

Policy for Growth and Innovation

I get asked fairly often now by people in the US government what policy changes I would make to “fix innovation and drive economic growth” [1][2] (for some reason, it’s almost always that exact phrase).

Innovation is obviously important—the US has long been the world’s best exporter of new ideas, and it’d be disastrously bad if that were no longer the case. Also, [I don’t think our society will work very well without economic growth](#), and innovation is what will drive growth from where we are now.

While it’s true that people are better off in absolute sense than they were a few hundred years ago, most of us are more sensitive to our wealth increasing over short time-scales (i.e. life getting better every year) than how fortunate we are relative to people who lived a long time ago. [3] Democracy works well in a society with lots of growth, but not a no-growth (i.e. zero-sum) society. Very low growth and a democracy are a very bad combination.

So here is my answer:

1) **Fix education.** We have to fix education in this country. Yes, it will take a long time to have an effect on output, but that’s not an excuse for continuing not to take serious action. We currently spend about 4% of the federal budget on education. The problems with education are well-documented—teachers make far too little, it’s too difficult to fire bad teachers, some cultures don’t value education, etc. Many of these are easy to fix—pay teachers a lot more in exchange for a change in the tenure rules, for example—and some issues (like cultural ones) are probably going to be very difficult to fix.

Without good education (including continuing education and re-training for older people), we will never have equality of opportunity. And we will never

have enough innovators.

I think it's most important to fix the broken parts of the current system, but also to decide we need to spend more money on education.

One bright spot is that most of the world now has Internet access at least some of the time and there are truly remarkable resources available online to learn pretty much anything anyone could want. It amazes me that I can become relatively proficient on any subject I want, for free, from a \$50 smartphone nearly anywhere in the world. There is probably a way to combine online education with real-world mentorship, activity, and group interaction in a way that makes the cost of quality education far lower than it is today.

Spending money on education, unlike most government spending, actually has an ROI—every dollar we spend on it ought to return more dollars in the future. This is the sort of budget item that people should be able to agree on. As I wrote in the above-linked post, we will likely need both entitlement spending reductions and revenue increases to make the budget work.

2) Invest in basic research and development. Government spending on R&D keeps decreasing. There are certain things that companies are really good at doing; basic research is usually not one of them. If the government wants more innovation, then it should stop cutting the amount of money it spends producing it. I think current policy is off by something like an order of magnitude here.

Like education, this is in the category of an “investment”, not an “expense”.

3) Reform immigration. If talented people want to come start companies or develop new technologies in the US, we should let them. Turning them away—willfully sending promising new companies to other countries—seems

terribly shortsighted. This will have an immediate positive effect on innovation and GDP growth. Aside from the obvious and well-documented economic benefits (for high-skilled workers especially, but for immigration more generally), it's a matter of justice—I don't think I deserve special rights because I happened to be born here, and I think it's unfair to discriminate on country of birth. Other than Native Americans, all of our families are fairly recent immigrants.

We need reasonable limits, of course, but our current limits are not the answer. On our current path, in the not-very-distant future, we will be begging the people we are currently turning away to come and create value in the US.

Many people say we don't need immigration reform because people can work remotely. While remote working works well for a lot of companies, and I expect it to continue to work better as time goes on, it doesn't work well for all companies (for example, it would not work for YC), and it shouldn't be the only option. It also sends money and competency out of our economy. The common answer of "let the US companies open overseas offices" always sounds to me like "further slow US economic growth and long-term viability".

Companies in the Bay Area already largely hire from elsewhere in country—companies are desperate for talented people, and there aren't enough here to go around. Even with this, tech wages keep going up, and good people who already live in the Bay Area keep getting jobs.

4) **Cheaper housing.** This is not a problem everywhere in the US, but it is in a lot of places. The cost of housing in SF and the Bay Area in general is horrific. There just isn't enough housing here, and so it's really expensive (obviously, many people make the rational decision not to live here). Expensive housing drives up the cost of everything else, and a lower cost of

living gives people more flexibility (which will hopefully lead to more innovation) and more disposable income (which will hopefully stimulate economic growth).

Homeowners generally vote and want to preserve their property value; non-homeowners generally vote less often. So efforts to build more housing, or make housing less attractive as an investment, usually fail when they go to a vote. For example, a recent proposal to allow more house building in SF failed with an atrociously low voter turnout.

In general, I think policy should discourage speculation on real estate and encourage housing to be as inexpensive as possible. I think most people would do better owning assets that drive growth anyway.

In the Bay Area specifically, I think policy should target an aggressive increase in the housing supply in the next 5 years and undo many of the regulations currently preventing this.

5) Reduce regulation. I think some regulation is a good thing. In certain areas (like development of AI) I'd like to see a lot more of it. But I think it often goes too far—for example, an average of \$2.5B and 10 years to bring a new drug to market strikes me as problematic.

Many of the companies I know that are innovating in the physical world struggle with regulatory challenges. And they're starting to leave. The biggest problem, usually, is that they just can't get clarity out of the massive and slow government bureaucracy. In 2014, 4 companies that I work with chose to at least partially leave the US for more friendly regulatory environments (3 for regulatory violation or uncertainty, and 1 for concern about export restrictions). Many more kept their headquarters here but chose somewhere else as their initial market (including, for example, nearly all medical device companies, but also drone companies, nuclear fission

companies, pharmaceutical companies, bitcoin companies, etc etc etc).

This is not good. We live in a global society now, and not all countries are as backward about immigration as we are. If our best and brightest want to go start companies elsewhere, they will do so. [4]

I think one interesting way to solve this would be with incentives. Right now, as I understand it, regulators mostly get "career advancement" by saying "no" to things. Though it would take a lot of careful thought, it might produce good results if regulators were compensated with some version of equity in what they regulate.

Again, I think some regulation is definitely good. But the current situation is stifling innovation.

6) Make being a public company not be so terrible. This point is related to the one above. I'd hate to run a public company. Public companies end up with a bunch of short-term stockholders who simultaneously criticize you for missing earnings by a penny this quarter and not making enough long-term investments.

Most companies stop innovating when they go public, because they need very predictable revenue and expenses.

In an ideal world, CEOs would ignore this sort of pressure and make long-term bets. But the inanity on CNBC is distracting in all sorts of ways—for example, it's always surprising to me how much employees react to what they hear about their company on the news.

I've seen CEOs do the wrong thing because they were scared of how "the market might react" if they do the right thing. It's a rare CEO (such as Zuckerberg, Page, Cook, and Bezos) who can stand up to public market

investors and make the sort of bets that will produce long term innovation and growth at the expense of short term profits.

There are a lot of changes I'd make to improve the situation. One easy one is that I'd pay public company directors in all stock and not let them sell it for 5 years. That will produce a focus on real growth (in the current situation, making \$200k a year for four days of work leads to directors focusing on preserving their own jobs).

Another is that I'd encourage exchanges that don't trade every millisecond. Liquidity is a good thing; I personally don't see the value in the level of "fluidity" that we have. It's distracting to the companies and sucks up an enormous amount of human attention (one of the things I like about investing in startups is that I only have to think about the price once every 18 months or so). If I had to take a company public, I'd love to only have my shares priced and traded once every month or quarter.

A third change would be something to incent people to hold shares for long periods of time. One way to do this would be charge a decent-sized fee on every share traded (and have the fee go to the company); another would be a graduated tax rate that goes from something like 80% for day trades down to 10% for shares held for 5 years.

Another thing the government could do is just make it much easier to stay private for a long time, though this would have undesirable side effects (especially around increasing wealth inequality).

7) **Target a real GDP growth rate.** You build what you measure. If the government wants more growth, set a target and focus everyone on hitting it.

GDP is not a perfect metric, especially as the software revolution drives cost

of goods gets driven lower and lower. What we really need is a measurement of “total quality of life”. This will be tough to figure out, but it’s probably worth the time to invent some framework and then measure ourselves against it

There are obviously a lot of other policy changes I think we should make, but on the topics of growth and innovation, these 7 points are what I think are most important. And I’m confident that if we don’t take action here, we are going to regret it.

[1] Incidentally, innovation does not always drive job growth, even when it drives GDP growth. The industrial revolution was something of an anomaly in this regard. I’ll write more about what this means later.

[2] There are a bunch of other policy changes I would make—for example, I’d increase the minimum wage to something like \$15 an hour—that are important and somewhat related to this goal but not directly related enough to include here.

[3] While access to knowledge, healthcare, food, water, etc. for people in developed countries is far better now than any time in history, extreme inequality still feels unfair (I’ll save my social rant for another time, but I think the level of extreme poverty that still exists in the world is absolutely atrocious. Traveling around the developing world is an incredible wake-up call.)

[4] Sometimes the government people ask “Would you ever move YC out of the US?” with nervous laughter? I really like it here and I sure hope we don’t, but never say never.