What Ails Indian Manufacturing?

Episode 104 | Everything is Everything

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Transcript

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Abstract

Indian manufacturing is broken. Despite decades of GDP growth, manufacturing's share of GDP has been stuck between fifteen and twenty percent for thirty years, its share of employment has barely moved, and manufacturing exports have grown at roughly half a percent a year in real terms over the last decade, even as services exports more than doubled. Ajay Shah and Amit Varma use this crisis as the starting point for a wide-ranging diagnosis of what ails Indian manufacturing, building on Amit's four-and-a-half-hour conversation with Naresh Shenoy and Sudhir Sarnobat on The Seen and the Unseen.

The conversation moves through three layers. First, Ajay lays out eight structural ways manufacturing differs from services, from the "legibility" of factories that makes them sitting ducks for extortion, to the capital intensity, electricity dependence, and long payback periods that services firms simply do not face. Second, Amit walks through the historical arc, from India's twenty to twenty-five percent share of world manufacturing in 1750, through the colonial decline, the Nehruvian turn toward Soviet-style planning and distrust of competition, and the disastrous deepening of these mistakes under Indira Gandhi through licensing, MRTP, small-scale reservations, FERA, and labour law. Third, Ajay catalogues twelve specific problems facing Indian manufacturing today, from labour law and minimum wages to land markets, electricity, trade barriers, finance, globalization friction, scale, contract enforcement, tax policy, and the shortage of high-skill talent.

The episode closes by splitting these twelve problems between the union government and state governments, making the case that state governments have real agency to fix seven of the twelve issues on their own, and ends with a recommendation for readers interested in practical frameworks for running businesses in Indian conditions. A follow-up episode will question whether manufacturing needs to be central to India's growth strategy at all.

Supplementary Resources

- **Solar and Batteries Have Beaten Coal Pricing in Coal's Game: Frequently Asked Questions** by Nikit Abhyankar, Amol Phadke, and Ajay Shah (Journal article)
- **State of Regulation: Working-Hour Reforms for Competitiveness** by Bhuvana Anand et al. (Working paper)
- **Why India's Factories Struggle to Keep Up with the World** by Bhuvana Anand, Pranjal Chandra, and Naveena Pradeep (Blog post)
- **Using Land for Economic Development: India's Land Problem Is Also a Public-Finance Problem** by Anirudh Burman (Journal article)
- **The Lowest Hanging Fruit on the Coconut Tree: India's Climate Transition Through the Price System in the Power Sector** by Akshay Jaitly and Ajay Shah (Working paper)
- **Snatching Decline from the Jaws of Growth** by K. P. Krishnan (Newspaper article)
- **Input Tax Credit and Refunds under GST in India: Conceptual and Legal Framework** by Arbind Modi and Ajay Shah (Working paper)
- **The Journey of Indian Finance** by Ajay Shah (Book Chapter)
- **New Work on District Courts in Kerala** by Ajay Shah (Newspaper article)
- **The Beauty of Finance** by Ajay Shah and Amit Varma (Podcast)
- **Graduating to Globalisation** by Ajay Shah and Amit Varma (Podcast)
- **The Brave New Future of Electricity** by Ajay Shah and Amit Varma (Podcast)
- **Where Has All the Infrastructure Gone?** by Ajay Shah and Amit Varma (Podcast)
- **Is Globalization Doomed?** by Ajay Shah and Amit Varma (Podcast)
- **The Power of Moore's Laws** by Ajay Shah and Amit Varma (Podcast)
- **The Wonders of FDI** by Ajay Shah and Amit Varma (Podcast)

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Introduction: The Travails of the Indian Businessman

[00:00:14] Ajay Shah: Welcome gentle reader to this episode of Everything is Everything. That is the great Amit Varma, in case you forgot his name. And my name is Ajay Shah. And today we are here to talk about manufacturing.

[00:00:27] Ajay Shah: Now, the idea for this episode came from episode 419 of The Seen and the Unseen. This is a lovely episode. I was saying to Amit, it's one of the best episodes of The Seen and the Unseen that I have experienced. It is a conversation by him with Naresh Shenoy and Sudhir Sarvobat.

[00:00:48] Ajay Shah: It's four and a half hours long, and it takes you inside the mind of what is going on in the world of business in India, about the difficulties faced by business in India. It is basically expensive, difficult fieldwork that researchers would have to do to go find people like this who are so deeply knowledgeable at the ground level, and understand what is going wrong with them.

[00:01:14] Ajay Shah: So I loved the episode, and then Amit and I immediately planned that, okay, with this as a jumping off point, what cool things can we do? So we have planned two episodes. Both of them center around manufacturing.

[00:01:30] Ajay Shah: Let me just sell this to you for one minute and then I'll show you the sense of the two episodes. There is agriculture, there is manufacturing, and there is services. And there is a traditional belief that the essence of economic growth is to crack manufacturing. We all dream about vast factories with twenty thousand, fifty thousand workers, all sitting obediently on an assembly line, straight out of Charlie Chaplin, Modern Times.

[00:02:03] Ajay Shah: And these people get stable jobs and it creates a transformation of productivity in the economy and that's a story that's running in the heads of most people when you say economic development. So manufacturing is very interesting and very fascinating.

[00:02:21] Ajay Shah: In the episode today, we're going to start at a bleak summary that manufacturing in India is not working well. This is the same as what Naresh Shenoy and Sudhir Sarvobat are telling us, that there are serious problems in this field. And in this episode, we're going to talk about a sense of how manufacturing is different from services, a history about the way the Indian state came up with one mistake after another that has interfered with the possibility of success of manufacturing in India.

[00:02:58] Ajay Shah: Then we are going to focus on twelve problems that bedevil manufacturing today. And that's just a good summary of what is going wrong. Why is India failing on manufacturing? I think all of us need to put up this checklist in our bathroom and worship every day that we're going to solve these problems.

[00:03:17] Ajay Shah: And finally, we'll do a little bit of union versus state. A lot can and is being done at the state level. Every state can and should build an economic growth strategy to go after its subset of these difficulties. That's the episode today.

[00:03:35] Ajay Shah: And then next week, we're going to go after a bigger question in development economics, which is can there be a growth strategy for a country where manufacturing is not of essence? And we're going to question a lot of the conventional thinking on the criticality of manufacturing. So this is our plan for two episodes, this one and next week.

[00:03:56] Amit Varma: I'm already super excited. I'm also glad you liked that episode. Sometimes this happens. A singer-songwriter who has barely learned to play the guitar will sit with the instrument and they will write a song, right?

[00:03:56] Amit Varma: But is it a good song? In the moment, they will feel, "Haan, achcha hi hai. Sounds good to me, but I don't really know." There is a lot of self-doubt.

[00:04:15] Amit Varma: Now imagine if that person takes that song to Bob Dylan and plays it for Bob Dylan. And Bob Dylan says, "Wah, kya baat hai? This is such a great song." So for me to do an episode on manufacturing, and for you, Ajay Shah, to say that it's a good episode, is exactly the same thing, right? You are the kind of economist who actually has lists in his bathroom about how to make Indian manufacturing better.

[00:04:38] Ajay Shah: Don't you?

[00:04:38] Amit Varma: Don't you?

[00:04:40] Ajay Shah: I don't want to tell you what I have in my bathroom. Actually, I don't have any lists. So there's nothing embarrassing there. There are shower gels and shampoos, but let's not go there again.

[00:04:40] Ajay Shah: But yeah, we're going to have fun. So I got to tell you, just before we started recording, we were kind of looking at the pointers, industrial policy and labor laws and this and that. And Ajay suddenly said, "I am having so much fun. I can't imagine having so much fun." And I'm like, "Bhai, you are having fun.

[00:04:40] Ajay Shah: I'm trying to memorize phrases. You are having fun." No, no, I was also having fun.

Chapter 1: The Hard Facts about Indian Manufacturing

[00:05:19] Amit Varma: Ajay, a central premise of why we're doing this episode and why Naresh and Sudhir did that episode with me is that Indian manufacturing today is broken. But gentle readers may want to know, what do you mean broken? Prove it, show me, give me the numbers.

[00:05:34] Ajay Shah: So I'm going to show you two qualitative claims, and the numbers match up, but they are not interesting. And then I'm going to show you some hard numbers. The qualitative claim is that when you get high GDP growth, the share of manufacturing in GDP really should go up by a lot. It just hasn't happened in India.

[00:05:34] Ajay Shah: We're stuck. We're just perennially in the range from 15 to 20% for the last thirty years. It's not moving and 20% of GDP ain't much.

[00:05:59] Ajay Shah: Similarly, the claim is that when economic growth happens, the share of manufacturing and employment should go up. No, it's not happening. There's no meaningful presence of manufacturing in the overall employment and it's not going up. So these are two ways in which it's broke.

[00:06:18] Ajay Shah: But the most stark way in which it's broke, we see in the export data. Let me read from this table. In this table, I'm showing the exports of goods and services over a full year, expressed in billion USD. Note, nominal USD, and we'll come back to that in a moment.

[00:06:18] Ajay Shah: So let's look at services.

[00:06:40] Ajay Shah: Services exports grew over ten years from 151 billion dollars to 341 billion dollars. Nice, hefty, 126% gains in a decade. Like, you get 126% in a decade and it is real genuine growth. Also in absolute numbers, 341 billion dollars of services exports is nothing to sneeze at.

[00:07:04] Amit Varma: That happened to my weight, but continue.

[00:07:07] Ajay Shah: Goods on the other hand, grew from 319 billion dollars to 442 billion dollars, which is 38% growth over a decade. Now, actually, the United States did not live up to its vows and deliver a 2% inflation target in this decade. Inflation was actually almost at 3%.

[00:07:30] Ajay Shah: So if you think 3% inflation over a 10 year period, so this nominal dollar is not comparable over this time period. And then you feel that the Indian manufacturing exports growth over this 10 year period is basically like nothing. It works out to like a half percent real growth per year, which is just nothing.

[00:07:51] Ajay Shah: There is a serious crisis with manufacturing in India. So I've showed three different facts. Manufacturing exports growth over the last 10 years of about 0.5% per year, compounded, expressed in real USD, which is abysmal. And no real growth in absolute numbers on manufacturing employment and no real gains on the share of manufacturing in GDP.

[00:08:17] Ajay Shah: These are the three ways in which we claim that manufacturing in India is broken. And it behooves all of us to think about what is wrong and what should be done about it.

[00:08:27] Amit Varma: Give me a sense of what these figures actually mean. Like when you talk about manufacturing being only about 20% of GDP, what is it in other countries? What was it say in South Korea, Taiwan when they were having their boom years, 60s, 70s, 80s? What is a healthy figure?

[00:08:27] Amit Varma: Where would we like to be? So I get a sense of what's going on here.

[00:08:47] Ajay Shah: So it is true that by the time you get to the advanced economies, like the OECD countries, then again manufacturing as a share of GDP declines. We have seen a middle zone where it goes up to 40, 50% of GDP. So in some dream world, it ought to be 40, 50% of GDP. Instead we are stuck at 20%.

Chapter 2: The Difference Between Manufacturing and Services

[00:09:14] Amit Varma: So Ajay, the good news for India in the last 30, 40 years is the way services has taken off. And the bad news as you point out is that manufacturing hasn't quite done that, despite the reforms of '91. So give me a sense of why there's such a stark difference between manufacturing and services.

[00:09:32] Ajay Shah: So all of us should be thinking about what are the ways in which a manufacturing problem is different from a services problem. And then that is of essence in diagnosing are we creating an environment that is conducive to success.

[00:09:51] Ajay Shah: So the first problem I want to put up is that factories are legible. And I use the word legibility in the sense of James C. Scott and Seeing Like a State. Factories are bulky.

[00:09:51] Ajay Shah: You can see factories. Every local goonda can see a factory. The state can see a factory. So the moment a factory comes up, a whole rapacious, non-rule of law Indian government policy goes after the factory.

[00:10:21] Ajay Shah: Whereas with services, you are able to hide away these things to a greater extent. There'll be some innocuous looking office building and there'll be a floor of that building where some very powerful services work will be done, but it doesn't readily attract that much attention. So this is a very weird problem, and you agree, this is a uniquely Indian problem, that people in India are not safe.

[00:10:46] Ajay Shah: And once you create a highly visible structure, then a variety of people want to extort. Some local people will come and say, "We're doing a pooja, you have to fund us." Local people will come and say, "Build a school for us." Local goondas will extort that if the trucks have to go in and out of your factory, then you owe me some hafta. And the state, every imaginable inspector shows up and will extort money from factories.

[00:11:13] Ajay Shah: So the first idea is that factories are sitting ducks. All the problems of extortion and expropriation by private persons and by state personnel afflict factories more. Services, it's just better because it's a little more hidden. It's a little genteel.

[00:11:13] Ajay Shah: It happens in nice buildings and there are many different firms in the building. There's not one clear concentrated owner.

[00:11:40] Ajay Shah: So the word state legibility has to be imported here, that the problem with factories is that they are visible to the state. So this is the first thing where manufacturing differs from services. The second place where things have gone wrong in India, and where again manufacturing differs from services, is manufacturing is all about highly specialized factories that transport their intermediate raw materials to each other.

[00:12:12] Ajay Shah: It's a global value chain, the technical term GVC is used. It's a global value chain, but in terms of saving costs of logistics, it also matters that it's a local value chain. So it is very convenient if I build something and within 10 kilometers I get it out to you. One of the most magical things I've seen is in the Baroda region, there's an entire chemical industry complex where there are multiple private factories who endlessly run a pipe to each other.

[00:12:43] Ajay Shah: So the output of one factory runs on a pipe to the next factory. And they put a meter on that. So how much goods are going from me to you, and then I'll invoice you. But there is no friction at all because it's flowing on pipes.

[00:12:43] Ajay Shah: These are supremely efficient arrangements when you can be physically nearby and you can move goods to each other. And that creates externalities.

[00:13:04] Ajay Shah: In the words of the great economist, Albert Hirschman, he called this linkages. He said, what is great about manufacturing is all these linkages. Well, what has happened in India is imagine if somehow you managed to think of 20 buddies who are going to build 20 factories where they will all buy and sell to each other. And they all decide that we are going to be within 10 kilometers of each other in the region of Nashik.

[00:13:31] Ajay Shah: The trouble is operating in India is messy. Something or the other trips up five out of the 10. There will be a different mode of failure for each of them. The Indian governance environment is messy.

[00:13:31] Ajay Shah: But because some of those 10 don't come up, there are several project fails, factory fails, company fails, something or the other goes wrong.

[00:13:51] Ajay Shah: Then the linkages don't quite come together. So the interconnections, what should have been amazing network effects of many manufacturing firms working together actually turns into a disability in India because something or the other goes wrong. In contrast, in the world of services, we interconnect the factories, we interconnect services production sites on fiber optic cables. So you just don't care that you get all the linkages.

[00:14:15] Ajay Shah: And further, the linkages are all over the world. You just don't care where the facilities are physically located. You put a data center in Greenland, you put a customer in Japan, you do some processing in India, you do some other processing in Mozambique, we just don't care. We move electrons all over the world.

[00:14:15] Ajay Shah: So the complexity of getting a tight network of many firms working with each other, being interlinked to each other, getting the network effects is particularly difficult in the Indian environment where something or the other goes wrong.

[00:14:46] Ajay Shah: So just think of it as complexity doesn't work well in India because there are too many buggy components in our Indian landscape. One fellow will go down with a labor law, one fellow will go down with some banks and creditors, one fellow will have a problem with a local politician, something or the other will go wrong. And then those fails interfere with the rich network effects of many factories that buy and sell from each other.

[00:15:10] Ajay Shah: The third problem is capital. Manufacturing is much more capital-intensive than services. What do you do for services? You rent a floor of a building, you rent a building.

[00:15:10] Ajay Shah: And you're up and running. You don't really need to put a lot of capital. By now, the cost of computers and the telecom switches and all that has gone to zero. So you just need a shiny office with clean lighting and air conditioning and you are up and running.

[00:15:37] Ajay Shah: So the capital cost is really low and modern services firms don't even bother holding that capital stock. They rent. So you really don't need much capital in a services business. And in an export oriented services business, you get paid rapidly.

[00:15:37] Ajay Shah: There's no great working capital problem. There may be a one-month, two-month working capital cycle. You pay your workers today, you get paid next month or the month after. That's all there is.

[00:16:00] Ajay Shah: There's no complexity of capital in the services business. That's absolutely not the case for manufacturing. The first is the land requirement is higher. It's capital stock.

[00:16:00] Ajay Shah: Then there is all the machinery. You have to buy quite a bit of complex machinery in the manufacturing game. Again in services, no sensible person will ever buy equipment. You'll rent in the cloud, you'll rent in Germany.

[00:16:25] Ajay Shah: There is no case for holding equipment in India. There is no case for paying air conditioning costs in India. You'll just rent in the cloud and it is so cheap, it is so efficient. In manufacturing, you have to buy complex high-tech equipment, and that builds up the capital cost of first putting up the factory.

[00:16:25] Ajay Shah: And then you get to working capital problems, that you will deliver some goods, you have to buy some raw materials. You get a more complex working capital cycle.

[00:16:53] Ajay Shah: Now here in India, we have a weird problem around working capital. Big companies routinely misbehave with small companies. It's a horrible way of behaving, but that's just the way India has become. I consider it very inefficient for big companies.

[00:16:53] Ajay Shah: If I was a big company, I would promptly pay small companies because then I would get better procurement. I'd get my goods produced more effectively by the small company because it is my competitive edge to source cheaper capital.

[00:17:23] Ajay Shah: So if I'm a 5,000 crore company with a listed equity and with some bond issuance, I'm getting very low cost of capital. So in fact I should turn it into my advantage. But big companies in India are so short-sighted. They always squeeze small companies and they extract working capital out of small companies, which makes no sense at all.

[00:17:23] Ajay Shah: And the Indian financial system does not work well. It does not effectively deliver working capital to these companies.

[00:17:50] Ajay Shah: So on both counts, you want to buy land, you want to buy machinery, and you need working capital. Overall, there is a lot of working capital that is required in manufacturing, the likes of which is not a problem in services. So that was problem number three.

[00:18:04] Ajay Shah: Okay, the fourth problem is electricity. This sounds trite, like, what's a big deal electricity? My God, the Indian electricity sector is a mess. We are doing this recording in rural Maharashtra, a scant 70 kilometers from Bombay.

[00:18:04] Ajay Shah: And it's astonishing how 10 times a day the MSEB power trips. What is this nonsense?

[00:18:30] Ajay Shah: And now you think from the viewpoint of a manufacturing company, that's a no-go. You cannot have a factory where your equipment trips five, 10 times a day. So everybody has to get a bloody generator. A, that bulks up your capital cost, and B, it's horrendously expensive.

[00:18:30] Ajay Shah: Burning diesel and running your factory is horrendously expensive.

[00:18:49] Ajay Shah: Suppose, to the extent I'm able to buy electricity from the grid, I am overcharged for electricity in the grid because the Indian state runs a welfare system where the commercial and industrial users, the so-called C&I, are overcharged for electricity, and this is used to do subsidies for domestic and for agriculture and for all the thieves.

[00:19:17] Ajay Shah: So there are people stealing electricity, there are people in agriculture who get free or nearly free electricity, there are domestic people who get 200 units free, 500 units free. All this stuff is loaded on the backs of the C&I. So electricity is a critical raw material for manufacturing. There cannot be a factory without excellent electricity.

[00:19:17] Ajay Shah: And India is a fail. Gujarat works reasonably well, all other states work reasonably badly.

[00:19:44] Ajay Shah: And this is a barrier to getting manufacturing done. Ultimately, it's a cost. Hiding inside this electricity problem is a renewables problem. If you export into the world, one by one, the countries of the world are demanding a border carbon tax, where either you buy renewables at home or you pay a tax at the border of Europe starting next year, at the border of the UK.

[00:19:44] Ajay Shah: One by one, the countries of the world are introducing these taxes.

[00:20:11] Ajay Shah: And for a buyer of electricity in India, it's a double whammy. First, you pay for some of the most expensive and low-efficiency electricity of the world, the most intermittent and expensive electricity of the world. And then a double whammy is you pay a carbon tax at the border there because the electricity here is made in a carbon-intensive way. This is just a really bad arrangement for manufacturing.

[00:20:36] Ajay Shah: Number five, we get to infrastructure. Manufacturing is intensive on moving goods around, which is not a problem for the services world, where electrons fly on fiber optic cables and no atoms need to be moved.

[00:20:52] Ajay Shah: Number six is the time horizons. A typical manufacturing project, a factory, is really a project of five years, seven years. You NPV over five years, seven years and it all becomes square. The margins in manufacturing are just not big enough to make it have a shorter payback period than five years and seven years.

[00:20:52] Ajay Shah: So you really need to be stable and dig in and play for the long term, get low cost of capital, and have your plans work out correctly on a 5, 7 year horizon for this to work.

[00:21:25] Ajay Shah: And it's an unstable world, it's an unstable environment and five to seven years is scary for many an Indian entrepreneur. In contrast, the basic business viability of services production in India is so great that you get one-year, two-year payback periods. If you can land the global customer and you build the delivery system, it pays back rapidly. So you don't really need too much long-term thinking, you don't need to figure out the stability of your arrangements over a long time period because it's a short problem.

[00:21:55] Ajay Shah: So manufacturing is a more long-term problem. Okay, finally I come to the problem of the cathedral of complexity. We already talked about linkages. Manufacturing is complicated, and there'll be many, many pieces that are done by highly specialized firms.

[00:21:55] Ajay Shah: That's the way it should be. If you try to build one big campus where you will do 20 things, you will end up doing them inefficiently. Specialization is the key.

[00:22:20] Ajay Shah: Adam Smith's example about pins. Adam Smith's example about pins is the story that you become specialized, you do one thing well. And so each factory does one thing well. And to some extent, this is a global value chain, but always in India, there'll be many, many pieces.

[00:22:20] Ajay Shah: So imagine you'll give me a contract to make something. I will farm out six pieces to six other companies, and then their subassemblies will come back to me and then I'll put it together and I'll sell it to you.

[00:22:49] Ajay Shah: And I have a contract on you, that I have to deliver something successfully to you. So let's say you're a global buyer, you give me one contract, I have to build something. And then I am orchestrating many, many pieces in India. This choreography is genuinely hard.

[00:22:49] Ajay Shah: The global manufacturing business is so efficient, is so tight, it's not funny. The world runs just-in-time inventories. So on the precise day, your goods have to show up.

[00:23:15] Ajay Shah: You can't be one day late, you can't be two days late. The precise quantities and the precise deadlines have to happen. Now here in India, when you are pushing against a variety of vendors that work for me, those vendors are all a little bit sloppy. So it may even be that I will do a terrific job of fighting a Herculean battle to try to get stuff to you on time.

[00:23:15] Ajay Shah: You're a global player. I understand the discipline and the mores of working for a global buyer.

[00:23:47] Ajay Shah: But I'm working in a messy Indian environment, and one or the other of my suppliers will tend to fail. Now let's pause to think of what it means to fail. It means a contract violation. There was a contract.

[00:23:47] Ajay Shah: You were supposed to give me 5,000 ball bearings today. You did not give me 5,000 ball bearings today. And my entire assembly line got frozen because your ball bearings did not come to me.

[00:24:12] Ajay Shah: This is a contract violation. This is the criticality of the basic mechanisms of dispute resolution in the country. You should be able to go to court and enforce a contract. It is very simple that there was a contract, you were supposed to give me the ball bearings.

[00:24:12] Ajay Shah: I claim the ball bearings were not delivered on time. The judge has to ascertain that the ball bearings were not delivered on time.

[00:24:34] Ajay Shah: Then, beautiful common law principle, you calculate the liquidated damages, you impose that financial penalty upon the person that failed to perform. This is the basics of how common law contract enforcement works. In any successful market economy, you need these mechanisms of dispute resolution. What will that do?

[00:24:34] Ajay Shah: It'll work at two levels. First is, when I fail on the foreign buyer, they hit me with financial penalties. They hit you with horrible financial penalties because all over the world, they are running an extremely tight production system.

[00:25:06] Ajay Shah: So I'll get some of my financial penalties reimbursed by inflicting financial penalties upon the various people that failed on me, which is fair and which defrays some of the costs. But part two, deterrence. If you know that contracts are going to be enforced, then every vendor in India will move heaven and hell and not be sloppy and not be relaxed and do whatever it takes. There can be a bandh that is announced by a political party, but the firms have to get through to the right person and say, "No, dude, my trucks have to go through.

[00:25:06] Ajay Shah: You do whatever it takes, my truck has to go through." That is a meaning of competence. That is a meaning of efficiency to participate in the globalized world of manufacturing requires this level of perfection. It's not funny, the level of quality and perfection that is required to actually do manufacturing.

[00:25:57] Ajay Shah: Many people denigrate manufacturing when they imply that it is some low-skill, dumb problem which just involves large amounts of unskilled labor. That's absolutely not true. To actually do manufacturing is a Herculean challenge because you're participating in global value chains with just-in-time delivery who are extremely demanding, who want perfect quality, perfect delivery on quantity, on date. And that's a high-wire act.

[00:26:25] Ajay Shah: And because of the sloppiness of contract enforcement in India, we're just surrounded by incompetence and incompetence. Then burst his mighty heart. And muffling up his face even at the base of Caesar's, even at the base of Pompey's statue, great Caesar fell. Like ingratitude more strong than traitor's arms vanquished him.

[00:26:25] Ajay Shah: No, I want to say incompetence more strong than traitor's arms vanquished him.

[00:27:00] Ajay Shah: You're just surrounded by incompetence. You do contracts, the person can't be trusted. And deliveries don't come on time. Then everybody tries to hold a lot of inventory to compensate, or you'll try to do business with family members or other trusted people, then you lose competitiveness, your costs go up.

[00:27:00] Ajay Shah: So this is the malaise, that to do manufacturing well is to achieve a cathedral of complexity where there's a rich array of contracts that surround the process of manufacturing.

[00:27:28] Ajay Shah: And everybody works to a tight ship with lethal financial consequences when you fail. And given the failures of dispute resolution in India, that doesn't happen in India. And that's not the case with services.

[00:27:40] Amit Varma: Instead of a cathedral of complexity, we have a hutment of failure. This is truly sad and I love the language you use, malaise, mores, so sophisticated. This chapter is actually, it feels like such a masterclass because many gentle readers will often tell us through comments and elsewhere that, "Hey, this episode is really a resource for me," etcetera, etcetera. And this chapter is for me, because whenever people ask me about manufacturing and services, I have one simple answer, which is broadly true, but now I can expand upon that with all of these points.

[00:28:12] Amit Varma: And that simple answer is that services, especially IT services, was relatively new for the Indian state. So it kind of got blindsided by it. And all the regulations and laws and etcetera, etcetera, which were in place for manufacturing for decades, were simply not there. And manufacturing on the other hand had to deal with that legacy of oppressive regulations and extractive behavior by the state, which was very hard to overcome.

[00:28:12] Amit Varma: And that in fact is what the next chapter is going to be about.

Chapter 3: A Historical View

[00:28:50] Ajay Shah: Amit, I've begun by describing eight areas where manufacturing is different from services and it immediately makes you look back in history at the behavior of the Indian state and how the early machinery of the Indian state was just so inimical to Indian success. Take us through that historical narrative at the risk of a little bit of overlap with some other episodes.

[00:29:16] Amit Varma: Yeah, in episode 10, which is called Why Freedom Matters, we actually spoke about India's economic history in a sense. So I don't want to risk repeating too much of that, but I'll go through whatever is relevant to manufacturing itself. Let's start by talking about the colonial era. Let's start by talking before 1947 to understand how we got here.

[00:29:39] Amit Varma: India accounted for about 20 to 25% of the world's manufacturing output in 1750. We were doing damn well. And this was before the industrial age. All of it was artisanal output, but 20 to 25% is pretty awesome.

[00:29:39] Amit Varma: Now, this became 2% by the year 1900. There are two sort of narratives which talk about what colonialism did to us, and there's a certain amount of truth to both of them. One of those narratives is that colonialism was purely extractive and it destroyed India's manufacturing share of output, etcetera, etcetera.

[00:30:00] Amit Varma: And again, in an earlier episode on tariffs, we have spoken about how early colonialism had a mercantilist outlook where people looked at the world in zero sum ways. And you see some of that happening in the early colonial period for sure. And this criticism, which a lot of historians made, Dadabhai Naoroji famously made in the British parliament, was essentially that you had machine-made cheap textiles, especially cotton textiles from Manchester being imported to India, and all our artisanal industries, weaving etcetera, etcetera, kind of getting destroyed by this. And therefore we have that fall over a century and a half from twenty-two percent to two percent.

[00:30:00] Amit Varma: So that is one part of the story where the British are completely the villains.

[00:31:02] Amit Varma: A bunch of other historians, including someone we both admire a lot, Tirthankar Roy, paint a different picture. They say that it wasn't so bad. This is part of the story, but the main part of the story is that the industrial revolution happened. Once you have machines coming into play and once you have factories with machines and cheap labor and so on and so forth, then the artisans simply can't compete.

[00:31:02] Amit Varma: And this was the truth elsewhere in the world.

[00:31:26] Amit Varma: The machine-spun fabric from England actually hurt handloom workers in other parts of the world as well which were not colonized. So it's really a shift in technology, technological obsolescence which is making this happen and not so much just a case of colonialism. It just so happens that we got unlucky and industrialized a little later. At the same time, there was some industrialization happening.

[00:31:52] Amit Varma: So by the eighteen fifties, a certain Indian industrialization began to happen. Some of it aided by British capital and indeed capital from elsewhere, as the world began to gradually kind of globalize. So you had textile factories set up in Bombay and Ahmedabad, you had jute mills in Bengal, you had the Tata Iron and Steel company set up in nineteen oh seven and so on and so forth.

[00:32:13] Amit Varma: And you actually had a little bit of industrialization happening, especially in the first half of the twentieth century, between nineteen thirteen to about nineteen forty-seven. And you had manufacturing's share of India's output grow from about three point eight percent in nineteen thirteen to almost double, to seven point five percent at independence. But out of a population of about three hundred and fifty million people, only two and a half million people were involved in manufacturing. So this is what manufacturing looks like in nineteen forty-seven when India becomes independent.

[00:32:48] Amit Varma: We've spoken about the Nehru years in many episodes. If you essentially look at the period between nineteen fifty and nineteen sixty-five, Nehru's vision, which is partly inspired by what appeared then to be the Soviet model, and at that time, remember, the world didn't really know that the Soviet Union was a complete and utter failure, it was really a public relations success. So his model was one where the state would lead the heavy industrialization, you'd have five-year plans, and so on and so forth.

[00:33:13] Amit Varma: I have a great episode on Mahalanobis as well of The Seen and the Unseen, which kind of talks about that period in some detail. We've done episodes on it, both here and on The Seen and the Unseen. They'll all be linked from the show notes. And what happens during that period is that there is a deep distrust of private capital.

[00:33:13] Amit Varma: And there are two fundamental mistakes that you can look back and say were made.

[00:33:36] Amit Varma: One of course was import substitution, which was essentially cutting off India from world trade. Around nineteen forty-seven, India probably accounted for two percent of world trade. By nineteen ninety, that was zero point five percent. It dipped drastically through all of these years because we just shut ourselves off and there was no export orientation.

[00:33:57] Amit Varma: And if you just look around the rest of Asia at that point, export orientation made a huge difference. If you just look at Hong Kong for example, Hong Kong went fully gung ho towards an export-oriented economy and in the nineteen sixties, their income from exports was as much as India's income overall. South Korea boomed, Taiwan boomed, all of them because they allowed for exports, they allowed for foreign capital to come in, and so on and so forth.

[00:34:27] Amit Varma: The second great mistake of that era was an aversion to the idea of competition. Mahalanobis in the mid-nineteen fifties famously said that competition is wasteful. Why should two companies make cars? One is enough, right?

[00:34:27] Amit Varma: Little knowing that you get to good cars because different companies are competing. So the idea seems so funny, but so many of our existing laws are based on this suggestion, that competition is wasteful.

[00:34:52] Amit Varma: Why should ten people make potato chips? Why should five people make laptops? Ek hi company karegi. Aur kaunsi company karegi?

[00:34:52] Amit Varma: State ki company karegi. So private enterprise was kept out, in some areas completely kept out. So the state is the only entrepreneur. And you had industrial licensing whereas the state will determine every action taken by a private player, that you want to import this particular equipment, eighteen months for you to get a license from us, so on and so forth.

[00:35:18] Amit Varma: So this was what was happening in the Nehru era. And by nineteen sixty-five, it was already evident, frankly, that the model was failing. I find it hard to blame Nehru because he was a great statesman in other ways. He followed the fashion of the times.

[00:35:18] Amit Varma: He was wrong about one fundamental thing. And perhaps had he lived, he would have corrected course. And we really didn't know at that time. People followed the myth of the Soviet Union and industrial planning.

[00:35:43] Amit Varma: So in hindsight it's very easy to look at these as mistakes, then it wasn't. What happened after nineteen sixty-five, frankly, is unforgivable. We knew we were on the wrong track, and we deepened our journey into that wrong track. I often look at Indira Gandhi's economic policies and I think of them as crimes on humanity.

[00:35:43] Amit Varma: They were responsible for keeping hundreds of millions of people in poverty for decades longer than would otherwise have been the case.

[00:36:05] Amit Varma: People look at Indira Gandhi and they look at the emergency and they say, "Oh, one fatal error, but had she not done that, she was fine," etcetera, etcetera. And while acknowledging her strength as a leader in certain areas, like in the nineteen seventy-one Bangladesh war, where she proved to be a great leader and a great Prime Minister, but otherwise, I think of her as a moral monster. She went in a particular leftward direction because it gave her a political edge over her opponents in the Congress party, and carried out a series of policies, which I shall soon detail out, which were disastrous for the Indian economy and especially for Indian manufacturing.

[00:36:42] Amit Varma: So that by the end of the seventies, and there's a little bit of a revival which starts around that period, and ninety-one we really turn things around in a much better way. But by the end of the seventies, we were close to being a basket case, just zero point five percent of world trade despite our high population. But let's get to the point of why Indian manufacturing suffered. It was because of the state.

[00:37:01] Amit Varma: And I look at the seventies as a particularly tragic period because that is a decade we could have turned it around. We had the great advantage of cheap labor. We could have been a manufacturing superpower. The Southeast Asian countries got there before us.

[00:37:01] Amit Varma: China got there around that time. Vietnam, Bangladesh got there a little later. We simply never got on that bus. And it's important to understand why.

[00:37:01] Amit Varma: So let's list out some of the broad policy failures one by one.

[00:37:24] Amit Varma: So first let's start with industrial licensing that started at the time of Nehru. And the idea was that any industrialist who wants to do something has to apply for permission to do it. And I will read out an example of this from Montek Singh Ahluwalia's excellent memoir where he speaks about something that happened in the early nineteen eighties. Narayan Murthy, the iconic co-founder of Infosys, told me of his personal experience in nineteen eighty-three when Infosys wanted to import a Data General MV eight thousand computer with three removable disk drives with a capacity of two hundred MB each.

[00:37:56] Amit Varma: They had to make several trips to New Delhi to get the import license. By the time they got the license, a new disk drive with a capacity of three hundred MB had become available, thirty percent cheaper. Naturally, they wanted to import the latest model. However, the original license specified the model number and several additional visits to Delhi had to be made to modify the license.

[00:37:56] Amit Varma: In an area where technology was changing rapidly and timely delivery of export orders was crucial, long delays in getting equipment was fatal for exporters.

[00:38:25] Amit Varma: Now similarly, in the time of Indira Gandhi, there was the MRTP act, where there was this ideological belief, which to my horror some people still hold today, that large companies are not a good thing. And what the MRTP act did was that it stopped companies from getting too big. So if you want to set up a new factory somewhere, you got to apply for permission. If you want to expand how much you are making of whatever product you make, you have to apply for permission.

[00:38:25] Amit Varma: Everything is controlled by the state.

[00:38:53] Amit Varma: And one point I often keep making is that there is nothing wrong with big companies. The point is, how do you become a successful venture? By giving people what they want, by making people better off, many, many double thank you moments. If there is a large company that is making a lot of profit, it simply means that it is serving society better at scale.

[00:38:53] Amit Varma: What could be bad about this? And of course we know the benefits of scaling, all the way down the line. And this wasn't allowed to happen.

[00:39:21] Amit Varma: Then there were a bizarre set of regulations called small scale industry regulations where basically there were certain areas like making garments or making shoes where the government decided that this should only be for artisans. So this should only be for small scale enterprises. You can't do it at scale. And the result is that you can't get too big if you are doing any of these things.

[00:39:21] Amit Varma: You have to stay small. You can't be a conglomerate, you can't be a multinational, and of course, people aren't exporting at this point anyway, that's not open to us.

[00:39:51] Amit Varma: You can't do all of those things. And what typically happens as you grow bigger, as you discover scale, as you specialize more and more, is that you get better and better. Your products get better, you deliver more value to consumers. And none of those things are happening because of regulations of this sort.

[00:39:51] Amit Varma: Then there were foreign capital regulations, like Indira Gandhi famously brought in FERA, where it is criminal to bring in too much foreign exchange into the country.

[00:40:17] Amit Varma: And the thing is money is fungible. If I am running a business, like you said, cheap capital is so important, it should not matter where I get the capital from. I could get the capital from Surat. I could get the capital from Stockholm.

[00:40:17] Amit Varma: It is nobody's business. There's money coming in for me to run my business here and to serve the people here. And where the money comes from simply doesn't matter. But by completely stopping the inflow of foreign capital, you are harming my capacity to grow.

[00:40:43] Amit Varma: And all of these, by the way, fall in the area of The Seen and the Unseen. That great phrase by Bastiat which, you know, I name my podcast after, because the unseen effect is simply so vast.

[00:40:55] Amit Varma: Then there are a bunch of terrible labor laws. The Industrial Disputes Act being a particular one. And the Industrial Disputes Act was supposed to protect workers and the idea was that if you are a factory with a hundred workers or more, at any point in time, if you want to fire one of them, you have to take permission from the government. And this in practice became impossible.

[00:40:55] Amit Varma: It became a way of rent seeking.

[00:41:18] Amit Varma: And guess how people dealt with it. People dealt with it by simply not getting to a hundred employees. So the Indian landscape was littered with companies that had ninety-nine employees. In some cases, nineteen, because there are different regulations which kicked in when you reached twenty employees, or even when you reached ten employees.

[00:41:18] Amit Varma: So you actually had little units of nine employees. And if you want to expand beyond that, you set up another unit, which is a separate thing.

[00:41:42] Amit Varma: So you have nine-people units, you have nineteen-people units, you have ninety-nine-people units. I believe the law was recently amended to make the number three hundred, but even that is ridiculous. If I am running a firm and I want to sack someone or I want to hire someone, to take permission from the state is absurd. The implication in that is that the state owns everything I own, that all property is owned by the state, that I am owned by the state, that I am a slave, that I have to take permission.

[00:42:10] Amit Varma: And one of the key factoids that came up in the episode on MSMEs that you referred to, The Seen and the Unseen 419 with Naren and Sudhir, is the point that what does MSME stand for? Micro, small and medium. And India is mostly micro. There's very little small and medium, and of course the small and the medium also is not allowed to scale and grow, but it's mostly micro.

[00:42:32] Amit Varma: And why is it mostly micro? It's mostly micro because of stupid, idiotic laws like this. And this is not something that a lot of people understand, that the labor laws in India which are ostensibly meant to protect workers actually hurt workers the more. It's a classic example of why you should judge a policy not by its intention but by its outcome.

[00:42:54] Amit Varma: And I could go on and on. I could talk about price controls, freight price controls on various goods, freight equalization, the inspector raj is still active despite parts of the license raj being dismantled. I think a common complaint that we have about the ninety-one reforms is that they didn't go far enough, especially when it comes to manufacturing, factor markets were not reformed, labor, capital, land, etcetera, etcetera. But for a moment, this is a potted history.

[00:42:54] Amit Varma: I don't want to go too deep into it because episode ten has a lot of stuff.

[00:43:22] Amit Varma: But I instead want to turn to you and say, okay, this is a potted history which tells us why things were dismal until nineteen ninety. What you have done in the first chapter here is shown us that, okay, things are a little better, but they are still not great. And my next question to you for the next chapter is, explain why. What ails Indian manufacturing today?

[00:43:22] Amit Varma: How many of these laws no longer exist? How many do?

[00:43:46] Ajay Shah: Amit, I'm going to show twelve reasons why manufacturing in India does not work today. Just for clarity, gentle reader, earlier I gave you eight ways in which manufacturing is different from services. So we need to appreciate that deep inside our head. Now we're going to go after what holds manufacturing in India back.

[00:43:46] Ajay Shah: Reason one is labor law.

Chapter 4: The Problems with Indian Manufacturing TODAY

[00:44:19] Ajay Shah: So in your Seen and the Unseen episode, Sudhir and Naren make some very interesting points. They say at least in a good state like Maharashtra, the government has understood that wildcat trade unions and union-bazi is really destructive for the economic growth of the state. So generally the government has started tamping down its support for unions and its willingness to go along with some of the provisions of Indian labor law.

[00:44:52] Ajay Shah: While they are right on that about Maharashtra, I will point out that there are many states in India that are not called Maharashtra where all those concerns about labor unions are alive and well. And so the empowerment of trade unions by the Indian state, which by the way is called a market failure, called market power. When a bunch of workers come together, it's called market power, and it's a market failure, and the job of the state should be to run interference against market failure, not to enable or enshrine it.

[00:45:29] Ajay Shah: The second part of the problem is minimum wage. I want to hold up to you a great example, which is like a North Korea, South Korea comparison. You have a communist country called West Bengal where the minimum wage is thirteen thousand rupees. And you have a capitalist country called East Bengal where I think the minimum wage is seven, eight thousand rupees.

[00:45:29] Ajay Shah: And who do you think got an amazingly successful garment export industry? The answer is East Bengal.

[00:45:59] Ajay Shah: And what sense does that make? Why is the state better off by putting up a high minimum wage? The state should get out of the way. Then let people choose.

[00:45:59] Ajay Shah: Nobody is conscripting the workers. It's voluntary actions of workers that make them choose to work. Why should the state come into it saying thirteen thousand should be a minimum wage?

[00:46:20] Ajay Shah: And in fact, we get mass poverty in India because millions of people don't get those jobs. And only a few capital intensive factories arise. The high minimum wage in India means the only way to make low-tech problems like garmenting work in India is to amp up their technological complexity. You can't do it by hand because at that minimum wage, you're not viable on a global scale.

[00:46:47] Ajay Shah: So you get capital intensive garment manufacturing in India. What sense does that make? And the Indian financial system doesn't work too well, so capital is also quite expensive in India. And then you described industrial disputes act and problems of closing factories, problems of sacking workers and all that.

[00:46:47] Ajay Shah: So all this is problem one, labor. The Indian state has created an environment that is not conducive for manufacturing.

[00:47:12] Amit Varma: And though we've spoken about it before, if someone hasn't seen that episode, they might say minimum wage is a good thing. You're guaranteeing people thirteen thousand bucks. What's wrong with that? And to that I would say two things.

[00:47:12] Amit Varma: You're not guaranteeing people thirteen thousand bucks. As Milton Friedman explained in this video you see on the screen and we'll have a link in the show notes, what simply happens is that you outlaw everyone whose labor is worth less than thirteen thousand. It means they're out of a job.

[00:47:37] Amit Varma: So it's not that if you were earning eight thousand and you have a minimum wage law that says thirteen thousand, it's not that you suddenly earn thirteen thousand. It's that you earn zero, a big fat zero. And also, you might say eight thousand is not a living wage, right? But the point is someone who's taken a job worth eight thousand, there are two things to note.

[00:47:37] Amit Varma: Number one, he's taken the best option available to him. It is literally better than every other option. Every other option is worse.

[00:48:00] Amit Varma: So how can you be condescending and say he should not be allowed to take that? And the other is that if there is a competitive marketplace, and it's the state's job to ensure that there is a competitive marketplace by staying out of the way and enabling that and having rule of law, in a competitive marketplace, that eight thousand is the max that any company can pay. Otherwise companies are also competing for labor. Some other company would then offer him more if there was an advantage in doing so.

[00:48:24] Amit Varma: So what you really do with a minimum wage is you put the poorest people out of a job, which is just criminal and a classic example of how such laws hurt the people they're supposed to help.

[00:48:34] Ajay Shah: One more way to see this is that imagine a voluntary transaction between consenting adults. There's a firm, there's a worker, and they're willing to work at eight thousand, they're willing to work at four thousand. But no, now the state comes along, uses its monopoly of violence and says, I will not allow this to happen. And suddenly those two people are frustrated because they had wanted to do something together, but the government has interfered with that.

[00:48:34] Ajay Shah: It really is not a good idea.

[00:49:01] Amit Varma: So what's your next point, Ajay?

[00:49:03] Ajay Shah: The next problem is infrastructure. Manufacturing involves moving goods around, and for many locations in India, in many parts of India, infrastructure remains a problem. Now, you and I did an episode of Everything is Everything titled, "Where has all the infrastructure gone?" where we remarked that giant gains have been obtained in Indian infrastructure and there was no commensurate improvement either in FDI into India or in manufacturing exports from India or in manufacturing employment.

[00:49:32] Ajay Shah: So I'm not yet ready to say that this is a binding constraint today. I think the other eleven problems are more of a binding constraint. Currently, the infrastructure is a bit ahead, and we should not obsess thatmuch on more infrastructure.

[00:49:47] Ajay Shah: Okay, the third story is around the land market. To some extent, I believe India is in the midst of a China style land market bubble where land values are just nuts. Land values are way beyond rental yields. Agricultural land prices are way beyond the plausible annual profit from doing agriculture.

[00:49:47] Ajay Shah: So land prices are nuts. Now, if you are a manufacturing company, what you want is a chunk of land and you want road connectivity, you need electricity, you need water, you need safety.

[00:50:22] Ajay Shah: And that's a difficult package to put together. Most places in India would not be able to supply all these. Further, it actually doesn't end at the problem of just the land, because then you need the workers. So meaningfully, you need large factories.

[00:50:22] Ajay Shah: You get economies of scale, you will play on a global scale by the time a factory is well beyond two thousand workers.

[00:50:47] Ajay Shah: Anything below two thousand workers is really dinky on a global scale. It's non-trivial getting two thousand workers to show up every morning at one particular place. Then you need to think of the populations where all those people are living. For all your romantic notions of a village, a village of a hundred and fifty households is around seven hundred and seventy-five persons, out of which around three hundred are available to work, out of which at most one hundred would go to one particular factory.

[00:51:16] Ajay Shah: So if you have a factory near one village, you're getting one hundred, two hundred, three hundred people from there. You're nowhere near five thousand, ten thousand workers from five, ten surrounding villages. So this really needs an urban planning approach. You need urban density of the households who can then become workers in factories.

[00:51:16] Ajay Shah: So you should get out of the romantic idea that there will be factories near villages.

[00:51:44] Ajay Shah: Factories will always be near cities, and then you need urban density, you need the urban planning. Similarly, on the problem of shortage of land, yes, of course, you should be building high. You need to increase the FSI so that factories are not limited to only being ground floor affairs, they should go up. There should be multiple floors of a factory.

[00:52:05] Ajay Shah: But then the moment you do that, you need the commensurate urban planning where there are roads. So for example, if you have a factory going up five floors, it requires five x the logistics. It requires five x the workers. Then you need the commensurate road and rail and other kinds of connectivity.

[00:52:05] Ajay Shah: Otherwise, once again, the whole thing breaks down.

[00:52:26] Ajay Shah: So what is needed is urban planning. Factories should be seen as an integral part of urban planning. Bimal Patel did this great talk at the Emerging Markets Conference where he talked about his single unifying theme around urban planning, that the job of urban planning is to make sure like forty percent of the land goes into streets and parks and a mechanism through which some of that money comes back into the urban infrastructure.

[00:52:56] Ajay Shah: So industrial capabilities and manufacturing related land should be seen as integral to urban planning, not as Tata Steel going and buying some land at the back of beyond, and then they're supposed to do all the urban development. That's not a reasonable description anymore.

[00:53:16] Ajay Shah: Okay, and then number four, I come to the problem of labor. I already talked about one issue that you want two thousand, twenty thousand, one hundred thousand workers in a factory. Where are they located? Where are they going to live?

[00:53:16] Ajay Shah: But then, think not just entry level eight thousand rupees a month, ten thousand rupees a month blue collar labor. Think of the entire management tree.

[00:53:39] Ajay Shah: A factory is a very complex organization. It requires employees at many, many levels. Where are they going to live? Once again, you have to think urban.

[00:53:39] Ajay Shah: You can't have a remote factory far away because then all the senior people will not be there. A factory has to be viewed as part of a city. And then in that context of the city, we will be able to get all the skill levels of the people who will work for a factory.

[00:54:04] Ajay Shah: And you just pause for one moment and you will see how this is an integrally urban problem. Imagine I'm going to put up a factory with twenty thousand workers and we have ten thousand machines. So we've got an average of four humans per machine on the shop floor. Ten thousand machines are on the shop floor.

[00:54:04] Ajay Shah: Well, ten thousand machines will have a repairs and maintenance schedule.

[00:54:32] Ajay Shah: They will have all kinds of care and feeding. There will be an operating system upgrade that has to be done on each of the machines. There will be many, many vendors and service providers who will do all that. Where will their employees sit?

[00:54:32] Ajay Shah: Their employees need offices. Their employees need homes. Their kids need schools. These are high skilled people who are going to flash a prom on a CNC lathe.

[00:54:56] Ajay Shah: It doesn't come easily. So we should completely get out of this idea that a factory is going to sit somewhere in a village. Factories should be seen as deeply connected into the urban planning process so that large density of a workforce going from low-end all the way to high-end and an array of associated service providers are all available in that urban, semi-urban environment who can then feed into these big complex factories.

[00:55:24] Ajay Shah: I know today in India, people are trying the Chinese dormitory model, where the factory will take responsibility for building hostels. I think that's deeply dissatisfying and what we need is for Bimal Patel and Bhajor Mehta and Suyash Rai to dream how to bring manufacturing into urban planning.

[00:55:47] Ajay Shah: Number five, electricity. We already talked about the problem of electricity, the intermittency and the price point of electricity and the inability of an exporter to demand and get one hundred percent renewables, certifiable, auditable renewables. This is just an abysmal mess. Akshay Jaitley and I have been part of this field for many years.

[00:55:47] Ajay Shah: We are dreamers around a market-based electricity sector.

[00:56:16] Ajay Shah: We did a Seen and the Unseen episode with you about our coconut paper. You and I did an episode of Everything is Everything on the future of electricity.

[00:56:27] Amit Varma: One of our best episodes. Watch it.

[00:56:30] Ajay Shah: And this is the stuff that needs to be done to make manufacturing work.

[00:56:36] Ajay Shah: Okay, number six is a very easy idea, trade barriers. It should be crystal clear to every Indian that when you put any friction at the border, then imported goods in India become more expensive. So the manufacturing company that is going to buy those imported goods ends up being less competitive. This is clear as daylight.

[00:56:36] Ajay Shah: If you want to be globally competitive, you need raw materials at global prices.

[00:57:03] Ajay Shah: So it is nuts that the most important yarn of the world is the yarn that goes into making artificial cloth, not cotton. And there is a ten percent duty at the border which drives up the price of all artificial fabric in India by ten percent. Suddenly the entire Indian garment industry is uncompetitive because cloth, their raw material in India, is ten percent more expensive than that of Bangladesh and Vietnam and so on. This is just so basic.

[00:57:37] Ajay Shah: Why do we do barriers at the border that are harming the ability of Indian firms to produce on a global scale? Gentle reader, Amit and I did two episodes back to back on globalization. There is a deep connection between all those issues and the question of manufacturing.

[00:57:56] Ajay Shah: Number seven, let me come to the problem of finance. So when I was describing how manufacturing is different from services, I said that you need a bigger amount of capital to buy land, build a factory, put machines into it, and you need more working capital. How do you solve all this? On the working capital problem, what we need is tough enforcement of the obligations of buyers.

[00:58:20] Ajay Shah: So if I buy ball bearings from you, I should be obliged to pay you as per contract. So the government should not specify that the payment should come in three days. Whatever is written in a voluntarily negotiated contract by you and me should be enforced with extreme harshness by a rule of law system. This is called a bankruptcy code.

[00:58:20] Ajay Shah: So if there is a contract and I gave you the ball bearings and you were obliged to pay me ten crore rupees and that money is getting delayed, I should not have to do chakkar to your office and pay you Diwali gifts in the hope of getting paid.

[00:58:54] Ajay Shah: I should go take you to bankruptcy code, that you have violated on a payment and that should trigger a bankruptcy process. Unfortunately in India, you and I discussed this in our bankruptcy episode, the political economy of bankruptcy reform made the big companies have a disproportionate influence and they secured significant protections against the so-called operational creditors.

[00:59:20] Ajay Shah: Operational creditors should be enshrined in bankruptcy law and given full power to demand getting paid on time. I think it's absolutely wrong as the design of a society that people don't get paid on time. So the answer is not a government portal where you'll put your invoice or whatever. The answer is bankruptcy code and the empowerment of operational creditors.

[00:59:20] Ajay Shah: And then the bankruptcy code will lead to the bankruptcy process for ten important big companies of India. Great.

[00:59:48] Ajay Shah: After that, everybody else will get the message. Big companies can obtain cheaper capital than small companies. Why does it make sense for big companies to choke payments to small companies? That doesn't make any sense.

[01:00:00] Ajay Shah: And then you come to the main body of the capital. Manufacturing is capital intensive, it requires land, it requires machines, requires a lot of capital to build. This is called financial sector reforms. You and I have done an episode on the beauty of finance.

[01:00:00] Ajay Shah: More importantly, you and I have done an episode on the journey of Indian finance, which is the story of Indian financial reforms and some of the things that got done and many things that did not get done.

[01:00:27] Ajay Shah: And that paper, The Journey of Indian Finance, is available on the XKDR Forum website. There is so much waiting to be done by way of financial reforms and there's really no difficult political reason why this should not be done, and it would make a huge difference to manufacturing if the cost of capital comes down.

[01:00:48] Ajay Shah: Okay, number eight is the problem of globalization. Global manufacturing is a truly global affair. You need people who will travel all around the world, who will do cross-border contracts, who will hold bank accounts in London and Vietnam, who will be truly global in their orientation.

[01:01:04] Ajay Shah: The entire Indian state is organized as an autarky. The Indian state mistrusts anything happening cross-border. When an income tax officer discovers that you have a bank account abroad, they start thinking, oh, you must be doing some hawala business. There are all kinds of laws, there are restrictions, and there is a fundamentally anti-globalization approach by the Indian state.

[01:01:04] Ajay Shah: That has to go away because to do manufacturing well, you have to be fully global. You have to be uncompromisingly global.

[01:01:31] Ajay Shah: Indian companies have to own operations all around the world, do contracts all around the world, do litigation and arbitration all over the world, fly around the world all the time. We have to solve simple frictions around passports and visas. For example, I believe that in the UK, everybody's allowed to have two passports. Why?

[01:01:31] Ajay Shah: Because when I'm traveling on one, the other goes for a visa. It's such a simple rule.

[01:01:56] Ajay Shah: What's difficult for the Indian state to issue two passports to everybody, so that you're not stuck. Otherwise, while I'm traveling, I have my passport on me, and then I'm not able to get a visa for my next travels. So I'm forced to slow down the cadence of my travels because you have to spend some days in India to get the visas ahead of time. These are very simple fixes.

[01:01:56] Ajay Shah: You need a fundamentally pro-globalization orientation of the Indian state.

[01:02:18] Ajay Shah: We have to get out of our insecure, anti-western, anti-foreign approaches. And we have to truly embrace the world that we are here, we are part of this world. Let's do everything in deep collaboration with the rest of this world.

[01:02:34] Ajay Shah: Number nine is the problem of size. Manufacturing is a scale game. You correctly said the learning that comes from experience. You and I did an episode on Moore's law where we talked about Wright's law, that the curve that matters is on the X-axis, you put my lifetime output.

[01:02:34] Ajay Shah: What did I ever produce in my entire life? You put that up in log scale.

[01:02:57] Ajay Shah: And for each two x gain in my lifetime output, I get a twenty percent gain in productivity. These are so-called experience curves. You need to do a lot of it. So you need very big factories, where you're doing stuff on a giant scale.

[01:02:57] Ajay Shah: In a very big factory, if you have ten thousand machines, every subtle optimization is worth it. Because if you will make a point one percent efficiency gain on a per machine basis, it adds up to serious money.

[01:03:26] Ajay Shah: If you have a small factory, it's just not worth it. So small factories don't embed complex processes and complex optimizations. You need scale. And the entire Indian system is designed to trip up anything that becomes big.

[01:03:26] Ajay Shah: We in India today feel good about a two thousand-person factory. I just want to say on a global scale, that ain't much. You have to get to ten thousand, twenty thousand, fifty thousand, hundred thousand workers. That is the nature of successful, low-cost manufacturing in the world.

[01:03:55] Amit Varma: Some would dream of a factory with one point seven billion people, Ajay Shah. Manufacturing national pride.

[01:04:02] Ajay Shah: Okay. Number ten, I talked about the cathedral of contracts. This requires improvements in the entire machinery of dispute resolution. There are some gains that have happened in the Bombay High Court and the Delhi High Court, led by the traditional judiciary.

[01:04:02] Ajay Shah: In my organization at XKDR Forum, we have been part of some beautiful gains in the working of district courts in Kerala. We'll put some links to this kind of work. I feel that this is the first time that we're getting serious process improvements on the working of the Indian judiciary.

[01:04:37] Ajay Shah: We need to do much more by way of arbitration, but we really need to get out of this concept that you can shamelessly renege on contracts and more or less get away scot-free. Our friend Shubo Roy, who is now a law academic at Shiv Nadar University, has long been campaigning on one issue. He says that the interest rates used by courts in awarding payments are absurdly low.

[01:05:04] Ajay Shah: I owe you one hundred rupees, I failed to pay you one hundred rupees. We waste ten years in court. Now if the court says one hundred rupees with five percent interest has to be paid, that's a terrible deal because five percent is a very low number. So the interest rates used by courts in their calculations need to be punitive, so that you will think five times before reneging upon somebody on a payment.

[01:05:29] Ajay Shah: So this whole dispute resolution infrastructure is a very critical thing that everybody needs to focus on and get right.

[01:05:37] Ajay Shah: Okay. Number eleven is tax policy. The GST is progress, but a fundamental principle of tax policy is you do not tax non-residents. If I'm exporting something, then the entire burden of indirect tax that has applied upon me must be refunded by the Indian state when the goods go out.

[01:05:37] Ajay Shah: So the Indian state has a footprint on taxing activities between you and me. But when you are sending goods abroad, you need a complete refund.

[01:06:07] Ajay Shah: In today's GST, and there's a thing called RODTEP, in today's GST and RODTEP, there is a partial refund of some things, and there are a lot of delays which generates a working capital requirement. And there are many, many things which are not being refunded. On the screen, I have put up a list of elements of Indian indirect taxation where the Indian manufacturing company suffers all these kinds of taxation and they do not get a refund.

[01:06:34] Ajay Shah: This is just not fair. This is not competitive because everywhere else in the world, the VAT is here and they get the complete refund at the point of export. The fundamental principle of taxation is you do not tax non-residents. Just get out of that mentality.

[01:06:34] Ajay Shah: That somebody sitting abroad is not your tax base. All you can do is tax your local activities here.

[01:06:55] Ajay Shah: Finally, number twelve is around labor. I again want to push back against the crude conception that manufacturing is some low-skill activity. That is absolutely not true. To fully build a world-class exporting operation, yes, it does require hiring ten thousand people at eight thousand rupees, but it also involves hiring one thousand people who are much more capable, and one hundred people who are super capable, and twenty people who are global geniuses.

[01:07:25] Ajay Shah: That skill is not present in India today. For India to make the leap and become a manufacturing giant, we're going to need to hire people from abroad. For example, a lot of amazing garment manufacturing talent is found in Sri Lanka because Sri Lanka is ahead of India on garmenting. Well, the Indian state needs to get out of the way on all the problems of immigration, work visa, all the misery that we put foreigners into.

[01:07:50] Ajay Shah: It should become easy and effortless for Indian companies to hire foreigners because to do manufacturing is to be in a deeply global business and it's an extremely high-skill problem. A lot of those capabilities are not found in India.

Chapter 5: The Union and the State

[01:08:12] Amit Varma: So Ajay, that was quite masterful. A lot for me to process. I will watch this episode again and again and maybe get our editor to do a version of it that doesn't have me and only you. But my next question is this, is all of this a union government issue, or are some of these state government issues where states can actually compete with each other and get an advantage over each other by creating better laws, by enabling more freedom?

[01:08:38] Ajay Shah: Absolutely critical for this reasoning. Five out of the twelve are the work of the union government. Look at the screen. We have put up two columns.

[01:08:38] Ajay Shah: The left column is five out of the twelve which are the work of the union government. Seven out of the twelve are the work of state governments. And so what you see in India is Gujarat, Maharashtra, Karnataka, Tamil Nadu have just run ahead compared to the rest of India in terms of their manufacturing capabilities, because on those seven things, they are faring better than the other states.

[01:09:13] Ajay Shah: And this is an active work program for every state government. Every state government needs to run an economic growth strategy where they need to go after the seven things on the right, saying, yeah, one day the union government will do those five things on the left. That's a separate battle. We urge the union government to go after those five issues.

[01:09:13] Ajay Shah: But actually, each state is a master of its own destiny on seven out of the twelve things. So there's a lot to be done. And in fact, there is a competitive environment in India where each state is competing with the others on trying to do these things better. So that is economic growth strategy at the level of each state.

Chapter 6: Recommendations

[01:09:57] Ajay Shah: So Amit bhai, is all this fun? How should we think about it? And do you have any recommendations to offer?

[01:10:03] Amit Varma: All this is a lot of fun. I can't wait to record our next episode because I don't know what it has and I'll get to learn a lot from you. But my recommendation for this episode is going to be a site and a new venture called How Frameworks by our good friend Sudhir Sarnobat. Absolutely brilliant man, self-made man, already a successful entrepreneur, has now set this up with his partner Rajendra Bagwe, who is a legend among entrepreneurs and industrialists in Maharashtra.

[01:10:31] Amit Varma: And How Frameworks is something, is a site that everyone who has a business of any sort should explore because it fundamentally gives you frameworks with which you can grow your business, turn your business around, take it to the next level. And it is not consultant talk. It is not bookish talk. It's come from a lifetime of experience in Indian conditions, in local conditions taking into account all the things that we have spoken about in this episode.

[01:10:59] Amit Varma: And even if you don't care about business, I'm not running an active business, right? But I still found it really interesting and dived down a rabbit hole and spent a couple of hours because if you are the kind of person who loves new ways of thinking about things, new frameworks of looking at the world, it has so much that is applicable to individuals and to how we live our lives and not just to businesses.

[01:11:21] Amit Varma: So howframeworks.com. And to get a discount, please use the code seen unseen. I don't get a commission from this, but you gentle readers can get a discount with the code seen unseen. So How Frameworks, Sudhir Sarnobat, you will hear a lot of that name later.

[01:11:21] Amit Varma: Note it down, take a screenshot. And yeah, howframeworks.com.

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