

The Aims of Public Policy Address:
The Perils of Quantification

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Good afternoon and welcome to the University of Chicago.

I am told that my job today is “to *inspire* in you the belief that evidence-based public policy can benefit society”. However, as some of you may already know, I am one of the instructors in the core this fall. I’m going to be “inspiring” you for the whole quarter. So I thought I’d take this opportunity, instead, to provoke you a bit.

I’ve chosen a topic—the perils of quantification—meant to interrogate some of the assumptions that lie at the heart of a policy education, especially a policy education focused (as yours will be) on evidence-based policy making. I hope that, in so provoking both you and, I suspect, my colleagues, I will help to spark some excitement about the precious opportunity to spend two years not just honing your craft, but engaging fundamental questions, which is, when all is said and done, what one is supposed to do at a university like this one.

Although my topic is the perils of quantification, I want to start by affirming that quantification, though perilous, is essential. Quantification forces us to clearly define questions and concepts. It provides the opportunity for serious evaluation of policies and comparison of alternatives. It compels us to confront trade-offs. It replaces speculation and sentiment with rigor and precision. It creates a framework of contestability—when costs, benefits, and values are quantified and compared, the terms of debate and standards of evidence are clear.

These features of quantification are critical for democratic accountability and good governance.

Though quantification is essential, it isn’t perfect. I think there are some deep problems that quantification creates that might be avoided, or at least mitigated, if we were a bit more reflective about what we are doing when we quantify.

* I appreciate very helpful conversations about this topic with Scott Ashworth and Dimitri Landa.

To get into the perils of quantification, I want to share with you the following vision of policy analysis, which I take to be canonical. I paraphrase from the standard policy analysis textbook by Edith Stokey and Richard Zeckhauser:¹

1. We identify some problem that needs solving.
2. We enumerate the possible courses of action that might address the problem.
3. We analyze the likely consequences of these various actions. This often involves quantitative analysis (e.g., analyzing data, evaluating related programs).
4. We value all the possible consequences. Here, again, we are quantifying, usually by creating monetary measures of people's values (called "willingness to pay" in the jargon) and then engaging in a cost-benefit type analysis.
5. We choose among the alternatives on the basis of our answers from step 4.

In this rather linear scheme, quantification is simply a tool. There is a machine that starts with a social objective (presumably given to us by politics, ethics, or the technocratic dictates of "good policy") and ends with a policy choice. In between, quantification helps us measure, assess, and evaluate the various alternatives.

This view is, I think, pretty standard. We tend to conceive of quantifying in order to assess and evaluate *in service* of the **aims of public policy**, defined elsewhere and by others. But this view is misleading. And so, I want to explore the idea that quantification and the aims of public policy are not separable, but inextricably interlinked. We cannot neatly divide the world into the aims of public policy and objective, quantitative tools used to pursue those goals. Rather, there is an inherent feedback. How and what we quantify shapes and determines the aims of public policy, just as the aims of public policy shape and determine what we quantify. The fiction that quantification is some wholly objective or technocratic undertaking, informed by, but separate from, the aims of public policy lies at the heart of the three perils of quantification about which I plan to speak:

1. How quantification shapes the normative (which is to say moral) standards we use to evaluate policy.

¹ Stokey, Edith, and Richard Zeckhauser. *A primer for policy analysis*. New York: WW Norton, 1978.

2. How quantification narrows our frame of vision, limiting the set of policy problems we acknowledge exist or can be addressed.
3. How quantification at times distorts the incentives of those who make and implement policy.

Let me take these in turn.

How Quantification Shapes Our Normative Standards

It is a pretty, and pretty useless, truism that good public policy serves the public interest. The problem, of course, is knowing what the public interest is. The traditions of political and moral philosophy that probe this issue are deep, subtle, and vexing. They are also, unsurprisingly, replete with all sorts of compelling, yet competing values.

Almost all quantitative policy analysis is rooted in a set of normative standards that are closely linked to utilitarianism. Utilitarianism is a form of consequentialism—that is a framework that evaluates an act or policy based on its consequences. Loosely, utilitarianism holds that an act or policy is better than another act or policy if, on net, the former leads to greater total utility, or wellbeing, in the world than does the latter.

There are, of course, many normative positions one might hold that are not utilitarian. For instance, there are good and convincing arguments for various rights and duties, such as the right to control one's own body or the duty not to forcibly coerce one's fellow humans. A reasonable person might well hold to the position that good policy must respect, or even promote, such rights and duties, even if violating them would lead to higher total utility in the world. This, for instance, is a position often held by principled opponents of stem-cell research, the death penalty, or torture.

There are also good and convincing arguments for having concern not only with the total wellbeing in society, but with the distribution of wellbeing. A reasonable person might, for instance, be prepared to accept lower total utility in society in exchange for great equality.

As I've said, despite the rich panoply of normative concerns considered by moral and political philosophers, essentially all quantitative policy analysis is rooted in utilitarianism. And not just utilitarianism, but what I'll call *crass* utilitarianisms—one that defines wellbeing largely in terms of *material* costs and benefits. Why?

As a matter of intellectual history, I believe the commitment to quantification precedes the commitment to crass utilitarianism. Quantification is essential to rigorous policy analysis. So, because we are committed to making good policy decisions, we are committed to quantification.²

Now, once we are committed to quantification, some form of consequentialism is really the only game in town. After all, what is there to quantify but consequences? But a quantitative consequentialism is, in principle, a flexible kind of framework. It need not be crassly utilitarian. We can put a value on various non-material factors such as rights, duties, responsibility, dignity, or what have you. Moreover, once you know the quantitative effects of a policy on people's welfares, you can introduce all sorts of equity considerations into policy evaluation. To take an example, we could, after quantifying all the effects, define the best policy as the one that maximizes total utility, subject to the constraint that no two individuals' utilities differ by more than, say, ten percent.

What crass utilitarianism has going for it over all other normative frameworks (even other forms of consequentialism), is that it lends itself *easily* to quantitative analysis. It is hard to figure out how to quantify the value of rights and duties, or how to weight equity considerations. It is much more straightforward—both conceptually and practically—to simply quantify *material* costs and benefits and then just add and subtract to figure out whether a policy is good or bad.

Indeed, crass utilitarianism is so easy to work with that, very early on in the intellectual development of quantitative policy analysis, it became just a part of the “standard assumptions” in the background of almost everything we do. As a result, today, we are often not only crass utilitarians, we are *unreflective* crass utilitarians. The process of trying to maximize net utility—ignoring questions of rights, duties, responsibilities, equity, dignity, and so on—is so ingrained in our thinking, we hardly even notice we are doing it. For us, the process of comparing material costs and benefits is almost equivalent to identifying good policies.

Here we see how misleading is the linear model of policy analysis in which quantification is just an objective tool used in service of the independent aims of public policy. Instead, I am suggesting, the very notion of the aims of public policy that underlies modern policy analysis is driven in a deep way not by philosophical or political values, but by the dictates of quantification. We don't quantify because we are utilitarians. We are utilitarians because we quantify. Reflecting on similar themes,

² See, for instance, the discussion of Pigou's *The Economics of Welfare* in I.M.D. Little (1950) *A Critique of Welfare Economics*, Chapter I.

Foucault perhaps put it best, saying that for modern policy analysts, utilitarianism has ceased to be a philosophy or even an ideology. It has become “a technology of government.”³

But what, you might ask, is the problem? We’ve agreed that if we want to be rigorous, consider trade-offs, and have a contestable framework for policy evaluation, we must quantify and we must be consequentialists. So, what is wrong with allowing a materialist utilitarianism to define our notion of good policy?

In partial answer, I’d like to tell you a couple of stories.

Child Abuse and Foster Care

I once listened to an academic presentation on the effects of taking children out of abusive homes and putting them into foster care. The researcher found that kids are better off in foster care and, indeed, enough better off that the benefits exceed the costs of providing foster care. He drew a policy conclusion from this finding: we should remove kids from even marginally abusive homes.

This conclusion was met with some skepticism. The main critique was that the researcher had not estimated all the relevant quantities to draw the policy conclusion. The researcher seemed confused, arguing that he had in fact shown that the benefits to the kids exceed the costs to society. The researcher and his interlocutor went back and forth until it finally became clear what was going on. The questioner was pointing out that the researcher had not estimated the willingness to pay of abusive parents to keep their kids at home (and, presumably, continue abusing them)—hence, the researcher had ignored one of the costs of foster care.

Now, you might think that a reasonable response to this line of questioning would be something like, “well, if one were a really crazy utilitarian that would be right, but of course there are other values and I think in a civilized society kids have a right not to be abused and we ought not give a damn about the parents’ willingness to pay to keep abusing their children.” As we’ve seen, such a position could even be accommodated in a consequentialist framework amenable to quantification, as long as we aren’t tied to being crass utilitarians. But that was not the response. Instead, the researcher conceded the point, acknowledging that he really couldn’t say whether or not taking kids out of

³ Michele Foucault. *The Birth of Biopolitics: Lectures at the College de France, 1978-1979*, p. 41.

abusive environments was good policy without knowing how it affected those kids' abusive parents!

Summers Memo

The second story is, perhaps, a bit better known. It involves a memo written by Larry Summers—who has served as President Obama's chief economic advisor and Secretary of the Treasury—when he was chief economist at the World Bank in the early 1990s. Summers had the following thought:

...shouldn't the World Bank be encouraging MORE migration of the dirty industries to the LDCs [Less Developed Countries]?...

...the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality. From this point of view, a given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that.

That toxic dumping in low wage countries has "impeccable economic logic" is an interesting assertion. Here are three claims, each of which seems to me correct:

1. It is probably the case that the marginal cost of a little more toxic waste is higher in rich countries than in poor.
2. Hence, moving some toxic pollution from rich countries to poor countries will increase net utility in the world.
3. *If these are the only costs and benefits* (i.e., we don't, say, count allowing rich countries not to take responsibility for their own actions as a direct cost) and we are utilitarians, then doing so is good policy

To call that chain of arguments "economic logic" is revealing, for step 3 has nothing to do with economics. It has to do with values. But, I suspect for Summers, as for many quantitative policy analysts, the assumption that good policy equals utilitarian policy applied only to material costs and benefits is so deeply ingrained, it just gets folded into

the standard assumptions and, thus, can be counted as part of the impeccable logic, a scientific inevitability.

Now, I don't mean to suggest that there are no arguments in favor of Summers' view. The most important such argument goes as follows. Suppose Summers is right that transferring toxic waste from the rich to the poor will increase net utility. Then the rich might be able to more-than-compensate the poor for taking the toxic waste and still be left better off than they were with the toxic waste. Hence, if we have the technological ability and political will to get the poor to take the toxic waste and to get the rich to pay them for doing so, we might be able to create a win-win situation. It is worth noting that Summers' memo doesn't express any concern for this kind of principle of compensation. For Summers, the crass utilitarian argument, on its own, suffices.

I think these cases are interesting for a lot of reasons. The Summers memo, especially, illustrates for us some of the benefits and promise of quantification along with the perils.

Quantification pushes us toward crass utilitarianism, which can lead to ruthless and absurd policy conclusions. But the discipline of quantification also really does teach us something. For many people, the rich dumping their toxic waste onto the poor might not appear to be a policy idea with anything to recommend it. The exercise of quantifying and comparing costs and benefits forces us to see that there is a serious argument to be made for this policy, even if ultimately some of us come down on the other side.

In both cases, I think, we could realize some of the benefits of quantification—precision, weighing trade-offs, contestability—but reach less objectionable conclusions by wedding quantification to a more nuanced and reflective normative position.

In the case of the Summers memo, imagine if we were to adopt a normative position grounded in a kind of non-paternalism: if two parties both wish to engage in exchange they should be allowed to. We would reach a conclusion not so different from Summers. But we'd think about it very differently than does the crass utilitarian. The crass utilitarian adopts the ruthless position: ship the toxic waste to the poor, they have low wages, so dying a horrible death isn't so bad for them anyway. The non-paternalist thinks much more compassionately: look, if we facilitate a market, and the poor are willing to except the downside of toxic waste in exchange for some amount of money the rich are willing to pay, who are we to tell them they are wrong to do so. In both cases, the toxic waste gets shipped. But, in one, the poor are both empowered and compensated. Neither of those facts is irrelevant.

My concern, then, is not that quantification is incompatible with nuanced frameworks of normative evaluation. It is that, in practice, what we see in quantitative policy analysis is an overwhelming focus on the kind of highly objectionable, crass, materialist utilitarianism that characterizes both of these stories. I fear, because crass utilitarianism is so easily wedded to our quantitative practice, that quantification may push us hard in that direction. And so I hope, even as you hone your policy analytic skills here at Harris, that you will try to remember a time when you did not believe that the word “efficient” was a synonym for the word “good”.

Defining our Field of Vision

The drive to quantify also plays a critical role in defining our field of vision for policy. I want to talk about two ways in which it does so. I will start with how quantification affects how we think about intergenerational concerns. I will then talk about how the need to quantify disincentives policy makers from tackling some important problems.

Discounting and Intergenerational Equity

A great virtue of quantification is that it pushes us to think about *all* the potential costs and benefits. One of the important ways it does so is by highlighting how policies not only affect society now, but in the future.

Here the clearest example is environmental policy. An intervention limiting carbon emissions to slow global warming might have relatively small benefits over the course of a single generation. After all, it is unlikely that the climate will change drastically enough over the next 20 years to have a huge impact on the quality of your or my lives. But suppose that same policy, over the long run, prevents catastrophic climate change. It might ultimately save the lives of billions of people. The benefits to future generations could be huge.

And herein lies a deep challenge. The future is essentially endless. And the population is expanding. This means that if we treat the members of each generation equally for the purposes of cost-benefit analysis, a policy that offers even a small benefit in the future will have a huge total benefit, since those future benefits affect so many people.

This creates two problems. First, if we believe that the members of each generation should be treated equally in our utilitarian calculations, we really ought to be spending a huge proportion of our current resources on policies that benefit future generations—even large costs to a few billion people today are a drop in the bucket when compared to

the benefits to hundreds of billions of people over the course of future generations. I hope you don't like air conditioning or travel or meat. Second, since all policies that benefit the future have basically infinite benefits (what with all the people in the future), it is really hard to compare the costs and benefits of one future-benefiting policy against another. Everything looks either infinitely good or infinitely bad.⁴

This isn't tenable for a technology of governance. It provides no answers about how to compare various future-benefiting policies. Moreover, no politician wants to be told that good policy requires sacrificing his or her constituents in service of the interests of people who will be alive in 500 years. Quantitative policy analysis has developed a technological response to this problem, called "discounting the future".

The idea of discounting the future for policy analysis is inspired by the way we analyze how individuals make inter-temporal trade-offs. A dollar today is worth more to you than is the promise of a dollar a year from now. Let's say that you'd be indifferent between receiving 90 cents today or a dollar a year from now. Then that tells me that you discount money a year from now by a factor of 0.9. Now suppose I asked you the same question a year from now. Assuming you hadn't changed, you'd give the same answer—i.e., a dollar in two years is worth 90 cents in one year. Since a dollar in two years is worth 90 cents in a year and 90 cents in a year is worth 81 cents today, a dollar in two years is worth 81 cents today. And, of course, this exponential diminution in the value of a dollar continues as we get further and further into the future. A dollar is 20 years is worth about 12 cents today. A dollar in fifty years is worth half a cent today.

Standard cost-benefit analysis for policy directly extends this methodology to thinking about the benefits of a policy for future generations. Official government documents justify this practice along exactly the lines described above. The OMB says, "discounting reflects the time value of money. Benefits and costs are worth more if they are experienced sooner."⁵ So the further in time we are from some future generation, the more we discount its benefits or costs. As you can see, this solves our problem of infinite future benefits. We simply write off the distant future through discounting and get on with the business of quantifying benefits and cost.

⁴ There are theorems along these lines. The basic upshot is that intergenerational equity is incompatible with our standard normative approach. See, for example, William R. Zame "Can Utilitarianism be Operationalized?" <http://www.econ.ucla.edu/zame/RAWLS-6-28.pdf>

⁵ Office of Management and Budget, "Guidelines and Discount Rates for Benefit-cost Analysis of Federal Programs," Circular A-94, December 1992. <http://www.whitehouse.gov/sites/default/files/omb/assets/a94/a094.pdf>

But there is something quite fishy about this kind of discounting. Discounting for an individual and discounting across generations are conceptually quite different. It is one thing to say that you value a benefit to *me* today more than an equal benefit to *me* in thirty years. That makes sense. If you asked me whether I'd like the benefit today or in thirty years, I'd definitely choose today. After all, I might be dead in thirty years.

It is something entirely different, however, to say that you value a benefit to me more than a benefit to my grandchildren, simply because my grandchildren won't be around for another thirty years. If you asked *them*, "would you prefer a benefit to Grandad BDM when he was 40 or a benefit to yourself when you are 40", I suspect the ingrates would choose themselves. More fundamentally, if we think of a simple kind of utilitarianism that values everyone's happiness equally, there is just no reason to care less about people in the future than in the present (other than the small chance that the world will cease to exist, so they won't be around to enjoy the benefits). Their happiness or suffering will be no less real for happening a couple generations from now.

It is this kind of logic that led Frank Ramsey—who in the 1920s laid the intellectual foundations for how we think rigorously about intertemporal considerations in policy making—to argue that discounting the welfare of future generations, "is ethically indefensible and arises merely from the weakness of the imagination."⁶ Or, more poetically, as put by the mid-century economist Roy Harrod, it is "a polite expression for rapacity and the conquest of reason by passion." The great theorist of economic growth, Robert Solow, was perhaps clearest, saying, "we ought to act as if the social rate of time preference were zero."^{7,8}

To make this concrete (and, perhaps, a bit hyperbolic), think about a recent near tragedy in Indiana. A young child was stuck in a sinkhole in the dunes. It turns out, the sinkhole resulted from the dunes being built directly on top of a forest of trees, which are now slowly rotting beneath the sand. I have no idea what kind of analysis was done when the dunes were constructed. But an analysis in 1950, consistent with generational discounting, could have gone like this: "If we build this thing on top of these trees without cutting them down first, that will hold costs down right now and lots of kids will get to play on these dunes for the next several decades. Now, some time in the distant future—say the 21st century—the dunes might start to cave in, potentially suffocating

⁶ Frank Ramsey. 1928. "A Mathematical Theory of Saving", *Economic Journal*, 38:543-549.

⁷ Robert Solow. "The Economics of Resources of the Resources of Economics." *American Economic Review Papers and Proceedings* 64(2):1-14.

⁸ Arrow is also interesting on this subject. See, Arrow, Kenneth J. 1999. "Discounting, Morality, and Gaming." In Paul R. Portney and John P. Weyant (eds), *Discounting and Intergenerational Equity*. RFF Press, 13-21.

some kids. But, given discounting, we conclude that such distant concerns do not justify the cost of cutting down the trees now.” Such a conclusion is crazy precisely because it is crazy to discount the welfare of future people in the same way that you discount the welfare of your future self.

We discount future generations in policy analysis because, if we don’t, we can’t quantify costs and benefits in a coherent way. And yet, by discounting, we profoundly change our field of vision with respect to the kind of policy problems we identify and the kind of policy remedies we endorse. Most importantly, once we’ve accepted discounting, we’ve given ourselves license to ignore any costs or benefits that will occur more than a generation or two in the future. If you are discounting at a rate of 0.9 and someone asks you for ten million dollars for a policy that is guaranteed to save a billion people in two hundred years, your cost-benefit analysis would tell you not to do it.⁹

This may sound theoretical, but it has practical implications. In particular, one of the most common complaints about cost-benefit analysis comes from environmental regulators who find it difficult to persuade the government to take actions on environmental issues—like global warming—with limited short-run impact, but potentially catastrophic long-run consequences. Cost-benefit analysis with discounting just doesn’t care much about those long-run consequences because they will be suffered by someone else.

The Lamppost Effect

Another way in which quantification narrows our field of vision for public policy is by pushing policy makers to focus their efforts on issues that are easily quantified, whether or not they believe those are the most pressing issues of the day.

In the United States, quantification is the law of the land, under various executive orders promulgated by multiple presidents. In particular, the Office of Information and Regulatory Affairs inside OMB can, for all intents and purposes, veto any major regulatory action by an executive agency if it finds the cost-benefit analysis or process wanting.

What does this sort of restriction mean for policy making? It means that regulatory agencies know that they should only bother with attempting a rulemaking if they believe

⁹ If the discount factor is .9 and the value of a statistical life is \$7 million, the discounted value of a billion lives in 200 years is just under \$5 million.

they can pass OIRA review. As Lisa Heinzerling, a Georgetown law professor and former head of policy at the EPA writes,

From the moment a person at EPA thinks of the possibility of issuing a rule, they start to think, "Will OMB let us issue this rule?" It affects everything in rulemaking at the agencies...We're constantly asking ourselves not, 'Is this the right thing for environmental protection?' but, 'How can we make this acceptable to OMB?'¹⁰

In some sense, of course, this is exactly the goal. If quantification requirements don't change the kind of regulation we get, there is no point in having them. The concern, however, is that these sorts of requirements don't only prevent the EPA (and other agencies) from promulgating regulations for which the cure is worse than the disease. They also prevent them from promulgating regulations for which there are good arguments, but for which it is impossible, or at least too expensive, to quantify the costs and benefits.

For instance, if you read EPA reports on various environmental contaminants, you often find two lists of diseases the contaminant is believed to increase the risk of. The first list contains diseases that meet the following two conditions:

1. We can quantify the effect of a change in the contaminant on the change in disease risk.
2. We can quantify the monetary costs of the disease (usually through its effect on mortality and/or medical treatment)

The second list contains diseases which the contaminant is believed to increase the risk of, but for which at least one step of quantification cannot be (or, at least, has not been) done. The diseases in the first list get fully quantified and included in a cost-benefit calculation. But the diseases in the second list can't be included in the cost-benefit calculation. So they get stuck in an appendix of qualitative concerns to be taken into consideration. Not surprisingly, they rarely again get discussed.¹¹ And, so, if most of the

¹⁰ <http://www.climate-science-watch.org/2013/04/05/heinzerling-on-obama-ombs-power-grab-v-epa-and-science-based-rulemaking/>

¹¹ The following link contains an EPA report in the federal register on arsenic. The relevant regulation is often cited as an example of a bad regulation from the perspective of cost-benefit analysis. But, as the report shows, there are believed to be many non-quantifiable health benefits that largely get ignored in this discussion. <http://www.gpo.gov/fdsys/pkg/FR-2001-01-22/pdf/01-1668.pdf>

benefits are in that second list, the issue never gets addressed in the first place, since the policy won't pass OMB muster.

This may be an inevitable, and worthwhile, cost. An alternative system with less quantification would not have this problem, but would almost surely have more wasteful or ineffective regulations. The benefits of quantification may indeed exceed the costs. But the concern is that we may be like the proverbial drunk found searching for his lost keys at night under a lamppost. A passerby asks what he is doing and the drunk responds, "Looking for my keys. I dropped them in the park across the street." The passerby inquires as to why he is looking under the lamppost, if he dropped his keys in the park across the street. The drunk replies, "it's dark over there, I can't possibly find them in the dark! This is where the light is." Quantification shines a bright light on a certain set of potential policy issues. But, if a large group of important problems are left in the dark because quantification is too hard or too expensive, by insisting on quantification, we may be forcing ourselves to search for policy problems and solutions in the wrong places.

Quantification and Incentives

I'd like to end with one final peril: the effects of quantification on incentives.

Here's the basic thought. Typically, we can only quantify a few of the many inputs that go into addressing a significant social problem. And incentives tend to follow measurement. If we want to hold teachers accountable, and the only thing we can measure is test scores and graduation rates, then we naturally think, "let's give teachers incentives if their students' test scores or graduation rates improve."

The problem is that giving incentives only for quantifiable tasks can create all sorts of perverse distortions in behavior.¹²

Consider the case of high stakes testing. What happens when you start rewarding teachers for measurable student performance?

The up side is that you may in fact induce teachers to work harder. But there are also important down sides.

¹² The classic articulation of this problem in economics is Bengt Holmstrom and Paul Milgrom. 1991. "Multitask principal-agent analyses: Incentive contracts, asset ownership, and job design." *Journal of Law, Economics, and Organization*.

Most importantly, you distort how the teachers teach. In particular, you push them to “teach to the test”. Classroom time is limited. So, when you incentivize teachers to emphasize skills relevant for the test, you also incentivize them to deemphasize other, less measurable, skills—conflict resolution, self-control, creative thinking, and so on. If the non-quantifiable skills are important enough, this distortion in the mix of skills taught can create overall outcomes that are worse than the scenario with no incentives, *even if the test-taking incentives actually did make the teachers work harder.*

This problem is not limited to education policy. It can occur whenever some inputs are measured and quantified and others are not.

In crime policy, the introduction of systems (like CompStat) for the quantification of crime statistics incentivizes law enforcement to focus their efforts on policing that get results on the measured outcomes and disincentivizes approaches that may be helpful on a variety of less measurable dimensions. As one police chief put it, “We’re not doing community policing now, we’re doing CompStat.”¹³

In health policy, if you manage to measure the quality of outcomes and give physicians related incentives, they will work hard to achieve better outcomes. However, one way they may do so is by screening patients and trying to turn away the most difficult cases. So, by strengthening incentives on the measurable dimension, you may reduce incentives on an important unmeasurable dimension: the willingness of doctors to treat the sickest patients.

Finally, in economic policy, when you choose which economic indicators to measure, you create incentives for politicians—especially close to election time—to sacrifice progress on unmeasured dimensions (which may be very important for the long run) in order to get short run progress on whatever numbers are slated to be released next.

It is intuitive to us that measurement and quantification are good for incentives and accountability. And there is a sense in which this is true. The better your measure of some outcome (be it test scores, crimes solved, patients cured, or what have you), the stronger are the incentives you can create for that outcome to be achieved. But in a world in which only some of the outcomes you care about are quantifiable, it is not always best to create those strong incentives. Because stronger incentives for achieving

¹³ Quoted in

“http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=1968&issue_id=122009”

one outcome go along with weaker incentives for achieving other outcomes. And those hard-to-measure outcomes may be just as important.

In Conclusion

You are about to set off on a two-year education focused on the quantitative analysis of policy. This is good and important. You will spend little time reflecting on the perils of quantification. Nor should you. In order to learn the skills you came here to learn, you need to buckle down and focus on the task before you. You ought not allow yourself to be distracted from this important work by philosophical concerns.

But, with that said, I hope this is not the last time you wrestle with these issues. Quantification is invaluable. But it is also perilous. It does, in fact, have the potential to shape (some would say warp) our normative evaluation of policy, to narrow our field of vision, and to distort incentives. As you move through your careers as policy professionals, I hope you will use the quantitative skills you will work so hard to acquire in ways that are sensitive to these perils. For both perspectives are essential if your goal is to use your policy education to change the world for the better.

Now, you should go get to work on some problem sets.