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Monthly e-mail from Tim Congdon and John Petley – 27th January, 2020

Global money round-up in winter 2019/20

Attention has been focused – in our recent monthly e-mails – on an unexpected surge in money growth in the United States of America. In the nine months to November M3 broad money rose by 6.8%, or at an annualised rate of 9.1%. (Note that we use the M3 estimates prepared by the advisory firm, Shadow Government Statistics.) This was clearly a break from previous patterns in the 2010s and argued strongly against the widespread mid-year recession mongering (from Paul Krugman etc.). Sensibly, the recession talk has now abated, for both the US economy and for the world economy as a whole. Concern about possible further aggregate demand slowdowns has nevertheless persisted in all of China, the Eurozone, India and the UK. Since the concern has led to policy easing announcements (or expectations of them), the talk of a 2020 recession looks wide of the mark. If money growth stays high in the USA, a plausible view is that early 2020 will see trend or above-trend growth there at least. Elsewhere the position is more mixed, but a reasonable expectation is a better year than 2019, with trend growth and negligible inflation.

As always, caveats have to be entered. US M3 growth in December was a more moderate 0.4%; the weekly Fed data suggest that January has started off with rather high bank balance-sheet expansion. In the Eurozone the European Central Bank's September announcement of resumed asset purchases does not seem to have been translated into the banking system's consolidated balance sheet. (Its holdings of government securities have gone sideways in recent months.) It also remains to be seen how much damage is done to growth in 2020 by the coronavirus outbreak in China and the looming changes in car carbon emission standards. These are supply-side jokers in the pack, which are outside our remit.

Money trends in early 2020 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, although the American money growth acceleration was interrupted by a moderate 0.4% M3 increase in December. All the same, the US money growth acceleration has been persistent enough to deserve highlighting. Buoyant money growth is normally associated with asset price gains and balance-sheet strength, and hence with above-trend growth in demand. With the US stock market up by about a quarter in the last year and house prices also moving ahead, the argument is strengthened. However, leading indicator indices are as yet signalling only trend growth in the USA and elsewhere. The Eurozone enjoyed rather strong money growth for most of 2019, but domestic credit expansion was weak towards the end of the year. Overall, the message is at least satisfactory for developed-world demand and output in the next few quarters. 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 double-digit annual rates or annual rates not far from double digits. (But India seems beset by factional tensions and unrest, mostly to be attributed to the ruling BJP's religious nationalism/fundamentalism.)

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	10.5	8.4	Strong money growth, partly due to monetary financing of large budget deficit.
China	18.7	16.1	9.3	8.7	Money growth steady & inflation under control, PBOC concerned to maintain steady growth.
Eurozone	10.6	16.4	4.3	5.6	Money growth high-ish, partly because of external inflows.
Japan	4.2	5.9	2.3	2.3	Credit and money growth down from the 3% figure seen for much of last decade, and very low.
India	7.7	3.3	11.8	10.6	Credit and money growth steady at high rates, amid social tension
UK	2.2	3.4	4.5	4.0	Money growth may be recovering to moderate rate.

Despite the almost double-digit annual money growth rate in the USA, it is too early to be 100% confident about a forecast of above-trend growth. However, another quarter or two of broad money growth at recent rates would justify a strong forecast of that sort. With national output already somewhat above trend according to most estimates, above-trend growth would imply a significantly positive output gap in early 2021 and meaningful upwards pressures on inflation. Given the lags before inflation deteriorates, President Trump may enjoy a very favourable economic background in the November election.

The Eurozone had rather high broad money growth for much of 2019, but it slipped back in October and November. Banks extended little new credit to the domestic private or state sectors towards the end of the year. In fact, in the last three months for which the data are available, they show the banking system's holdings of government securities going *down*, despite the decisions of the September ECB Governing Council to resume asset purchases. Money growth has been particularly weak in Germany, the Eurozone's largest economy. In the three months to November Germany's M3 was unchanged, whereas in the rest of the Eurozone it increased by 1.4% (or at an annualised rate of 5.7%). The explanation seems to be that Germany's Federal Financial Supervisory Authority (or BaFin) decided last summer that banks must operate with a stronger contra-cyclical capital buffer. No one seems to have told BaFin that the inevitable result would be a period in which banks stopped their assets growing and hence stagnation in broad money, and that the further consequence might be a mild recession. (In other words, the increase in banks' capital/asset ratios would have the immediate effect of causing exactly that which the increase in capital/asset ratios was supposed to prevent!) Indeed, at present the different members of the Eurozone have varying cyclical fortunes. While Germany and Italy are constrained by banking system strains and low money growth, France is well-place. Its banking system is expanding nicely and its economy has roughly trend growth.

Overall the prospect for the world economy in 2020 is trend growth, but the warning has to be given that the trend growth rates of the major countries seem to be falling. In China the ageing of the population and the return to centralized planning signal a trend growth rate of output that may be little more than 4% - 5% a year, much less than the double-digit annual growth rates of the hyper-growth boom of the 1990s and the first decade of the 21st century. More perplexing is the situation in India. The recently re-elected BJP government has stirred up tensions by military intervention in Jammu and Kashmir, and its revocation of Indian citizenship from Muslims in Assam and elsewhere. These new uncertainties will have economic implications, so that the trend rate of growth may fall back towards 5% a year.

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 satisfactory opening few months of the year. Demand and output ought to grow at trend (or even above-trend) rates for the world economy as a whole, while inflation remains subdued. If money growth continues at recent rates in the USA, it will suffer upward pressure on inflation in 2021.

A handwritten signature in black ink, appearing to read 'Tim Conger', with a stylized, flowing script.

27th January, 2020



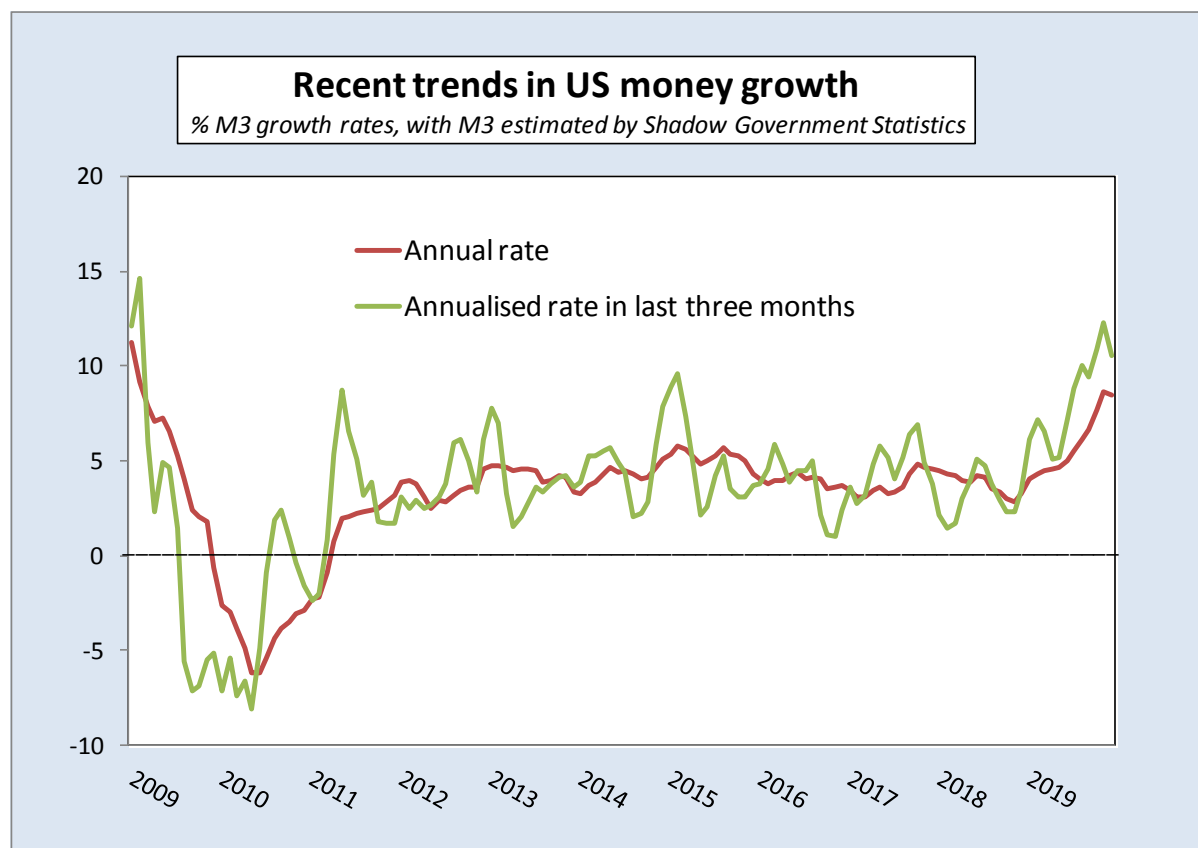
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USA

	% annual/annualised growth rate:	
	M3	Nominal GDP
1960 – 2018	7.4	6.5
Eight years to 2018	4.0	4.0
Year to December 2019	8.4	n.a
Three months to December 2019 at annualised rate	10.5	n.a.

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



M3 growth has been very strong, but came back a bit in December

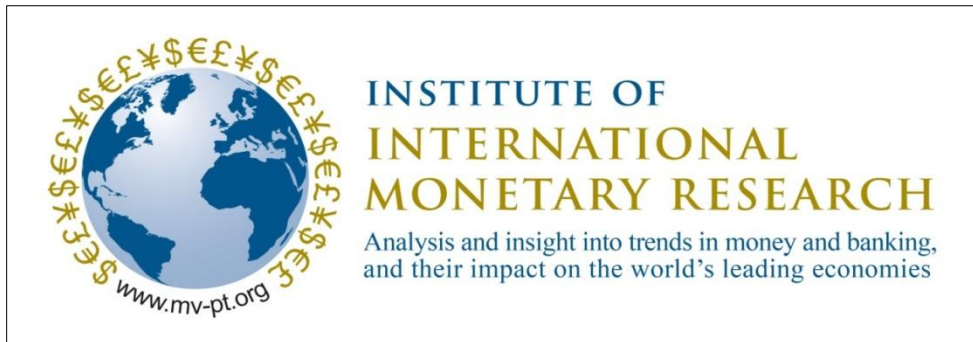
Summary: In the three months to December 2019 US M3 broad money grew at an annualised rate of 10.5%, an exceptionally high figure by recent standards. In December itself, however, the quantity of money advanced by \$81b. (or 0.4%), the slowest one-month gain since May. This reduced the annualised quarterly growth rate from November's post-great recession high of 12.3%. One month's data may be a blip. But December's figure in isolation would translate into an annual growth rate of just under 5%, which would still be a satisfactory figure. The annual growth rate fell slightly, from 8.6% to 8.4% (Our M3 data come from Shadow Government Statistics.)

In the latter part of 2019 the Federal Open Markets Committee made three reductions to the Fed funds rate, bringing the cost of borrowing down by 0.75% in total. The decision to make these cuts was not unanimous. Given the rapid growth of broad money between April and December, it could be argued that they were not necessary. However, today's Fed takes little note of broad money in its decision-making. But indicators which are of more interest to FOMC members – such as wage growth, the unemployment figures and inflation – also offered no compelling reason for the reductions in the Fed funds rate. Indeed, consumer price inflation rose to 2.3% in the year to December, above the Fed's 2% target, although not by much. Far fewer commentators are predicting a slowdown in the US economy this year, compared to six months ago. After its December meeting the FOMC stated that it had decided unanimously that no more rate cuts were needed.

Strong money growth has benefitted US asset prices. 2019 saw, among other things, a rise of almost 25% in the Dow Jones index. The upturn in money growth was not driven by a significant increase in new bank lending to the private sector. "Loans and leases in bank credit" – a category dominated by lending to the private sector – rose in 2019 by 4.4%, the same as in 2018. The 4.4% figure was up on 2017's 3.4%, but lower than figures of 8.1% and 6.4% seen in 2015 and 2016 respectively. The acceleration in money growth arose from a big jump in banks' holdings of securities, particularly of holdings of Treasury securities. Banks' holdings of Treasury and agency securities went up in 2019 by 14.2%, a much more positive rate of increase than the 3.6% recorded in 2018 and 2.7% in 2017. The obvious interpretation is that the US Federal budget deficit, which ran at about \$1,000b, in 2019, is being partly monetised. The huge Federal deficit will persist in 2020 and its monetisation may again boost money growth. Early indications from weekly Federal Reserve data are that money growth again on the high side in January. In the three weeks to 15th January deposits in the US commercial banks increased from \$13,208b. to \$13,298b. or by 0.7% (i.e., at an annualised rate of 12.4%).

John Petley
17th January, 2020

	% annual growth rate:	
	M3	Nominal GDP
1960 – 2018	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
Eight years to 2018	4.0	4.0



China

	% annual/annualised growth rate:	
	M2	Nominal GDP
1991- 2018	19.2	15.1
2010 - 2018	13.6	11.2
Year to December 2019	8.7	n/a
Three months to December 2019 at annualised rate	9.3	n/a

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



Steady broad money growth continues

Summary: In the final three months of 2019 China's seasonally adjusted M2 grew by 2.3% or at an annualised rate of 9.3%. This is a slight advance on November's reading of 8.6% and the highest number since November 2017. The average figure for the year is 8.5%, slightly below the 2018 average of 8.6%. Chinese broad money growth has shown remarkable stability in recent years. In particular the annual growth rate, which picked up from 8.3% in November to 8.7%, has remained within the 8% - 9% band for 18 months now,

The Chinese authorities have continued to ease monetary policy. 2020 began with an announcement of a 0.5% reduction in banks' reserve ratio requirement (RRR), which will release \$11.5b. in liquidity. This is the second such reduction in six months, and follows on from three small cuts in base rates between August and December 2019. The authorities have been concerned that banks are not lending enough. New bank lending stood at a record 16.81 trillion yuan (or \$2.44 trillion) in 2019, but the growth rate is slowing, with the stock of loans only 12.3% higher at the end of 2019 than a year earlier. (Nine months earlier this figure stood at 13.7%.) Sun Guofeng, the head of monetary policy at the People's Bank of China (China's central bank) stated that there is only limited room for further cuts to the RRR. A month earlier Yi Gang, the PBoC's governor, ruled out the possibility of "quantitative easing" or negative interest rates.

At present options on monetary loosening are constrained by annual consumer price inflation of 4.5%, above the government's 4% target and the highest figures since 2012. An outbreak of African swine fever is proving hard to contain, causing food prices and retail inflation to shoot up. December's figures suggest that the spike in inflation has peaked, as the annual rate of food price inflation fell for the first time in ten months. If food prices begin to stabilise, the *retail* inflation rate is likely to fall, as prices *at the factory gate* have been dropping for the past six months. With corporate defaults hitting a record \$18.6b. in 2019, the authorities have been keen to tidy up China's banking system. After initially targeting the so-called "shadow banking system" – in other words, unregulated lenders – their focus has now shifted to regional banks, three of which are now under direct government control following concerns about their solvency.

Recently published figures show that Chinese GDP grew by 6.0% in the final quarter of 2019, unchanged from the previous quarter, which was the weakest growth rate since the first quarter of 1992. The effects of the recently-signed trade deal with the USA remain to be seen. It is limited in scope and makes little change to the recently-imposed tariffs. The improved atmosphere between the two countries will nonetheless be welcomed by China's exporters, who saw sales to the US falling by 12.5% in 2019. Indeed, overall Chinese exports grew by a mere 0.5% as opposed for 10% in 2018. The authorities have been trying to rebalance China's economy away from exports towards domestic consumption and a year-on-year increase of 8% in retail trade is an encouraging sign. The housing market, which was showing signs of overheating in the middle of the year, seems to be cooling.

John Petley
17th January, 2020

	% 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



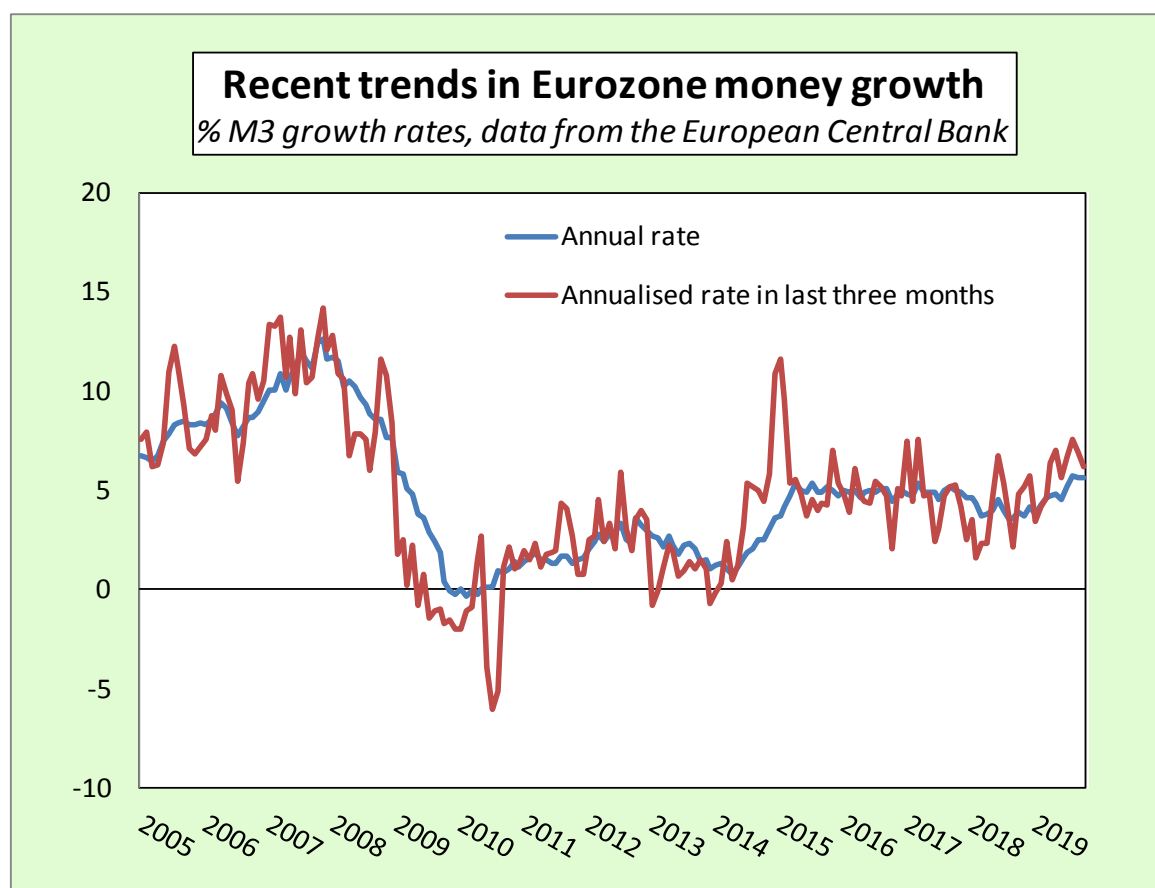
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Eurozone/Euroland

	% annual/annualised growth rate:	
	M3	Nominal GDP
1996 – 2018	5.2	3.1
Eight years to 2018	3.7	2.5
Year to November 2019	5.6	n/a
Three months to November 2019 at annualised rate	4.3	n/a

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



Money growth slows, but remains satisfactory, if only just

Summary: In the three months to November annualised broad money (M3) growth in the Eurozone fell to 4.3%, the third consecutive month of decline in money growth on this metric after August's buoyant reading of 7.5%. Annual M3 growth was down slightly, from 5.7% in October to 5.6% a month later. November saw the quantity of money grow by €39b., or 0.3%. This is a significant reduction on October's reading of €66b. and would equate to an annualised growth rate of 3.6%. Two of the last three months, September and November, have recorded the weakest M3 growth seen in 2019.

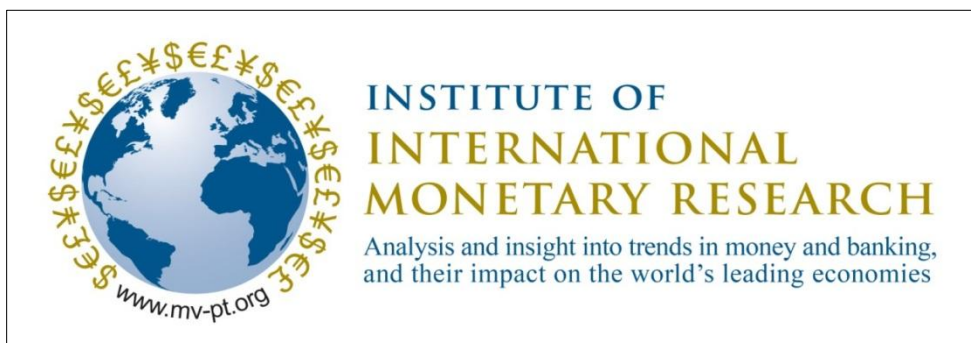
September's announced resumption of the ECB's asset purchase programme was supposed to sustain monetary ease. But there are growing concerns about banking developments in Germany. German M3 shrank in the quarter to November. The nation with the EU's largest economy is no longer the motor driving Eurozone money growth. The explanation may be partly that last summer Germany's Financial Stability Board (Bafin) suggested a counter-cyclical capital buffer of ¼% on banks, in order that – if recession were to hit – they would have sufficient capital to sustain lending. This translated into an additional €5b. or so of equity capital to be held by German banks, even though profitability (and so the scope for capital retentions) is weak. (Deutsche Bank has the further problem that it is deemed “systemically important” and so must have an above-average capital buffer.)

It remains to be seen whether Germany can escape the woes of their Italian counterparts. Italy's banks struggled in the 2010s, with the stock of loans falling by almost 40% from a peak reached in November 2011. (The Italian banks had bad loans after the Great Recession, and these would in the normal course of business reduce capital as they were written off. At a further remove the loss of capital would limit balance-sheet expansion. But the dominant reason for the balance-sheet stagnation in Italy and elsewhere in the Eurozone has been the increase in banks' capital-to-asset ratios mandated by the Basel III rules.) For the Eurozone as a whole banks increased claims on the private sector at an annualised rate of 3.% in the three months to November, despite the problems in Germany and Italy. As yet the asset purchases promised by the ECB in September have not the positive effect on Eurozone broad money, with banks' “credit to general government” falling in all of September, October and November. As for so much of the 2010s, the weakness in Eurozone domestic credit ought in the last two/three months to have led to very slow money growth. But money balances continue to be dragged in from abroad. Eurozone banks' net external assets climbed by €80b. in the three months to November, boosting the M3 money measure by 0.6%.

The ECB is supposed to be pursuing a target of price stability, understood as an annual inflation figure of under 2%. Despite much criticism, the target is being met. Prices rose by 1.3% in the year to November, the highest figure since April. A recent spell of deflation in both Cyprus and Greece seems to have come to an end.

Tim Congdon and John Petley
24th January, 2019

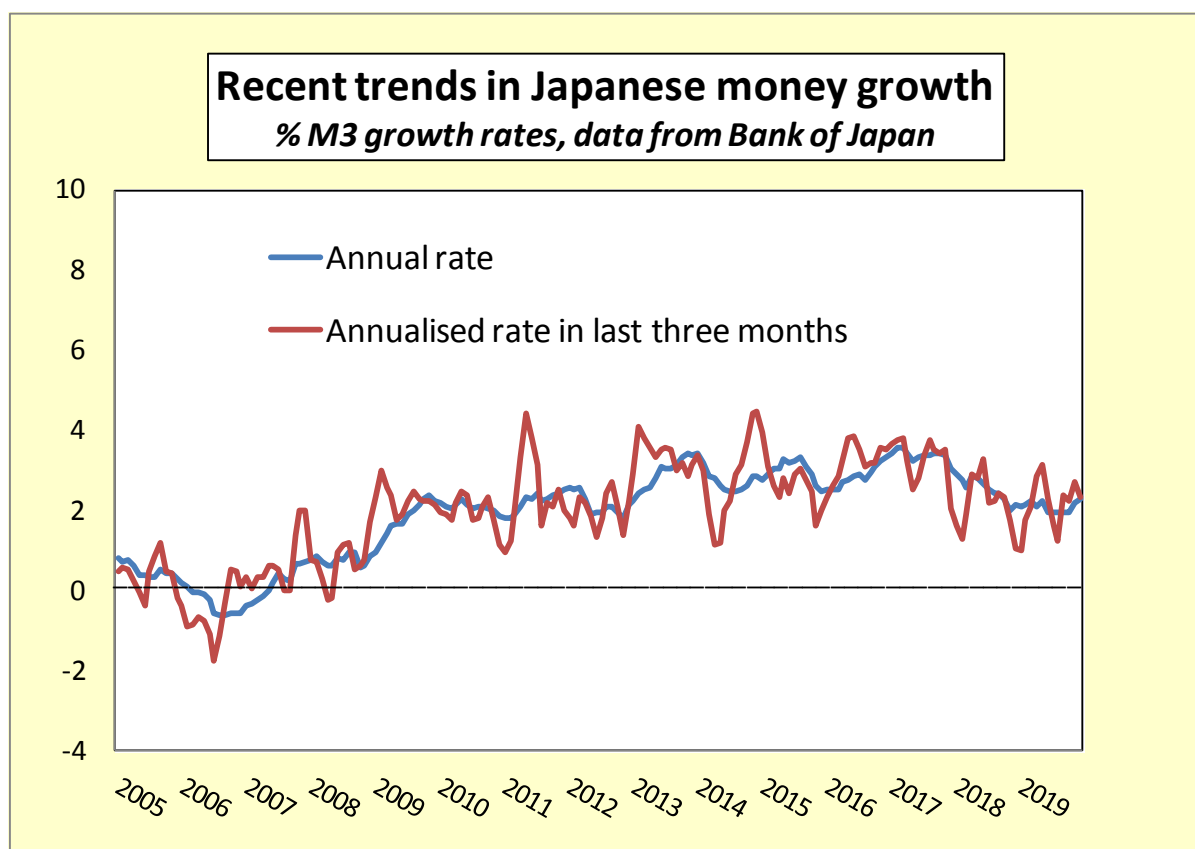
	% annual growth rate:	
	M3	Nominal GDP
1996 – 2018	5.2	3.1
1996 – 2000	4.6	4.1
2001 – 2010	6.8	3.1
Eight years to 2018	3.7	2.5



Japan

	% annual/annualised growth rate:	
	M3	Nominal GDP
1981- 2018	4.0	1.9
Eight years to 2018	2.8	0.6
Year to December 2019	2.3	n/a
Three months to December 2019 at annualised rate	2.3	n/a

Sources: Bank of Japan for M3 and IMF for GDP



Broad money growth falls back – if imperceptibly

Summary: In the three months to December 2019 Japanese M3 broad money grew at an annualised rate of 2.3%. This is a decline on November's reading of 2.7%, which was the most positive number since the 3.1% recorded in May. Two of the last three months of 2019 have seen disappointing broad money growth. The annual growth rate ticked up from 2.2% to 2.3%. The wider message – of very low money growth within a narrow range – is much as it has been for many years,

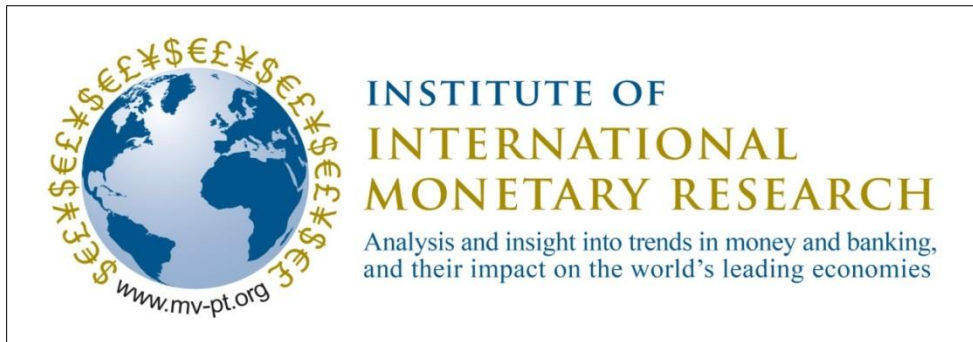
The stock of bank loans to the private sector grew by only 1.8% in the year to December, the lowest reading in at least five years. In each of the first six months of the year, the figure stood at 2.3% or more. Recently money growth in Japan has been driven not by extra deposits created by an increase in bank lending, but rather as a result of the Bank of Japan's stimulatory measures, so-called "quantitative and qualitative easing", negative interest rates and "yield curve control". These measures have caused banks' cash reserves to rise sufficiently to keep broad money growth at above an annualised rate of 2%. Thus, in April 2019 domestically licensed banks had cash assets of 249.3 trillion yen, but in October the figure had climbed to 257.5 trillion yen. (One trillion yen is roughly equal to \$9b., at the current exchange rate.)

The BOJ stimulatory measures were introduced from 2013 onwards, in an attempt to raise inflation to an annual rate of 2%. But today, over six years later, progress on this front has been unimpressive. Consumer prices rose by a mere 0.5% in the year to November. This was an improvement on October's reading of 0.2%, but still very low when it is recalled that October saw an increase in Japan's sales tax from 8% to 10%. A 3% increase in 2014 immediately pushed the inflation rate up to over 3%, but October 2019's increase has barely moved the inflation rate. The retail sector continues to disappoint after a year-on-year jump in sales of 9.2%, most likely due to a rush to complete big ticket purchases ahead of the sales tax rise. Both October and November saw lower spending compared with the corresponding months of 2018.

The summary of the latest meeting of the BoJ's Monetary Policy Committee did not suggest that any new initiatives are imminent. There was only a statement that "the Bank should continue to examine whether additional monetary easing will be necessary" The Japanese government seems to be looking to fiscal rather than monetary measures to revive the country's economy, with a significant increase in government spending planned for 2020. A country with unemployment as low as 2.2% would not normally need any stimulus, but Japan's population is both falling and ageing. Consequently, wage growth has been negative for much of 2019 in spite of the tight labour market. The housing market has also suffered. Housing starts fell by 12.7% in the year to November and have been in decline for seven of the last eight months. The stock of mortgages may be in secular decline relative to both bank balance-sheet totals and national output.

John Petley
20th January, 2020

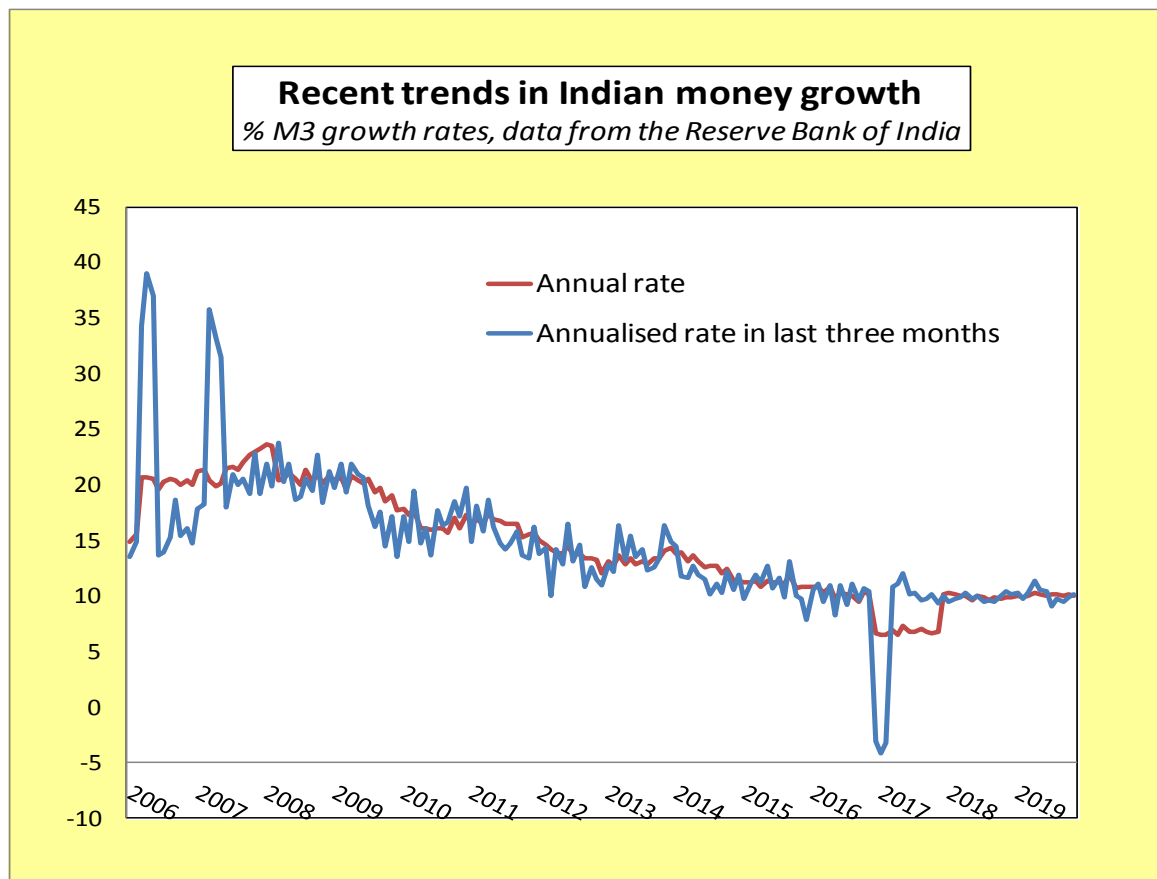
	% annual growth rate:	
	M3	Nominal GDP
1981 – 1990	9.2	4.6
1991 - 2000	2.5	1.1
2001 - 2010	1.1	0.8
Eight years to 2018	2.8	0.6



India

	% annual/annualised growth rate:	
	M3	Nominal GDP
1981- 2018	14.8	12.4
Eight years to 2018	11.2	6.9
Year to December 2019	10.6	n/a
Three months to December 2019 at annualised rate	11.8	n/a

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



Double-digit annual rate of broad money growth continues

Summary: In the final quarter of 2019 India's seasonally adjusted M3 grew by 2.9% or at an annualised rate of 11.8%. This is the highest reading since May 2017. The annual M3 growth rate also increased slightly, from 10.1% to 10.6%, the highest reading since May 2016. Broad money growth at this level is consistent with macro stability, but concern has to be expressed about the increased factional tensions in Indian society and their economic impact.

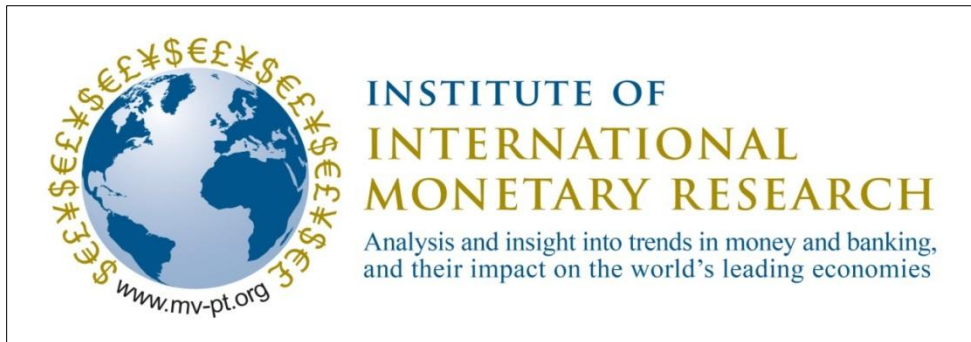
During 2019 five cuts were made to base rates, a reduction of 1.35% in total. The Reserve Bank of India (RBI), the country's central bank, has been concerned about sluggish growth. In the third quarter of 2019 India's GDP grew at an annual rate of only 4.5%, the weakest reading since Q1 2013. In each of the three months from August to October, Indian industrial production recorded a year-on-year fall, with the car industry, the fourth largest in the world, being particularly hard hit. A slight recovery took place in November, the most recent months for which figures are available, Exports, however, recorded a year-on-year fall, albeit only of 0.3%. For a developing country with a young, growing and increasingly well-educated population, these figures are disappointing.

The cuts to the base rates were an attempt to stem the slide in the growth of the stock of bank loans, but thus far, these measures have had little effect. The annual loan growth rate stood at 14.5% at the start of 2019. By the end of the year it had fallen to 7.1%, the lowest figure since the disastrous de-monetisation exercise in November 2016. (The de-monetisation consisted in the mass withdrawal of old 500 and 1,000 rupee notes from circulation.) One reason for the decelerating rate of loan growth could be the hard line taken by the RBI on the level of non-performing loans on the books of India's banks, along with their supposedly inadequate capital resources. Unfortunately, loan write-offs result in an immediate reduction in banks' capital and hence in the ability to lend. Banks have also been reluctant to pass on lower policy rates to customers. Some weaker state-run banks have been merged with stronger ones to reduce their vulnerability. The scope for further monetary loosening may be constrained by the high inflation rate, driven by a spike in food prices. (The spike had a non-monetary explanation, being caused by excessive rainfall at the end of the 2019 monsoon which adversely affected the harvest.) Annual consumer price inflation hit a three-year high of 7.4% in November, well above the medium-term target of 4%. The final quarter GDP figures have not yet been released, but there are fears that India's economy may be entering a period of stagflation.

The government has taken other measures to try to revive the economy, including \$20b. in tax cuts to businesses and an easing of the rules for foreign investment. A large-scale privatisation of state-owned assets is also in the pipeline. These measures may be beneficial, but India faces political turbulence following a new citizenship law, which offered an amnesty to non-Muslim illegal immigrants, but not Muslims. The re-elected BJP government has also stirred up tensions by military intervention in Jammu and Kashmir. These problems seem to be having a negative effect on the country's economy.

John Petley
17th January, 2020

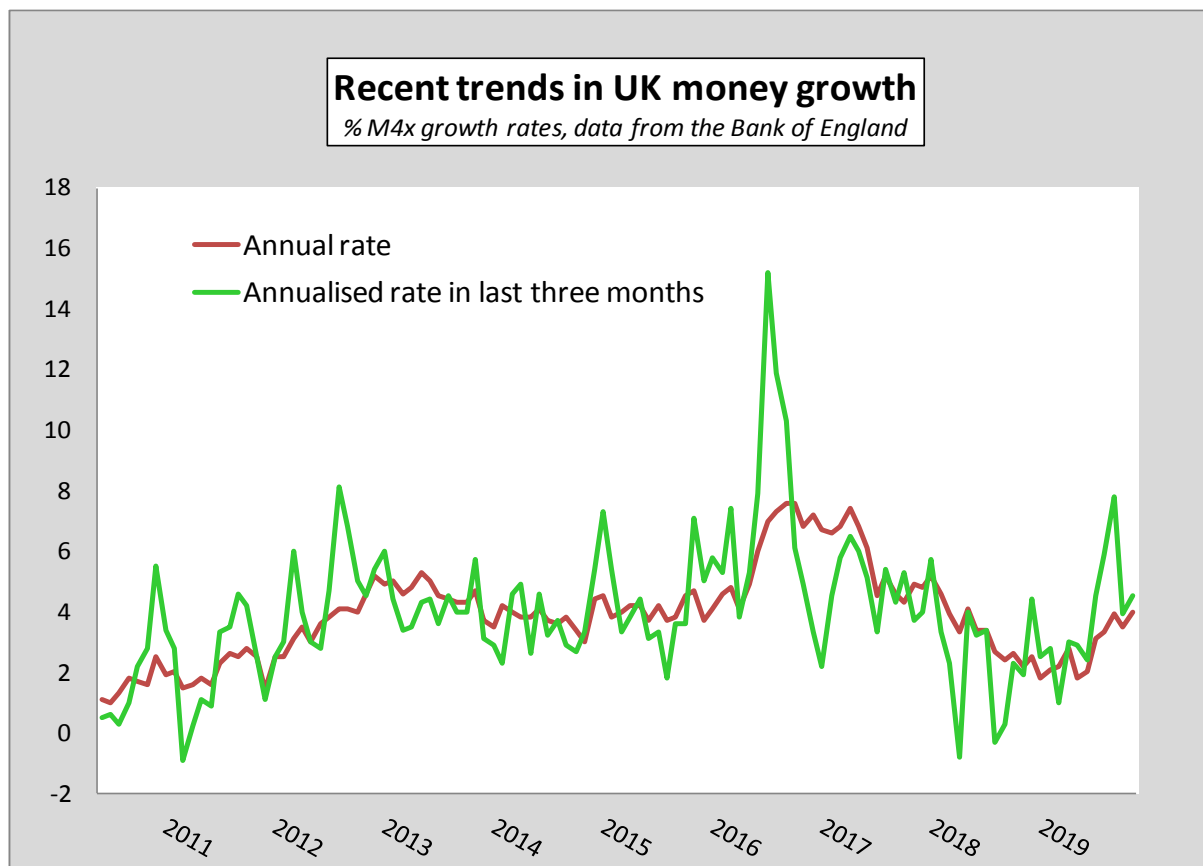
	% annual growth rate:	
	M3	Nominal GDP
1981 - 1990	17.1	15.5
1991 - 2000	17.4	14.0
2001 - 2010	17.3	14.8
Eight years to 2018	11.3	11.8



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 November 2019	4.0	n/a
Three months to November 2019 at annualised rate	4.5	n/a

Sources: Bank of England and Office for National Statistics



Broad money growth picks up

Summary: In the three months to November 2019 UK M4x grew at an annualised rate of 4.5%. This was an improvement on the 3.9% recorded in the three months to October, although lower than September's reading of 7.8%. (Note that the September 2019 figure was the highest on this metric since September 2016.) In November M4x money grew by £13.8b., a figure only exceeded once since May 2018, a month which saw unusually loan finance extension associated with substantial takeovers and acquisitions. The annual broad money growth rate rose from 3.5% to 4.0%. It thus appears that October's disappointing reading may be a one-off. Recent healthy levels of broad money growth may continue into 2020.

The UK economy had a mixed 2019, with GDP contracting by 0.2% in the second quarter and then growing by 0.3% in the third. 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 weak money growth was in turn caused – to some extent – by official demands for a higher contra-cyclical capital buffer and to meet the annual stress test at the end of 2018.)

But money growth did perk up in the last few months of 2019. The recovery in money growth in autumn 2019 owed much to large and erratic movements in UK banks' non-deposit liabilities and their external counterparts. The Bank of England, now almost totally indifferent to money growth trends, has not given any details about the transactions behind these movements. At any rate, the standard drivers of money growth – banks' credit extension to the private sector and their acquisition of claims on the public sector – seem to be behaving reasonably. In the year to November the stock of so-called "M4 lending" (i.e., bank lending in sterling to the UK private sector) increased by 4.6%; in the three months to November it went up at an annualised rate of 3.8%. Further, in the year to November UK's banks claims on the public sector rose by just over £40b. or by 7.0%. (They had fallen in the previous year.) Steady growth of M4x broad money at between 2 ½% and 4 ½% a year ought to be consistent with macroeconomic stability, and that may be what happens in 2020.

Since December's election the new Conservative government has pushed through the necessary legislation to ensure that the UK will leave the EU on 31st January 2020, with the transition period to end 11 months later. The shape of future trading arrangements between the UK and the EU has yet to be decided, but even if a comprehensive "deal" is not secured within eleven months, some limited trading arrangements covering certain specific sectors are most likely to have been agreed by then. In the three and a half years since the vote to leave the EU, the UK economy has consistently performed better than the doomsters have predicted. UK exports were at their highest ever level in October, while the FTSE-100 has kept most of its post-general election surge.

Tim Congdon and John Petley
24th January, 2020

	% annual growth rate:	
	M4/M4x	Nominal GDP
1964- 2017	9.8	8.2
1991 – 2000	6.4	5.0
2001 – 2010	6.5	3.9
Eight years to 2018	4.1	3.7