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This Time is Different: The PEPP Might Not Work in a Sectoral Recession

Policy Department for Economic, Scientific and Quality of Life Policies
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This Time is Different

The PEPP Might Not Work in a Sectoral Recession

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Abstract

The COVID-19 recession is different from previous downturns because it originates in demand and supply disturbances which are highly specific to certain sectors (contact-intensive services). This sectoral nature renders aggregate demand policies, including monetary policy, much less effective. The PEPP was essential to prevent a financial crisis in the Spring of 2020; but there is no need to increase its size. In a sectoral recession, one should not expect much impact from central bank bond buying on inflation.

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LIST OF ABBREVIATIONS

ABSPP	Asset-Backed Securities Purchase Programme
APP	Asset Purchase Programme
CBPP3	Covered Bond Purchase Programme 3
CSPP	Corporate Sector Purchase Programme
ECB	European Central Bank
PEPP	Pandemic Emergency Purchase Programme
PSPP	Public Sector Purchase Programme
QE	Quantitative Easing
VAR	Vector Autoregression

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EXECUTIVE SUMMARY

- **Central bank bond-buying, like the PSPP or the PEPP, is not an 'all-purpose' policy instrument**.
- **It can be very effective in reducing risk spreads when financial markets are in turmoil, like 2008/2009 or March/April 2020**. When uncertainty is very high and market participants only want the security of cash, it is essential that the central bank becomes the 'buyer of last resort'.
- **However, central bank bond buying becomes much less effective when markets are calm**. In these circumstances the main aim becomes increasing inflation. But when a central bank buys government bonds it only substitutes one form of public sector liability (government bond) with another (deposit at the central bank). This might influence (long term) interest rates but the ultimate impact on inflation is limited as can be seen from the meagre results of QE2 and 3 in the US, the failure of the monetary arrows in Japan and the fact that after years of PSPP the inflation rate in the euro area barely budget.
- **A number of studies, almost all of them by authors associated with the Eurosystem, claim that the PSPP has been effective in lowering (long-term) interest rate and lifting inflation**. However, the estimated magnitudes are in the order of at most 1 percentage point higher inflation, spread over several years.
- **QE is likely to be even less effective in today's circumstances of a 'sectoral recession'**. Rates on safe assets are already negative and risk spreads very compressed. The further minute reductions in long-term interest rates that could be achieved by any expansion of the PEPP are unlikely to have a meaningful impact on demand which is held back in some sectors by social distancing measures and lingering fears about the virus.
- **Policy-makers can react in very different ways when a policy instrument becomes less effective**: one reaction is to 'double the dose' in order to achieve the desired result. The other reaction is to use it less because collateral damage becomes more important relative to the limited results one can expect.

1. INTRODUCTION

The asset purchase programme (APP) was announced by the ECB on 22 January 2015. The aim of the programme consisted in achieving "a sustained adjustment in the path of inflation which is consistent with our aim"[1]. In a context of strong downward pressures on inflation that were jeopardising the achievement of the ECB price stability objective and a limited room to cut the policy rate further down, the Governing Council decided to implement an expanded purchase of public sector assets (PSPP)[2].

The APP net purchases were carried out until the end of 2018, for a total amount of EUR 2.6 trillion. However, on September 2019, given an unexpected protracted slowdown in the euro area economy mainly due to high global uncertainty, the Governing Council decided to restart operations at a monthly pace of EUR 20 billion as from November of the same year.

Few months later, at the beginning of 2020, the COVID-19 pandemic outbreak dealt a massive shock to the global economy. After some initial hesitation, the ECB reacted in a decisive way. First, on 12 March, it expanded net purchases under APP of an additional EUR 120 billion until end-2020; then a few days later, it announced the EUR 750 billion pandemic emergency purchase programme (PEPP). This is a temporary and flexible programme designed to respond to the unprecedented nature of the shock (Lane, 2020).

The health crisis, and the following stringency measures implemented by governments all over the world to limit contagion among the population, caused a drop in GDP of unprecedented size. This recession is different from previous ones. The reason lies in the fact that the prevention (social distancing) and the lockdown measures generated a combination of demand and supply shocks, that affects different sectors of the economy in a different way. Specifically, it hits more contact-intensive services.

In this paper, we explore both the recent empirical literature on the impact of the APP on the economy and the emerging theoretical studies on the COVID-19 shock. Our goal is to understand whether the PEPP, which was crucial to prevent a financial crisis at its start, might still have an impact on the economy and specifically on inflation during the current sectoral recession.

Our main conclusion is that the quantitative easing (QE) implemented by the ECB, may have little impact on the economy today, since it mainly influences aggregate demand, while the shock is sectoral. Therefore, policymakers stand at a crossroad: they could either increase the size of the purchases hoping to increase the impact on the concerned sectors or to reduce the size, given that the problem is not one of aggregate demand.

The rest of the paper is organized as follows. Section 2 presents the empirical evidence on euro area APP. Section 3 discusses the effectiveness of the monetary policy measures in a sectoral recession. Section 4 concludes.

[1] Introductory statement to the press conference, Mario Draghi, President of the ECB, Frankfurt am Main, 22 January 2015.

[2] On 4 September 2014, the ECB launched other two purchase programmes: purchase of covered bonds (CBPP3) and asset-backed securities (ABSPP). In January 2015, these two programmes were incorporated in the broad APP. Moreover, on June 2016 the ECB announced the corporate sector purchased programme (CSPP). The APP currently includes CBPP3, ABSPP, PSPP, and CSPP.

2. EMPIRICAL EVIDENCE ON THE EURO AREA APP

2.1. Transmission mechanisms

To reach its final goal and have an impact on the real economy, the large-scale asset purchase operates through a series of direct and indirect transmission channels, as described by Cova and Ferrero (2015) and depicted in Figure 1.

At the time the decision was taken (January 2015), the German 10-year rate was already at 0.40, thus, it was clear at the time that there was little space for further downward movement.

By purchasing financial assets, the central bank tries to affect long-term interest rates. First, if investors have a preference for holding assets with the same maturity of the ones purchased by the central bank, they will be willing to accept lower yields, thus paying higher prices for those specific maturity assets (*scarcity channel*)[3]. Second, by purchasing long-term assets, the central bank reduces the duration risk and decreases the long-term yields with respect to the short-term ones (*duration channel*). In addition, when central banks reduce the supply of safe assets they create an incentive for investors to 'rebalance' their portfolios towards riskier, higher yielding assets, such as corporate bonds (*portfolio rebalancing channel*). Thus, decreasing the yields and increasing the prices of those other assets as well. Altavilla et al. (2015) find that this is one of the most relevant channels for transmission of the APP in the euro area. If investors buy assets denominated in foreign currency, this could lead to exchange rate depreciation (*exchange rate channel*). Empirical evidence of this mechanism activated in many countries, among which the euro area, is provided by Rogers et al. (2014).

Moreover, by announcing a bond buying programme, the central bank signals a future accommodative monetary policy, thus expected path of future short term rates and with it the risk-free component of long term assets should drop (*signaling channel*). Studies on the APP implemented in the euro area, find that this channel is small in magnitude compared to the other channels (e.g. Altavilla et al., 2015; Andrade et al., 2016; Arrata and Nguyen, 2017; and Lemke and Werner, 2020).

The reduction in long term rates should reduce the yields of government debt, thus implying a lower cost of public debt servicing and easing public finance conditions (*government budget constraint channel*).

The central bank bond purchases replace financial assets on banks' balance sheets with central bank reserves. This increases the excess liquidity, leading to a decrease of the money market interest rate towards the deposit facility rate (*excess liquidity channel*).

As a consequence, by increasing the prices of the assets object of the purchase, the central bank gives banks incentive to provide more credit to the economy (*bank interest rate channel*). There is some discussion whether lower rates improve banks' profitability. Some authors (e.g. Brunnermeier and Kobi, ,2018,) argue that there is a "reversal rate" beyond which a further lowering of the interest rate damages bank profitability so much that banks will extend less credit.

It is sometimes argued that, if the announcement by the central bank is credible, it may exert a large impact on firms' and households' beliefs about the future state of the economy and particularly about inflation. This may move inflation expectations towards the 2% target (*signaling/ confidence channel*). However, this channel seems to be self-validating: if QE is successful it will be successful.

[3] This is in line with the preferred-habitat theory: for a theoretical example see Vayanos and Vila (2009), for empirical evidence see D'Amico and King (2013).

All the channels described so far allow for the purchase of assets by the central bank to have an impact on the real economy. The expansionary impact on aggregate demand is mainly driven by three effects:

(i) lower cost of borrowing affects the intertemporal decision of household and firms, pushing them to borrow or invest more (*intertemporal substitution effect*);

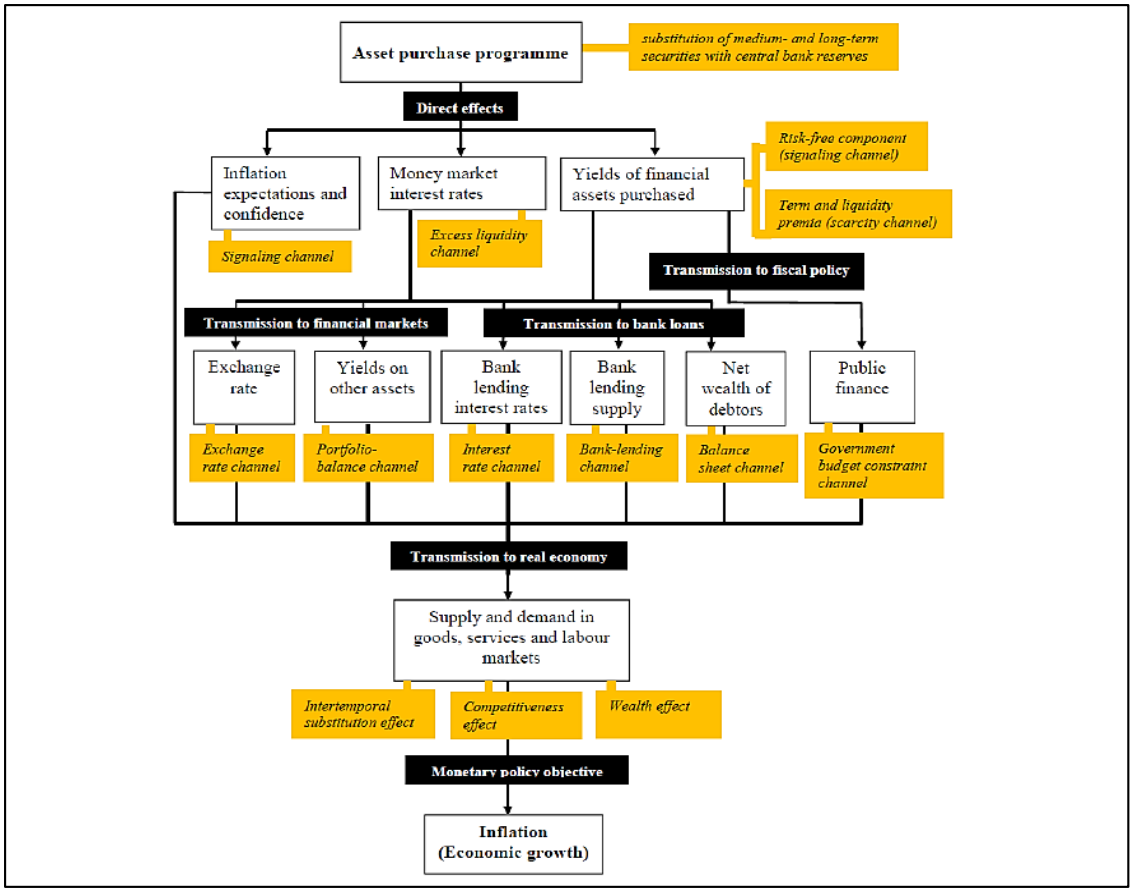
(ii) currency depreciation increases the competitiveness of goods domestically-produced (*price competitiveness effect*); and

(iii) higher prices of financial and real assets increase the wealth of holders (*wealth effect*).

But the Eurosystem is responsible only for achieving price stability, not full employment. The ultimate step in assessing the APP must thus be the link between inflation and the state of the economy. This link is usually assumed to exist in the form of a Philips curve, although before the onset of the crisis there had been much discussion about the existence and stability of such a link between output and inflation (see Gros, 2018, Lane, 2019).

Figure 1 below, taken from Cova and Ferrero (2015) illustrates the complexity of the transmission mechanism.

Figure 1: APP transmission channels



Source: Cova and Ferrero (2015).

2.2. Effectiveness of the PSPP in the empirical literature

Several empirical studies in the literature focus on the analysis of the effectiveness of the APP implemented by the ECB.

In the first phase, immediately following the beginning of the programme, mainly event-study methodologies have been carried out (see Dell'Ariccia et al., 2018; Altavilla et al., 2015; De Santis, 2016; De Santis and Holm-Hadulla, 2017). Using high-frequency financial data, these works have been mainly focused on the impact of the announcement of the APP on interest rates. The common finding is that this monetary policy measure reduced yields and risk spreads, thus being effective. However, these studies have in general found little impact of the announcement on inflation expectations as measured by market indicators, such as inflation swaps. The first paper by Altavilla et al. (2015) found a small impact on short term inflation expectations, but none, or a negative one on five year forward rates. The reductions in interest rates attributed to the APP (or the PSPP) are then often introduced as a shock in macroeconomic models which then produce increases in economic activity and inflation. The higher inflation rate calculated by these models then serve as evidence that the PSPP has indeed been effective in fostering price stability.

More recently, the empirical evidence on euro area QE has been enlarged by few studies using different methodologies, which do not rely on the announcement effect, but consider the changes in the co-evolution of many economic variables over the time period of the policy considered. The main conclusion of these studies is also that the APP exerted a sizeable effect on the euro area economy.

Table 1 below summarises these empirical papers, that are mainly produced by authors affiliated with the ECB or the Eurosystem. The fact that the literature on the effectiveness of the PSPP is dominated by authors which have an institutional interest in arriving at a positive conclusion is seldom mentioned. These studies are generally of the highest academic standards and some of them have in published in peer reviewed journals. But this does not change the fact that high quality studies with different conclusions would presumably not have been published by the ECB.

Table 1: Summary of empirical findings on the euro area APP

Study	Methodology	Impact
Altavilla et al. (2015)	Term structure model Event-study	➢ 30-50 bps on 10-year bond yields bigger impact for riskier asset at longer maturities.
Andrade et al. (2016)	Event-study Daily vector autoregression (VAR) General equilibrium model	➢ significantly and persistently: - reduction in sovereign yields on long-term bonds. - increase in the share prices of banks holding more sovereign bonds. ➢ Model results: APP supported both GDP and inflation (counterfactual).
Gambetti, Musso (2017)	Time-varying parameter VAR model with stochastic volatility	➢ Significant upward effect on inflation and real GDP. ➢ Several channels activated.

Beck et al. (2019)	Augmented inverse propensity score weighted (AIPW) estimation	➢ Sustained rise in inflation and inflation expectations. ➢ Main transmission channel: exchange rate.
Eser et al. (2019)	Arbitrage-free term structure model	➢ Compression of 10 year term premium (from 50 to 95 bps).
Koijen et al. (2019)	Sector-level demand system estimation	➢ Declined in government yields of 47 bps on average (range -28 to -57 bps across countries).

Source: Authors' own elaboration.

It is difficult to see the PEPP, with its greatly increased bond buying having a similar impact as the PSPP even if one accepts the results of these studies at face value. Today there simply little space for interest rates to fall further. The German 10-year rate is already at -0.50. It is difficult to see it falling another 100 basis points.

3. EFFECTIVENESS OF MONETARY MEASURES DURING A SECTORAL RECESSION

The social distancing measures put in place by many governments due to the COVID-19 outbreak dealt a massive shock to the economy everywhere. The initial reaction to the 'lockdown' decreed in many countries in Europe has been a generalised recession.

The speed of the fall in GDP has been larger than anything experienced in the past. What really distinguishes this recession is not its magnitude, but its nature. This is a recession hitting different sectors of the economy in a different way.

Two recent papers analyse in detail the sectoral nature of this shock. One, Guerrieri et al. (2020) considers the COVID-19 crisis a supply shock. Their main insight is that "a 50% shock that hits all sectors is not the same as a 100% shock that hits half the economy."

This conclusion associated with the sectoral nature of the shock has several implications for policy. One is that standard fiscal stimulus becomes less effective than usual because the sectors' shut down mutes the Keynesian multiplier feedback.

In this model, the implications for monetary policy are complex and depend on whether it operates at the effective lower bound. Its main purpose would be to prevent exits by firms which would be viable in the long run. Once this has been achieved, as it has been in Europe also thanks to rapid action by banking supervisors, there is little to be gained from macroeconomic demand management.

Another major contribution argues that the COVID-19 should not be considered only as sectoral supply shock (because of government ordered social distancing measures), but also as a sectoral demand shock as households and firms voluntarily reduce demand for travel, tourism and other contact-intensive services. Farhi and Baqaee (2020) study supply and demand shocks in a general disaggregated model with multiple sectors. A major element in their approach are the input-output linkages across sectors, which propagate these sectoral shocks (both demand and supply) to the entire economy.

Their major finding is that "aggregate demand stimulus is only about a third as effective as in a typical recession". This finding applies to both fiscal and monetary policy. The authors also argue that "[m]ore targeted forms of demand stimulus deliver better bang for the buck."

Monetary policy can only attempt to stimulate aggregate demand, it cannot be targeted those sectors in which demand is weakest. Lowering interest rates via monetary policy instruments is usually thought to induce households to bring consumption forward, to consume more today and less tomorrow. However, this mechanism works less well when households today cannot buy their normal consumption basket.

An example can illustrate this proposition.[4] Consider a person who wants to buy new sport equipment, which would be used on a vacation abroad. Normally, a low interest rate would make it more likely that the entire consumption basket (e.g. including vacation and sport equipment) is bought today. But if today, due to the pandemic, foreign travel is impossible, the sport equipment will not be bought. No amount of interest rate reductions will lead to higher sales.

[4] The extreme example made by economist is that of shoes: if today only right foot shoes are available consumers will not buy them and rather wait until again both right and left shoes are available as pairs. Interest rates will thus not have a big impact on consumption decisions.

4. CONCLUSIONS

The experience with the APP/PSPP should not be viewed as a useful guide for what to expect from the PEPP. Strong intervention by the ECB in financial markets was absolutely justified during the turbulent period of March 2020. However, there is weaker argument for massive bond buying by the Eurosystem now that markets have settled down and the economy is starting to recover. The PEEP is unlikely to have a major impact on the overall economy and inflation because the root cause of this recession is very different from previous ones.

This recession (and the recovery) is different because it results from very sector-specific demand and supply disturbances. The key differentiating point is the sectoral specificity, not the demand or supply nature of the disturbance. Aggregate supply shocks are known to be 'stagflationary', i.e. they should depress output while inflation increases. This is not the case today. Aggregate demand shocks are deflationary, i.e. both output and inflation falls. An easing of monetary policy is entirely appropriate in this case. However, monetary policy, which can influence only aggregate demand, can achieve little if a number of sectors are subject to both negative demand and supply shocks.

Action by the ECB through bond purchases might thus today be less effective than usual in achieving the price stability objective. Faced with this situation, the leadership of the ECB has two contrasting options: it could argue that with a lower effectiveness of its instruments; it should just increase the dose. Or, it could reduce the intensity of its asset buying until more normal times return.

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QUESTIONS FOR MEPs

- Will the ECB take into account the specific sectoral nature of this recession?
- Does the ECB believe that its monetary policy instruments are as potent as before?
- Given that German rates are already at -0.50, do they believe they can achieve further reduction in rates?

The COVID-19 recession is different from previous downturns because it originates in demand and supply disturbances which are highly specific to certain sectors (contact intensive services). This sectoral nature renders aggregate demand policies, including monetary policy, much less effective. The PEPP was essential to prevent a financial crisis in the Spring of 2020; but there is no need to increase its size —nor should one expect much impact on the broader economy and inflation.

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