Business Cycle Basics Part 1
The Monetary Framework

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"Monetary policy is not about interest rates. It is about the rate of growth of the quantity of money." **Milton Friedman, interviewed on NBC's Meet the Press, October 24, 1976.**

Outline of the Series

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What is the Business Cycle?

In a monetary or Quantity Theory framework, the business cycle refers to the fluctuation of these nominal and real variables:

The business cycle is a monetary phenomenon.

In the framework illustrated by the flowchart, ***what matters is money in the hands of the public, not money on the books of the central bank.***
In other words, what matters for asset prices, for nominal spending and for inflation is changes in broad money growth, *not* the monetary base (or M0), *not* M1 and *not* credit. Moreover, it requires ***sustained and substantial*** changes in broad money growth to alter the direction of the business cycle, not merely a brief rise or fall.

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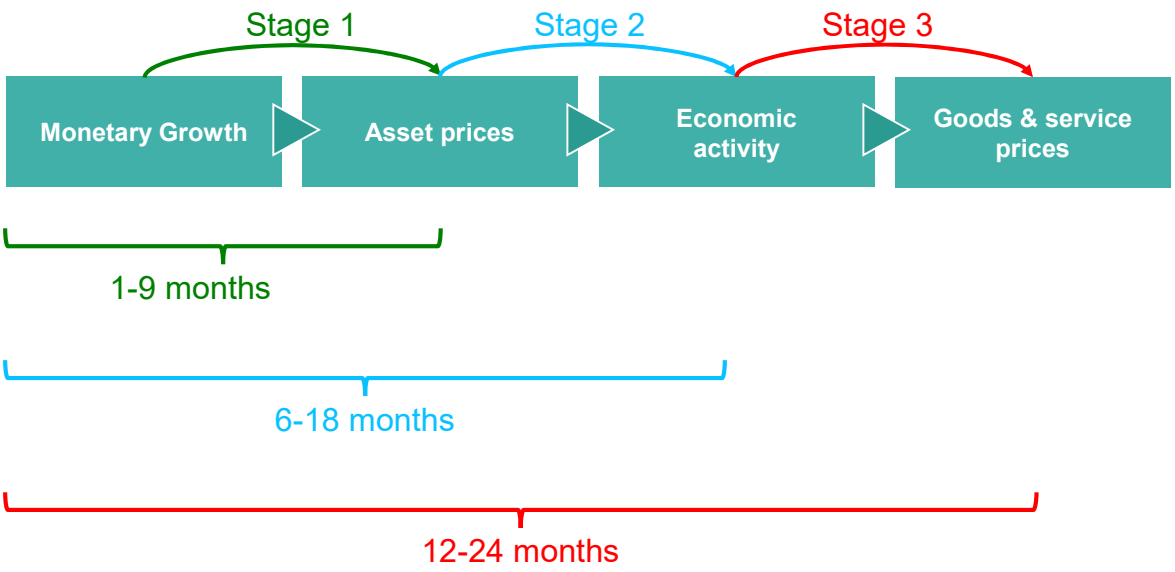
The flow chart in the diagram above represents how the business cycle works in all economies. In the monetary theory of the business cycle, our working hypothesis is that since money (*) is needed for virtually all transactions *and* it has a "functionally stable relation"(**) with asset prices and nominal spending, then sharp and/or sustained changes in the rate of money growth will lead to similar changes first in asset prices and second in nominal spending. Nominal spending can be split into real spending (equivalent to economic activity or output) and inflation, with changes in real spending coming second after changes in asset prices, and changes in prices of goods and services coming third after asset prices and after real economic activity. The typical lags in effect between changes in money growth and changes in the three other variables (the three other elements in the flow chart) are explained on the next page.

- Assets can be taken to include money market instruments, bonds, equities, real estate, commodities, collectibles & currency values.
- Economic activity can be taken to include total income from national output, or spending on final goods & services, or gross value added, as well as significant components such as total employment.
- Goods and service prices should really correspond to the prices of all the elements comprising economic activity – ideally the GDP deflator, but the overall CPI may also be used.

* Money here refers to broad money, not M1, and not M0 or the monetary base.

** This means that the relationship is not fixed or static, but varies in a predictable way depending on just a few variables. Feedback effects from economic activity to money may occur, but statistically we find that the *money* → *economic activity* → *prices* relation is the dominant one.

Monetary growth: the lags in effect



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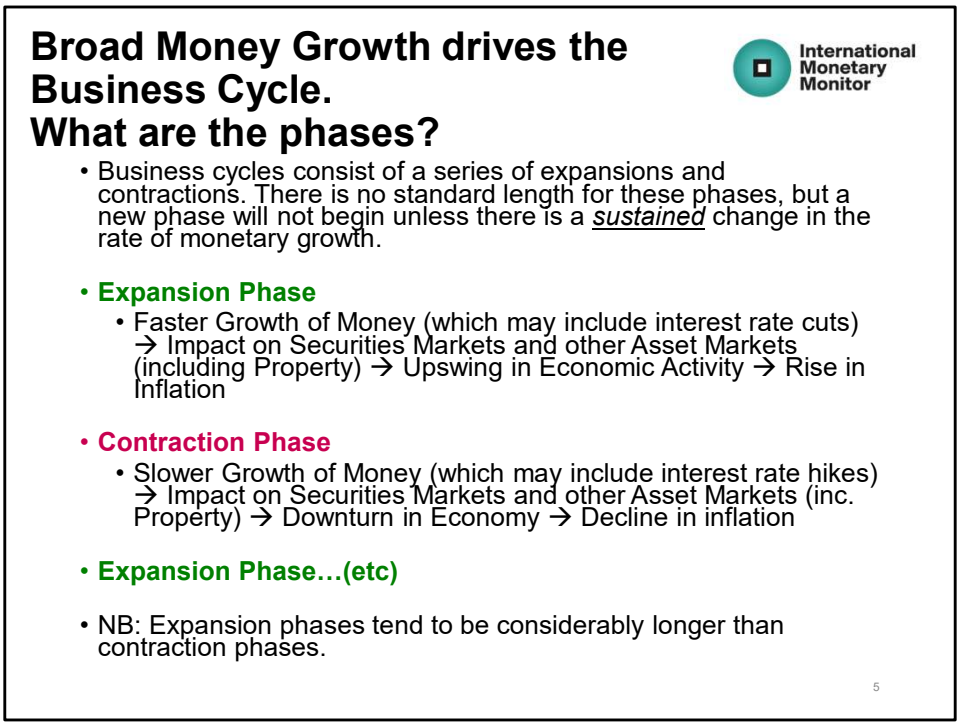
The sequencing of changes in monetary growth as discussed above – i.e., first on asset prices, then on economic activity, and only finally on goods and service prices – are subject to "long and variable" time lags. The diagram above summarises the typical time-lags discovered by empirical research into many economies covering many eras.

1. The impact of changes in money growth on changes in asset prices is typically spread over a period from one to nine months, but it could be shorter (with some of the impact occurring ahead of the monetary changes) as people try to anticipate changes in monetary policy, or it could be longer as the monetary changes may continue well beyond nine months.
2. The impact of changes in monetary growth on the level of economic activity typically take from 6 to18 months to have their effect, but again there may be cases where changes occur sooner or are delayed for longer.
3. It typically takes from 12 to 24 months for the impact of changes in monetary growth to start to show up as changes in the inflation rate. This is why central banks generally have a 2-year forecasting horizon for changes in their monetary policy. However, once again the changes may show up either sooner (e.g., in a country with a recent experience of high inflation may react quicker to a renewed burst of rapid money growth) or later (e.g. inflation may take longer to show up in a country affected by continuing waves of a pandemic).

Based on his very extensive empirical studies, Milton Friedman famously wrote that the **time lags are both long and variable**. Sometimes modern commentators are inclined to say that since this theory has been familiar to economists for over 50 years, the lags may no longer behave in the same way, and may be much shorter. But this is not so. Tomas Havranek and Marek Rusnak, writing in the International Journal of Central Banking (2013), conducted a meta-analysis of 67 published studies of the time lag. They concluded, "The average transmission lag is twenty-nine months …." They also found the time lag to be longer, on average in developed countries such as the United States.



Business cycles are normally divided into expansion phases and contraction phases. Expansion phases usually begin with a ***sustained and substantial*** acceleration of monetary growth followed in some weeks or months by a recovery in asset prices; in turn the asset price recovery will be followed – after a lag of some months – by an upswing in business activity, in investment and consumption spending, as well as in hiring trends. Finally, assuming the monetary expansion is strong enough for long enough, after a period of 12-24 months following the initial monetary acceleration, inflation will start to rise.

Conversely, contraction phases usually begin with a deceleration of monetary growth followed in some weeks or months by a downturn in asset prices; in turn the asset price downturn will be followed – after a lag of some months -- by a slowdown or a downturn in business activity, in investment and consumption spending, as well as in hiring trends. Finally, assuming the monetary contraction is sufficient in magnitude and maintained for long enough, after a period of 12-24 months following the initial monetary deceleration, inflation will start to fall.

In each economy there are agencies – public or private – which monitor the business cycle, reporting the peaks and troughs of business activity soon after their occurrence. In the US the NBER has taken on this responsibility. The NBER website on US business cycle chronology provides dates for all the US business cycle peaks and troughs – and their definitions – for the US since 1854 (see their FAQs). An important point to note is that in a rapidly growing or emerging economy, the downturns may only be a slowdown in the rate of change not an absolute decline in activity. Readers should therefore not rely on crude, one-size-fits-all definitions such as “two successive quarters of negative real GDP growth.”

Central Bank Actions and Possible Outcomes

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Central Bank:	Raises Rates	Lowers Rates	No Change in Rates
Expected Result	Money growth slows; demand for loans falls; credit growth declines.	Money growth increases; demand for loans rises; credit growth increases.	The economy maintains "steady state" growth with inflation unchanged.
The "Wrong" Result	Money growth does not slow; demand for loans was strong and market rates were rising above policy rates anyway.	Money growth does not increase; demand for loans was weak so market rates were already falling below policy rates.	Money growth slows or accelerates even with no change in the policy rate.

"Interest rates are mainly a symptom of other factors in the business cycle (e.g. the demand for credit, the inflation rate), not a fundamental cause or driver."

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- Note that, so far, we have not even mentioned interest rates.
- One reason is that interest rates are the price of credit (i.e., the price of renting money for a specific period), not the price of money itself, and it is money not credit that drives the cycle. (See Business Cycle Basics - Part 5.)
- Easing monetary conditions in this sense means increasing the quantity of money by lowering its price – i.e., increasing its supply or lowering the exchange rate – sufficiently to increase the price level.
- Interest rates can be and are used by central banks as an instrument to encourage or discourage bank lending (and hence deposit money creation), but they are also a symptom of other conditions in the credit market such as the demand for loans, risk aversion and inflation expectations.
- As a result, they are potentially highly misleading as a measure of the stance of monetary policy. For example, while low rates may reflect the initial stages of a surge in money growth, they may also be low because money growth has been low in the past few years and inflation expectations are low. (See also BSB - Parts 5 & 8.)