Good afternoon, I’m Marcus Noland, I’m the executive vice president director of studies here at PIIE and it is my honor to welcome you to the launch of Professor Richard Baldwin’s new book. Adam Posen’s wife, Jen Sosen is some sort of marketing guru and she says that you’re supposed to mention the book’s title three times.

Not only do I have the book’s title mentioned once now, but I’m actually waving around a copy of the book. It is a brand new book; it was just released yesterday from Harvard University Press and we are very honored to have Richard here for the launch of this book.

In this book, Richard argues that revolutionary advances in information technology and computing, transformed globalization around 1990 in ways that few governments and companies have yet to fully comprehend. Better communication made feasible for rich nations to move manufacturing stages to developing nations.

But the key change was not the offshoring of factories; it was the offshoring of ideas, intellectual property and knowledge that went with the jobs. These massive knowledge flows, fundamentally changed the way globalization affects nations.

In rich nations, the new flows broke the monopoly that rich nation workers had on the use of advanced know-how ideas and industrial manufacturing intellectual property, which firms can now combine with high tech, low wage workers in developing nations.

The change was profitable for the offshoring firms and it spurred spectacular growth in some developing countries raising hundreds and millions out of dire poverty. These new information flows, however, disrupted the livelihoods of rich nation workers.

In some communities, this disruption led to economic fragility and uncertainty and a sense that the social contract had been broken. This in
turn, spurred anti-elite, anti-government and anti-globalization sentiment in Europe and in the United States.

Going forward, this process, which Richard terms “the new globalization, means that international competition is helping or harming individuals with little regard to sectors and skill groups.

Moreover, because it is driven by fast-paced technological change and production fragmentation, the new globalizations impact is more sudden, more individual, more unpredictable and more uncontrollable and to make matters worse, it tends to defy the 20th Century policy toolkits that were used to address the rust belting of industries and communities in the 1970’s and 80’s.

And, he forecasts, more significant upheavals on the way via the application of tele-robotics and tele-presence technologies. Let’s hope he’s not Nostradamus. Instead, he is professor of international economics at the graduate institute in Geneva, a part time visiting research professor at the University of Oxford, president of CEPR and founder and editor and chief of Vox.

But here at the institute, we don’t just give you Richard Baldwin and tele-robotics, we have an eminent discussant as well. Discussing the great convergence information technology and the new globalization is our newest non-resident senior fellow, Sherman Robinson.

Sherman is currently research fellow at the international food policy research institute and professor of economics emeritus at the University of Sussex. He was also co-author with me and Tyler Moren of an assessment of the prostrate of Hillary Clinton and Donald Trump released by the institute in September.

This analysis attracted a lot of attention from the Trump campaign. Now Sherman is rumored to be under consideration for the council of economic advisors in the new administration. This is a lot of ground to cover in a short period, without further ado, I will turn it over to Richard. Richard, the podium is yours.

Richard Baldwin: Thank you Marc for those very kind words of introduction. You read the synopsis that my publicist wrote, thank you very much for that. But I have to say, I actually finalized the manuscript in February, so it wasn’t like I just changed everything because of Brexit and Trump.

Let me also let you in on a little secret, I didn’t want it to be called the “The Great Convergence”; my title was “Misthinking Globalization” but Harvard University Press convinced me to change it to “The Great
Convergence”. So the subtitle, information technology in the new globalization is sort of more what I’m going to focus on today together with “Misthinking Globalization”.

While I still have your attention, I don’t see anybody on their phone yet, let me just tell you what I hope will be different in your way of thinking at the end of this hour and a half that we have together. I hope at the end you’ll think about 20th Century Globalization as involving a lot more knowledge flows and not quite as much trade flows.

And thinking that the nature of globalization and its impact has changed because of the knowledge flows, not the trade flows. That really means you have to rethink quite a few things because the 20th Century tools, which were developed to control trade flows, aren’t working very well on the 21st Century knowledge flows.

Actually, with the synopsis, I think we’re done, shall we just go to Q&A? Actually, no, I spent a lot of time on these slides, so I would really like to share them with you.

Okay, so what I’m going to do first is lay out five facts about the new globalization, trying to argue that it is quite different. The first two facts here you’ll see manufacturing and GDP share shifted from G7 to a few developing countries. And here on the left, we have a chart of world manufacturing GDP shares, and that orange-ish line at the top, that’s the G7.

If we go back to 1970, the G7 accounted for over 70% of manufacturing GDP and it declined slowly till 1990 and then much faster. Over the last two decades, it’s gone from two thirds to under a half.

Now since these are shares, global shares, the G7’s share loss has to show up in somebody’s share gain and you can see down there China is the largest share gainer going in these two decades between 3% and 19%.

But there were six other rapidly industrializing countries there, Korea, India, Indonesia, Thailand, Turkey, and Poland. All of them saw their shares of global GDP manufacturing go up by more than one half of one percentage point during this time.

One the left, we have a similar chart for GDP, this is the G7’s share of world GDP and it goes back to 1820 which is when modern globalization started.

As you see during the first 170 years, between 1820 and the early 90’s the G7 share rose from about a fifth to over two thirds, but in the last two
decades, it’s plummeted and it’s now below the level it was in 1900. So this rising dots that’s often called “The Great Divergence” by historians, the title in my books is about the red dots which is called the “The Great Convergence”.

Next set of facts, globalization’s impact changed. I want to talk about asymmetries and hyper-globalization. So the first thing is globalization is disruptive in G7 countries. Labor’s GDP share fell but the reward to knowledge rose.

When I mean reward to knowledge, I mean both the knowledge that’s stuck in people’s heads, high skilled workers, but also the value of companies who have, what the OSD calls, knowledge base capital. Now this divisiveness led to frustration in economic disenfranchisement; something I don’t have to tell you in this audience about.

It has had some important political implications. Second, globalization was cohesive in the emerging markets. Their middle class flourished. Hundreds of millions of people ran out of poverty. Almost everybody you talk to my age is, at least, two or three times richer than their parents and ten times richer than their grandparents.

So globalization, although has broken a few eggs in the emerging market, has been a wonderful thing. Lastly, trade agreements got deep. In fact, you’ll see economists like Paul Krugman saying TPP is not a trade agreement.

And that is, in fact true, lots of trade agreements cover things that Jagdish Bhagwati calls trade unrelated measures- and especially Danny Rodderick but Subramanian, Arvind, a former Peterson guy, calls it hyper globalization.

What I want to do now is, the first time I ever tried it, let’s see how it works. I’d like to invite you to participate in a thought experiment, a rather radical thought experiment to try to think about these facts from a different perspective.

It’s a perspective that, I think, is absolutely true but I’m trying to knock you into thinking about globalization in a slightly different way. So here’s the question, what if globalization was about knowledge instead of trade?

And you can see this is going to be some blue skies thinking because you can see- yeah blue sky, there we go. So I’m not going to say that this is actually what happened but I want to argue that it’s amazing how much of this you can explain ignoring the trade and focusing on the knowledge flows.
Okay, I want to be extreme, to be extremely clear, so I want you to give me three premises. First, suppose everything is made from know-how and labor, forget about the rest. Second, suppose trade cost and trade barriers were unchanged since 1990. And third, suppose in 1990 some pipelines opened that allowed knowledge to flow across borders.

Here’s the pattern of pipelines I want you to assume. We have three high tech manufacturing countries, US, Japan and Germany and they opened pipelines with Mexico and China; Japan opens up with China and Germany with China and Poland.

Now, to figure out which way knowledge is going to flow, let’s review the 1990 situation of know-how to predict the direction of flow inside the pipes.

I’m going to talk about headquarter economies which is basically the G7 and there in 1990, they had a high know-how to labor ratio and since they did have a lot of know-how per worker, they had high wages. In the factory economies, they had low know-how per labor and therefore low wages.

Now, our thought experiment that we’re going through now, a pipeline opens up where the know-how from the north can go to the workers in the south. What are the international implications? What will we expect?

First of all, the factory economies industrialize, the headquarter economies deindustrialize. After all, the source of comparative advantage that allowed high wage countries to export manufacturing goods was exported to low wage countries thereby leading a massive shift of manufacturing from the high wage countries to the low wage countries.

Second, the factory economy growth takes off. ‘The most rapid industrialization the world has ever seen sparks income growth, which, since that includes China and India, led to a rise in commodities which triggered the commodities super-cycle which brought another bunch emerging markers along so we get the great convergence.

Next, the factory economies embrace policies that foster the knowledge flows, while the headquarter economies embrace policies that protect the knowledge flows and that gives us hyper-globalization and Danny Rodderick’s globalization paradox which is not very paradoxical once you think of globalization as knowledge flows rather than trade flows.

What are the domestic impacts? In the HQ economies labor GDP share falls because, after all, their high wage was based, in part, on their
monopoly access to the high tech of G7 firms. Knowledge owner share in GDP rises, however, because now, the firms can leverage their knowledge which they own with foreign workers.

At the same time, people who are highly skilled find that this low wage substitution is complementary to them. So globalization is disruptive to the headquarter economies. In the factory economies, the middle class rises, people come out of subsistence agriculture into factory work that triggers all sorts of income rising, all sorts of services etc.

Hundreds of millions of people rise out of poverty and globalization is cohesive for them. There’s another way to look at this. Let’s look at asymmetric anti-globalization using Bronco’s elephant chart- Bronco Melanovich who, I understood, presented his book here in May last year.

So the idea here is, G7 know-how moved to factory economy workers thus undermining incomes of G7 workers. This bit, which is basically workers in the 7 rising countries I mentioned before, saw their income rise so rapidly because they were getting a free ride on technology that they had not had to invent themselves and they got more less quickly.

Income stagnated in the middle class and the G7 because their monopoly power over the knowledge was eroded and therefore they were much more in direct competition with low wage-workers. The rich in the G7 who either own a lot of knowledge or have a lot of knowledge benefited because the knowledge was worth more.

So rich knowledge owners prospered. The other developing nations, Argentina, Brazil, South Africa, they’re wondering why they aren’t growing like China, but they didn’t get a pipeline so they’re not growing like China in this story.

I don’t want to argue that we can explain everything about globalization using knowledge flows instead of trade flows, but I think it’s somewhat astounding that you can get so far having not mentioned the word transportation cost, trade liberalization or trade agreements and simply viewed it as movement of knowledge.

We’ll see in a second- I’m going to call the pipelines global value chains in a little while. So, what I want to do is not leave you with some radical thought experiment, which is unrealistic. The question is how do we put knowledge flows back in the box? How can we integrate this perspective with the standard perspective? What I want to do there is suggest a broader perspective on globalization by focusing on three costs that form three constraints on globalization. Trade costs, which is the cost of moving goods, communication which is the cost of moving ideas and face to face
cost which is the cost of moving people. I want to keep track of how these fall in the sequence and the argument of this new narrative of globalization, the cascading constraints narrative is that the order in which they fell really, really mattered.

Around 1820, trade cost fall, steam engines, world peace etc. radically fell. Lower trade cost drive an unbundling of production and consumption and this is the old globalization that starts.

So what I mean here is, here you can see the trade costs are lower, but the communication costs stay high and the face to face stay high so you can get a separation of the consumption from the production.

Before, people were tied to the land because that’s what everybody did and whatever production there was was tied to the people because it was just so hard to move goods ideas or people- everybody consumed most things within walking distance.

When trade cost came radically, it became feasible to consume stuff that were far away. Comparative advantage made that profitable. So what we’ve got is the old globalization with expanding trade but that’s the end of the story.

Production clusters locally, as markets expand globally, and this micro-clustering sparks innovation. So if you look at the cartoon down here, we have small world, small factory, when globalization starts, we get a big world, we get big factories.

They key point from these big factories is that everybody close, the bonfire of expanding markets and innovation gets going because with everybody together, it’s both cheaper to make the innovations and the demand for the innovation rises so we get this bonfire called the industrial revolution and growth take offs that go with it.

But this isn’t the end because remember ideas are still difficult to move so we get this great divergence because the innovations that were developed in the G7, stayed in the G7. They stayed in the G7 not because trade costs were high; they stayed in the G7 because it was difficult to move ideas and the people who understood those ideas. So that’s the great divergence.

Around 1990, communication costs fall. The ICT revolution plus the wage gap drives unbundling of factories and the new globalization starts. So what do I mean by that?

Here now you can see that the trade costs are down, but communication costs are down. So it’s feasible to separate these production stages that
were hyper–clustered and put them in countries where the wage rates are more appropriate to whatever that activity is.

In other words, it was the communication technology that made it feasible to separate complex activities over distance and it was the vast wage gaps that had arisen during the great divergence that made it profitable.

But this is not what we really should be focusing on. This is what we can easily measure foreign direct investment, offshoring, trading parts and components, rise of exports in developing countries; we can measure all that stuff but that’s not the key to what happened to globalization.

What happened was the offshoring of factories leads to knowledge offshoring. In other words, global value chains are the pipeline. To ensure offshore production measures seamlessly, G7 firms offshore know-how along with the jobs.

The G7 firms, when they start making the tails of business jets, shifting that from Canada and Mexico, they do not rely on Mexican technology to make those tails. They bring Canadian management, technical and marketing know-how to Mexico, combine them with Mexican laborers and therefore have changed the nature of globalization.

That has denationalized comparative advantage. The source of comparative that kept Canada from exporting planes in the 60’s, 70’s, 80’s and 90’s changes when they export the basis of that comparative advantage to Mexico.

What that then does is lead to -- the knowledge offshoring leads to massive knowledge flows and the result is the great convergence; this thing here which I pointed out before. Okay, so in a way, it was the steam revolution that lowered trade cost which triggered a glomeration which led to the great divergence because it was expensive to lose ideas.

It was the ICT revolution that lowered communication cost, which allowed the offshoring of jobs, stages and above all, knowledge which drove the great convergence. In essence GVC’s are a means arbitraging differences between knowledge per worker around the world.

When I look forward to whether globalization is over or not, I look to see are there still large differences to knowledge per worker around the world, and the answer to me is, yes, very much so.

Just like in the 19th Century, when there was an imbalance between workers in farmland in Europe and workers in farmland in the United States which led to a massive migration of labor from Europe to the
United States, this arbitrage is now happening in knowledge. That arbitrage in the 19th century ended when the US shut down its migration policy.

I don’t believe this migration will stop until you can shut down the way you can move knowledge across borders which is basically, not really. Okay, just to summarize- recap- what puts the new in new globalization? This is what I really believe.

ICT enabled G7 firms to precisely control what goes on inside developing nation factories. So it was possible to coordinate complicated over great distances and once that became possible, they did it and then to make the whole thing work together, they moved their knowledge across.

It was firm specific knowledge, stuff that they owned, that they were moving that they couldn’t do before or would have loved to do it before but couldn’t do it. So we found out the G7 technology didn’t belong to the G7 nations, it belonged to the G7 firms and they were perfectly willing and able to move it across borders now.

Okay, so that was fun, hopefully. What I’d like to do now is try and argue that this broader perspective of globalization has some uses. After all, I’ve just retold history in one more way; it’s been told in many, many ways.

But if the framework is useful, it should help us think about things in innovative ways so I’m going to talk about some stuff that isn’t in the book, but has become relatively relevant since last week. I’m going to talk about how to use a framework to think through how not to address anti-globalization.

If you want to think about that rocket as the Trump Tariff fact of 2017, please feel free. Okay, I’m going to start with three premises. First of all, premise one, ICT broke the monopoly that G7 labor had on G7 know-how and this can’t be undone with tariffs.

So the team has been broken up. One way to think about this is to think about the new and old globalization like two soccer teams talking to each other. In old globalization, they would sit down and exchange players and if that exchange actually happened, everybody was better off. Both teams were better players.

The new globalization is like the coach of the better team going to the worse team on the weekends and training them up. Now that’s definitely good for the coach and it will lead to a more competitive environment but it’s not at sure that it’s going to be good for the players on the better team.
That doesn’t change with tariffs. Second premise, globalization operates with a finer degree of resolution; this can be partly undone with tariffs. Okay, so let’s look at the graphic here- the info-graphic.

Here’s old globalization, and here’s international competition. So think about the US auto industry, say in the 1980’s, when Japan started beating the pants of US auto makers. That competition was Japanese autos competing with American autos.

Behind the American autos was a whole bunch of production stages; in each of those stages were a bunch of jobs. But the competition was for the entire sector. The whole sector was a team. There’s always differences between labor and auto companies, but both of them didn’t like this kind of competition.

In the new globalization, where things can be fragmented and offshored, the international competition enters deeper into the economy with a finer degree of resolution.

So in the auto industry there were certain stages which were offshored to Mexico or Canada or wherever, but other stages who actually benefited from the lower cost and the more competitive competition that came from it.

So in the auto sector some stages won, some stages lost, and more recently the international competition can come right up to the level of a job. So somebody’s job can suddenly be in competition with another person in another country, when it wasn’t possible before.

So this finer degree of resolution has had big implications. So premise three is that the rage is rational. Anxiety and anger generated by the new globalization is real and we have to accept it, it’s not a misunderstanding of how globalization works because it’s not Stolper-Samuelson one more time, this is different.

The first and second premise means that globalization impact is more sudden. It’s more sudden because instead of taking years to shift the production of apparel from the United States to somewhere else, because they had to set up the whole apparel production, it can happen almost overnight because you take everything from the factory in America to somewhere else; that can be very, very sudden.

It’s more individual because, as I showed, they’re breaking up the stages and it turned out it was artificial to have all those factories together so some bits go some bits don’t. It’s not sector by sector, sunrise sector,
sunset sectors. It’s not skill groups where everybody high skill is good and everybody on low skill is bad.

It’s more individual than that because globalization is working with a finer degree of resolution. And it’s more predictable because, honestly, we don’t understand what happens when all this stuff can potentially be taken apart.

I mean, the Peterson institute is a classic example, you’re all in the same building that’s good for you but it’s a little hard to understand why is it good for you? And what would happen if you took out this person or that person?

As it becomes possible, it would be unclear how that would unbundle. Lastly, it’s uncontrollable because it’s driven forward by information technology, which is not really based on what governments do, or slow moving technology building ports at new airports.

It’s something where the capacity doubles every six months and it’s basically impossible to stop that. As a consequence, there’s this sort of feeling that no matter what skill or job you have, you can’t really be sure your job is next.

I’m putting it in a negative way, but of course it’s a positive way as well. For those of you who are really good, this opening up allows you to sell your knowledge to a wider range of audience so it can be very good as well, but you’re not really sure who’s going to be helped or hurt.

Okay, so let’s consider the ICT revolution plus the Trump Tariff fact of 2017 hypothetically. This is what I’d like to call 20th century thinking meets a 21st century problem.

In this framework, what we have is America puts its trade costs up, but only America. The ICT costs stay low. So what does that do? What will we expect? I have no idea, but let’s talk it through.

Two questions, will US manufacturing stages rebundle? And will the rebundling take place in the United States or abroad? So is this going to get undone. So just to think it through a little bit, I’d like to point out that raising US trade barriers will not stop offshoring US knowledge but it will raise the cost of industrial inputs into the US.

So with this little info-graphic here, this is the wall which makes it harder to get industrial inputs made in Canada, Mexico and China into the United States essential inputs into US industry. But the know-how is unrestricted
it back and forth basically through the internet, telephone calls, people on airplanes et cetera.

So what that does is that the Trump tariffs would make the US high cost island for manufacturing. Those of you here in Washington that have been following this for decades, it’s a little bit like the US-Japan semiconductor agreement which made the US the most expensive place for semiconductors and thereby led the entire electronic industry to move elsewhere and opened the door for Koreans to come in and beat both the Japanese and the Americans, so I think that’s sort of where I’m going to go here.

So US imports parts, they get dearer, US final goods stay competitive inside the United States due to tariffs on imported final goods. Economic logic suggests that manufacturing shifts to the US for market sales, at least on the margin, but two US foreign affiliates for non-markets US sales.

Foreign retaliation would exaggerate this. Foreign retaliation against US final goods would suggest there would more of the production moving by US firms to- I thought my time was up, I still have four minutes- to the other locations that already exist.

So what this is suggesting that a big tariff could shift some of manufacturing activity to the United States. On that, whether it goes up or down, I don’t know, but I think it’s also worthwhile thinking about the jobs. The fact is, and I talk about this in the book, US workers are competing with robots at home and China abroad.

It’s not going well by the way. The offshore jobs were typical low skilled routine and thus prone to automation. The economics suggest that lots of jobs would be created for robots, but few jobs for US workers.

To illustrate this, I have two pictures of modern American factories doing routine labor intensive activities; this is robot assembly of cars and if you stare very, very carefully you can see a worker there. He’s not a low skilled worker, I guarantee you that. Actually, there’s another one over here you can hardly see-

Here’s another one, this is a GE facility in Michigan and if you look really, really hard, you can see the guy’s hand right there, there’s actually a worker in there. But this is what happens when you re-shore jobs now.

The GDP will go up, but if you’re thinking that these guys who have had to and work for Walmart instead of the factories are going to get a new job because of this, you’re mis-thinking globalization because you’re thinking that industry was like it was in the 20th century where the whole supply
chain was in the United States and therefore putting up a tariff simply brought more jobs home.

When you have a distribute supply chain and you put up trade barriers, it’s like trying to shift jobs in a factory to the beginning of the assembly line by building a wall in the middle of the factory. It makes the whole factory less competitive and it might shift a few jobs before the wall, but the primary effect will be to make the factory less competitive.

So that’s the 20th century thinking applied to a 21st century problem. Okay, I have two minutes. Let me suggest a way forward and this is just purely conjectural; it’s not in the book.

First of all, I think we have to accept the new 21st century realities which is the new globalization isn’t something that foreigners are doing to us. Let me just repeat that. Globalization is not something foreigners are doing to us.

US competitiveness depends upon factory North America since new globalization denationalized comparative advantage. Now once comparative advantage is denationalized, you have to rethink policies with a little more subtle perspectives than you had been before.

When globalization meant goods crossing borders and tariffs could have predictable effects. It interestingly is a little bit like what the developing countries used to do in the 80’s. What they would have to do in the end is have really low tariffs on parts and really high tariffs on the final goods to have a huge effective rate of protection to move just the assembly in.

But that kind of thinking is now the reality for all the G7 countries; you are relying on your imports. Second, you can’t vote against globalization by voting against the agreements that shape and control it.

The old globalization tools that control trade flows, don’t work on new globalization knowledge flows. So you may have thought that I was saying globalization is to blame for all the ills, but the solution is not to rip up things like TPP and TTIP and NAFTA because those are the agreements that are controlling it.

I suggest that we’ll be very surprised if we put up the tariffs and hope for the best. Instead we have to rebuild the team. Restore social cohesion with policies that protect individual workers, not individual jobs. That’s a line that works in Europe, I suspect it’s very unrealistic here in the United States, but the basic idea is there.
Retraining education mobility support, income support; who knows maybe even some sort of active clusters policy or god forbid industrial policy. Now, I’m not saying industrial policy is first best, but we are way far away from the first best.

We are in a situation that might very well spin out of control and lead to things that happened in the 20’s and 30’s if these angry people who are left behind don’t see some changes. Maybe it won’t work this time but there’s also a leftist populous version of this whole thing that could easily come up.

So I think we have to think more broadly of how to keep the economic disenfranchise back into the system and I think, in a funny way, Theresa May, is talking more about this kind of package and I don’t know what she’s going to do, but at least she’s talking about it.

The third is to package it politically so what we need is trade policy in the service of society and sold that way. I’ve written a paper with Tony Venables and Paul Collier about the British trade policy especially with respect to developing countries which has that title.

The idea is to propose when you propose more open trade in GVC policy, also propose policies that help the economically disenfranchised and politically package them together. For example, in Europe, in the single market act which came in at 1986; that was like TPP on steroids, TPP like you can’t believe it and it was phased in between 86 and 92.

When they propose a single market act, they doubled the spending on backward regional policy and when they took the next step of globalization which was the [inaudible 00:37:05], they also doubled that again and it was very clearly politically packaged together, so I think the packaging could matter.

So there’s lots more in the book and I’ll leave you there with the table of contents and just stop right there, thank you for listening.

Sherman Robinson: While waiting for the phone call from the council, we will continue on this. Also let me start on saying that Richard’s book did not change my views about trade in the past 25 years and that’s basically because I’ve been following his work for the last 25 years and he convinced me much earlier on than this.

This is a culmination of a work program that’s been going on some time and one to which I am incredibly sympathetic. He basically is really going into the drivers of globalization for a long time.
Phase three and phase four up there, there a number of chapters on phase one and two, they are fascinating to those of you who are interested in economic history, and we won’t talk about it anymore.

What I’m going to focus on is his part of phase three and some of the implications of phase four. I’m really interested in the evolution of the post war trading system in the world and how it led up to what Richard is now describing.

So I’m looking basically 1950’s to 1990’s, which is the latter part of the great divergence and we’ll talk bit about the great convergence. I’m going to focus on the formation of trade blocks and clusters during this period; trading groups of clusters and a little bit more on policy although Richard now did a very nice discussion towards the end.

So the stylized facts we all know. Trading dramatically rose during this period. You had a very important role for increased intermediate input trade starting earlier than you think from Richard’s presentation. You could do measures of import content of exports; they all went up during that period.

But you also saw international segmentation of production even well before this final phase. You can see it in increased trade in brand new and rapid changes in trade shares. And there’s this strong link between increased trade and improved economic performance; one which trade people and development people have been fighting about for a long time.

In the end, you also had the collapse of the socialist systems, it really broadened the world trading system dramatically China in particular and you even had Indian liberalization that brought India more into the trading system than it had been.

What I’m interested in is this what happened to the trade blocks. If you look at the early period in the 60’s, you had a dramatic kind of linking of trade that was basically center periphery trade, and I want to focus on that.

Just a quick definition a trade block. It’s a collection of countries that trades more within the block than it trades its trade shares outside the block. If you take a country out of it, the trade share goes down, if you add another country to it, the trade share goes down.

That’s how we look at it from basically the direction of trade data. So the initial look at the early post war end of the early 60’s, you really see center periphery trade. It was the US that traded with Europe, that was mostly the trade.
The developing countries traded with colonial trade or ancient links like that. You can see why people wrote books about dependency theory during that period. But that broke up. You started seeing diversified trade as early as the 70’s and you could see the evolution of trade blocks in the trade share data very early.

First of all, in US what we call US to NAFTA plus, formed very early. So you had US, Canada, Mexico, Central America essentially looking like trade block 25-in the 70’s and you could certainly see the EU forming way – very early in this period.

You could also see data on the emergence of a new block East and South East Asia, particularly as China entered this system more. It started in the 70’s but really accelerated. The other regions, South Asia, Sub-Saharan Africa and Latin America were never part of any block and still aren’t.

They are diversified trade with the other blocks, but they’re not members of any block. Here’s a way of looking at it, you see the NAFTA and NAFTA plus, US formed their trade block early and it more or less stayed constant.

The EU, you could see trade form in the 60’s- even earlier- and then gradually expanded to control Euromed and then, of course, with the collapse of the socialist systems, it became integrated in the European system.

So you see this trade block of Europe expanding, US very stagnant but early, you see East and South-East Asia forming a very strong integrated trading system and an integrated economic system. In the later data, you can see the beginnings of a MERCOSUR and a Southern Africa free trade agreement after but it’s very small.

Looking at the shares by the 90’s, and this is the beginning of Richard’s period, you can see 45% of world trade from the EU, the US 19, East and South-East Asia 27. Now there is a little bias on here we don’t count trade between California and Texas as international trade, but we do count it across Europe so the bias is the numbers.

But the East and South-East Asia growth is enormous. Notice its biggest numbers is within block, that’s how it got defined as a block and you can see the value chains forming within that period. They noticed also that when you look at the data, these trade glomerations, trade block formation, way ahead of policy.
NAFTA is 1994, you saw that it was an integrated system in the 70’s. All the expansions of the EU were before regional trade agreements- many times- 20 or 30 years before regional trade agreements.

Interestingly enough, to me, I consider it Richard’s challenge, the Eastern and South Eastern Asia block formed basically without formal trade agreements. They don’t have an EU event.

How that happens, it’s a puzzle. It does lead you to think about trade agreements differently. We had these global trade agreements, that’s fine, they set the overall global environment and were very important to foster this whole process, I would argue.

But the regional trade agreements, you can see, there’s four different kinds. You create a block; a treaty of Rome and its successors. The NAFTA, you can see block expansion; if you want to join the EU, they show up, they give you a pile of books and say these are all the things you must do, we’ll write some agreements about that, we’ll give you a transition period, but you’re basically joining the block.

Block consolidation would be completing the common market; transpacific partnership on steroids as Richard put it. Those are really very much lot of behind the border stuff; harmonizing standards being very important.

Finally, you have a whole bunch of market access. Chile doesn’t want to join NAFTA, but it wants to sell its grapes in the US and you need agreements to do that. There are very different kinds of agreements we should be looking at them differently.

Then we have Richard’s phase four, you can see it, but the point I would make here is it took off very heavily in East and South-East Asia and it took off partly, I think, because you had an integrated trade system there that would foster, allow what he’s describing. And you don’t see it in countries that aren’t in integrated trading systems; Africa, South America, South Asia.

So those trade agreements were probably important for facilitating this process. So this is his description, no point in repeating. The only point to make now though, a point that Richard makes carefully in the book mentioned to you, the trade agreements are very different.

We’re not talking about cross border movement of commodities anymore. We are talking about aligning economic systems to foster this fragmentation of production processes.
I would argue we saw beginnings of that well before the 90’s. So, you need to have within country supporting policies, you need policies to encourage- and this is almost a quote- cross border movements- and you need a legal institutional government environment to make that happen.

One of the interesting cases is China, which has a terrible commercial legal system, is still somehow managing to be a very active participant. So it’s a complicated business.

Question in future trends. There was a lot of evidence that the pure export led, labor intensive growth was dying out; it had come to the end of its major thrust by the 1990’s. You could see it staggering in the 80’s. The trade integration of blocks was in place and then, phase 4, Baldwin took over.

There is a sense that where it’s occurred is kind of matured now. We’ve seen a lot and it’s an interesting question to me whether it’s basically slowing down. So the research program, this is a very important book; it really gives you a picture of world trade that’s different than we have had in the past.

We are way behind analyzing it as trade theorists, as trade analysts; we need to understand that a lot better than we do. And the policy debate, which Richard delves more thoroughly in the book, is how do you make it happen? What does it take? Can you make it happen?

I would argue now, and he makes a point in the book, it’s a delicate process. You can break it and if you do, you will do serious damage. I cannot resist tweaking Richard at the end, granted, as he said, finished the book in February but this is a quote, page 284 if you’d like to look it up in which the optimism shows.

You’ve got a slightly different view- I still think possibly over optimistic today but we can discuss that in the discussion period. We’ll stop there.

Marcus Noland: So it is customary in these situations that the chair gets to abuse his or her privilege and ask the first question and I have indeed jotted down a number of questions. But I think given how interesting the presentation was and given the collection of people that we have that we will just go to audience Q&A unless you don’t have any questions at which point I do have some --

So we have a microphone in the back, a roving microphone on the side, please identify yourself when you ask your question. And please, like jeopardy, pose your statement in the form of a question so --
Audience Member 1: Thank you Richard, thank you Sherman, wonderful material for thought. Question for Richard; India seems to only have half a pipeline it’s seems to get the information to do with software, things like that where only pure flow of information are needed, but to be less well connected on goods-activities that require imports and so on.

I was just wondering what you think about that situation and what about the developing countries that haven’t yet been able to participate in the process, what went wrong?

Richard Baldwin: I’ll start with that one because it allows me to talk about something I didn’t. So if you remember there’s three constraints; cost of moving goods, cost of moving ideas, and cost of moving people. In my view, the geography of these global value chains is very much driven by the cost of moving people because at least when we talk about the industries, the machinery and things like that, you still need managers and skilled technicians to move between factories and if the technician has to go from Stuttgart to China to fix a machine and come back, he loses a week.

If he goes to Poland, he doesn’t lose a week and so even though the Polish wage is much higher than the Chinese wages, they put the factory in Poland. So there’s really a factory Europe, a factory North America and a factory Asia.

So I think India is just too far away to do the kind of car machinery things that you can see all the way up to Thailand, for example. You’ll notice that their participation in global value chains has been exporting services for which the cost of moving goods is not that important, the integration is not that important.

Also you don’t have to move people as frequently. So I think that’s my hypothesis, is the cost of moving people that will matter. I also think that’s why there’s no factory in Africa and there’s no factory in South America. They are just too far away from Nagoya, Detroit and Stuttgart. That’s a kind of deeply, pessimistic thing for far away counties because they can’t really move their country any closer.

But I suggest- and I think this is what the world-bank is doing now with their global value chain project- is that far away countries have to rely on services not trying to do it the way China did it, or the way Philippines did it, or the way Thailand did it, or the way Mexico did it, they have to go with services. So if I could abuse my position as author, the last chapter in the book conjectures on what happens when that third constraint relaxes and Marc you mentioned it a little bit.
So I don’t think we’re going to have Star Trek teleporters anytime soon, but we could have some very good substitutes for being there. So I think the first unbundling was goods and consumption, the second unbundling was the factories and the third unbundling will be the separation between the labor services and laborers.

In essence, international telecommunication facilitated by tele-presence technology, which is not science fiction, it exists, and tele-robots which will allow people driving robots, but sitting in poor countries and so, I think, at that point, the developing countries all around the world will be able to participate in this export of services but instead of just hollowing out the middle of the job range, it will start to hollow out the other ones as well.

In the book, I suggest that that might be incredibly disruptive in the rich countries anyways.

Marcus Noland: Right, Greg Creverton.

Greg Creverton: Thank you, this may be a question about a world we don’t live in, but you gave lots of examples of what not to do. You did say you have policy agenda but if you had your ‘druthers, what would be the most important policy step the United States could and should take?

Richard Baldwin: Well, I think you can see something of a correlation between the backlash against globalists. It’s not just globalization, it’s automation, globalization, age, it’s a whole mess of things that have left certain groups, geographic and demographic left behind.

Especially since the crisis and the slow growth and the lack of wage growth, they’re really hurting from that. So basically, you know, European style social welfare system and that, I guess, is not on President Trump’s must do list in the first days. It’s not very realistic but I think deep down you have to think about policies, that, in relatively pointed ways helped the left behind.

Like I said, I don’t think you can shut off globalization. You can’t vote against globalization, it’s going to happen no matter what and if the US tries to do it on its own and Germany and Japan don’t, it will be the old situation.

I think focusing on workers, the individual workers, not very practical but that’s the logical answer, I think.

Marcus Noland: Scott Miller.
Scott Miller: Thank you. I’m Scott Miller of CSIS, congratulations on the book and thank you for being here. I agree with everything you’ve said and that gives me a puzzle particularly by firm competitiveness and firm comparative advantage, which I think is demonstrating itself.

My question is, how would I explain this to an elected official in a reasonably effective way. The government collects no statistics that are particularly relevant to this the import and export data collected, investment data collected. It’s hard to bring to bear on what’s actually going on in firms and how they become more competitive.

More importantly, firms don’t talk about it because they have competitors and you would not want to disclose any of their logistics advantages or how their supply chains work at any level of detail, which leaves me in total agreement with you and perplexed about what to do about that agreement and how it affects policy. Any advice?

Richard Baldwin: Thanks. I’ve been getting better at PR but I’m an academic guy. I have, as you pointed out, I first wrote this stuff up for the finished prime minister’s office in 2006 and I’ve been trying to sell this for 10 years and this is the first time I’ve tried to go quite popular.

So on how you demonstrate it. There’s a new data set by OCD called the trade and value added which demonstrates very clearly, for example, the dependence of US auto industry on industrial inputs from China, Mexico and Canada and it’s fairly astounding the numbers.

For big countries like the United States, it looks difficult. For small countries, it’s just absolutely impossible to shut this sort of stuff off. The second that’s for the data, it’s at a relatively aggregate level so you can talk about transportation sector, but you can’t get down to motorcycles.

But there’s a guy at Duke University called Gary Gereffi, who is the one who coined the phrase global value chains, who is a sociologist and he’s done a very large number of studies, case studies, on global value chains with real names, real locations, real products and many of them are on his website.

It’s a sort of fascinating anecdotal evidence. There’s a small one in my book about [inaudible 00:58:37] offshoring to Mexico and it was written up.

Marcus Noland: So I want to go to Fred Bergstein next but I actually- [inaudible 00:58:49] I want to add a comment to that. When Sherman and I were writing our piece this summer on evaluating trade policies of Hillary Clinton and Donald Trump. I spent a lot of time talking some of the corporate
supporters of the institute and getting into exactly this question of how
they would react to various contingencies having to do with the imposition
of protection in Mexico and China, which are central to the global value
chains especially in motor vehicles and electronics.

What was really eye opening to me was, for some of these firms or all of
these firms, the acquired knowledge to understand how they would react
to a particular policy shock was so granular that they had to bring in
individual product line managers who actually understood all of the supply
relationships in these various places.

Then basically aggregate some sort of contingency plan that would
involve shifting production say from Mexico to Singapore and then to
make room in Singapore shifting production currently done in Singapore
into Eastern Europe and so on and so forth.

What I came away with was that there is no way a modeler or a
government official can possibly understand this. So the goal may be by
imposing some of these barriers to encourage a process of reshoring and
Richard, in his presentation, said it could go one way, I don’t really know,
I think it even goes beyond I don’t really know, it’s I don’t think anyone
can know.

So as a policy maker, in the sense of [inaudible 1:00:32], I think that
pursuing this policy in an attempt to restore jobs is just rolling dice. It’s
just an utterly kind of random process. Anyway, with that sermon, Fred
Bergstein.

Fred Bergstein: With that important caveat in mind, Marc, I wanted to ask Richard a little
elaboration about the Trump Tariff fact of 2017. Let’s suppose he
understands and endorses your whole concept and so has the new
globalization in mind. So what would he do? He would try to disrupt the
ICT flows. If he’s trying to bring economic activity back into the US, he
would try to disrupt the ICT flows. Now I want to get clear what you think
about that. On the one hand, you said that really could not be interrupted.

On the other hand, you said, and Sherman has quoted you in saying, that
this whole process was kind of fragile and could be disrupted. So suppose
a single minded Trump administration was really serious about doing what
it said, bring jobs back to the US, reduce the trade deficit, don’t mind if it
creates all sorts of disruption around the world.

Could there be a disruption of ICT flows? One thing that occurs to me
which you didn’t say much about explicitly was disrupting FDI. It’s pretty
clear the incoming Trump administration is very hostile toward FDI. How
far they’ll go in raising barriers too, we don’t know, but that would be one channel to try to at least put one sand in the wheels of the ICT flow.

How far could that be taken and, more broadly, what about disrupting ICT? So assuming they understood and bought your thesis, could they still go about a strategy that would be disruptive to the world economy, but would try to bring nationalist stativist gains back to the US in the narrow sense.

**Richard Baldwin:** I feel pretty uncomfortable answering that question actually. But I’ll give it a try. I’m an academic, they can’t fire me, they can’t raise my salary, so what the heck.

Disrupting the flow is perhaps possible. I think the most elaborate version of this is the great-wall of China; the great information wall. But you have to remember that US export services, banking, entertainment, Facebook, Amazon, those all rely on the same channels and I think it would be quite difficult to shut down those channels.

I also don’t think that there would be, I’m hoping that there wouldn’t be a consensus in among the population to have these kinds of restrictions- and really we can’t just cut the borders so there’s no international telecommunications, no international websites because that would mess up all the service exports as well.

Feasible but I would bet that the political economy doesn’t exist for it, at least I hope it doesn’t. On disrupting FDI, it’s probably worthwhile pointing out the FDI doesn’t involve much “I”, that really is about control. So capital can be raised almost anywhere in the world and ownership can be arranged to all sorts of things that are very difficult.

So I think it would also be quite difficult to disrupt it directly. I can think of a few other things to do but I don’t feel very comfortable about that.

**Sherman Robinson:** Let me make a point about that, the FDI part. You can see examples. For this to work, it requires enormous standard settings and confidence in the supply chains. One way to do that is own part of the planet so you do have direct foreign investment. That’s by no means necessary, we can have many, many examples in countries that are hostile to foreign ownership where this process works. So you could probably work your way around almost any FDI [inaudible 1:04:54], FDI that’s just financial investment.

**Sumhan Barry:** Sumhan Barry, previously with Shell. I just wanted to follow the logic of your comments of India in two respects. One is as you know the flagship program of the Modi government has something called “Make in India”
and you’re suggesting that may, in any case, have need to be reconsidered even before the events of this last week.

The second point though is your suggestion that, in a sense, a service strategy might be more rational or a place to look. Do you feel that’s more vulnerable to -- building on what Fred just said, that, for example, physical presence and all that, that those lines are more easily interrupted because that’s certainly the concern in India given the fact that we passed up on the opportunity to lock in market access in the last decade.

Richard Baldwin: Okay, thanks. I mean India and China are somewhat different because they have a billion people- over a billion people. So they can do a lot of things just with their internal market. So the whole Make in India, I think, could work even if there was almost no trade with the outside world; only a few essential parts and components

So for India and China, they’re so large and so much is there already that I don’t view this as too disruptive for them. Let me just go to the service thing, though. I think when you look at who’s going to be hurt by the Trump tariff fact of 2017, it’s not the service exporters because I think it’s much harder to disrupt the exports of services.

They are much more integrated in people’s input chains than it is cars or electronics or any kind of machinery, chemicals that kind of stuff. So in some sense, I think India is less prone, first because they have this enormous internal market. And second, because I think it is harder to disrupt the exports of- let’s put it this way, it’s incredibly hard to measure trade in services. Very, very hard to measure and if you can’t even measure it, how are you going to stop it?

It’s not just a trade issue. In countries that have value added taxes, you have a hard time taxing services, and many times you have special regimes like zero rating and things like that because you can’t tell who sold what to whom in a reliable way. I think the service exporter are actually a little bit immune to this whole trade cost coming up.

So that’s how I would react to that.

Marcus Noland: Okay, so we are getting close to our closing time, so why don’t we take the two questions at the back mic and any final comments.

Mark Estavaderal: Hello, my name is Mark Estavaderal, you might know my father, Anthony Estavaderal at IDD. I’m at the University of Maryland right now. I apologize if my question is redundant or has been answered as some of this has gone over my head.
Marcus Noland: Don’t worry, it’s gone over mine too.

Mark Estavaderdal: With regards to the events that happened last week, if you were an advisor to the Trump administration, what path forward is there with this new globalization? What can be done with these disenfranchised middle class Americans?

Richard Baldwin: Again, I’m going to answer that in a slightly different question and saying what they shouldn’t do. So like I say, to think about protecting jobs as if in a world where industry in rich countries is not really much about factories anymore. It’s either going to be replaced by robots or by imported parts and components.

Traditional trade policy is not the way to do it, not whatsoever. I would think that you’d need more direct treatments. So one way of analogy is so this economically disenfranchised group in the United States has a broken leg, and tearing up NAFTA is like trying to treat it with antibiotics. It’s good medicine, it might do some good but it doesn’t really get at the fundamental problem. The fundamental problem is that they need jobs, they need appropriate training to get the jobs. So it would be, to me, it’s really a matter of domestic policy.

So the other advice would be start talking with people. Chad’s here, Chad was saying that when they start renegotiating NAFTA, they should think about what they learned in the TPP negotiations in TTIP and maybe put that in.

So in the 1980’s when there was an enormous rage against the Japanese because of the autos and the electronics and all sorts of other things, the Bush senior administration started these structural impediments initiative which were long talks about discussing things and it delayed a lot of the anger and in the meantime, the economy picked up and the pressure went away.

So that would be my advice. I think I avoided answering the question. Did that work? By the way, my father was also a well-known trade economist. I had to say stuff like that at conferences for years- decades.

Audience Member 2: We all have the pleasure. So my question is, I’m sure this is in the book-

Marcus Noland: Who are you?

Ted Truman: I’m Ted Truman [inaudible 1:10:51] and a big mouth. My question- and I think this is in the book but I don’t think you’ve mentioned it- so a lot of this is about manufacturing and the first set of charts were a little vague, but certainly my impression is that manufacturing, however it’s measured
in some sense, of at least of goods, is a declining share of world GDP, right?

So it seemed to me that makes- so that actually complicates the whole thing and in some sense, the pie of manufacturing, global manufacturing jobs is shrinking. Maybe my facts are wrong, but if they’re right then how does that affect your story?

Richard Baldwin: So as far as I know of the facts, the global GDP and manufacturing has been growing at a relatively steady pace, but services has been growing faster so there has been an overall deindustrialization everywhere. A servicification, basically, is moving into services. I think this kind of well-known hollowing out of the labor market, we’re creating more jobs at the low end; people who are in non-trading jobs and people who are creating jobs at the high skill end and it is in the middle that is hit.

I think that’s what we’re talking about. The last chapter of the book talks about when some of these things happen to make service jobs more tradeable and I think that would be very disruptive because, in essence, global value chains now involve moving parts and components back and forth, but the vast wage differences still exist among services.

So for example, a University professor in the Philippines earns a tenth of what an average person in the United States does and yet in many cases, maybe you couldn’t replace the entire economics faculty, but what if you replaced half of them with professors who show up to work driving tele-robots and talking to students.

I think that could be disruptive. It’s true that the global value chain narrative right now is all about manufacturing and actually a few manufacturing sectors, but I suspect that it will change as telerobotics and telepresence gets going.

Sherman Robinson: Quick point on that. One point is on the data. You’ve seen this outsourcing going on for longer than the 90’s, it started on before. If you take the accountants out of general motors where they were counted as part of the automobile industry and put them separately contracting to-that shows up as they show up in the service sector.

We see a lot of that. We see a lot of segmentation of bits and pieces of not just manufacturing but agriculture, it’s the same thing. Agriculture doesn’t employ anybody, it hires all kinds of services to do the plowing and the reaping. So part of this is a measurement issue and it’s not known how big a part of it that is.
Marcus Noland: Well, on that profound note, Richard mentioned the looking at their telephones test and I was going to call out one of my colleagues, but he put his phone down so I don’t see anybody looking at their phone and my test is how much of the audience we hold and, as you can see, we’ve still got everybody in the back row.

So from my standpoint, I think it has been a very successful event. We’ve been very privileged to have the launch of Richard’s new book, “The Great Convergence”, information technology and the new globalization from Harvard University Press; I think it’s on sale outside or it’s on sale from Amazon.

Thank you all very much for coming. Thank you for Sherman for participating as a discussant and I declare this meeting adjourned.