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The effect of economic policy uncertainty on consumption and payment habits

An increase in economic policy uncertainty pushes consumer to reduce debit card payments and boosts ATM withdrawals. This behavior is consistent with the cash demand for precautionary motives, since liquidity has a superior value in uncertain times.

The two sides of government guarantees for banks

During the recent financial crisis, government guarantees helped reduce the funding costs of banks, curbing panic in banking systems and financial markets. These beneficial effects can be attenuated when the guarantor is more vulnerable, or the guarantees are less certain.

Emigration saps animal spirits

Waves of emigration translate into sizeable drops in firm creation, especially highly innovative ones, in the country of origin. When young people pack their bags, the local economy loses entrepreneurial capital and skilled labour.

Should we be concerned about long term inflation expectations?

Recent concerns about the de-anchoring of long-term inflation expectations raised by the ECB Governing Council appear well founded. Expectations measured in the ECB's Survey of Professional Forecasters have not returned to the levels that prevailed before the 2013-14 period of disinflation, and remained distant from the ECB inflation objective .

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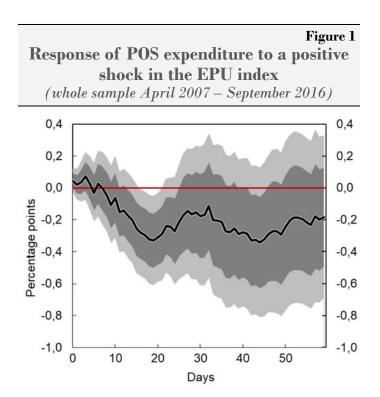# The effect of economic policy uncertainty on consumption and payment habits

The period following the global financial crisis of 2007-2008 has been characterized by higher uncertainty and volatility with respect to the previous years. This motivate a strong interest in measuring the macroeconomic impact of uncertainty, especially on economic agents' choices and reactions.

The last ten years have also witnessed an increasing digitalization of retail payments and the diffusion of electronic money and cryptocurrencies, which offer a timely and reliable source of information. Payment data have been recently exploited for macroeconomic studies, for instance on forecasting GDP, consumption, or to track the business cycle (Aprigliano et al. 2019, Duarte et al. 2017, Galbraith and Tkacz 2018).

In "*News and consumer card payments*" (Banca d'Italia, Working Papers No. 1233), Guerino Ardizzi, Simone Emiliozzi, Juri Marcucci and Libero Monteforte investigate how consumers reacts to daily news on Economic Policy Uncertainty (EPU) by exploiting a daily data set on debit card expenditures and ATM withdrawals. An increase in EPU can be driven, among others, by uncertainty about electoral outcomes, government tax policies or social security benefits and is associated with higher income risks for households. The paper computes a variety of daily EPU indicators by using big data techniques that catch the frequency of specific keywords (Baker et al. 2016) in prominent sources such as Bloomberg news-wire and Twitter.

The paper also uses the database of the clearing and settlement system BI-COMP managed by the Bank of Italy, which includes daily information on the value and number of operations made by households and firms on debit card payments (POS) and ATM withdrawals, covering about two thirds of POS operations in Italy. The use of debit cards for purchases of goods and services has rapidly grown in Italy during the last years. In 2007 the number of POS transactions executed was 0.8 billion, whereas in 2016 it increased to 1.8 billion. Payments with cards are a proxy for consumption in the quarterly national accounts. Given that payments data show strong seasonal patterns at the daily frequency,

the authors employ two seasonal adjustment approaches (TBATS and Prophet) that have been recently proposed in the literature (De Livera et al. 2011, Taylor and Letham 2018). Data on debit cards are useful to study the consumers' payment habits, since they can be used to make electronic payments or to withdraw money at ATMs. Since the dataset includes costly withdrawals for consumers, the ratio between this two can be considered as a proxy of households' preference for cash.

The empirical analysis covers ten years of daily working days from April 2007 to September 2016 and shows that there is a clear negative impact of an increase in the economic policy uncertainty on purchases with cards: consumers tend to cut POS expenditures when policy uncertainty raise (Figure 1). This effect is temporary and gets reabsorbed within one quarter. Regarding the proxy for the preference for cash, a positive shock in EPU implies an increase in the ATM/POS ratio that has a peak between 25 and 30 working days after the shock.

Figure 1

Response of POS expenditure to a positive shock in the EPU index
(whole sample April 2007 – September 2016)

> *An increase in economic policy uncertainty pushes consumers to reduce debit card payments and boosts ATM withdrawals*

The adverse effect of economic policy uncertainty on households' expenditures with cards is confirmed by robustness exercises where the authors employ data at monthly frequency or control for alternative sources of uncertainty, in particular financial uncertainty and daily macroeconomic surprises.

The findings of the paper are consistent with the cash demand for precautionary motives. Higher uncertainty pushes consumers to prefer cash, since liquidity has a superior value in uncertain times.

Given the fast evolution of the payment systems and the increasing diffusion of electronic money and cryptocurrencies, it is reasonable to expect that in the near future new data will be available, opening the box for a variety of other economic studies using large dataset and big data on payments.

— Stefano Piermattei (editor)

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The two sides of government guarantees for banks

When the recent financial crisis entered the most virulent phase, around the time of Lehman Brothers' bankruptcy in September 2008, governments made extensive use of bank guarantees, both collective and individual. Some were explicit, others implicit; some institutions were bailed out, others were not (Panetta et al. 2009). Bank bailouts helped reduce tail risk, making financial institutions safer and curbing the turmoil in financial markets. In safe-haven countries such as the US, government guarantees generated beneficial effects for banks and helped reduce bank funding costs (Gandhi and Lustig 2015).

At the same time, guarantees may have contributed to increase banks' exposures to aggregate risk, particularly in vulnerable countries. First, government support hindered the fiscal capacity of some sovereigns whose consequent fragility fed back to banks needing support (Acharya et al. 2014, Correa et al. 2014). Second, guarantees may have exposed some banks to policy uncertainty, a source of non-diversifiable risk (Acharya et al. 2016). Banks' exposure to aggregate risk, affecting their guarantor, is heterogeneous.

Government support can be risky

In a recent paper, Taneli Mäkinen, Lucio Sarno and Gabriele Zinna describe the risk-return trade-off that government guarantees can induce in bank debt and equity returns. In their model, government guarantees are risky as they provide protection that depends on the aggregate state of the economy: during recessions governments are more willing to rescue banks, however weaker public finances constrain their ability to do so. Implicit support that offers better protection in good states of the world than in bad ones induces positive correlation between banks' debt and equity returns and the aggregate state of the economy, leading to higher risk premia that attenuate the beneficial effects of bank guarantees on funding costs. Such effects should matter more for banks that are guaranteed by riskier sovereigns. These direct effects of the guarantee arise in addition to, and independently of, indirect effects operating through risk-taking .

Bank debt and equity returns price the riskiness of government support

The paper tests this hypothesis by examining its predictions on the direct effects of implicit guarantees, using data on a cross-section of banks in 15 developed countries over the 2004-2018 sample period. To isolate direct effects the paper double-sorts banks, first by their risk then by their Expected Government Support (EGS) as proxied by deposit-to-GDP ratio that captures their deposit market share, i.e. their relevance for the national economy.

The empirical results suggest that the equity return of high EGS banks has exceeded that of low EGS banks by (up to) 11% per annum, on average. An EGS return factor seems to explain the risk-return trade-off. Figure 1 shows the evolution of the factor, characterized by five distinct phases with turning points associated with key policy events.
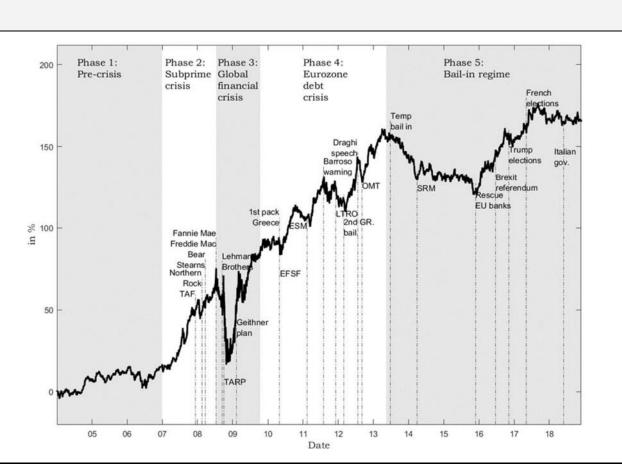
The expected government support premium

The risk premium associated with EGS is quantified to be in the range of 5%-9% per annum. It mostly matters for banks that can be bailed out and whose sovereign risk is non-negligible; it is nil for banks located in safe-haven countries (Japan, the US, Germany, and Switzerland). The premium was substantially higher before the adoption of the bail-in regime in the EU members than after, when bondholders and depositors have started to bear the burden of bank recapitalizations. This confirms the nature of the mechanism behind the EGS risk premium, no longer in place under a fully operational bail-in regulation.

> *"When governments are risky, bank guarantees command a premium in the range of 5%-9% per annum that reduces their beneficial effects for funding costs."*

Empirically, EGS factor's returns drop when sovereign risk increases and vice versa, which confirms that sovereign risk is an important determinant. They also drop when US economic policy uncertainty increases. In

Figure 1

The (cumulative) EGS return factor

contrast, high EGS banks are less exposed to tail risk than low EGS banks: the factor co-moves positively with innovations to the VIX index. Thus, the overall evidence suggests that while government guarantees do protect banks from tail risk, at the same time they expose them to sovereign risk and policy uncertainty.

Conclusions and policy implications

The paper suggests that the effectiveness of government guarantees, in reducing bank funding costs, ultimately depend on the sovereign's risk profile. Beyond the objective probability of default, banks' funding costs also reflect an EGS risk premium component, which is lower (so that the guarantee is more effective) the lower are the riskiness of the guarantor and the uncertainty associated with the guarantee.

These findings can potentially help inform the optimal design of bank guarantees, contributing to the ongoing debate on the bank-sovereign nexus. In particular, the EGS premium having been essentially zero since the adoption of the EU bail-in regulation lends support to

the view that, if credible, reforms of this sort help reduce expectations of government support to banks, weakening the bank-sovereigns link.

Relatedly, the recent slowdown of the global economy, against the backdrop of persistently high levels of public debt, has revived sovereign risk concerns, particularly for some European countries (ECB 2019). At the same time, the incompleteness of the EU banking union has received renewed attention (Hall 2019). The results of this study contribute to this debate by highlighting that uncertain guarantees, especially when provided by vulnerable sovereigns, are significantly less effective.

— **Andrea Tiseno (editor)**

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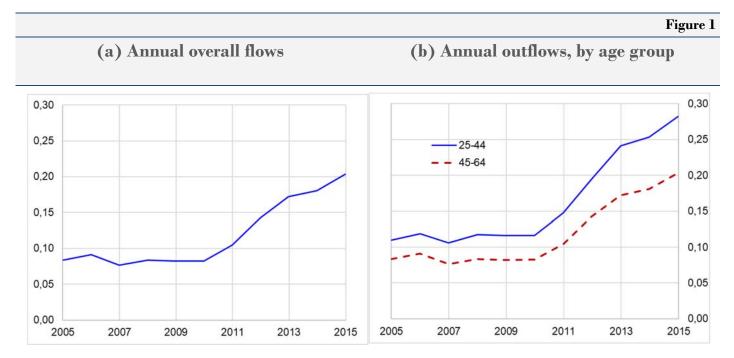
Emigration saps animal spirits

More and more Italians, especially youth, leave the country. Since the onset of the Great Recession in 2008, the number of emigrants (net of return migration) has reached 420,000, i.e., the size of a major city like Bologna. In 2015 alone, almost 0.2 percent of the population left (Figure 1a), 0.3 percent in the age group 25-44 (Figure 1b). These flows are a major source of concern in Italy as well as in other Southern European countries, as Greece, Spain and Portugal, where they are also sizable. Not much is known, however, about their economic consequences.

Recent works suggested that emigration might have several positive effects on the country of origin: on wages of those who remain, due to the decline in local labor supply (Elsner, 2013); on labor markets adjustments to shocks, if migrants move from high to low unemployment areas (Basso et al., 2019); and on long run growth, through return migration, exchange of ideas, increased international trade and human capital investment (Docquier and Rapoport, 2012). However, if those who migrate are among the most skilled, emigration could reduce productivity (Giesing and Laurentsyeva, 2017). And because migrants are mainly young, less risk averse and inclined to become entrepreneurs, this phenomenon could also contribute to reducing business creation (Liang et al., 2018). A recent paper by Massimo Anelli, Gaetano Basso, Giuseppe Ippedico and Giovanni Peri ("Youth drain, entrepreneurship and innovation" Banca d'Italia, Temi di discussione 1240) focuses on the impact of emigration on business creation.

Emigration and entrepreneurship: how to estimate the link?

There are clear challenges in establishing the causal effect of emigration on business creation. The main one is *reverse causality*: as people often migrate in response to sluggish economic conditions, fewer new enterprises and lower jobs creation could be the cause, not the effect, of emigration. A second one is measurement, because most countries are unable to fully tracking citizens' flows. For instance, cross-EU migrants are not

Figure 1

(a) Annual overall flows	(b) Annual outflows, by age group

Note: (a) annual emigration rate from Italy as percentage of population in year 2005; (b) annual emigration rates in the 25-44 (dashed line in grey) and 45-64 age classes (solid line in black), as percentages of the respective populations in 2005

obliged to change their residence status; moreover, the majority of Italian emigrants fail to register to the Registry of Italians Residing Abroad (AIRE). Such measurement error would potentially bias the estimates of effect between emigration and business creation towards zero.
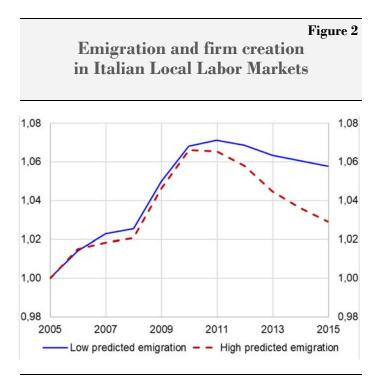
Our analysis accounts for both concerns exploiting variation in factors that attract people abroad, but do not depend on the conditions of the local economy (similarly to Anelli and Peri, 2017). An important factor of attraction towards a region is the presence of an established network of previous migrants from the same municipality of origin. Such network provides information on employment and business opportunities and supports emigrants in several ways. A second major determinant of the incentives to migrate is the economic condition of the destination country relative to other potential destinations. The interaction between these two variables allows us to construct a measure of "pull" forces for each single Italian municipality, which we show is uncorrelated with trends in local economic conditions and business creation.

The (lower) creation of enterprises

Figure 2 shows the time series of the number of companies active in local labor markets (LLM) with high (black) and low (grey) emigration rates, as predicted by this identification strategy. The trajectory is similar for the two groups until 2009-2010 when the onset of the recession and pulling forces from destination countries produced the differential emigration surge: emigration-intensive areas experienced a much larger loss of local firms. The differential growth rate of firms is almost entirely due to a lower birth of new businesses, rather than to higher mortality of existing ones. We estimate that during the Great Recession about 600 fewer companies have been created in the average local labor market because of emigration, one in three emigrants. The depressing effect of emigration was especially strong on those businesses run by people under the age of 45 and on highly innovative startups.

> *In the average Italian city, about 600 fewer companies have been created because of emigration since the Great Recession, one in three emigrants*

To better understand the channels that led to lower firm creation, we decompose the estimated effect into the contributions of demography (the youth having unconditionally higher entrepreneurship rates) and that of selection (the migration decision increasing with propensity to entrepreneurship). Other factors, as diminished labor supply and lower overall demand, are grouped in the residual component. The results show that most of the effect on firm creation comes from demographic factors: up to 60 percent of the missing firms is due of the large fraction of young emigrants. Selection explains around 35 percent of the fall in entrepreneurship. The residual component amounts to only about 5 percent.

Figure 2

Emigration and firm creation in Italian Local Labor Markets

Note: Number of companies active in local labor markets with high (solid) and low (dashed) emigration rate as predicted by pull factors.

Growth prospects for high emigration countries: the existence of an entrepreneurial drain channel

Emigration flows affect the origin country through various channels. In this paper, we emphasize one that has, surprisingly, been overlooked by the literature: the depressing effect of emigration on firm creation. We show that this effect is bound to be stronger when migration involves the youngest generations. Although our research does not explicitly look at long-run growth, the consequences of this drain of local entrepreneurial capital is likely persistent. In a country like Italy, where economic growth is extremely slow and population is ageing fast, high emigration rates can exacerbate local vicious cycles of economic stagnation.

— Federico Cingano (editor)

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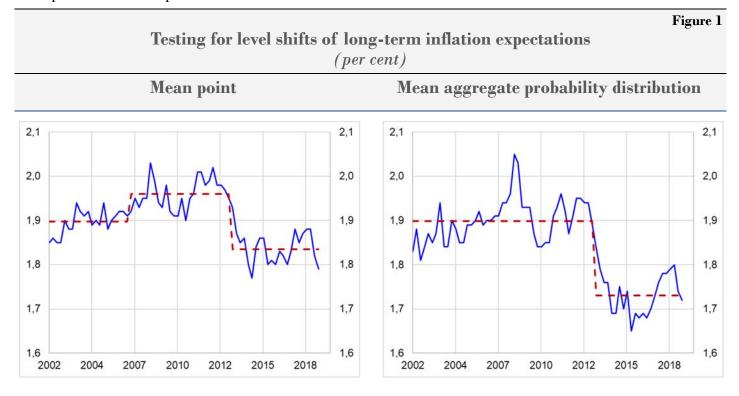
Should we be concerned about long term inflation expectations?

The anchoring of inflation expectations is a necessary condition for central banks to maintain price stability, as it prevents temporary shocks to inflation from feeding into the mechanisms of wage and price formation (Bernanke, 2007 and Draghi, 2014). Long-term inflation expectations are anchored if they are in line with the inflation objective of the central bank and they do not respond to both macroeconomic surprises and developments in short-term inflation expectations. In these cases, investors are confident that the central bank can and will react to shocks in order to ensure that inflation returns to the target over the policy-relevant horizon.

Concerns about the de-anchoring of long-term inflation expectations from the ECB Governing Council's inflation aim have resurfaced since the beginning of 2019, as market-based indicators have reached new historical lows. The five-year, five-year forward (5y5y) inflation expectations (i.e. the average inflation rate over a five-year period starting in five years' time) based on inflation-linked swap (ILS) reached 1.1 per cent after the June 2019 policy meeting of the Governing Council, 15 basis points below the previous minimum reached in June 2016. The five-year ahead expectation in the October 2019 ECB's Survey of Professional Forecasters (SPF) was between 1.6 and 1.7 per cent. Moreover, forecasters have revised downward their long-term expectations for four consecutive rounds between October 2018 and October 2019 .

In "Anchored or de-anchored? That is the question" (Banca d'Italia, Occasional Papers No. 516) Francesco Corsello, Stefano Neri and Alex Tagliabracci assess the degree of anchoring of long-term inflation expectations in the euro area using the replies to the ECB's Survey of Professional Forecasters. They do so by means of three different methods: (i) a break-point analysis on the level of long-term expectations; (ii) their sensitivity to macroeconomic surprises; (iii) their sensitivity to movements in short-term inflation expectations.

As for the level analysis, they apply a sequential procedure developed in Bai and Perron (2003) and try to fit the data over the period (2002-2018) with the minimum number of "jumps in the mean".

Figure 1

Testing for level shifts of long-term inflation expectations
(per cent)

Mean point	Mean aggregate probability distribution

Source: authors' calculations based on SPF data. Note: the level shift is computed following Bai and Perron (2003).

A consistent message from their results is that, on average, long-term expectations have shifted downward in the aftermath of the persistent fall in inflation in 2013 and 2014 and have not returned to their previous levels. Even though the new levels, around which expectations have been fluctuating since then, may be consistent with the Governing Council's inflation aim, the lack of a recovery to the levels prevailing before the disinflation, notwithstanding the very accommodative monetary policy stance of the recent years, suggests that the anchoring of long-term expectations has weakened.

> *Long-term inflation expectations have shifted downward in the aftermath of the disinflation episode in 2013 and 2014 and have not returned to their previous level*

As for the sensitivity to macroeconomic surprises, their analysis points to an asymmetric effect of macroeconomic developments upon expectations: in fact, it turns out that the sensitivity of long-term expectations to negative surprises increased sharply in 2013Q3, while the sensitivity to positive surprises is not statistically significant over the whole sample. This means that, after the sharp disinflation episode of 2013-2014, data below analysts' expectations lead to a decline in long-term expectations, while data above analysts' expectations do not lead to a revision of long-term expectations. One possible interpretation of this result is that forecasters may have perceived the 2 per cent in the Governing Council's definition of price stability as a cap, despite recent clarifications by President Draghi on the symmetry of the inflation aim (Draghi, 2019).

Finally, with regards to sensitivity to movements in short-term inflation expectations, by applying a methodology developed in Łyziaka and Paloviita (2017) the authors again find a change in behavior after 2013. The revisions in long-term inflation expectations by more experienced and sophisticated forecasters start to be correlated with movements in short-term inflation expectations, pointing to a loss of confidence in the ECB's ability to steer inflation back to target after a negative development.

In summary, it appears that 2013 was a turning point. After that disinflation episode, the ECB has progressively lost its hitherto strong hold on long-term inflation expectations, which in turn have become sensitive to negative surprises to inflation. Re-anchoring expectations is essential for preserving the credibility of the ECB, which is a necessary condition for ensuring the effectiveness of its monetary policy. The current expansionary monetary policy stance in this sense contributes to raising long-term inflation expectations to levels close to the Governing Council's aim.

— Andrea Gerali (editor)

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