

USD per ounce of gold



USD per ounce of silver

EURUSD



Source: Refinitiv; graphs by Degussa.

Precious metals prices

	Actual (spot)	Change against (in percent):		
		2 W	3 M	12 M
I. In US-dollar				
Gold	1.734.1	2.1	9.1	32.9
Silver	17.1	14.4	-5.2	17.3
Platinum	816.9	7.5	-14.6	3.2
Palladium	1.993.0	4.9	-12.5	50.4
II. In euro				
Gold	1.580.9	2.2	10.3	35.5
Silver	15.6	14.4	-4.1	19.6
Platinum	744.8	7.8	-13.7	5.6
Palladium	1.817.0	5.3	-11.5	53.3
III. Gold price in other currencies				
JPY	186.627.0	2.7	8.3	32.1
CNY	12.322.5	2.7	11.7	36.8
GBP	1.415.7	4.2	17.6	37.1
INR	131.183.2	1.9	15.3	44.4
RUB	125.391.2	-1.9	23.3	46.5

Source: Refinitiv; calculations by Degussa.

OUR TOP ISSUES

*This is a short summary of our fortnightly **Degussa Marktreport**.*

FIRST THE MONEY SUPPLY SHOCK, THEN THE INFLATION SHOCK

The science of economics is different from natural science. In natural science, it is possible to detect regularities in the form of "When A, then B" or "If A rises by x per cent, B changes by y per cent". As a result, in natural science it is in principle possible to come up with more or less reliable quantitative predictions. This is impossible in economics, for there are no quantitative regularities, or: behavioural constants, in the field of human action comparable to those to be found in natural science. Different people – and even the same people – at different instants of their lives react differently to the same external stimulus.

At the same time, however, there are inexorable economic laws such as the law of supply and demand or the law of diminishing marginal utility. These laws govern human action and can be logically derived from the irrefutably true proposition that "humans act". It is in this sense that we can know the outcome of various modes of action in qualitative but not in quantitative terms. Take, for instance, the case in which the central bank increases the quantity of money in the economy.

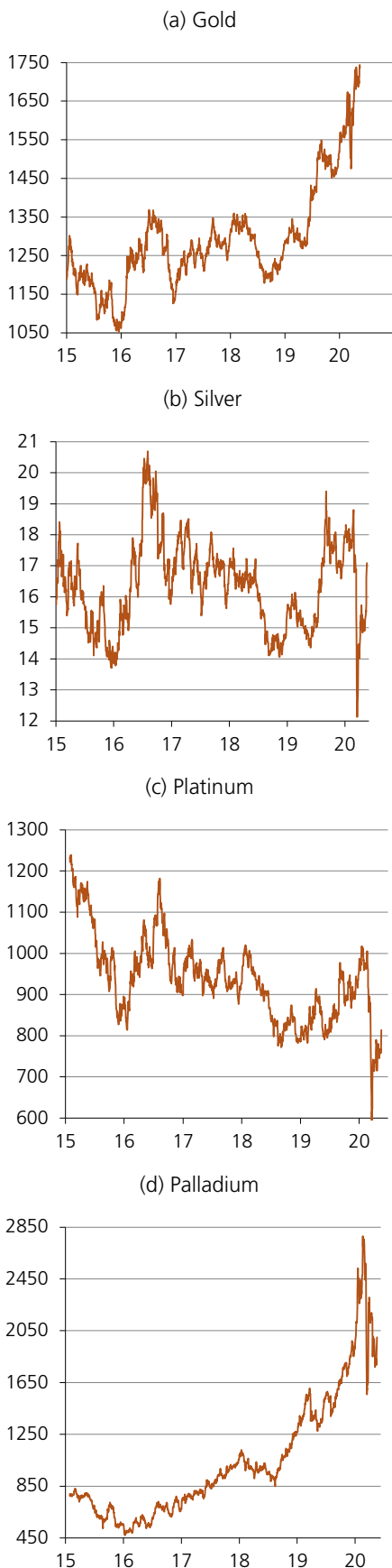
A rise of money in the hands of acting man will, other things being equal, lead to a decline in the marginal utility of the additionally received money unit – meaning that other vendible items will, from the viewpoint of the actor, gain in marginal utility. This, in turn, leads acting man to exchange his money unit, which he considers to be of lower value, against vendible items which he considers to be of higher value. And as more money is exchanged for goods and services, the money prices of said goods and services go up. This economic law will no doubt always and everywhere make itself felt in real life.

However, it might not always be easy to detect it. For in real life the law of diminishing marginal utility of money typically unfolds under "special conditions". For instance, the rise in the quantity of money may be accompanied by an increase in the demand for money (for whatever reason). If this is the case, the rise in the quantity of money may not be accompanied by a rise in money prices of goods and services – because the "special condition" in the form of a rise in the demand for money prevents goods prices from going up – and they would have increased had it not been for the increase in the demand for money. This has important implications for making inflation forecasts.

A CAUSE FOR INFLATION CONCERN

As a reaction to the politically dictated lockdown, central banks are churning out ever-greater amounts of money. In the US, for instance, the Federal Reserve (Fed) monetises debt on an unprecedentedly grand scale. Not only the

Precious metal prices (USD/oz) in the last 4 years

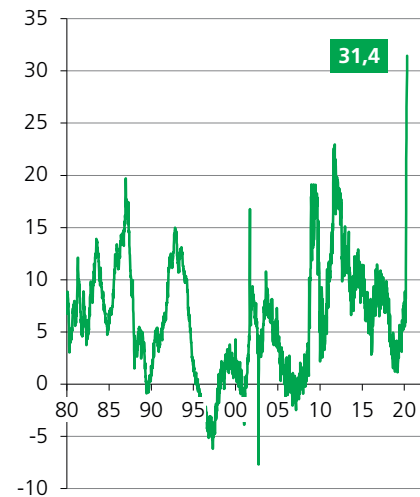


Source: Refinitiv; graphs by Degussa.

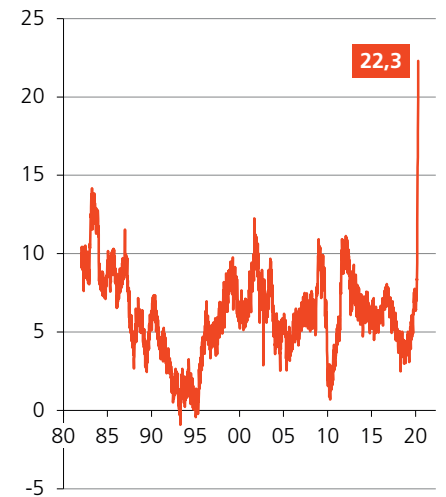
monetary base is growing strongly, but also the monetary aggregates M1 and M2: In the middle of May 2020, M1 grew by 31.4% y/y, M2 22.3% y/y. To most people this looks inflationary. Mainstream economists, however, play down any inflation concern by saying that the “velocity of money” has declined, so the rise in the money supply will not make goods prices go up.

1 US money aggregates rise strongly

(a) M1, y/y in per cent



(b) M2, y/y in per cent



Source: Refinitiv, Fed St. Louis, calculation Degussa. Latest data point: 14 April 2020.

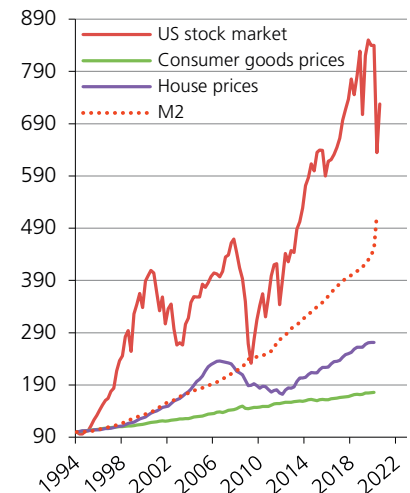
What they have in mind when arguing this way is the so-called “transaction equation”: $M * V = Y * P$, whereas M = money stock, V = velocity of money, Y = production and P = price level. The velocity of money – the frequency with which a money unit is used to finance the nominal transaction volume – is there: $V = Y * P / M$. It is obvious that V declines if Y drops and M rises and if P remains constant, falls or rises by less than Y declines and M rises. The important question is: What is the relation between V and P ?

2 US: Velocity of money falls, goods prices rise

(a) Income velocity of money⁽¹⁾



(b) Goods prices⁽²⁾



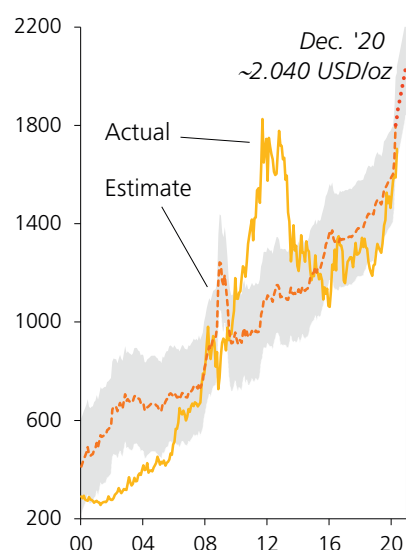
Source: Refinitiv, Fed St. Louis, calculation Degussa. ⁽¹⁾ Nominal GDP divided by M2. ⁽²⁾ Series are indexed (Q1 1994 = 100).

In the US, for instance, the decline in the velocity of M2 since 1994 was accompanied by rising prices across the board (Fig. 2 a). The same holds true for the

We raised our gold price “fair value” estimate to 2.040 USD/oz

Strongly rising monetary aggregates in many economies around the world and exceptionally low interest rates push our “fair value” estimate for the price of gold to 2.040 USD/oz, up from 1.695 USD/oz previously – thereby suggesting an upward price potential for gold of currently around 18%. We note, however, that the standard error of this estimate is rather wide (with an upper level of 2.230 USD/oz and a lower level of 1.710 USD/oz).

Gold price (USD/oz), actual and estimate

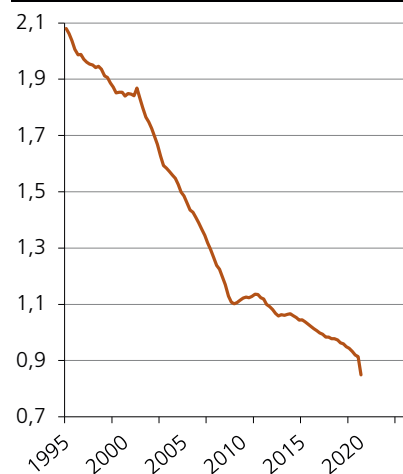


Source: Refinitiv; calculation Degussa.

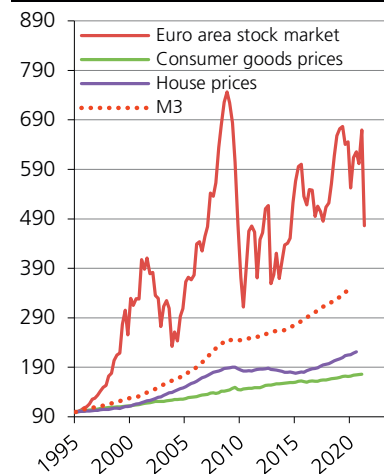
euro area (Fig. 3 a and b). The lesson to learn is that a declining velocity of money does not necessarily prevent goods prices from rising!

3 Euro area: Velocity of money falls, goods prices rise

(a) Income velocity of money⁽¹⁾



(b) Goods prices⁽²⁾



Source: Refinitiv, Fed St. Louis, calculation Degussa. ⁽¹⁾ Nominal GDP divided by M3. ⁽²⁾ Series are indexed (Q1 1994 = 100).

In view of the “lockdown”-driven economic collapse and central banks’ monetisation schemes, it might be helpful to take a look at a simple numbers game to put things into perspective. Fig. 1 depicts real gross domestic product (GDP) falling by an assumed 10% in 2020 against last year. In 2021 it recovers 80% per cent of its previous loss. The money stock rises, say, 25% in 2020. Fig. 2 shows the corresponding “monetary overhang”, defined as GDP minus the money stock. As we can see, the monetary overhang would go up significantly in 2020, coming down somewhat in 2021 as the economy recovers, but remains at an elevated level.

A SIMPLE EXERCISE

If we assume that the monetary overhang is what drives the level of the money prices of goods (perhaps with a time lag), the purchasing power of money would be falling quite substantially: In this scenario it would have lost around 34 per cent after five years, implying an annual rise in money prices of vendible items of around 6.5 per cent p.a. – a number which, as should be noted, refers to the combined effect of rising consumer goods prices as well as rising asset prices such as the prices of, say, stocks, bonds, and real estate. In view of current circumstances, this appears to be a rather positive scenario – and people may be well advised to prepare for something worse than that.

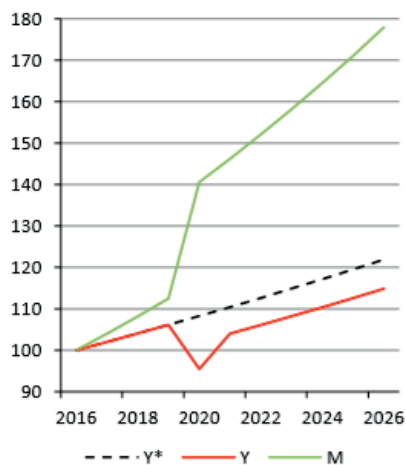
The simple example indicates that much depends on the rise of the quantity of money relative to the decline in production: The higher this “gap” is, the higher the upward price pressure and the more severe the loss in purchasing power can be expected to be. Of course, the velocity of money plays an important role. While it is currently declining (as Y falls and M rises, and P has remained relatively stable), the question is: Will it remain that low, and will it force prices down? Or will it not fall enough to prevent prices from inflating?

These questions cannot be answered with scientific reliability. However, the chances seem to be relatively high that the latest increase in the quantity of money will ultimately push money prices higher, eroding the purchasing power of money. It is not that likely that the additionally created money stock will be

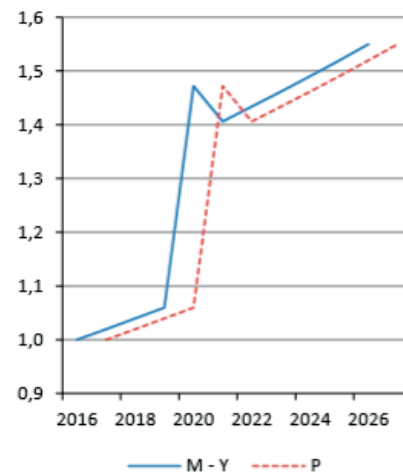
matched by an equal increase in the demand for money – simply because incomes have fallen and interest rates are very low, and may even go further into negative territory in inflation-adjusted terms, all of which makes holding money less attractive.

Production falls, money stock rises: a recipe for inflation

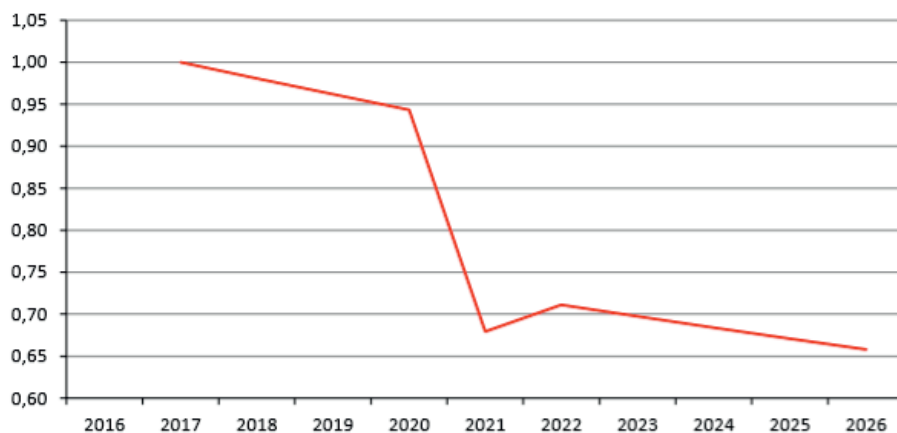
(a) Production and money stock



(b) Monetary overhang and goods prices



(c) Purchasing power of money



Source: own calculations.

Y* = Trend production, Y = actual production, M = money stock, and P = goods prices.

Y drops 10% in 2020, 80% of the income loss will be recovered in 2021. M rises by 25% in 2020.

Growth of Y* is 2% p.a. and 4% p.a. for M.

Goods prices react with a time lag to the 'monetary overhang' M - Y.

Finally, central banks' policies are meant to prevent the financial and economic system from collapsing; this goal has priority. So price inflation as a result of ramping up the quantity of money is to be considered "acceptable collateral damage". This is, in fact, the cold-hearted political strategy, which Ludwig von Mises (1881–1973) in January 1923 captured succinctly in the following words: "As serious an evil as inflation is, it is not considered the most serious. If it is a choice of protecting the homeland from enemies, feeding the starving and keeping the country from destruction, then let the currency go to rack and ruin."¹

¹ Mises, L. v. (2006), The Causes of the Economic Crisis p. 31.

PRECIOUS METALS PRICES

In US-Dollar per ounce

	Gold		Silver		Platinum		Palladium	
I. Actual	1733.7		17.1		816.9		1992.5	
II. Gliding averages								
10 days	1712.9		15.6		765.4		1829.5	
20 days	1709.7		15.4		763.9		1883.7	
50 days	1655.0		14.9		744.2		1986.7	
100 days	1619.5		16.3		853.2		2179.4	
200 days	1556.4		16.9		880.9		1944.5	
III. Estimates, end 2020	2040		25		1256		1536	
⁽¹⁾	18		45		54		-23	
<i>Band width</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
	1710	2230	19.8	28.8	1020	1492	1300	1772
⁽¹⁾	-1	29	16	69	25	83	-35	-11
V. Annual averages								
2017	1253		17.1		947		857	
2018	1268		15.8		880		1019	
2019	1382		16.1		862		1511	

In Euro per ounce

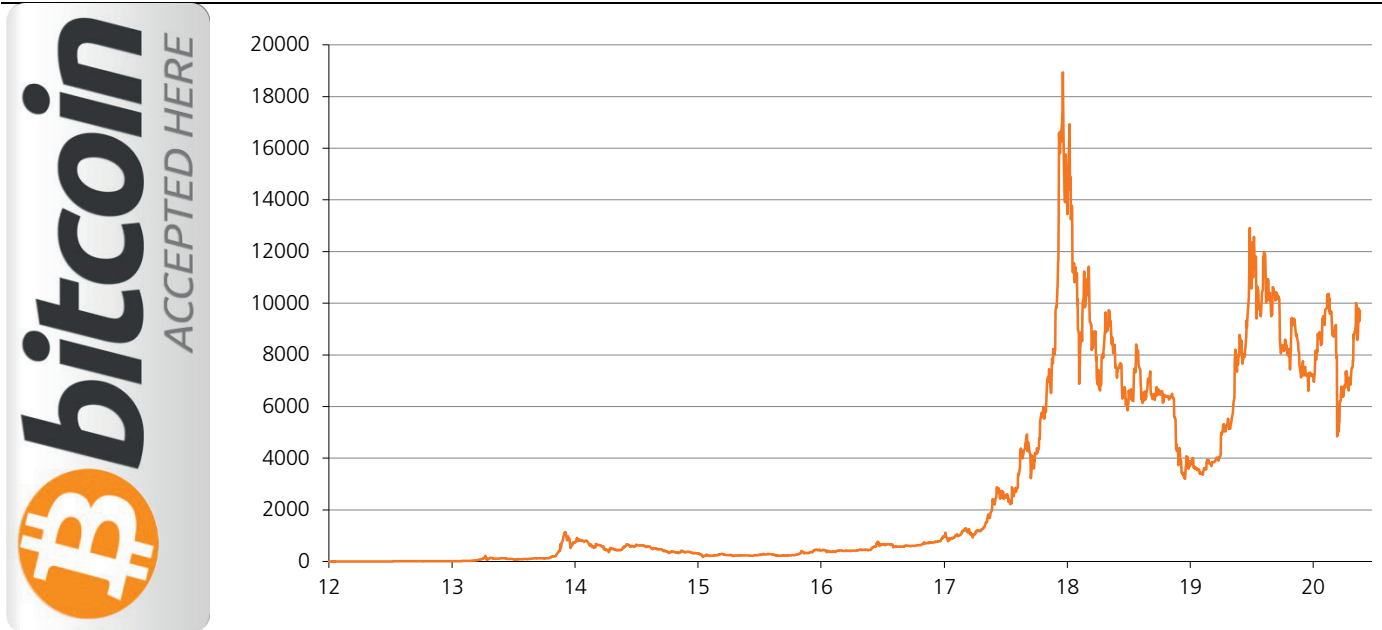
	Gold		Silver		Platinum		Palladium	
I. Actual	1581.1		15.6		745.0		1817.2	
II. Gliding averages								
10 days	1581.4		14.4		706.6		1689.0	
20 days	1575.5		14.1		703.9		1735.6	
50 days	1518.6		13.6		682.6		1821.8	
100 days	1476.7		14.9		777.2		1986.0	
200 days	1413.4		15.4		799.3		1765.7	
III. Estimates, end 2020	1940		24		1190		1460	
⁽¹⁾	23		52		60		-20	
<i>Band width</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
	1620	2120	18.9	27.4	970	1410	1230	1680
⁽¹⁾	2	34	21	76	30	89	-32	-8
V. Annual averages								
2017	1116		15		844		760	
2018	1072		13		743		863	
2019	1235		14		770		1350	

Source: Thomson Financial; calculations and estimates Degussa. Numbers are rounded.

⁽¹⁾ On the basis of actual prices.

BITCOIN, PERFORMANCE OF VARIOUS ASSET CLASSES

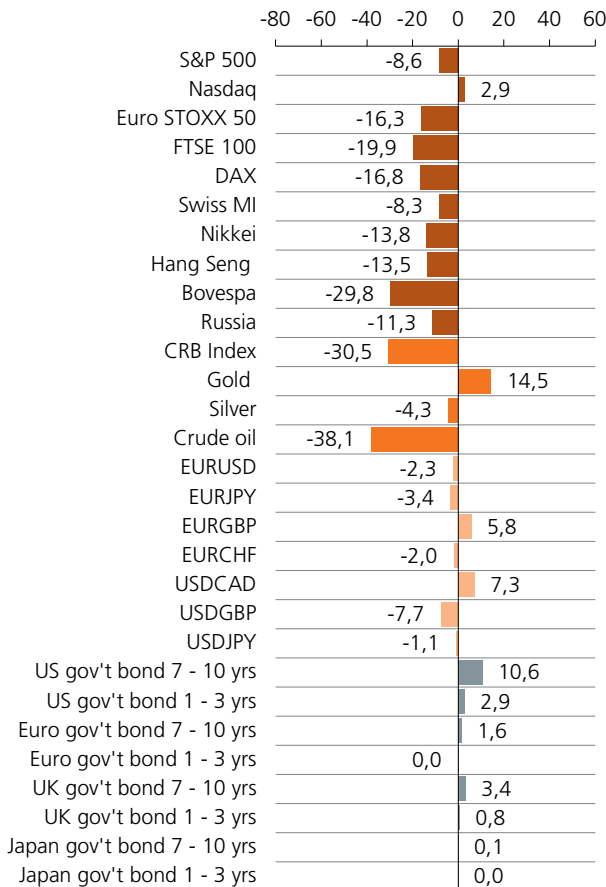
Bitcoin in US dollars



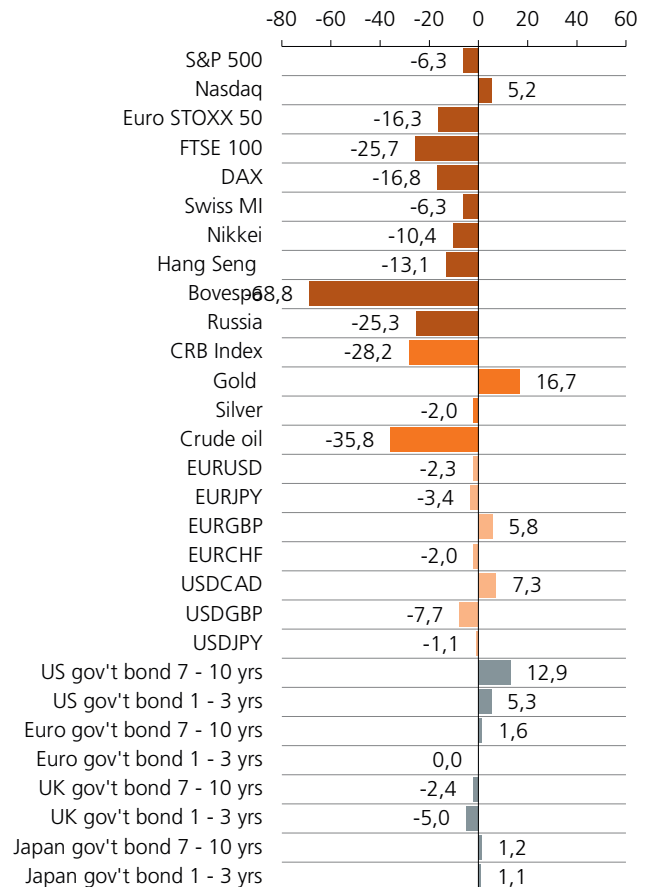
Source: Refinitiv; graph by Degussa.

Performance of stocks, commodities, FX and bonds

(a) In national currencies



(b) In euro



Source: Refinitiv; calculations by Degussa.

Articles in earlier issues of the *Degussa Market Report*

Issue	Content
20 May 2020	First the Money Supply Shock, Then the Inflation Shock
7 May 2020	Be Aware of What Inflation Really Is
23 April 2020	The Undesirable Effects of the Corona-Virus Relief Package
9 April 2020	The Boom And Bust Theory That Does Not Crash
26 March 2020	With Mega Bail Outs, Governments Are The Big Winners
12 March 2020	The Truth About Money – Past, Present, Future
27 February 2020	Inflation Policy And Its Supporters
13 February 2020	Gold-ETFs Versus Physical Gold: Difference Matters
30 January 2020	Do Not Think The Era Of Boom And Bust Has Ended
23 January 2020	Bull Markets, No Bubble Markets: Gold And Silver In 2020
19 December 2019	The Inflation Sham
5 December 2019	Why the Feared Crash Keeps Us Waiting
21 November 2019	Asset Price Inflation and the Price of Gold
7 November 2019	ETFs Drive Gold Demand
24 October 2019	The Inflationary Supply Of Unbacked US Dollars And The Price Of Gold
10 October 2019	Let's Get Physical With Gold And Silver
26 September 2019	The US Dollar Beast
12 September 2019	The Inflationary Tide That Lifts all Boats but One
29 August 2019	The Disaster of Negative Interest Rate Policy
15 August 2019	The Gold Bull Market Is Back
1 August 2019	Gold And Silver Prices – Get Going!
19 July 2019	Facebook's Fake Money
4 July 2019	It Looks Like A Gold Bull Market, It Feels Like A Gold Bull Market – Maybe It Is A Gold Bull Market?
19 June 2019	Good Money, Bad Money – And How Bitcoin Fits In
6 June 2019	Gold Outshines The US Dollar
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17 January 2019	US Interest Rate Down, Price of Gold up
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