



### Summary

- **Upside inflation pressure remains in place but both CPI and PPI data suggest some difficulties in passing on higher prices.**
- **Labour market strength continues to support mild uptrend in wages, but nothing too dramatic seen as yet.**
- **Consumer credit is growing steadily on balance, while latest bank data suggests stagnation in corporate lending after strength in prior months.**

### About this document

US Inflation Watch presents 20 charts comprising 23 key inflation indicators grouped into five categories of economic data including consumer/producer price inflation, commodity prices, wage inflation, inflation expectations and broad monetary indicators. All data are sourced from official sources including the Bureau of Labor Statistics, the Federal Reserve, University of Michigan and Commodities Research Bureau. The objective of this report is to provide a comprehensive summary of inflation and future indicators of inflation according to the latest data out of the US.

### Contents

#### Price Inflation

Consumer Price Inflation.....	2
Producer and Import Price Inflation.....	2-3

#### Commodity Prices

CRB Index.....	3
----------------	---

#### Wage Inflation

Employment Cost Index.....	4
Hourly earnings.....	4

#### Inflation Expectations

Consumer inflation expectations.....	4
Market inflation expectations.....	4

#### Monetary Indicators

Money Supply Aggregates.....	5
Consumer Credit.....	6
Velocity.....	6

#### Appendix

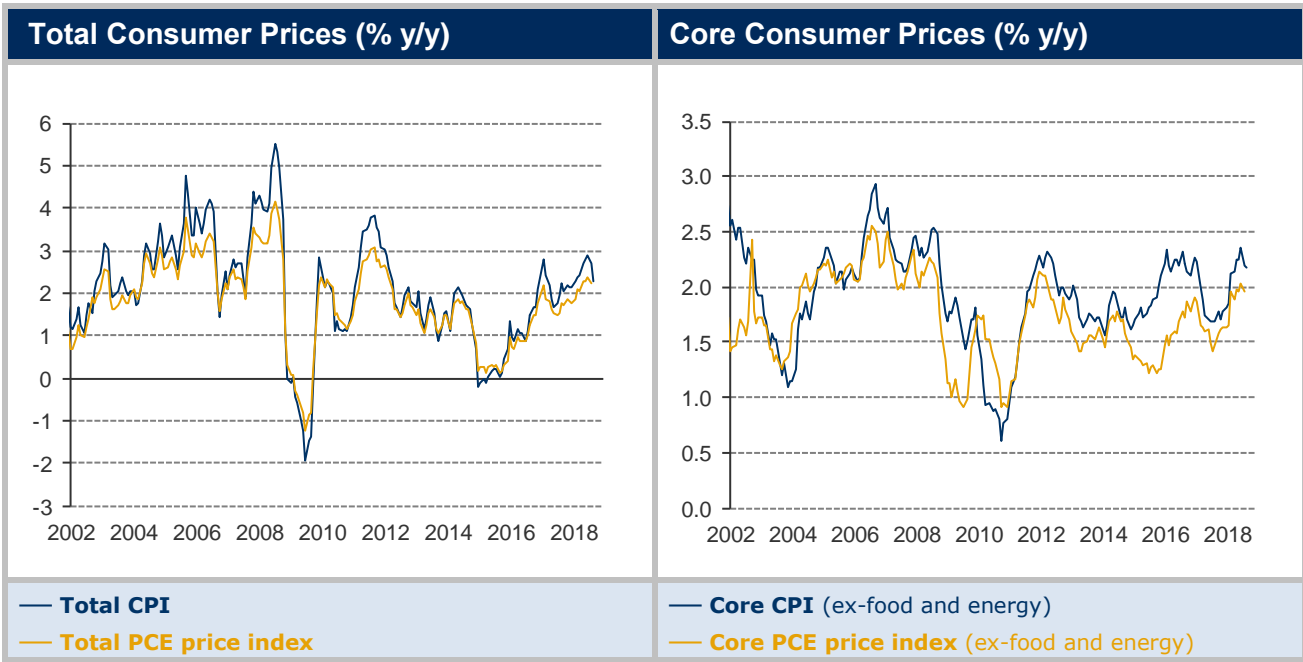
An explanation of money and the monetary framework.....	7-8
---	-----

### The Importance of Inflation

Inflation is the single most important indicator when measuring real wealth as it will determine how much wealth is worth in terms of what it can actually buy i.e. purchasing power. If 'nominal' wealth doubles over 25 years but the level of prices also doubles there is no net gain in 'real' wealth. It only takes annual inflation of 2.8% to cause a doubling in prices over 25 years.

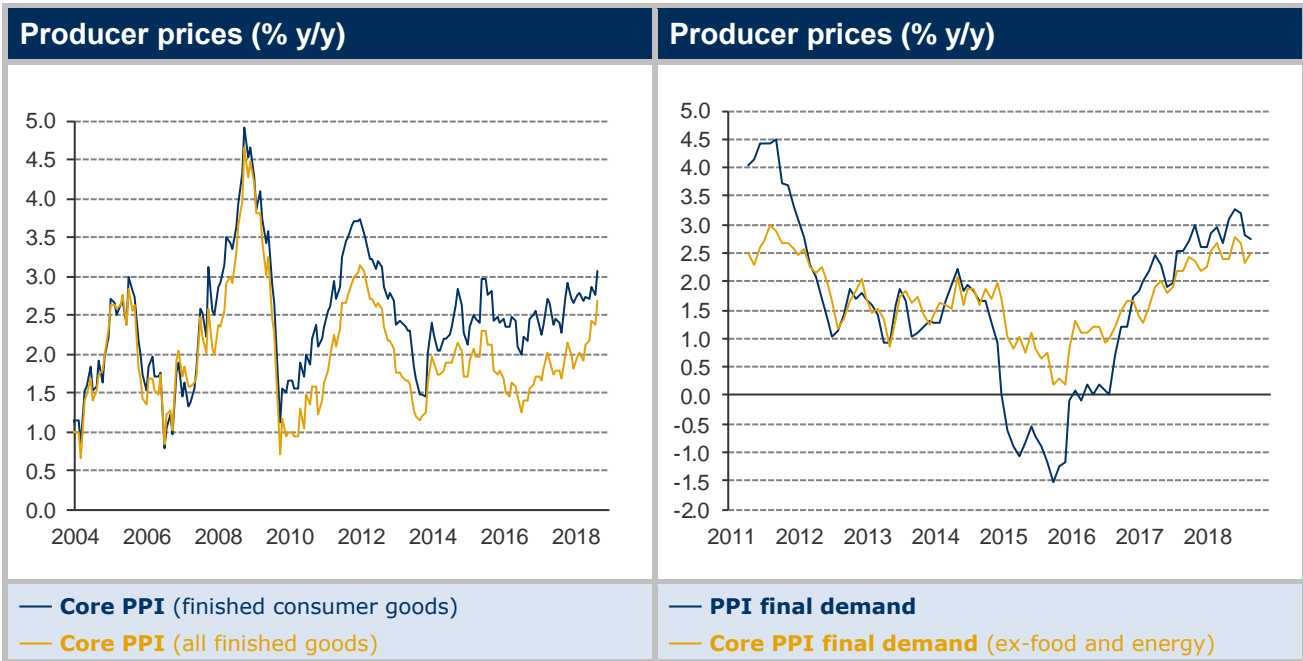
#### About Altana Wealth

Altana Wealth was created in 2009 by Lee Robinson, one of the co-founders of Trafalgar Asset Managers. Altana Wealth was originally established to manage Lee's personal wealth and aims to offer investors portfolio solutions that address the challenges of the post-financial crisis environment as well as aligned interest with the founder. Altana Corporate Bond Fund (UCITS), Altana Director Alignment Strategy Fund (UCITS) and Altana Hard Currency Fund (via managed account) are open to outside investors.



**What is this data?** Consumer Price Inflation is ‘end-inflation’ and what ultimately matters for consumers and central banks. There are two types shown here - the Consumer Price Index (CPI) and the PCE (personal consumption expenditure) deflator. The latter forms the basis of the US Federal Reserve’s 2% inflation target.

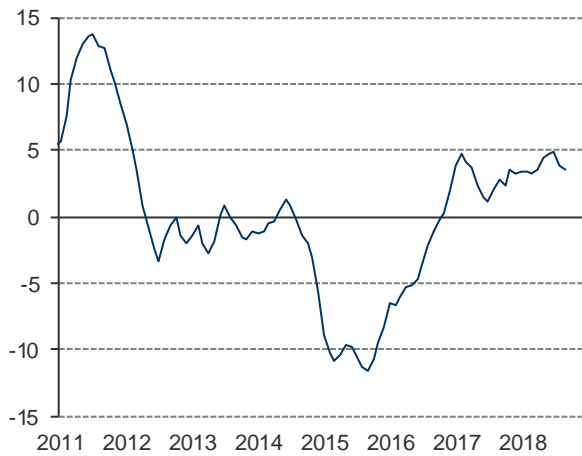
**Current status?** Headline & core y/y rates moved lower in Aug/Sep. The core rate continues to disappoint – e.g. since Jan’s +0.35% the s.a. m/m change has shown an average of +0.15% - the latest being +0.08% & +0.12% for Aug/Sep respectively. Pricing power would appear to be limited, although there has been a suggestion that used car prices (which took 0.09% off core in Sep) were affected by a methodological quirk that will subsequently reverse.



**What is this data?** Producer Price Indices show pipeline price pressures that can influence future CPI & PCE. The new PPI final demand measure introduced in 2014 was broadened to include services, construction & government sectors as well as manufacturing goods. Measures relating to just goods are also shown in the left hand chart above.

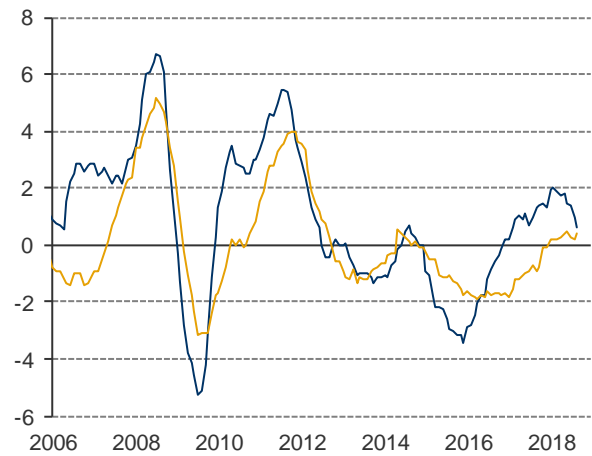
**Current status?** Core PPI edged a little higher suggesting that upside pressure remains in place despite the lack of major pass through to the consumer. Core PPI ex-food, energy and trade services at +2.9% is stronger than the traditional core PPI (+2.5%). The weakness in ‘trade services’ – the margins taken by wholesalers/retailers – is again evidence of headwinds to inflation pass-through, but the pressure is there at least.

### Import Prices (% y/y)



— Import prices

### Import Prices – core and China (% y/y)



— Core import prices (ex-fuels)

— Import prices of Chinese goods

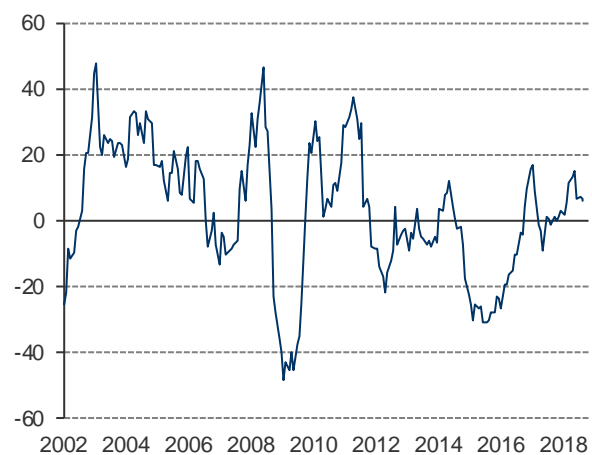
**What is this data?** Producer price indices refer to prices set by domestic producers only, so Import Prices are also monitored to gauge the price pressures entering the system from abroad. This includes total and core Import Prices and also the price of imports from China, as this is such a major origin of US imports.

**Current status?** Headline import price y/y rates eased back slightly but core prices (ex-fuels) fell more markedly. The strength of the USD this year compared to 2017 was probably the main factor behind this, although this effect may ease off a little in the months ahead. Chinese prices were steady, although note that the import price data only records raw prices before any tariffs or duties are added so will not show tariff impact.

### CRB-TR/J Commodity Price Index

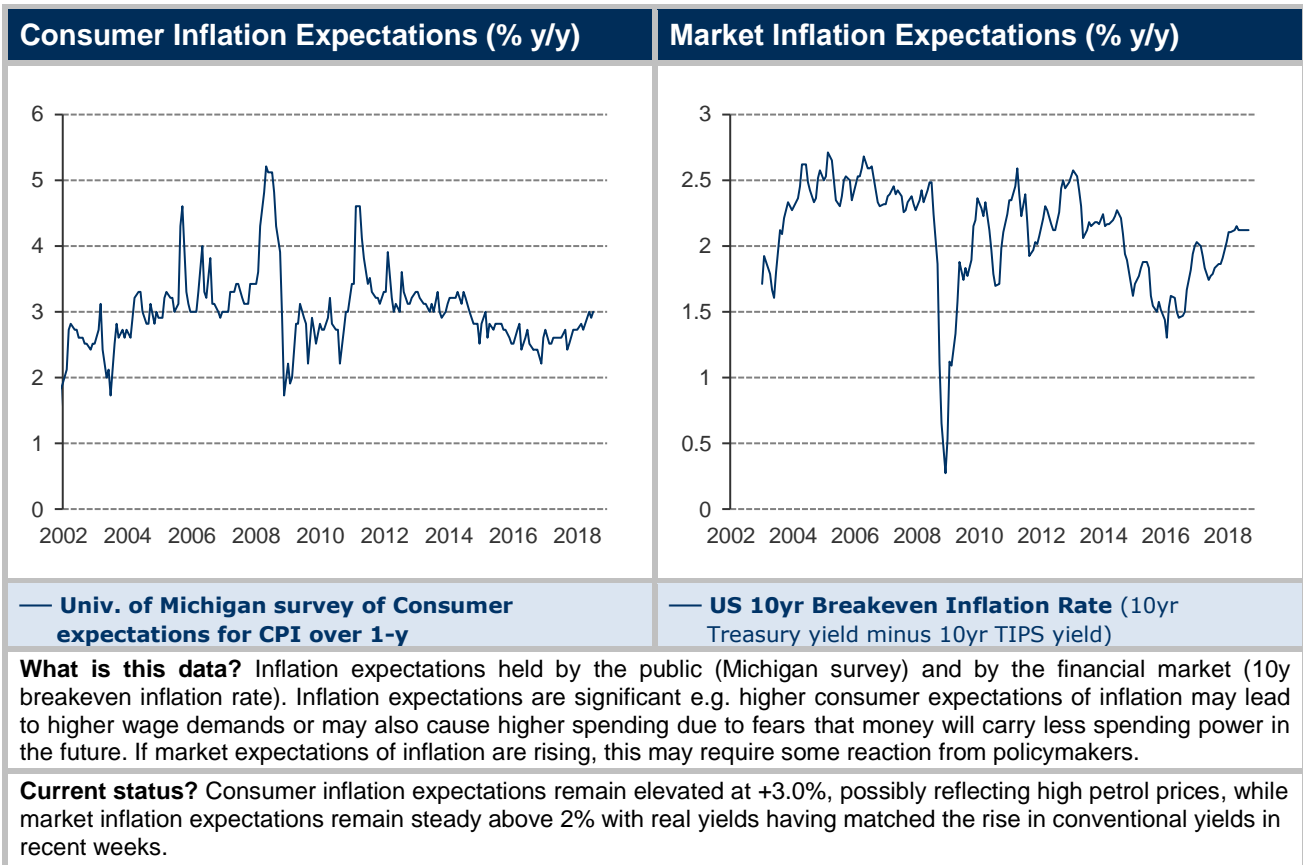
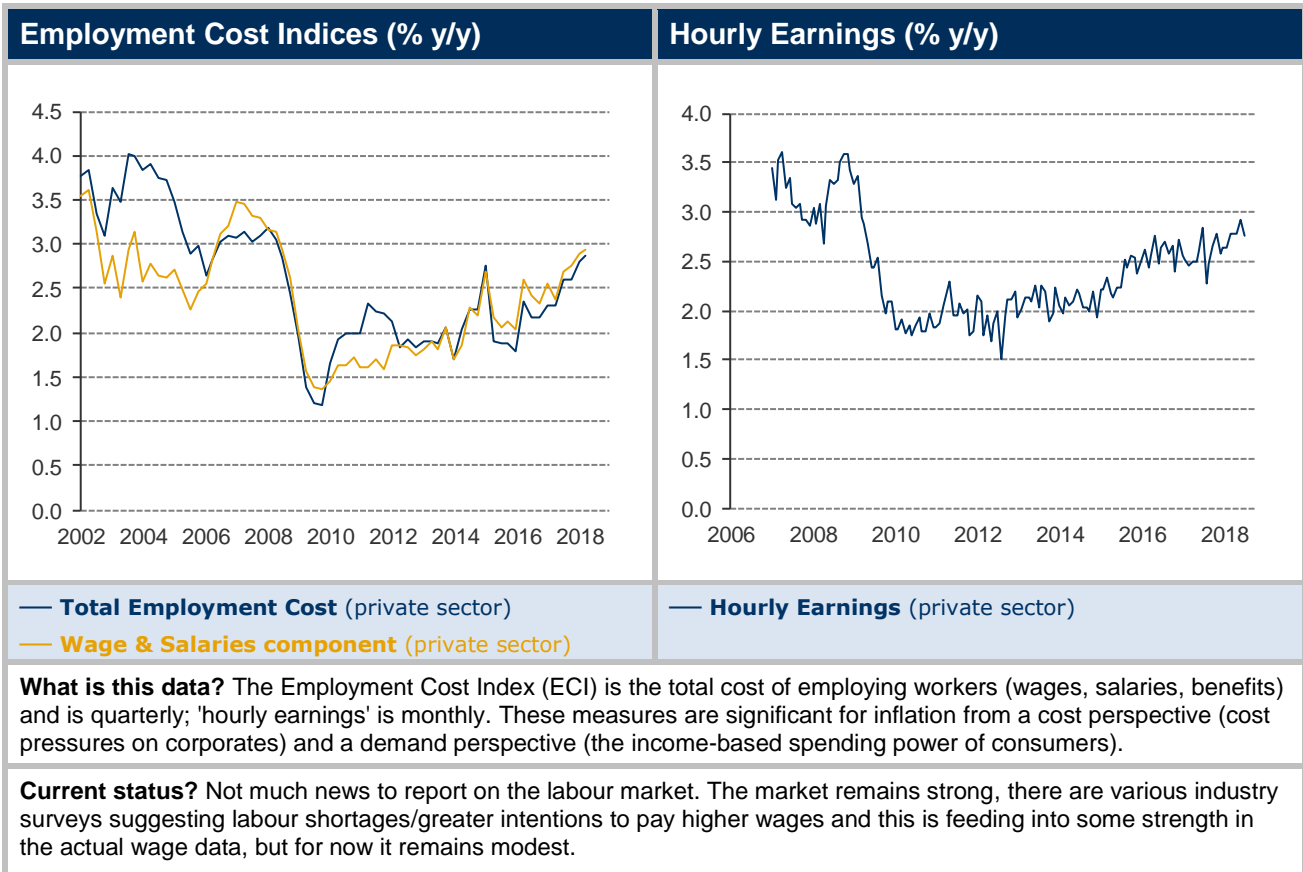


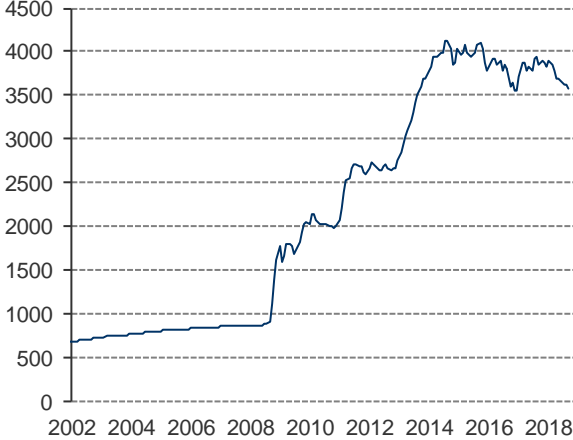
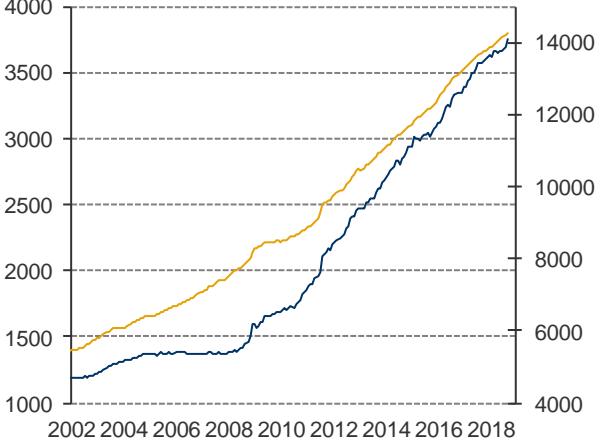

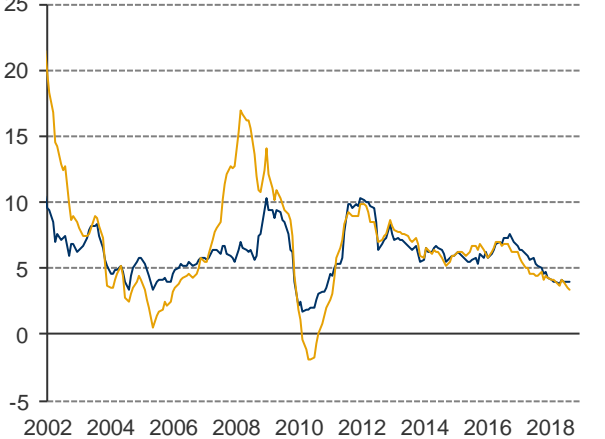
### CRB-TR/J Commodity Prices (% y/y)



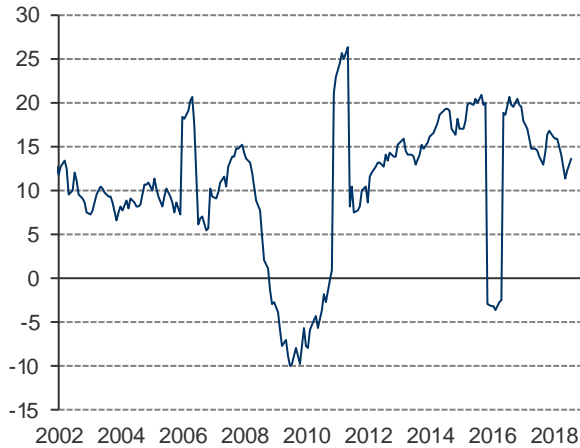
**What is this data?** The CRB Index is a basket of commodity prices and is a more timely indication of what is likely to show up in Crude PPI.

**Current status?** Commodity prices have recovered somewhat since August, largely due to higher energy prices, but this has only served to stabilise the y/y rate given the sequential rises in place during the same period in 2017. These challenging base effects for the y/y rate will remain in place until January.



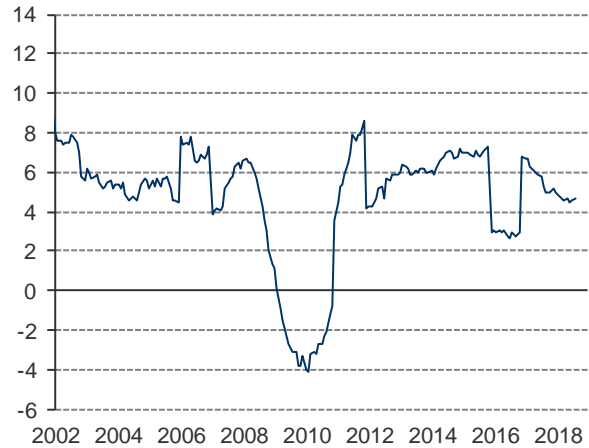
Monetary Base	M1 & M2
	
<p>— <b>Monetary Base</b> (level outstanding \$bns)</p>	<p>— <b>M1</b> (level outstanding \$bns, left hand scale) — <b>M2</b> (level outstanding \$bns, right hand scale)</p>
M1 growth (% y/y)	M2 & MZM growth (% y/y)
	
<p>— <b>M1</b></p>	<p>— <b>M2</b> — <b>MZM</b></p>
<p><b>What is this data?</b></p> <p><b>Monetary base</b> = M0 (or notes and coins in circulation) + notes and coins held by banks and the central bank + bank reserves held by the banking system at the central bank. <b>Note:</b> the last two items are <i>not in circulation</i></p> <p><b>M1</b> = M0 + demand deposits and other checkable deposits. <b>Note:</b> bank reserves are not included in M1 – important when looking at how Fed QE affects M1 and M2 etc.</p> <p><b>M2</b> = M1 + savings deposits + time deposits less than \$100k + retail money funds. <b>Note:</b> institutional money market funds are not included in M2.</p> <p><b>MZM</b> (Money with Zero Maturity) = M2 + all money market funds less time deposits <b>Note:</b> MZM is a more recent construction which aims to identify all forms of ‘liquid’ money, so is a hybrid of M2 and M3.</p>	
<p><b>Current status?</b> Overall bank credit growth eased off in Aug and Sep with corporate lending suddenly stagnating and consumer lending softening slightly. The exception was the strong broad-based rise in real estate lending in Sep. Elsewhere, the growth in broader monetary aggregates remained subdued but there was a sharp jump in M1 (demand deposits). The monetary base continues to weaken in line with the lower excess reserves of the banking system (i.e. due to Fed QT).</p>	

### Consumer Credit



— Consumer Credit (6mth MA of m/m \$bn change)

### Consumer Credit (% y/y)

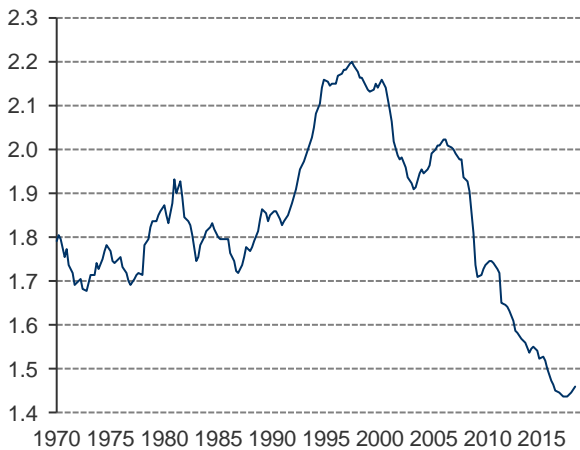


— Consumer Credit

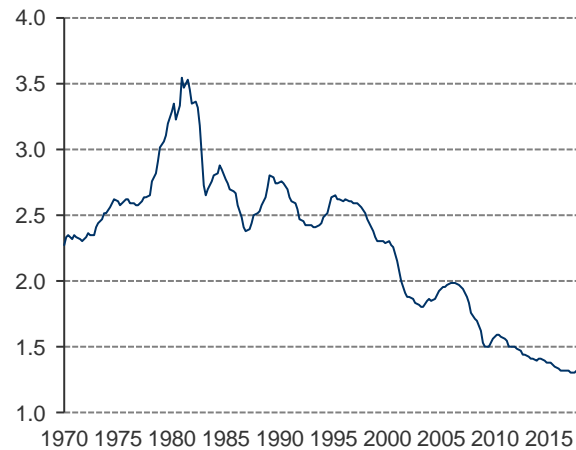
**What is this data?** Covers most short and intermediate-term credit extended to individuals, excluding loans secured by real estate. Consumer credit growth will directly influence money growth and monetary velocity.

**Current status?** Consumer credit rose by a strong \$20.1bn in August following a solid \$16.6bn advance in July. The gains were primarily driven by non-revolving credit (up \$15.2bn in each month) - revolving credit like credit cards was up \$4.8bn in Aug after +\$1.4bn in Jul. Data for Sep already released by the banks suggests that credit card borrowing was soft during that month.

### M2 Velocity



### MZM Velocity



**What is this data?** The velocity of money is how much the money stock is actually used for transactions in goods and services and is inversely related to the demand for 'money' as opposed to the demand to 'exchange this money' for goods and services i.e. spending – see Appendix for a more detailed explanation.

**Current status?** Money velocity edged higher again in Q2 as nominal GDP growth exceeded money growth for both of the measures highlighted above. The Fed's primary focus is rarely on the money data these days and velocity remains well below where it was a few years ago, but a turning trend does offer some support to the Fed's ongoing withdrawal of easy monetary policy. The fact that this is happening alongside a deceleration in the growth of the actual monetary aggregates makes it slightly less concerning from an inflation perspective.

## Appendix A – Monetary Indicators

The monetary backdrop is somewhat profound in terms of its potential influence on inflation and has over the years been the subject of considerable debate. Below is a simple monetary framework that helps to explain the role of Money in the economy and how it can affect inflation.

### A Monetary Framework

The amount of money circulating in the economy will have implications for inflation in the medium-long term. This is best expressed via the **Quantity Theory Identity**

$$M.V \equiv P.Y$$

Where M is the amount of money in the economy, V is the velocity of money (how many times the amount of money is used), P is prices and Y is real output (GDP). Together, P.Y is money or nominal GDP.

As a basic statement this is not controversial. If M (\$500) is used 5 times (V) then \$2500 will have been spent and will be equal to the value of all goods sold in the economy - e.g. 2,500 items of real output (Y) at \$1 each (P) or 1,000 of (Y) at \$2.50 each (P) etc.

Where the identity becomes more interesting is in the assumptions that various schools of thought make about its components. For example, traditional Monetarists contend that V is fairly stable and predictable and Y is constrained by the capacity of the economy. So, under the Monetarist argument if M is rising faster than Y and V is stable, it follows that P will also rise. In other words, money growth creates inflation.

Others contend that V is not stable and also that Y can occasionally deviate substantially away from full capacity, so the relationship between M and P is less obvious. For example, in the current context of the US the Federal Reserve has made great efforts to increase the supply of money (M) over the past few years, but this has not led to proportionate increases in P.Y. This is likely due to two things. First, a reduction in velocity - any extra money balances are merely accumulating in the system (higher demand for money) rather than being spent and second, a lower money-multiplier. The money-multiplier represents the rate at which central bank created money (the monetary base) generates additional increases in the total money stock, including that money which is created by commercial banks – more on money creation below.

In sum, this basic Quantity Theory Identity is a useful framework for analysing the potential interaction between the monetary and real sectors of the economy and the monetary data we follow in this document will seek to shed light on what is happening to both M and V in this identity.

### What is Money?

Another issue is how we define 'money' or M. There are many definitions and what we will seek to do here is to explain the differences between them and *why they are significant*, especially in the current context where the US Federal Reserve is aggressively flooding the banks with cash.

The definitions of money include M0, MB (the Monetary Base), M1, M2, M3 and MZM (maturity zero money) and the basic difference between them is related to the narrowness of the definition of 'money' (see below). The further we move along the spectrum towards M3 the less liquid 'money' becomes. For example, a large time deposit cannot be spent immediately whereas a checking deposit can.

### Definitions

**M0** = notes and coins *in circulation* with the non-bank public.

**Monetary base** = M0 + notes and coins held by banks and the central bank + bank reserves held by the banking system at the central bank (bank reserves) **Note:** the last two items are *not in circulation*.

**M1** = M0 + demand deposits and other checkable deposits. **Note:** bank reserves are not included in M1 – important when looking at how Fed QE affects M1 and M2 etc.

**M2** = M1 + savings deposits + time deposits less than \$100k + retail money funds. **Note:** institutional money market funds are not included in M2.

---

**M3** = M2 + large time deposits + institutional money market funds + short-term repos and other large liquid assets.

**MZM** (Money Zero Maturity) = M2 + all money market funds less time deposits **Note:** MZM is a more recent construction which aims to identify all forms of 'liquid' money, so is a hybrid of M2 and M3.

### Who creates Money?

A useful way to think about money – again relevant when considering Fed QE – is who creates it? The short answer is that both the central bank and the commercial banking system create money.

The Monetary Base is created and influenced by the Central Bank and is so-called because it is the base from which all other forms of money (non-M0, M1, M2 etc) are created by the commercial banking system.

For example, let us use QE as an example. The Fed buys T-Bonds from a bank and credits that bank's account at the Fed with the proceeds. These funds are now reserves. At this point, no money has entered circulation, so no other measure of money apart from the Monetary Base has been affected.

As the Monetary Base has increased, commercial banks are more *able* to create other money by issuing new loans and if they were to do this it would lead to a corresponding rise in deposits. This is because a loan, when advanced to the borrower, will be deposited in an account from which the borrower can spend it from i.e. an immediate rise in deposits (higher M1). Or, if the money is spent via a credit card, the borrowers account will not be affected, but the recipient of the credit card spending will deposit the revenue in their own account, so deposits somewhere in the system will have increased because of the 'loan' – higher M1.

In sum, boosting the Monetary Base (via e.g. Fed QE) increases the ability of banks to create other money such as M1. But the rate at which this happens (the money-multiplier referred to earlier) will come down to a commercial judgement by the banks as to whether or not they would like to advance extra loans.

### So what should we look out for in the data?

There are two things and they relate to both M and V. In the current circumstances where the Fed has been pumping up the Monetary Base we need to be aware of this translating into a much faster pace of money in circulation if commercial banks use the higher reserves (monetary base) to create new money by extending loans etc. For example, since the Fed embarked on QE and expanded the Monetary Base M1 has risen quite sizeably, although the broader indicators have risen by much less. Any evidence of a ramping up of M2 or MZM would be a sign that monetary expansion is starting to become more threatening.

The second issue is velocity. Velocity has been falling in recent years, meaning that the increases in broad money have merely been accumulating in the system rather than being put to work in the form of spending etc. Any sign of a turn in V would suggest that the transmission mechanism from M to P.Y (nominal GDP) has been re-established and would suggest greater significance of M growth for the inflation outlook. If both M and V rise at the same time, the inflation alarm bells would truly start to ring.



## **Disclaimer**

*This report is prepared by Altana Wealth Ltd (“Altana”) authorised and regulated by the Financial Conduct Authority in the United Kingdom (FRN: 532912). The investment products and services of Altana are only available to persons who are professional clients and eligible counterparties as defined in FCA’s rules. They are not available to retail clients. The distribution of this report may be restricted in certain jurisdictions and it is the responsibility of any person or persons in possession of this document to inform themselves of, and to observe, all applicable laws and regulations of any relevant jurisdiction.*

*This report is based upon information that Altana believes to be reliable. Altana does not represent that this report is accurate or complete and it should not be relied upon as such. Nothing in this report shall constitute tax, financial, or legal advice given by Altana to any party. Performance information for the month of the report is preliminary estimated data net of all fees and expenses and is subject to change. The estimate and other performance data disclosed is not audited. Stock or other indexes are included for comparison purposes only. Where information provided in this report contains “forward-looking” information including estimates, projections and subjective judgment and analysis, no representation is made as to the accuracy of such estimates or projections or that such projections will be realised. Certain assumptions used in formulating such “forward looking” information may differ materially from actual events or conditions. The funds referred to in this report are registered as Regulated Mutual Funds pursuant to Cayman law but otherwise have not been registered under the securities laws, or authorized or approved by any regulatory authority, of any other jurisdiction. This report shall not constitute an offer to sell or a solicitation of an offer to buy shares or interests in any of the funds described in this report. No such offer or solicitation will be made prior to the delivery of an offering memorandum for the relevant fund. Before making an investment in any of the funds referred to in this report, potential investors should read carefully the private offering memorandum for the relevant fund, including the description of the risks, fees, expenses, liquidity restrictions, and other terms of investing in the funds, and consult with their own tax, financial, legal and other professional advisors. Hedge funds are speculative and involve risk of loss. This report is confidential and may not be reproduced in whole or in part, or delivered to any other person, without the prior written consent of Altana. Past performance is not a guarantee of future results. Issued by Altana Wealth October 2018.*