



STEG-PEDL Virtual Course on 'Private Enterprises, Productivity and Economic Growth'

Session 1: Friday 6 February 2026

[Penny Goldberg](#)

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Q: Does the micro literature make distinct empirical results for directed technological change vs. general undirected one?

A: Directed technical change is an important part of thinking about environmentally sustainable growth. The bulk of structural transformation research takes technological change as exogenous.

Q: Does it mean that growth in productivity of services lead to an increase in productivity of other sectors as well?

A: Yes, that's the point that Penny is making. Current thinking is that we may have underestimated the extent to which productivity growth (a) can take place in services, including domestic services; and (b) can drive growth in other sectors. It's very much a live question in growth economics today... How central is manufacturing in the growth process? What is the role for services, including "consumer services," as Penny is saying...

Q: Why is Africa always conceptualised as a country? Vietnam is a country and Africa is a continent. Is this comparison methodologically sound?

A: Definitely not sound! But there do seem to be some really substantial similarities across sub-Saharan economies, which are different from the Asian and Latin American experiences. My colleagues in history and politics and anthropology are horrified by the way that economists speak of Africa in general terms, and we should always be cautious about this.

She's summarizing the research in limited time. "Africa" is actually shorthand for a particular grouping. The actual paper covers various countries: "We mainly focus on two

geographic clusters of high growth within Africa. Specifically, we consider countries located south of the Sahel that (i) recorded average annual GDP growth of at least 3.5% between 2000 and 2019, (ii) were not classified as oil exporters by the IMF, and (iii) did not experience prolonged conflict, such as Somalia or the Democratic Republic of Congo." "This selection yields two fast-growing clusters in West and East Africa, shown in Figure 1. The East African cluster comprises Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, and Uganda, with a combined population of approximately 350 million in 2024. The West African cluster includes Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Senegal, Sierra Leone, and Togo, home to around 150 million people in 2024. We contrast these experiences with that of Vietnam, an export-oriented, rapidly industrializing economy with a population of about 100 million." "All East African countries in our sample are classified as non-resource-intensive by the IMF, except Tanzania. Even in Tanzania, natural resources play a modest role: mining contributes just 3.3% of GDP, though tourism is a significant sector. In West Africa, four of the nine selected countries are classified as resource-intensive, but only Guinea and Sierra Leone are heavily reliant on mineral exports. We emphasize the limited role of natural resources because a common narrative attributes Africa's economic revival primarily to rising commodity prices. By contrast, growth in our sample is unlikely to be the mere effect of a persistent resource revenue boom."

But your points stand... just giving some context.

Q: Is there a specific reason to focus on consumer services? I see the benefit from welfare evaluation. But how much are we missing from excluding the manufacturing services? Or is this constrained due to data restrictions?

A: I think the point is that we already know and understand the role of business services; we know much less about the role of consumer services, which have often been written off as unproductive.

Follow-up comment: True, even Adam Smith classified consumer service as unproductive (incorrectly as of our understanding now) in Wealth of Nations

A: Interestingly, though, Smith talked a lot about the potential of growth through wholesale and retail trade.

Q: What is the crucial difference between service-led vs. service-biased growth?

A: Service-biased growth would be the growth of services that is driven by consumer demand... Increasing income with non-homothetic preferences drives demand for services. But service-led growth would be productivity growth in services that spills over to the rest of the economy.

Q: Do we believe that service-led growth can replace manufacturing-led (industrialization) growth in terms of employment? What would its implications be for unemployment, given the crucial role of industrialization in absorbing the large low-skilled labor from agriculture.

A: I think in practice that is why there are doubts about the future of manufacturing-led growth. Most jobs are arising in the service industry, and given technological advances manufacturing is no longer as raw labor-intensive as it was.

This is one of the questions that will be driving a lot of the lectures on the course -- so stay tuned! (But don't expect a definitive answer! This is a question that sits at the frontier of research right now!)

De facto, employment is moving into services. In a lot of low- and middle-income countries, labor is moving out of agriculture directly into services, rather than into manufacturing. So jobs (at least of a sort) are being created. But it's not clear whether these are always good jobs, or whether this is a desirable pathway for development... The jury is out, I think.

Follow-up comment: yes but that is probably a predominantly urban phenomenon? That is also what the Peter et al paper suggests so what about the rural areas? How much can urbanization absorb? I think the urban-rural divide is growing significantly in India as a result which has implications for unemployment and inequality.

I think this is an interesting observation! My sense is that many countries are experiencing a bit of a return to Lewis-type dualism, with urban areas disconnected from their rural hinterlands. So that's consistent with what you are saying.

Q: Would local culture contribute as a confounder of gender inequality in service growth? For instance, if the local culture has a strong preference over male, male workers will still dominate and benefit from service growth comparing to female. I just feel like the culture factor would still place a dominating role in explaining the gender inequality within the service market, even where the physical strength of male worker is not that important

A: Yes, I think you're exactly correct. There are important differences across countries in the norms around gender roles around work, and this has macro implications for labor force participation and many other variables.

Q: If Service led growth is going to be so important, why are countries so focused over Industrial Policies in the Manufacturing sector? Also with AI, aren't services going to disappear?

A: That's very much the point. Some of us (I include myself) think that policy makers are disproportionately focused on manufacturing and industrial policy, and it's not clear whether this is necessarily the right concern.

I think some of this is a debate about whether manufacturing has to be the path. Does every country follow the Korea, Chinese, Vietnam model, or is the Indian path a viable path.

It is possible that the policy makers are right and the academics are missing something important. But it might also be possible that policymakers are focusing on the wrong thing.

In Semiconductor and other high-tech manufacturing, policymakers want to have high local capacity. Also what is the thinking on whether manufacturing vs services are better to absorb low-skilled unemployment youth in developing economies?

And it is not that there is universal consensus on this, even among academics. We argue about this all the time :)

Q: Informality is, to my understanding, is not as well studied as it should be due to data limitations. I know of informality in the macro-labour context in Brazil. Do we have good data on this topic in other developing countries?

A: Mexico has excellent data on informality. I think data are more limited outside of Latin America. The issue is that you need good enough data collection but still a substantial phenomenon of informality.. these tend to be high inequality middle income countries.

We'll learn a lot more from Gabriel Ulyssea in a few weeks.

Q: Does the informality has a connection with institution? I think it depends on govt capacity to enforce regulation.

A: Definitely. In an economy where governments have limited enforcement capabilities, informality is kind of a default... It's not really even clear what's informal or whether there is a meaningful distinction between formality and informality. So for the dichotomy to be meaningful, there has to be some portion of the economy where enforcement is meaningful.

My impression is that empirical work finds that programs aimed at relaxing regulations on formal firms, as a way to encourage formalization, often have modest impacts. There is typically a relatively small set of firms that are operating on the margin where this is the binding constraint to firm growth or productivity... But I'm sure this is context specific, and there are clearly places in the world where these constraints matter a lot.

There is also a distinction between formal firms and formal workers. Many formal firms hire a considerable number of workers informally.

Q: As a follow-up comment, mobile money has also been studied in Tanzania I believe, in the network setting there is a job market paper investigating this. The candidate is from Yale if I am not mistaken.

A:

https://drive.google.com/file/d/1C0zubnZu6r3ItUmKTRklensLyt4X417J/view?usp=drive_link

Q: Will we get certificate after completion of the course?

A: For anyone seeking course certification, the requirements will be to attend at least 12 sessions, with a minimum attendance of 60 minutes per session. This will be issued on your request after the end of the whole course.

Q: Do you think the presence of labour unions in manufacturing, or resistance to advanced technology (or misperceptions about technology replacement) leads to unequal diffusion of technologies within sectors or overall economy?

A: Great question. For an old reference, have a look at the work from a long time back by Parente and Prescott. There is a cool book, "Barriers to Riches". See also Joel Mokyr's work in economic history, for which he won the Nobel.

Q: Thinking of gig economy workers as part of the service sector. In most countries, they often aren't treated as formal workers because of the contractual nature of the work. Is it necessary that increasing services sector will lead to greater formalization, isn't there also possibility of increased labor exploitation?

A: Great question. This is in part a question of definitions -- and data collection. It's also a question about how we collect data on the gig economy. Are Uber workers employees or self-employed? Does the government observe their income? Do they have taxes deducted from their work? (I see that Penny is discussing this even now!)

Q: What has been the role of pilots towards technology promotion among firms?

A: There have been quite a lot of randomized controlled trials on technology promotion. Lots in agriculture, but also some in manufacturing. Is that what you have in mind?

Q: Is there any option/link to download the presented file?

A: https://www.dropbox.com/scl/fi/0y2yr4wyxq9q6bze8rs/STEG-PEDL_OpeningLecture_Pinelopi_Goldberg.pdf?rlkey=wf7x2wmewe8r7nk26jt1obwye&st=g9cnsak3&dl=0

Q: To what extent do you think those desirable job characteristics are shared across cultures and generations? Can we predict what future working generations may have different ideals, based on the experience of growing up in high-tech environments?

A: What a great question! I think you raise a really interesting point, which is that people's preferences and understanding of job quality is very much socially constructed. We have already seen big changes in recent years with respect to things like preferences for work from home, flexibility in hours, etc... So hard to think that there is a universal understanding of what makes a job "good"!

Q: Can we get a set of questions for Penny for the Q&A? Please post the question, starting with Penny, and we will choose a set for her to answer. (Editor note – see the [Video](#) for answers to these questions).

Q1: Are we always looking at numbers in terms of development or the social cost associated with them?

Q2: What drove productivity growth in services for countries that saw service led growth?

Q3: What is your suggestion(s) or thoughts on estimating productivity in the service sector?

Q4: Informality is likely to persist for some more years, so if we take informality as a persistent equilibrium rather than a temporary stage, what policy or institutional levers best raise welfare within informality?

Q5: What will be the impact of AI on job creation in developing economies? What are some feasible job creation strategies moving forward?

Q6: Discussions of economic development often emphasize firms, growth, and technology. However, in the context of low-income and middle-income countries, could political instability and conflict be the primary constraints on growth, rather than firm-level or technological factors?

Q7: Hello Penny, what would you consider the role of "spoilers" to economic development. I am thinking of individual actors w/ some level of power or influence, that deliberately prevent economic development programs because they may counter their personal, organizational, or ideological agendas.

Q8: On the point of spillovers generated by technology adoption in different sectors, how can we measure/estimate it? Talking mainly about knowledge spillovers generated by the participation in GVC.

Q: Given women's comparative advantage in services, one might expect service-led growth to increase female labor force participation. How do panelists reconcile this with the persistent — and in India even declining — FLFP?

A: There are clearly country-specific differences here, and time-varying factors, both of which that affect FLFP. Keep in mind that the service sector is also pretty heterogeneous; we haven't necessarily unpacked things as much as we should! A lot of work to be done here still!

Q: A policymaker who has not studied economics ever is trying to reduce informality as well as increase female participation in the country's workforce. What caution should exercise do to make sure that implementing results from two different research papers do not cancel each other out? (This is just one example, we could mention the above case with other priorities policymakers have)

A: It's true that academic research often seems contradictory... I guess that's the nature of the research process... As we collectively try to advance knowledge, we will undoubtedly find results that point in different directions and suggest different policies. Maybe we get to a consensus eventually -- but maybe not! There are lots of policy areas where we are far from consensus, in spite of lots of research for many years!!