



OESTERREICHISCHE NATIONALBANK  
EUROSYSTEM

# Monetary Policy and Productivity

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Economic Analysis Division  
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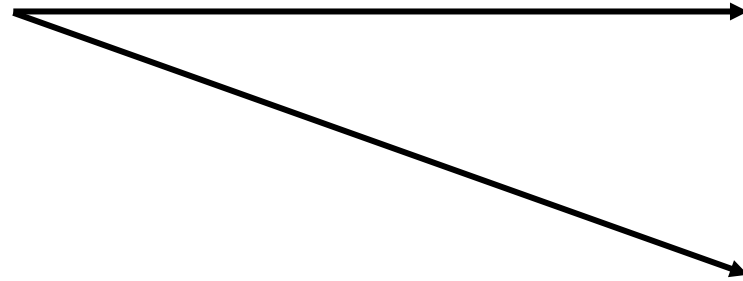
## Contributors to the report

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## Outline

### 1. Motivation



The note discusses the possible positive and negative effects of monetary policy on productivity developments

responding to the growing concerns that a protracted period of very low or even negative interest rates, could have unintended side effects


- 2. Monetary policy and the productivity of incumbent firms
- 3. Monetary policy and net entry of firms
- 4. Summary and conclusions

- 1. Motivation
- 2. Monetary policy and the productivity of incumbent firms

Positive effect in endogenous growth models:  
 expansive monetary policy increases demand and incentives to invest in productivity-enhancing activities

Due to financial frictions effect is ambiguous:

- + less credit constraints
- less incentives for balance sheet repair
- wrong incentives for resource allocation
- banks may subsidize low productive firms



- 3. Monetary policy and net entry of firms
- 4. Summary and conclusions

Because effect is ambiguous it should be determined empirically



## Monetary policy and capital misallocation in the euro area

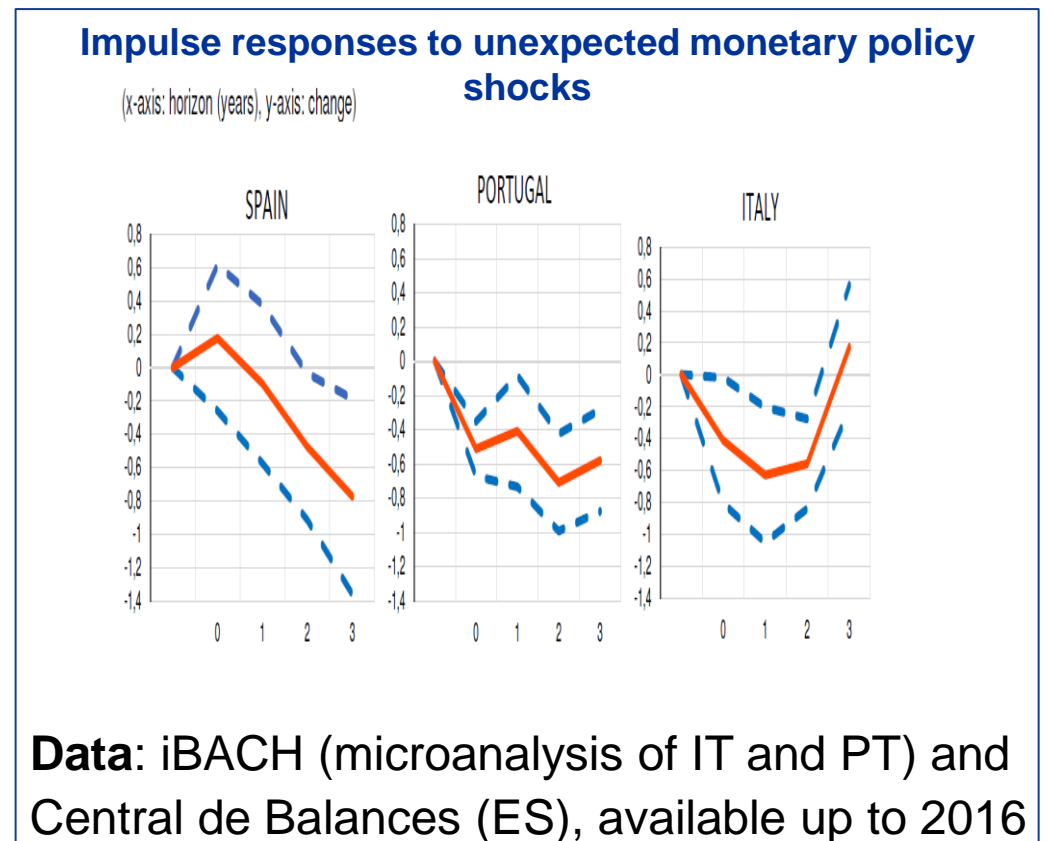
***Does an expansionary policy improve or worsen the allocation of resources?***

### Methodology

- Capital misallocation proxied by the within-sector dispersion in MRPK
- Unexpected monetary policy shock

**Main finding:** less misallocation of resources by enabling relatively higher investment of firms with high MRPK.

**Easing of financial frictions of high productivity young/low markup firms ( with micro data from Spain)**





## *Is access to finance of weak firms facilitated by looser lending conditions?*

**Methodology:** Probit: where dependent variable is probability of access to finance and main regressor is lending conditions and interaction with dummy for weak firms

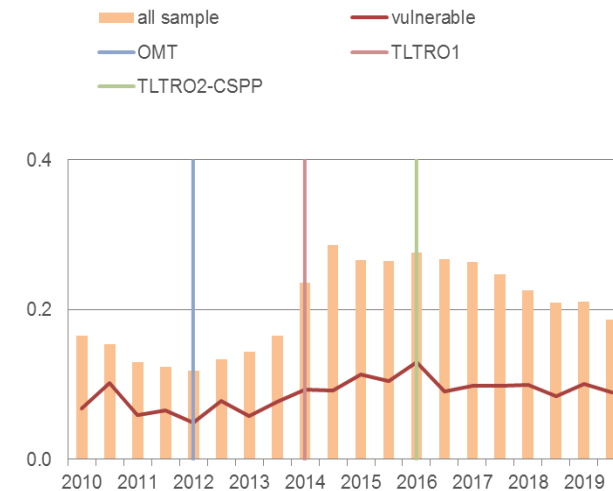
**Results:** when lending conditions relax, the probability of access to finance increases...but less so for weak firms

Robust to different definitions of weak firms

**Only one exception: for LARGE firms with ICR<1**

### Improvements in the availability of bank loans after selected monetary policy decisions

(Net share of firms responding that access to finance has improved over the preceding six months; weighted percentages of respondents)



Source: ECB/EC SAFE

Notes: Enterprises that had applied for bank loans. Vulnerable firms are firms that have reported simultaneously lower turnover, decreasing profits, higher interest expenses and higher or unchanged debt-to-total assets in the last 6 months (ECB, 2018). The first vertical line denotes the announcement of the OMT; the second vertical line denotes the start of the TLTRO I and the negative rate policy; and the third vertical line denotes the start of the TLTRO II and the CSPP. Figures refer to rounds 3 (March-September 2010) to 22 (October 2019 – March 2020) (April-September 2019) of the survey.

Latest observation: 2019.



## Is there credit misallocation in France?

**Data:** Interest rates on new loans and firms' credit ratings provided by the Banque de France

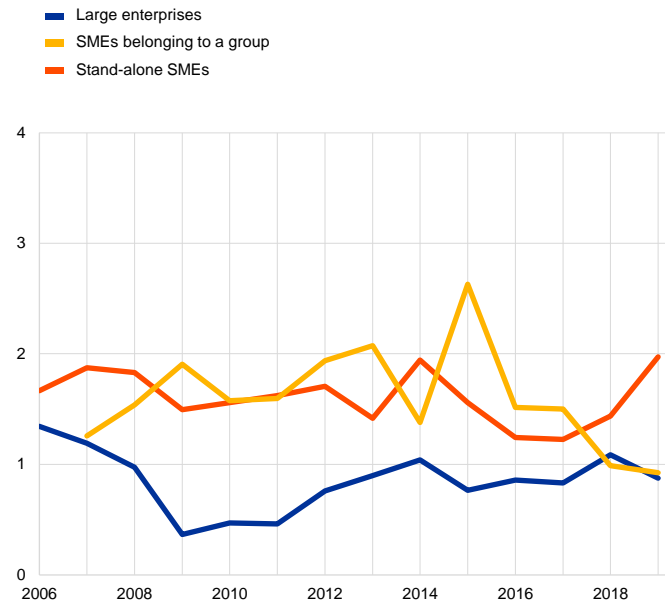
### Methodology:

1. Define “prime” rate: loan rate for 1<sup>st</sup> decile high credit quality firms in the sample for each size category of firms
2. Identify “zombie firms”: low credit quality firms (BdF rating 5+ to 9 and P), which pay an interest rate below the “prime rate”

**Main finding:** The share of “zombie firms” has remained very limited (below 2%) and stable in France over the past decade

### Share of low solvency firms with loan rate below the “prime” rate

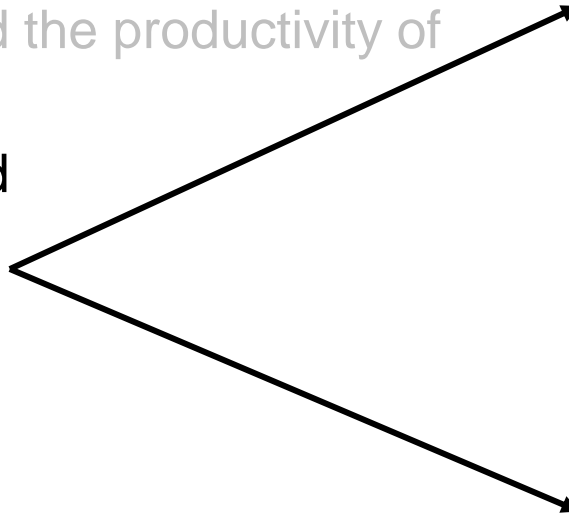
(% of firms within each category)



Source: Banque de France and authors' calculations.

Note: Share of less well-rated companies (Banque de France rating 5+ to 9 and P) receiving low interest rates, by business size (large enterprises, SMEs belonging to a group and stand-alone SMEs). Calculations based on new short-term and investment loans to NFCs. Latest observation: 2019.

- 1. Motivation
- 2. Monetary policy and the productivity of incumbent firms
- 3. Monetary policy and net entry of firms



Endogenous net entry and monetary policy:

- Expansive monetary policy stimulates aggregate demand and therefore **entry into the market and delays exit**
- Net impact on productivity depends on relative productivity of entrants and exits, and on the horizon



Channels of impact on entry and exit:

- Low interest rates favour the survival of low productive/non-viable firms in the market...
- ...and increase incentives for banks to evergreen loans by cutting the funding costs of bad loans
- Impact on productivity could be amplified if there were “contagion” effects on healthy firms



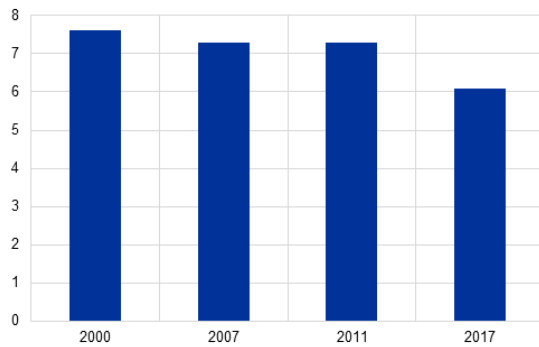
- 4. Summary and conclusions





# Can we see a secular increase in “zombies” in the EA?

Share of zombies in Germany:  
2000s-2017  
(in % of all NFC)

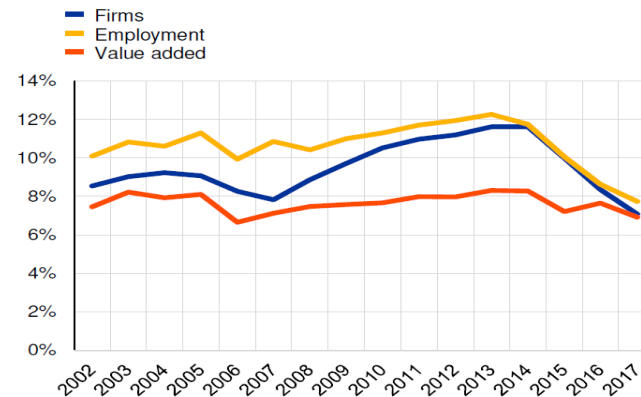


Source: Bundesbank

Notes: Zombie firms defined as firms whose operating and investment income over interest and similar expenses is smaller than one in the reporting year and the two preceding years.

Share of zombies over time, weighted average FI, BE, NL, PT and IT

(% of firms, employment and VA)

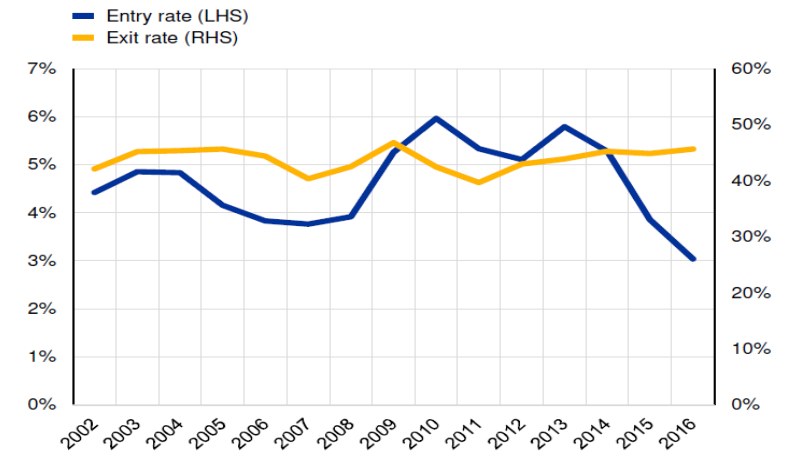


Sources: Central Balance Sheet Database, Cerved Centrale dei Bilanci, Istituto Nazionale Previdenza Sociale, National Bank of Belgium Central Balance Sheet Office, Statistics Finland, Statistics Netherlands.

Notes: Zombies are defined as firms with the ratio of earnings before interest and taxes (ebit) and the interest paid+financial charges below one (ebit/interest<1) for three consecutive years. Manufacturing includes NACE rev. 2 sectors 10-33 and private services includes sectors 45-63 and 69-82.

Share of entry and exits from distress over time, weighted average FI, BE, NL, PT and IT

(% of healthy firms (LHS) and % of zombies (RHS))



Sources: Central Balance Sheet Database, Cerved Centrale dei Bilanci, Istituto Nazionale Previdenza Sociale, National Bank of Belgium Central Balance Sheet Office, Statistics Finland, Statistics Netherlands.

Notes: Zombies are defined as firms with the ratio of earnings before interest and taxes (ebit) and the interest paid+financial charges below one (ebit/interest<1) for three consecutive years.

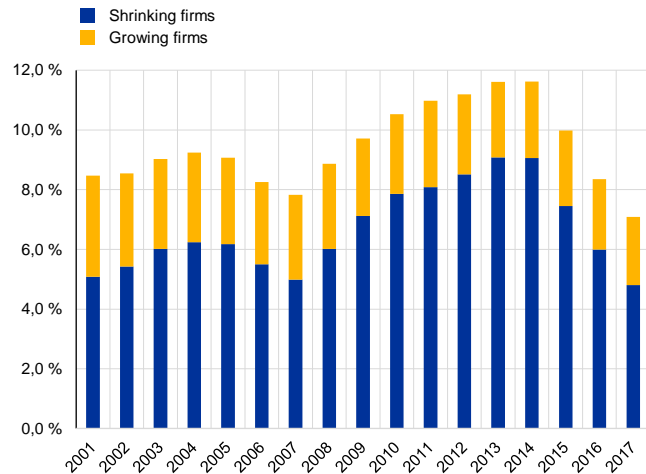
- The share of zombie firms increased up to 2013-2014 and decreased thereafter
- The share of firms that exit from distressed status is stable, while the share of firms that become distressed has fallen since 2014



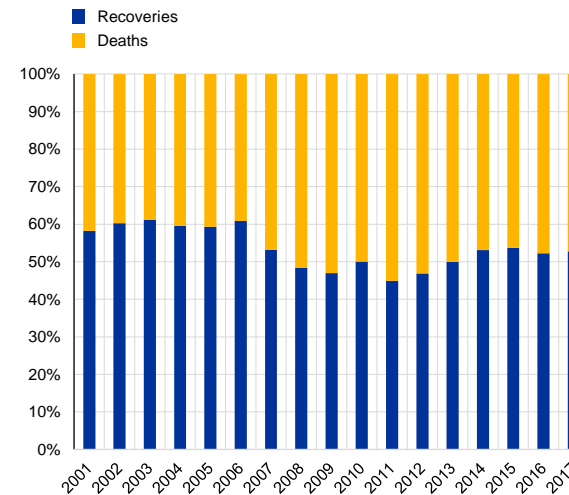
## Are all distressed firms „zombies“?

- **Not all distress firms are real “zombies”:** 1/4 are growing companies; more than 1/2 recover after a period of low profits.
- **Low interest rates affect the different type of zombies differently:** helps recovery but also prolongs survival of low profitability firms

Share of growing and shrinking zombies, weighted average 5 EA countries  
(in % of all firms)



Share of zombies that recover and exit the market, weighted average 5 EA countries  
(in % of zombies)



Note: Zombies are defined as firms with the ratio of earnings before interest and taxes (ebit) and the interest paid+financial charges below one (ebit/interest<1) for three consecutive years. Manufacturing includes NACE rev. 2 sectors 10-33 and private services includes sectors 45-63 and 69-82.

## Summary and conclusions

- This note highlights the many channels at play
- Difficult to establish a net or aggregate impact of monetary policy on productivity
- Impact varies across time, sectors and regions, and has to be determined empirically

More recent evidence for a sample of euro area countries shows that:

1. Accommodative monetary policy can improve resource allocation by loosening constraints of relatively more productive firms
2. Bank lending does not favour weak firms when monetary policy is accommodative; there are, however, some exceptions related to large low profit firms
3. Accommodative monetary policy tends helps recovery of distressed firms but also prolongs survival of low profitability firms

**Danke für Ihre Aufmerksamkeit**

**Thank you for your attention**

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