



A Conversation with Senator Todd Young on Securing America’s Economic and Security Future Through Technological Innovation

TRANSCRIPT

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Arthur Herman:

Great. Well, good morning. It's my pleasure and honor to introduce Senator Todd Young from the great state of Indiana. Senator Young is the senior Senator from Indiana, although he doesn't look like it as far as seniority goes in the US Senate these days. But we're delighted to have him here to talk about a marvelous article that he published on the Washington Examiner talking about what America needs to do now as we move towards the aftermath of this COVID 19 crisis.

And deal with both what the longterm implications of this are going to be, but also how we're going to deal with the issue of Americas over-reliance and overdependence on China for so much of our supply chain and even for important parts and components in what we used to think about is our bailiwick, which was advanced technologies. And the way in which we can by working together and the steps that we need to take on a bipartisan way to really reverse that process and to get things moving.

First of all, Senator Young, thank you very much for joining us and taking time from your busy schedule.

Senator Todd Young:

Well, thank you Arthur and thank you to Hudson for having me.

Arthur Herman:

Yep. Wow. As I say, it's our pleasure and privilege. A couple of words about a Senator Young, he's a graduate of the US Naval Academy and graduated cum laude as a matter of fact, went into the Marine Corps where he served in a number of missions relating to drug interdiction. A very timely issue these days when we think about the role of borders and the importance of borders in our world today and then was elected into the House Of Representatives in 1994 part of that amazing class that came in, the class of '94, and served there with distinction in the House until he was elected to the Senate in 2016.

Right now Senator Young occupies positions on some major committees. Committees like the Foreign Relations Committee, like the Commerce, Science and Transportation Committee, the Finance Committee, and a list of subcommittees too numerous to bring up in our discussion.

One of the things I like about your article in the Washington Examiner is it comes from someone who's actually in a position to do something about the issues you raised. And that's why I think it's important we have this discussion here this morning.

In that article, Senator, you raised the need for what you called a National Innovation Strategy. Do you want to spend some time talking about just what a National Innovation Strategy looks like? And what its implications are for the crisis in which we find ourselves right now?

Senator Todd Young:

Sure. I'd be happy to. Thank you, Arthur.

Once again, I appreciate this opportunity, especially in light of the many challenges we're facing as a country. It's important that we of course focus on the here and now and the emergent needs of our constituents and, and even others around the world, our partners and allies.

But we can use this moment to prepare for the future, to avoid our current vulnerabilities and build on our strengths. And that's what I tried to do in the article you referenced is to add a bit to that conversation, putting forward a specific proposal. I will get into the National Innovation Strategy, but before I do, let me discuss an even broader strategy that I think we need to be thinking critically about as a country.

I think we need just as we have a national security strategy that is put together on a regular basis within the White House. That's an operation that is coordinated by our National Security Council, of course. And it occurs across different agencies of government. It's a document that is instructive to members of Congress, it is instructive to the American people and it serves as a signaling sort of device to leaders around the world, really.

And it provides a measure of continuity and critical sort of dialogue pertaining to our national security priorities, our investments, our strategy more generally. Subsets of that of course include our National Defense Strategy, which is also a periodically produced and in our National Diplomacy and development strategy. Our nation has never really developed a strategy pertaining to our national economic policy. We've never put pen to paper and answered questions like, what is our trade strategy? What is our strategy when it comes to making critical investments? What is our strategy as it pertains to all manner of different geo economic issues?

And so I think we need that. I believe my colleagues in a bipartisan fashion agree that we need that, many on the Trump administration are also an agreement. And so I have a separate proposal that would call for creation of a national economic security strategy. Or a global economic security strategy, if you will, that would invite partner countries and ally countries who share our values into joint relationships and partnerships on a sort of coalition of the willing basis.

A subset of that effort, sort of how I think of this, would be a strategy to make critical investments in frontier technologies. Technologies like artificial intelligence and quantum computing, advanced energy technologies, battery storage, bio pharma. These are technologies that will serve as a platform for future economic growth and commercialized innovation by the private sector.

Historically, our country has done a very good job of making not just key investments and things that we know will bear quarterly dividends. But instead on taking strategic bets collectively on investments that we think will pay back in spades in the longer term. Whether it was the space race or development of a polio vaccine. Or perhaps the best example is, as we speak with one another online here through a platform is the internet, and the key technologies that came out of DARPA and the national defense investments in the evolution of that ultimately into something that benefits the United States and so much of the rest of the world.

It's clear that the Chinese are continuing to grow their economy based on current trend lines. They're projected to outpace the United States in terms of economic growth in 10 years. It's hard to know whether or not that data is reliable, but I'm a former intelligence officer in the Marines and we are trained to prepare for threats and identify potential threats. That's certainly a threat when we look at the Chinese value system and the decisions their leaders make.

In order to protect our values, our people, and ensure our future prosperity, we're going to need to make some of these critical investments and have a plan to do so. And so that's what the National Innovation Strategy calls for. Our country has demonstrated particularly in recent years that we're quite effective when it comes to getting the table stakes of economic development and economic growth right.

We've optimized our tax code to a great degree in recent years, we've streamlined our regulatory code and these are ongoing exercises. We need to forge more free trade agreements. We're also pretty good at defensive countermeasures as I call them; making sure that we block Huawei and tighten export controls and improve our foreign investment rules. But the Chinese and other state capitalist countries are, I like to say, fighting with both hands. They're not just involved in defensive measures. They're making key investments to invest in the future.

And so this National Innovation Strategy calls for investment in 10 key technology areas. We think over a five-year period, if the United States were to invest \$100 billion, we could crowd in another \$100 billion in private investment domestically. We could also crowd in a \$100 billion, these are of course back-of-the-envelope best estimates, but at a time of low interest rates, I think these are sort of modest estimates. A hundred billion in foreign government investment included including sovereign wealth funds from friendly and partner countries.

To say nothing of the international capital looking for a higher ROI. Suddenly you take \$100 billion dollars of seed money, turn it into \$400 billion, maybe that's \$800 billion, or up to conceivably \$1 trillion over 10 years; that's real money to build on. And that's what our National Innovation Strategy is all about, is to lay that foundation for future economic growth and economic and national security.

Arthur Herman:

I got to tell you, I think that your strategy and your concept is very timely. What I have noticed has been a shift that's been taking place in Congress and elsewhere are recognizing that the current status quo in terms of a larger economic strategy really isn't working very well.

Last winter I penned an article for American Affairs Journal on America needs a new industrial policy and I was amazed at the strong response, positive response I got from people. Some of whom I thought would have free market objections to the whole idea of it. We know Senator Marco Rubio, your colleague has been pushing for a national industrial policy on a broad basis. Mine was more focused on high tech emerging technologies. His is even broader than that. There's even been a recent report that came out of the Information Technology Innovation Fund on the need for a National Innovation Strategy.

I'd say that your timing is great. But, there are going to be a couple of objections.

We'll give you a chance to sort of get some space on this and talk about this. People are going to say, "Hey aren't we the most innovative economy anyway? I mean, we've always prided ourselves on being the innovators. Isn't it a little bit like asking Babe Ruth to develop a home run strategy? Aren't we already the world leaders in that area?" And the other one will be, of course, is a National Innovation Strategy going to mean that we no longer rely on free markets and on the competition within the private sector as a way to develop and grow our economy? Is this

about a real shift towards an economy which is going to be more of a command control as opposed to one that relies on free market operations?

What's your response to those?

Senator Todd Young:

Yeah, so in terms of the first anticipated objection or concern that we'll hear, the existing innovation pace that our country has. It's a fair point and we are indeed the most innovative, creative, dynamic, large economy in human history and I think that's something to celebrate and to harness. I don't believe we are harnessing it to the extent we can.

Free markets only work because of the parameters that our legal system and our other institutions put around them. You need to have enforceable contracts and property law, you need to have a society in which people can trust one another. There are a host of things and there are also some things you can put in place that help catalyze the level of growth and the level of innovation; patent protection, for example.

So much of the innovation that occurs among our creative class, among our doers and dreamers and entrepreneurs and innovators is innovation that meets near term consumer demand that provides a return to investors quarterly. And so I think that that is, if not a market failure, it's a market shortcoming because there's unrealized opportunities in the longer term. If we make collective investments, we won't enjoy individually the near-term dividends from these investments, but we'll all benefit in the longer term.

The only way to maximize and fully harness our creative spirit, our innovative capabilities, is to make some of these public investments, is to develop a National Innovation Strategy and to see it implemented. So realizing these spillover benefits as an economist will call them, or a second or third order positive externalities is part of what this is all about.

In terms of the slippery slope from a free market system to a state capitalist system to collective full stop, right? Well, I mean, this is, of course, a spectrum. I want to acknowledge that. On one side is a complete centralized economy and the other side is Lord of the Flies, right? Absolutely no parameters, no public investments and so forth. And I would just say as legislators, we can't be too rigidly ideological. We must study history including economic history. We know that our country has made a number of strategic bets that have paid back in spades historically and in order to be responsible public servants, we operate on a slope that someone characterizes as slippery. So let's be honest with our constituents, indicate that it's essential we make some of these bets as other countries make them, point to the historical examples that teach us that things that have worked in practice and we can therefore infer that they work in theory, right?

And acknowledge that it is the job of public leaders to navigate slippery slopes. Not to eliminate.

Arthur Herman:

That's a good point. Right. Because they're always going to be there, aren't they?

Senator Todd Young:

Yes.

Arthur Herman:

If you're going to have any degree in which your economic base is going to rely, on some degree, of both public investment but also public guidance and direction finding, which is part of the role that regulatory agencies ought to provide is a means by which we see... Not just simply a question of these are the rules of the road and you have to abide by them, but the rules of a road that's leading somewhere. And I think American economic primacy, American economic leadership is one of the things that we've taken very much for granted over the last couple of decades and the huge success of Silicon Valley has encouraged us to think about it in those in terms of, "Hey, we're always going to be on top, right? Whenever anything comes up, we'll always have the right answers."

But now that we have a competitor, China. I want to talk a little bit about China. How your plan for a National Innovation Strategy works vis-a-vis the growing challenge that we face from China. Now we have one who has managed to create not only a strong private sector entrepreneurial base, but at the same time has worked to make sure that it is one that serves the interests of the central government of the Chinese Communist Party and China's push for global hegemony. They've definitely got a National Innovation Strategy. They've got a national strategy called Made in China 2025. It seems to me the time has come for us to step up and think about, "Well, what would a Make America Strong 2025 program look like?" And I see your initiative as being an important part of that.

Senator Todd Young:

Well, thank you. And that's kind of you. So do I, actually. So I think it's quite important. You will no doubt remember this book, Paul Kennedy, *The Rise and Fall of the Great Powers*, right? I think I was a senior in high school when it first came out. And it is really remarkable. You go back and read it and the thesis of this book is that the relative strength of different countries is ultimately comes down to the differential rates of economic growth that they experience in technological innovation. And China has very cleverly, astutely and wisely been able to bide its time, just as Kennedy predicted they would.

They did not invest robustly in their military as many Americans thought they would at a time when the United States and Soviet Union were still investing heavily in conventional weaponry and nuclear weaponry. The Chinese, much less so. And the reason they did that is they didn't want to divert their essential resources from R&D and from development of their highly underdeveloped economy. They were biding their time and Kennedy predicted in this book, you may recall, that they wouldn't bide their time forever.

And so as it relates to China, we need to make sure that we're making the requisite public investments to maintain our level of economic growth, knowing our population won't approach the Chinese population and to harness our innovative spirit most effectively. Unlike the Chinese who rely, to this day, on a handful of Chinese Communist Party leaders to identify strategic technologies they need to invest in and come up with in your plants. We actually have the benefit of all these innovators and entrepreneurs in Silicon Valley and Boston. Some of them are in the great state of Indiana and beyond. We can draw from that talent to inform our investments.

And we have the best research scientists and institutions in the world. We can maintain those competitive advantages. And we just really need to scale up our existing talent, our core

competencies, by making some of these investments in longer term with longer term horizons and more collected benefits in mind.

Arthur Herman:

I think that's a very good point. One of the advanced technologies that I know very well now and have been working on the last three or four years, has been quantum technology. And there we see a lot of dynamic you're talking about playing out, namely that the US in the quantum sector has a strong lead on development of quantum computers because we've got major companies, IBM and intel and Microsoft and Google all devoting resources to win the race for achieving a quantum computer.

At the same time, however, with other sectors of quantum technology, like for example, quantum cryptography in terms of protecting data and networks from attack from a future quantum computer, which would be able to decrypt public encryption systems, for example, the United States has been slow getting out of the blocks. And in the area of quantum sensing, in the area of quantum metrology where there's a lot of breakthrough technology, we haven't really been thinking about this in important strategic ways except in the Department of Defense there's a lot of concern about what the threat of a quantum senses could be, for example, denying a neutralizing stealth technologies, being able to detect submarines at the bottom of the ocean, etc.

And yet where our science and technology efforts are, we don't see an overall general strategic approach. China has been very different. They see the push on quantum technology, both quantum computing and also quantum sensing and post quantum cryptography is all part of a whole, the strategic whole to be advanced so that they can dominate this technology in the next two decades. That's the kind of strategic thinking that you're looking at, right? And that is that we think about what's our national goal with these technologies? How do we harness? And I love that word harness. How do we harness the entrepreneurial drive and the instinct for innovation already built into the American economy? How do we harness that to national goals?

Senator Todd Young:

So harnessing the entrepreneurial drive, harnessing our existing expertise in so many different areas of research in our talent or public-private partnerships, harnessing our capital markets by crowding in private investment when the seed investment is made by our federal government. And I would also harness another important sort of a national resource we have, arguably the greatest geopolitical strength we have, which is our alliance system.

China doesn't have any allies. They have none. They have vassal states, they have targets, they have transactional relationships with certain countries, but there are no countries that are under any illusions that the Chinese have their best interests in mind as it relates to longer term relations. The United States, our history is different and we need to continue to cultivate these alliances and harness them as it relates to this topic and partnering together on some of these research projects. Not just utilizing their capital, but using their expertise and identifying ways that we can identify what technologies should be priority investments, which ones should not. And I see this as yet another way of strengthening these alliances and partnerships as well. It's another joint project we can work on as we try and frankly counter this state capitalist predatory authoritarian model we see from the Chinese.

Arthur Herman:

That's right. We surround them. The democratic states still surround them and they have all of those resources that those countries can bring to bear. Japan, Israel, South Korea, Taiwan, they're all waiting to be mobilized and activated by US leadership in these emerging technologies.

There's another challenge too. And then I want to talk a little bit about where we are right now and about your thinking about the US, China and the COVID-19, steps we need to take there. The one more point why I think the public investment issue is going to have to be paramount to a lot of these technologies and that is that the return on investment on this is not the kind of return on investment that tends to attract your typical venture capital dollars. They're looking for a return of investment of two years, three years. And if you're investing in major breakthroughs in science and technology, it doesn't run on that kind of a timeline. It's a timeline that stretches out for 10 to 15 years.

And so the idea that even then the most promising advanced technologies, whether you're talking about quantum or major breakthroughs in, for example, medical bio and nanotechnology that those are automatically going to attract exactly the kind of private capital that will grow them out from an incubator stage to commercializable and realizable returns is I think underestimating the degree to which the federal government and government investment can really spur innovation. This is a concept we need to really embrace and think about more carefully as we go forward now.

Senator Todd Young:

So relatedly, I was having a conversation with a strong capitalist, someone who believes in the free enterprise system, as do we, recently about this concept. And I was asking him how we might harness the knowledge of markets, sort of the wisdom of the crowd to inform what our priority investments should be. Right?

And it was really an elegant idea. It's fairly simple. Maybe it's something you're already familiar with Arthur, but he said, "Well, if you're expecting a 10-year payback, you would just establish those criteria. You'd say, 'Okay. You have an opportunity to get a stake, a payback, within we're going to just artificially establish a 10 year window. What technologies? Informed by your technologists, we're investment advisors knowing it's your money, what technologies do you think could enjoy a 10-year payback and that would lead to much higher levels of productivity in our economy and so forth.'" I thought that might be one crosscutting way to identify what some of these target technology areas should be.

Arthur Herman:

That's a great idea. And an important one too because you want to have public-private partnerships on this kind of investment. Don't you think, Senator?

Senator Todd Young:

I think so.

Arthur Herman:

You don't want a system that relies entirely on government picking winners and losers. We don't want to go down the Solyndra trap. That's not what a National Innovation Strategy should be about. That's not the kinds of goals or the methods that we ought to be thinking about as we go forward.

Senator Todd Young:

So I like that idea. I acknowledge that that idea would not capture the externality, the spillover benefits associated with say, national security, right?

Arthur Herman:

Right.

Senator Todd Young:

That would be something enjoyed by all and not returned directly to that individual. So we'll have to think through that and acknowledge that that would be a downside of that approach.

But I think if we take enough of these crosscutting approaches, we will narrow down some of the key technology areas in which we should be investing, which is what we've attempted to do through our National Innovation Strategy that we have proposed and reduce the rate of potential failure or suboptimal outcomes, which you enjoy as it relates to public investments just as you do when you have private investment.

Arthur Herman:

Yeah, that's right. And then also having an innovation culture that's understood by the government in which failure is inevitable. That, in fact, failure is how you learn from mistakes and correct course. And so, "Okay, that one's not working. Let's try this one instead." That's built into how innovation works. Whether you're talking about an individual entrepreneur gearing up his own startup or whether you're talking about institution's like DARPA. They understand that the majority of the projects they bring on board are probably not going to pan out.

But that's the kind of level of risk you're going to need to have some tolerance of if a National Innovation Strategy is really going to work. You can't have the bureaucrats saying, "This is really great. We want innovation with a zero-failure rate." Forget it. It's just not going to happen.

Senator Todd Young:

That's right. That's right. And it's so refreshing when I visit Silicon Valley. I just love to breathe the air when I go there because the atmosphere is so entirely different than Washington DC. And I'm not talking about the air quality. I'm talking about the culture, right, of innovation, of celebrating people who try and fail and get up and dust off their trousers and try again. To me, that captures the spirit of American free enterprise and innovation and that's really what we're trying to harness here.

Senator Todd Young:

There's a fantastic book you may have read. It came out a couple of years ago. It's a lot of fun, by Megan McArdle, *The Upside of Down*. And that is indeed one of our greatest strengths.

Arthur Herman:

I think so. And one of the things about a free market economy that you want to preserve as a National Innovation Strategy goes ahead and becomes implemented too, you need that spirit. You need that element to go with it.

Let me ask you about where we are right now with regard to COVID-19. I'm not going to ask you when we're all going to go back to work, but I do want to ask you about one particular decision that the Trump Administration has just announced and that's with regard to the World Health Organization and the decision to suspend funding until we get a full accounting of just what went wrong and what WHO's role was in possibly being complicit in China's mishandling and then cover up of the coronavirus contagion. I wanted to get your thoughts on that and where the US needs to be on these issues.

Senator Todd Young:

Sure, Arthur. Thank you for the question. Well the first thing I would say is this is incredibly relevant, not just timely, but relevant to my committees and subcommittees of jurisdiction. I chair the Multilateral Institution Subcommittee on the Foreign Relations Committee and I held the first oversight hearing on the World Health Organization back in 2017 or I attempted to. Unfortunately, the day we were holding the hearing happened to coincide with the Kavanaugh hearings and that was the very day that there was an agreement by some of my colleagues not to allow any forums, not to allow any hearings to occur. I forged on. I went ahead and held a subcommittee hearing by myself and so it's online and we accepted the written testimony which can be found online and so forth as well.

But the things I attempted to uncover in that World Health Organization subcommittee hearing that evidently there were some sleeping giants there in terms of the infirmities of the World Health Organization. We're still trying to get visibility on that. We know that there wasn't a high level of transparency. We also know that at the very time that World Health Organization should have been aware of human transmission of the coronavirus, they were sanctioning, applauding the Chinese response to this virus, and so there was some real challenges because when you have bad data that screws up your development of models, all the assumptions of your models to try and determine the nature of this virus, and the rate of spread, and other things that are needed for planning purposes. All of that data was garbage going in, and that handicapped other countries and our ability to respond effectively.

So, China did not behave responsibly. And unlike with the swine flu, it doesn't appear that the World Health Organization really pressured them to come into a position of better behavior, be forthcoming with the data, and they didn't blow the whistle on them. So, I think it's incredibly reasonable that the United States, for our health security, for our national security, hold the World Health Organization to account, but we do need some entity to carry out this function. And I'm not aware of a replacement entity right now.

The United States, because of our Federalist nature, we're pretty good at delegating authorities. We came up with this Federalist structure where we delegated different sorts of authorities across different levels of government, and in this globalized world there will be some authorities that we're going to have to delegate upward, not this downward, right? Some very hyper-localized challenges we're facing and then some global challenges. Pandemics are by their very nature global. So, we need a functioning international organization that can help us through this.

And I think the question for us right now, as the president discusses funding, in the near term, we're going to have to deal with the World Health Organization we have, as opposed to the World Health Organization we want, to paraphrase a former leader of our Pentagon, right? To the extent we can make changes in the behavior of the World Health Organization by naming, by shaming, by training, by stepping in where gaps need to be filled, by supplementing the organization.

By doing workarounds, we should, right? But my expectation is we'll continue to need them. I do have a fear since we've already made our annual funding, our annual appropriation of the World Health Organization, that at this very moment we don't have much leverage. In fact we have almost no leverage vis-a-vis the World Health Organization, and their budget in the near term. And then there are other countries like China that may well salivate at the opportunity to step into the void, and to characterize them themselves as the one that is sort of dedicated to multi-lateralism, and global cooperation and global leadership, when that's the United States. We're the responsible actor here, right?

Arthur Herman:

That's right.

Senator Todd Young:

So, I am full-throatedly supportive of holding accountable Chinese leadership, and the World Health Organization leadership to account for misbehavior for a ham-fisted response, and so forth. But I just think we need to be careful how we do it.

Arthur Herman:

I think that that's probably very wise and we can castigate the World Health Organization, we can investigate what happened. We could demand answers, demand accountability. But let's face it, in the end, the real culprit in all this is China. And they are right now trying to turn a public relations disaster into a public relations success with sending around medical supplies around the world. We can't let them get away with that when it comes to capturing the World Health Organization, and I think this is one in which some multilateral diplomacy bringing in other countries that are members of the WTO, and I've seen very clearly what's happening at WHO, and being able to come up with a multilateral response is hugely important going forward.

Senator Todd Young:

The United States had, on the back end of the Ebola crisis, I recall in particular, we were able to improve the operations of the WHO, and a number of fronts. Our Centers for Disease Control, though imperfect, is the best at what it does in the world. At least that's the perception, globally. And so we can provide technical assistance. The one thing we cannot do is substitute for just competent leadership that has a level of integrity, and transparency that's needed at WHO, so it's probably unrealistic to think that we're going to immediately get a change in leadership, but that may be required, but let's build on the expertise we do have there, the institutional memory we do have, and together we can kind of figure it out with how that looks, and how U S taxpayer funding might follow those changes.

Arthur Herman:

Yeah, I think it's a good note on which to end our discussion too, which is US leadership is needed in so many areas, and one of them with regard to WHO reform another one with regard to American leadership of our fellow democracies in harnessing our emerging technologies, and entrepreneurial energies towards a goal to protect, and safeguard democracy and freedom around the world. And also to some leadership right now from the government, from Congress, to get our own economic house in order, and moving forward in the next century. So that we become the center for global innovation, and technological progress in the future.

Senator Todd Young:

And I would say at some point, this COVID 19 pandemic national health crisis meets economic recession, is going to come to an end. Life is going to resume some semblance of normalcy. And this generation of Americans has an opportunity, and I would say a responsibility, to not just be content with recovering our losses. Instead, we have to position ourselves to lead. To lead with our values, to defend our way of life, and to do everything we can to set the next generation, and beyond up for a prosperous future. And we have the opportunity to do that. So in the midst of all these many challenges we're facing, I see exciting, and very weighty responsibilities ahead.

Arthur Herman:

It's a marvelous way to end it. Thank you so much, Senator Young, and thank you for joining us this morning for this really fascinating discussion.