

Stephanie Schmitt-Grohé

On inflation, capital controls, and finding research topics

Stephanie Schmitt-Grohé is probably one of the few top-level economics researchers without a college degree. A native of Germany, she enrolled to study economics at the University of Münster. After completing two years of her studies, she was offered a Fulbright scholarship to study in the United States. She left temporarily — or so she thought.

“I had studied an English-language textbook, Dornbusch and Fischer [Rudiger Dornbusch and Stanley Fischer’s *Macroeconomics*],” she says, “and I liked it a lot and thought it would be great to go to the U.S. for one year on an exchange.”

The Fulbright program placed her at the City University of New York where, unaccountably, she found herself in the MBA program. “I didn’t really know what an MBA program was,” she says. But she finished the two years of courses with a concentration in finance and realized she was eligible to apply for an American Ph.D. She went on to the doctoral program at the University of Chicago, and from there, to a stint at the Fed and then academia.

In the early 2000s, she was a pioneer in calling attention to the possible importance of the zero lower bound on interest rates — an issue that became significant for Fed policymakers and central bankers worldwide during and after the Great Recession of 2008-2009. She was awarded the 2004 Bernácer Prize, which is given annually to a European economist under the age of 40 for outstanding contributions in the fields of macroeconomics and finance.

Today, Schmitt-Grohé remains a prolific researcher on monetary economics and macroeconomics. (“Grohé” is pronounced “groh-hay.”) She has often co-authored her research with her husband and Columbia colleague, Martín Uribe. She is the co-author, with Uribe, of a graduate textbook on the macroeconomics of international trade, *Open Economy Macroeconomics* (Princeton University Press, 2017) and, with Uribe and Michael Woodford, an undergraduate textbook, *International Macroeconomics: A Modern Approach* (Princeton University Press, 2022).

David A. Price interviewed Schmitt-Grohé by phone in July 2022.



EF: Were there any big adjustments for you when you came to America to study?

Schmitt-Grohé: The courses at my German university were large. It was the University of Münster, and there were many lectures for 200 people or so. When I came here to CUNY, where the Fulbright people placed me in an MBA program, courses were small, 25 people in a class. Also, I was able to get a job working for some professors as a research assistant. That was a different way of learning. And then I lived in International House, a residence for graduate students in New York; it’s near Columbia University. There, I met a bunch of other people from all over the world who were doing a Ph.D. somewhere. I think it changed my exposure and the intensity of my studying.

EF: You began your career at the Fed’s Board of Governors under Chair Alan Greenspan. What was it like to start out as a research economist at the Fed?

Schmitt-Grohé: It was a wonderful experience. When I started, I worked in a section in the Division of Monetary Affairs for Vincent Reinhart. He was a wonderful boss and taught us a lot.

I would say four things were great about the job. At the beginning, you have almost all of your time for research. So you come out of graduate school, you have all the papers of your dissertation, and you’re trying to polish them to send to journals. The Fed gives you the time to do that. I would say you have more time to do that if you work in the research department at the Fed than if you start teaching at a university because you have to make one or two course preps, which takes time. So that was one great thing.

A second great thing is they used to hire — probably this is still true — something like 20 or 30 Ph.D.s a year out of top

graduate schools. And they were more or less all in macroeconomics. If you go to a university, most likely you have, at most, two or three junior colleagues in your field. But at the Fed, you had a large cohort of them with whom you could interact and talk at lunch — there was a culture of going for lunch together in the Fed’s cafeteria — so it was stimulating in that way.

Another thing that was great was that you had to do a little bit of policy work. The Board of Governors wants to learn what the research staff thinks about the economic issues of the moment and what economic policy would be the correct one. Once or twice a year, you had to write a memo that you would read aloud in the FOMC briefing, so your audience was Alan Greenspan and the other governors. So you got to work on interesting issues and you got an understanding of what the relevant questions are. The process gave you a pipeline of research questions that you could work on later.

Lastly, because the Board is such a big institution, it runs a pretty large program of workshops with outside speakers. Almost too many speakers came through — more than one per week. You got exposed to all the major figures in your field because they came to give a workshop or they came to visit the Fed for one or two days. It was a productive and great time at the Board.

EF: How important do you think price stability is compared to other policy priorities of central banks?

Schmitt-Grohé: When Martín and I got interested in the topic of price stability, there was an influential paper on optimal monetary and fiscal policy that concluded that when you have a change in the fiscal deficit or government spending, responding by adjusting distortionary taxes — say, labor income taxes — is not good from a welfare point of view. What you can

do instead, the argument went, is to have surprise inflation. So if you get, say, an increase in government spending, and you need to finance that, then if nobody’s expecting inflation, you can just have a one-year surprise inflation. And that literature concluded it was, in fact, the best thing to do: Keep tax rates steady and finance surprises to the budget with surprise inflation.

Martín and I wondered what would happen to this result if one were to introduce sticky prices — the idea that prices are costly to change — into the

“If you go to a university, most likely you have, at most, two or three junior colleagues in your field. But at the Fed, you had a large cohort of them with whom you could interact and talk at lunch — there was a culture of going for lunch together in the Fed’s cafeteria — so it was stimulating in that way.”

situation. Our contribution was to show in a quantitative model that the trade-off between surprise inflation and tax smoothing was largely resolved in favor of price stability. With price stickiness, volatile inflation is welfare-reducing. It sort of overturned the previous result.

Do we need to have high volatility in the labor income tax rates or other tax rates, then? No, if you have a fiscal shortfall, it should be financed by debt. The only thing you need to adjust the income taxes for, roughly speaking, is to finance the interest on this additional debt. So our models predicted that under optimal policy, in a world with distortionary income taxation and sticky prices, price stability should be preserved.

One issue that I think has been coming back a little bit is how is the United States going to finance a massive fiscal deficit that created the big stack of debt? Are we going to use surprise inflation? Here our research would say no, it’s not optimal to do that.

EF: Some have argued that if a central bank follows a fixed rule for monetary policy, rather than exercising judgment, the economy will be more stable. Do you agree?

Schmitt-Grohé: There’s an issue whether the monetary policy rule followed really achieves its intended target. I co-authored a paper with Martín and Jess Benhabib about this issue called “The Perils of Taylor Rules” in 2001.

Let’s go back 20 years. At the time,

one of the policy questions that arose and that I discussed with my colleagues at the Board was the situation in Japan. Japan had lowered the nominal interest rate to, roughly speaking, zero after its recession in the early 1990s. Japan was in deflation, and the issue was, how did they get there?

Now it’s 1999-2000, almost five years after the recession — how come inflation is so low, when they have the nominal interest rate at zero? Shouldn’t putting the nominal interest rate at zero signal easy policy and therefore low real interest rates? And shouldn’t that, in turn, stimulate demand and shouldn’t we see inflation coming back up?

We started thinking about the Japanese situation and the Taylor rule. The Taylor rule says that whenever inflation is lower than the central bank’s target, the central bank keeps the nominal interest rate low, and whenever inflation is above the target, the central bank raises the policy rate. The rule is called the Taylor rule after John Taylor’s seminal paper in the early 1990s. We were considering whether behaving in such a way necessarily brings you to your inflation target of, say, 2 percent. What we pointed out in that paper is it might not because there’s effectively a zero lower bound on nominal interest rates.

Our concern with the Taylor rule was that it was always thought about

locally. If inflation is lower than your target, you lower the policy rate. If inflation is above your target, you increase it. But what happens if inflation is below your target, and you want to lower the nominal interest rate, but you are already at the zero lower bound? Following the Taylor rule might bring about the intended inflation rate, but it might instead just cement an economy in this liquidity trap situation, where the nominal interest rate is at the zero lower bound and inflation is below target. It might just lead to an anchoring of long-run inflation expectations to values below the inflation target. So we said that may be one way to understand the situation in Japan at the time.

When we wrote this paper, we could have never anticipated that this would become a relevant theme in the United States, as well as in many countries around the world, after the global financial crisis, when people were struggling to understand how come inflation was below target for so many years even though policy rates were at the zero lower bound.

EF: With regard to inflation, we've entered a very different situation in a short time. What do you think has happened there?

Schmitt-Grohé: Yes, I think the type of shock that occurred with the pandemic is different than the negative demand shock of the recession of 2008. It's probably more of a supply shock. And it was, at least initially, a type of shock that changed the price of some goods, but not of others. So there were large relative price changes. People wanted to renovate their houses because they were now spending a lot of time at home. So there was a great demand for anything you want to do in home repair, and big increases in demand for durable goods. At the same time, you had closures of factories, people not going to work. So those type of goods became more expensive.

The question is, what happens when there's a large relative price change?

Stephanie Schmitt-Grohé

■ PRESENT POSITION

Professor of Economics, Columbia University

■ PAST POSITIONS

Professor of Economics, Duke University, 2003-2008; Assistant Professor and Associate Professor of Economics, Rutgers University, 1998-2003; Economist, Division of Monetary Affairs, Federal Reserve Board, 1994-1998

■ SELECTED ADDITIONAL AFFILIATIONS

Research Fellow, Centre for Economic Policy Research; Research Associate, National Bureau of Economic Research; Member, Advisory Panel, Bank for International Settlements

■ EDUCATION

Ph.D. (1994), University of Chicago; MBA (1989), Baruch College, City University of New York

It seems that the way this goes is that the good that becomes relatively more expensive has its nominal price go up, and the nominal prices of the other goods don't change. So we see one wave of inflation. But suppose those relative price increases from supply shortages are temporary. How does the relative price come back down? Well, it could be that the nominal price that went up comes back down, or it could be that the nominal prices of the other goods go up to bring the ratio of prices back down.

In the latter case, you would have sort of a wave that looks like, first, the price of lumber goes up relative to food, and then the price of food goes up because that restores the old relative price. I think that could be going on. That could happen if prices have an easier time going up than going down. That's an idea from the structuralist inflation theory of Julio H. G. Olivera.

But is that the whole story? Probably not. Another concern is that there's a massive fiscal obligation in the United States. One way to finance the fiscal deficit is to implicitly default on Treasury debt by having a big increase

in the nominal price level. So there are also fiscal considerations.

EF: In a working paper that you and Martín Uribe wrote this year, you looked at historical data on U.S. inflation and you found that the recent increase in inflation took place much faster than previous ones since World War II, such as the inflation of the mid-1960s and 1970s. You wrote that to understand the current inflation, it helps to go back to the prewar U.S. economy. Why?

Schmitt-Grohé: We find ourselves a little bit in an unprecedented situation. Inflation has gone up rapidly. And so we were thinking about this pretty unusual development for the postwar period.

We wanted to answer the question that I think everybody is interested in: Is this inflation hike temporary or permanent? Our idea was that during the postwar period — since 1955, say — the only big inflation was the inflation of the 1970s. And that was an inflation that built up slowly and then was ended also relatively slowly — quicker than it built up, but relatively slowly — by Paul Volcker in the 1980s. So we said, since the current inflation is unprecedented in the postwar period, what will we see if we just go further back in history?

Because we wanted to go back in history, we used the database of Óscar Jordà, Moritz Schularick, and Alan Taylor, which goes back to 1870. We saw that the macroeconomic stability that we had in the postwar era was special, at least compared to what we see since 1870. There were many more episodes of high and variable inflation. So we just asked if we give the purely statistical model a longer memory by allowing it to go back in time, how would it interpret the current increase in inflation?

We found that if we estimate the model since 1955, which is what most people do when they talk about cyclical fluctuations — actually, many people only start in the 1990s or look at the last 30 or 40 years, the so-called Great

Moderation period — the model is led to interpret the entire current increase in inflation as permanent. But if the model is given the chance to look back further in time, where we had more episodes of a short-lived and large inflation spike, the interpretation is that only 1 or 2 percent of the current increase in inflation is of a more permanent nature.

An example to look at is the Spanish Influenza of 1918 in the United States. That was also a period of an inflation spike, but inflation had started already a year or two before the influenza pandemic. There were similarities to now, namely a pandemic and high inflation. There was a small increase in the permanent component of inflation during the years around the influenza pandemic, but the majority of it was transitory.

EF: The Western consensus since the 1990s on economic development, sometimes called the Washington Consensus, has strongly opposed capital controls on the part of developing economies. Research of yours has cast doubt on that consensus. Please explain.

Schmitt-Grohé: Yes. The mantra of the International Monetary Fund for a long time was that capital controls were undesirable; there would be a lot of welfare benefits from having free capital mobility across countries. That was a clear policy position of the IMF. The creation of the European Union took place with the same idea in mind: The core countries adopted the common currency in 1999, but countries were under a deadline to abolish all capital controls much earlier, by 1990. It was believed that to have a functioning monetary union or currency unit, you needed to have free capital mobility across countries.

And then the 2008 crisis came. The periphery of Europe between 2002-2008 experienced large capital inflows, meaning they borrowed a lot from the rest of the world, but

in particular, from Northern Europe. So when the crisis came, they were heavily indebted. For countries in the periphery to repay these debts or service them, there had to be a massive contraction in domestic demand. Thus, the idea emerged that maybe it wasn't such a good idea to have free capital mobility, and maybe with the benefit of hindsight, not so much capital should have flowed into Spain, Portugal, Cyprus, Greece, Ireland, or the Baltic countries. So in policy circles, the idea of going back to some restrictions on international capital flows reemerged.

The idea of a paper Martin and I wrote, "Downward Nominal Wage Rigidity, Currency Pegs, and Involuntary Unemployment," was to say, can we find a reason in terms of economics why you would want to adopt capital controls? What we showed is that one way of thinking about the euro area is basically that Spain, let's say, gave up an independent monetary policy to be on the euro — and when the financial crisis happened, what Spain would have loved to do, from an economic point of view, was devalue the currency. Why? When credit dries up and you're a debtor country, you have to consume less, aggregate demand falls. But demand falls not only for imported goods, but also for nontraded goods, say residential housing, restaurants, all types of nontraded goods. But if people want to buy fewer nontraded goods, this will lower production and employment in that sector.

You might say, OK, that's no problem: What we should see is that the relative price of nontradable goods drops, and there is an expenditure switch away from traded goods and toward nontraded goods. If that happens, we should see a large real exchange rate depreciation. Yet one usually doesn't see that happening. People think the reason it doesn't happen is that nominal prices and wages are rigid, so you don't see the real depreciation — unless there is a nominal depreciation. Somehow, relative prices are not aligned with full employment and

market clearing, and you see involuntary unemployment.

The easiest way to restore full employment in such a scenario is just to have a big devaluation. Then we can change our prices relative to the rest of the world while nominal wages or nominal prices don't have to fall.

Between 2002-2008 in Europe, there were massive capital inflows to the periphery. That led to an increase in demand for traded and nontraded goods. So the price of nontradable goods went up, and nominal wages in many peripheral European countries rose by more than 50 percent — in some countries, by 100 percent. At the time, people saw that and thought the reason for the wage increases was that joining the union led to productivity increases. Now with the benefit of hindsight, we know that didn't happen. Nominal wages just rose because prices of nontraded goods also rose. Then the recession came and we needed those nominal wages to fall. But nominal wages are downwardly rigid and the periphery could not devalue — they were on the euro — so they could not bring the real wage down to a level consistent with full employment.

The idea of our paper was to say, well, since I cannot lower the real wage in the recession, maybe I shouldn't let the wage go up that much during the boom. During the boom, everything is great. We have full employment. But during the recession, the amount of unemployment due to excessively high real wages might have been much lower if we didn't have that many capital inflows; without those inflows, wages wouldn't have been driven up so high to begin with.

So we developed a model that indicated that, during a boom, policymakers shouldn't let that much capital flow into the country. How do you do that? You put in a capital control tax. And then in the crisis, your crisis is not going to be so deep because it didn't have such a large nominal wage growth to begin with. And of course, it is always conditional on the exchange

rate being fixed, because otherwise you could use the exchange rate.

At the time, there was a parallel literature that suggested that having significant capital controls would be optimal due to financial frictions. And it is the case that financial frictions can also explain why it is desirable to have capital controls. But that literature could not explain what many people believe is desirable in the timing — that you should put the capital controls in during good times and not during bad times. The financial frictions literature says during good times, there's not really a problem, but during bad times, you should put in the capital controls. Our conclusion was the opposite.

Just to finish with the Washington Consensus, I think by 2011, the IMF had already changed its official position. I think they were recommending macroprudential policy, part of which is that capital control is actually a desirable policy.

EF: What are you working on now?

Schmitt-Grohé: An article you asked me about earlier, looking at historical inflation data, was one result of a bigger project. Martín and I are trying

to understand a topic that people are interested in right now, namely, the natural rate of interest.

The real interest rate is defined as the difference between the nominal interest rate and expected inflation. When economists talk about the natural rate of interest, which is often called “r-star,” the word “natural” means what would be the value of the real interest rate so that we have full employment. The natural rate of interest isn't observable, because it's an ideal state. But there's a widespread view that it has declined a lot in the last few decades.

The same period has also been a time when inflation declined. So it might make you think that the natural rate of interest could be affected by inflation. And now that inflation is going to go back up again, could that mean the end of low natural rates? We are trying to answer the question in an empirical structural model. And we say no, it's actually not the case; it's really true that the long-run component of inflation doesn't seem to be correlated with the long-run component of the natural rate of interest. That's one of the things we're working on.

Another project is to try to understand the extent to which the recent last couple of decades' decline in the natural rate of interest is permanent. Other people have looked at that. What we bring to the debate is to ask, if there are exogenous variations in the natural rate of interest, what are the consequences to the economy? If the natural rate of interest declines, is that really recessionary? Does it depress the trend of output? So in one sentence, we're working right now on r-star — the natural rate of interest and what shocks to the natural rate of interest do to the economy.

EF: How do you choose your research topics?

Schmitt-Grohé: There's no formula. There's no recipe. It's more that you have an idea or question and you try to write about that — and while you work, you get other ideas. Once you start on something, maybe the initial idea is not what the paper will be about, but you have insights along the way. From working on one thing, you get ideas and interesting questions for the next project. So it's like a self-feeding process. **EF**



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