Executive Summary

The World's Industrial Transformation

A Chatham House Report

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The last 25 years have seen a dramatic transformation of the world's manufacturing landscape. Globalization has hugely increased the world's available labour supply while a flood of foreign direct investment by multinationals has unlocked new sources of advantage.

The star performer has been China. It is now the world's largest manufacturer, overtaking the United States in 2011. Most dramatically, in the automotive sector it produced more vehicles in that year than the United States and Japan combined.

Prospects for the world's manufacturing landscape are more uncertain. In developed countries the financial crisis and recession have highlighted structural problems which will take a long time to overcome, and a long period of tepid growth is likely in the West. This will involve rebalancing in favour of industry as financial and public-sector services shrink.

Fortunately, developing countries such as China and India should continue to grow at a healthy rate, partly owing to the emergence of a huge middle class that will need consumer goods and vast infrastructure investments. Both will boost domestic industry.

Putting these two economic outlooks together, the long-term fall in the share of manufacturing in the world economy is likely to be halted. Much faster growth in the developing world, where manufacturing has a bigger share than in the developed world, will reinforce this trend.

Companies will continue to seek out the best locations. Wages in some developing countries are growing much faster than in the West. This is the case in China's coastal provinces, prompting companies to move to inland China and to other lower-cost locations such as Vietnam and Bangladesh. This trend will also lead to the 're-shoring' of some production to developed countries. Further factors that could encourage this trend are higher real exchange rates in developing countries and higher transport costs if oil prices rise.

Many multinationals have an interest in preserving free trade, given their dependence on global supply chains. Despite this, there may be greater political pressures to promote domestic production and bring jobs home during future recessions and at certain points in countries' upcoming electoral cycles. Although this report takes the view that these protectionist pressures are unlikely to lead to a significant or sustained reversal of globalization, governments will need to be ever more proactive in arguing for the benefits of continuing globalization (see policy recommendations for further detail).

The Chatham House project

The focus of this report is to assess which industries might change the global manufacturing landscape and drive future growth. The report brings together the findings of four sectoral case studies: aircraft, automotive, pharmaceutical and retailing.

The following tabulation shows whether they will grow faster than GDP.

Table 1: Will the case study industries drive growth?

Industry	Developed world	Developing world	Total world
Aircraft	Yes	Yes	Yes
Automotive	No	Yes	Yes
Pharmaceutical	Yes	Yes	Yes
Retailing	No	Yes (No in long term)	No

The aircraft industry should grow quickly, driven by strong growth in demand for air travel. Production will continue to be dominated by the United States and Europe, at least until 2020, with smaller contributions from Brazil (Embraer) and Canada (Bombardier). But China is rapidly building its own aircraft industry. It will challenge the Boeing/Airbus duopoly by 2020 and will be an important player by 2030, based on its huge domestic demand for aircraft.

The world market for cars will continue to shift in favour of developing countries. The developed world is saturated, and growth there will come from technical advances in fuel use and in safety. By contrast, car ownership in the developing world will soar, and production will increasingly be concentrated in these markets.

Pharmaceuticals demand will be buoyant, though there will be some brake on supply in countries where healthcare is public and government budgets remain under pressure. The other factor that will have a big impact on this industry is technology. Recent basic scientific breakthroughs in genomics should produce an increasing flow of new drugs over the next 10 years. These developments may lead to cheaper drugs but the impact is not likely to be felt much before 2020.

Retailing is very well developed in the West and is not expected to drive growth there. It faces a continuing revolution as e-commerce separates product selection from purchase and expands its share at the expense of physical shops and established retailing companies. Internet purchasing also facilitates closer relations between producers and consumers, who may ignore retailers altogether. Developing countries, on the other hand, are at different stages of retail development. The emergence of their middle class will require a big expansion in modern retailing, some of which will be related to an increase in auto-related infrastructure spending, as shopping becomes motorized. In the longer run, however, modern supermarkets and efficient supply chains will mean that retail's share of the economy in these countries falls towards Western levels.

Other industries not covered by this report may also drive growth and merit further study. These include durable consumer goods in developing countries, all aspects of health spending including medical machinery, consumer and business electronics, and machinery to support the growth of infrastructure and environmental investment.

Policy recommendations

- The manufacturing transformation described in this report has brought enormous net benefits to millions of people both in the developed world (through lower prices) and in the developing world (through more jobs). Policy recommendations stemming from the four case studies aim to ensure that the benefits of this transformation continue:
- From the aircraft and auto studies comes a clear recommendation that governments should support free trade and resist protectionist pressures. Global agreements such as the stalled Doha round now seem to be beyond the reach of the international community but fresh attempts to promote international trade and investment, including regional initiatives such as the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership, should be strongly supported.
- Governments should be more wholehearted in their protection of intellectual property (IP). This was specifically identified as important in the aircraft and pharmaceutical industries but would also apply in the auto industry. As innovation goes global, countries that traditionally imported ideas are increasingly developing their own and will come to appreciate the advantages of better IP protection.
- Governments around the world will have different views on the effectiveness of industrial policy, but there was agreement across the aircraft, automotive and pharmaceutical case studies that government efforts and subsidies should be directed towards raising education standards, particularly in science and technology, and supporting basic research. This should provide a level playing field for companies within an industry to compete on equal terms. Investment in education and training, research and

development, and innovation has a high payoff in helping both existing industries and the development of new industries. Countries that succeed in building a highly educated workforce will in turn benefit by attracting investment in high value-added activities.

- Industry policies that distort the market should be avoided. Examples include trying to attract investment in the aircraft industry into areas such as testing and component manufacturing which are best carried out close to major manufacturing hubs in Europe, America and Asia; offset agreements that lead to the construction of inefficient local capacity; the preservation of persistent over-capacity in the auto industry; and government pressure on pharmaceutical companies to supply subsidized drugs to developing countries.
- Governments need to re-examine the balance of advantages and disadvantages of deregulation. Market failures in the financial sector and economic models that proved disastrously wrong have shaken people's faith in laissez-faire capitalism. Financial markets turned out not to be efficient and the current (and complex) moves to replace 'light touch' regulation with more effective regulation to protect economies from another financial meltdown should be pushed through to a speedy and internationally agreed conclusion.
- History reminds us that globalization can go into reverse, with disastrous consequences for growth, so governments also need to work much harder to demonstrate the benefits of globalization and to mitigate the costs. This will require compensating the losers – for instance, through much more education and re-training for those who lose their jobs to the workforce in emerging countries. There is also a need to address the significant increase in inequality: those who have benefited from globalization – whether individuals or companies – should be seen to bear their 'fair' share of the tax burden. Unless this problem is tackled, support for globalization is likely to be undermined by a political backlash in many countries.

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