
The Economics of Price Controls

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EXECUTIVE SUMMARY

Inflation has grown rapidly over the last year and reached a 41-year high of 9.1 percent in June 2022. In response, some policymakers have proposed implementing price controls (in particular, price ceilings) to reduce the cost of inflation for consumers. Instead of sustainably lowering prices, price ceilings cause shortages, reduce product quality, and can make longer-term inflation worse.

KEY POINTS

- A price ceiling creates a government-mandated maximum price that sellers can charge their customers.
- Price controls can lower prices for some consumers but also cause shortages which lead to arbitrary rationing and, over time, reduce product innovation and quality.
- Price controls during the 1970s caused shortages, especially of oil and gasoline. Rapid inflation followed the repeal of price controls.
- Price controls on prescription drugs—such as those imposed by the *Inflation Reduction Act of 2022*—stunt pharmaceutical innovation, imposing large, long-run costs on Americans that outweigh the short-run benefits of lower prices.

INTRODUCTION

Beginning in early 2021, the inflation rate in the United States began to rapidly increase, reaching 9.1 percent in June 2022, a 41-year high.¹ In response to historically high levels of inflation, some economists and lawmakers have called for price controls to set a maximum price ceiling on what sellers are allowed to charge consumers.² Basic economics and historical evidence clearly show that price ceilings fail to tame inflation while reducing overall consumer welfare.³

This report is inspired by the re-introduction of price controls in the fiscal policy conversation. Calls for price controls were realized when in August 2022, President Biden signed the *Inflation Reduction Act* into law. This bill implements price controls by allowing Medicare to effectively cap the price of prescription drugs.⁴ Another piece of legislation to implement price controls passed the House of Representatives in May 2022. The *Consumer Fuel Price Gouging Prevention Act*, if it became law, would give the President the power to declare an emergency, allowing the Federal Trade Commission to place price ceilings on retail gasoline.⁵

¹ CPI for All Urban Consumers (CPI-U). *U.S. Bureau of Labor Statistics*. Accessed August 12, 2022, <https://beta.bls.gov/dataViewer/view/timeseries/CUSR0000SA0;jsessionid=C8E42938709386234EDB04B10E1DAA5F>; Fernando Martin, “2021: The Year of High Inflation,” *Federal Reserve Bank of St. Louis*, April 12, 2022, <https://www.stlouisfed.org/on-the-economy/2022/apr/2021-year-high-inflation>; JEC Calculations. The last time annualized inflation was over 8 percent was January 1982.

² Tom Perkins, “‘What am I going to do?’: Soaring Prices Fuel Calls for US Government to Step in,” *The Guardian*, April 30, 2022, <https://www.theguardian.com/business/2022/apr/30/us-inflation-price-increases-government-response>; Beth Akers, “Democrats’ Plan to Fight Inflation with Price Controls Is Misguided,” *American Enterprise Institute*, May 17, 2022, <https://www.aei.org/education/democrats-plan-to-fight-inflation-with-price-controls-is-misguided/>; Meg Jacobs and Isabella Weber, “The Way to Fight Inflation Without Rising Interest Rates and a Recession,” *The Washington Post*, August 9, 2022, <https://www.washingtonpost.com/made-by-history/2022/08/09/way-fight-inflation-without-rising-interest-rates-recession/>.

³ Hugh Rockoff, “Price Controls,” *Econlib*, <https://www.econlib.org/library/Enc/PriceControls.html>.

⁴ Mark Miller, “Landmark U.S. Healthcare Bill Sets Stage for Lower Medicare Prescription Drug Costs,” *Reuters*, August 9, 2022, <https://www.reuters.com/world/us/landmark-us-healthcare-bill-sets-stage-lower-medicare-prescription-drug-costs-2022-08-09/>; Kristi Martin, “Allowing Medicare to Negotiate Drug Prices,” *The Commonwealth Fund*, May 5, 2021, <https://www.commonwealthfund.org/publications/explainer/2021/may/allowing-medicare-negotiate-drug-prices>.

For a more far-reaching price control policy proposal that has recently been proposed at the federal level, see *The Emergency Price Stabilization Act*, which would set up a task-force to proactively seek out “price-gouging” and design price controls for implementation.

⁵ Lalee Ibssa, “House Dems Pass Gas Price-Gouging Bill that Faces Uphill Battle in the Senate,” *ABC News*, May 19, 2022, <https://abcnews.go.com/Politics/house-dems-pass-gas-price-gouging-bill-faces/story?id=84806090>.

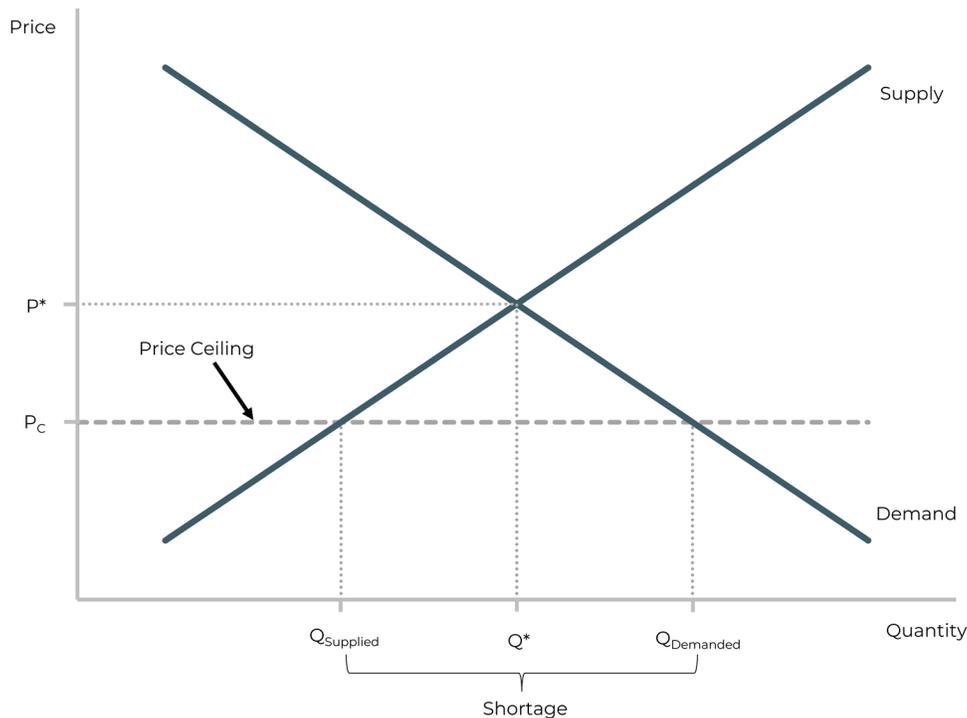
In this report we first lay out the economic theory of price controls, describing how price ceilings lead to shortages by forcing prices below market levels. Next, we briefly outline the history of price controls in the United States. Finally, we review academic studies that estimate the negative effects of price controls in specific contexts.

BASIC ECONOMICS OF PRICE CONTROLS

A price control is a requirement that a seller charges a government-mandated price for a good instead of letting the price be determined by supply and demand. A price ceiling is set below the market price—where supply and demand intersect—requiring sellers to offer their product to consumers at a discount. When prices are set by a ceiling, consumers face a shortage because at the lower price, the seller is willing to supply fewer goods and consumers simultaneously demand a larger quantity. At artificially low prices, sellers either supply fewer goods because they receive a lower return per unit sold, or reduce the quality of their product in order to maintain profitability. The price of the good is low for a few consumers, but the resulting shortage means that people who want the good can no longer buy it. This scenario is shown in Figure 1.

In this report we focus on price ceilings as they are directly relevant to inflation, but price floors also create inefficiencies that reduce welfare by distorting quantities supplied and demanded.

Figure 1: Shortage Caused by Price Ceiling



Note: P^* represents the equilibrium price. P_c represents the price ceiling. Q^* represents the equilibrium quantity demanded and supplied. Q_{Supplied} and Q_{Demanded} represent the quantity supplied and demanded under the price ceiling. The shortage is the difference between Q_{Demanded} and Q_{Supplied} .

HISTORY OF PRICE CONTROLS IN THE UNITED STATES

Price controls have at times been imposed in the United States at the national level since the early 1900s. Starting with the *Hepburn Act* in 1906, the federal government set maximum freight rates for railroads.⁶ World War II brought about an extensive federal price control and rationing apparatus in an attempt to combat high inflation caused by the war.⁷ The system of centralized price setting and other mandates

⁶ "The Hepburn Act," *Theodore Roosevelt Center at Dickinson State University*, <https://www.theodorerooseveltcenter.org/Learn-About-TR/TR-Encyclopedia/Capitalism-and-Labor/The-Hepburn-Act.aspx#:~:text=The%20Hepburn%20Act%20of%201906,Named%20for%20Rep.>

⁷ David Ginsburg, "The Emergency Price Control Act of 1942: Basic Authority and Sanctions," 9 *Law and Contemporary Problems*: 22-59 (Winter 1942), <https://scholarship.law.duke.edu/lcp/vol9/iss1/4/>; C. F. Stoddard, "Price Fixing by the Government During the War," *Monthly Labor Review*, Vol. 10, No. 5 (May, 1920), 21-45, <http://www.jstor.org/stable/41825546>.

resulted in mass shortages of basic goods, rationing, and reductions in quality. Inflation growth slowed temporarily, but it came at the cost of people not being able to purchase the types or quantities of food they wanted. By reducing the quantity produced, artificially low prices reduced levels of employment and atrophied U.S. capacity to produce when price controls were ultimately lifted. Following the end of the World War II price controls, the inflation rate increased to 20 percent, reflecting businesses' inability to meet consumers' pent-up demand.⁸

A more recent example of national price controls began in 1971 during the Nixon Administration. In response to rising inflation, the Economic Stabilization Program (ESP) imposed price controls throughout the economy on the price of goods and services and wages. Initially, prices were effectively frozen and could not be adjusted. Ninety days later, the policy was modified so that firms could increase prices but could not increase profit margins or wages outside of set parameters.⁹ Realizing the unsustainability of the policy for the long term, the price controls were slowly lifted by Presidential Executive Order starting in January 1973.¹⁰ Though the ESP reduced the rate of inflation in the short term, if price controls had not been lifted, widespread shortages were predicted in agricultural markets, such as beef, and were likely to worsen in durable and raw materials markets, such as cement, lumber, steel, and other similar goods where shortages were already occurring.¹¹

⁸ Robert Higgs, "The Two-Price System: U.S. Rationing During World War II," *FEE*, April 24, 2009, <https://fee.org/articles/the-two-price-system-us-rationing-during-world-war-ii/>; Paul Evans, "The Effects of General Price Controls in the United States during World War II," *Journal of Political Economy*, Oct., 1982, Vol. 90, No. 5 (Oct., 1982), pp. 944-966, https://www.jstor.org/stable/1837127#metadata_info_tab_contents; Cecilia Rouse, Jeffery Zhang, and Ernie Tedeschi, "Historical Parallels to Today's Inflationary Episode," *The White House*, July 6, 2021, <https://www.whitehouse.gov/cea/written-materials/2021/07/06/historical-parallels-to-todays-inflationary-episode/>.

⁹ U.S. Congress Joint Economic Committee, "Report of the Joint Economic Committee, Congress of the United States, on the January 1972 Economic Report of the President," Washington, D.C., 1972, [https://www.jec.senate.gov/reports/92nd%20Congress/The%20Joint%20Economic%20Report%20of%20the%201972%20Economic%20Report%20of%20the%20President%20\(540\).pdf](https://www.jec.senate.gov/reports/92nd%20Congress/The%20Joint%20Economic%20Report%20of%20the%201972%20Economic%20Report%20of%20the%20President%20(540).pdf); Executive Order 11627, "Providing Further Stabilization of the Economy," (Oct. 1971),

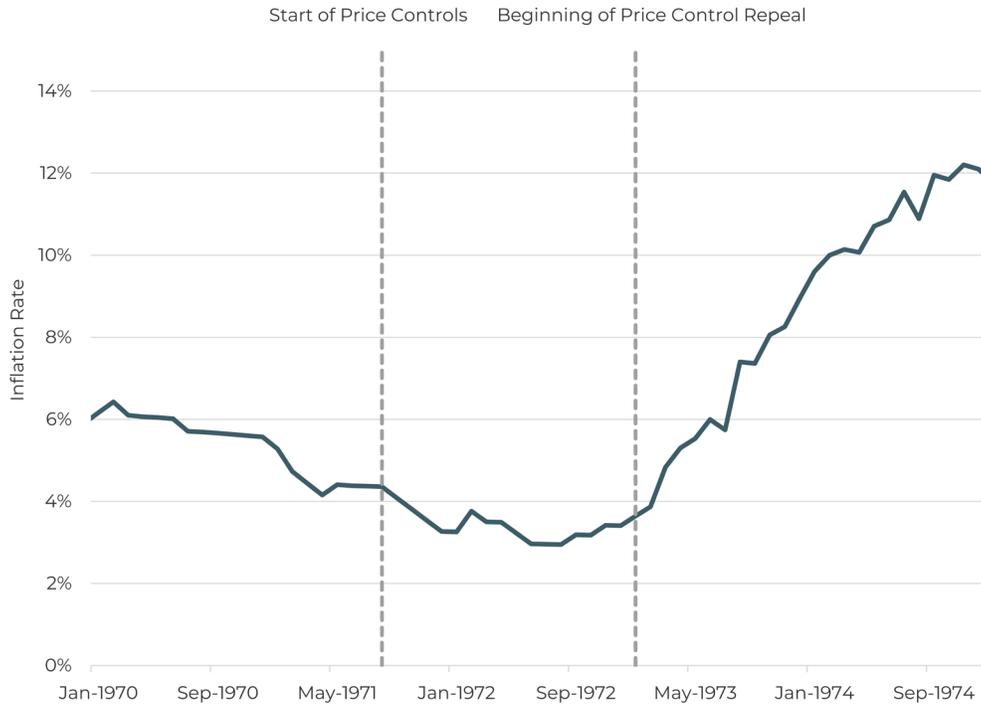
<https://www.presidency.ucsb.edu/documents/executive-order-11627-further-providing-for-the-stabilization-the-economy>; D. Quinn Mills, "Some Lessons of Price Controls in 1971-1973," *The Bells Journal of Economics*, Spring, 1975, Vol. 6, No. 1 (Spring, 1975), 3-49, <https://doi.org/10.2307/3003214>

¹⁰ National Archives, "Records of the Economic Stabilization Programs, 1971-1974," <https://www.archives.gov/research/guide-fed-records/groups/432.html#432.2.2>

¹¹ D. Quinn Mills, "Some Lessons of Price Controls in 1971-1973," *The Bells Journal of Economics*, Spring, 1975, Vol. 6, No. 1 (Spring, 1975), 3-49, <https://doi.org/10.2307/3003214>; Charles Whiteman, "A New Investigation of the Impact of Wage and Price Controls," *Federal Reserve Bank of*

Following the decontrol of prices, Figure 2 shows inflation jumped from 3.6 percent to 8.9 percent between January and December 1973, before peaking at 12.2 percent in fall 1974.¹² The surge in consumers' pent-up demand, driven by their inability to get needed products due to shortages caused by the price control program, led to dramatically higher inflation after the program ended. The higher prices eradicated any short-run inflation-reducing benefits the policy may have had.

Figure 2: Year Over Year Increase in Consumer Price Index, 1970-1974



Source: Bureau of Labor Statistics; JEC Calculations.

Note: The start of price controls is August 15th, 1971, corresponding to the start of Phase 1 of the Economic Stabilization Program (ESP). The beginning of the price controls repeal is January 10th, 1973, corresponding to the end of Phase 2 of the ESP when prices began to be decontrolled.¹³

Particularly harmful price controls were placed on oil during this period. Following the relaxation of broad price controls under the ESP in January 1973, demand for oil increased, which together with the Organization of

Minneapolis – Quarterly Review, Spring 1978,

<https://www.minneapolisfed.org/research/qr/qr222.pdf>.

¹² CPI for All Urban Consumers (CPI-U). *U.S. Bureau of Labor Statistics*. Accessed August 12, 2022.

<https://beta.bls.gov/dataViewer/view/timeseries/CUSR0000SA0;jsessionid=C8E42938709386234EDB04B10E1DAASE>; JEC Calculations.

¹³ Charles Whiteman, "A New Investigation of the Impact of Wage and Price Controls," *Federal Reserve Bank of Minneapolis – Quarterly Review*, Spring 1978,

<https://www.minneapolisfed.org/research/qr/qr222.pdf>.

Arab Petroleum Exporting Countries' oil embargo, exacerbated oil shortages. Price controls were kept in place for all petroleum products (imports and exports) by President Nixon under the ESP through 1973, which caused even larger shortages. Following the resulting price surge, another layer of price controls was implemented on domestic oil production in a split system for different types of oil under the *Emergency Petroleum Allocation Act* passed in November 1973. These controls were consolidated into a national average price control, set below market price following the passage of the *Energy Policy and Conservation Act* of 1975.¹⁴ Unable to sell oil at market rates domestically, oil companies sold to unrestricted foreign markets, leading to further domestic oil shortages beyond those initially spurred by the embargo and the expanded demand induced by artificially low prices. The price ceilings were revoked as it became clear the price controls had caused the mass shortages, resulting in many consumers not having access to gasoline regardless of the price. The overall costs of rationing and lost long term investment in increased production harmed consumers in both the short- and long-run.¹⁵

EVIDENCE ON THE CONSEQUENCES OF PRICE CONTROLS

Economic theory predicts that when prices are set below the market clearing price, consumers will experience shortages. Many studies test this prediction in different markets and estimate the long-term effect of price controls on increased waiting times, lower product quality, and the misallocation of goods. The evidence suggests that, though price controls can temporarily lower prices for some consumers, the costs of shortages, reductions in quality, and other negative long-run

¹⁴ History.com Editors, "Energy Crisis 1970's," *History*, August 30, 2010, <https://www.history.com/topics/1970s/energy-crisis>; John Kraft and Mark Rodekohr, "Crude Oil Price Controls, Their Purpose and Impact," *Denver Law Review* 56, no. 1, Article 14 (1979), <https://digitalcommons.du.edu/cgi/viewcontent.cgi?article=3088&context=dlr>; James Cox and Arthur Wright, "The Effects of Crude Oil Price Controls, Entitlements and Taxes on Refined Product Prices and Energy Independence," *Land Economics*, Vol. 54, No. 1 (Feb., 1978), 1-15, <https://doi.org/10.2307/3146198>; Emergency Petroleum Allocation Act, H.R. 8863, 93rd Congress (1973), <https://www.congress.gov/bill/93rd-congress/house-bill/8863#:~:text=Emergency%20Petroleum%20Allocation%20Act%20%2D%20States,in%20their%20national%20distribution%20system>.

¹⁵ John Kraft and Mark Rodekohr, "Crude Oil Price Controls, Their Purpose and Impact," *Denver Law Review* 56, no. 1, Article 14 (1979), <https://digitalcommons.du.edu/cgi/viewcontent.cgi?article=3088&context=dlr>; Peter Morici, Jr. "The Benefits and Costs of Crude Oil Price Regulations," *The Journal of Energy and Development* Vol. 3, No. 2 (Spring, 1978), pp. 366-377, <https://www.jstor.org/stable/24806803>.

consequences, such as decreased product innovation, dramatically outweigh any benefits.

Studies find near universal evidence of shortages when ceilings prevent prices from adjusting to ensure the scarce goods go to those who value them most. For example, one study estimates that price controls on natural gas used for residential heating by U.S. households between 1954 and 1989 led to a shortage of nearly 20 percent of the amount of natural gas households wished to consume. Consumers were harmed because their natural gas consumption was substantially limited, resulting in homes that were underheated relative to if there were no controls.¹⁶

The mechanisms used to ration scarce goods in the absence of market-clearing prices have their own additional costs. Rationing takes many different forms. Queueing (waiting) allocates goods on a “first-come-first-served” basis. A lottery allocates goods at random, and other systems rely on political influence, nepotism, or bribes to allocate scarce goods absent market-clearing prices.¹⁷ In the case of queueing, the consumer “pays” in their time spent waiting in line. This nonmonetary cost makes up the difference between the unregulated market price and the mandated price.¹⁸ One study of price controls on oil during the 1973-74 and 1979 oil crises finds that the total welfare costs of waiting in line for gasoline (due to the opportunity cost of forgone time working or engaging in leisure activities) was over \$5 billion in California alone.¹⁹ Another example from New York compares consumption levels of apartments between rent controlled and un-controlled areas, and finds that the price ceiling led to individuals receiving inefficiently large apartments given their family size, an inefficiency that imposed costs on

¹⁶ Lucas Davis and Lutz Kilian, “The Allocative Cost of Price Ceiling in the U.S. Residential Market for Natural Gas,” *Journal of Political Economy*, Vol. 119, no. 2 (2011), <https://doi.org/10.1086/660124>.

¹⁷ Ross Parish, “Economic Analysis of Non-Price Rationing,” *Australian Bureau of Transport Economics*, May 1981, https://www.bitre.gov.au/sites/default/files/op_044.pdf; Milton Friedman and George Stigler, “Roofs of Ceilings? The Current Housing Problem,” *Foundation for Economic Education*, September 1946, <https://fee.org/resources/roofs-or-ceilings-the-current-housing-problem/>.

¹⁸ Yoram Barzel, “A Theory of Rationing by Waiting,” *The Journal of Law & Economics*, Vol. 17, No. 1 (Apr., 1974), 73- 95, <https://doi.org/10.1086/466785>.

¹⁹ H. E. Frech III and William C. Lee, “The Welfare Cost of Rationing-By-Queueing across Markets: Theory and Estimates from the U.S. Gasoline Crises,” *The Quarterly Journal of Economics*, Vol. 102, No. 1 (Feb., 1987), 97-108, <https://doi.org/10.2307/1884682>; JEC Calculations. Welfare loss values for each crisis from Frech III and Lee (1987). They are added together, and multiplied by BLS’ CPI deflator to get the cumulative value in 2022 dollars.

consumers of over \$350 per apartment annually or well over \$500 million per year.²⁰

Research shows that price ceilings also reduce the quality of goods supplied. When the quality of a good can vary, the quality of the price-controlled good tends to decline as firms remain profitable by reducing their input costs to match the mandated price. In contrast, when prices can freely adjust in the face of changing supply and demand, firms have the incentive to increase product quality and invest in innovation, leading to product improvements. This is confirmed by research on the effects of rent control in New York; rent controlled apartments have worse housing conditions than unrestricted apartments.²¹ Even when firms can reduce quality, we continue to observe shortages or frequent periods of product unavailability as well.²²

Some argue that despite widespread evidence of their damaging effects, price controls can be beneficial if one firm has a monopoly or if other forms of imperfect competition exist. In a market with one seller, the firm can conceivably earn excess long-run profits by restricting output and charging prices above competitive market levels.²³ In theory, the government could intervene and set a maximum price equal to the price in a competitive market, leading to lower prices and higher quantities for consumers without causing shortages. However, even in a textbook monopoly case, the government would almost certainly be unable to determine the optimal market-clearing price as demand conditions and technology are always changing. Government price setting would

²⁰ Edward Glaeser and Enzo Luttmer, "The Misallocation of Housing Under Rent Control," *American Economic Review*, Vol. 93, no. 4, (Sept. 2003), <https://www.aeaweb.org/articles?id=10.1257/000282803769206188>; JEC Calculations. Values for the losses from Glaeser and Luttmer (2003), and adjusted by the BLS' CPI deflator to place the values in 2022 dollars.

²¹ Neil Raymon, "Price Ceilings in Competitive Markets with Variable Quality," *Journal of Public Economics*, Vol. 22, Issue 2, (Nov. 1983), 257-264, [https://doi.org/10.1016/0047-2727\(83\)90069-5](https://doi.org/10.1016/0047-2727(83)90069-5); Mark Frankena, "Alternative Models of Rent Control," *Urban Studies*, Vol. 12, No. 3 (October 1975), 303-308, <https://doi.org/10.1080/00420987520080561>; Choon-Geol Moon and Janet Stotsky, "The Effect of Rent Control on Housing Quality Change: A Longitudinal Analysis," *Journal of Political Economy*, Vol. 101, No. 6 (Dec., 1993), 1114-1148, <https://doi.org/10.1086/261917>.

²² Diego Aparicio and Alberto Cavallo, "Targeted Price Controls on Supermarket Products," *The Review of Economics and Statistics*, Vol. 103, Issue 1, (2021), 60-71, https://doi.org/10.1162/rest_a_00880.

²³ Richard Posner, "Natural Monopoly and Its Regulation," 21 *Stanford Law Review* 548 (1968), https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2861&context=journal_articles; Steven Tomlinson, "Calculating a Monopolist's Profit or Loss," *Economics with Steven Tomlinson*, https://college.cengage.com/economics/0538797274_mceachern/student/lecture/8426.pdf.

ultimately create shortages and reinforce the monopoly by deterring entry from new firms into the market.

In practice, the textbook type of monopoly does not exist without government protections. Even in markets where a monopoly is granted by government through patents on the development of new products, the implementation of price controls can hurt consumers. In this case, price controls can potentially lower prices for consumers in the short run, but can still cause greater harm in the long run by weakening the incentive to innovate new products or services. For example, Rexford Santerre and John Vernon estimate that hypothetical price controls on U.S. pharmaceuticals could have provided \$300 billion in benefits to consumers due to lower drug costs over the 40-year span from 1960-2000. However, price controls would have resulted in an estimated nearly 200 fewer lifesaving or life-improving drugs being developed. When accounting for the value of the loss in life-years (the reduction in years people would be expected to live if the 200 drugs were not developed) the costs over the 40-year span are estimated at about \$20 trillion, or a loss of 200 million life-years. In this case, the costs of price controls on pharmaceuticals is about 67 times larger than the estimated benefit of lower prices in the short-run.²⁴

Concerningly, the *Inflation Reduction Act of 2022* has a provision that allows Medicare to “negotiate” the prices of certain prescription drugs. Instead of a fair and open negotiation, the government caps the maximum price that can be attained by the firm in the negotiation, effectively acting as a price control.²⁵ The loss in research and development expenditures will likely be substantial, leading to estimates of 15 fewer pharmaceutical drugs over the next 30 years, a significant

²⁴ Rexford Santerre and John Vernon, “Assessing Consumer Gains from a Drug Price Control Policy in the U.S.,” *NBER Working Paper Series*, Working Paper 11139, (Feb. 2005), <https://www.nber.org/papers/w11139>.

²⁵ Jeffery Davis, Michael Hess, and Shannon Wiley, “Summary of Medicare Drug Negotiation Program in Inflation Reduction Act and Impact on Pharmacies and Providers,” Bass, Berry and Sims PLC, August 12, 2022, <https://www.bassberry.com/news/medicare-drug-negotiation-program-in-inflation-reduction-act/>; Jennifer Walsh, Kate Kros, and John West, “The Inflation Reduction Act of 2022: Medicare Drug Pricing Provisions Will Change the Health Care Industry,” Foley and Lardner LLP, August 16, 2022, <https://www.foley.com/en/insights/publications/2022/08/inflation-reduction-act-2022-medicare-drug-pricing>. The *Inflation Reduction Act* gives Medicare the authority to negotiate the price of certain prescription drugs. Negotiation-eligible drugs are subject to a “maximum fair price,” irrespective of the negotiation, that is mechanically set based on a percentage of the pre-negotiation market price. Punitive excise taxes apply to firms that choose to not participate in the negotiation.

harm to the health of future Americans.²⁶ Applying the estimates from Santerre and Vernon, this policy could result in a cost between \$0.6 trillion and \$1.9 trillion, due to the loss of between 6 million and 19 million life-years over the next 30 years.²⁷

CONCLUSION

This report reviews the negative consequences that occur when the government attempts to control prices. These include: shortages, rationing, worsening product quality, reduction in investment, misallocation of resources, and significant overall welfare losses. The evidence is clear. Prices, not price controls, are the mechanism by which goods are best rationed in the economy.

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²⁶ Congressional Budget Office, “Estimated Budgetary Effects of Subtitle I of Reconciliation Recommendations for Prescription Drug Legislation, as Posted by the Senate Committee on Finance on July 6, 2022,” *Congressional Budget Office Cost Estimate*, (Jul. 2022), https://www.cbo.gov/system/files/2022-07/senSubtitle1_Finance.pdf.

²⁷ Rexford Santerre and John Vernon, “Assessing Consumer Gains from a Drug Price Control Policy in the U.S.” *NBER Working Paper Series*, Working Paper 11139, (Feb. 2005), <https://www.nber.org/papers/w11139>; Frank Lichtenberg, “Sources Of U.S. Longevity Increase, 1960-1997,” *NBER Working Paper Series*, Working Paper 8755, (Jan. 2002), <https://www.nber.org/papers/w8755>; Steven Simoens and Isabelle Huys, “R&D Costs of New Medicines: A Landscape Analysis,” *Frontiers of New Medicine*, Vol 8, Article 760762, <https://doi.org/10.3389/fmed.2021.760762>; David Cutler and Mark McClellan, “Is Technological Change in Medicine Worth It?” *Health Affairs*, Vol. 20, no. 5, (Sept. 2001), <https://doi.org/10.1377/hlthaff.20.5.11>; JEC Calculations.

We estimate the range in costs following the methodology in Santerre and Vernon (2005). To calculate total life years lost, we divide (i) the estimated foregone research and development (R&D) spending due to price controls on pharmaceuticals by (ii) the estimated R&D spending necessary to earn one additional life-year (one year of human life lived). CBO has not published the anticipated loss in R&D spending from the Inflation Reduction Act, so we multiply CBO’s estimate of 15 fewer drugs over the next 30 years by a range of R&D spending required to produce a new drug from Simoens and Huys (2021). We estimate \$470 million-\$1.4 billion in lost R&D per year, or 0.57 percent-1.7 percent of annual R&D, which is in line with CBO’s estimate of a 1.1 percent reduction in new drugs produced due to the Inflation Reduction Act. Over 30 years, the total loss in R&D spending is \$14.2 billion to \$42.4 billion. Lichtenberg (2002) estimates \$2,201 (in 2022 dollars) of R&D leads to one additional life year. Forgone R&D spending (\$14.2 billion to \$42.4 billion) is divided by the \$2,201 needed to obtain one additional life year, resulting in our estimate that the Inflation Reduction Act will lead to a loss of 6 million to 19 million life years. This loss of life years is multiplied by the value of one additional life-year, \$100,000 (this is the mid-range value of one life-year widely cited in the literature), to obtain the dollar value cost.