Source: *The Straits Times,* pA24
Date: 21 December 2018

Ask: NUS Economists

Productivity, not trade, explains shift from manufacturing to services

It's not true that trade imbalance leads to a loss of manufacturing jobs. It is higher labour productivity in manufacturing that causes fewer people to be needed in such jobs

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For The Straits Times

Q *What has led to the decline in manufacturing and the rise of the service economy in many countries from the US to Singapore?*

A US manufacturing has undergone a significant transformation in recent years. At the beginning of the 20th century, around half of urban Americans worked in manufacturing, producing various goods such as clothes, cars and iron.

For urban workers, the service sector is a critical source of jobs. The service sector includes many diverse jobs, such as hairdressing, cooking and healthcare.

However, while manufacturing used to be the most important element of the United States economy, this dynamic is now changing in favour of services. Indeed, fewer than 15 per cent of Americans worked in manufacturing last year, and now most job openings occur in the service sector. The decline in manufacturing (and concomitant rise in services) is also occurring elsewhere – in Britain, Japan, Canada, Germany and Australia.

This shift in the economy harmed manufacturing hubs like Detroit, Cleveland and Pittsburgh as factories shut down. Once bustling with car manufacturers, these cities now face severe issues of poverty and high unemployment. Things are made worse when these displaced workers are unable to learn new skills due to their age, preventing their re-entry into the workforce.

Why do we see this decline?

Indeed, the decline of US manufacturing may be a key trigger to the recent US-China trade war.

Many Americans are blaming the rise of manufacturing goods from China (or decades ago, from Japan and West Germany) for the decline in the manufacturing sector.

Supposedly, as Chinese firms can produce the goods at much lower costs than their American counterparts, American firms are now less competitive and cannot sell their goods locally or globally.

The true reason may be less straightforward. In a recent and influential study, Dr Tim Kehoe from the University of Minnesota and his co-authors found that trade imbalance accounted for at most 15 per cent of the decline in manufacturing.

This is because only a small percentage (around 20 per cent) of Americans' consumption of manufacturing goods is imported. American firms are also key exporters in many market sectors: just think of Boeing airplanes, iPhones and Harley-Davidson motorbikes. These exports largely counterbalance imports, and thus the net imbalance in US trade plays a relatively limited role.

Then what explains the decline in manufacturing? Dr Rachel Ngai and Dr Christopher Pissarides, the latter of whom is a Nobel winner of economics, point out that the most important reason could be the rapid labour productivity growth in manufacturing.

Consider someone buying a cellphone and buying a haircut service. The labour productivity of producing cellphones has increased by so much, a typical worker today can produce hundreds of times more cellphones than a decade ago. In contrast, labour productivity has barely changed for haircuts. Haircuts still take approximately the same amount of time to complete, compared with decades ago. Hence, as labour productivity keeps increasing in cellphone manufacturing, fewer and fewer workers are needed to produce the same number of cellphones.

In fact, in most rich countries today, labour productivity grows by around 2 per cent per year in manufacturing, compared with only 1 per cent in services.

Dr Kehoe and his co-authors found that it is this rapid labour productivity growth in manufacturing that has led to the decline in manufacturing employment.

Decline in manufacturing is then not necessarily a bad thing. Fewer people work in factories simply because factories are getting more productive. In view of this, economists believe that manufacturing employment will continue to decline.

Instead of focusing on the decline in manufacturing, we should perhaps embrace the rise of the service economy. The findings above imply that economic growth will gradually lead to a shift in employment towards the service sector, as manufacturing jobs are replaced by jobs providing all kinds of personalised services (such as better-quality education, healthcare, or food services). Therefore, the inevitable rise of the service economy is a sign of economic transformation and prosperity.

We thus observe that as a country gets more developed, the share of service employment will increase: developed countries will thus have a smaller fraction of their workforce in agriculture and manufacturing compared with developing countries.

IMPLICATIONS FOR SINGAPORE

What does this global rise of the service economy mean for Singapore?

We often attribute Singapore's strong economic growth to its favourable geographical advantages. With its central location within the Strait of Malacca, Singapore serves as a natural transit location between Asia and other continents. Traditionally, this has helped to lower the cost of manufacturing in Singapore due to savings in shipping costs, while allowing manufacturers easy access to overseas markets. If the global decline of manufacturing is inevitable, what then should Singapore do?

Things may not be as bad as one thinks. Trade in services can be as important as trade in manufacturing goods. When we think of services, we should not restrict ourselves to "traditional" and stereotypical services such as haircuts and restaurants. While these services cannot be exported, there are plenty of other services that can cater to overseas audiences, such as banking, insurance, information technology, medical treatment and education. When foreigners come to Singapore for these services, Singapore is effectively exporting these services to other countries.

Crucially, this trade in services need not depend on geographical advantage. It depends on, say, governance and law enforcement (for finance and insurance) or human capital development (for information technology, education and medical). For these aspects, Singapore may have comparative advantage compared to its neighbours.

As the service sector becomes increasingly important, the productivity growth of service industries will ultimately determine the long-run economic performance of nations.

In terms of policy recommendations, this analysis suggests that resources should be allocated to promote productivity growth in our service sectors. Typically, when we mention increasing research and development expenditure, or more generally, productivity, what comes to mind is developing advanced equipment in modern factories, cutting-edge techniques in labs, more efficient oil-refining procedures, and so on.

Bearing the above in mind, we need to broaden our horizons to also think of improvements in services: be it better management in banks, cashless transactions, personalised schooling, or personalised medical care.

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