Measuring the economy: Look to human capital

The wage bill as a proportion of GDP is becoming outdated amid structural changes. A more nuanced approach is needed as the line between labour and capital blurs.

Toh Mun Heng
For The Straits Times

An important indicator that policymakers use in determining the cost of living (GDP) is the wage bill as a proportion of GDP. This is a useful guide to an economy’s complexities and long-term trends.

The use of wage share as an indicator was recently examined by former NTUC secretary-general Lim Boon Heng (“Getting the picture right on wage share in Singapore”, Dec 12), in a Straits Times article adapted from a memo he wrote for NTUC staff. He said that the wage components of GDP offers a useful indication of the overall structure of an economy, but he cautioned that one has to understand the local attributes and long-term trends.

Indeed, local factors and the part played by trends such as the increase in technical and technological changes, for example from the 1985 recession. An increase in the Labour Productive Provident Fund contribution rates in years before that caused Singapore’s wage share of GDP to soar. The wage share of Singapore’s economy’s gross manufacturing sector had increased by 0.63 per cent per annum from 1985 to 1988, up from 37.4 per cent and 33.5 per cent respectively in 1985, 1985, up from 37.4 per cent and 33.5 per cent respectively in 1985, 1988.

However, this had the effect of supporting profits and resulted in reduced competitiveness among export-oriented manufacturers in 1988. Some even contemplated quitting Singapore.

The real explanations for changes in wage share include technological change, globalization, financial markets, product and labour markets and regulations, the bargaining power of labor and unemployment. In recent years, a decline in wage share has been recorded for many countries, especially in developed economies.

In an era when robots are gaining greater access and displacing jobs done by humans, it is interesting to look at exactly what it means and how that might have an impact on the economy. Wage share is simply the ratio of the total wage bill to nominal GDP. It can be expressed as the ratio of the real wage rate to the labour productivity of a worker.

The real wage is the nominal wage rate adjusted for price changes, while labour productivity is the output per worker. If the wage share is constant, it implies that relative change in the real wage is matched by the relative change in labour productivity or vice versa. In the past, wage growth has been limited and by the influx of foreign workers despite labour short-term productivity growth. In some recent times, when productivity is growing in line with the introduction of more technologies, real wage are also rising in a stable wage share.

If Singapore is successful in getting productivity growing faster than the real wage rate, then a declining labour share is not a surprising outcome. However, it is also important to note that a rising wage share resulting from real wage growth faster than productivity improvement will soon lead to losses of competitiveness. A judicious balance is necessary.

As noted by Mr Lim, the wage share varies across industries. In fact, the aggregate national wage share is a weighted average of the wage share of industries in the economy. The weights are the proportion of value-added contributed by each industry in the overall GDP. So, as the changes in wage share over time can be understood as the same of the changes in the industrial structure of the economy and changes of wage share in different industries.

So, as the economy structures and shifts in high value-added (VA) activities, we will expect workers to earn higher wages, boosting the wage share. However, high VA activities often have lower labour content and low-wage share. Overall, the restructuring of the economy resulted in a relatively constant wage share in the aggregate.

A final reason for Singapore’s low wage share is an enlightened union movement that is not solely concerned about raising workers’ remuneration. In many situations, such as during financial crises, unions may appear more interested in maintaining job security and employment. The rationale, seldom understood by many, is that an unemployable worker not only loses his wage, but also suffers the erosion of skill and appreciation of human capital. Human capital refers to the knowledge, talent and experience accumulated over time in individual workers. This erosion makes it doubly hard for them to secure the next job.

So it may be advisable to engage workers on a part-time basis rather than retrench them, to accommodate the lower manpower requirements fixed by companies in a business downturn. Such flexibility reduces firing costs and labour hoarding. This translates to higher losses of share of wage in the overall value-added.

LABOUR, CAPITAL LINES BLUR

Changes in the economic and social structure of society mean that it is no longer accurate to associate labour income with the labour costs, and capital income with members in the top echelons of society.

For example, since increasingly more people save for retirement, a part of the income of capital actually occurs to the ordinary working population. As more citizens gain access to financial markets and invest in the shares of corporations, they stand to benefit from dividends and capital gains. According to Dr Alan Krueger, a former White House chief economist and a well-known scholar on labour economics, the rise of employee stock ownership and investments to pension funds, coupled with increased in compensation for top executives through stock options, contribute to the blurring of lines between labour and capital incomes.

Furthermore, the expanding role of the state, which serves as an intermediary between the productive sector and households, means that sources of government transfers and taxation policies must be taken into consideration when relating the distribution of income among owners of capital, workers and landlords to personal distribution of income.

It is now common to recognize the contributions of different types of capital: traditional physical capital, IT capital, IT software, artificial intelligence robots, etc. Similarly, labour inputs are also disaggregated into a spectrum of skills which can be complementary or substitute. This makes the simple measure of wage share based on headcount and average wage less useful, as the composition of the inputs — labour and capital — matters in the final measure of the labour share.

Substitution occurs not only between capital and labour. It occurs between workers of varying skill levels. Research has found that the substitution between capital and low-skilled workers is much higher than that between high-skilled and highly skilled workers. Machines are likely to make low-skilled workers superfluous, but companies require qualified workers who can operate and manage the machines.

Disaggregation into different types of labour can allow for more informed policy advice.

For instance, considering only an aggregate labour force, greater wage regulation (such as through more excessive minimum wage legislation) seems to be a positive determinant of labour share and reducing income inequality. However, with disaggregation of labour, we may arrive at more discerning policy conclusions. We may require lower end of the skill spectrum may result in unemployment, as firms substitute capital for low-skilled labour and investment in machines, and the wage share of the low-skilled workers may suffer instead.

In addition, it is interesting to note that when innovation leads to non-neutral technological progress among different types of labour, for instance, it increases the productivity of the less-skilled and middle-skilled workers, while computerization increases the productivity of middle-skilled labour.

Workers who are equipped with the introduction of technologies are able to secure their employment and avoid unemployment. The role of human capital in the determination of wage share is crucial. Ultimately, it is the skill composition of labour that is determined and used in production that provide the disguised wages and rewards and remuneration.

However, the wage share can be remunerated for simply offering time and physical presence in overseeing production of goods and services. Such work is increasingly being done by machines more cheaply and more efficiently. A worker in the landscaping industry is increasingly valued, not for the tasks he performs on the ground, but for the ideas and patterns he can contribute to the final product.

A security guard’s monitoring and surveillance job can be taken over by sensors and closed-circuit television on a 24/7 basis. His continued employment and remuneration are based on his expertise in handling the surveillance equipment, each of which contains algorithms and systems that can detect unauthorized and undesirable intrusion, ensuring the safety of the core business if protected. His contribution to human capital is perhaps a more pertinent indicator than simply the wage share to consider in the calculation and distribution of wealth in the nation.

Dr Toh Mun Heng is an associate professor at the Department of Strategy and Policy at National University of Singapore Business School.