

Monetary policy scheme going into private consumption dynamics

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Objective

- Clarify the impact of a monetary policy shock on consumption
- Bottom – up the effect on different levels of consumption
- Consensus versus alternative views

Road map

- Discussion on consumption
- Monetary policy shock going into aggregate consumption
- Monetary policy shock going into Food, Good and Service
- Monetary policy shock going into Principal Components

Understanding consumption theory: Luo et al. (2017)

In intertemporal consumption-savings problems, households consumption is determined by:

- the annuity value of total wealth and then it follows a random walk (Friedman's "permanent income hypothesis").
- the slow process of extracting information from signals and therefore households respond sluggishly to innovations in permanent income (Sim's "rational inattention").

A monetary policy shock (Leon and Flores, 2015)

- The theoretical link between wealth and interest rates:
 - Can be the life cycle theory for financial wealth.
 - Could be either the life cycle model or the financial accelerator model for housing wealth. Interest rates affect housing wealth as well as housing prices, which in its turn affect consumption through its role as collateral for loans. If the price of housing rises, also does the amount that can be borrowed and therefore the amount that can be dedicated to consumption.

Most standard approach

$$y_t = \sum_{i=1}^q A_i y_{t-i} + u_t$$

\underline{y} is a vector of consumption and its determinants

Usual determinants for consumption are: prices, exchange rate, interest rate, wealth, and income

Growth rate of Principal components of consumption based on Input-output tables (Carrera, 2018)

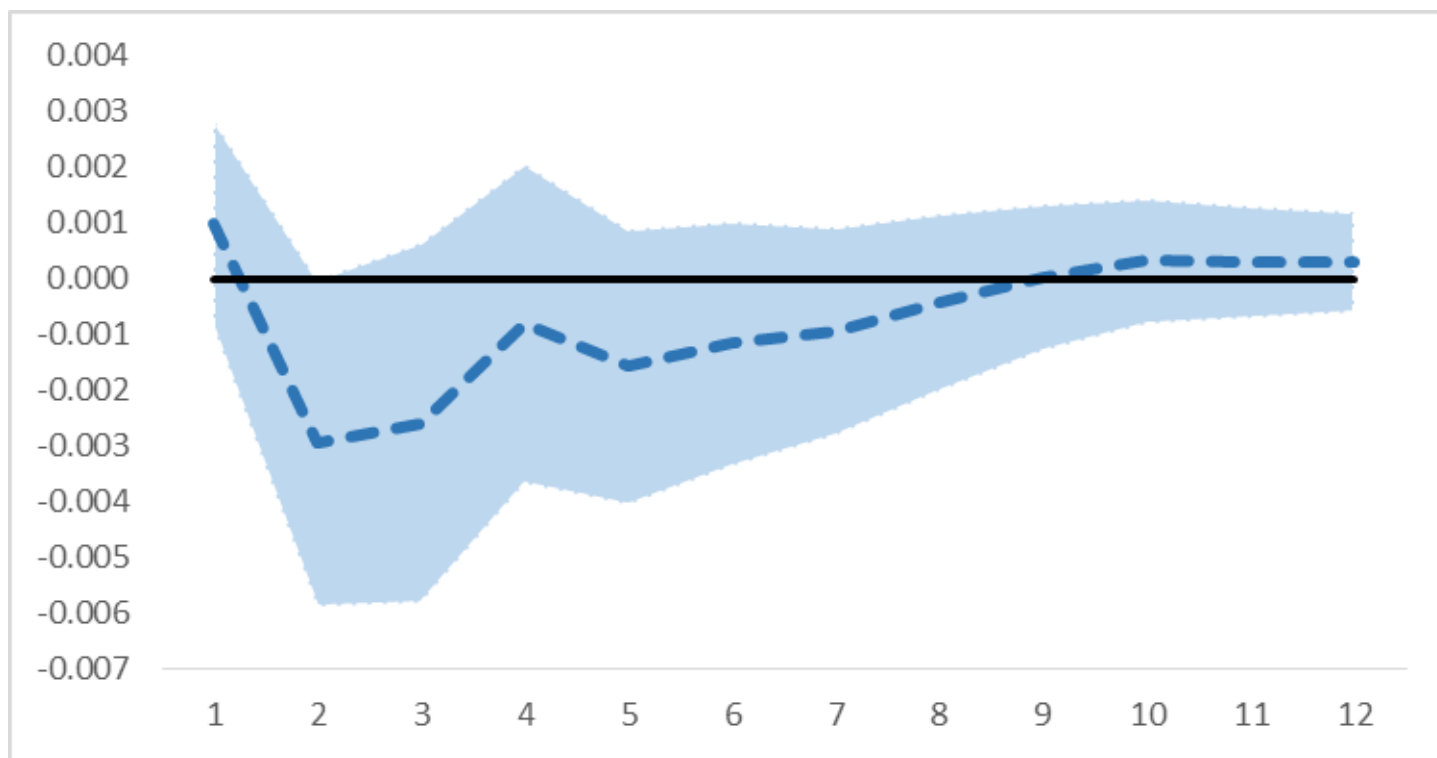
	Part. %	2008	2009	2010	2011	2012	2013	2014	2015	2016
Autoconsumo e ISFL	10.1	3.8	2.8	4.6	3.3	5.0	3.0	2.5	2.7	2.6
Componentes principales	56.2	10.4	2.5	10.5	7.7	8.8	5.9	4.0	3.8	3.9
Restaurantes	8.3	9.6	0.0	10.1	10.0	10.6	6.0	6.2	2.9	2.5
Transporte terrestre	6.8	7.1	2.8	14.7	11.2	8.2	6.6	3.0	5.4	3.2
Educación privada	5.4	5.1	3.0	4.2	3.1	3.1	4.1	3.8	4.6	4.3
Productos agrícolas	4.7	3.4	5.6	3.7	1.3	3.6	4.0	0.0	3.6	0.8
Prendas de vestir	4.3	1.2	-5.1	20.4	6.8	0.9	9.3	1.3	3.6	-0.2
Telecomunicaciones	4.2	19.3	12.3	11.3	13.0	16.3	10.7	12.3	13.2	11.7
Carnes, menudencias, cueros y subproductos de la matanza	3.9	7.6	6.4	4.9	4.1	5.8	5.5	3.4	6.0	4.3
Productos de limpieza y de tocador	3.2	15.7	4.2	4.2	5.4	7.6	6.7	2.2	1.1	7.0
Productos de molinería, fideos y otras pastas	2.8	7.4	4.9	3.2	3.1	10.0	3.0	-0.8	2.9	-1.1
Salud privada	2.4	4.9	1.3	4.2	4.1	6.4	6.8	1.7	4.3	4.2
Servicios financieros	2.3	19.7	5.1	6.1	6.8	12.4	9.2	13.0	9.5	7.7
Productos de panadería y pastelería	2.2	7.2	5.0	3.7	0.6	3.5	3.7	4.2	2.7	-1.2
Productos farmacéuticos y medicamentos	2.2	12.8	2.1	6.9	5.6	8.2	-4.1	-2.2	-0.2	4.2
Productos informáticos, electrónicos y material de transporte	3.5	35.9	-8.3	40.0	17.7	18.4	4.1	0.6	-9.3	1.2
Otros componentes	33.7	7.9	4.1	7.9	7.4	5.7	6.2	4.0	4.7	2.3
Consumo privado real	100.0	8.9	3.1	9.1	7.2	7.4	5.7	3.9	4.0	3.3

I. Aggregate consumption

Usual previous work ...

- Granger-causality tests suggest “causality” running from interest rate to consumption
- Identification for VAR estimation follows on Choleski decomposition, in which financial variables react faster than real variables
- Monetary policy transmission focuses on those mechanisms that may lead to more (less) consumption, as suggested in the literature

A standard result

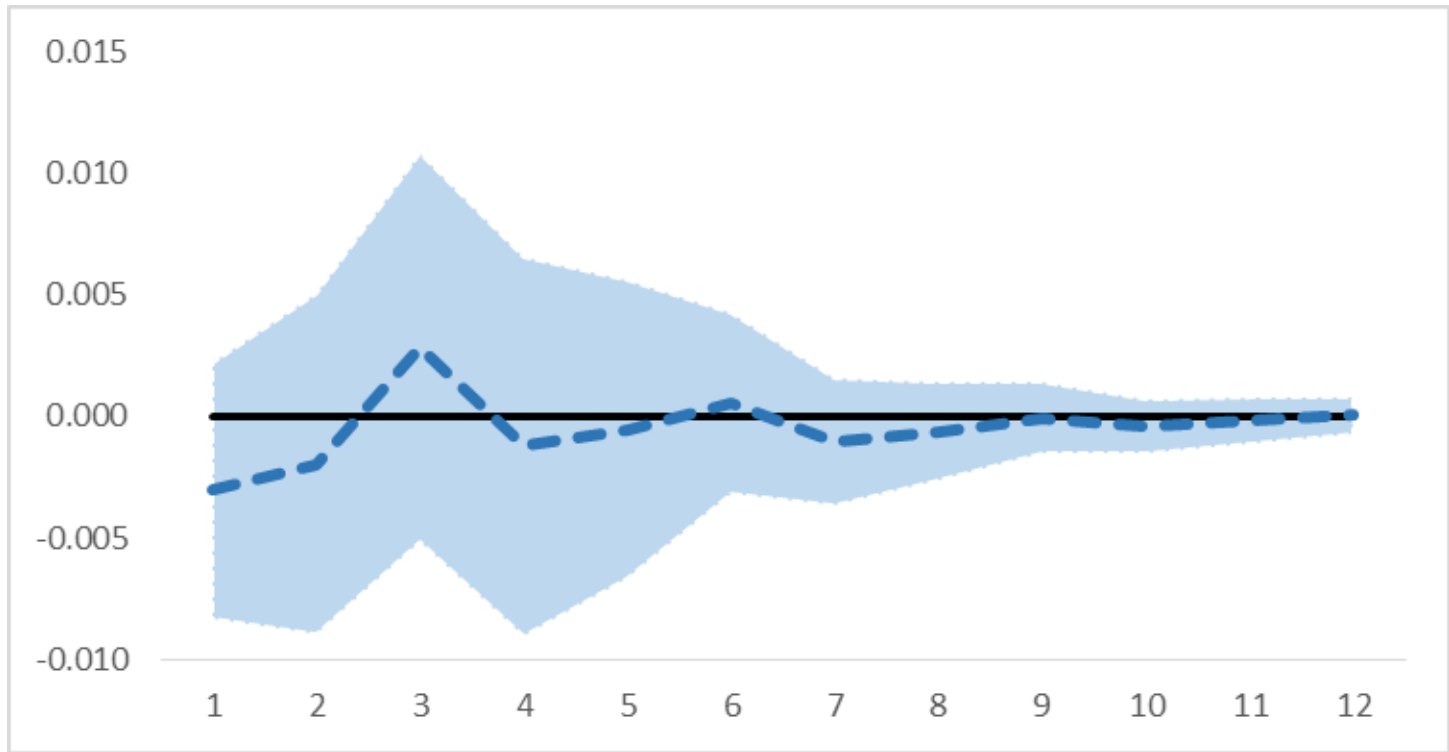


II. Food, Good, Service, and Other

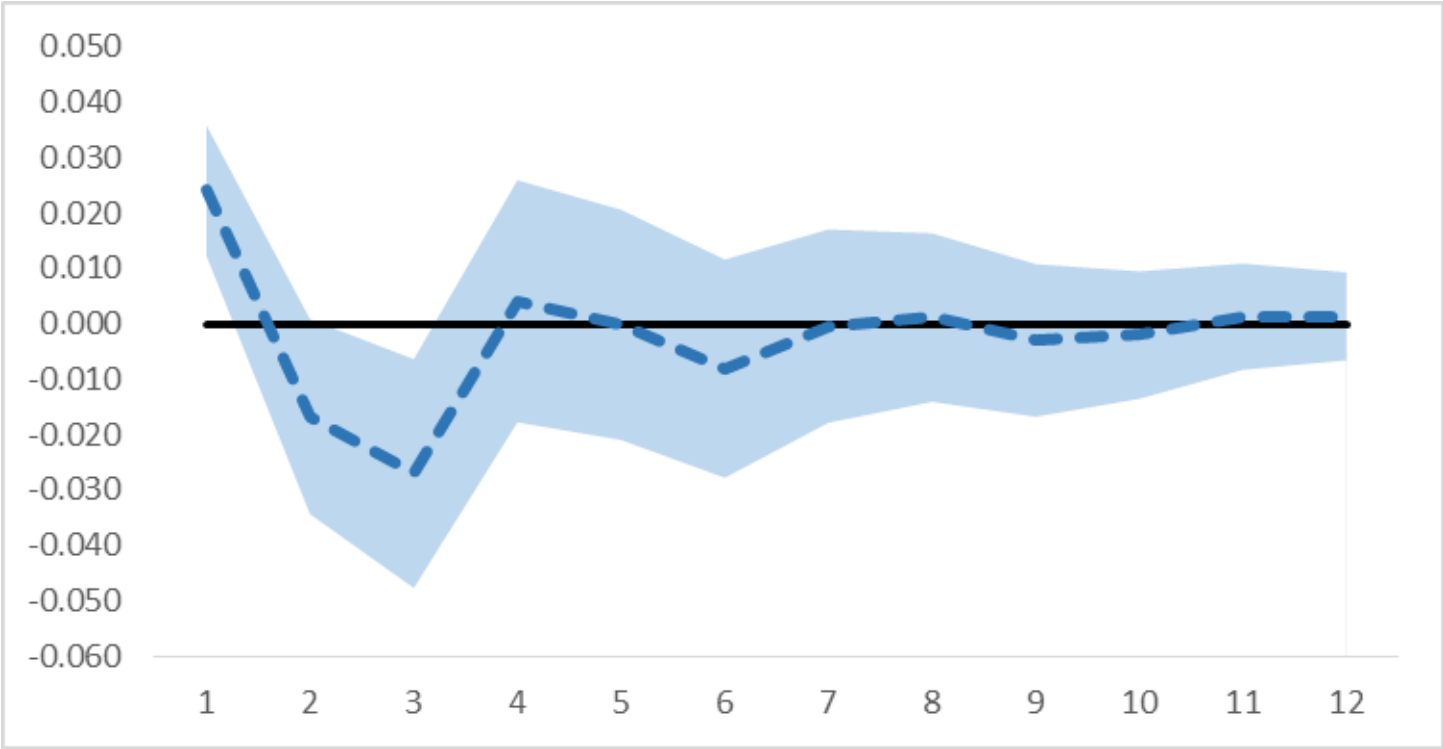
Aggregate products in 4 groups

- Identified in Carrera (2018), group principal components in any of the following groups: Food, Good or Service
- Any other component goes into a group called Other

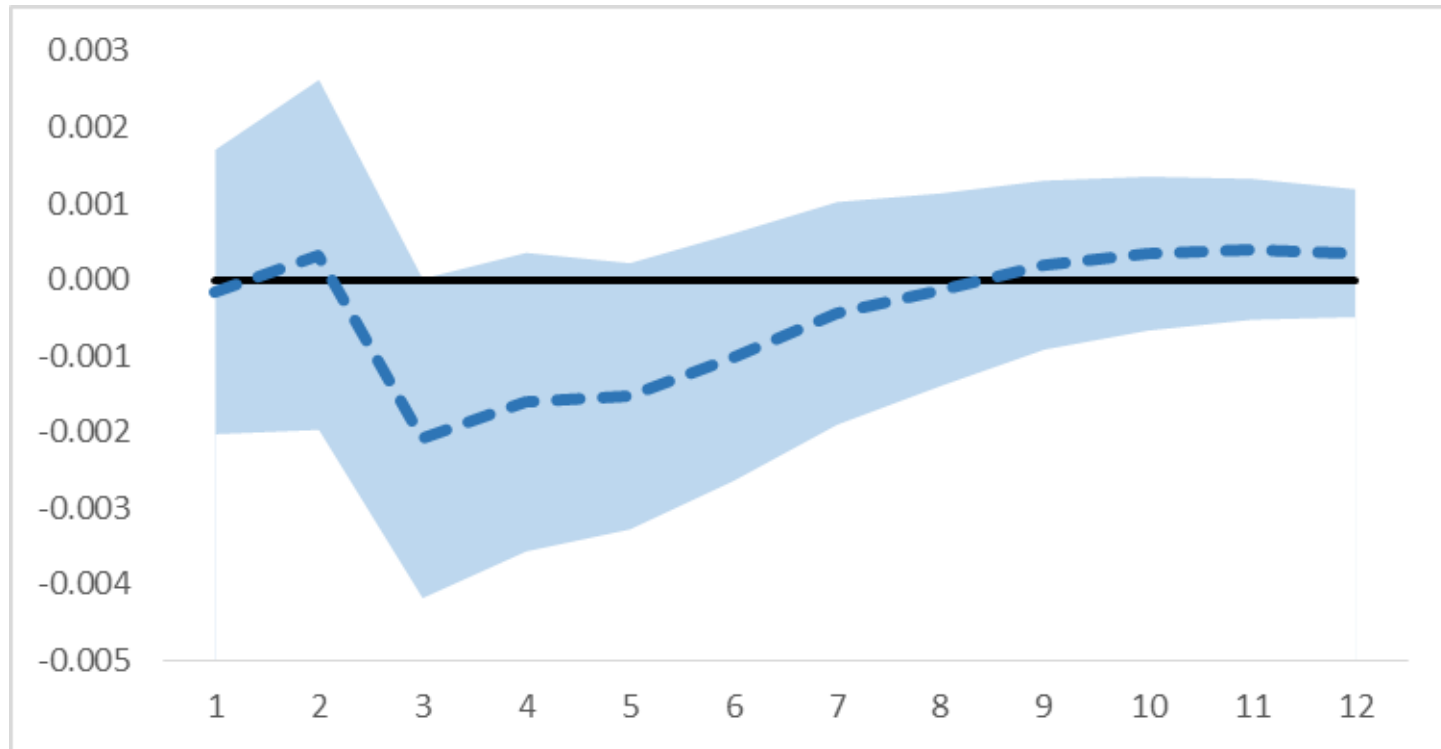
Food



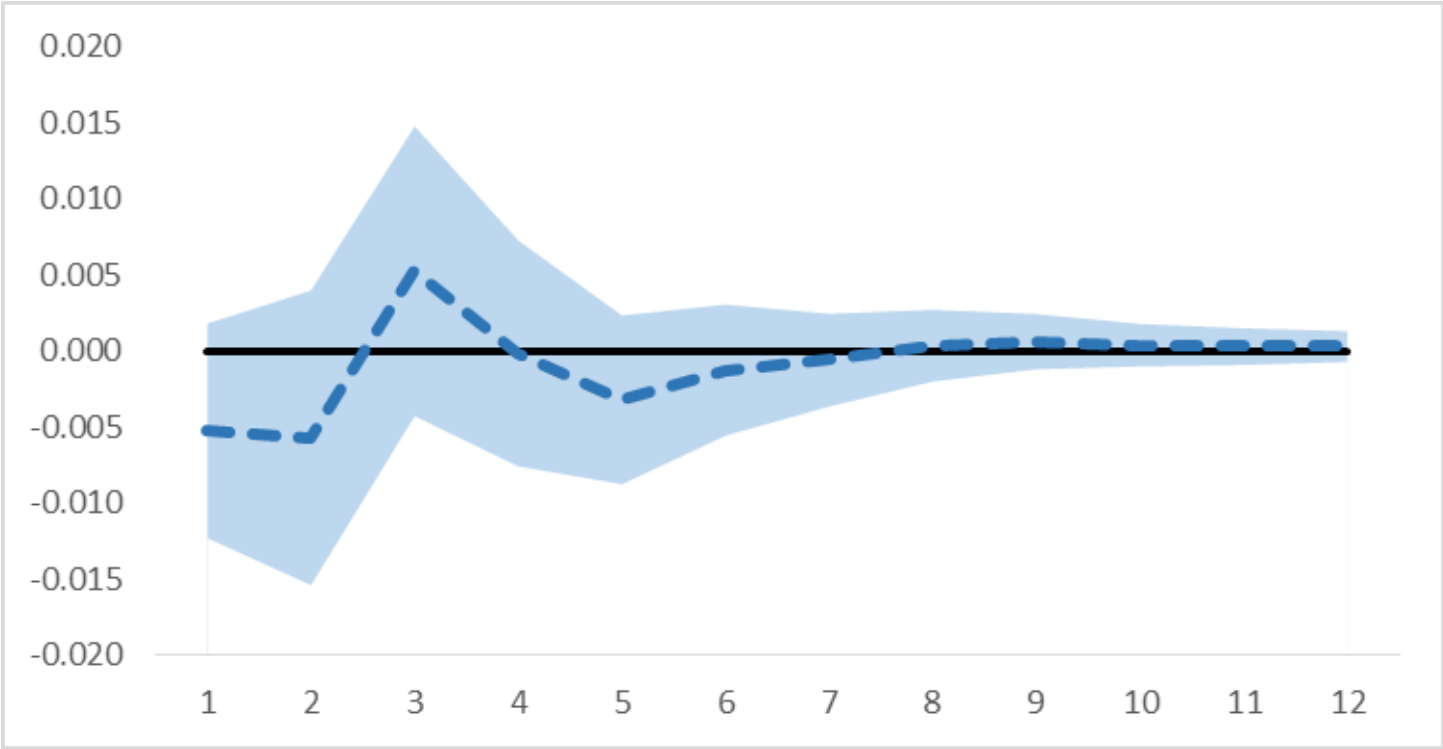
Good



Service



Other



A matter of magnitude



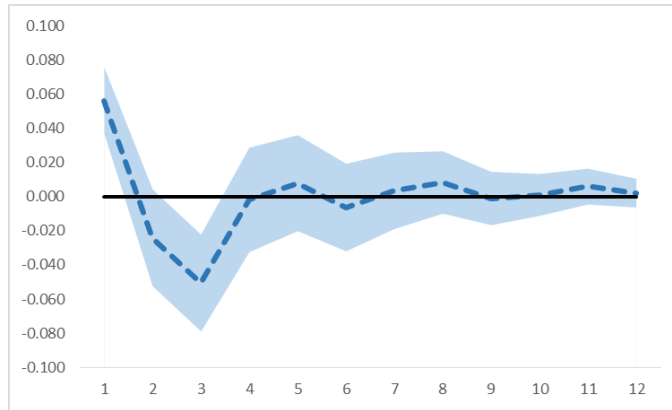
At this level ...

- Most reaction to a shock in interest rate is coming from the group Good which probably is a group oriented to international trade.
- If a policy action has an effect on the exchange rate, this will trigger a price effect on those related products that are tied-up to international markets
- However, the most important shock quickly dies after 2 or 3 periods. As pointed out, wealth effect tends to have a more important impact in the decisions for consumption.

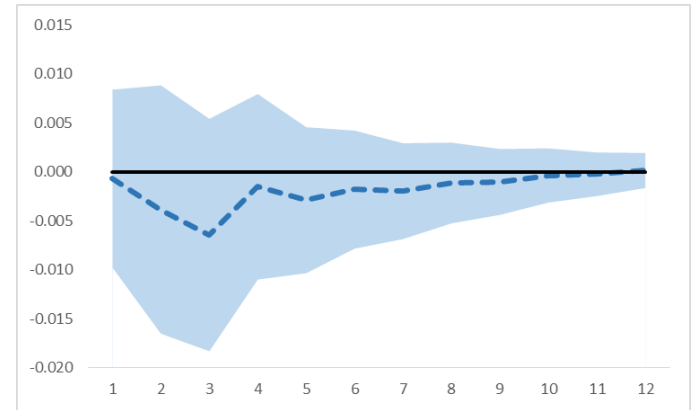
III. Principal components

Good

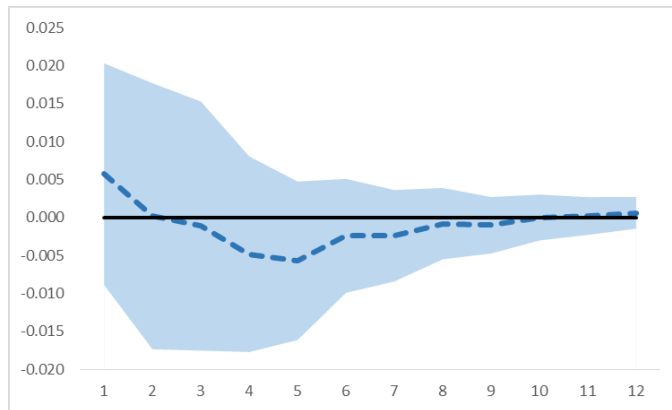
Clothing



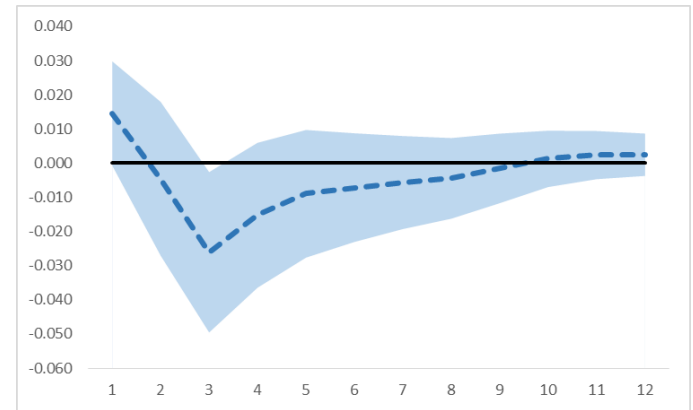
Cleaning products



Pharmaceutical products

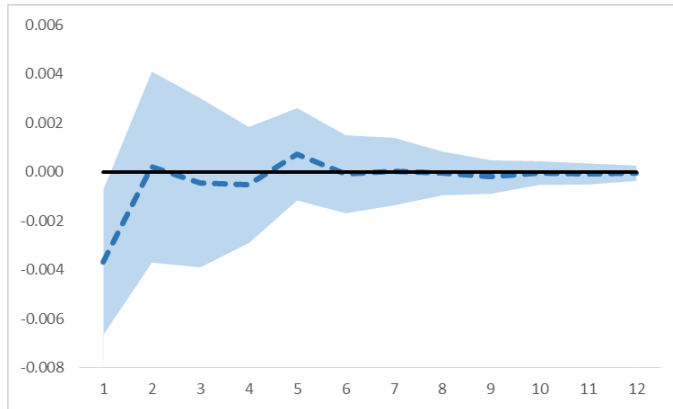


Informatics and electronic products

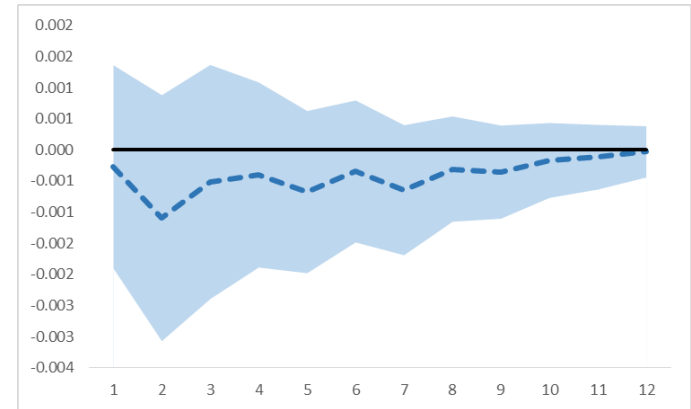


Food

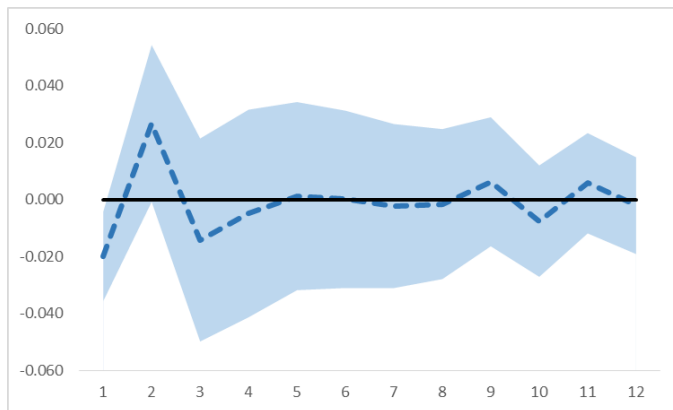
Agricultural products



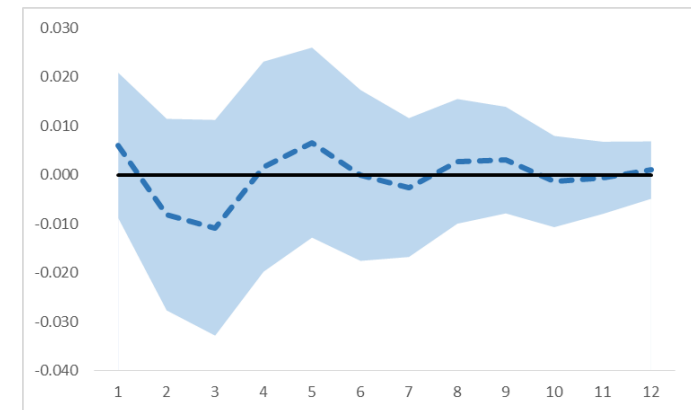
Meat and derivatives



Milling, noodles, and pastries

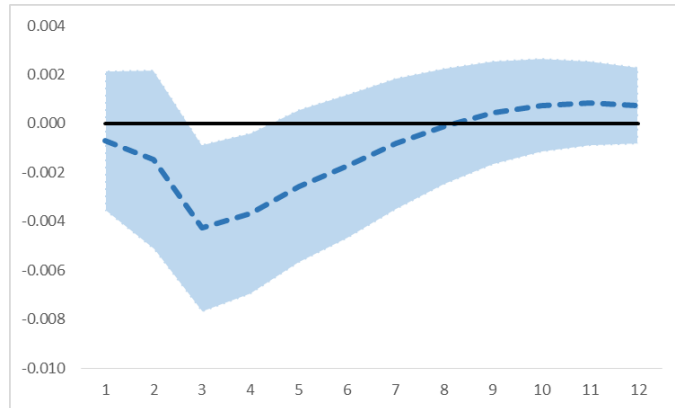


Bakery products

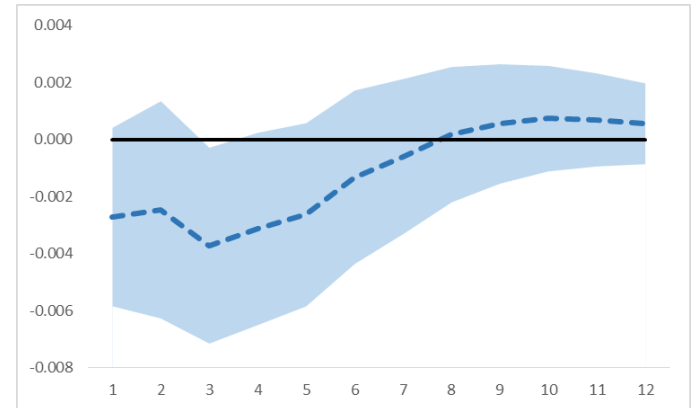


Service

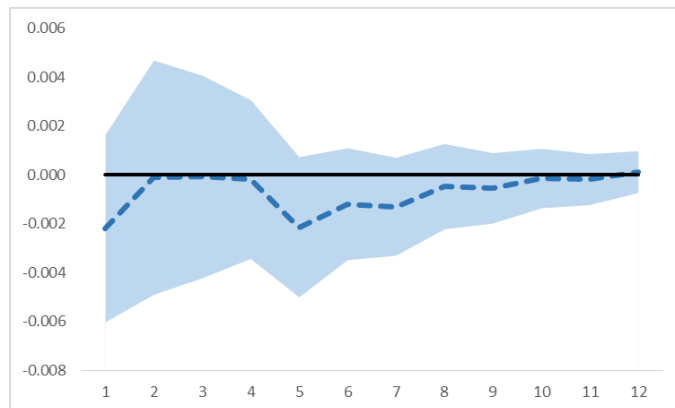
Restaurant



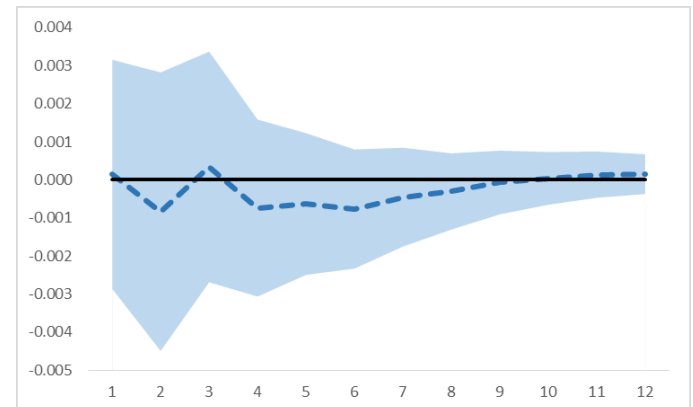
Ground transportation



Telecommunication



Health



What disaggregated data says ...

- When a contractionary interest rate shock hits the system, households tend to initially consume more of “clothing and garments” and “informatics and electronic products”. In the next periods, the consumption lowers and in the aggregate it is negative.
- The same shock has lower impact and fewer periods effect in other principal components.

V. Conclusions

- The most standard result in Macro is that a contractionary monetary policy shock lowers aggregate consumption. For Peru, this result seems to last few periods and has a small impact.
- Nevertheless, this result is based on the even lower reaction (or no reaction) from most components of consumption.
- Here I identify those components with most significant reaction (“clothing and garments” and “informatics and electronic products”) and argue that a wealth effect tends to dominate a price effect which leads to an aggregate negative result.

V. Thanks!