the emerging economies would already be rich. ■

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