Inflation: an occult incentive?

The lack of financial opportunity as an incentive to emerge from the underground economy.

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Aim

What is the direction of the causal next between inflation and underground economy?

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This work tackles the question by empirically analyzing data about Italian regional inflation and underground sector.

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Motivations

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Nevertheless, this channel is not likely in the European Union, since the inability for the members to print currency.
We argue that there is another channel, with inverse causality. A change in the inflation rate not due to governmental policies, may also have an impact on the shadow economy. Indeed, the higher the inflation is, the higher is the cost of keeping money liquid.

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To test our hypotheses, we apply our theoretical framework to the case of Italy, in the years after the adoption of Euro. This is an interesting case, since Italy had just lost the ability to print more money, and furthermore Italy has one of the biggest underground economies of Europe.

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Does an increase in inflation impacts the shadow economy?

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2. many countries applying to join the EU have a large underground sector;
3. shading light on the mechanism may help understanding the best way to fight underground economy;
4. the current scientific explanation is somehow unable to take into account what happens in EU, a very interesting market.

Literature review

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- Koreshkova (2003) builds a general equilibrium monetary model, observing that the underground economy is a bigger sector in developing economies;
- Gillman and Kejak (2005) find that an increase in inflation raises the price of the corruption service, reduces the non-market good consumption, and tends to lower the balanced-path growth rate by more than in conventional models.
- Ahiabu (2006) focuses on Peru, finding some connections with the inflation rates of the country in the 1980 decade and in 2005;
- Maxhar and Meón (2012) find a negative relation between tax burden and the size of shadow economy, and a positive relation between inflation and the size of shadow economy.

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- ISTAT *different datasets*;

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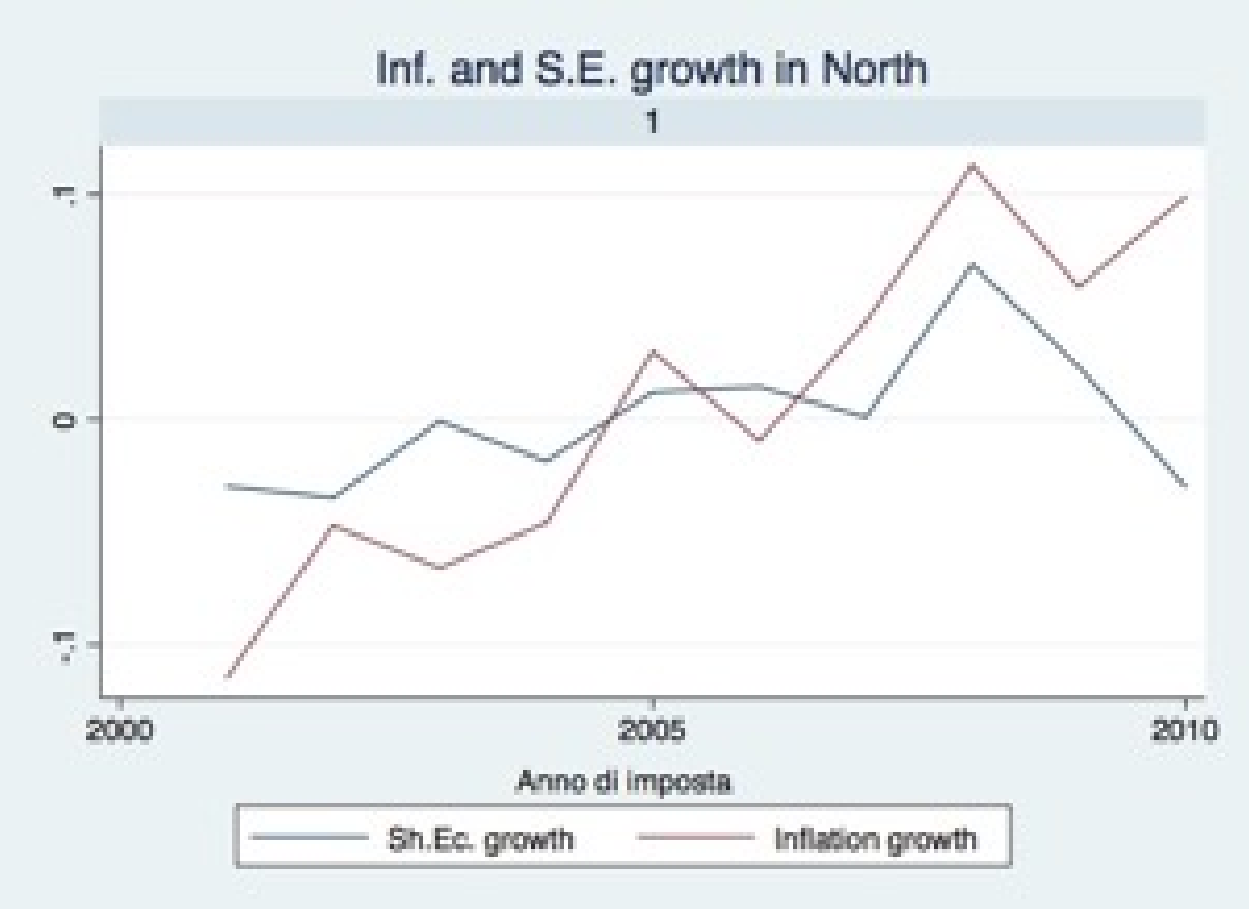
- z is the year for which social security contributions have been paid.

Main variables

North Italy



Main variables

Central Italy

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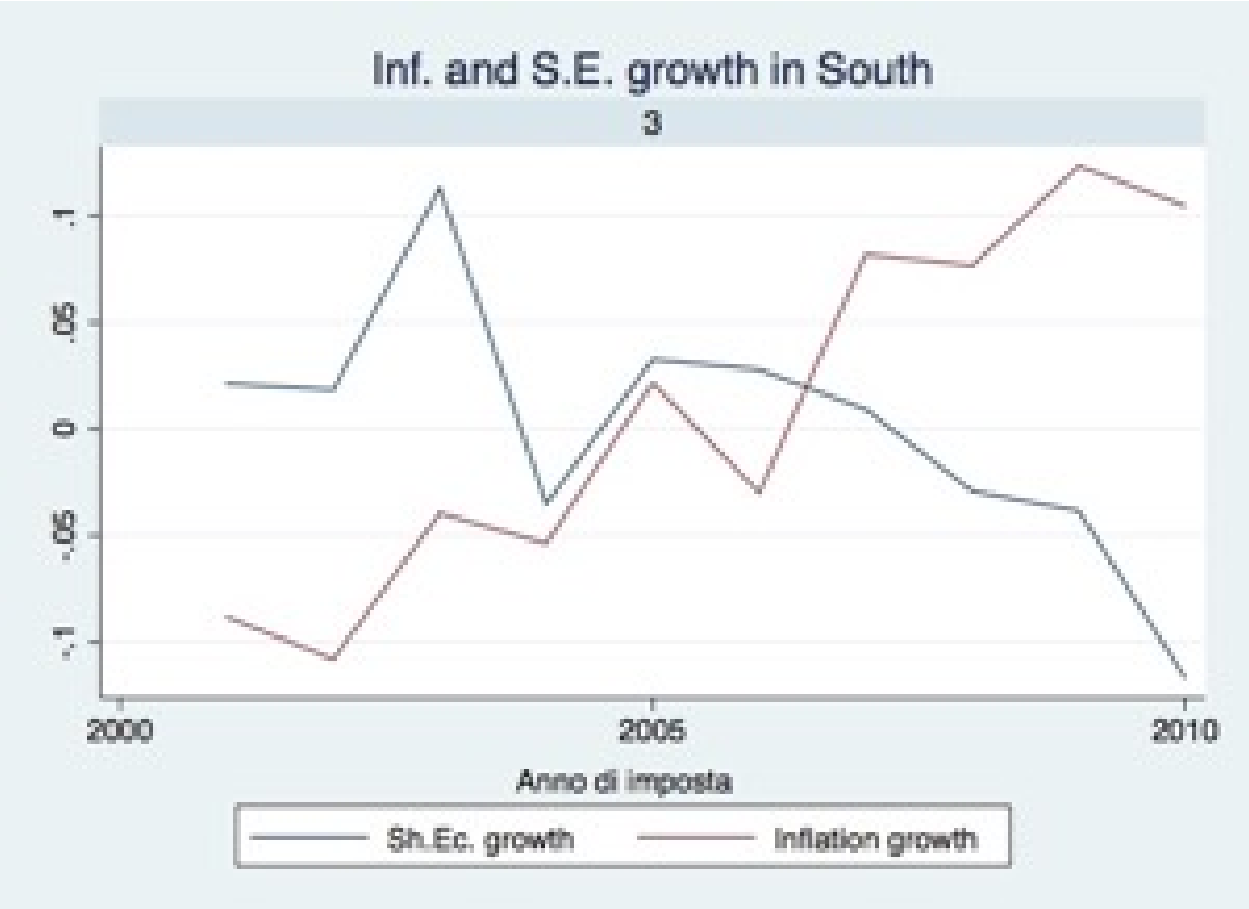
South Italy



Estimation strategy

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2. x_1 is the inflation, the covariate of main interest;
3. X_2 is a vector of control variables

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- the log of the amount of regional laws (as a proxy of the regional red tape);
- the size of regional government spending and the GDP per capita, to proxy regional welfare;
- and finally a dummy that indicates if a region has a special regional Constitution or not.

Data

Other independent variables

Table: **Descriptive Statitistics**

Variable	Observations	Mean	Std. Dev	Min	Max	Source
Underground Sector	200	.1984032	.0524407	.1034352	.3046394	*Autors' calculation*
Inflation	200	118.032	7.447584	104.5	134.8	*NIC, per l'intera collettivita*
Regional Tax	190	7.97e+07	4.69e+07	1.69e+07	2.00e+08	*Addizionale IRPEF*
Log Regional Laws	199	3.261314	.5714671	1.386294	4.477337	Authors' calculation
Log GDP pc	200	10.08212	.2699236	9.520205	10.50022	*Spesa Pubblica Regionale*
Tot. Regional Gov. Expenditure	200	21.28443	13.4963	8.086295	85.73438	*PIL per capita*

Source: Bank of Italy *Survey on Household, Income and Wealth and ISTAT*.

Table: Estimates

F-GLS Fix effects

	(1) Underground	(2) Underground	(3) Underground	(4) Underground	(5) Underground
Inflation	-0.000504***	-0.000806***	-0.000523***	-0.000904***	-0.00129***
Regional Tax		3.17e-10*		3.77e-10**	4.06e-10**
Log Regional Laws			-0.00209	-0.00374	-0.00378*
Tot Reg Gov Exp				-0.000585	-0.000362
Log GDP pc					0.0480
Observations	200	190	199	189	189
R2	0.086	0.127	0.091	0.152	0.163

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Constant included but not reported.

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As expected, the regional tax has a positive effect on the underground sector: the higher the local tax pressure is, the bigger the underground sector is.

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Unlike our prediction, the log of regional laws has no positive effect on the underground economy. Is it possible that in such a complex legal framework, like the one ruling nowadays in Italy, composed by national, European and regional level laws, the impact of the latter set of rules on the choice to go underground do not have such an important weight in the decision of the potential entrepreneur.
Indeed, even if of a negative sign, no coefficient has much statistical significance in all the different specifications of our models.

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Both Public Regional Expenditure and Gross Domestic Product per capita have a negative sign, suggesting that the bigger the public sector of a region, or the richer a region is, the smaller the size of its shadow economy is.

Conclusions

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The inflation seems to be a statistically significant determinant of the underground economy in each and any specification of the model.
It also has always a negative sign, suggesting that the greater is inflation, the lower is the underground sector.
While the literature address inflation as a way for the government to tax the underground sector, we argue that also shocks to the inflation have an impact on the shadow economy.
Instead of the usual definition of an occult tax, we look at inflation as an occult incentive, in the choice of going underground.

Conclusions

Thank you for the attention!

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