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Chapter Authors: Jordi Galí

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Comment

Jordi Galí, Centre de Recerca en Economia Internacional, Universitat Pompeu Fabra, Barcelona Graduate School of Economics, and NBER

Valerie Ramey and Daniel Vine’s contribution to the present Macroeconomics Annual volume should be seen in the context of a recent literature that has found evidence of more muted effects of oil price shocks in the 2000s relative to the 1970s. In a nutshell, that literature argues that while the order of magnitude of the two oil price hikes of the 1970s and those in the 2000s have been similar, their impact on both nominal and real variables appears to have been much larger in the former period (see, e.g., Blanchard and Galí [2010] and references therein).

Several explanations have been put forward regarding that evidence, including a smaller role of oil in the economy, greater wage flexibility, better monetary policy, and a more limited impact of oil price changes on the demand for motor vehicles, among others. Needless to say, understanding the nature of the changing effects of oil shocks is of great interest to macroeconomists. There are at least two reasons for this. First, the changing response to oil shocks may hold a clue as to the sources of the Great Moderation. Second, and given that large fluctuations in oil prices are unlikely to go away, it would seem important to know whether a repetition of the macro turmoil of the 1970s is possible.

Ramey and Vine’s paper calls into question one of the premises of that literature, namely, the smaller impact of oil price shocks in the most recent period. In particular, the authors claim that the existing evidence on this issue may have been distorted by the use of oil price measures that ignore the costs associated with rationing. In order to support that claim, Ramey and Vine revisit some of the existing vector autoregression (VAR) evidence using two measures that are meant to proxy the effective cost of gasoline: (i) the augmented price of gasoline constructed by Frech and Lee (1987), which accounts for the time cost
associated with queues and (ii) a survey-based index of the fraction of consumers who cite the price of gasoline or possible gasoline shortages as a reason for car-buying conditions being poor. Ramey and Vine’s findings using those alternative measures suggest that oil price shocks have not had significantly different effects on the level of activity pre- and post-1985. That is also true when they focus on the response of motor vehicle consumption, thus questioning the hypothesis of a key role of that variable in accounting for the more muted effects of oil price shocks in the recent period. The impact of oil prices on inflation, however, is estimated to be substantially smaller in the post-1985 sample, independently of whether the conventional or the alternative oil price measures are used. The latter finding is important when it comes to interpreting the results, as I discuss below.

In addition, Ramey and Vine suggest that a key mechanism through which oil price shocks are transmitted to the real sector—namely, their asymmetric impact on the demand for different types of vehicles—is still alive and well and does not seem to have experienced any significant change relative to an earlier period. In particular, both the level of car inventories and its dispersion across models display an increase of a similar magnitude before and after 1985, in response to a normalized oil price shock.

The findings of Ramey and Vine are likely to draw plenty of attention since they question the conventional wisdom about the changing effects of oil prices shocks. It is thus important to subject them to close scrutiny. The present comment seeks to contribute to that task by raising a number of questions that, in my view, have not been fully addressed in Ramey and Vine’s paper.

I. Mismeasurement and the Importance of Oil Shocks

The adjustment of the gasoline price series to capture the cost of queues generates two larger spikes in that series, in the mid and late 1970s, respectively. Accordingly, if the adjusted series measures the “true” price, the VARs estimated using the unadjusted series will tend to overstate the response of any variable to an oil price shock during the early sample period (pre-1985), but it will give an accurate picture when estimated using post-1985 data (since the two oil price series coincide over the latter period). Some of the existing VAR evidence (e.g., Blanchard and Galí 2010) points to relatively small effects of oil price shocks on nominal and real variables during the Great Moderation period. Is that conclusion also shared by Ramey and Vine? If so, what do they
attribute the turmoil of the 1970s to, if oil price shocks played such a small role? The authors do not seem to take a stand on this matter, beyond stating that the differences across sample periods largely vanish when the new series are used. Knowing whether oil shocks have been equally important in accounting for fluctuations in both periods would seem to be of great interest. Unfortunately, the analysis presented in the paper (which does not contain any variance decomposition) does not allow one to draw any conclusion on this matter.

However, if the gasoline price adjustment used by Ramey and Vine is unwarranted or exaggerates the true cost of fuel, the estimated responses for the early period will understate the true economy’s response to an oil price shock. The fact that nonprice rationing does not seem to have affected firms’ effective energy costs significantly is a possible reason for taking that possibility seriously since the cost channel is likely to be a key channel in the transmission of oil price shocks to activity.

II. On the Macro Relevance of the “Segment-Shifts” Hypothesis

The segment-shifts hypothesis, originally discussed in Bresnahan and Ramey (1993), relies on two key assumptions:

- Oil price rises shift demand toward fuel-efficient models
- Marginal costs for each model are convex (e.g., due to overtime).

As a result, a rise in the price of oil should generate an asymmetric price response, with the increase in the price of fuel-efficient models being larger than the decline in the corresponding price for less fuel-efficient models. Accordingly, the average price of cars would increase, causing a decline in demand, production, and capacity utilization.

Ramey and Vine provide evidence of higher dispersion in inventory-sales ratios across models, which is consistent with the first assumption above. But no evidence is provided of asymmetric price effects, which makes it hard to assess the merits of the second leg of the segment-shifts hypothesis. While time series for the price indexes corresponding to different categories may not be available, the authors could have estimated the variation in the average price of vehicles relative to other durable goods in response to oil price shocks, as well as the effects of the latter on the quantities of vehicles produced (again, relative to the quantity index for general durable goods), for the segment-shifts hypothesis yields clear predictions regarding those effects.
Note, however, that even if favorable evidence for such an effect on relative prices and quantities could be obtained, it would hardly demonstrate a significant role for segment shifts as a source of the overall decline in aggregate demand since an increase in the relative price of cars should lead, in itself, to a greater demand for other goods that might offset the decline in the demand for cars. In that case, other considerations would account for the drop in aggregate demand and production (e.g., a negative wealth effect due to the increase in the price of imported oil).

III. How Should One Interpret the “Inflation Exception”?

As discussed above, the use of alternative oil price measures does not affect the evidence regarding a possible differential impact of oil price shock on consumer price index inflation across sample periods. Ramey and Vine estimate that impact in the more recent period to be between one-third and two-thirds the size of the estimated impact in the earlier period. In other words, while the estimated effects of oil shocks on real variables do not seem to have declined over time when the alternative oil price measures are used, the same cannot be said for inflation.

Thus, even if one puts aside some of the questions and concerns raised above and becomes convinced by Ramey and Vine’s new evidence, it should be clear that one should not infer from the latter that “nothing has changed” between the 1970s and the 2000s regarding the impact of oil price shocks. In particular, and as illustrated by figure 1,
the coexistence of a smaller impact on inflation with an unchanged effect on output implies an improvement in the output-inflation trade-off facing the Federal Reserve and, hence, the potential for a smaller response of both output and inflation to an oil price shock. Ramey and Vine’s paper remains silent regarding the factors that could explain the improved trade-off.

IV. Final Remarks

The present paper by Ramey and Vine makes a welcome contribution to the literature on the effects of oil price shocks, by calling into question the conventional measures of oil prices used in that literature. Their findings suggest that measures that potentially capture the price as well as the nonprice costs of oil shocks imply significant differences in the estimated effects of those shocks. More research is clearly needed to evaluate the accuracy and desirability of the new measures and to provide stronger and more direct evidence on the relevance of the segment-shifts hypothesis. The authors should be commended for writing a paper that contains interesting and useful new evidence and that adds several new items to the research agenda on the effects of oil price shocks.

References


