

How Can Studying Economics Help Public Policy?

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This is an edited version of these remarks as delivered.

I want to thank my adviser and friend Greg Mankiw for inviting me back to Ec 10. It has been twenty-seven years since I first set foot in this same lecture hall for this same course, then taught by Marty Feldstein. And I have a confession that may reflect well on the course or may perhaps reflect poorly on me: just about all of the ideas that I draw on when advising President Obama on economic policy I learned in Ec 10. But do not let this discourage you from taking more economics courses. In fact, you may need them to fully understand what you were taught in this one.

Why Study Economics?

Although it is too late to drop out of this course now that shopping period is over, I thought it would make sense to start out by talking about why you might want to study economics in the first place. I can think of four reasons:

First, Ec 10 fulfills Harvard College's General Education requirement for Empirical and Mathematical Reasoning.

Second, economics helps us better understand the world around us. For example, economists have attempted to explain everything, from more conventional topics, like patterns of global trade and the structure of industries, to more obscure ones, like the determinants of grain prices in the Roman Empire and trends in baby names in the United States. Understanding these issues is valuable in its own right. Such research by economists need not have any more application to future decision-making or policy than astrophysicists understanding the formation of black holes or historians explaining the French Revolution.

Third, a better understanding of markets for products, labor, and capital, and the economy more generally, can help you, if you choose to go into the private sector. In that circumstance, your goal—directly or indirectly—will be to maximize profits, which, at least under certain conditions that you learn in this course, is good for society more broadly.

But the fourth reason, and the one that interests me most, is that studying economics gives you a better understanding of economic policy—whether as a citizen who is engaging in the debate over the right policies, an academic at a university or an analyst at a think tank helping to better

understand them, or as a policymaker who directly works on issues of public policy. While I have respect for the private sector as the engine of economic progress I also know that the “certain conditions” under which it benefits society more broadly are more than just a detail. In many cases that I will discuss today, private utility and profit maximization *failing* to provide the greatest possible social good actually forms the basis for economic policies to contribute to better outcomes from the standpoint of society as a whole.

What Is So Exciting About Economic Policy?

I stumbled into economic policy almost by accident when I took time off from graduate school to work at the Council of Economic Advisers. I discovered that it was my comparative advantage—which, as you will learn, does not mean I was necessarily particularly good at it when compared to other people, just that I was good at it compared to other career paths.

In trying to rationalize this fact, one thing I find exciting about economic policy is that it lets you try to answer the big questions. In some sense, the biggest question in economics is what determines the growth of living standards and of incomes for households in the middle or working class and what we can do to increase the growth of income for these households. In this regard, the United States faces a serious challenge. From 1948 to 1973, the typical household saw its income rise by about 3 percent annually, enough to double real incomes every twenty-five years or so—in other words, every generation would see an income twice that of the previous generation. Since 1973, however, income growth has slowed to about half a percent annually for the typical household, a rate at which it would take one hundred and fifty years to double—a huge difference. Economics can help us understand why this has happened and what to do about it, something I will come back to in a moment.

This of course is not the only big question that economics can help answer. And in fact, economics can contribute to answering a range of other big questions, many of which are not necessarily considered conventional economic issues—for example, how to deal with climate change or reform our criminal justice system.

But personally, I also like some of the smaller issues, which may not always make the headlines and can be a bit technical and detailed sometimes, but have direct tangible impacts on Americans’ lives and contribute to making progress on the bigger policy questions. I am lucky enough to have a job where in any given day I can have meetings on overtime regulations in the morning, renewable fuels before lunch, spectrum allocation in the afternoon, and multiemployer pensions in the evening.

It is not just the topics, whether big or small, that are interesting. One of the major challenges of economic policy—and this is one that even a textbook as good as Greg’s cannot fully solve for you—is that economic policy involves combining economics with a broader understanding of how to make policy work, whether politically, administratively, or otherwise.

For example, when looking at any of the questions above, if you want a pure economic answer, you should survey ten economists. If they all agree, there is a good chance that they are right. Take climate change for example. I suspect ten out of ten economists would tell you that the right solution is to price carbon to reflect the externalities that are imposed on other people and on society more broadly when a person chooses to consume carbon. If you want a pure political answer, that is also easy: just survey a random sample of a thousand people and they might tell you the key is for everyone to drive a fuel efficient car.

If you were a philosopher-king, the economists' answer would be all you need. Someone only focused on political popularity would only need to know the response to the public poll. Either one of these, however, is relatively straightforward. What makes economic policy exciting is you have to figure out how to combine economic knowledge and political feasibility. In some cases, this is a matter of figuring out how to frame and communicate the perfect policy so that it will get the broadest support. In other cases, it is a matter of finding another policy that is almost as good but which is more likely to garner sufficient support.

I can give you an example of this from my own experience. In the Recovery Act—which we passed in the beginning of 2009 to deal with the financial crisis and the Great Recession that followed—we included a tax credit called Making Work Pay. Making Work Pay provided \$400 for a single tax-filer, and \$800 for a married couple. It was designed as a so-called “refundable tax credit,” so low-income households would get a check if necessary, and it was phased out so higher-income households would not receive it.

We thought this was a really well-designed component of a broader response to the economic crisis. Our goal was to rapidly put money in the pockets of the households most likely to spend it while not wasting resources on higher-income households who would be both less likely to spend it and also less likely to substantially benefit from it.

We originally passed Making Work Pay for two years, but as we got closer to its expiration at the end of 2010 it was clear to us that the economy—and hard-pressed households—still needed support. But Republicans in Congress were completely opposed to continuing Making Work Pay. In particular, they did not like the refundability of the credit—the fact that you would mail checks to people whose tax refund was higher than their tax liability—arguing that this would lead to fraud.

One approach would have been to stick to the pure economics and just repeat over and over again why we thought extending Making Work Pay was a good idea. The alternative, though, was to figure out if there is something else that would accomplish much of the same goal but which did not have the particular problem that led Republicans to oppose the credit. We hit on the payroll tax, something that everyone working pays—even if you earned only \$1, a portion of your paycheck goes to the payroll tax. Rather than give people a check, as we did with Making Work Pay, why not give people money off of their payroll taxes temporarily? This would get the money out rapidly, and it would get money to everyone no matter how low their earnings.

However, it did have the unfortunate feature of providing more to higher earners—with no phaseout as individuals' earnings increased.

For the sake of argument, let's assert that the President's economic team was able to tell the President that he had two choices. One was Making Work Pay and the other was the payroll tax holiday, which was 85 percent as effective as Making Work Pay. Then the President's legislative adviser could tell him that Making Work Pay had a 0 percent chance of being passed into law and the payroll tax holiday had a 100 percent chance of being passed into law. Multiplying, the right economic policy answer is clearly a payroll tax holiday—which is 85 percent effective as compared to the 0 percent effectiveness of an unenacted extension of Making Work Pay.

I give that example because it is one of the many ways in which you have to balance legislative affairs, politics, communications, and economics to design a public policy that achieves your goals. Moreover, you need to understand how the tax code actually works and how it is implemented to embed all of this in an administratively feasible framework. That balance works best if you have some awareness of the political constraints you are operating with. But it is also essential as an economic adviser to present the full set of options and economic tradeoffs, because in this case a different set of legislative probabilities—not something economists have comparative advantage in determining—could have led to a different outcome. While it can be difficult during a policy debate to determine when it makes sense to move forward with a compromise option, it has been helpful to not let a lack of perfection get in the way of progress. Landing on a policy that is 85 percent as effective as your ideal choice can still make a meaningful difference for working Americans.

Do Economists Ever Agree on the Answer?

A number of policy questions have been heavily studied by economics, and economists often have a relatively clear, agreed-upon answer. As I mentioned earlier, climate change is one such area where economists broadly agree on the right steps forward. Bringing that agreement to the table is a valuable function of an economic adviser.

Taxes for high-income households are one of the tougher tests of the proposition that economists generally agree, because that is where—with the political system—you see some of the fiercest debates; moreover, the economic evidence presented in those debates and the research papers on those issues are highly correlated with whether the presenter is on the Democratic or Republican side of the argument. But even there too, I think economics can be helpful in narrowing the debate. While in the newspapers you can read a wide range of opinions about taxes, among professional economists I do not think you would find any who say that a labor tax cut pays for itself, or even comes close to paying for itself. Nor do I think you would find any who would say that a labor tax cut has no incentive effects at all or that these effects can be completely disregarded in figuring out the best way to do tax policy.

When you get beyond hot-button issues like setting the top tax rate, there are a range of other tax issues that bring us back to broader agreement. To give another example, has anyone here ever heard of a repatriation tax holiday? At the Council of Economic Advisers, I try to be very open and inclusive, and let our staff speak and share views, and shape the views that we take in the policy process. But we do have one rule at the Council of Economic Advisers, and that is that a repatriation tax holiday is the single worst policy idea ever developed. (I once told our senior economist working on education that if he goes to a meeting and does not like an idea, he can say it is the second-worst idea ever developed, but he can never go into a meeting and call it the worst idea, because that is reserved for a repatriation tax holiday.)

Many large American corporations have overseas earnings, and for tax reasons many corporations keep much of these earnings overseas rather than “repatriating” them to the United States. The corporations came to Washington for the first time when Greg was chair of the Council of Economic Advisers in 2003 and in effect said, “Let us bring this money back at much lower tax rate—we’ll invest it, you’ll be able to collect some taxes on it—and it will make everyone better off.” Greg and his team took a look at it and concluded that “the repatriation provision would not produce any substantial economic benefits,” as the Bush administration wrote in a letter to Congress. In the Obama Administration, we also took a look at a repatriation holiday and reached the same conclusion, as have economists and analysts ranging from the Center for American Progress to the Heritage Foundation. In part, this stems from the fact that a repatriation tax holiday would create an incentive for corporations to keep even more of their earnings overseas in anticipation of *future* tax breaks, causing overall tax revenue to be even lower. This is an idea that a lot of corporations and other people come to me with and think is a great epiphany, and is a wonderful thing that can make the world a better place. But understanding incentives and the economics of what determines investment and job creation leads to a clear conclusion that it would be a mistake.

What Can Economists Contribute When the Answer is Not Known?

Most of the policy issues that come across my desk are not ones where I can go find a textbook or journal article that tells me the answer. They are instead a novel set of issues like the economic impact of sanctions on Russia, how to set the salary threshold for overtime rules, or what quantities to require for different types of biofuels. There are rarely clear-cut answers to the most complicated policy questions, and part of making policy recommendations is being comfortable with a potentially significant level of uncertainty about the impact of different policy options. Economics has a lot to offer on these difficult questions but you cannot just pull the answer down off a shelf. Even for certain questions that are anything but novel and have been heavily studied, there is rarely a clear answer for what the optimal policy should be. For example, despite study after study of the effects of the minimum wage, it turns out that few if any papers ask the question of what the exact level it should be set at—which is the main question policymakers need to know.

In all of these cases, in our work at the Council of Economic Advisers we draw on four sets of tools to establish a framework for assessing how likely it is that an answer is correct.

The first is just describing the data. Describing the data does not tell you what caused what. It does not tell you what is the right policy or what is the wrong policy. But it can help you at least figure out what questions you should be asking, what areas you should be looking at to solve those questions, and what you can do about them.

The data can be complicated. Last week, the government released two different estimates of what happened to median household income between 2013 and 2014. One estimate was that median household income fell \$805. The other estimate was that median household income rose \$552. In theory, these two numbers should have been the same, but they came from surveys with somewhat different samples and somewhat different techniques, and they give very different answers to the basic question, “Are incomes rising or are incomes falling?” That is not uncommon.

The government also regularly publishes two different measures of economic growth that in theory should be identical but in practice can differ due to different methodologies. The last time the government published these measures, one said the economy grew at 3.7 percent (based on adding up expenditures) and another said the economy grew at 0.6 percent (based on adding up incomes). Which one was correct?

Because we never make decisions based on a single piece of data alone, neither of these examples are themselves very consequential for any big choice. But they are an important reminder that when you see numbers, you want to take into account that the measures you see are often very noisy. They are often subject to revision, so you want to put them in the context of a range of other data about the economy and look over a longer period of time.

Sometimes these measurement issues can be very consequential. When we were in the middle of the Great Recession at the beginning of 2009, we were looking at the official statistics about what was going on in the economy. Our first month in office, the official statistics said that in December the economy lost about 500,000 jobs, and in the fourth quarter of 2008, the economy had contracted at a 3.8 percent annual rate. For us that was a big motivation to act—a big reason to do something as fast as we could and as large as we could. As it turned out, the numbers we were operating on—which were the official data at the time—were wrong. They were not wrong through anyone’s fault, but just because of the difficulty of tracking the economy in real time and especially around rapid turning points in the business cycle. And when the numbers were subsequently revised, that 500,000 job loss—which felt quite large to us—was revised up to about 700,000 jobs in a single month, an eye-poppingly large number. And the contraction in the economy—instead of being 3.8 percent—was actually 8.2 percent, making it part of the largest two-quarter contraction since at least 1948. So trying to get underneath the data, to put it in context, and to infer what it might *not* be telling you is often as important as reading the data itself.

Data description can be more sophisticated than just looking at single numbers or even trends. Sometimes it helps to decompose a number into its components to identify what is driving it, at least in an arithmetic sense. To go back to the example of median household income, I said that it was growing at around a 3-percent annual rate from 1948 to 1973 and at about a half-percent annual rate from 1973 to the present. This income growth itself can be roughly decomposed into three components: (i) the growth of productivity, or output per hour, which tells you how much more the economy *could* pay workers; (ii) the growth of inequality, or how much the economy *actually* does pay workers; and (iii) labor force participation, which tells you how likely it is that members of any given household are earning money in the workforce.

So following the income numbers one step further, one finds that productivity growth slowed from 2.8 percent a year on average from 1948 to 1973 to 1.8 percent a year from 1973 to 2014—accounting for some of the slowdown in income growth. But at the same time, the share of income going to the bottom 90 percent of households fell from 68 percent in 1973 to 53 percent in 2014, compounding the effects of productivity slowdown for the typical worker. The surge of women into the workforce helped make up for these trends over this period, as more households had two earners, but by 2000 this surge had ended and over the last fifteen years falling participation rates have compounded the income challenge for the median household.

This description, of course, does not explain why all of this happened and what to do about it. But it does tell us some of the places we will need to look to find these answers.

The second set of techniques we use is economic theory. Economic theory can sometimes give you a very helpful answer to a question. One of the biggest insights in economics is that some items are more valuable to one person than to another person, and if those two people trade things, they can both be better off. These are the basic motivations for a market economy and the basis for the argument for expanding international trade.

This insight also has some useful implications for some specific questions in public policy. Let me give you one: the allocation of the electromagnetic spectrum that is used for items like broadcast television, mobile phones, Wi-Fi, garage door openers, and radar and control systems for military hardware. Spectrum has the property that it is in finite supply (there are only a finite range of frequencies) and consumption of spectrum is rivalrous (your use of the same frequency as me at the same time could interfere and lead the service not to work for either of us).

When spectrum was originally allocated to television, radio, the Federal Aviation Administration (FAA), the Department of Defense (DoD) and others, scarcity was not much of an issue, as there were comparatively few applications. Everyone got as much as they wanted, with the only caveat being that the Federal Communications Commission (FCC) had to assign specific frequencies for each use so they would not conflict with each other. Today, however, with the advent of mobile phones and other mobile devices the demand for spectrum is considerably higher, and we are facing a “spectrum crunch” as mobile downloads more than double each year while the spectrum that carries these downloads is fixed. A number of potential solutions could ameliorate this issue, but one of the most direct is assigning more spectrum to mobile broadband.

At the same time, some spectrum is very underutilized. A broadcast television station is assigned a specific 6 MHz of spectrum in a specific area regardless of how many viewers it has. In the Los Angeles area, for example, there are more than 25 broadcast stations, some of them with only a handful of watchers, most of whom could watch the shows on cable, online or through other means. A station with only a few thousand viewers might be worth \$5 million, but at the same time may own a license for spectrum that a mobile broadband provider would be willing to buy for \$20 million.

The Obama Administration proposed to deal with this by setting up an incentive auction. Anyone who is a television broadcaster who wants to sell their spectrum can do so, and anyone who is a mobile broadband provider or anything else and wants to buy that spectrum can do so. The auction is entirely voluntary—a station will only sell if it is better off with cash than with spectrum, an Internet service provider will only buy if it (and presumably its consumers) benefit more from the spectrum than the cash they pay, and taxpayers get a cut of the difference in the bids to reflect the government's role in organizing the process, including repackaging the spectrum into contiguous blocks to make it more valuable. The auctions will happen next year, and we expect them to generate tens of billions of dollars for taxpayers and multiples more in the form of added consumer surplus.

This is a simple example. The fact that one person wants to buy something and someone else wants to sell it suggests it was more valuable to the buyer and thus the transaction will make them both better off. But a number of assumptions go into this presumption, including perfect rationality, perfect information, and perfect markets. And while these are true enough in much of the economy, including the case of spectrum, they are not true everywhere—and economics itself would be pretty boring if these were the only cases that were studied. Many of the Nobel prizes in economics have been given for understanding not the models that only use those assumptions, but the models that relax those assumptions to understand the consequences of markets departing from the perfection you begin your studies assuming.

One of those assumptions is perfect information. Since at least Ken Arrow's pioneering work in the early 1960s, economists have understood that in the case of health care, we do not have perfect information. I know a lot more about my health than the insurance company does. Just like if a used car salesman is really eager to sell you a car, you might infer that there is something wrong with the car, if someone is really eager to sign up for health insurance late one evening, you might infer that they have information you do not know about, for example, undergoing surgery the next morning. This is a problem—a violation of the standard assumption in the standard model of economics that leads to something called adverse selection, where if left to itself, the sickest people would all sign up for health insurance coverage, and coverage would become even more expensive. So even sicker people would show up, and the healthier ones would drop out, and it could lead health insurance markets not to function.

Economists, over time, have had a range of answers to the question of what to do about adverse selection in health markets. You could argue for a number of different solutions, although the

one that I think a variety of economists have advocated—including the Heritage Foundation, Governor Romney here in Massachusetts, and President Obama—is that there has to be some type of individual responsibility requirement or mandate for purchasing health insurance to help solve this adverse selection problem. That is another example of where thinking about some basic theories—and in this case the way that standard theory can go wrong if you change one of its assumptions—can lend you guidance for public policy.

Health is just one example of how an entire field of research in economics is built out of relaxing and changing standard economic assumptions. In the last two decades, one of the fastest growing areas of economics has been “behavioral economics,” which relaxes the standard assumption that people are fully rational, and instead pays close attention to the ways people can be myopic, make decisions that depend on framing, and have limited attention spans or ability to incorporate information. I will return to this in a moment.

The third set of techniques we use is empirical work, trying to understand the causes and effects of different economic phenomena. Not just, *this happened at the same time as that*, but what caused it. You often need that because when you describe the data, it does not tell you what’s causing what when two things happen at the same time. Moreover, theory often does not give you a clear answer. To give you an example of this, take the Earned Income Tax Credit (EITC). The EITC is a refundable tax credit that was originally started under President Ford and expanded under just about every President since. For a parent with two children, it initially provides \$0.40 for each dollar the person earns—with this amount being refundable if the household receives more in credits than he or she pays in income taxes. Once you make about \$14,000 the subsidy stops, and starting at about \$18,000 you lose \$0.21 for each dollar you earn until the subsidy is entirely gone.

As you will learn later this semester, in theory this policy has three effects. The “substitution effect” says the \$0.40 matching payment will encourage more work. But the “substitution effect” also says that the \$0.21 phaseout will encourage less work, as will the “income effect” from workers earning more money and thus no longer needing to work as much to earn the same level of income. The theory does not tell us which of these is larger and thus does not tell us what the EITC will do to work incentives overall. So how do we figure out the answer to this question? Ideally, we would run a random experiment, randomly assigning the EITC to one group of households and denying it to another group and then studying the difference between the two. In practice, we usually cannot perform random experiments, but economists are very clever at figuring out “natural experiments.” For example, economists have studied the impact of an EITC expansion on a “treatment” group of mothers with two children, who received a large expansion of the credit under a 1986 law, compared to its effects on a “control” group of mothers with one child, who did not. When economists have done this for the EITC, a number of different empirical research papers have all come to the same conclusion: the EITC increases labor supply, making it more likely for people to work—especially for mothers—and that the effect is actually quite large. Right now, potentially as many as one of every ten parents who, in the absence of the credit, would not have been working are in the workforce because of it. That

empirical evidence is the motivation for why both President Obama and Speaker Ryan have supported expanding the EITC.

Sometimes empirical work can lead to novel conclusions. In theory, tax preferences for retirement savings should generally lead to more retirement savings. But a range of evidence has found that in practice this is not the case, and even in cases where tax preferences have apparently led to more savings, these additional savings have been offset elsewhere. At the same time, empirical work has found that whether people have to actively sign up for a retirement savings plan or have to opt out of a retirement savings plan has a large impact on participation, something that is surprising from the perspective of a standard rational economic model but can be understood through the lens of behavioral economics. These theoretical and empirical findings have had major implications, including the increasing adoption—facilitated by legislative and regulatory changes over the last decade—of “opt-out” retirement savings plans by companies across the country.

Fourth, we sometimes combine empirical description, theory, and causation to build models that allow us to simulate the impact of different policies. For example, such simulations can tell you how a tax cut will be distributed or affect the economy, how much a particular health plan will cost per person covered, or how much carbon emissions will change as a result of different policy approaches. While any model is limited and imperfect, models can be especially useful in quantifying the tradeoffs in designing a policy.

Sometimes such simulations, drawing on everything else I have been talking about, can lead to some powerful and important conclusions. For example, in 2009 we increased the tax on roll-your-own tobacco much more than on pipe tobacco. The result, which should not surprise a student in Ec 10, was a big increase in the consumption of pipe tobacco and a big decline in the consumption of roll-your-own tobacco. In fact, to the degree that these two are perfect substitutes, raising a tax on one would only lead to substitution without any reduction in overall tobacco use or any benefits for public health. When a few years later we were proposing another tobacco tax increase, this time to pay for universal preschool, we kept this experience in mind when designing the details of the proposal. Specifically, we decided to not just raise tobacco taxes but also to harmonize the tax rate across different products—a step that the Department of the Treasury’s model estimated would result in a two-and-a-half times larger reduction in tobacco consumption than just raising cigarette taxes by an amount that would raise a similar amount of revenue.

How Should Policymakers Handle Uncertainty?

Describing the data, using theory, using empirical analysis to understand causation, and combining this all together with modelling can all help with formulating the right recommendation for public policy. But even the best economic analysis will not tell us everything we would like to know about the problems that we are trying to solve. As policymakers, we have to be very humble about those limitations and about those uncertainties.

It is also important to remember that not every problem necessarily has a solution; there can be limits to what public policy can accomplish. But, in many cases, uncertainty pushes the default option toward inaction, which is not necessarily the correct choice, especially when both action and inaction are subject to the same amount of uncertainty. In such cases, an action whose impacts are not entirely known can be superior to the default of inaction.

And while we need to work hard to reduce the uncertainty we are facing, we also should take it into account directly when designing public policy. Let me illustrate three ways of doing this.

First, to the greatest degree possible, you want to integrate evidence and evaluation into your policy itself, both so that you are learning more and so that you can act on that knowledge. For example, in the case of Unemployment Insurance the Department of Labor performed trials of a low-cost intervention to interview longer-term beneficiaries to establish if they were still eligible and help them find jobs. The resulting evidence was that the benefits of this approach were several multiples of the cost. As a result, in 2012 we worked cooperatively with the Republican House and Democratic Senate to substantially expand the program, albeit with the Republicans probably being more enthused about limiting benefits to the ineligible and Democrats more enthused about the training.

More often, the legislative process is slow and cumbersome, and sometimes trying to build that constant process of innovation, evaluation, and improvement into programs themselves can be very important. One of the exciting innovations in the Affordable Care Act to reform the delivery system of Medicare and Medicaid is something we created called the Center for Medicare and Medicaid Innovation. This Center has a budget to conduct experiments. One experiment that it is conducting is looking at how we can better treat hip and knee problems. Today, if you go in for a knee replacement, all of the different doctors and facilities that treat you get separate payments, which encourages overtreatment and poor coordination with no incentive for improved quality. The Innovation Center is experimenting with shifting to “bundled payments,” with a single payment based on the condition being treated along with bonuses for quality improvements. Under the law, if such an experiment is proven to either save money without hurting quality or to improve quality without costing additional money, then the Secretary of Health and Human Services has the authority to scale it up to the full Medicare program.

Second, in many cases uncertainty says we should rely on the market more to figure out the right solutions—but that we need to make sure the market has an incentive to do so. A market failure may lead policymakers to want to push the economy in a certain direction, but we may not know enough about every detail of how to push it there. As a result, uncertainty says that we should give more incentives for the private sector and consumers to figure out the best and most creative answers rather than trying to specify them in detail. On climate change, for example, putting a price on carbon lets businesses and consumers figure out new ways to minimize their exposure to the price by becoming more efficient. And the Affordable Care Act included an excise tax on expensive employer health insurance—the so-called “Cadillac Tax”—to provide employers and insurers with an incentive to figure out more cost-effective ways to provide care to people. Finally, it is important for financial regulators to try to supervise and ban a number of

particularly risky practices by banks given both the incentives for excessive risk that banks have as a result of deposit insurance and other institutional features of our system as well as the potentially systemic risk they impose on the economy more broadly. But we can never see or monitor every behavior, nor would we want to engage in this level of micromanagement, so an important regulatory tool that has been expanded in recent years is requiring banks to hold an adequate buffer of capital. This buffer helps ensure, if banks do make mistakes in the future, both that the costs can be absorbed by banks' own shareholders, who have an incentive to avoid those mistakes, and, in the event they make a mistake, that such mistakes are less likely to pose the types of risks to the broader economy that bank failures did in 2007-08.

Finally, in the face of uncertainty it is better to have policies that can automatically respond in sensible ways to contingencies. One big example is fiscal policy, and one thing you will learn next semester is that if an economy is perceived as heading into a recession, if the government spends more money or cuts taxes, that will help raise growth and reduce unemployment. (Conversely, the opposite is also true.)

The problem is how to apply this theory in practice. One problem we have talked about is that the data to even know if you are in a recession or how severe it is can be seriously lagged and imperfect. Another problem which we have also talked about is that political disagreements over how to deal with this situation can drag on, sometimes much longer than the economic downturn itself. Add to that the fact that many fiscal policy tools only spend out slowly, and you find that while fiscal policy can combat recessions in theory, in practice it may be more difficult.

Economists are divided about the implications of all of these challenges for “discretionary fiscal policy,” where the government actively passes new laws to raise spending or cut taxes when the overall economy is weak. Personally, I think that we should not let the perfect be the enemy of the good and that fiscal policy continues to have a really important role to play, a view that I think is increasingly popular in the economics profession given some of the successes of timely discretionary fiscal policy in combatting the Great Recession and the concerns that some have raised about future limits on the magnitude of monetary policy responses.

But nearly all economists agree that the “automatic stabilizers” are an effective response to recessions, with taxes automatically going down as incomes fall and Unemployment Insurance benefits automatically going up as more people lose jobs. For this to work you do not need to develop a new stimulus plan from scratch or wait for actions by Congress; it is just automatic and quick. The success of automatic stabilizers in mitigating some of the effects of the Great Recession has led a number of economists and policymakers, including the Obama Administration, to develop new ideas that would further improve automatic stabilizers, for example by automatically lengthening Unemployment Insurance duration or increasing income support generosity in recessions.

Concluding Thoughts

To conclude, I think it is great that you are taking Ec 10. I recently was reminded of a problem set I had done in this class about how policy changes would affect the price of taxi medallions and wages for taxi drivers as I was employing the same logic to think about the economic implications of ridesharing. There is a lot more for you to learn, in more economics courses or in the world as you engage with economics and economic policy issues. Ultimately, if you do get involved in economic policy, you will find it is not just a matter of getting the economics right—although that is important—it is also about understanding the implications of the fact that economics does not have all the answers. Moreover, it is about how to integrate economics more broadly, how to explain it, to get people motivated, to devise strategies that bring different interest groups together, and ultimately to get the politics right if you want to implement the perfect policies you have dreamed up.