



INSTITUTE OF INTERNATIONAL MONETARY RESEARCH

Analysis and insight into trends in money and banking,
and their impact on the world's leading economies

[The Institute of International Monetary Research is a research institute with charitable status. This note is being e-mailed to people and organizations interested in global money trends, and the relationships between money and banking on the one hand and macroeconomic outcomes on the other. It is not business or investment advice, and the Institute accepts no responsibility for decisions taken in the light of the analysis given.]

Monthly e-mail from Tim Congdon and John Petley – 22nd November, 2019

Global money round-up in autumn 2019

Another month of high money growth has been registered in the United States. In October the M3 measure of broad money (as estimated by the advisory company, Shadow Government Statistics) rose by 1.2%. In the six months from April M3 advanced by 4.9% or at an annualised rate of 10.0%; in the year to October M3 went up by 7.6%. These are buoyant numbers that have now persisted for long enough to influence the macroeconomic prospect. The main message – which agrees with the rising stock market, and healthy (although far from boom) conditions in both commercial and residential real estate – is that, in early 2020, above-trend growth in the world's largest economy is more likely than trend or beneath-trend growth. The Eurozone also has enjoyed rather strong money growth in recent months, although in September (the last month with available data) M3 went up by only 0.1%. (In the six months to September M3 increased by 3.1% or at an annualised rate of 6.3%.) The Eurozone policy prospect is complex and fluid as the new European Central Bank president, Christine Lagarde, takes over. Nevertheless, 2020 ought to start well in the two largest developed-world economies.

In China and India banks continue to add to their balance sheets at not much less than double-digit annualised rates. But worries are being expressed about a loss of underlying growth dynamism in these economies. In the Chinese case adverse demographics (with a falling population of working age) are an increasingly important constraint, while in India bad governance – in both the corporate and state sectors – is a major problem. A fair assessment is that the trend rate of world output growth may be declining to, say, 3% a year, but that 2020 ought to be at worst a year of trend growth, **with inflation staying at very low levels. (Note that world output grew on average by 3.6% a year between 1989 and 2018, according to the IMF.)**

Money trends in autumn 2019 in the main countries/jurisdictions

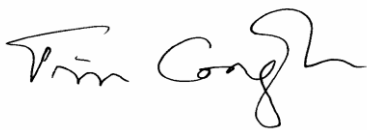
What are the latest money growth trends in the main countries? And what is the message for global economic activity over the next year or so, and for inflation/deflation thereafter? The table below summarizes key numbers. The pattern is much as in recent months. The latest data show buoyant money growth in the USA and the Eurozone, implying a positive overall message from the developed world for demand and output in the next few quarters. It was noted here last month that a tension had arisen between a money-based forecast which is optimistic for 2020 and constant recession-mongering from leading commentators and think tanks. In the last few weeks there has been less recession-mongering, but only in spring 2020 will the debate approach settlement. Trends in the developing nations are varied, but in the two big ones – China and India – banking systems' assets and their broad money liabilities continue to expand at rates not far from double digits. But India at least seems beset by new supply-side inefficiencies, and it is again necessary to mention potential negative supply-side effects on the world economy from misgovernment and poor corporate governance in several developing countries (Venezuela, for an extreme example). Civil unrest in Hong Kong could not cause a global downturn, as its economy represents only 0.3% of the world total. But the disruption to output warns about the current fragility of the geopolitical scene.

Name of country/ jurisdiction	Share of world output		Growth rate of broad money		Comment
	In purchasing- power parity terms, %	In current prices and exchange rates, %	In last three months at annualised rate, %	In last twelve months, %	
USA	15.1	23.3	11.0	7.6	Strong money growth, partly due to monetary financing of large budget deficit.
China	18.7	16.1	8.8	8.4	Money growth steady & inflation under control, PBOC concerned to maintain steady growth.
Eurozone	10.6	16.4	6.9	5.5	Money growth high, partly because of external inflows.
Japan	4.2	5.9	2.6	2.0	Credit and money growth down from the 3% figure seen for much of last decade, and very low.
India	7.7	3.3	10.2	10.0	Credit and money growth steady at high rates
UK	2.2	3.4	6.6	3.6	Money growth may be recovering to moderate rate.

Despite the multiplicity of instability risks at present, money growth trends in the big countries argue strongly against another global recession in 2020. Measured in terms of current prices and exchange rates, the USA continues to have the world's largest economy. Money growth has been strong since April, at least partly because the enormous US budget deficit (of about \$1,000b.) has been financed to a significant extent from the banking system. Despite much talk of recession from leading commentators (Paul Krugman, Larry Summers and Nouriel Roubini all fit the pattern), business and

consumer confidence levels are satisfactory, and consumer spending has kept on growing. (In nominal terms, US e-commerce estimate increased 16.9 percent from the third quarter of 2018 to Q3 2019, while total retail sales increased 4.0 percent in the same period.) 2020, which is of course a presidential election year, seems likely to start well on the domestic economic front, whatever the divergence over trade policy between the USA and China. The Eurozone also has enjoyed rather high broad money growth in the last six months, although September saw an increase of only 0.1%. Christine Lagarde, the new ECB president, faces the challenge of reconciling different viewpoints on the Governing Council on the best way to conduct monetary policy. Her predecessor, Mario Draghi, is widely admired for keeping the Eurozone in being in his six-year presidency, but in truth he cut corners to achieve results and undermined the sound money traditions associated with the German Bundesbank. A heartening development is that bank credit to the private sector does now seem to be expanding steadily (at annual rates of 3% - 4%) of its own accord, without depending on artificial stimulus from the ECB or other official agencies. As banks expand their loan portfolios, they create new bank deposits, which are money. In the developed world Japan and the UK are much less important than the USA and the Eurozone, but in these two countries also the latest data indicate a slight upturn in money growth, if from very low levels.

Money growth might weaken in the main countries in early 2020, but – at any rate for the time being – the monetary dials point to a very satisfactory opening few months of the year. Demand and output ought to grow at trend or above-trend rates for the world economy as a whole, while inflation remains subdued.

A handwritten signature in black ink, appearing to read "Tim Conger". The signature is fluid and cursive, with the first name "Tim" and the last name "Conger" clearly distinguishable.

22nd November, 2019



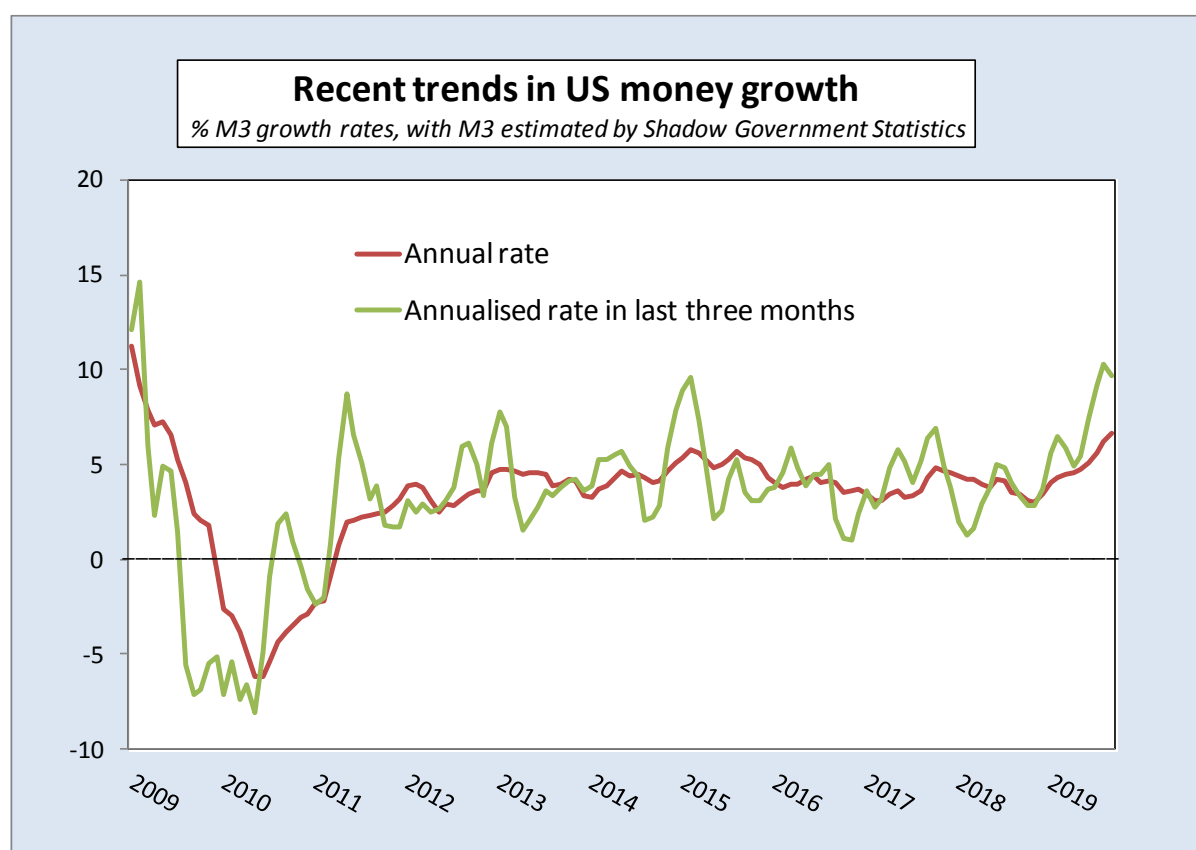
INSTITUTE OF INTERNATIONAL MONETARY RESEARCH

Analysis and insight into trends in money and banking,
and their impact on the world's leading economies

USA

	% annual/annualised growth rate:	
	M3	Nominal GDP
1960 – 2018	7.4	6.5
Eight years to 2018	4.0	4.0
Year to October 2019	7.6	n.a
Three months to October 2019 at annualised rate	11.0	n.a.

Sources: Shadow Government Statistics research service for M3 after 2006 and US Bureau of Economic Analysis for GDP



M3 growth at its highest in over a decade

Summary: In the three months to October 2019 US M3 broad money grew at its fastest rate in over a decade. In each of the last five months, M3 has grown by over \$100b. and October's reading of \$242b., or 1.2%, is the highest since January 2009. Annualised quarterly M3 growth rose from 9.3% to 11.0% while the annual growth rate increased from 6.5% to 7.6%. (Our M3 data come from Shadow Government Statistics.)

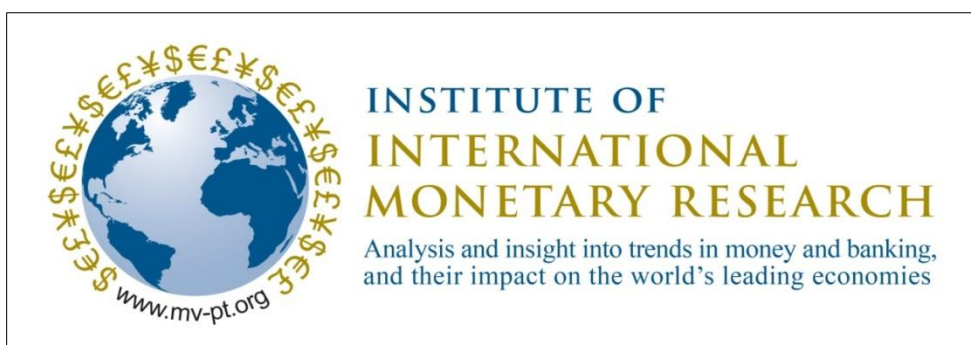
Between July and October the Federal Reserve engineered three 0.25% reductions in Fed funds rate, taking it down from 2.5% to 1.75%. Furthermore, on 8th October, Jerome Powell, the Fed chairman, announced that purchases of Treasuries *from the banks* were to be carried out in order to strengthen their cash reserves (and so to end anomalous very high inter-bank rates in September). He insisted, correctly, that “in no sense is this QE”. (Purchases of assets *from non-banks* do boost the quantity of money, with stimulatory macroeconomic effects.)

Following the announcement of the third reduction on 30th October, Powell indicated that no further rate cuts were on the cards for some time. On 31st July, in the aftermath of the first rate cut, Powell had insisted that this was to be a “one-and-done” reduction. In the event, two more rate cuts followed in short order and Powell might be criticised for inconsistency. But views on the US economy are shifting, with the recession mongers notably quieter in recent weeks. Support for the 30th October rate cut was not unanimous among members of the policy-setting Federal Open Market Committee. Esther George (Kansas City Fed) and Eric Rosengren (Boston), two persistent critics of the 2019 monetary loosening, voted against it.

Few American commentators pay attention to broad money trends. So the abatement of recession predictions must reflect other developments. Few non-monetary indicators have been suggesting that the US economy is heading for a slowdown. The economy grew at an annualised rate of 1.9% in the third quarter of the year, slightly down on the 2.0% seen in Q2, but not that different from trend growth (which may be 2½% a year). The residential real estate market picked up in October after a steady summer. House prices are 6% up on a year ago, while housing market turnover – a good leading indicator, because of its association with big-ticket consumer spending (on home extensions, furniture etc.) – has been ahead of 2018 levels. Consumer price inflation has remained below the Fed's 2% target since April, if not by much. In spite of trade tensions with China, US exports are performing well, if not quite reaching the volumes seen earlier in the year. Arguably, further rate cuts are not necessary at all because, for some time now, the money numbers have been pointing to at least trend growth in coming months and quarters, with above trend growth a real possibility.

John Petley and Tim Congdon
22nd November, 2019

	% annual growth rate:	
	M3	Nominal GDP
1960 – 2017	7.4	6.5
1960 – 1970	7.7	6.8
1971 – 1980	11.4	10.3
1981 – 1990	7.7	7.7
1991 - 2000	5.6	5.6
2001 - 2010	7.1	3.9
Seven years to 2017	4.1	3.8



China

	% annual/annualised growth rate:	
	M2	Nominal GDP
1991- 2018	19.2	15.1
2010 - 2018	13.6	11.2
Year to October 2019	8.4	n/a
Three months to October 2019 at annualised rate	8.8	n/a

Sources: People's Bank of China for M2 and International Monetary Research Ltd. estimates



Steady broad money growth continues

Summary: In the three months to October 2019 China's seasonally adjusted M2 grew by 2.2% or at an annual rate of 8.8%. This was the highest reading in over a year and slightly above the 2018's average of 8.7%. The annual growth rate ticked up slightly from 8.3% to 8.4%. As the graph above shows, Chinese broad money growth continues to be remarkably stable. The annual growth rate has remained within the 8% - 9% band for 15 months now,

In the year to October the stock of lending by China's banks grew by 12.4%. At the start of the year, the annual loan growth rate stood at over 13%, but there has been a slowing since July, although in the last three months, the rate has settled down at around 12.4% - 12.5%. Since August, the authorities have been easing monetary policy from concern that the banks were not lending enough. Base rates have been reduced on three occasions, but always in small amounts. The third reduction, effective from 20th November, was a mere 0.05%. The authorities have sought to ensure credit growth is maintained, while addressing a number of concerns about the health of China's banks. For some years unregulated lenders, the so-called "shadow banking sector", have been the main source of credit for smaller businesses. Unregulated lending has continued to grow despite official attempts to rein in shadow banking activities.

In recent months the focus of concerns has shifted to regional banks which, according to many in the official bureaucracy, have been an important cause of allegedly excessive levels of debt. In May the government took over the troubled Baoshang Bank, based in Inner Mongolia. This was the first such takeover of a bank in 20 years, but only five months later it took a stake in another regional lender, the Bank of Jinzhou (based in the city of that name, which is China's northernmost seaport), after concerns about its solvency. In November the Harbin Bank announced that it too was under government control. Newspapers report actual or potential runs on other small banks, while some lenders have yet to file their 2018 reports. The larger banks are likely to exercise more caution in lending to smaller banks in view of these solvency concerns. A recent housing boom, which threatened to become another headache for the authorities, seems to be petering out. House prices were rising at an annual rate of 10.7% in May, but by October, the figure had fallen to 7.8%. A clampdown on speculative buying has been a significant factor in slowing house prices in the major cities.

China's exports have recorded a year-on-year decline for three consecutive months now. The Trump administration is a long way from resolving all the issues in its trade dispute with China and the export of raw materials in particular has been affected. Indeed, global demand has been softening in recent months, but Chinese consumer confidence remains high. Consumer credit reached record levels in October while retail sales were up by 7.2% year-on-year. The outbreak of African swine fever is still affecting the economy, however. Consumer price inflation, which was a mere 1.5% in February, reached 3.8% in the year to October, with the annual increase of food prices rose standing at 15.5%, the highest in over a decade. By contrast, factory gate prices have fallen for four consecutive months.

John Petley
19th November, 2019

	% annual growth rate:	
	M2	Nominal GDP
1991 - 2000	24.5	18.4
2001 - 2010	18.5	15.2
Seven years to 2017	12.8	10.3



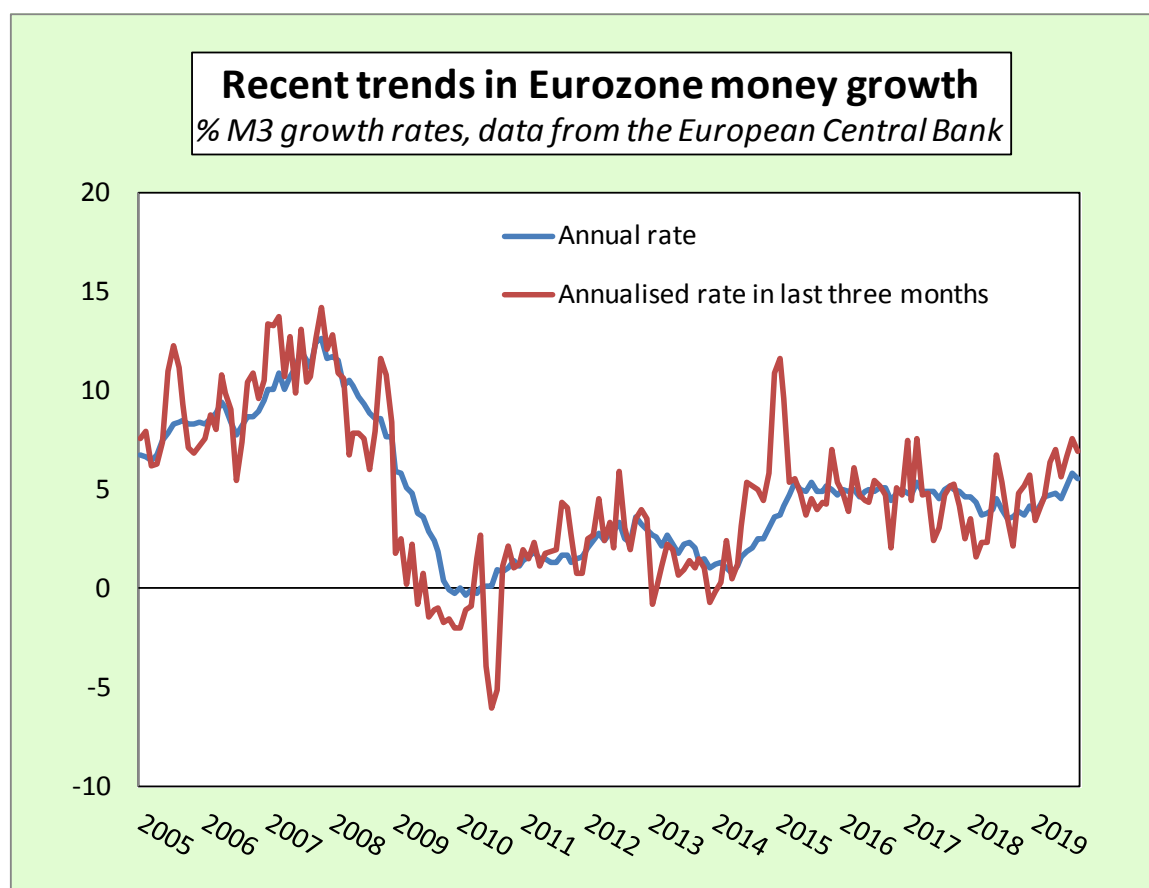
INSTITUTE OF INTERNATIONAL MONETARY RESEARCH

Analysis and insight into trends in money and banking,
and their impact on the world's leading economies

Eurozone/Euroland

	% annual/annualised growth rate:	
	M3	Nominal GDP
1996 – 2018	5.2	3.1
Eight years to 2018	3.7	2.5
Year to September 2019	5.5	n/a
Three months to September 2019 at annualised rate	6.9	n/a

Sources: European Central Bank and International Monetary Research Ltd. estimates



September sees break from recent high money growth

Summary: In September Eurozone M3 increased by only €15b. (or by slightly more than 0.1%), a figure which is definitely the weakest so far in 2019. In the three months to September 2019 annualised broad money (M3) growth in the Eurozone stood at 6.9%, a decline from August's figure of 7.5%, the highest on this metric since March 2017. Annual M3 growth fell between August and September from 5.9% to 5.5%. For the single currency area as a whole, one month's disappointing broad money growth may be merely a blip. The outlook suffers from uncertainty about the intentions of the ECB's new president, Christine Lagarde.

Money growth numbers in the Eurozone have been satisfactory since late 2014, which – roughly speaking – has been the era of the Eurozone's "quantitative easing". The compound annual % growth rate of M3 in the five years from September 2014 has been exactly 5.0%. This has been well ahead of the trend growth of real output, usually put at between 1% and 1½% a year, with three benign results.

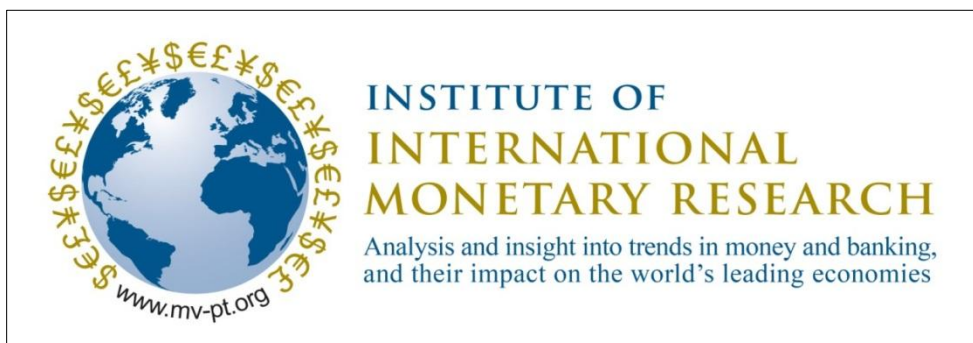
First, Eurozone output has grown. The average rate of increase in Eurozone GDP is estimated by the IMF to be 1.9% in the five years 2015 – 19 inclusive. Secondly, deflation has been avoided. The increase in prices has in fact been much the same in the latest five years as in the previous five years, but in mid-2014 many commentators were worried that the price level might fall on a sustained basis. Finally, asset prices have been stronger and balance sheets have improved. The incidence of non-performing loans in the Eurozone's banks has declined, even – in order to comply with Basel III rules – they have added to their capital. The ratio of banks' capital and reserves to total assets, which was 5.0% at end-2008 as Basel III was in prospect, was 8.5% at mid-2019.

Nevertheless, the last five years has seen intense controversy at the ECB. The so-called "Nordic bloc" (Germany, the Netherlands, Finland) feel that the Bundesbank tradition of monetary management has been betrayed by Mario Draghi's pragmatism as ECB president. Italy has indeed benefited more than the Nordic bloc countries from QE, since it has eased the Italian government's problem in financing its deficit. Christine Lagarde takes over amid furious debates about the correct policy direction. She is fortunate that the banking system is in better shape and bank credit to the private sector is expanding steadily at an annual rate of 3% - 4%. Even if continued growth of broad money at a reasonable rate (of, say, between 2% and 4% a year) may require an occasional positive nudge from ECB asset purchases, the Eurozone is much better placed than it was when Draghi took over in late 2014.

M3 growth was quite strong in the six months to August, at an annualised rate of 7.3%. But it came to a virtual halt in the month of September itself, which needs to be noticed, but will probably turn out to be only a blip. A striking feature of recent data is that money growth in Germany has been much weaker since mid-2018 than the Eurozone average, and the German economy has been plagued by recession fears.

Tim Congdon
22nd November, 2019

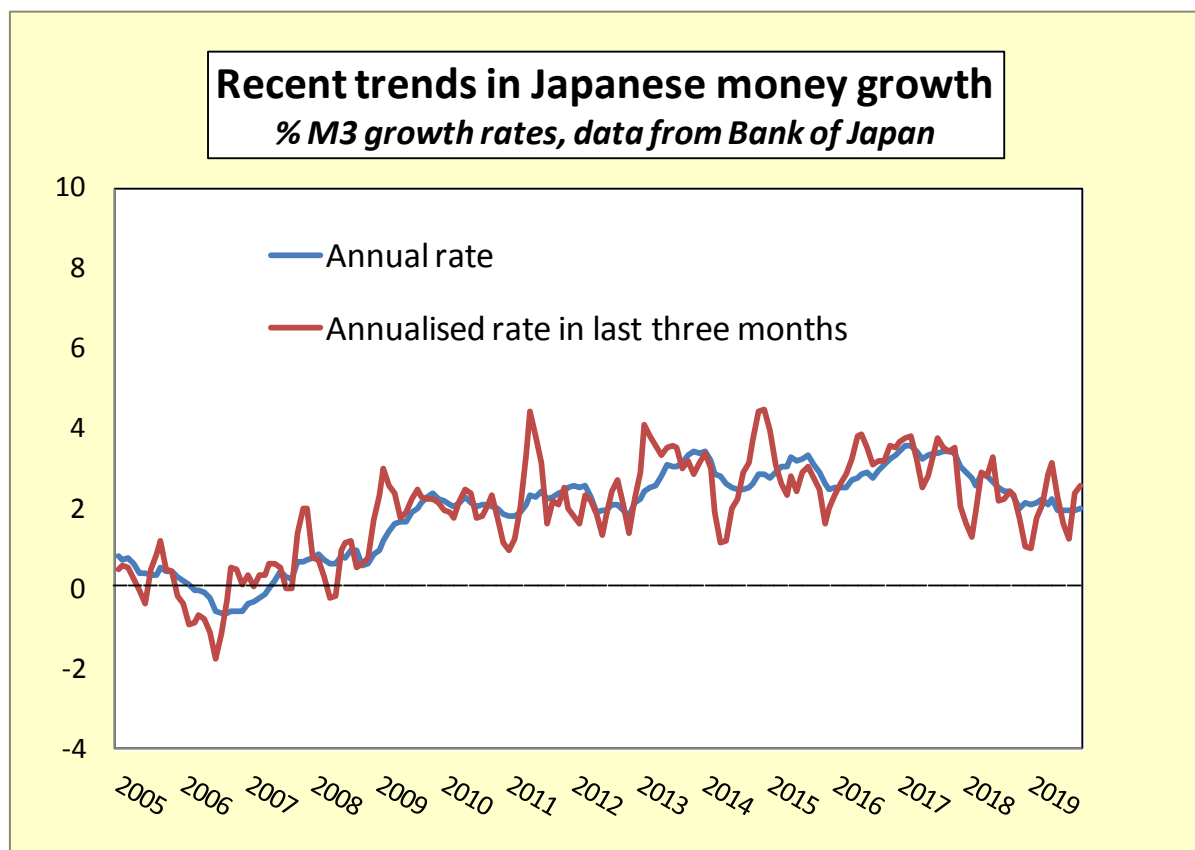
	% annual growth rate:	
	M3	Nominal GDP
1996 – 2017	5.2	3.1
1996 – 2000	4.6	4.1
2001 – 2010	6.8	3.1
Seven years to 2017	3.6	2.4



Japan

	% annual/annualised growth rate:	
	M3	Nominal GDP
1981- 2018	4.0	1.9
Eight years to 2018	2.8	0.6
Year to October 2019	2.0	n/a
Three months to October 2019 at annualised rate	2.6	n/a

Sources: Bank of Japan for M3 and IMF for GDP



Almost imperceptible recovery in broad money growth continues

Summary: In the three months to October 2019 Japanese M3 broad money grew at an annualised rate of 2.6%, the most positive number since the 3.1% recorded in May. Money growth has progressively improved since June, when the seasonally adjusted quantity of money, broadly defined, actually fell. For the last three months, growth in the quantity of M3 money has been higher than the average for 2018. Although this uptick in broad money growth is now in its fourth month, it is still too early to be confident that the better trend presages a return to a consistently higher level of broad money growth. The annual M3 growth rate, after touching a six-year low of 1.9% in July, was unchanged in October at 2.0%.

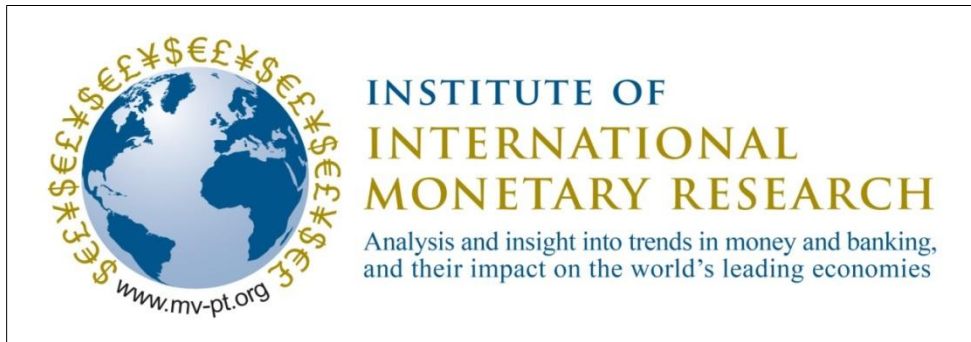
The improvement in broad money growth in recent months is modest. It has not been due to any evident revival upturn in bank lending to the private sector. The stock of bank loans increase by 2.0% in the year to October, unchanged on September's figure which was the lowest in over a year. A long-term problem here is that – as Japan's population ages – fewer young people want to borrow to buy houses, so that the stock of mortgages may be in secular decline relative to national output.

Japanese GDP grew by a mere 0.1% in the third quarter of 2019, down from the 0.4% seen in Q2. Japanese exports have been less than a year earlier for 11 months now, seriously slowing GDP growth. The figure for GDP would have been even worse if it were not for a surge in retail sales in the month of September. Consumers were completing the purchase of big-ticket items ahead of an increase in the sales tax. October's inflation figures have not yet been released, but the 2% hike in the sales tax is likely to result in a significant rise in consumer prices, pushing the inflation rate significantly higher than the 0.2% seen in the year to September. A similar phenomenon occurred in 2014 when the sales tax was raised by 3%, but the annual inflation rate promptly fell back a year later when the sales-tax rise fell out of the 12-month period.

With prices at the factory gate recording a fifth consecutive month of decline in October, the Bank of Japan may fail to reach its 2.0% inflation target, whatever the effect of the sales tax increase. A 2.0% inflation rate was the principal objective of the programme of “quantitative and qualitative easing” launched six and a half years ago. Additional measures, including negative interest rates and yield curve control, have also been tried in a thus far elusive attempt to raise inflation. There was some expectation that October's meeting of the BOJ's monetary Policy Committee would see the announcement of additional measures, but instead, at its meeting on October 30th/31st the MPC merely stated that the Bank should “continue to examine whether additional monetary easing will be necessary.” Apparently, at a meeting with governors of regional cooperative banks in September, strong opposition was voiced to pushing interest rates further into negative territory. Governor Kuroda now appears to be pinning his faith on fiscal policy as the means of reviving the economy.

John Petley
20th November, 2019

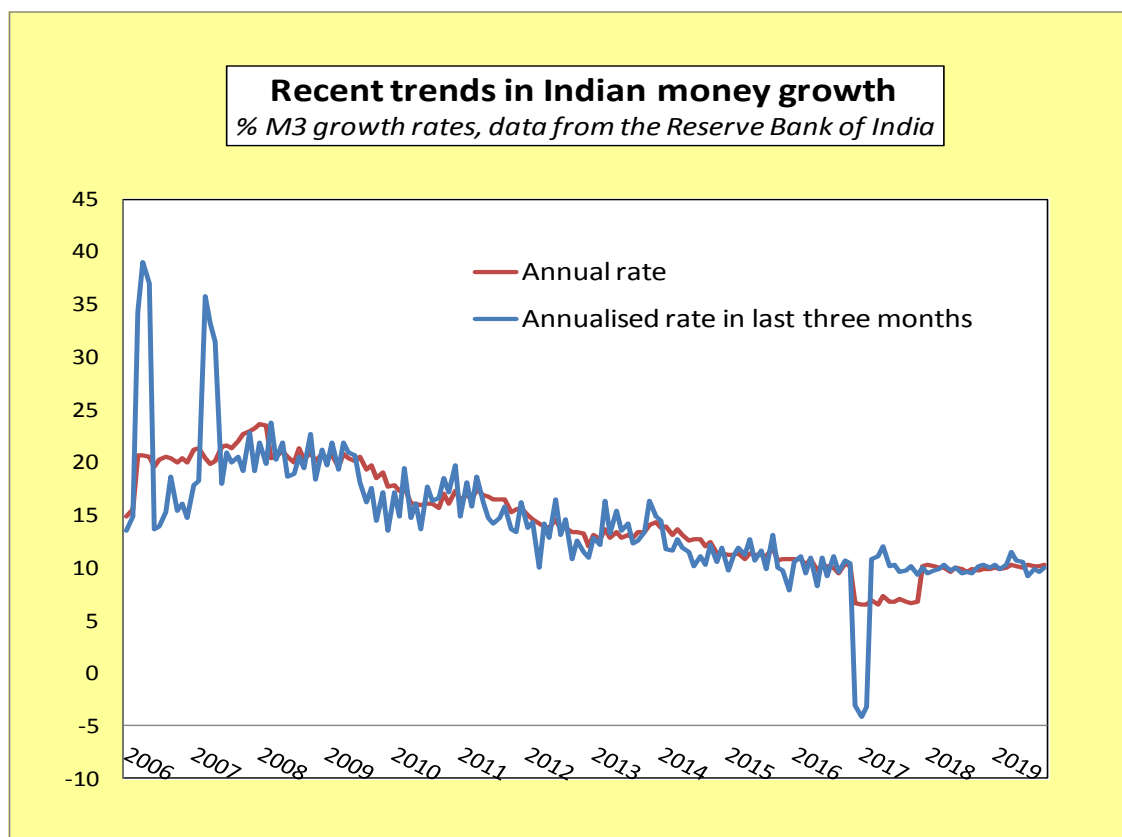
	% annual growth rate:	
	M3	Nominal GDP
1981 – 1990	9.2	4.6
1991 - 2000	2.5	1.1
2001 - 2010	1.1	0.8
Seven years to 2017	2.9	1.3



India

	% annual/annualised growth rate:	
	M3	Nominal GDP
1981- 2018	14.8	12.4
Eight years to 2018	11.2	6.9
Year to October 2019	10.2	n/a
Three months to September 2019 at annualised rate	10.0	n/a

Sources: Reserve Bank of India for M3 and IMF for GDP



Satisfactory broad money growth continues

Summary: In the three months to October 2019 India's seasonally adjusted M3 grew by 2.4% or at an annualised rate of 10.0%, This is above September's figure of 9.6%, but slightly lower than the figures for March to June. The annual M3 growth rate ticked up from 10.1% to 10.2%. Broad money growth at this level is consistent with macro stability. M3 growth in India has been remarkably steady in the last two years, as the graph above shows.

The Reserve Bank of India, India's central bank has cut base rates on no fewer than five occasions this year so far, to combat sluggish growth. Salient in 2019's economic disappointments has been a recession in India's car industry. Passenger car sales in August were 40% beneath year-earlier levels.

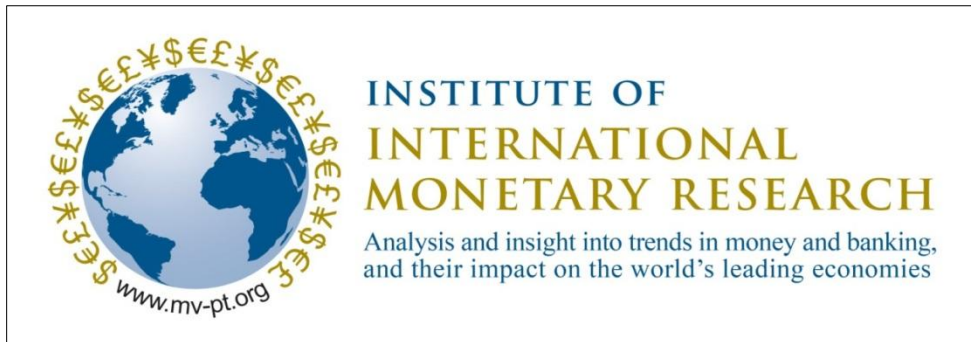
The combined effect of the RBI's interest rate cuts has been to reduce the cost of borrowing from 6.5% to 5.15%, the lowest figure in nine years. Quite apart from the weakness in the industrial sector, the authorities are keen to counteract a slowdown in lending by India's banks. Thus far, they have not been successful. At the start of 2019 annual loan growth stood at over 14%. By August this had fallen to 12%, while in October the stock of lending by India's banks was only 8.9% up on a year earlier. Apart from the immediate aftermath of the November 2016 de-monetisation exercise (the mass withdrawal of 500 and 1,000 rupee banknotes from circulation) which caused annual loan growth to fall as low as 4.1%, this is the weakest loan growth in a decade.

Figures for India's GDP growth in the third quarter of 2019 have not yet been released. But observers fear there may be little improvement on the 1.2% (i.e., at an annualised rate of 5.0%) seen in Q2, the weakest number since 2013. A very heavy monsoon adversely affected the harvest and caused food prices to spike. That was responsible for raising annual consumer price inflation from 4.0% in September to 4.6% in October. Given that the RBI's medium-term inflation target is 4%, the sharp rise in inflation may act as a restraint on further monetary loosening, even though excess money growth is not the problem. November has also seen a further decline in the value of the rupee against the US dollar, after two months of relative stability.

While the RBI is without doubt determined to avoid a more pronounced slowdown, it has also been concerned about the level of debt in the economy and indeed, about the general health of India's banks. A recent audit by the RBI revealed that one bank, Yes Bank, has under-reported its bad loans by over \$450 million. This particular bank made extensive loans to unregulated lenders, which were responsible for a third of all new credit between 2015 and 2018, but which have suffered from a number of serious defaults. The consequential scaling-back in lending by these institutions has particularly hit the domestic economy, as hundreds of millions of poorer Indians are said to have relied on them for credit. The RBI's hard line on loan restructuring has reduced the total value of non-performing loans on the books of India's banks. But loan write-offs result in an immediate reduction in banks' capital and hence in the ability to lend.

John Petley and Tim Congdon
22nd November, 2019

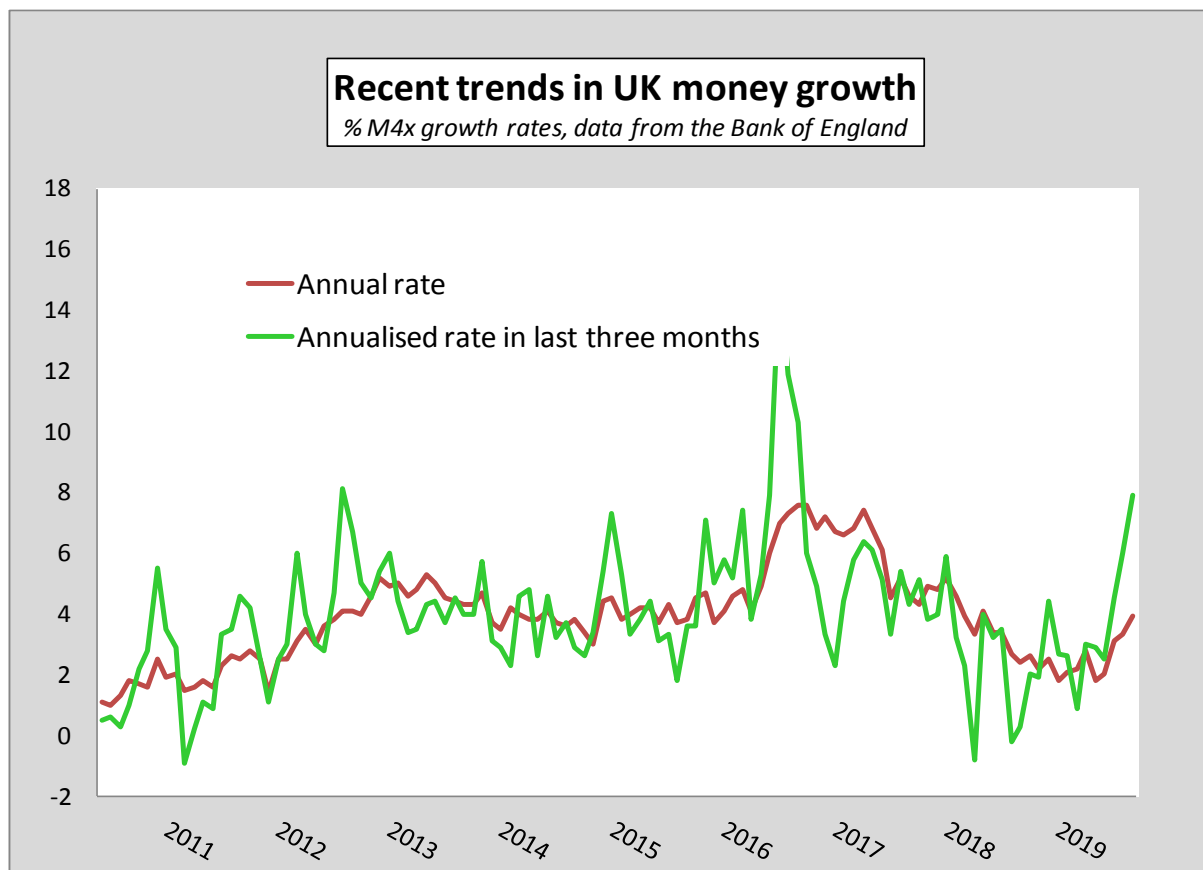
	% annual growth rate:	
	M3	Nominal GDP
1991 - 2000	17.2	14.0
2001 - 2010	17.3	14.9
Seven years to 2017	11.3	11.6



UK

	% annual/annualised growth rate:	
	M4x/M4 before 1997	Nominal GDP
1964 – 2017	9.8	8.2
Eight years to 2018	4.1	3.7
Year to September 2019	3.9	n/a
Three months to September 2019 at annualised rate	7.9	n/a

Sources: Bank of England and Office for National Statistics



Broad money growth improvement continues

Summary: In the three months to September 2019 UK M4x grew at an annualised rate of 7.9%. This is the highest number recorded since September 2016. In September itself, broad money grew by £3.4b., a decline on the £10.9b. and £20.6b. of the two previous months, but the quantity of money fell in June (which has dropped out of the calculations). (September's weaker, but still adequate, M4x growth has pushed up the three-month annualised money growth number as the June M4x fall drops out of the number.)

The strong money growth of recent months has been one element in a wider pattern of muddling-through the 2019 global slowdown without an outright recession. The UK economy contracted by 0.2% in the second quarter of the year, but grew by 0.3% in the third quarter. The growth rate in the year to the second quarter was a disappointing 1.0%, the slowest in almost a decade. Very weak money growth in late 2018 and the opening months of 2019 held back asset prices (notably house prices), and was part of the background to the economy's sluggishness. The media relentlessly blamed Brexit uncertainty for this sluggishness, but Brexit uncertainty has been present since June 2016.

Growth in lending to the small-and-medium-sized-enterprise sector remains disappointingly low, with the annual rate of increase a mere 1% in September, but this is an improvement on the figures for previous months. The housing sector is continuing to see a reasonable level of growth, with nearly 66,000 mortgage approvals in September, a fairly typical figure for the year. House prices, however, are falling in some regions, especially in London. Brexit uncertainty has been blamed for virtually every hint of a slowing of the economy, but the money numbers started to improve in July and have remained more positive in spite of the subsequent political confusion. The picture is far from disheartening as far as consumer spending is concerned. The third quarter of 2019 experienced a new record level of retail spending, with retail sales up by 3.1% in the year to October. Consumer confidence, however, remains in negative territory.

The Bank of England's Monetary Policy Committee has kept base rates unchanged this year, but November 5th's vote was not unanimous. Two of the seven members voted for a 0.25% cut. They may well have been influenced by a survey of the banking sector which indicated that banks plan to reduce their lending in response to rising defaults and a fall in demand. The money numbers do not argue that any further economic slowdown is imminent. The Bank of England perhaps has scope to cut interest rates, but the more important as ever is the behaviour of the quantity of money. In 2016 the Bank re-activated asset purchases, and that did boost money growth. The money numbers will merit close scrutiny in the coming months as companies and investors respond to events. The general election will create some short-term uncertainty, especially as the fate of Brexit very much hangs on the result, but by themselves the money numbers point to a respectable growth going into 2020..

John Petley
19th November, 2019

	% annual growth rate:	
	M4/M4x	Nominal GDP
1964- 2017	9.8	8.2
1991 – 2000	6.7	5.3
2001 – 2010	7.1	4.1
Seven years to 2017	3.8	3.6