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# TRANSCRIPT:
# OLD AND NEW INDUSTRIAL POLICY

**Keynote Dani Rodrik, Harvard University, 2025/05/13**

Industrial Policy: Recent Developments, Effectiveness, Objectives, and the Focus on Creating Good Jobs.
Maybe you can hear me, but I cannot hear you. If you can hear me, good afternoon everybody.
Okay, I'm going to share my presentation and hopefully by the end of my presentation something will happen and I will be able to to hear your end as well. I gather that you can hear me.
So I'm delighted to be with you to talk about industrial policy. I'm sorry I couldn't be there in person. I want to start with a broad overview of what I want to say.
There has been a lot of new developments in industrial policy. Some of it has to do with the actual research of industrial policy which has really taken off in the last couple of decades. And one of the messages that I'd like to give you is that the most the recent generation of research in industrial policies is quite encouraging with regard to whether industrial policy can work or at least its effectiveness. And I'm just going to give you some examples.
But you know, point number one is that the recent evidence on industrial policy is that it is often effective in achieving the kind of structural transformation in production and technology that it often targets. With regard to the practice of industrial policy, we of course, you know, are in a world where now industrial policy is targeting a variety of objectives. Whether it's sort of the traditional objective of innovation now increasingly occurs for several decades, the green transition now, worries about national security, supply chain resilience, and of course issues about, you know, how do we create good jobs and help lagging regions.
These are all a variety of objectives that that industrial policy has targeted. I think, you know, the second key message that that I'd like to give is that it's very difficult to kill multiple birds with a single stone. That as we keep our eyes on these different objectives we also have to realize that they each require different types of policies and different types of industrial policy. And here there is a bit of a tension between the political logic and the economic logic of industrial policy. The political logic of industrial policy is that we want politicians often want to sell industrial policy as something they can that can serve a variety of different types of objectives. And the economic logic suggests that that might often not work. And therefore, there is this kind of tension as to what can be politically quite appealing is often not economically the most appropriate type of industrial policy. The third message focuses specifically with regard to one of what I think is a key target for industrial policy that I think should receive much more explicit attention. And that's the focus of creating good

jobs. I mean I truly think good jobs are the foundation of a middle-class society. And I think that the disappearance and the weakness of good job creation has been linked to a variety of economic, social, and political ills in our societies. And I think we need a kind of industrial policy that targets directly good jobs. And in that connection, I want to make sort of three suggestions as to, you know, how we need to rethink our industrial policies with that objective in mind. One is being much more explicit that we need to give innovation a certain direction.
That it's possible for the government, for the public sector to incentivize a labor-complementing technological innovation. That is a kind of innovation that is particularly friendly to workers.
Second, to think about industrial policy in a sort of not just in terms of, you know, like subsidies, but to think about it as a variety of services and public inputs that governments at all levels provides to assist production, technological innovation, and so forth. And then finally, to think about industrial policy not as a system whereby bureaucrats or governments are setting targets and policies from the top down, but as more as a kind of a process of collaborative iterative cooperation between government agencies and private stakeholders.
So some these are some of the sort of, you know, top, you know, broad ideas that I want to get across in my presentation.
So we have a fairly well developed economic theory of industrial policy that sort of focuses on the need to internalize learning and migrations for workers. And the typical approach is to think about subsidies as going to internalize those kinds of externalities. And because traditionally you've thought about those externalities being mostly taking place in the context of advanced manufacturing and high-tech sectors, that typically industrial policy has focused on those types of sectors. And then of course there's the much of the practical discussion, policy-oriented discussion of industrial policies focuses on the risks, the downside. It's actually come in two forms. One is that the governments cannot help may not have adequate information about where those externalities, where those market failures are, and that political capture and this you know, traditional critique of industrial policy in the form of governments cannot pick winners. And then the second somewhat different critique, which is that even if the government in principle were able to do that, somehow when the government gets into that there's this difficult the process will be overtaken by cronyism and rent-seeking and that political capture. And I'll also cite one example in the context of Solyndra in the United States. And therefore, in that context, there's a variety of prerequisites that industrial policy if it is to be effective has to satisfy. That the

governments have to have adequate information, that it is it has to keep firms at arm's length, and that this relationship has to be one of strict conditionality and discipline. And one reason that in this traditional take on industrial policy, we think East Asia has been successful is because we think of East Asia as a kind of a hard state where governments have been able to effectively impose this discipline on firms. And the empirical evidence until very recently was that that you know, we don't have a lot of evidence that actually industrial policy works. Now, my basic point in this short presentation is really to say that this traditional take on industrial policy is quite out of date. And I want to sort of draw for you a picture of industrial policy that is much more contemporary and much more up-to-date.

Let me start actually with the with the evidence.

And I think probably the most significant and important case of industrial policy success in recent decades has been the renewables success story. Now, this is interesting because actually Germany was at the forefront of industrial policy and encouraging renewables starting in the late 1990s and then out into the 2000s. But this has become increasingly a Chinese success story. China was a relatively latecomer compared to Germany, but for reasons that are not entirely clear to me, I think has to do with the global financial crisis and how after 2008 Germany moves much more towards fiscal austerity and de-emphasizes green industrial policies. That after that date it's increasingly China that takes over.

And in the context of you know, sort of the Chinese renewable success story, the basic features of this is that basically the combination of expansive industrial policy in China with the learning curve has created a kind of a virtuous circle of subsidies leading to capacity increase, generating learning by doing, which reflects itself in reduction in costs, which allows prices to come down and expansion of markets and that capacity expansion and so forth. And this has been not just a commercial success for China as a whole, it's been a global success because given the climate externalities, that this renewable success story it's created with a slashing of the cost of solar and wind energy and electric vehicles and batteries.

It's important to understand that China's industrial policies were much more than subsidies. And it incorporated a variety of instruments, public venture capital, directed credit, public investment, regulatory changes. And these policies were explicitly experimental. And there was self-conscious experimentation going on with different provinces, different municipalities, essentially being encouraged to experiment around the different kinds of policies. And there was this mutually supportive and occasionally competing roles of the national, provincial, and municipal governments.

And the approach was very heavily cooperative both across different levels of government, but as well between governments and businesses. And public venture capital firms played a very critical role there alongside subsidies. And we now have now a variety of evidence that suggests that these policies were effective in in generating significant spillovers and cost reductions.
Another very different area where we've had recent evidence that suggests industrial policy works is actually regional policies or place-based policies. We have a variety of policies, a variety of papers or studies focusing on the UK and Italy and somewhat more descriptive case studies of local economic development policies in the United States that suggest that sort of these local economic development policies, which are often cross-sectoral coalitions across different types of agencies, public, private sector collaborations, can be actually quite helpful in generating employment and structural change in desired directions. So the more recent evidence whether we look at sort of the very big successes in the green industrial policy area or sort of the local economic development policies suggests that many varieties of policies work.
But of course, often they do not work.
And you know, probably in in the United States, the one thing that sets industrial policy, green industrial policy back for quite many years was the failure of Solyndra, which was a kind of a flagship supported firm during the Obama administration that eventually failed. But I think, you know, what the very public failure of this firm, I think in a way tarred the industrial policy experience in a way that if the process had been managed politically much more deftly could have been avoided because ultimately, of course, these various loan and other government supports that the government were engaged in were not predicated on the idea that each one of them would necessarily succeed. And it was in the very nature of such programs in high technology that some of them will fail.
And I think the real standard for industrial policy is not whether governments can consistently pick winners, but whether they're able to let the losers go. And Solyndra I think was a failure only to the extent that it could have been avoided with what was known about the nature of technological and or was actually allowed to persist for too long and there are some elements of that. But it's worth noting that during the same period, Tesla received a similar loan from the US government and of course, it's been a success that has been. So I think ultimately in the management of industrial policy, political management is very important in the messaging to make sure that the public understands that by the very nature of the technological innovation

efforts in this area, the what matters is not that each individual effort pays off, but that the project as a whole, the portfolio as a whole works.
So I think we've now luckily moved away from this very unproductive debate about whether government should have industrial policy to, I think, a much more interesting, much more productive, much more useful debate about how industrial policy should be conducted. And let me say a little bit more about where I think we're learning from actual practice and evidence about some of the design elements of industrial policy.
I think one direction that we need to understand which we've seen in the most successful programs of industrial policy is that we want to think about industrial policy not just or even exclusively or not just in terms of subsidy programs, fiscal incentives, tax incentives. And I think often when we think about industrial policy, we focus much more on these fiscal incentives. But effective programs typically rely on the provision of customized public inputs. And those public inputs might come in the form of coordinating different types of public services, investment in specific types of workforce or management training, providing various business services, technology grooming, regulatory assistance.
And it's not thinking too broadly.
But that the right frame of mind for thinking about industrial policy is how can the government or government agencies unlock the ability of the private sector to undertake the requisite investments. And sometimes that's done through better coordinating services that already exist by investing in workforce, providing greenfield, providing business expansion services, management training, or regulatory assistance and so forth. So compared to these other kinds of public assistance, the subsidies often tend to be not as cost-effective. So I think this is one kind of transition in the way that we're learning about what works in industrial policy is more kind of a portfolio of public services rather than simply tax incentives.
A another area where I think we need to pay a lot more attention to is how to design industrial policies specifically for good jobs. And I pay specific attention to good jobs because the disappearance of good jobs has been linked in empirical work to a variety of social and political malfunctions. Rising rates of crime, addiction, broken families, suicide, support for right-wing and nativist political movements, increasing authoritarian values. And I think it's not unfair to say that many of the crises of our democracies are linked to the increased fragility of economic social insecurity that our middle classes are experiencing and due to these anxieties related to good jobs.

And I think it's important to think about industrial policies as a complement to investments in human capital or workforce training. Because I think what the evidence we have is that there is a complementarity between investing in good firms and investing in good jobs. And I think that the role of industrial policy in this connection is to complement investments in training and human capital by generating the demand for the types of workers.
(…)
Now when we take a good jobs perspective, we give a good jobs focus on industrial policy. Then the whole term industrial policy has some sort of a degree of that because we really whether we like it or not, this is a kind of a fact that the employment the bulk of employment is currently and will in the future be generated in services. So while some of the traditional motivations for industrial policy, whether it's the green transition or innovation, supply chain resilience, national security, those may still require a focus on manufacturing, but the jobs themselves are not and will not be in manufacturing. I think this was a kind of a misplaced focus of Biden era industrial policy, particularly the chips which focused exclusively on manufacturing. And I think there's a similar need to shift the focus in European industrial policy discussions as well. With focuses on national security, digitalization, green transition, these are all important objectives. But it's important to understand that they will not address the issue of good jobs. And good jobs require industrial policies that are targeted directly the sectors where the jobs are going to be. And those are services. So, I think when we look at the international you know, context, we see that even countries that have been extremely successful in competing globally in manufacturing, the share of jobs that are generated in manufacturing has fallen.
The focus here is on mostly South Korea, for example. If you look at the charts from circles or China of course, which is the main country that we're talking about when we're talking about manufacturing competitiveness. China has lost more workers in manufacturing in the past decade than exist in Germany in total.
So you know, this fact of job loss in manufacturing is something that's is very difficult to avoid. And one has to acknowledge that if we turn also to the future, these numbers are for the United States, but I imagine many similar numbers would apply to Europe as well.
That is that that the bulk of future occupations and the largest occupations in the future are going to be in services and non-tradable services, whether it's home care or long-term care, fast food and counter workers, retail workers, warehouse workers, cares, customer service representatives and so forth. And most of these jobs

actually do not require college education. So the notion of just simply investing in education and the capital is not going to solve the problem of creating good jobs in these kinds of service, these kinds of occupations.
So I think the only way that we can meet the challenge of providing good jobs in these services is actually by making those kinds of jobs more productive. And that I think is going to require a dedicated effort to reorient or orient a technological innovation in a more labor-friendly direction. And I think this is something that you know, governments have not yet focused on. You know, innovation, there is defense-related innovation, national security related innovation or green innovation as a specific direction.
But we can also think about governments incentivizing labor-friendly technologies and in ways that can actually make lower educated or less paid workers in long-term care or retail, or education be able to perform much more sophisticated tasks, perform a variety of tasks, increase their productivity in a way that would support the creation of better-paying, higher quality jobs.
So in the US context, for example, I've argued that the US needs an ARPA-W for workers. We have an ARPA for defense, we have an ARPA for biomedical research and health sciences, we have an ARPA for clean energy. But there's been no ARPA for workers that sort of focuses on how to move technology in the direction that's more labor-friendly.
And finally, I think going back to some of the things that I've said earlier, I think industrial policy has to be reconceptualized as something that's a process that is not simply a kind of a top-down arm's-length ex-ante selection of winners or sectors or firms with hard conditionality. It's in fact and China's experience in industrial policy has been much more one of strategic collaboration, it's much more iterative, where the role of the public sector is sort of loosely setting a broad set of goals, engaging in a process of discovery with the private sector as to which public inputs are missing and being able to provide those in a kind of a coordinated way. Conditionality takes a kind of a soft form rather than a hard form, given the impossibility of predicting technological trajectories very specifically. And because of that, there's a process of monitoring, goal revision, iteration that takes place around these things. So such practices already exist both at the national level in terms of how for example, technological innovation has been fostered by the DARPA system in the United States, as well as local economic development coalitions and work that's been done in in the US. But I think those practices have to be integrated and scaled up into a sort of broader understanding of how industrial policy works.

So just to just to finish up, returning back to sort of how our traditional take on industrial policy is now being re-conceptualized, I think our objectives in some senses are broader. I think it's not enough to think about simply externalities as failures, but I think we need to coordinate the provision of public services and public inputs and moving from subsidies to the provision of these inputs, expanding the focus from manufacturing and high-tech sectors to labor-exploiting services and labor-friendly technologies, being able to sort of understand that the risks are manageable in terms of the risks of lack of information and political capture. And that many of these supposed prerequisites are actually capabilities that are built and need not be presumed. And that we've seen how this this actually happens in real cases. And finally, ending up where I finished, I think there's a major reconsideration going on about whether in fact industrial policy works. And I think right now we would have to revise our priors from industrial policy rarely works to often it does work, although the context is very critical. And it takes a lot of work to adapt these practices to the local context.
So let me stop here. I feel a little bit like I've been giving a monologue as I can't hear anything from over your end, but I hope that the (…) I'm just going to stop here.