International Conference on Food Price Volatility: Causes & Challenges

25 – 26 Feb. Rabat

Implications of Structural Transformation for Monetary Policy and Inflation (R. Portillo, F. Zanna, S. O'Connell, R. Peck)

Comments by S. AVOUYI-DOVI

QUESTIONS RAISED BY THE AUTHORS (1)

- Do the lessons from advanced and emerging markets extend to developing countries? If so, should these countries follow the same monetary policy prescription?
- Or, are there some structural features that distinguish low-income from middle and high-income countries?
- More generally, as developing countries modernize their policy framework, what can we expect from the properties of inflation in these countries?

Questions raised by the authors (2)

- The authors highlight some stylized facts about low, middle and high-income countries especially regarding the weight of the food sector in these countries. It is one of the reasons why they focus on the role of food prices.

- The authors emphasize that structural transformation has potential implications for inflation and monetary policy (food sector is a flexible price sector, effect of subsistence on the different sectors, difference in inflation volatility between the low, middle and high-income countries following the monetary regime, possibility to observe negative correlation between inflation and output, etc.).

QUESTIONS RAISED BY THE AUTHORS (3)

- To deal with the previous questions and some stylized facts, the authors introduce subsistence in a simple New-Keynesian framework with a food sector (flexible price sector) and non-food sector (a sticky price sector).
- In this model, a shock to productivity in the food sector is the only real disturbance. A shock to monetary policy will be also studied.
- The model takes into account structural transformation at the steady state.

QUESTIONS RAISED BY THE AUTHORS (4)

- Finally it is worth noting that subsistence affects numerous elasticities in the model (in addition to subsistence effects on consumption and employment).
- The model is calibrated in two ways: a) the calibration of the subsistence parameter encompasses the US and a group of African countries; b) the calibration of other parameters is based on their standard values linked to the US economy.

Main Findings (1)

- The model of structural transformation is in line with the stylized facts of inflation across the different types of countries.
- Simulations allow for obtaining the relative decomposition of inflation observed at business cycle frequency.
- The model describes the right co-movement between inflation and output even though a part of the results still needs to be confirmed!

Main Findings (2)

- The model highlights the difference between the inflation volatility across the countries (rich versus poor).
- Finally, the model also predicts that changes in the relative price of food should be stronger.

COMMENTS

1. **The assumptions and the model**
2. **The calibration of the parameters**
3. **The empirical results**
4. **Some points to develop**
5. **Conclusion**

THE ASSUMPTIONS AND THE MODEL (1)

- Subsistence. It seems that the subsistence is linked to the level of development and can't be applied in the same way across countries. To introduce subsistence in the model it needs to specify the characteristics of this concept!
- Closed economy. The paper studies the case of a closed economy. Certain low-income countries draw a large part of their resources from the trade of food commodities. This assumption seems a little bit unrealistic.
- Perfect competition and flexible price. In my view, the food sector receives large subsidies. These subsidies should have an impact on the dynamics on price and production of this sector. It is partially a non-traded sector! Would it make sense to assume that this sector is competitive especially in the low-income countries?

THE ASSUMPTIONS AND THE MODEL (2)

- Similar model for all countries. On the comparison perspectives, the authors impose the same model across the countries. I'm not sure that the households' budget constraint is, for instance, appropriate both for the US and the African countries.
- I don't know if we can talk about profit or bond markets in African countries. Another example can be drawn from the analysis of equations 26 to 30. indeed, for the authors, these equations are standard! The question here is: is the framework selected here really appropriate for the study?
- Goods and labor markets equilibrium. I'm not comfortable with the absence of public and external sectors which can be the key sectors in some cases. Is it possible to extend the model in this way?

THE ASSUMPTIONS AND THE MODEL (3)

- To remove market power by monopolistic producers in the non-food sector (H1 for steady state). What are the consequences of this assumption? What is the sensitivity of the results in this hypothesis?
- There is no derivation of an optimal monetary policy rule. The authors propose an ad-hoc close to Taylor's rule but suppress the direct link with the output gap. Can Taylor's rules work here?

Calibration of the Parameters (1)

- A set of 16 African countries is a heterogeneous group. These countries are, obviously, quite different from the US. To choose the parameters in such a way that the model encompasses the share observed both in the US and the sample of African countries is not easy.
- Is it possible that this calibration impacts the results? In other words, can the results be biased? Do you assess the degree of sensitivity of the results in this hypothesis?

Calibration of the Parameters (2)

- The choice of other parameters is standard in the NK literature for the US. Namely, the parameters are chosen in order to fit the persistence of the Fed funds rate and the evolution of the relative food price in the US.
- The food market structure of African countries is clearly different from that of the US. It is not obvious that the persistence mentioned above can be applied in the case of African countries. The similar remarks can be applied to the calibration of the parameter of the volatility of the inflation or to the relative price of food.

Calibration of the Parameters (3)

- There is no reason to impose the US parameters. At least, we need some robustness check in order to confirm these results.
- What is the impact of the choice of these parameters on the simulations or IFRs results?
- The quality of the adjustment of the model to the US data is acceptable. It is not the case for African countries. It is surely due to the calibration adopted.
- The calibration of the model is highly questionable.

THE EMPIRICAL RESULTS (1)

- Exogenous monetary policy loosening: how does non-food inflation increase despite the stickiness of its price? Which mechanism works here?
- A negative shock to food production…: the conclusion needs to be re-examined. Indeed, the food sector perceives large subsidies especially in the poor countries. As the model does not take into account the existence of the public sector, the conclusion is a little biased.
- Second order moments: it could be interesting to scrutinize the alternative ways of assessing the effect of the structural transformation on the properties of inflation.

THE EMPIRICAL RESULTS (2)

- Second order moments:
- A) With the volatility of productivity in the food sector. it is worth noting that the results are quite different from those drawn from data, especially regarding the volatility of headline inflation. Changes in the relative prices are compatible with the data for the US. What conclusion can we draw from these results?
- B) With the volatility of monetary shocks. The US is properly described by the model (see the calibration). The discrepancies between the data and the model in the case of the poor country is significant.
- The question here is: what are the results if the parameters are differently calibrated (poor country data, etc.) ?

THE EMPIRICAL RESULTS (3)

- C) Second order moments: With a combination of both shocks, the overall results regarding the US are reasonable (headline inflation, non food inflation, changes in the relative price). The results of the poor country are still relatively weak.
- Is the model really in line with the topics of the paper? Is the model too simple to properly describe the properties of inflation in both rich and poor countries?

SOME POINTS TO DEVELOP (1)

- There is no robustness check in this version of the paper. The authors need to make their results robust.
- Some sensitivities analysis, for example regarding their calibration for example would be useful.
- Some assumptions also need also to be introduced (open economy, public sector, etc.)
- In this body of literature, it is usual to compare the empirical results of the model to those of a benchmark model (SVAR for example, see for instance, Mumtaz et al, 2012). Comparing the results with those drawn from the benchmark framework can help to validate the model (at least empirically)

SOME POINTS TO DEVELOP (2)

- One of the key questions here is: Are people able to assess the cost in terms of welfare of the different negative shocks regarding the poor and rich countries?
- If so, does this model help to do that?
- Welfare cost is not calculated in this version of the paper. But after the additional tests, it will be important to calculate the welfare both for rich and poor countries with an appropriate welfare function.

SOME POINTS TO DEVELOP (3)

- As mentioned by the authors, it would be interesting to analyze some other aspects of structural transformation (technology adoption, transformation of labor market, education, infrastructure, etc).
- This could be done in a more general framework.
- Maybe, it would be fine to select a single African country and apply the model to this one. It is a less ambitious project but the context will be clearer!

Conclusion

- It is difficult to comment work in progress but here the existing results have to be encouraged!
- The NK approach can help to explain some stylized facts but it needs to be completed with a more simple approach.
- This type of studies can help to fill a gap between the poor and rich countries in terms of the availability of the analysis tools!

THANK YOU FOR YOUR ATTENTION