



Center for
Market
Education

CME Policy Paper No 4

March 2022

Why Monetary Policy Should Not Avoid Market Price Deflation

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Center for
Market
Education



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Executive Summary

The Western world in general is experiencing price increases that have not been recorded in decades; in the United States in particular, inflation is now running at a 40-year high of 7.5%, and the Federal Reserve is puzzling over how to exit the inflation tunnel without generating a recession.

With the consumer and producer price indexes recording respectively a 3.23% and a 9.99% annual increase in 2021, led by energy and food items, the debate about inflation finally reached Malaysia too; as happened everywhere else in the world, supply-chain disruptions have been blamed, while the monetary nature of inflation has not been recognized.

The Center for Market Education first warned about inflationary pressures in March 2021 and continued to do so throughout the year. We stressed in particular that inflation is a monetary phenomenon due to the quantity of money rising faster than output. We also explained how the increased quantity of money, generated by expansionary fiscal and monetary policies implemented to address the harms created by lockdowns, created a dichotomy between the real economy and the (over)availability of financial means, a dichotomy that could result in a distortion of the production structure, in a boom-and-bust cycle and, ultimately, in unemployment.

The results of such policies, which were a reaction not to COVID-19 per se, but to the harm created by stay-at-home orders, can be summarized as follows:

- Excess money supply, generating inflation;
- Price inflation, while during an economic crisis price deflation should be favoured (as we shall see);
- GDP still below the 2019 level, despite the expansionary policies;
- A fragile recovery resting on government consumption and government aid-led private consumption;
- A non-friendly ecosystem for investments.



We need to stress, once again, the unavoidable need for a plan of government spending cuts in order to contain inflation.

In this paper, we emphasize that another necessary measure is to abandon the fear of deflation which guides many choices in monetary policy. Are falling prices really such a disaster for an economy that they justify a massive liquidity injection, or are they just an excuse to allow welcome money production to benefit those disadvantaged by price deflation?

In the paper we argue that price deflation in most cases is something natural to the market, or that it is the beneficial – although painful – market reaction to government intervention. We conclude that policies enacted to prevent price deflation lead to harmful consequences for many economic agents.

The general fear of deflation is unfounded. Price deflation can be the natural and welcome consequence of growth, it can bring about real cash building, and it can shorten the recession after an artificial boom. Its most unpleasant form is credit contraction deflation, which decreases the money supply; however, that is only possible in a fractional reserve banking system that has previously created money out of nothing. The main effect is a redistribution of the existing wealth in the economy, rather than a necessary decline

in general output, as assumed in various arguments.

The fear of deflation is artificially fed by those who benefit from the creation of new money, since they spend the new money first. Banks and government, as well as businesses that depend on a credit expansion boom, fear deflation and profit from the money production they recommend as a prescription against deflation, at the expense of other economic agents who pay higher prices than they otherwise would. By artificially lowering interest rates and distorting the structure of production, it is precisely expansionary monetary policy that triggers the greatest economic disasters and makes credit contraction possible in the first place. In a full reserve commodity money standard, price deflation is completely harmless and the symptom of strong economic growth or successful cash accumulation.

As our analysis shows, the inflationary policies in the years following the Great Recession must be considered a policy error, as they delayed recovery and reduced economic growth, and their price-inflationary consequences became more and more visible. This policy error was based on or justified by a faulty theory of inflation, which we have addressed in this paper by offering what we consider to be a more correct theory.

In a period such as the present that is characterized by strong inflationary pressures, price deflation should not be discouraged. Rather, we suggest the following policy measures:

- Allow productivity growth deflation by nurturing an environment conducive to innovation;
- Allow cash-building deflation, as savings are the necessary means for enhancing a process of sound growth;
- Reduce government spending to reduce the quantity of money in circulation;
- Reforms should be introduced to reinstate the primacy of balanced budgets.

Malaysia and current inflationary pressures

The Western world in general is experiencing price increases that have not been recorded in decades; in the United States in particular, inflation is now running at a 40-year high of 7.5%, and the Federal Reserve is puzzling over how to exit the inflation tunnel without generating a recession (Timiraos, 2022).

With the consumer and producer price indexes recording respectively a 3.23% and a 9.99% annual increase in 2021¹, led by energy and food items, the debate about inflation finally reached Malaysia too; as happened everywhere else in the world, supply-chain disruptions have been blamed, while the monetary nature of inflation has not been recognized.

The Center for Market Education first warned about inflationary pressures in March 2021 (CME, 2021a) and continued to do so throughout the year (Ferlito, 2021; CME, 2021b). We stressed in particular that inflation is a monetary phenomenon due to the quantity of money rising faster than output (Hearn and Ferlito, 2021 and 2022). We also explained how the increased quantity of money, generated by expansionary fiscal and monetary policies implemented to address the harms created by lockdowns, created a dichotomy between the real economy and the (over)availability of financial means, a dichotomy that could result in a distortion of the production structure, in a boom-and-bust cycle and, ultimately, in unemployment (Ferlito, Sazuki and Lim, 2021).

With regard to fiscal policy, here it is sufficient to report GDP figures for 2020 and 2021.

¹ Our calculations based on Bank Negara Malaysia database.

Figure 1: Malaysia's GDP Expenditure Components (at constant 2015 prices).

T1 GDP by Expenditure Components (at constant 2015 prices)								
	Share 2021 (%)	2020		2021				
		4Q	Year	1Q	2Q	3Q	4Q	Year
		Annual growth (%)						
Aggregate Domestic Demand (excluding stocks)	92.7	-4.5	-5.8	-1.0	12.4	-4.1	2.3	1.9
Private sector	74.3	-4.0	-6.0	-0.9	13.0	-4.4	2.4	2.0
<i>Consumption</i>	58.8	-3.5	-4.3	-1.5	11.7	-4.2	3.7	1.9
<i>Investment</i>	15.6	-6.6	-11.9	1.3	17.4	-4.8	-3.0	2.6
Public sector	18.3	-5.7	-4.7	-1.5	9.7	-2.8	1.9	1.6
<i>Consumption</i>	13.8	2.4	3.9	5.9	9.0	8.1	4.3	6.6
<i>Investment</i>	4.5	-20.4	-21.3	-18.6	12.0	-28.9	-3.8	-11.4
Net Exports	6.0	10.0	13.0	0.8	34.3	-37.5	2.6	-5.8
<i>Exports of Goods and Services</i>	69.2	-2.1	-8.9	11.9	37.4	5.1	13.3	15.9
<i>Imports of Goods and Services</i>	63.2	-3.3	-8.4	13.0	37.6	11.7	14.6	18.5
Real GDP	100.0	-3.4	-5.6	-0.5	16.1	-4.5	3.6	3.1
GDP (q-o-q growth, seasonally adjusted)	-	-1.5	-	2.7	-1.9	-3.6	6.6	-

Note: Figures may not add up due to rounding and exclusion of stocks.

Source: Department of Statistics, Malaysia

Source: BNM (2022, p. 42).

Figure 1 shows that public consumption was the only positive component in GDP for 2020, while it registered the highest growth rate in 2021. Private and public investments are suffering. This means that the current economic recovery, based on the stimulus packages implemented in 2020 and 2021, is on a very shaky footing, while an ecosystem conducive to investments seems to be compromised.

In fact, the Malaysian government incurred an exorbitant amount of spending in 2020 and 2021 in an effort to reduce the economic consequences caused by lockdowns, which in turn were implemented in an attempt (since proven wrong) to curb the spread of COVID-19. Such a huge fiscal effort is a typical example of a later policy (stimulus packages) trying to address the unintended negative consequences produced by an earlier policy (lockdowns)..

It has been estimated that the total value of the so-called relief packages reached RM 305 billion in 2020 (23% of GDP) in 2020 and RM 225 billion (15% of GDP) in 2021.

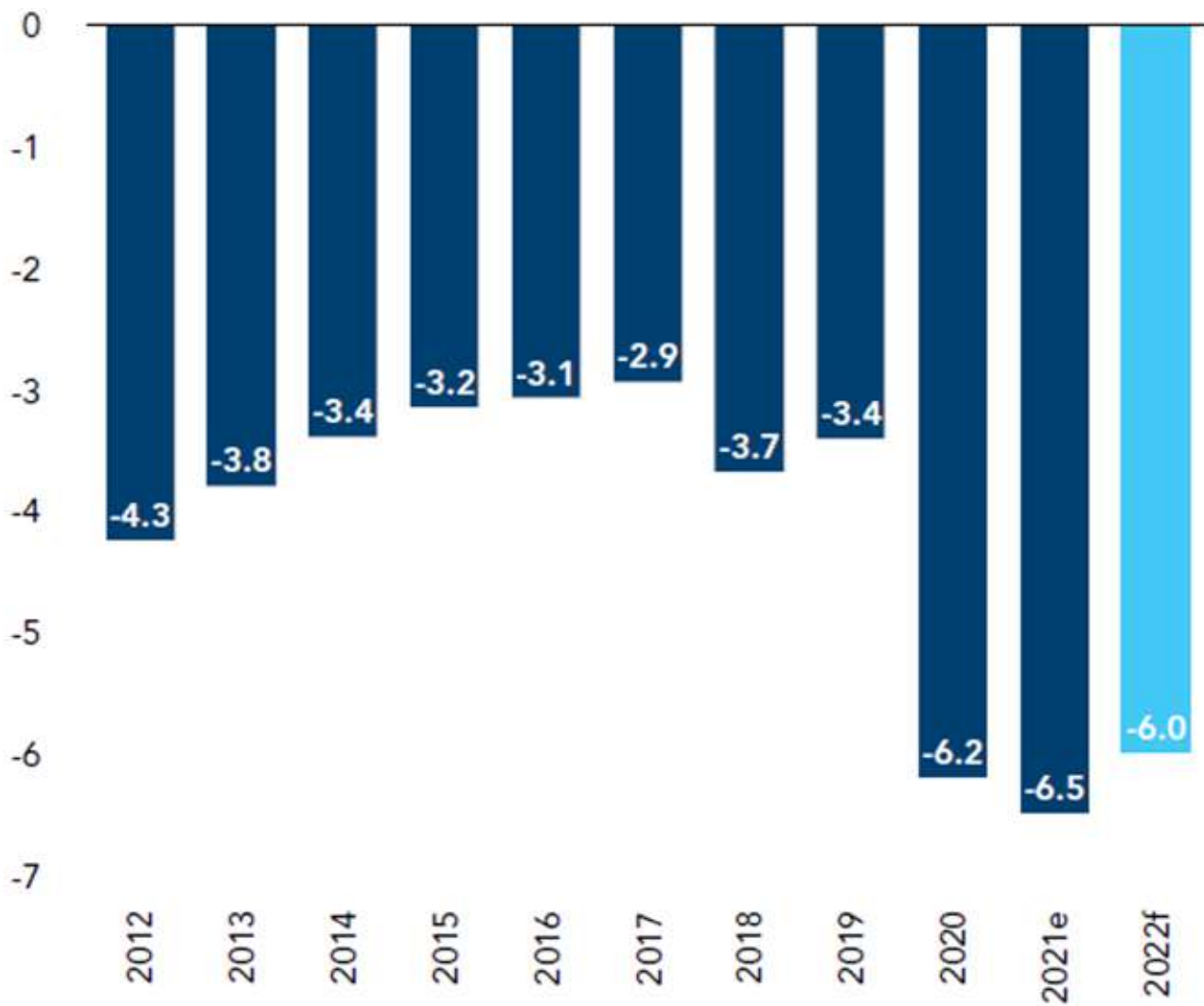
Figure 2: The total value of all relief packages enacted in 2021 stood at 15 percent of GDP.

Year	Program	Total Spending		Direct Fiscal Injection	
		Value (RM billion)	% of GDP	Value (RM billion)	% of GDP
1H 2020	PRIHATIN	250	18	25	2.0
1H 2020	PRIHATIN SMEs	10	1	10	1.0
1H 2020	PENJANA	35	3	10	1.0
2H 2020	KITA PRIHATIN	10	1	10	1.0
TOTAL		305	23	55	5.0
1H 2021	PERMAI	15	1	2	0.0
1H 2021	PEMERKASA	20	1	11	1.0
1H 2021	PEMERKASA+	40	3	5	0.0
1H 2021	PEMULIH	150	10	10	1.0
TOTAL		225	15	28	2.0

Source: World Bank (2021, p. 30).

Because of the exceptional amount of spending and the decrease in fiscal revenues, federal government debt reached 60.7% of GDP in 2020 (a considerable jump from 52.5% in 2019) and 63.3% at the end of June 2021 (World Bank, 2021, p. 31). According to BNM (2022, p. 44), the total external debt reached 67.6% of GDP in 2020 (RM 958.1 billion) and 69.3% of GDP at the end of 2021 (RM 1,070.3 billion).

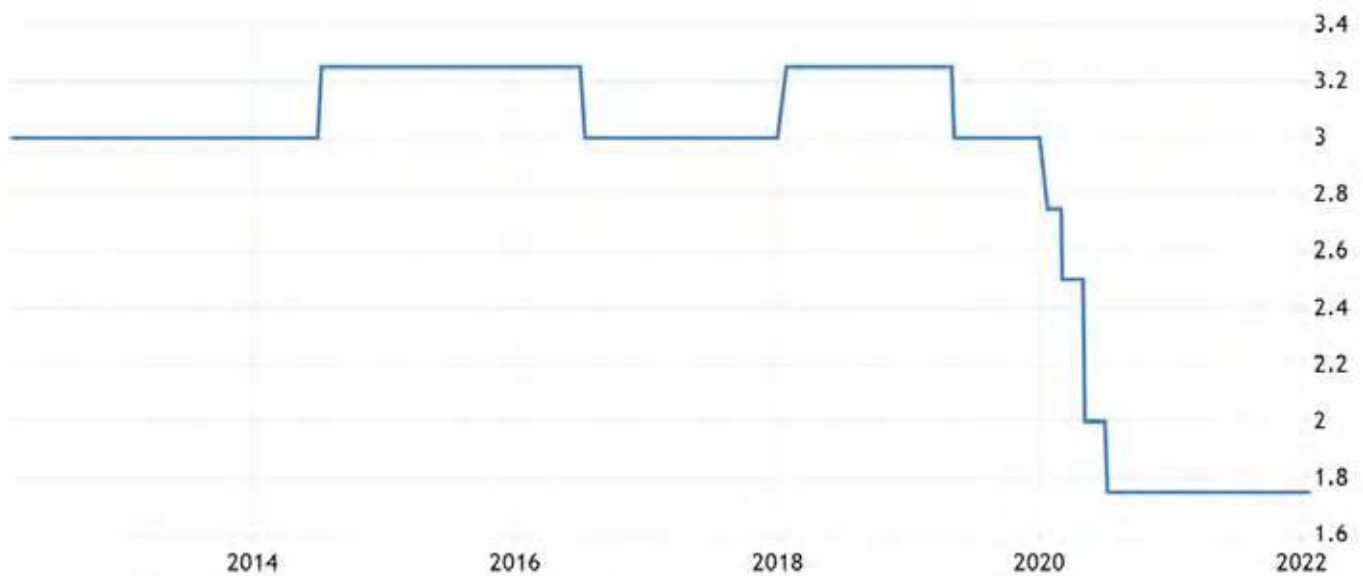
At the same time, the fiscal deficit widened from 3.4% of GDP in 2019 to 6.2% in 2020 and 6.5% in 2021, while it is expected to be 6% in 2022 (World Bank, 2021, p. 33).

Figure 3: Malaysia's fiscal deficit as percentage of GDP, 2012-2022.

Source: World Bank (2021, p. 33).

The increased government expenditures mixed with an expansionary monetary policy, in the form of historically low interest rates, are shown in Figure 4.

Figure 4: Malaysia's interest rates – 2012-2022.



[Tradingeconomics.com](https://tradingeconomics.com) | Central Bank of Malaysia

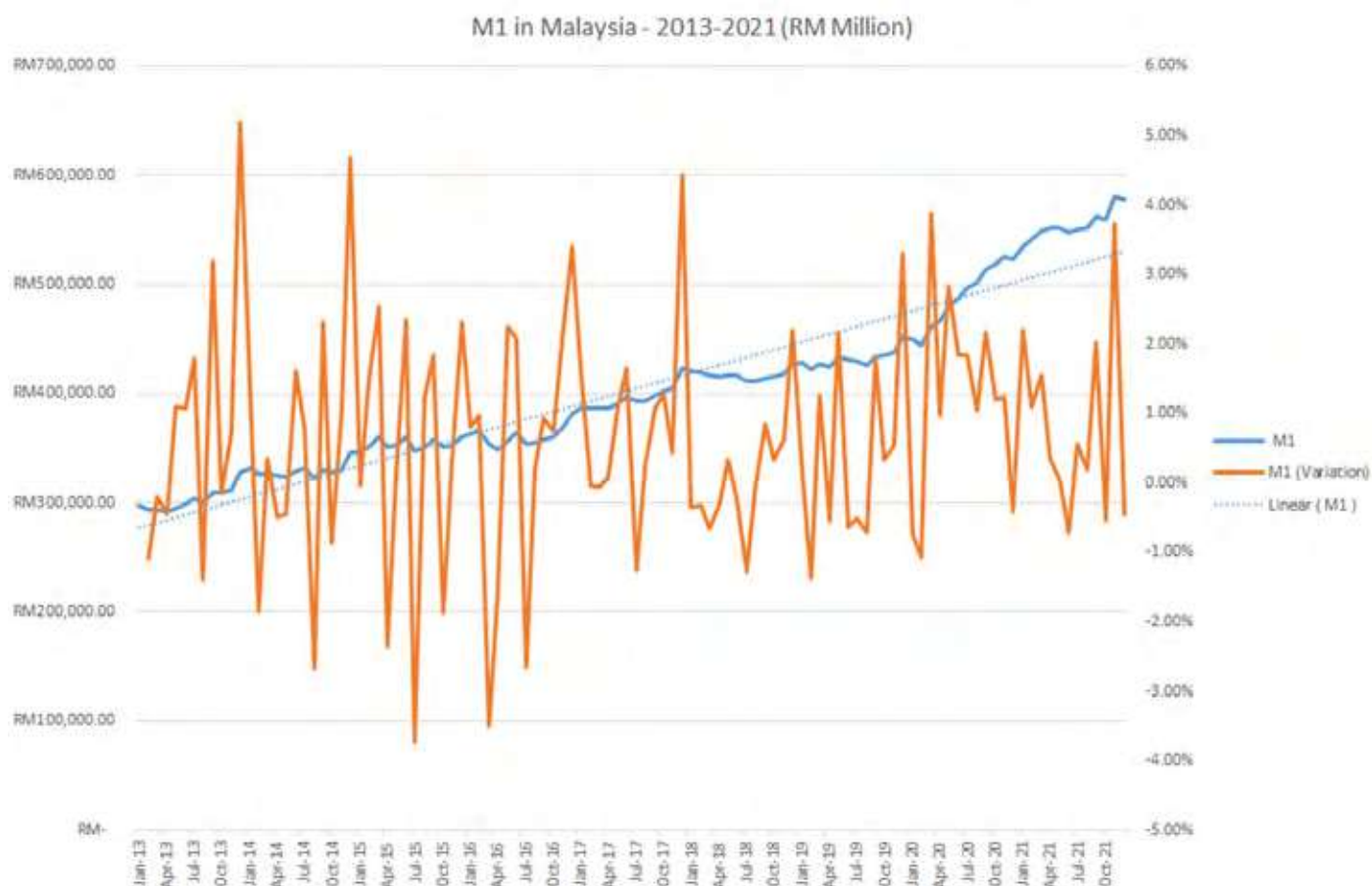
Source: <https://tradingeconomics.com/malaysia/interest-rate>.

The results of such policies, which were a reaction not to COVID-19 per se, but to the harm created by stay-at-home orders, can be summarized as follows:

- Excess money supply, generating inflation;
- Price inflation, while during an economic crisis price deflation should be favoured (as we shall see);
- GDP still below the 2019 level, despite the expansionary policies;
- A fragile recovery resting on government consumption and government aid-led private consumption;
- A non-friendly ecosystem for investments, due also to the fact that international borders are stubbornly kept closed.

The increase in the three main monetary aggregates² is shown in Figures 5 and 6.

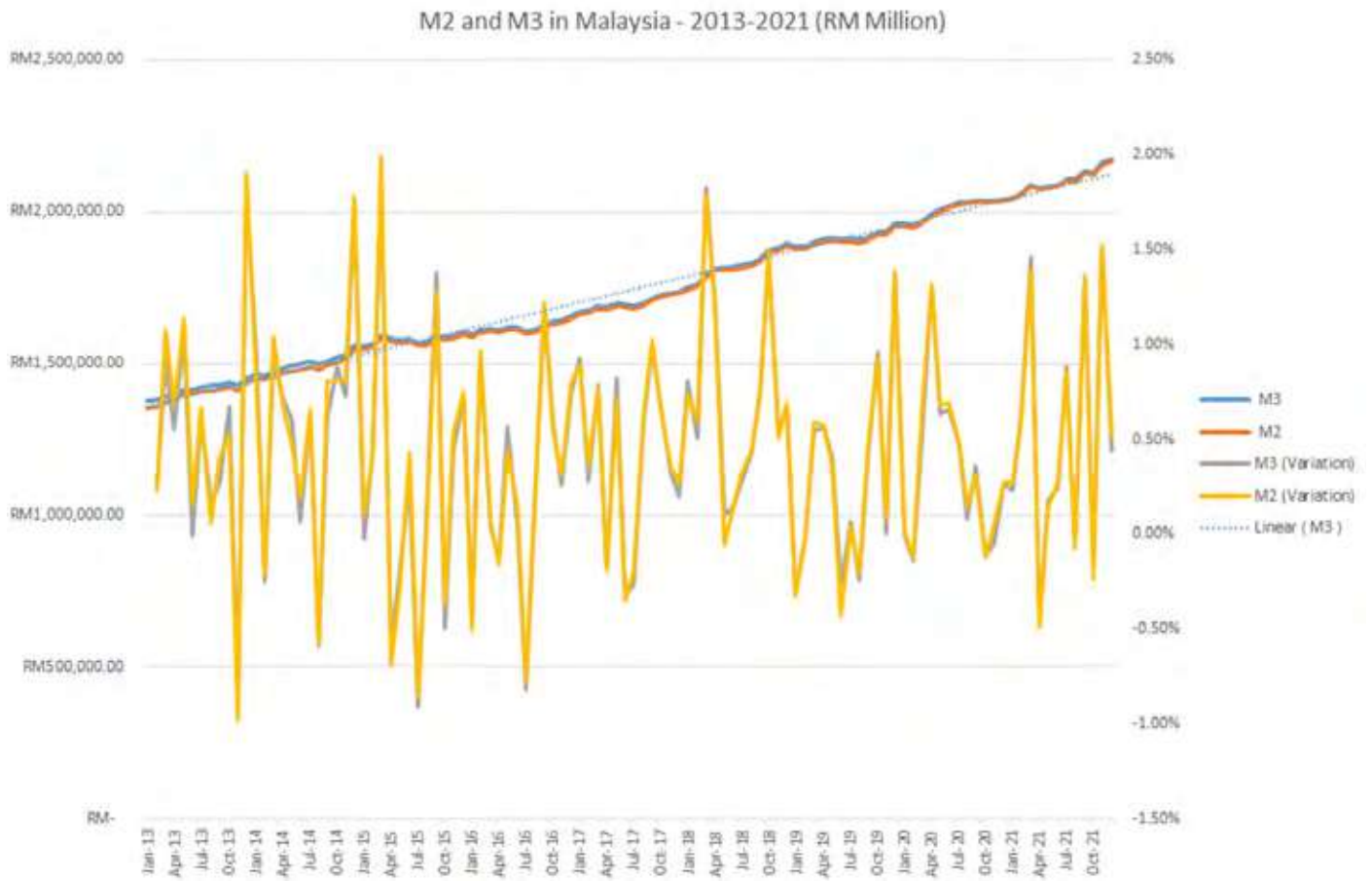
Figure 5: M1 in Malaysia, 2013-2021.



Source: Our elaborations based on the Bank Negara Malaysia database.

² M1 is a narrow measure of the money supply that includes physical currency, demand deposits, traveler’s checks, and other checkable deposits. M2 is a calculation of the money supply that includes all elements of M1 as well as “near money”, which refers to savings deposits, money market securities, mutual funds, and other time deposits. These assets are less liquid than M1 and not as suitable as exchange mediums, but they can be quickly converted into cash or checking deposits. M3 is a collection of the money supply that includes M2 money as well as large time deposits, institutional money market funds, short-term repurchase agreements, and larger liquid funds. M3 is closely associated with larger financial institutions and corporations than with small businesses and individuals.

Figure 6: M2 and M3 in Malaysia, 2013-2021.



Source: Our elaborations based on the Bank Negara Malaysia database.

The fact that the money supply grew faster than the economy, generating inflationary tendencies, is summarized in Table I.

Table I: Annual variation for monetary aggregates, GDP, Consumer Price Index (CPI) and Producer Price Index (PPI), 2014-2021.

Period	Annual Variation					
	M3	M2	M1	GDP	CPI	PPI
Dec-14	7.25%	7.50%	5.74%	6.00%	2.66%	-6.86%
Dec-15	2.97%	3.35%	4.07%	5.10%	2.68%	-3.44%
Dec-16	3.20%	3.22%	5.65%	4.40%	1.74%	6.54%
Dec-17	4.91%	5.05%	11.02%	5.80%	3.51%	0.28%
Dec-18	9.10%	8.94%	1.16%	4.80%	0.17%	-3.71%
Dec-19	3.54%	3.47%	5.81%	4.30%	0.99%	3.47%
Dec-20	4.05%	4.46%	15.71%	-5.60%	-1.39%	-2.14%
Dec-21	6.41%	6.30%	10.43%	3.10%	3.23%	9.99%
If 2019 = 100						
Y-2020	104.05	104.46	115.71	94.40	98.61	97.86
Y-2021	110.72	111.03	127.78	97.33	101.80	107.64

Source: Our elaborations based on the Bank Negara Malaysia database.

From Table I, it is interesting to observe that the average annual growth rate of money aggregates and GDP was quite similar during the period 2014–2019. In fact, M1, M2 and M3 recorded an average annual growth rate of 5.57%, 5.25% and 5.16% respectively, while the average GDP growth rate was 5.07%. This allowed price inflation to remain at bay: the average annual growth rate for the Consumer Price Index was, during the same years, 1.96%, while the Producer Price Index on average recorded a yearly variation of 0.62%.



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The situation radically changed during the two years in which lockdowns were implemented, 2020 and 2021. M1, M2 and M3 recorded an average yearly growth of 13.07%, 5.38% and 5.23% respectively, while GDP recorded an average decline of -1.92%, CPI rose 0.92%, and PPI rose 3.92%. The full impact of monetary expansion cannot be fully seen in CPI behaviour because the economic crisis brought in deflationary pressures: the 0.92% average is the result of competing inflationary and deflationary pressures. At the producer price level, instead, the increase is higher not only because of supply-side shocks, but because production prices anticipate what happens at the consumption level.

Taking the economic performances of 2019 as a base (=100), in 2021 GDP was still equal to 97.33, which would call for deflation in order to incentivize savings and allow for restructuring the production structure. Instead, M1 actually hit 127.78, CPI went to 101.8, and PPI rose to 107.64.

On several occasions³ we mentioned the unavoidable need for a plan of gradual government spending cuts in order to contain inflation, while a rise in interest rates would be detrimental to the investments that are very much needed now. In the next section, we will discuss in more detail the need for price deflation in order to reset the economy on the path for sustainable growth.

³ See Mokhtar, See and Chuang (2021), Sheikh (2021, 2022) and Idris and Kuttan (2021),

2. Introducing price deflation

As mentioned earlier, currently price inflation is rearing its ugly head. Price inflation has accelerated recently and has reached levels not seen for a long time in Western countries. Central banks are at an impasse (Bagus, 2015b). To curb inflation, they would need to raise interest rates and sell their assets, but now the average quality of their assets has declined⁴. The ECB, for instance, is full of government bonds from countries that can only continue to finance themselves so cheaply thanks to the ECB's supporting purchases, and they could get into big trouble if the ECB were to sell off their bonds (or stop buying them). Moreover, there are many debtors who would be distressed if interest rates were higher. In a debt economy such as the one we live in, the bankruptcy of one debtor can quickly trigger an avalanche of bankruptcies. Thus, central banks will need to see to what extent they can keep price inflation going. Do they dare raise interest rates and cut off financing for demanding sovereigns?

How did we get into this mess? For years, the threat (or fear) of deflation was used as an excuse for ever more bond purchases and for zero and even negative interest rates.

Both the Fed and the ECB invoked the threat of deflation to justify their irresponsible quantitative easing policies. But deflation is not the horrible monster, "the ogre", that Madame Lagarde calls it. Price deflation has always had bad press based on faulty theory and on economic interests as well. This bad press has long induced policy errors.

⁴ On the quality of money see Bagus (2009). On the importance of central bank assets and the average quality of their assets see Bagus and Howden (2009, 2016) and Bagus and Schiml (2009, 2010).

At least since the Great Depression, falling prices have been equated with stagnation or recession. Central banks try everything to avoid price deflation. Officially, the mandate of most central banks – such as the European Central Bank and the Federal Reserve – is price stability, which includes preventing price inflation. One would think that central banks would regard an inflation rate of “zero” as price stability; however, this is not the case. The ECB price inflation target is usually close to, but below, two percent. Recently, it has been changed and unsurprisingly made more inflationary by aiming at a symmetric price inflation target of 2%. This strange deviation from “zero” is explained by deflation fears.

Quite deliberately, central banks do not aim at an inflation rate of “zero” but at a positive inflation rate in order to maintain a certain safety margin from the “abyss” of price deflation. Similarly, the fear of deflation must be used to justify money production. Most recently, during the financial crisis or the European sovereign debt crisis, central banks responded to the “threat” of deflation with expansionary monetary policy. Are falling prices really such a disaster for an economy that they justify a massive liquidity injection, or are they just an excuse to allow welcome money production to benefit those disadvantaged by price deflation?

We wish to answer these questions based on Bagus (2015a). In order to do so, we will first outline different causes of price deflation, so as to be able to define different types of deflation. As we analyze these different types of deflation, we will be able to unmask some common myths about deflation. We will see that price deflation in most cases is something natural to the market, or that it is the beneficial – although painful – market reaction to government intervention. We conclude that policies enacted to prevent price deflation lead to harmful consequences for many economic agents.

3. Causes of price deflation

To get to the bottom of the phenomenon of price deflation, its causes must be examined. There are three main causes of price deflation. Here, we would like to clarify that we define price deflation as a general fall in prices. Price deflation must conceptually be distinguished from deflation, or a fall in the money supply.

a. Growth deflation

Growth deflation results from higher production of goods and services. As supply increases, prices fall. The possibility of growth deflation is often cited as an argument against a fully covered gold standard (and more recently, a Bitcoin standard). Under the gold standard, the money supply could no longer grow as fast as the economy, leading to falling prices and problems. In contrast, under the fiat money system, the money supply could keep pace with economic growth.

This argument fails to recognize that growth deflation is the natural and healthy outcome of productivity advances. Consumers can shop more cheaply, and corporate profits do not necessarily decline. One may sell at cheaper prices, but one also sells more because of the productivity increase.

A historical example of growth deflation is the U.S. in the second half of the 19th century, when prices fell from 1865-1896 while living standards rose substantially (Bagus, 2008). The cost-of-living index fell from 102 to 74 over these years. At the same time, on average the economy grew over four percent per year. Apparently, the price deflation did not inhibit strong economic growth. The truth is price deflation was caused by strong economic growth.



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One sector experiencing growth deflation today is the IT industry. Falling computer prices benefit consumers. Manufacturers can produce more cheaply due to productivity advances and continue to make enormous profits in some cases. The IT sector where we see price deflation (or increasing quality for the same amount of money, which amounts to the same) is obviously not a depressed sector, but a thriving one. Moreover, it attracts many investments despite the price deflationary tendencies. In fact, the investments and competition cause prices to fall in this sector.

Counteracting growth deflation with money production causes distortions in the real economy and starts a phenomenon known as an Austrian Business Cycle⁵. Money production artificially lowers interest rates and leads to a boom that cannot be sustained. When the price level is stable, the expansionary artificial effects of money production go unnoticed for a long time. This is exactly what happened in the 1990s and 2000s. During this period, there were significant advances in productivity due to technological advances, such as the Internet. With the economies of China and India, 2.5 trillion people began to participate in the international division of labor in earnest. Because of such immense growth, prices should have fallen significantly. However, this was prevented by enormous money production by the banking system at historically low interest rates. The consequences were first the dotcom and real estate bubble, then the financial and sovereign debt crisis.

⁵ On Austrian Business Cycle Theory see Mises (1949), Hayek (1929), Rothbard (1963), Huerta de Soto (1998), Garrison (2001), Bagus (2007).

b. Cash building deflation

Cash building deflation occurs when individuals desire to increase their real cash holdings. This desire is sometimes disparagingly referred to as “hoarding”. When uncertainty rises, people arm themselves against unpredictability. They demand more money by selling more goods or buying fewer goods. Prices fall and real cash holdings rise, and so individuals are better protected against the vagaries of the future. A cash-building deflation satisfies the preferences of individuals. Thus, cash-building deflation is not a problem, but rather a market solution to a problem, namely, the desire to hold higher real cash balances.

It should still be pointed out that even in the case of cash-building deflation, an increase in the money supply is unnecessary and counterproductive. If prices fall as a result of cash building, real cash holdings increase, which is exactly what individuals desire. If new money is then injected, prices rise again, which tends to reduce real cash holdings. The new money may also have undesirable side effects in the form of redistribution, speculative bubbles and malinvestments.

c. Credit contraction deflation

Credit contraction is typical of recessions. Just as the banking system can inflate the quantity of credit and create new money during a boom, it can reduce the quantity of credit and money during a recession. According to the Austrian Business Cycle Theory, recessions usually occur after an artificial boom. The fractional reserve banking system creates new money. The production of money causes interest rates to fall even though real savings have not increased. Due to the distortion of the interest rate signal, which should indicate changes in real savings, there is a mismatch between savers and investors. More investment projects are started than can be completed with society's scarce resources. Sooner or later, it becomes obvious that some projects must be stopped and liquidated the factors of production that are employed in bad investments must be allocated to other projects more important to consumers. There has also been a lack of real savings. In the credit-financed boom leading to the Great Recession, there

were malinvestments in the real estate and construction sectors. The construction sector needed to be reduced and the factors of production directed to other sectors, for example, to the undersized commodities sector. The adjustment process after the artificial boom is called a recession.

In a recession, insolvencies occur when bad investments are liquidated. Bad loans weigh on bank balance sheets; banks become more cautious and do not re-lend repaid funds. Under certain circumstances, financial institutions may even go bankrupt. The decline in lending wipes out bank money. In a recession, therefore, the money supply may decline. Here we are dealing with real deflation, i.e., a decline in the money supply. Falling prices are usually the result.

The fear of this type of deflation (bank credit deflation) is the most likely to be well-founded. This is because the reduction in the money supply makes it harder to pay nominally fixed debts, and companies go bankrupt. Credit contraction with price deflation leads to painful upheavals.

Nevertheless, one must also keep the following in mind. Only in a fractional reserve banking system can there be credit contraction. In the case of a full reserve system, on the other hand, banks cannot create new money through credit expansion, and therefore there is no new money to destroy. The money supply cannot decrease apart from physical loss in a pure gold standard. Thus, with a full reserve commodity currency, there is nothing to fear from a credit contraction. What is to be feared is the credit expansion of a boom, because that is what makes the contraction possible in the first place. A credit contraction may speed up the liquidation of malinvestments and thereby speed up recovery.

Finally, in a recession it is worth considering whether the alternatives to credit contraction deflation are not more to be feared. After all, even in this type of deflation, new monetary injections are often counterproductive.



The financial crisis is an instructive example (Alonso, Bagus and Rallo, 2011). When bad investments became obvious, firms collapsed, banks took losses, and credit contraction loomed. This credit contraction would have accelerated the collapse of ailing banks and businesses that had only been created by the boom and the availability of new money. Factors of production could have been diverted more quickly from bad investments to other projects. Savings would have been withdrawn more quickly from malinvestments and used to build a viable productive structure. Relative prices would have corrected more quickly if there had been a sell-off of real estate when banks were liquidated. The economy would have recovered more quickly (Alonso, Bagus and Rallo, 2012). However, the bank credit contraction was offset by the creation of new money by central banks. Ailing banks and companies were kept artificially alive. The adjustment of the economic structure was delayed, at the cost of new bubbles and new debt – and ultimately the onset of the European sovereign debt crisis (Bagus, 2011).

4. Consequences and myths of price deflation

We will now consider general consequences of price deflation, regardless of its cause. In doing so, we will also discuss the myths that have led to the general fear of deflation. The main consequence of falling prices is redistribution. Buyers of goods and services benefit, while sellers suffer from lower prices. Almost every economic agent is both a buyer and a seller of goods and services. When prices fall in varying degrees, there are net winners and net losers in price deflation depending on the relative price changes (just as in price inflation). As with any change in data in an economy, redistribution occurs, changing the relative wealth of individuals. Price deflation means wealth redistribution in an economy. However, general wealth or productive capacity does not change directly as a result of such redistribution.

Important losers in price deflation are debtors. The real burden of debt increases, as a larger number of goods and services must be sold in order to repay a given debt. Therefore, debtors lose while creditors gain. The government, traditionally the largest debtor in society, is a big loser in price deflation.

Thus, the immediate effect of price deflation is a redistribution and an adjustment in the structure of the economy, but these are not a macroeconomic disadvantage. Nevertheless, different arguments are put forward as to why price deflation should be considered detrimental. These arguments are often assumed to be obvious and are rarely critically examined. In the following, we will deal with these arguments (Bagus, 2006).



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Myth 1: Price deflation is bad for the banking system and thus for the economy as a whole

Unexpected price deflation can lead to the bankruptcy of debtors and members of the banking system, as the real burden of debt increases. In a fractional reserve banking system without a central bank, bank insolvency can quickly lead to a bank panic and the collapse of the entire banking system. A pronounced credit contraction would be the result.

This argument led central banks to counter price deflation by massive money production during the Great Recession. To save the financial system, central banks let the printing presses run hot.

A collapse of the financial system as a result of sharp price deflation could indeed negatively affect output in the short run. However, this situation could be used to fundamentally reform the banking system and introduce a fully backed commodity currency, which would make a decline in the money supply (deflation) impossible. A more stable monetary system is very beneficial to overall economic production in the medium and long term.

At the same time, one must also take into account that the alternative to price deflation not only saves the banking system, but it can also distort the structure of production. To prevent price deflation, central banks must increase the money supply. This can

artificially lower the interest rate, spurring new malinvestments and failing to restructure old ones quickly. As happened in the financial crisis, the monetary bailout of banks and large corporations delayed a rapid liquidation of bad investments, and the crisis was prolonged

Moreover, bailouts lead to moral hazard as well as irresponsible and risky behavior. Relying on being rescued when price deflation threatens, banks and companies will tend to act more riskily. In the long run, the entire economy will suffer from this behaviour. Moreover, the production of money leads to a redistribution in favor of the rescued companies.

Myth 2: Price deflation is fundamentally bad for entrepreneurs

It is often claimed that falling prices are fundamentally bad for entrepreneurs. Since production takes time, and prices fall during the production period, entrepreneurs would incur increased losses. This argument is based on a very mechanistic interpretation of entrepreneurship.

Entrepreneurs try – and this is precisely their task – to anticipate the prices at which their products can be sold. According to future expected prices, entrepreneurs bid for factors of production.

Suppose an entrepreneur expects the price of his product to be 10% below its present price in a year's time. Then he will bid correspondingly less for the required factors of production today. The prices of the factors of production – his costs – will therefore tend to fall today. Costs follow prices, not prices follow costs.

In other words, in price deflation, both sale and purchase prices fall. The profit margin does not necessarily decrease. If purchase prices fall faster than sale prices, profits actually rise and price deflation has an invigorating effect on companies. In the same sense, deflation expectations do not necessarily have a deterrent effect on companies. Deflation expectations merely have the effect of accelerating the price decline to the expected level. Market participants simply wait with their purchases until prices

fall to the expected level. If prices are unanimously expected to fall, this can happen very quickly. A prerequisite for this, of course, is that the prices of production factors are flexible. If government intervention prevents prices from adjusting and maintains them too high, disruptions and declines in output can occur.

Myth 3: Price deflation leads to an increase in insolvencies, and thus inevitably to a disruption of output

As real debt burdens rise in price deflation, firms may run into problems. As we have seen, however, this is not a problem in growth deflation because firms' monetary profits do not necessarily fall as a result of the corresponding rise in productivity. In price deflation, profits for individual firms can also rise if purchase prices fall at the same rate or faster than sale prices.

Only the case of credit contraction deflation is problematic. The reduction in the money supply makes it harder for entrepreneurs to service their loans. There is simply less money to service the same amount of debt.

However, insolvency does not necessarily mean a decline in output. There is simply a structural adjustment between the owners and lenders of the business. The company assets, machinery, vehicles and buildings do not disappear in the event of insolvency; they continue to exist. The owners lose their share in the company, and the creditors gain the company assets. Redistribution within the company also occurs.

The adjustment in the asset structure does not necessarily affect production. Production is now decided by the new owners. If the insolvent firm relied on credit expansion and loose monetary policy, as well as operating in a bubble activity (imagine a Spanish construction company after the Spanish housing boom when house prices fell in the wake of the Great Recession), the firm will be liquidated and the factors of production used elsewhere. The output of bubble activity declines and the output of goods that consumers need more urgently increases.

However, in a credit contraction deflation, even over-indebted firms that have inherently viable business models can go bankrupt. Creditors take over the company and can then continue to run it with a reduced debt, if the only problem is falling prices. Production therefore does not need to be changed.

Of course, insolvencies also involve costs, which can include legal disputes. In addition, entrepreneurs who know their company in detail lose their property in favor of creditors who may not be familiar with the industry. Fundamentally, however, the function of insolvency in a market economy is to transfer control of the factors of production from less capable hands to more capable hands. Insolvencies do not destroy production potential, but rather clear the way so it can be better utilized.

Myth 4: Price deflation is the cause of mass unemployment

It is often argued that price deflation causes mass unemployment. While selling prices would be free to fall, some purchasing prices would not be so flexible for businesses. Wages, in particular, would be inflexible on the downside. Therefore, firms would necessarily incur losses in price deflation.

It is true that price deflation leads to unemployment when wages are downwardly inflexible. However, it is necessary to question why wages are inflexible, unlike other prices. The cause of wage inflexibility is the real cause of unemployment.

Privileged unions can prevent wages from falling. High government unemployment benefits can also hinder wage declines. Furthermore, government minimum wages can make wage declines illegal. In this case, it is government intervention that indirectly generates unemployment. Without government intervention, wages would be flexible and unemployment would not occur despite price deflation.

State-privileged unions can always ensure that wages are too high, regardless of the general price trend, that is, if prices fall, rise, or remain



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constant. The same applies to minimum wages and unemployment benefits. In any case, inflation is not a suitable antidote to such unemployment, since workers and unions can anticipate the price effects of inflation and demand higher nominal wages.

One might counter that wages are rigid not only due to government intervention, but also possibly due to the long duration of employment contracts. If an employment contract lasts a year and the product price falls during that year, the wage can no longer be adjusted and the entrepreneur incurs a loss and may have to lay off the worker. However, this argument fails to recognize that in an emergency, the wage contract could be renegotiated to the benefit of both parties. The entrepreneur would not have to go bankrupt and the worker could keep her job. Moreover, both entrepreneurs and workers take future price developments into account in their wage negotiations. Of course, they can also miscalculate. If they both believe that the price level will be lower in a given year, they will probably agree on a somewhat more moderate wage at the beginning of the year. However, there is no reason to assume that entrepreneurs and workers overestimate more often in times of falling prices than in times of rising prices. Overestimating price inflation equally leads to losses for the entrepreneur through excessive wages.

Myth 5: Price deflation can lead to a liquidity trap⁶ with devastating effects for the economy

Finally, the liquidity trap argument must be addressed. In a liquidity trap, the ultimate Keynesian stimulus of expansionary monetary policy no longer works. In a recession, according to the Keynesian understanding, expansionary monetary policy is expected to lower interest rates and thus encourage entrepreneurs to initiate new projects, which increases aggregate demand.

In a liquidity trap, interest rates are close to zero and cannot be lowered further. Now we have actually experimented with negative interest rates, so the lower limit was reduced, but it is still a limit. Even if the central bank pumps new money into the economy, interest rates do not fall further, and because price deflation is expected, actors do not spend the money, but rather hoard it. Aggregate demand does not increase despite expansionary monetary policy.

Deflation expectations combined with zero interest rates result in high real interest rates. The real cost of borrowing skyrockets, as the real debt burden will rise as a result of falling prices. This can no longer be countered by nominal interest rate cuts by the central bank; interest rates cannot become even more negative. We are caught in the liquidity trap.

This argument must be countered with the following. First, a *reductio ad absurdum* can be applied. For any investment project, it is true that it will eventually become profitable if interest rates are sufficiently negative. After all, this is where the borrower is paid for borrowing.

Second, investments need not be financed by borrowing. Entrepreneurs can also save and invest their own funds. Equity financing makes projects possible without creating a crushing debt burden.

⁶ A 'liquidity trap' is the scenario in which monetary policy is ineffective in stimulating aggregate demand. According to John Maynard Keynes, after the rate of interest has fallen to a certain level, liquidity preference may become virtually absolute in the sense that almost everyone prefers holding cash rather than holding debt (a financial instrument) that yields a low rate of interest.

Third, price deflation expectations simply encourage prices to adjust to expected levels. Once prices have fallen to expected levels, the problem of higher real interest rates disappears. Persistent and large price deflation expectations are quite unusual, but occur mainly in the case of previous bubbles, such as in the real estate sector. Therefore, the expectation of a price decline accelerates the decline itself and leads to the necessary adjustment of relative prices (real estate prices decline more than other prices).

Fourth, interest rates close to zero, regardless of whether real interest rates are high, lead to higher prices of capital goods, because future income streams of capital goods are discounted less. Thus, when interest rates approach zero due to deflation expectations, the price of capital goods will rise rapidly, encouraging investment in them.

Another component of the liquidity trap is the problem of deferred spending because of deflation expectations. However, it is precisely this deferral that accelerates price adjustments, which accelerates the recovery. Moreover, purchases cannot be deferred forever. Economic agents want goods sooner rather than later. That is, even if they assume prices will fall, they will eventually start spending, as is common in some technology industries. Even though many will buy the new iPhone next year, some consumers cannot wait to get it into their hands as fast as possible.

Moreover, a drop in consumption (which is an increase in savings) during a recession is to be welcomed. This is because savings are urgently needed for rapid recovery and restructuring. A lack of real savings is at the root of recessions, as investment projects are too ambitious in relation to available real savings. Saving frees up resources that could in turn be used for new profitable investment projects. If investment increases relative to consumption, this will benefit the economy's productivity in the long run.



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Finally, the intention of the liquidity trap theorists must be questioned. Keynesian monetary policymakers see the danger of the liquidity trap in the fact that the central bank has lost the power to stimulate the economy through credit expansion. However, enormous dangers lie precisely in credit expansion itself, which counteracts price deflation. Not only does credit expansion lead to redistribution, it also hinders the necessary adjustment processes after an artificial boom and can ignite new bubbles.

5. Policy recommendations

From our theoretical analysis we may deduce some recommendations for policymakers in our current world. We are living in an economic moment characterized by strong inflationary pressures. One reason for this is the erroneous belief that price deflation is bad per se. However, policymakers should not stop it from happening, and if price deflation does happen, we should analyze it carefully, looking for the causes behind it.

Second, especially when price deflation is caused by higher economic growth generated by an increase in productivity, as in the case of the innovative waves described by Schumpeter (1911), it should not be counteracted with monetary inflation. In fact, as previously described, during innovation waves more investments are attracted into the innovative industries and such competition generates a healthy process of price deflation, which benefits consumers.

The emergence of entrepreneurially-led innovation waves should instead be incentivized and not hampered by government interventions. We cannot know what the next breakthrough innovation will be. For innovations to flourish, a proper institutional environment is key; liberty is the most important institutional arrangement that can allow innovation and growth, and – with them – human progress. As Deirdre McCloskey puts it: «What matters is human creativity liberated by liberalism» (quoted in Sunde, 2019). Experimentation and innovation thrive where they are welcomed, encouraged, and incentivized.

Third, if there is cash-building deflation, one should not disturb the process of increasing the money supply. Cash-building deflation is the solution to a desire consumers have, namely to increase their real cash balances. Monetary inflation only leads to distortions and malinvestments. After an economic crisis, cash-building deflation,



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when it stems from a relative reduction of consumption, is a beneficial process to increase savings to help not only households, but also to create sound financial resources available for an investment-led economic growth. In fact, as explained by Garrison (2001, pp. 56-83) a process of sustainable growth is one generated by an increase in savings, followed by a decrease in the interest rate, and therefore by a jump in investments.

Consumers are more future-oriented when they make more loanable capital available through an increase in savings. Naturally, on the capital market this is reflected by a fall in the interest rate, with a consequent increase in demand for investment funds. A decrease in consumption frees up resources for investment.

A fourth suggestion is that if prices fall due to a credit contraction, an increase in the money supply may hamper a necessary readjustment process (a boom-and-bust cycle as described by the Austrian Theory of the Business Cycle). Therefore, trying to counteract the credit contraction with an additional quantity of money may be counterproductive.

Fifth, factor markets in the economy should be made more flexible by deregulation so that factor prices can adjust in a price deflation scenario. In fact, for price deflation to happen and be effective,

wages and salaries should be more flexible than what they are now. Otherwise, there will be unnecessary unemployment.

Sixth, in an inflationary period such as today, the fear of deflation or economic crises should not stop policymakers from doing what is necessary to allow prices to cool down and preserve purchasing power. Stopping the growth of the money supply becomes imperative.

The next field of action is, obviously, limiting government spending. «Budgets cannot be left adrift in the sea of democratic politics. They must be constructed within constraints that impose external form and coherence on the particular decisions about size and distribution which an annual budget reflects. The elected politicians, who must be responsive to their constituents, the governmental bureaucracy as well as the electorate, need something by way of an external and “superior” rule that will allow them to forestall the persistent demands for an increased flow of public-spending benefits along with reduced levels of taxation» (Buchanan and Wagner, 1977, p. 182). Such a rule needs to be simple and straightforward; it must offer clear criteria for adherence and for violation, and it must reflect and express values held by the community of citizens (Buchanan and Wagner, 1977, p. 183).

In order to limit government spending, a step in the right direction is to re-establish the primacy and superiority of balanced budgets, which will finally destroy the unhealthy belief in the existence of free lunches (Buchanan and Wagner, 1977, pp. 184-185). Such a rule should incorporate an automatic adjustment mechanism in case the budgeted outlays should be projected to exceed tax receipts (Buchanan and Wagner, 1977, p. 185). As an example, if the projected balanced budget proves in error «and a budget deficit beyond specified limits occurs, federal outlays shall be automatically adjusted downward to restore projected balance within a period of three months» (Buchanan and Wagner, 1977, pp. 187-188). Eventual surpluses should be used to retire existing debt.

6. Conclusion

The general fear of deflation is unfounded. Price deflation can be the natural and welcome consequence of growth, it can bring about real cash building, and it can shorten the recession after an artificial boom. Its most unpleasant form is credit contraction deflation, which decreases the money supply; however, that is only possible in a fractional reserve banking system that has previously created money out of nothing. The main effect is a redistribution of the existing wealth in the economy, rather than a necessary decline in general output, as assumed in various arguments.

The fear of deflation is artificially fed by those who benefit from the creation of new money, since they spend the new money first. Banks and government, as well as businesses that depend on a credit expansion boom, fear deflation and profit from the money production they recommend as a prescription against deflation, at the expense of other economic agents who pay higher prices than they otherwise would. By artificially lowering interest rates and distorting the structure of production, it is precisely expansionary monetary policy that triggers the greatest economic disasters and makes credit contraction possible in the first place. In a full reserve commodity money standard, price deflation is completely harmless and the symptom of strong economic growth or successful cash accumulation.

As our analysis shows, the inflationary policies in the years following the Great Recession must be considered a policy error, as they delayed recovery and reduced economic growth, and their price-inflationary consequences became more and more visible. This policy error was based on or justified by a faulty theory of inflation, which we have addressed in this paper by offering what we consider to be a more correct theory.

In a period such as the present that is characterized by strong inflationary pressures, price deflation should not be discouraged.



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Rather, we suggest the following policy measures:

- Allow productivity growth deflation by nurturing an environment conducive to innovation;
- Allow cash-building deflation, as savings are the necessary means for enhancing a process of sound growth;
- Reduce government spending to reduce the quantity of money in circulation;
- Reforms should be introduced to reinstate the primacy of balanced budgets.

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