

STEG Virtual Course on
"Key Concepts in Macro Development"

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Lecture 4: Structural transformation, home production, and labour markets

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Q: Can home production be also thought of as productivity factor?

A: Part of the argument that Rachel will be making in this lecture is that a careful treatment of the macro economy should take into account the home production side of the economy. That will mean in turn that productivity in the home sector will matter for the aggregate. And we will also need to understand how economic activities move in and out of the home sector... Some things pass from home to market, and other activities pass from market to home.

A: And as Rachel just said, we need to account for the home sector both on the input side (e.g., labour) and on the output side (i.e., the value of goods and services produced in the home sector).

Q: Hours work per capita should converge to a number, since it can't increase constantly. there is only 24 hours per day! Also it can't be decreasing for a similar reason. BGP is about steady state not the transition path. That's another issue.

A: True! But the question might be whether it converges or whether there are different levels in different countries.

A: An series can be increasing (or decreasing) and still converge. This is what these models yield.

A: And here you see it... The aggregate hours are constant, but the mix between home and market is changing, on the BGP.

Q: In macro, I think we often think about consumption more broadly, including clothing, health services and so forth. From this perspective, is it a good idea to look for home production shifts in consumption expenditures ? Or do we focus on particular expenditures like restaurant food.

A: You might think that, for different goods, home goods and market goods are better or worse substitutes. For instance, home meals may have a good substitute in the form of restaurant meals. Home health services might be a good substitute for nursing care -- but not for heart surgery. So there will be a range of substitutability possibilities across goods.

A: Both goods and services can be consumption expenditures and there is work about how goods purchases (e.g., home durables) are related to home production patterns as well.

Q: Is there any reason why the model is written in continuous time rather than in discrete time?

A: No... These are pretty much interchangeable. It's kind of an aesthetic choice for people who write models.

A: Continuous time vs. discrete time is usually a matter of preference, although some researchers have strong beliefs. Data are typically discrete, but the world is continuous (I think)... Occasionally, it matters though. e.g., problems with thresholds/barriers lend themselves better to continuous times. Later in the course, Ben Moll will present some continuous time computational methods that have some advantages.

Q: In these growth models, what is the main reason for choosing a social planning problem (like this one) VS one that has a representative firm as well?

A: Great question... You'll see this over and over again. The answer is that the social planner's problem is often easier to solve. And as long as we are in a 'first welfare theorem' world, we can solve the social planner's problem in full knowledge that the optimal allocation will be the same as the one that we would get from solving for the competitive equilibrium.

Q: What is the impact of the business cycle on home production?

A: Interesting question. Typically, you might assume that as the business cycle moves into recession, and market hours decline, you should see home hours increase -- but it's probably also true that the opportunity cost of leisure falls. So we might expect to see market hours giving way to some combination of home hours and leisure.

A: Richard Rogerson, who gave the first lecture and will also lecture next week, has work on this. Modeling home production can make labor more elastic over the business cycle. I don't know the empirical patterns, especially for poorer countries — one would need relatively high frequency time use data.

Q: Why does labor enter into both arguments of the production function?

A: Never mind, k is the capital-labor ratio, I think I answered it by looking at the variable definition in the paper.

Q: What is the impact of an increase in home production on asset accumulation? If we include home production in GDP, is debt/GDP ratio more sustainable?

A: This is an interesting question, and I think we don't know the answer (or at least I don't). In general, however debt/GDP (or even debt/income at the household level) is an indicator because income measures ability to repay. One can't really repay debts with home production, but perhaps it frees up more market income to repay more easily. Not sure whether that has relevance at the macro level.

A: You might also imagine that an economy with a heavy public sector debt burden -- and perhaps therefore high taxes on market activities -- might drive economic activity into the home sector, rather than the market sector. In this respect, the home sector has some features in common with the informal sector.

Q: Can you clarify what market hours refer to? Does this refer to hours worked outside of the home?

A: Not so much the location of the work. Instead, market hours would be the hours that are devoted to work that falls within the national accounts boundary. Some of this work could take place within the home. Quite a lot of market work takes place in the home (even when we're not in the middle of a pandemic!!). And actually, when I stop to think about it, quite a bit of home work might take place outside the home -- for example, caring for kids.

Q: You mentioned that the home production ratio is 3 to 1. Is this changing with age cohorts?

A: This is an interesting question, and the current slide speaks to it. There are definitely cohort effects in the data. There is evidence of a decline in the gap over time, but it's not anywhere near parity even in recent cohorts. Some interesting recent evidence from the pandemic also suggests that there has been a move away from parity... but hard to know about the quality of the data.

A: Sad news, IMHO we don't internalize enough the importance of maternity.

A: What's curious here is that the gaps remain fairly large even in economies where fertility rates are low and falling. So I suspect that maternity is at best a partial explanation; social norms and structural inequalities seem important here, too.

Q: Apart from surveys mentioned, is there any other database on home production data?

A: There's still disappointingly little data on home production. The ILO has started to report data along these lines, and there are starting to be more time use surveys that shed some light on home production. But these data are typically not available over time within countries, and they can be hard to compare across countries because of differing definitions and measurement approaches. So I would say that we're at the beginnings, in some way, of being able to use these data for macro purposes and for thinking about structural transformation. It would be fascinating, for instance, to see how the patterns of home production and home-to-market transitions are the same in today's low-income economies as in the high-income economies of recent decades. Some evidence suggests that effects may be quite different. For instance, India's growth in recent decades -- and even though heavily service-based -- does not seem to have generated high female labour force participation...

So lots of questions still to study.

A: There are some standardized time use surveys that have been harmonized across countries, e.g., HETUS for Europe, but there is very little on poor countries. Micro development economists often collect time use data in their surveys, but these may not be macro representative.

Q: Can gap in home production speak to gender wealth gap above and beyond income gap?

A: If I understand the question correctly, the gender wealth gap might alter the opportunities for women both in market activities and labor market opportunities. For instance, if women have less ownership / control of agricultural land, it may alter their proportions of time spent in home work versus market work. And in the other direction, if women's work is heavily in the home production sector, then it may be difficult for them to accumulate assets / wealth. (So yes, I think, is the short answer to your question!)

Q: Wouldn't marketization of washing clothes at home paying someone else to wash them, not going to the laundromat? A load of laundry at home takes the same time as a load of laundry at the laundromat. I guess my question is: How is household time spent washing clothes at the laundromat measured?

A: Laundromats are more about saving on home durable inputs into home production rather than labor inputs.

A: The interesting point is that specific activities move from home to market (I hire someone else to wash my clothes) but also from market to home (I purchase a household durable good that allows me to produce the same output at home, using capital). So marketization is not a linear process... It's a more complicated and non-linear path.

A: My favorite example is food preparation. In poor countries, people prepare their own food. At some income level, they might hire domestic help to prepare food on their behalf. That moves the activity into the market. Then you might see people substituting into services (restaurant meals) and into manufactured goods (prepared foods) and then perhaps back into home work combined with manufactured processed foods and capital goods (ready-to-eat goods that can be prepared simply in the home with a microwave oven)... So lots of movement between home and market -- and also between agriculture, manufacturing and services. It's just all over the place! Not a linear transition at all...

A: Really interesting, yeah. Could even imagine that if one had high enough wages, they could have more time available to try new recipes and it is more of fun activity for them.

Q: Is it correct to say there is rebirth of the "Cowan Paradox" due to COVID-19? If so, how does that also contradict the fact that in the current pandemic, the majority of frontliners are women? Meaning women are both needed at the work place and also at homes.

A: Perhaps we could let Rachel address this as I know she is quite interested in COVID and home production, women, etc.

Q: In the Ngai and Pissarides model, all the capital is produced by the manufacturing sector. But as Herrendorf mentioned a couple of lectures back, it seems that much of investment is in fact coming from services. Would allowing services to be used towards capital accumulation change the model in any significant way?

A: Really interesting to think about. My guess is that the examples Berthold had in mind were things like software... which probably isn't produced with a close substitute in the home sector. But *human* capital probably is produced significantly in the home sector, and this might be an interesting angle to think about... This is probably a question that deserves a lot more thought!

A: Right, there's probably not much substitution between the household and the software sector, but if $t+1$ capital can be produced with services rather than manufacturing, it might slow the pace of structural transformation because as manufacturing TFP grows faster than services TFP, the economy increasingly replaces its capital using manufacturing output rather than relatively more expensive services output. I think?

Q: I have seen using the WDI that gender gaps of enrolment and completion rates display a similar pattern to the market hours... So, even at an earlier age, freeing up time from home production could

allow them to allocate more of their time to education? could this help their insertion in the labor market? I mean females time and insertion...

A: This is absolutely correct, and it is very much part of the reason that development institutions have taken an interest in girls' education. What the models might add to this is the observation that one channel to address the home work burden on women and girls might be to provide either market alternatives or durable goods that can help to reduce the demand on women's and girls' time in the home. For instance, providing electricity or piped water might reduce the demand for home market time of women and girls, thereby releasing their time for market work and education respectively.

A: Meant to write a bit more: electricity and piped water might reduce the demand for women's and girls' time in fetching wood and water...

Q: Thank you for your presentation Rachel - much to think about. Have you seen any particularly interesting, or odd trends if you look at disaggregating data by class, rather than gender?

A: It's possible to slice the data in many ways, where we have it. Really interesting to look at this, though!

Just an observation: how social norm restricts female participation in market work, the paper by Ahmed and Sen (2018) in World Development may be a useful reference.