



# CHIN-LONG YANG

## Comment

*As the pace of change in banking and finance accelerates with the implementation of new technology, it is the responsibility of central banks and monetary authorities to set the agenda for the future, writes Taiwan's central bank governor.*

**T**he 2008 global financial crisis represents an important watershed in the development of the global economy and international financial system. Over the past 10 years, 'the age of uncertainty' – to borrow the title of John Kenneth Galbraith's 1977 book – has come to be shrouded in an even thicker layer of mystery. This poses an enormous challenge for all economies, regardless of their stage of development.

At the time of writing, a number of news stories are creating uncertainty, which is responsible for the elevated volatility we observe in the financial markets. These concerns include the trade tension between the US and China; the divergence in the speed of monetary policy normalisation in the advanced economies; financial fragility in emerging market economies as US interest rates continue to rise and the dollar regains strength; the fallout from Brexit; and the fresh round of sanctions imposed on Iran by the US after the multilateral nuclear accord was dismantled.

More importantly, however, uncertainty is stemming from several less comprehensible but more permanent and worrisome changes taking place in the global economy. I will describe some of these developments, discuss their consequences and implications for central banks, and offer my thoughts on how to address the issues they raise.

### TECHNOLOGICAL DEVELOPMENTS

An impressive array of new technologies were made more widely available after the turn of the century: big data, cloud computing, artificial intelligence and 3D printing to name just a few. Exciting as they are, industrial applications of new technology such as automation or robotics can displace workers and irrevocably alter the structure of employment.

Globalisation is another powerful force. The free movement of goods, services and people has hastened economic integration and established global value chains. As hundreds of millions of school leavers from emerging market economies join the global workforce, competition in the labour market intensifies and the middle class in advanced economies is being left behind.

In the financial sector, deregulation and capital account liberalisation have pushed the volume of international capital flows well above trade. While the large-scale financial regulatory reforms carried out following the 2008 crisis are mostly positive, shadow banking, peer-to-peer lending and crowd funding may encroach on the intermediary function of traditional financial institutions, putting in doubt the effectiveness of their role in the monetary policy transmission mechanism.

In addition to (or perhaps as a consequence of) technological progress, globalisation and financial sector development, policy-makers around the world are having to grapple with the stagnation of real wages, deterioration in income and wealth distribution, and an apparent slowdown in productivity growth. So what does all this mean for monetary policy?

A good place to begin is the flattening of the Phillips Curve, a phenomenon that has been variously attributed to globalisation, technological progress, the rise of e-com-

merce giants, and the decline in the power of labour unions. The weakening of the relationship between inflation and unemployment purports that inflation may not rise noticeably during an economic recovery, making it rather more difficult to judge whether a change in the inflation rate reflects the dynamics of the business cycle or other important factors. Indeed, the usefulness of the Phillips Curve during the formulation of monetary policy has been called into question.

### SHADOW BANKING

Competition from shadow banking will also diminish the role traditionally played by the banking sector in the money multiplier effect, another crucial link in the monetary transmission mechanism. Moreover, financial globalisation can also compromise the effectiveness of monetary policy as international (rather than domestic) considerations increasingly dictate how banks manage their balance sheets.

As the market power of e-commerce giants continues to grow, it makes the prices of goods and services in the economy increasingly competitive. Retailers are forced to make price adjustments more quickly and frequently, pushing the rate of inflation below its long-term average. While consumers will benefit from lower prices, the resultant disappearance of price-stickiness – the linchpin of the effectiveness of monetary policy in the short run – will confound mainstream economic theorists and practitioners alike.

A problem common to many highly industrialised countries and several less developed ones – that of an ageing population – could also spell trouble for their central banks. The fall in the proportion of a working population curtails output in the long run and may lower substantially the response of aggregate consumption to monetary policy shocks.

The prospect looks even more daunting for monetary authorities in emerging market economies, where inflation is heavily influenced by the price of imported raw material and exchange rate volatility. For these economies, domestic prices cannot escape the whims of the international commodities market beyond the control of the central bank. This vulnerability can significantly limit the scope of monetary policy.

The existence of global financial cycles created by the monetary policy implemented by major central banks that are also issuers of international reserve currencies presents another serious challenge to emerging market central bankers. Multiple studies have shown, through international capital flows, the impact of monetary policy adopted by the advanced economies is frequently transmitted to the rest of the world to create global financial cycles that can radically alter credit conditions in other countries.

Taiwan's experience can be quite illuminating. With a liberalised capital account, we have to withstand outsized and abrupt capital flows driven by foreign portfolio investors who, while small in number, are collectively responsible for the bulk of the volatility observed in the domestic financial markets. The influence of foreign portfolio investors became decidedly

more pronounced in the immediate aftermath of the 2008 subprime crisis and the 2011 European debt crisis, as foreign investors flooded emerging markets in search of higher returns.

### CENTRAL BANK RESPONSE

There are several ways in which a central bank can respond to the long-term shifts in the global economy and international financial system. First, we must recognise that economic models, parameters, and data are all in a state of constant change. We must also accept that uncertainty is an inherent and unavoidable feature of the monetary policy-making process. To reach the right decision amid all the uncertainty, we have to rely on a sound risk management framework for monetary policy. The cautious, gradual and data-driven approach followed by the advanced economies after the 2008 crisis is a good example of sound risk management in an environment of heightened uncertainty.

Second, if uncertainty is here, there and everywhere, monetary authorities ought to monitor a wider range of indicators and make good use of digital technology and big data to improve the quality of analysis.

Third, a central bank – as the guardian of financial stability – cannot ignore financial excesses and must appreciate that financial stability is a prerequisite for economic stability. In addition to inflation, financial excesses that are often characterised by narrowing risk premiums, elevated asset price valuation, unsustainable financial leverage, growing risk appetite and accelerating credit expansion must be contained.

Fourth, for economies that are vulnerable to the effect of disorderly short-term international capital flows and external supply-side shocks, both of which tend to be aggravated by excessive exchange rate volatility, a broader definition of what constitutes price stability and a managed floating exchange rate regime can preserve greater policy flexibility and monetary autonomy.

Macro-prudential measures can also be used to provide protection against the disruption caused by global financial cycles and the spillover effect produced by the monetary policy implemented by the advanced economies. Central banks should focus more on leaning against potential bubbles rather than cleaning up after bubbles burst. It is no coincidence that starting in 2009, a few months after the US Federal Reserve rolled out quantitative easing, Taiwan introduced a series of targeted prudential measures for the housing market that successfully mitigated the build-up of risks to financial stability.

Finally, monetary authorities should move with the times and adjust their communication strategies to educate the public. More effective communication and greater transparency can build trust – a precious asset that can greatly enhance the effectiveness of monetary policy. In a world of close economic and financial integration, a central bank's ability to set its sight beyond domestic goals, adapt to a fluid market environment and bolster public confidence may hold the key to its success. <sup>18</sup>

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