

BUSINESS SWEDEN

MANUFACTURING CHANGES COURSE

“The fact that global industrial companies are locating manufacturing closer to local and regional markets will have a significant bearing on how Sweden’s exports develop in the future.”

Lena Sellgren, Chief Economist, Business Sweden

SUMMARY

- Business Sweden’s study of industrial goods exports from Asia, Europe and North America during the period 2000–2017 demonstrates that an increasing share of exports are focused on home regions. There are clear signs that manufacturing is moving closer to markets where goods are delivered. This trend is particularly evident in Asia, where the share of near-market manufactured goods grew from 38 per cent to 49 per cent in 2017. The corresponding share has historically been higher in both Europe and North America, but here too, developments in recent years point to an increasing trend toward regionalisation of trade in goods.
- Important driving factors behind the regionalisation trend include customer expectations for adaptability and fast delivery of goods and products, as well as experienced advantages of closer proximity to markets and deeper co-operation with local sub-suppliers. By shortening the distance between manufacturing operations and markets, companies can reduce the risk of disruption in their logistics chains and reduce transport costs.
- At the same time, automation and other enabling technologies are reducing the cost benefits of low-wage countries which is benefiting traditional industrial nations. If implemented correctly, near-market manufacturing can bring considerable benefits in terms of reduced environmental impact and climate footprint.

A FIRST STEP

This report shows that regionalisation of manufacturing and trade in industrial goods in Europe, Asia and North America is growing. The trend is particularly notable in Asia. Business Sweden presents its own analysis based on data from UN Comtrade while referencing other studies showing similar results. In addition, the report outlines the main drivers behind regionalisation based on interviews with representatives from Swedish industrial companies.

The report is a first step in Business Sweden’s project to raise awareness about Sweden’s capacity to manage the technological shift in industry and succeed in the move toward near-market manufacturing.

In a subsequent step, Business Sweden will carry out interviews with companies in order to acquire further knowledge related to the following questions: What

are the driving factors behind localisation of manufacturing today, and how are these factors influenced by enabling technologies and Industry 4.0 business models? What are Sweden’s current competitive strengths and benefits related to localisation of manufacturing, and what is Sweden’s future potential? Which strategic measures should be taken to attract more manufacturing to Sweden?

Furthermore, in collaboration with Örebro University, Business Sweden will examine the links between Swedish companies’ exports of goods from Sweden and international sales at subsidiary companies. Business Sweden will also conduct complementary interviews to better understand the dynamics between goods exports and international sales.

This work will be carried out during the autumn of 2019.

THE CHANGING GEOGRAPHY OF MANUFACTURING

Starting in the 1990s, American and European companies began a large-scale relocation of manufacturing operations from the traditional industrial countries to South East Asia, and at a later stage to China, primarily in order to reduce the costs of products.

At the same time, companies reorganised purchasing of inputs (sourcing) from sub-suppliers in the industrial nations to contractors in developing nations. In the immediate area, companies operating in Western Europe relocated manufacturing and sourcing to Central and Eastern Europe while American companies turned to Mexico as the obvious low-cost alternative.

Given the low costs offered by developing nations for all types of labour and permissive business climates – coupled with the dismantling of barriers to international trade and investments – the industrial nations in North America and Europe gradually fell behind in their ability to attract manufacturing companies and new factories.

The relocation of manufacturing was further facilitated by steady progress in information and communications technology which gave companies new tools for managing global business operations. The internationalisation of financial markets made it easier for companies to establish their business abroad and make cross-border acquisitions. The quality of infrastructure improved rapidly in many developing nations while transport costs decreased.

FROM LOW-WAGE FACTORIES TO GROWTH MARKETS

Over the past decade, the localisation of new manufacturing facilities in developing nations – coupled with rising production volumes in established industrial nations – has centred more on the proven advantages of closer proximity to customers and markets. Asia's rapid economic growth has been a particularly powerful force attracting new manufacturing operations.

Figure 1 on the opposite page shows that Asia's share of GDP is expected to grow from the current level of 35 per cent to 43 per cent by 2035. Figure 2

INDUSTRY'S TECHNOLOGICAL SHIFT - HOW IS SWEDEN AFFECTED?

The concept *Industry 4.0* was coined at the industrial fair in Hannover in 2011. In this future vision of industry, industrial production is based on the integration of automation, digitalisation, manufacturing technologies and people working in intelligent factories. Connected products, machines and systems communicate with each other. The objective is to achieve a sustainable, high-quality and individualised production system with fast reconfiguration and short lead times as well as reduced cost.

Business Sweden emphasises five enabling technologies driving the technological shift in industry, which are also changing the playing field for manufacturing localisation: automation, robotisation, digitalisation, connectivity and artificial intelligence. The OECD report *The next production revolution* (2017) brings four added developments to light in the future scenario, creating new value in manufacturing: bioprocessing, nanotechnology, additive manufacturing (*3D printing*) and new materials enhancing product design and performance.

The consultancy firm McKinsey estimates that established industrial nations will benefit from the technology shift while developing nations will lose competitiveness. Industrial competence, highly-skilled labour and solid infrastructure are all prerequisites for successfully achieving Industry 4.0.

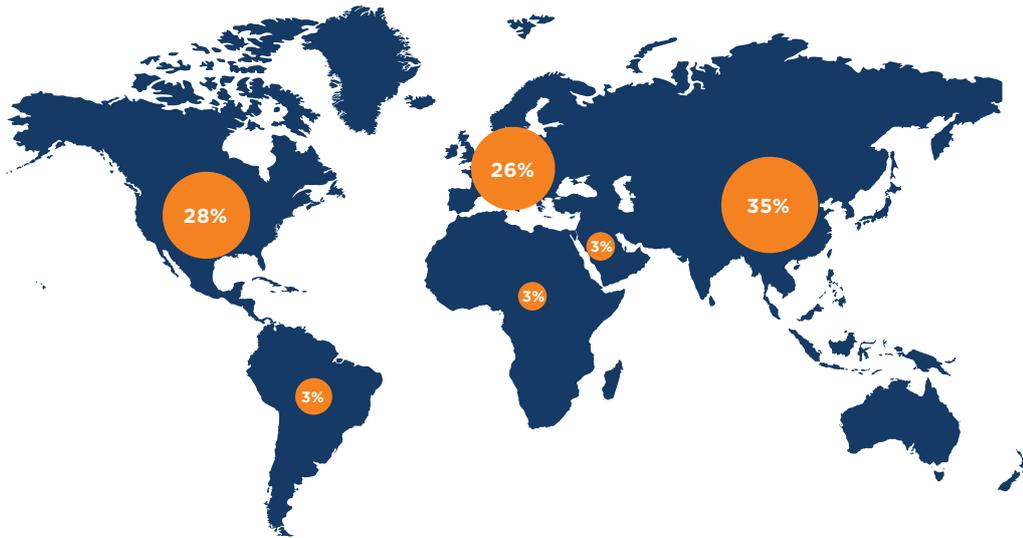
Moreover, findings compiled from interviews presented in Business Sweden's report *Why we manufacture in Sweden* (2015) clearly show that the conditions for manufacturing in highly developed industrial nations such as Sweden have improved markedly, to some disadvantage for manufacturing in low-cost countries.

Shorter distances between manufacturing facilities and markets means that companies can reduce the risk of disruption in their logistics chains while simultaneously lowering transport costs. It is reasonable to assume that transport costs in the future will have to take into account the full environmental costs, and that prices therefore will rise. If implemented correctly, near-market manufacturing can bring considerable benefits in terms of reducing environmental impact and climate footprint.

Figure 1

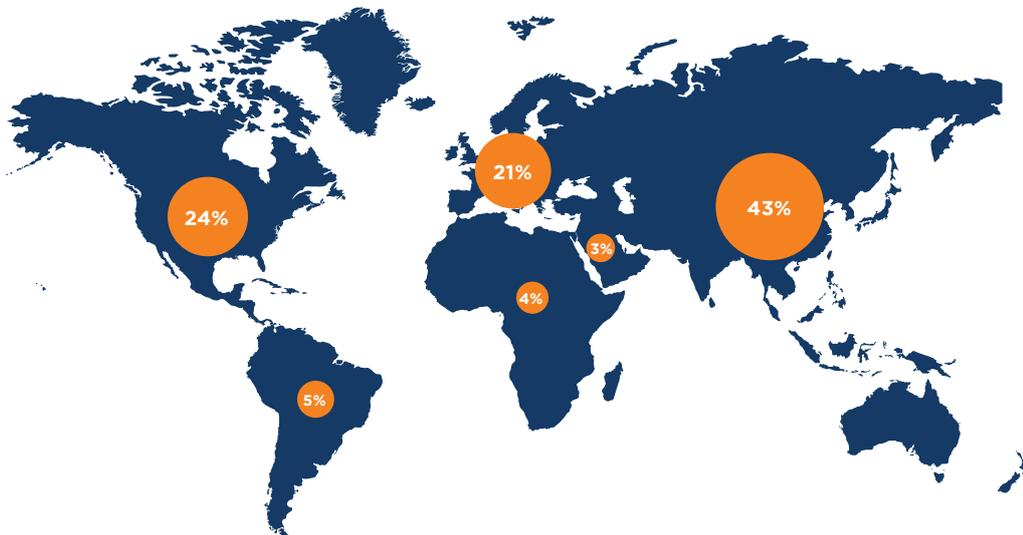
THE GLOBAL ECONOMY TODAY ...

Distribution of global GDP by region, share in per cent, 2018



... AND TOMORROW'S GLOBAL ECONOMY

Distribution of global GDP by region, share in per cent, 2035 (forecast)



Sources: Oxford Economics, Business Sweden (2019)

illustrates that manufacturing represents a substantial share of GDP, most notably in China, Germany and Japan. Increased production levels raise national income worldwide. The consultancy firm McKinsey estimates that the emerging economies will account for more than half of global consumption by 2030.

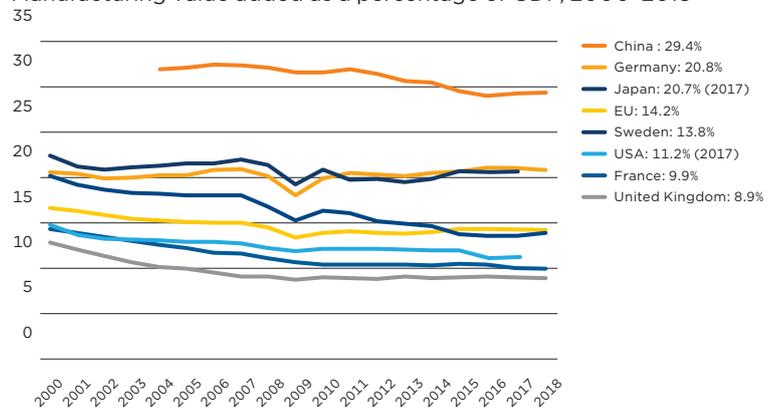
Business Sweden saw early indications of changing business strategies in fast-growing economies, as these countries went from being obvious platforms for exports to becoming key markets for companies' manufactured goods. As early as 2008, decision-makers at leading Swedish industrial companies confirmed in Business Sweden interviews that they "cannot see any good reasons for manufacturing in China for the European market."

McKinsey estimates that just 18 per cent of goods exports are driven by cost disparities between industrialised nations and developing nations.

Figure 2

MANUFACTURING: THE ENGINE OF THE WORLD ECONOMY

Manufacturing value added as a percentage of GDP, 2000-2018



Sources: The World Bank, Business Sweden (2019)

NEAR-MARKET MANUFACTURING ON THE RISE

Business Sweden has summarised goods export data from UN Comtrade (the UN data base for global trade) for manufacturing in 40 nations, including 26 European countries, three countries in North America and 11 countries in Asia. They all rank among the world's 50 largest exporters of industrial goods. Figure 3 shows that exports of industrial goods – which account for 40 per cent of all global exports – more than doubled between 2000 and 2017. Asia and Europe are on par as exporting regions, accounting for 41 and 35 per cent respectively of industrial goods exports. North America, at 15 per cent, is a considerably smaller exporting region.

As a next step, Business Sweden has calculated the volume of industrial goods exports that are destined for home regions compared with other regions, or “rest of the world”, during the period 2000–2017.

The results demonstrate a clear trend toward regionalisation of exports (so-called intra-regional exports) in Asia – from 38 per cent in 2000 to 49 per cent in 2017, see Figure 4. As a “customer” for Asian products (as shown in Figure 5) North America has reduced its share of exports during the same period, from 31 per cent to 20 per cent.

Following a fall in intra-regional exports in North America from 60 per cent in the record year of 2004 to 52 per cent just before the global financial crisis, a re-regionalisation trend for industrial goods exports is now indisputable. The exports figure in this region has now climbed again to 60 per cent.

In Europe, the trend is not quite as evident. Intra-regional exports fell from 69 per cent in 2000 – the highest exports level of the three regions – to 61 per cent in 2012. It has since risen to 65 per cent.

ASIA MORE SELF-SUFFICIENT

Business Sweden interprets the above results as follows:

BUSINESS SWEDEN'S STUDY: SELECTION AND DEFINITIONS

Product groups: 69 Metals, 71–77 Machinery and equipment, 78 Transport and vehicles, 87 Measuring and monitoring equipment etc.

North America: Canada, Mexico, USA.

Europe: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom.

Asia: China, Hong Kong, India, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, Thailand, Vietnam.

The 40 countries selected accounted for 92 per cent of global goods exports in 2017.

Asia has seen robust growth during the period with advanced manufacturing entering the arena and expanding. At the same time, the purchasing power of companies and consumers has risen sharply. China has successfully developed its domestic sub-supply network and reduced its dependence on foreign inputs. In short, Asia has shifted its position from being the world's assembly plant to becoming a production powerhouse for Asia, while slightly reducing production for non-Asian markets. European manufacturers today are more likely to use manufacturing facilities in China, for example, to meet domestic demand in China and other near markets, instead of exporting goods to far away regions.

Meanwhile, companies in Europe are already heavily engaged in regionalisation of manufacturing. Their re-localisation of factories in Asia has not been as extensive as is the case in the US, mainly due to the low-cost options available in nearby Central and Eastern Europe. Countries

1. The results of Business Sweden's study are in line with results presented in other reports, including *Global Value Chain Development Report* (WTO, OECD etc, 2017 and 2019), *Globalization in transition: The future of trade and value chains* (McKinsey, 2019) and *Future of Supply Chain* (SCM World, 2016).

Figure 3

ASIA AND EUROPE ON PAR
Exports of industrial goods, 2000-2017, USD billion

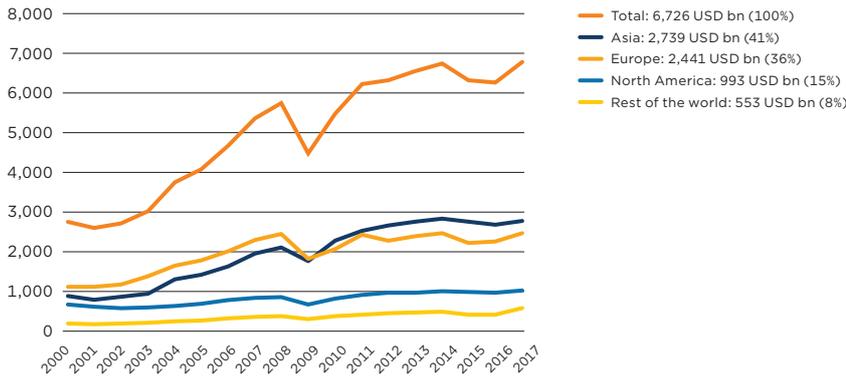


Figure 4

PRODUCTION OF INDUSTRIAL GOODS AND TRADE INCREASINGLY REGIONALISED
Intra-regional exports of industrial goods, share in per cent, 2000-2017

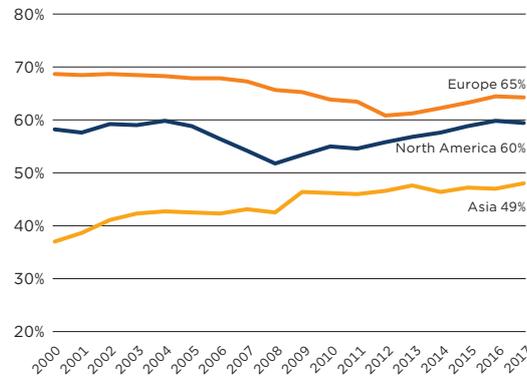
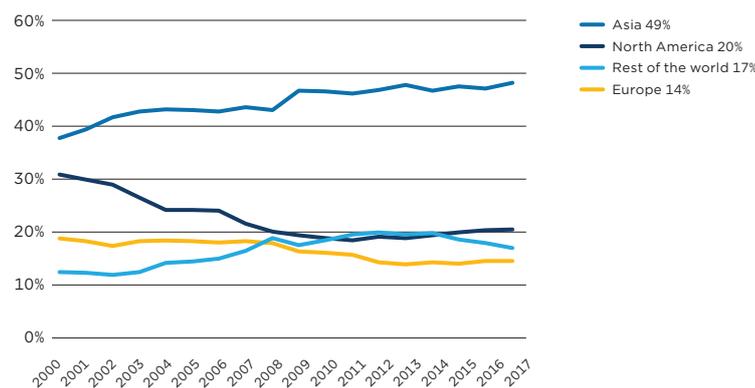


Figure 5

INDUSTRIAL COMPANIES IN ASIA SHIFTING EXPORTS FROM NORTH AMERICA TO THE HOME REGION
Distribution of industrial goods by region, share in per cent, 2000-2017

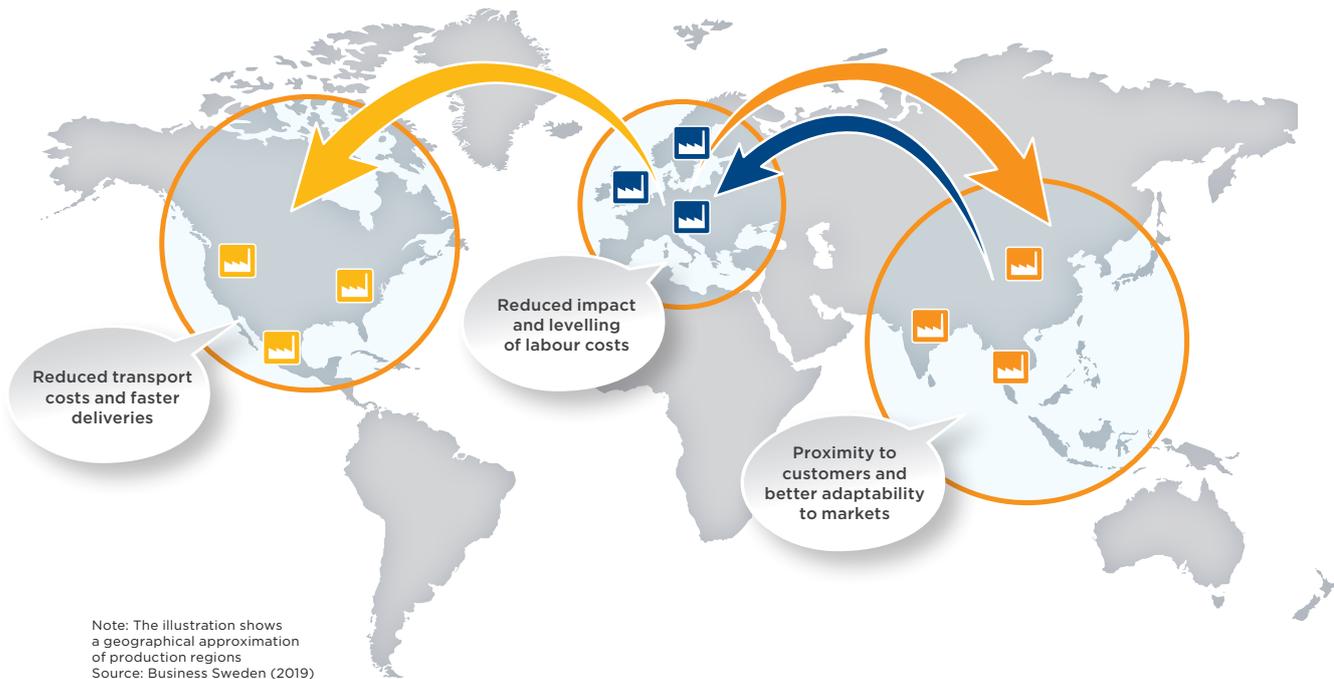


Sources: UN Comtrade, Business Sweden (2019)
Note: All figures and calculations in current prices

such as Poland, the Czech Republic and Slovakia all provide a high level of expertise in industrial production. In recent years, Europe, too, has shown signs of an increasing re-regionalisation of production.

Since the global financial crisis, North America, and particularly the US, has substantially increased its ability to attract manufacturing operations. A long period of stagnating wages and favourable energy prices have strengthened its position in

CUSTOMERS AND TECHNOLOGY THE DRIVERS OF REGIONALISATION



energy-intensive production such as plastics, chemicals, steel and metal, among other sectors. The US's recent lowering of the corporate tax rate and the upcoming free trade deal USMCA will contribute to continued regionalisation. If US punitive tariffs on cars become a reality, links between the American and Mexican automotive industries will be strengthened even further.

STRONG DRIVING FORCES ...

Business Sweden's interviews with Swedish industrial companies reveal that customers increasingly demand bespoke and innovative products with just-in-time deliveries, as well as a closer relationship with manufacturers.

The interview results underscore that using local and regional sub-suppliers improves co-ordination of production. Innovation capacity increases which, in turn, has a positive impact on product development and the ability to adapt to local and regional markets.

Increased automation and new opportunities to benefit from enabling technologies in manufacturing has reduced the impact of labour costs, which has contributed to a levelling of the playing field for manufacturing in low-wage versus high-wage countries. Furthermore, wages for skilled industrial workers and engineers have risen markedly in many developing economies. This enables greater opportunities for establishing competitive, near-market manufacturing in Europe and other regions.

... AS WELL AS OPPOSING FORCES

Although regionalisation of manufacturing is gathering pace, a number of factors are standing in the way.

Many standardised products are still produced to great benefit in low-wage countries and are then

exported worldwide. Even if automation continues to expand, wages still account for a significant portion of manufacturing costs.

In addition, the risks and costs of setting up manufacturing facilities in other regions are still too high for most companies. Will it really be profitable to establish parallel infrastructures for manufacturing abroad? This is a perfectly valid question. Such commitments are often outweighed by, instead, using local sales channels and focusing on building a presence that is adaptable to changing economic and political situations.

The risks of copying or theft of intellectual property and know-how discourages some companies from manufacturing closer to market especially if, as in the case of China, legal protection is insufficient.

Business Sweden's study, which is partly based on interviews with decision-makers, shows that international companies are increasingly shifting their approach to near-market manufacturing. This will affect the nature of supply chains and exports from Sweden and other countries. Nonetheless, the trend is not linear. When choosing between near-market manufacturing or manufacturing and exporting to global markets, business leaders will make their own assessments of pros and cons, which will undoubtedly vary within companies and different segments of manufacturing.

Sources:

McKinsey Global Institute

OECD

Oxford Economics

SCM World

Statistics Sweden (SCB)

The Economist

UN Comtrade

The World Bank

World Economic Forum



We help Swedish companies grow global sales and international companies invest and expand in Sweden.

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