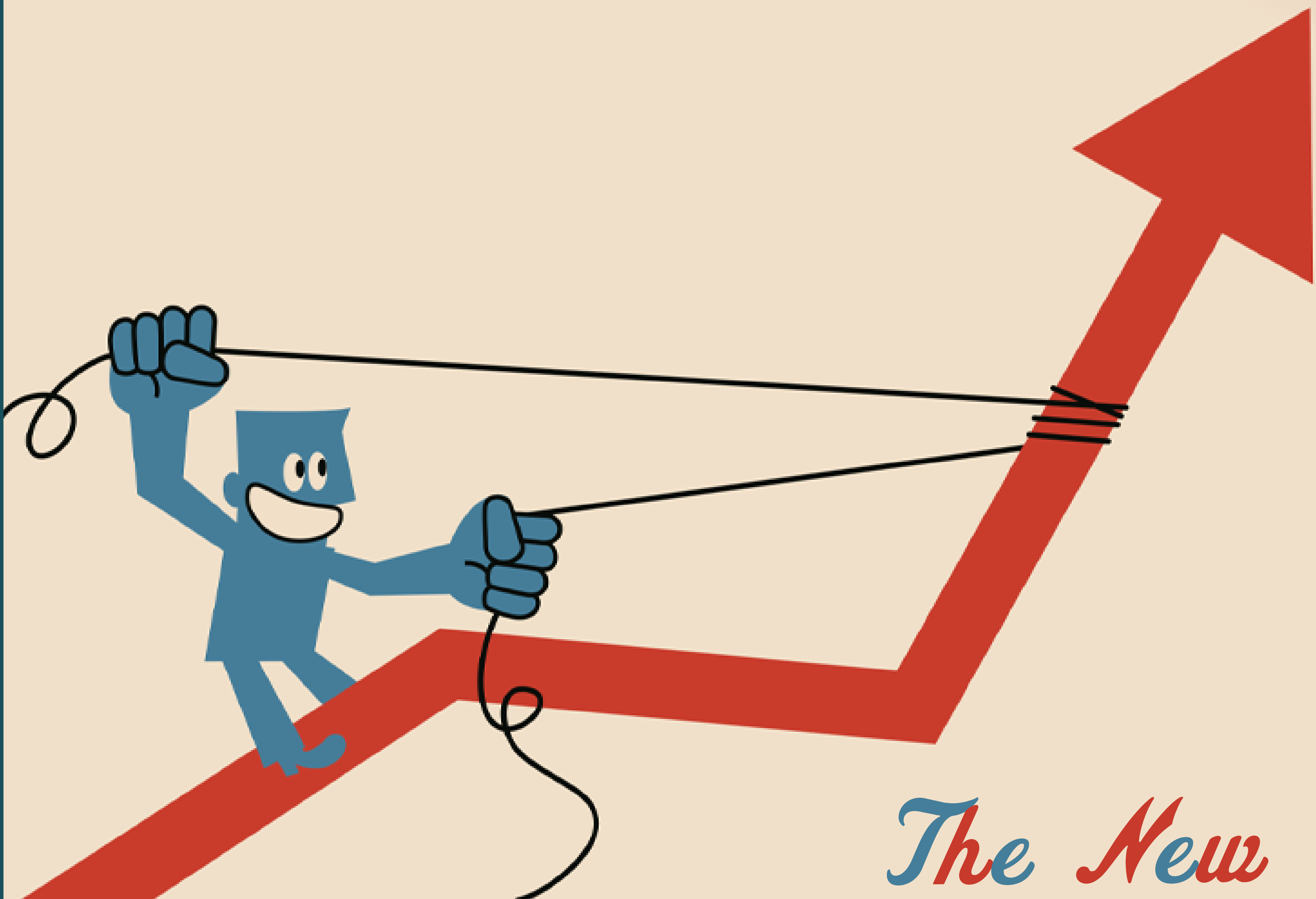

The New Supply-Side Economics

How Bipartisan Regulatory Reforms Can Stem the Rising Cost of Living and Expand Opportunity

Jonathan S. Hartley

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About the Author

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Contents

Introduction

Suppose President Biden wants to salvage a meaningful first-term bipartisan policy agenda from the wreckage of the Democrats' Build Back Better plan. In that case, there is ample opportunity to address the rising cost of living – a long-term trend now amplified by a sharp bout of inflation.

To get there, President Biden should be thinking seriously about "supply-side" reforms to the economy. The administration is beginning to embrace the concept of a supply-side agenda – in a recent speech, Treasury Secretary Janet Yellen cast "Build Back Better" as a form of "modern supply-side economics" that aims to spur productivity and lower inequality – but the approach should extend far beyond that bill.[1]

All this may sound toxic to Democrats who associated "supply-side economics" with the intellectual movement that made a case for Ronald Reagan's tax cuts. However, when economists talk about the supply side of the national economy, they have something much broader in mind. The fundamental idea is to achieve growth by spurring productivity in all forms, including making it easier and more compelling for workers and firms to engage in overall higher-value economic activity. Some extreme versions of this idea (such as "real business cycle theory" and "short-run monetary neutrality") dismiss monetary policy and fiscal stimulus as hapless attempts to achieve growth by juicing demand. Various iterations of these sentiments can be hijacked by political economy into narrow "pro-business" agendas rather than true "pro-free enterprise" ones. Indeed, you can steer clear of these cliffs and still recognize the power of the argument that the supply-side of the economy is jammed. This can be done not just by a surfeit of container ships, but by pathological

1 "Remarks by Secretary of the Treasury Janet L. Yellen at the 2022 'Virtual Davos Agenda' Hosted by the World Economic Forum," U.S. Department of Treasury, Jan. 21, 2022.

trends in education, housing, and health care that limit just how much American workers can produce. In effect, the core goods and services that make work possible have become too expensive.

As Samuel Hammond, Daniel Takash, and Steven Teles have argued in their paper "Cost-Disease Socialism", these restrictions arguably have become a constraint to American economic growth and to the mobility of lower-income households.[2] Brink Lindsey and Steve Teles's book *The Captured Economy* and Matt Yglesias's *One Billion Americans* both echo these arguments.[3] [4] These are problems similar to those the original supply-siders ascribed to very high marginal tax rates in the middle of the 20th century: meaningfully slowing economic growth and the economic mobility of the lower and middle class.

Even when it's separated from tax policy, "supply-side" may sound like a dirty word to Democrats. But they should recognize that the first supply-sider was not Ronald Reagan, but John F. Kennedy, who cut taxes from shockingly high top marginal rates of above 90 percent (as an incentive measure more than for Keynesian stimulus).[5] President Bill Clinton also leaned into the supply side of the economy with bipartisan economic initiatives on free trade and welfare reforms.

Progressives such as Ezra Klein are labeling this desperately needed new supply-side economic agenda "supply-side progressivism" while libertarians and free market conservatives term it "supply-side liberalism."[6] Whatever we call it, people from both parties can agree that the cost of living, especially in health care, housing, and education, is a growing problem that public policy needs to address. Here's the start of a roadmap for a new supply-side policy agenda.

The Great Supply Squeeze

The combination of globalization and tremendous technological progress over the past several decades has made certain consumer goods, such as apparel and household furnishings, cheap and widely available, but the cost of other everyday goods and services for Americans has been rising at exorbitant rates, particularly in the health care, housing, and education sectors. As a result, family affordability has become an increasingly urgent issue in the 21st century. Attacking the rising cost of living

2 Steven Teles, Samuel Hammond and Daniel Takash. "Cost Disease Socialism: How Subsidizing Costs While Restricting Supply Drives America's Fiscal Imbalance," The Niskanen Center, Sept. 9th, 2021.

3 Brink Lindsey and Steven Teles. *The Captured Economy: How the Powerful Enrich Themselves, Slow Down Growth, and Increase Inequality* (Oxford University Press; 1st edition, 2017).

4 Matthew Yglesias. *One Billion Americans: The Case For Thinking Bigger* (Portfolio, 2020).

5 James Giglio. *The Presidency of John F. Kennedy (2nd edition),* University Press of Kansas (Feb. 20, 2006): Page 139.

6 Ezra Klein. "The Economic Mistake the Left Is Finally Confronting," *The New York Times Opinion,* Sept. 19, 2021.

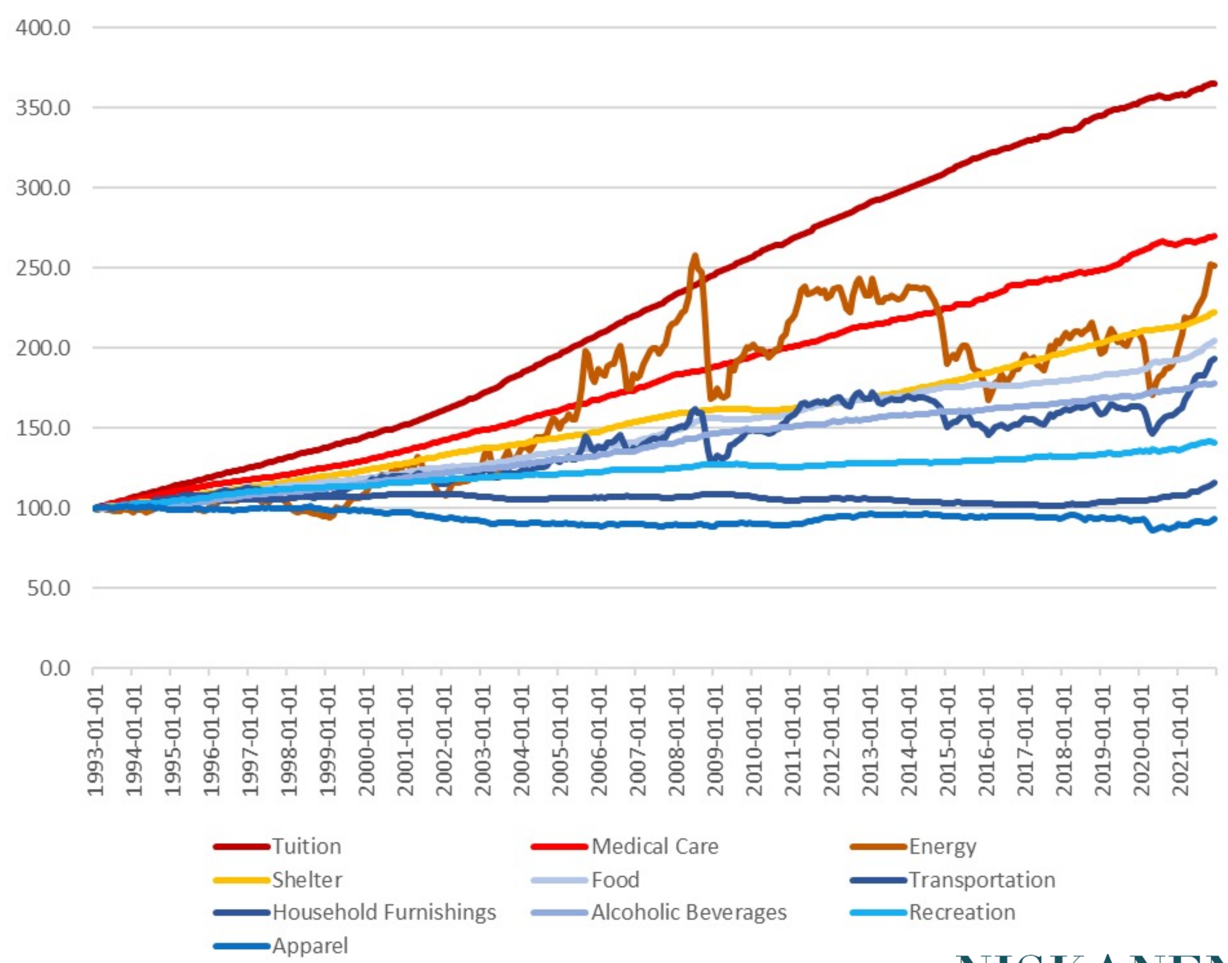
and helping those below the median income through supply-side reforms could be a productive mission for a Democratic Party seeking to remind its base that it doesn't only serve the wokeness of coastal elites and a GOP seeking to prove it can be a party of the working class.

In the basket of goods that make up the Consumer Price Index for All Urban Consumers (CPI-U), categories that have seen the highest increases in prices since January 1993 include:

1. Tuition, Other School Fees, and Child Care (up 2.5 times 1993 prices)
2. Medical Care (up 1.5 times)
3. Energy (up 2 times)
4. Shelter (up 2 times).

Figure 1:

Changes in the cost of living over time



Source: Bureau of Labor Statistics, Federal Reserve Bank of St. Louis (FRED)

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This long-run CPI component divergence chart has been referred to by its most prominent popularizer, Mark Perry of the American Enterprise Institute, as "one of the most important charts about the economy this century."[7] He's right.

The non-energy sectors with the fastest-rising prices have been referred to as the three "H"'s: higher education, health care, and housing. While a natural increase in consumer demand may account for a great deal of rising consumer prices, many of these goods and services are produced by sectors that involve high degrees of government intervention on federal, state, and local levels and feature high levels of industry concentration (i.e., oligopoly).

New empirical research strongly suggests that increased government intervention and private market power have contributed to the rising cost of living and erosion of economic opportunity. Examples of government intervention include the influence of federal student aid on rising tuition costs, the influence of state-level regulations on child care, and the role of zoning and land-use regulations in rising costs of real estate and rent. Examples of excessive market power include the influence of hospital concentration in rising health care costs and the consolidation of textbook publishers.

Many of these trends have been exacerbated by the current COVID-19 supply shortage, as John Cochrane brilliantly points out in a recent Project Syndicate post, "The Revenge of Supply."[8] Housing, energy, and food costs have risen enormously as the world's supply chains have broken down amid the pandemic.

With respect to fighting the cost of living in the long run, we've already seen progress from the Biden administration, including a newly planned executive order that aims to loosen rules on noncompete clauses, occupational licensing and a prior EO that addressed generic drug entry and the abuse of the patent system to block competition in the pharmaceutical space.[9] [10] [11] We've also seen a very strong effort to promote competition through stronger antitrust enforcement. But there is still a lot more the President could do when it comes to promoting supply-side liberalism.

Rising Tuition Costs

According to data from the Federal Reserve, total student debt outstanding is close to $1.6 trillion.[12] Rising tuition has been a key driver in this. According to the College

7 Mark Perry. "Chart of the day....or century?" The American Enterprise Institute, January 11, 2019.

8 John Cochrane. "The Revenge of Supply," Project Syndicate, Oct. 22, 2021.

9 Neil Irwin. "A Planned Biden Order Aims to Tilt the Job Market Toward Workers," *The New York Times - The Upshot,* July 7, 2021.

10 Daniel Takash. "Course-Correcting on Competition," The Niskanen Center, July 20, 2021.

11 Daniel Takash. "Lots to Love: The Biden Competition Executive Order on Intellectual Property," The Captured Economy as The Niskanen Center, July 29, 2021.

12 "Total Student Loan Debt Rises in Third Quarter," Federal Reserve Bank of New York.

Board, the average private non-profit four-year college tuition was $46,448 for the 2021-22 school year, compared to $24,237 for the 1987-89 school year.[13]

There is evidence that the expansion of federal student aid, without accountability from postsecondary institutions for student outcomes, is partly responsible for this trend. Using student-level financial data, David Lucca, Taylor Nadauld, and Karen Shen find that the expansion of federal student loan caps leads to direct increases in college tuition.[14] Changes in institution-specific program loan maximums led to a pass-through of costs to students and their parents at a rate of about 60 cents on the dollar for subsidized student loans compared to 15 cents on the dollar for unsubsidized student loans.

Stephanie Cellini and Claudia Goldin similarly find that greater federal aid availability tends to raise tuition levels.[15] In addition, many have suggested that incentives for colleges are misaligned, as they are not accountable for students' post-college earnings and their ability to repay student debt. For instance, colleges have an incentive to admit students who may fail out or allow them to pursue studies that will not lead to jobs that will improve post-college earnings.

Some advocates opposed to further tuition increases have suggested that imposing risk-sharing on colleges that accept government-backed Sallie Mae loans would make schools accountable for student outcomes. Others have suggested that income-contingent loans and income-share agreements (ISAs) like Purdue University's "Back-a-Boiler" program could alleviate the burden of student debt by providing a kind of insurance. If a student with an ISA experiences unemployment at any point under graduation, they owe the lender nothing until they find work. When they find a job, they pay a predetermined percentage of their income, protecting them if their salary is lower than expected. One real risk that students face is that they could graduate during a recession, which can impact a graduating student's earning ability for decades to come, according to Lisa Kahn.[16]

ISA contracts have many properties similar to an income tax, as individuals are required to pay a certain percentage of their income over a prolonged period of time after they graduate. This might also suggest that ISAs could disincentivize participants from working. However, some evidence, including recent research from Jack Britton and Jonathan Gruber, suggests that income-contingent loans in the U.K. did not meaningfully distort the supply of labor. ISAs currently face growing regulatory

13 Melanie Hanson. "Average Cost of College & Tuition," Education Data Initiative, Nov. 15, 2021.

14 David Lucca, Taylor Nadauld and Karen Shen. "Credit Supply and the Rise in College Tuition: Evidence from the Expansion in Federal Student Aid Programs," The Review of Financial Studies, Volume 32, Issue 2, February 2019, Pages 423–466

15 Claudia Goldin and Stephanie Riegg Cellini. "Does Federal Student Aid Raise Tuition? New Evidence on For-Profit Colleges," American Economic Journal: Economic Policy, November 2014.

16 Lisa Kahn. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy," *Labour Economics*, 17(2), (April 2010): Pages 303-316.

scrutiny from the Consumer Finance Protection Bureau and Department of Education which may act as a barrier to the further development of the ISA industry. [17]

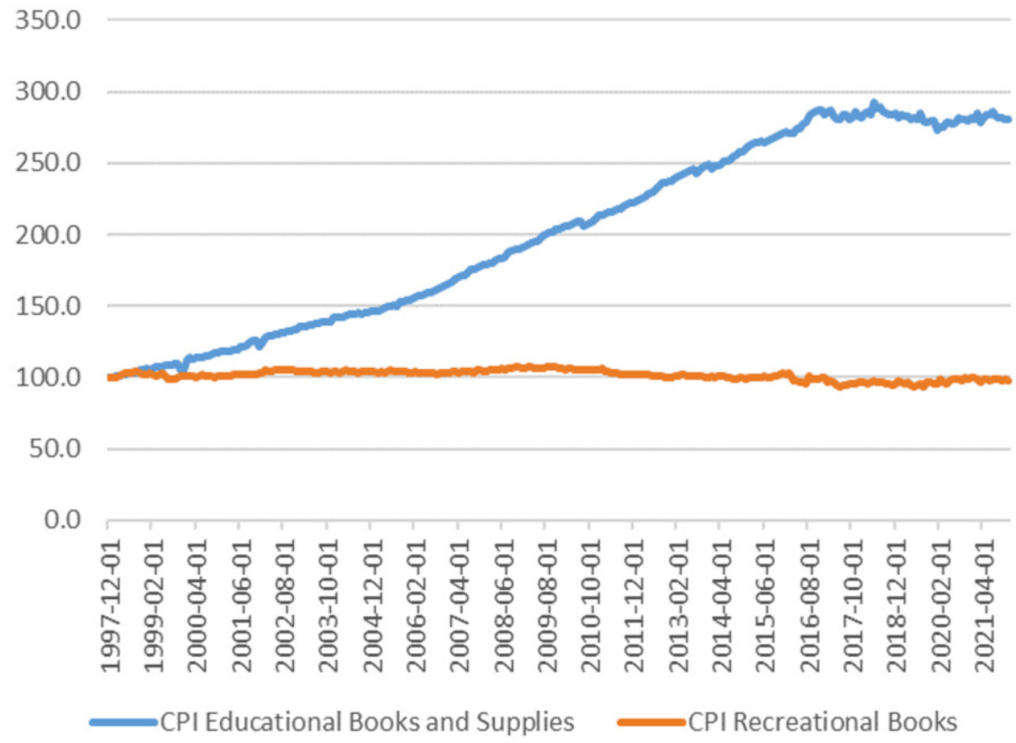
Textbook Market Consolidation

Textbook prices are dwarfed by tuition but still constitute a significant burden for many students. To be sure, the average amount students spend on textbooks per year has actually been decreasing in recent decades, in part due to the rise of piracy. Average course materials spending has fallen from around $701 in the 2007–2008 academic year to $456 in the 2020–21 academic year.[18] [19]

Textbook publishers have responded to declining purchases by raising prices on students who are still willing to pay for textbooks. Textbooks are now 200 percent more

Figure 2:

Textbook price inflation is a significant burden for many students



Source: Bureau of Labor Statistics, Federal Reserve Bank of St. Louis (FRED)

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17 Jack Britton and Jonathan Gruber. "Do Income Contingent Student Loan Programs Distort Earnings? Evidence From The UK," *NBER Working Paper No. 25822*, May 2019.

18 "NACS Student Watch Report: Use of Digital Course Materials Is Up," National Association of College Stores, June 15, 2021.

19 Robert Batyko. "Spending on Higher Education Course Materials Declines Significantly," National Association of College Stores, Oct. 11, 2018.

expensive than they were in 1997, though costs have plateaued since 2017.[20] At the same time, competition and antitrust regulations have become increasingly relevant to rising textbook prices, as five companies now control over 80 percent of the $8.8 billion textbook market, and this could soon become four.[21] In May 2019, Cengage and McGraw-Hill, two of the three largest U.S. textbook publishers, announced their intention to merge into what would become the second largest textbook publisher next to Pearson.[22] After a year of mounting scrutiny by the U.S. Department of Justice and other antitrust enforcers, the companies announced the termination of their merger plans on May 4, 2020.

Some lawmakers have alleged that the bundling of textbooks with CDs and homework problems has contributed to the rise in textbook prices. It is possible, however, that unbundling could incentivize publishers to consolidate textbooks into fewer volumes at higher prices.[23] Governmental support for the use of open (free) textbooks could continue to cause publishers to raise prices to cover costs. Textbook publishers also tend to avoid publishing textbooks in subjects whose competitors have a sizeable market share, creating a monopoly or oligopoly within subjects. A more active antitrust regime could help remedy such market concentration, exerting downward pressure on textbook prices.

Rising Health Care Costs

Since the 1950s, health care inflation has significantly outpaced the CPI. Some have attributed this to the structure of the U.S. health care system, which is based largely upon fee-for-service payments. When services are paid for separately (known as unbundled payments), revenue depends on the quantity rather than the quality of care, which gives physicians an incentive to provide more treatments even if they are less medically necessary.

Using experimental data from Hawaii, Ezekiel Emanuel, Kevin Volpp, and co-authors demonstrate the tremendous cost impact that reforms moving toward a value-based payment system can have.[24] While payment-delivery reform is key to slowing the growth in health care prices, considering the influence of government is also imperative, as it accounts for about half of all U.S. health care spending.[25]

20 "Consumer Price Index for All Urban Consumers: Educational Books and Supplies in U.S. City Average," U.S. Bureau of Labor Statistics, retrieved from the Federal Reserve Economic Bank of St. Louis, Jan. 12, 2022.

21 Ethan Senack. "Fixing The Broken Textbook Market: How Students Respond To High Textbook Costs and Demand Alternatives," U.S. PIRG Education Fund, Jan. 2014.

22 Cara Lombardo. "McGraw-Hill to Merge With Rival Textbook Publisher," *The Wall Street Journal*, May 1, 2019.

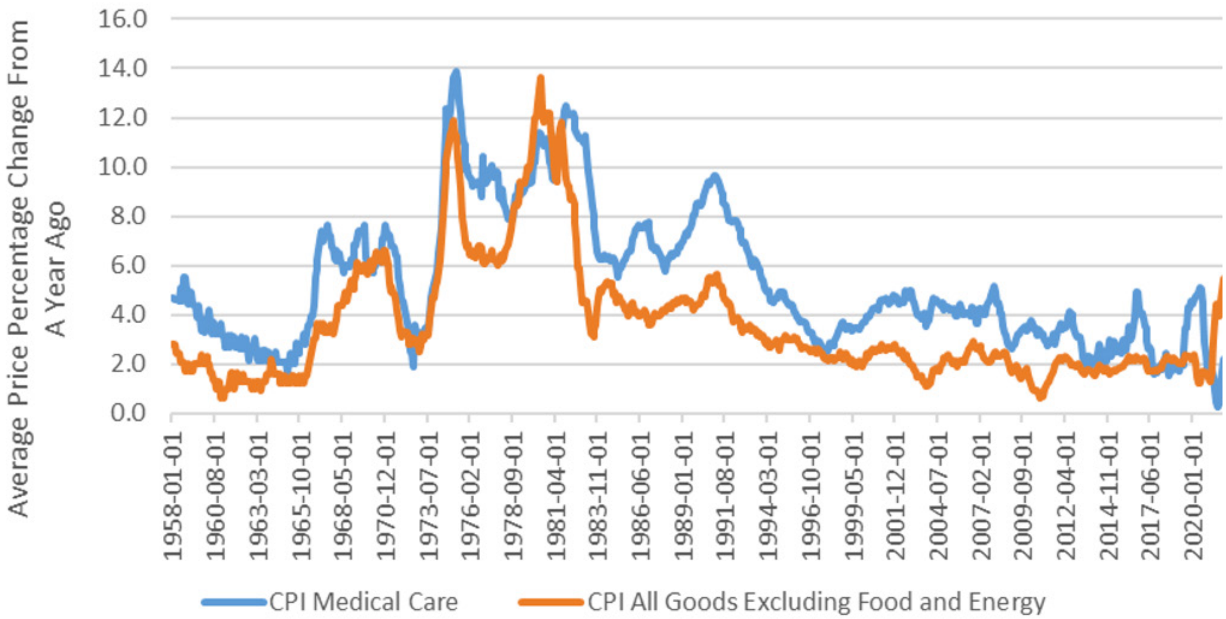
23 Anne Marie Chaker. "Efforts Mount To Cut Costs Of Textbooks," *The Wall Street Journal*, Sept. 28, 2006.

24 Ezekiel Emanuel et al.. "Redesigning provider payment: Opportunities and challenges from the Hawaii experience," *Healthcare*, Volume 6, Issue 3, (September 2018) Pages 168-174

25 "Government Now Pays For Nearly 50 Percent Of Healthcare Spending, An Increase Driven By Baby Boomers Shifting

Figure 3:

Medical CPI inflation consistently running above core CPI inflation



Source: Bureau of Labor Statistics, Federal Reserve Bank of St. Louis (FRED)

In recent years, there is evidence that rising hospital industry concentration may be partially responsible for soaring medical inflation. Specific features of the Patient Protection and Affordable Care Act of 2010 (ACA) encourage hospital consolidation. For instance, the ACA imposed a moratorium on new physician-owned hospitals, restricting the entry of new firms into the health care industry and limiting potential competitors for hospitals.

States also maintain regulations that favor large, incumbent hospitals. "Certificate of Need" (CON) laws require prospective entrants into a state's hospital market to request approval from the state. CON laws were originally conceived to fund indigent care (for the uninsured), but market-power-minded economists were not involved in passing them. A 1974 federal law incentivized more states to expand CON laws with additional federal funding, and by 1982, almost all states had such laws. By restricting entry into the market, CON laws can reduce competitive pressure on existing hospitals and foster health care cost increases.

CON laws have more recently come under attack, and while there has been some progress, as of January 2020, 35 states and the District of Columbia still require providers to obtain a CON before offering at least one health care service, according to Matthew Mitchell, Anne Philpot, and Jessica McBirney. James Robinson, using data from 61 different hospitals across eight states, calculated hospital market concentration

Into Medicare," *Kaiser Health News*, Feb. 21, 2019

Figure 4:
Prices in consolidated hospital markets

Source: Robinson (2011). "Consolidated Markets" are prices from hospitals in regional markets with above-median HHI and "Competitive Markets" are prices from hospitals in regional markets with below-median HHI.

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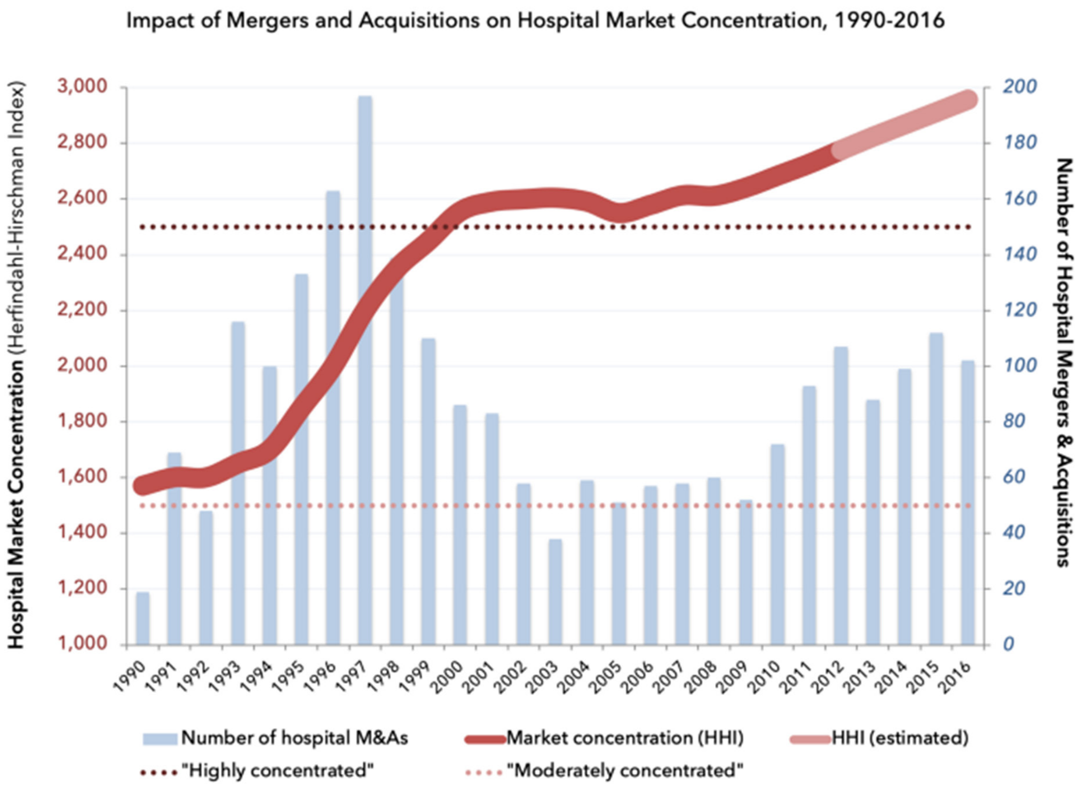
Figure 5:
Hospital consolidation in the U.S



Source: Avik Roy, "Improving Hospital Competition: A Key to Affordable Healthcare," Foundation for Research on Equal Opportunity

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using a Herfindahl–Hirschman Index (HHI), a standard measure of market power.[26] The study found that hospitals in markets with above-median concentration charge prices 44 percent higher than hospitals in markets with below-median concentration, even though these two groups have only a 6 percent difference in underlying costs. For instance, the average knee replacement in a less-concentrated hospital market would, on average cost $18,337, whereas it would cost $26,713 in a more concentrated hospital market.

In addition, James Robinson and Kelly Miller, using data from 2009 to 2012 on 158 major medical groups and 4.5 million patients in California, find that per-patient expenditures were 19.8 percent higher for physician groups in large, market-dominating multihospital systems compared with physician-owned organizations (which have been limited by the Affordable Care Act).[27] Groups owned by smaller local hospitals had lower prices, but per-patient costs still ran 10.3 percent higher compared with physician-owned groups.

The Doctor Shortage

There is also evidence that high labor costs play a role in rising health care costs. Milton Friedman famously dedicated a whole chapter in his classic *Capitalism and Freedom* to how occupational licensing laws (such as taxi medallions) prohibit labor market entry and in doing so raise both industry wages and prices (it was also the topic of his Columbia doctoral thesis).[28][29] He even controversially argued that the American Medical Association's licensing of doctors was excessive and played an influential role in driving health care costs by creating a doctor shortage. Today's health care system undeniably suffers from excessive occupational licensing, over-regulating physician assistants and nurse practitioners through scope-of-practice (SOP) laws.[30]

Of all licensed U.S. workers, 25 percent are in health care, even though the sector

26 James Robinson. "More evidence of the association between hospital market concentration and higher prices and profits," National Institute for Health Care Management, November 2011

27 James Robinson and Kelly Miller. "Total Expenditures per Patient in Hospital-Owned and Physician-Owned Physician Organizations in California," JAMA Network, 312(16) (October 2014): Pages 1663-1669

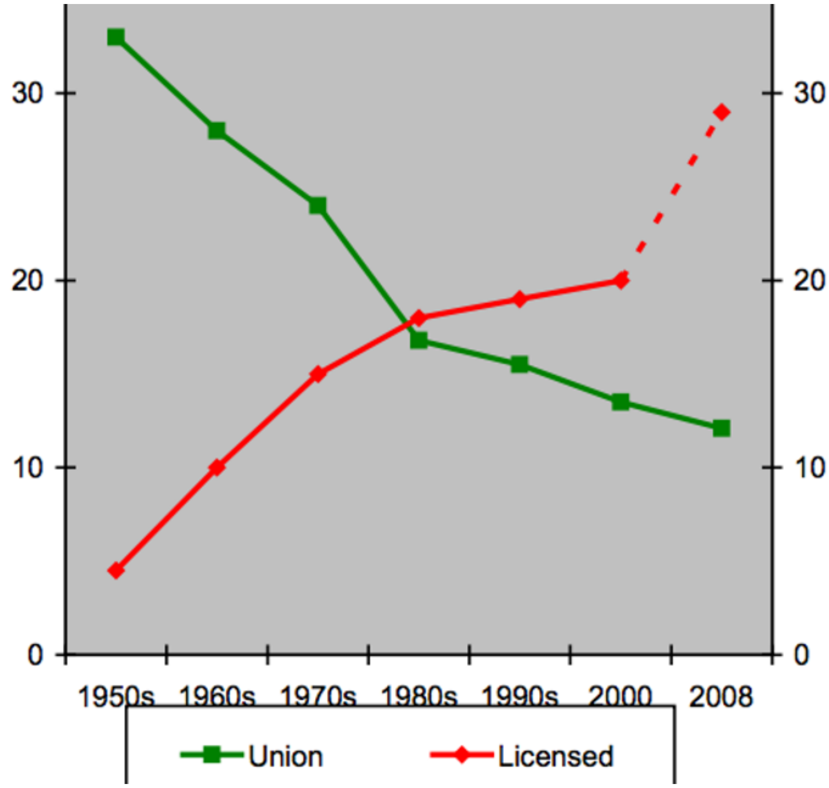
28 Milton Friedman. *Capitalism and Freedom,* (University of Chicago Press, 1962)

29 Friedman, Milton and Simon Kuznets. 1945. Incomes from Independent Professional Practice. New York. National Bureau of Economic Research.

30 The AMA remains influential. Since 1992, it has controlled the "resource-based relative value scale" (RBRVS), which determines how much medical providers in HMOs and Medicare should be paid. Although the RBRVS system is mandated by the Centers for Medicare and Medicaid Services (CMS), the AMA maintains that their copyright of the Current Procedural Terminology (CPT) allows them to charge a license fee to anyone who wishes to associate RBRVS values with CPT codes. In short, the use of the AMA's data and methods are required by federal statute. Meanwhile, the accrediting authority for medical education programs in the U.S. that is recognized by the Department of Education is sponsored by the American Association of Medical Colleges and AMA. Perhaps market power is a factor causing per capita health-care costs in the U.S. to remain among the highest in the developed world.

Figure 6:

Share of U.S. workers in unions versus a licensed occupation



Source: Morris Kleiner and Alan Krueger. "The Prevalence and Effects of Occupational Licensing," NBER Working Paper 14308, Sept. 2008.

makes up 18 percent of U.S. GDP.[31][32] While one may argue that doctors should be licensed to ensure quality standards in critical scenarios and avoid asymmetric information regarding doctor quality, many non-MD practitioners such as physician assistants and nurse practitioners remain unable to perform simple noncritical primary care procedures.

Various studies have found that loosening SOP laws for both physician assistants and nurse practitioners by allowing more independent practice or more authority to prescribe drugs would lower the expense of providing primary and outpatient care.[33] While some critics of looser SOP rules argue that quality of care can be impaired, evidence on varying state SOP rules examined in the same study suggests they had

31 "Labor Force Statistics from the Current Population Survey: Data on Certifications and Licenses," U.S. Bureau of Labor Statistics, January 2022.

32 Kleiner, Morris M., et al. "Relaxing occupational licensing requirements: Analyzing wages and prices for a medical service." The Journal of Law and Economics 59.2 (2016): 261-291

33 Kleiner, Morris M., and Alan B. Krueger. "Analyzing the extent and influence of occupational licensing on the labor market." Journal of Labor Economics 31.S1 (2013): S173-S202

no effects on care quality.

Health care as a sector is not alone in experiencing a meaningful connection between rising prices and occupational licensing. According to the BLS, about 25% of workers are in occupations that require licenses. 14 percent of all licensed workers are in education-related occupations (e.g., librarians and secondary school teachers, who similarly work in a sector with rapidly rising prices). Furthermore, occupational licensing has gotten worse over time while union membership has been steadily dropping, as Kleiner and Krueger show.[34]

A U.S. couple with two young children and average earnings typically devote 37.3 percent of their income to child care, which gives the U.S. the third-most costly child care among OECD countries.[35] Across the U.S., estimates for the average annual cost for full-time care of an infant at a child care center range from $5,178 in Mississippi to $23,089 in Washington, D.C., according to Child Care Aware of America data.[36]

The U.S. also has less public support for child care and paid family leave programs than peer countries. Historically, child care policies in the U.S. have been in the domain of state governments. Child care regulations, from staff-child ratio restrictions to teacher education requirements, vary widely from state to state. Diana Thomas and Devon Gorry estimate that loosening the staff-child ratio by one child across all age groups reduces center-based child care prices by between 9 and 20 percent.[37] Similarly, Randal Heeb and Rebecca Kilburn find that tightening the allowed staff-child ratio by two children is associated with a 12 percent increase in the price of child care.[38]

The research by Thomas and Gorry also finds that a high school diploma requirement for teachers is associated with an increase in child care prices ranging from 25 to 46 percent. Joseph Hotz and Mo Xiao find that a one-year increase in the average required years of education of center directors is associated with a 3.2 to 3.8 percent decrease in the number of child care centers.[39]

High Drug Prices

Government involvement in pharmaceuticals has changed dramatically over the

34 Morris Kleiner and Alan Krueger. “The Prevalence and Effects of Occupational Licensing,” NBER Working Paper 14308, Sept. 2008.

35 “OECD Family Database”

36 U.S. Senator Martin Heinrich. “Economics Snapshot of the States,” September 2021.

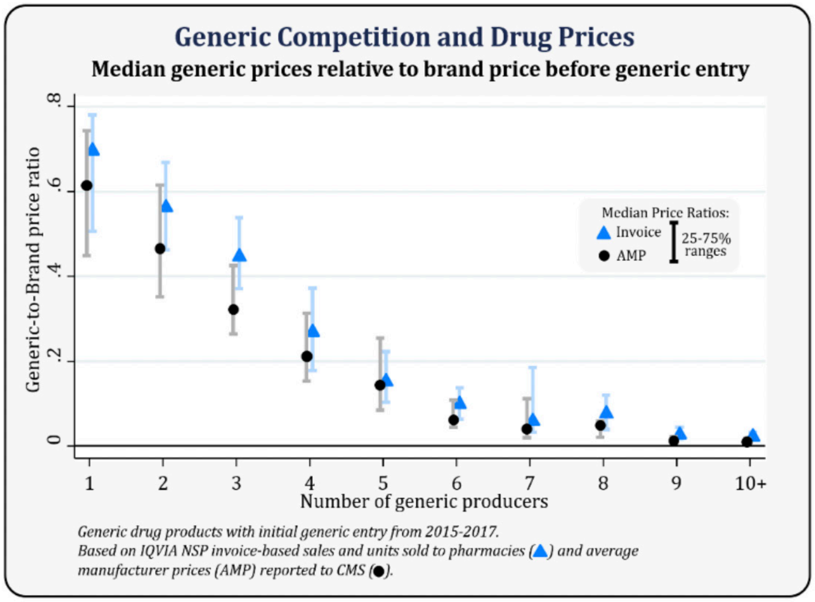
37 Diana Thomas. “Regulation and the Cost of Child Care,” The Mercatus Center, Aug. 17, 2015.

38 Randal Heeb and Rebecca Kilburn. “The Effects of State Regulations on Childcare Prices and Choices,” Rand Corporation, 2004.

39 Joseph Hotz and Mo Xiao. “The Impact of Regulations on the Supply and Quality of Care in Child Care Markets,” Vol. 101, No. 5 (AUGUST 2011), pp. 1775-1805.

Figure 7:

Drug prices fall with more generic competitors



Source: "New Evidence Linking Greater Generic Competition and Lower Generic Drug Prices," U.S. Food and Drug Administration," Dec. 13, 2019.

past 15 years. Since the end of the Great Recession in 2008, pharmaceutical prices have risen by 40 percent. There are several reasons why this might be the case. But, one obvious suspect might be the introduction of Medicare Part D in 2006, which significantly subsidized prescription drug costs for elderly Americans.

There may be some evidence that this is the case. The standard effect of insurance is to create inelastic demand, and therefore encourage a seller with market power to charge higher prices. One study by Mark Duggan and Fiona Scott Morton, however, found that moving consumers onto Medicare Part D in an insured group lowered sellers' prices for branded prescription drugs.[40] There is also evidence that Medicare Part D has contributed to the recent rise of opioid abuse by subsidizing potent prescription drugs and in doing so contributing to their rising costs.

On the other hand, some Medicare Part D opponents argue that the program also incentivizes pharmaceutical R&D in a way that has discouraged innovation in low-cost treatments. For instance, it has the potential to incentivize research in higher-cost cures such as Solvaldi, a hepatitis C cure introduced in 2013, as an alternative to lower-cost, non-cure treatments.

Nonetheless, there may be other, more structural factors at play behind the high cost of prescription drugs in the U.S. compared to the rest of the world. Medicare is

40 Mark Duggan and Fiona Scott Morton. "The Effect of Medicare Part D on Pharmaceutical Prices and Utilization," NBER Working Paper 13917, April 2008.

not allowed to negotiate drug prices and does not post prices. There have also been regulatory limits on generic versions of drugs that would otherwise increase their supply and bring down costs.

Patent reform also plays a key role in bringing down drug costs. According to the Food and Drug Administration (FDA), the entry of just one generic competitor brings down the average manufacturer price of prescription drugs by over 30 percent.[41] When there are six or more generic competitors, this decline increases by 95 percent.

Improvements to patent quality by raising the bar for obviousness to receive patent eligibility is a key way to prevent "patent thickets" (where pharmaceutical companies file multiple patents to cover a single drug) and "product hopping" (where pharmaceutical companies make minor changes of suspect clinical value to extend patent exclusivity). In 2017, the Initiative for Medicines, Access, and Knowledge (I-MAK) found that for the top 12-grossing drugs approved by the FDA, there were an average of 71 patents granted.[42] The strategic filing of patents to extent exclusivity nearly doubled the practical patent terms of these drugs from the normal 20-year period.

The overpatenting of pharmaceuticals is not just a function of the patent laws working as they are designed. Often, new patents on already existing drugs are granted in error, and the invalidation of "bad" patents leads to a significant decline in the price of drugs covered by patents that should not have been issued in the first place. More broadly, patents can as research from Petra Moser and Alessandra Voena show from history that relaxing patent strength through compulsory licensing increased innovation.[43]

The introduction of generic drugs can play a significant role in reducing the growth of drug prices. Although prescription drug prices have risen consistently since the Great Recession, since 2017 they have fallen relative to CPI due to the greater availability of generics. Under Scott Gottlieb's tenure as FDA commissioner from 2017 to 2019, the FDA approved a record number of generic drugs.

Regulatory and enforcement action toward prescription malpractice in recent years, combined with an increasing FDA approval rate for generics, have been cited as reasons for the decline in the cost of prescription drug prices from 2017 to 2019.[44]

41 "New Evidence Linking Greater Generic Competition and Lower Generic Drug Prices," U.S. Food and Drug Administration," Dec. 13, 2019.

42 "Overpatented, Overpriced: How Excessive Pharmaceutical Patenting is Extending Monopolies and Driving up Drug Prices," I-MAK.

43 Moser, Petra, and Alessandra Voena. 2012. "Compulsory Licensing: Evidence from the Trading with the Enemy Act." American Economic Review, 102 (1): 396-427.

44 "The Administration's FDA Reforms and Reduced Biopharmaceutical Drug Prices," The Council of Economic Advisers, October 2018.

More specifically, during this period, the FDA executed a "Drug Competition Action Plan" intended to lower barriers for creating and marketing generic drugs. The FDA also spoke out against drug makers who use tactics intended to delay development of generic versions of medications, such as refusing to release drug samples needed to develop generics. The FDA also started a public list of complaints against companies that used these tactics.

More recently, the Biden administration's executive order on competition in the American economy took aim at the use of so-called "pay-for-delay" deals, where branded pharmaceutical manufacturers pay generic drug manufacturers attempting to enter the market to back down. Such "pay-for-delay" deals cost Medicaid alone an average of $109 million per year from 2010-2016 according to estimates.[45]

Zoning, Land Use, and Housing Costs

The rise in both rents and real estate prices, particularly (though not exclusively) in U.S. coastal markets, has played a critical role in the rising cost of shelter. Research finds that these cost increases can largely be attributed to constrained housing supply brought on by the rise of zoning and land use regulations since the mid-20th century, particularly in "Superstar" coastal cities such as Boston, New York, Philadelphia, Washington, D.C., Los Angeles, and San Francisco.

My own research with Joe Gyourko and Jacob Krimmel, which surveys thousands of municipalities across the U.S., finds that zoning from 2006 to 2018 became ever more restrictive in cities like San Francisco, possibly contributing to rising housing costs over this time even in the aftermath of the Great Recession, which wreaked havoc upon the housing sector.

A 2015 report from the Obama administration Council of Economic Advisers matches data from the Wharton Residential Land Use Regulation Index with data from the National Association of Realtors' Housing Affordability Index to illustrate that more restrictive zoning is often present in less affordable metropolitan areas, where high house prices and price-to-rent ratios crowd out lower-income households.[46]

Peter Ganong and Daniel Shoag further find that low-skill migration from rural to urban locations has fallen considerably in recent decades due to rising housing prices in urban areas.[47] One can strongly argue that zoning has created this barrier

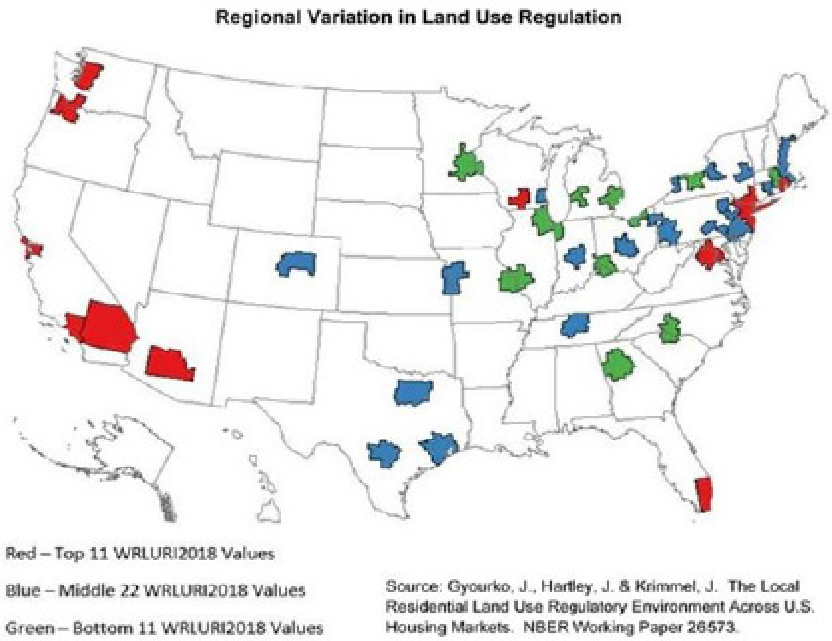
45 Dave Chintan, et al. "Estimating The Cost Of Delayed Generic Drug Entry To Medicaid," Health Affairs Vol. 39 No. 6 (June 2020).

46 Jason Furman. "Barriers to Shared Growth: The Case of Land Use Regulation and Economic Rents," Remarks by Jason Furman, Chairman, Council of Economic Advisers, The Urban Institute, Nov. 20, 2015.

47 Peter Ganong and Daniel Shoag. "Why has regional income convergence in the U.S. declined?" Journal of Urban

Figure 8:

Regional variation in land use regulation



to opportunity.

As a result of such land-use regulations, low-skill workers are unable to move to urban areas that have the most economic opportunity and income mobility, which has arguably played a major role in the decline in average hourly wage growth since the 1970s.[48] For instance, the Bay Area has one of the highest rates of income mobility, yet has some of the most restrictive land-use regulations in the country. In fact, San Francisco has seen no net population growth since the 1990s. Hence, it becomes difficult for a person who grows up in Charlotte, North Carolina, where the probability of growing up in the bottom income quintile and rising to the top income quintile is 4 percent, to move to San Francisco, where that figure is 13 percent according to Raj Chetty, Nate Hendren, Patrick Kline, and Emmanuel Saez using IRS tax records data.[49]

Perhaps surprisingly, the growth of land use regulations began largely in the 20th century after a series of landmark U.S. Supreme Court rulings (Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922) and Village of Euclid v. Ambler Realty Co., 272 U.S. 365 (1926)). A few cities, like Houston, have been able to avoid zoning altogether and in doing so have kept housing affordable.

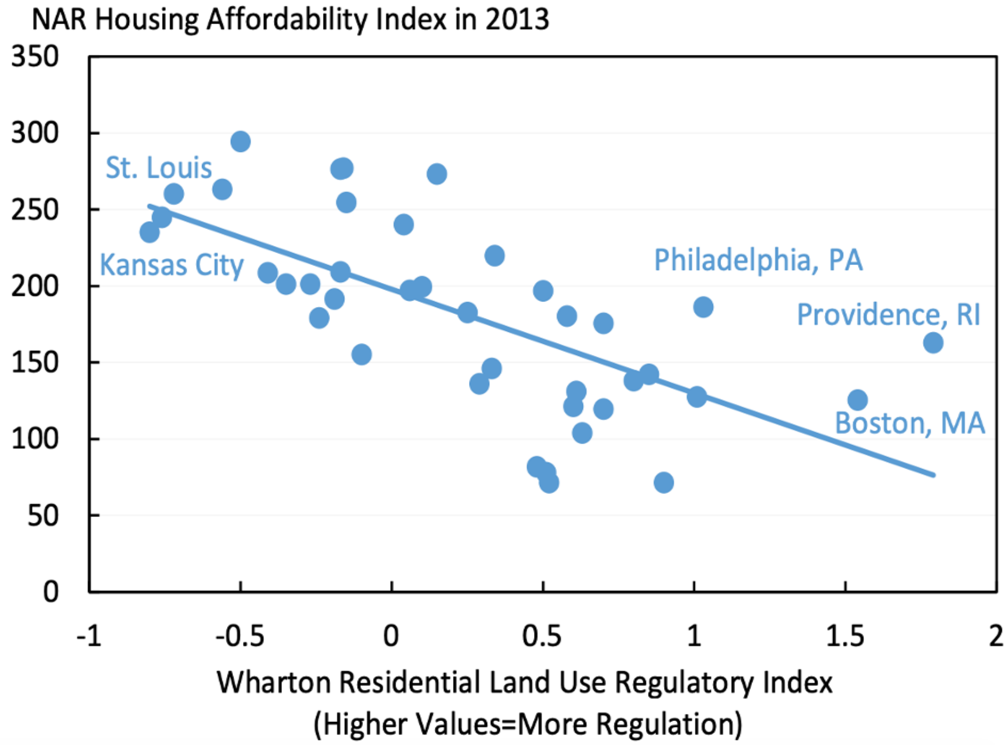
Economics, Volume 102 (November 2017): Pages 76-90.

48 "The Productivity-Pay Gap," The Economic Policy Institute, August 2021.

49 Raj Chetty, et al. "Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States," *The Quarterly Journal of Economics*, Volume 129, Issue 4 (November 2014): Pages 1553-1623.

Figure 9:

Zoning and affordability in select metro areas



Source: Furman (2015).

While there has been some action from federal bodies over land use regulations (the Trump White House issued an executive order to establish a council on eliminating regulatory barriers to affordable housing), it will ultimately be up to states to engage in and oversee the pre-emption of local powers over land use, enabling relaxed regulation and growth in the supply of affordable housing.[50] For example, in 2021, California pre-empted local control to legalize the construction of duplexes, where previously only single-family homes were allowed.[51]

California's Senate Bill 50, which sought to seek to reduce land-use restrictions and encourage the growth of housing supply, would have gone even further to make housing more affordable. Oregon recently passed similar legislation (House Bill 2001) and became the first and only state to eliminate single-family-only zoning in many residential neighborhoods.

Local rent control exacerbates these effects of zoning policy, as a significant literature from Milton Friedman and George Stigler to Edward Glaeser and Joseph

50 "White House Council on Eliminating Regulatory Barriers to Affordable Housing; Request for Information," Federal Register, Nov. 22, 2019.

51 Conor Dougherty. "After Years of Failure, California Lawmakers Pave the Way for More Housing," *The New York Times*, Aug. 26, 2021

Gyourko demonstrates.[52] [53] Rent control, by keeping housing prices artificially low, generates a further shortage of housing in areas with high labor-market opportunity, making them less accessible to low-income individuals who do not receive controlled apartments. Rebecca Diamond, Timothy McQuade, and Franklin Qian find that San Francisco landlords affected by rent control reduced their rental housing supply by 15 percent compared to non-affected landlords, causing a 5.1 percent citywide rent increase.[54]

The low-income housing tax credit (LIHTC), originally introduced by the Tax Reform Act of 1986, is another example of government intervention intended to make housing affordable that has produced unintended consequences. While it was meant to increase the supply of housing and lower housing prices, many studies, including this one by Stephen Malpezzi and Kerry Vandell, find that the LIHTC has subsidized housing units that have largely substituted for unsubsidized units that otherwise would have been built.[55] In other words, LIHTC projects are simply crowding out non-LIHTC projects. Also, analysis by Michael Eriksen suggests that LIHTC construction costs are about 20 percent greater than non-LIHTC construction costs.[56]

A New Supply-Side Agenda

Government intervention is not the only possible explanation for rising prices in these sectors. Alex Tabarrok and Erik Helland argue that this dramatic rise in prices is a result of "Baumol's Cost Disease," that is, of inherently less productive sectors (like education and health care) experiencing price increases as wages rise to catch up with more productive sectors.[57]

While this may be the case to some degree, Baumol's cost disease is largely exclusive to service sectors and largely irrelevant for housing. Drugs and devices are not subject to Baumol concerns within health care despite seeing excess inflation. There's a broader case to be made that regulations, and supply constraints are responsible for

52 Milton Friedman and George Stigler. "Roofs or Ceilings? The Current Housing Problem," Popular Essays on Current Problems, Vol. 1 No. 2, September 1946.

53 Edward Glaeser and Joseph Gyourko. "*Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable,*" (AEI Press, December 2008)

54 Rebecca Diamond, et al. "The Effects of Rent Control Expansion on Tenants, Landlords, and Inequality: Evidence from San Francisco," NBER WORKING PAPER 24181 January 2018.

55 Stephen Malpezzi and Kerry Vandell. "Does the low-income housing tax credit increase the supply of housing?" Journal of Housing Economics, Vol. 11, Issue 4, (December 2002): Pages 360-380.

56 Michael Eriksen. "The market price of Low-Income Housing Tax Credits," Journal of Urban Economics, Vol. 66, Issue 2 (September 2009): Pages 141-149.

57 Alex Tabarrok and Erik Helland. "Why are the Prices so D*nm High?" The Mercatus Center, 2019.

rising costs. There is also undeniable evidence that government intervention and lax antitrust enforcement have played a sizeable role in consumer price increases.

Approaches that could help improve affordability in the higher education space include:

- Limiting federal student loan programs and promoting accountability on the part of colleges. For instance, colleges could be incentivized to ensure that a fraction of their graduates have jobs at a certain point after college for their students to receive federal funding.
- Legislation to promote Income Share Agreements (ISAs) could promote better educational outcomes by allowing students to diversify their post-college earnings risk. For example, legislators could create transparent ISA guiderails and provide safe harbor to ISA providers from regulators, which in the past have been a roadblock to income share agreements.
- The Department of Education's College Scorecard could be changed to include college majors by school to provide better information to students regarding the economic prospects of different majors. School accounting transparency, such as more detailed versions of the annual 990 reports non-profits must file with the IRS, could also potentially improve school efficiency, decrease administrative bloat, and lower costs.
- Some argue that university endowments have become bloated and are funding larger administrative staff to the detriment of helping students with larger scholarships and fellowships. Some of this became evidenced during the COVID-19 pandemic, when universities responded to a decline in the market value of endowments by reducing PhD slots rather than cutting academic administrative staff. The 1.4 percent tax on investment earnings of university endowments of at least $500,000 per student implemented by the Tax Cuts and Jobs Act of 2017 was partially designed to counter such administrative bloat at universities, but it is too early to tell whether it's been effective.
- Textbook price growth could be slowed by stronger antitrust enforcement and promoting competition by easing access to e-textbooks that could be offered more cheaply or on an open-source basis.

Policies that could help improve affordability in the health care space could include:

- Encouraging hospital competition and relaxing occupational licensing for physician assistants (PAs) and registered nurses (RNs) to allow them to perform more primary care-like services.[58]

58 Robert Orr. "The U.S. Has Much to Gain from More Doctors," The Niskanen Center, Aug. 4, 2021.

- Further price transparency, like that envisioned in President Trump's executive order and President Biden's executive order on the issue could also help improve competition and lower prices.[59] [60]
- Patent reforms, like the proposed Restoring the America Invents Act, would improve the ability of the Patent Trial and Appeal Board to invalidate patents granted in error, opening the gates to generic drugs blocked by patents that should not have been granted in the first place.[61]
- Repealing Certificate of Need laws could promote hospital competition, which in recent decades has been deteriorating. Congress could also repeal the ban on physician-owned hospitals imposed by the Affordable Care Act in 2010.
- Moving the U.S. health care system from fee-for-service toward bundled, value-based payments could help slow the growth of health care costs.
- Lowering immigration restrictions for medical professionals and improving the portability of medical licensing could further increase the U.S. doctor supply, which could lower costs by applying downward pressure on physician wages, as Robert Orr has shown.[62] [63]

Policies that could help improve housing affordability include:

- Reducing mortgage subsidies by eliminating the mortgage interest tax deduction, reducing the government's role in Fannie Mae and Freddie Mac, and rethinking the Community Reinvestment Act toward improved housing affordability.
- Relaxing state and local land-use regulations could include shrinking minimum lot sizes, parking spot requirements, and green space requirements. Such changes at a larger scale may require preemption by states.
- Legislatures can promote multifamily housing by eliminating or ameliorating other land use regulatory measures like minimum lot sizes, maximum dwelling units, and height restrictions.
- Some other ideas to reform land-use regulations include adopting a "zoning budget," first for urban areas and then moving to suburbs. The idea of a zoning budget is analogous to a regulatory budget, which has often been proposed at the federal level (the Trump administration instituted the first federal regulatory

59 "Executive Order on Increasing Economic and Geographic Mobility"

60 "FACT SHEET: Executive Order on Promoting Competition in the American Economy," July 9, 2021.

61 "S.2891 - Restoring the America Invents Act," Congress.Gov.

62 Meghan Holquist. "How Two Bipartisan Immigration Proposals Can Support Our Exhausted Healthcare Workforce," The Niskanen Center, Sept. 29, 2021.

63 Robert Orr. "Unmatched: Repairing the U.S. Medical Residency Pipeline," The Niskanen Center, Sept. 20, 2021.

budget in 2017 through Executive Order 13771). The principle is that we need to abolish an existing rule for every new federal regulatory rule. Applied to land use, this concept could limit the total burden that regulations impose on housing costs.

- Ending rent control could increase affordability for people who are not mobile.
- Ceasing the low-income housing tax credit could end the crowding out of low-income housing by increasing demand in areas where supply is constrained. Housing vouchers work better than other subsidy programs to help families afford decent, safe, and sanitary housing, but essentially all housing subsidies still have the effect of increasing overall housing costs. There are no substitutes for increasing housing supply.[64]
- Last but not least, eliminating the mortgage interest deduction or further capping it (below the $750,000 mark set by the Tax Cuts and Jobs Act) could reduce unnatural housing demand, slowing the growth of housing prices, particularly in expensive coastal markets with tight housing supply.

We'll have to wait and see whether President Biden can tackle these supply issues with a 50-50 Congress to help reduce the rising cost of living for all Americans. As noted above, he wouldn't be the first Democratic president to pursue pro-growth, supply-side policies. Are we all supply-siders now?

64 Samuel Hammond and Antoine Dejean. "BalderDASH: A Renters' Tax Credit Will Only Worsen Housing Affordability," The Niskanen Center, Oct. 26, 2021.

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