Economic Studies at BROOKINGS

FEBRUARY 2026

PERSPECTIVES ON SUPPLY CHAINS AND INFLATION

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This paper was prepared as part of a Brookings Institution research project on supply-side issues affecting inflation. Find out more about this project online at www.brookings.edu/collection/supply-side-factors-and-inflation/

ABSTRACT

We develop a framework to analyze the effects of supply chain shocks on inflation. One channel from supply chain shocks to inflation runs through production costs. We argue the effects of these cost shocks hinge on whether they materialize immediately and are transitory, or whether they are persistent and anticipated. A second channel arises from supply chain constraints that directly limit domestic production capacity, altering how inflation responds to demand. We first present these channels in a stylized aggregate demand and supply framework, and we then discuss findings from our own research and the extant literature about how each channel has affected U.S. inflation. We also discuss how recent tariff shocks may be interpreted through the lens of our framework. We then draw out implications for the conduct of fiscal and monetary policies when supply chains may be constrained.

AUTHOR NOTES AND ACKNOWLEDGEMENTS

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The authors thank participants in a Brookings authors' conference for early feedback on this paper.

DISCLOSURES

Some of the material in this paper is based upon work supported by the National Science Foundation under Grant No. SES-2315629. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

1. Introduction

Over the past several decades, global supply chains have become important conduits for international trade, and the international segments of these supply chains have been interwoven throughout the domestic economy. As a result, supply chains have become important for macroeconomics.

On the one hand, the rise of global supply chains has enhanced economic efficiency, lowering production costs due to gains from trade, with benefits spread widely throughout the economy. In turn, macro-policymakers often credit globalization as an important contributor to benign macroeconomic conditions and low inflation (Greenspan (2005), Yellen (2006), IMF (2006), Bean (2007), Bernanke (2007), Carney (2017)). Now, many (including inside the U.S. Federal Reserve) are watching for how the pullback from global trade, signified par excellence by the Trump administration's tariff policies, will impact inflation.

On the other hand, shocks that affect the normal functioning of supply chains affect production capacity, which shapes the amplification and propagation of macroeconomic shocks. The importance of these types of shocks was brought to the fore during the recovery from the COVID-19 pandemic, as supply chain disruptions were widely viewed as contributors to the inflation surge between 2021 and 2024. For example, Federal Reserve Chair Jerome Powell noted that while demand was strong in the United States, factory shutdowns and shipping problems were holding back supply, weighing on the economy and pushing inflation above the Fed's goal (Smialek and Nelson (2021)).

In this paper, we provide a framework to interpret how supply chain trade shapes the supply capacity of the economy over time, which encompasses both the long-term efficiency effects of trade and the short-run constraints that manifest when disruptions occur. Importantly, the framework elucidates how these developments contribute to inflation though both traditional and novel (previously underappreciated) channels. We then discuss current policy issues through the lens of this framework, with an eye toward identifying lessons for policymakers.

Broadly, the framework is based on a conventional aggregate demand and aggregate supply framework, which we modify to include three key features. First, we allow changes in supply chain trade to influence production costs. As a result, expansions/contractions in trade alter marginal costs, with impacts on inflation; while this cost channel has been widely discussed in prior work, we set it against two new ideas in the framework. Second, above and beyond the contemporary impact of supply chain trade via costs, anticipated changes in supply chain trade change aggregate demand. This will imply that expectations about how trade will change over time have an important independent impact on inflation. Third, we will highlight that producers face capacity constraints, and disruptions in supply chains may lower their production capacity. When constraints bind, aggregate supply is essentially vertical, so inflation behaves differently than in normal times.

Practically speaking, the framework results from merging ideas and models that we have developed in two recent papers: Comin and Johnson (2021) and Comin, Johnson, and Jones (2023). This allows us to borrow from our previous research to shed light on how the framework rationalizes recent historical developments in inflation dynamics where supply chains have played a prominent role.

After this historical exercise, we take on the normative task of thinking about the lessons that the framework has for the conduct of monetary and fiscal policy. In particular, we argue that had the Fed understood the role of supply chains in inflation dynamics, it would have conducted a more aggressive monetary policy that would have resulted in much lower inflation during the post-COVID period. We also speculate on the potential impacts on inflation from the turn away from globalization by the United States, as informed by our approach. We organize the rest of the paper as follows. Section 2 presents the conceptual framework. Section 3 applies it to discuss how shocks to supply chains have impacted inflation. Section 4 discusses policy implications and Section 5 concludes.

2. Conceptual framework

In this section, we develop a conceptual framework to interpret how rising international supply chain trade and supply chain shocks have impacted inflation dynamics. We start with a broad overview of the relationship between consumer price inflation, inflation for domestically produced goods, and import price inflation. We then organize thoughts on how trade affects inflation for domestically produced goods through their production costs and markups set by domestic producers. We further discuss how the dynamics of trade influence the level of aggregate demand as well as how supply chain constraints alter the supply-side relationship between production costs and prices for domestic producers. We close the section by integrating these ideas into a familiar aggregate demand and supply structure.

2.1. Background on consumer prices

Conventional consumer price indexes seek to measure the price of the bundle of domestic and imported goods that a typical consumer purchases. As a result, consumer price inflation is effectively an average of domestic price and import price inflation for consumer goods, with weights that reflect domestic and import shares in consumption spending, as in

$$\pi_{Ct} = s_H \pi_{Ht} + (1 - s_H)\pi_{Ft}$$

where π_{Ct} is overall consumer price inflation, π_{Ht} is inflation for domestically produced goods, and π_{Ft} is inflation for imported consumer goods. Rewriting this slightly, consumer price inflation is related to domestic price inflation and changes in the relative price of imports to domestic goods:

$$\pi_{Ct} = \pi_{Ht} + (1 - s_H)(\pi_{Ft} - \pi_{Ht})$$

where $\pi_{Ft} - \pi_{Ht}$ is the gap between inflation for imported final goods and domestically produced output, which measures changes in the relative price of imports to domestic consumer goods over time, otherwise known as the consumer terms of trade.

Clearly, domestic price inflation is lower when import price inflation is lower, all else equal. In surveying the impacts of globalization on inflation, Yellen (2006) flagged “the direct effect of the reductions in the prices of imported goods and services that may be caused by globalization, and which are included in the indices of consumer prices that central banks commonly target” as the “most obvious” channel linking trade and inflation.

To unpack this channel, let us separate the consumer price of imports (π_{Ft}) into three components: the price of imports “at the border” (the price paid to foreign exporters), the tariffs paid on imports (taxes imposed at the border), and behind-the-border costs of distributing imports through wholesale and retail channels to consumers, including both factor costs and profits earned by domestic distributors. In terms of notation, suppose that the consumer price of imports is

$$P_{Ft} = d_t \tau_t P^*_{Ft}$$

where P^*_{Ft} is the "border price" of imports, τ is one plus the (ad valorem) tariff rate paid by domestic importers, and d_t is the distribution margin for imports.[1] Then, consumer-side import price inflation would be

$$\pi_{Ft} = \Delta \ln d_t + \Delta \ln \tau_t + \pi^*_{Ft}$$

Consumer price inflation might accelerate due to disruptions at the border for two reasons. First, tariff rates themselves may increase: $\Delta \ln \tau_t > 0$. This generates largely transitory inflation over the period marked by changes in tariffs. Second, border price inflation π^*_{Ft} may rise or fall for various reasons. For example, shocks to foreign supply, the ability of firms to move goods across borders (e.g., shipping costs), or snarls in foreign segments of supply chains might all push border price inflation higher in the short run. In the long run, increased foreign supply of imports (e.g., due to foreign productivity growth) may bring down the cost of imports as well. If import price inflation is lower than domestic price inflation, this restrains consumer price growth.

This initial discussion notwithstanding, we will not engage in an extended discussion of this consumer import channel. The first reason is that the effects of tariffs through this channel are well understood. The key issue is tariff pass-through—i.e., whether distribution margins or border prices respond to tariffs, absorbing their impact, or whether tariffs are completely passed onto consumers. This is both a well-studied topic and a topic worthy of yet further study, but we have little to add on it.

The second reason is that consumer import price inflation is "the dog that didn't bark," at least over the past several decades. Import price inflation for consumer goods—π^*_{Ft} in the expressions above, which excludes tariffs, like the import price index

[1] Here one should think about the border price as the landed taxable price of imports, conventionally referred to as the CIF (Cost, Insurance, and Freight) value. We have written distribution costs here as an ad valorem surcharge, proportional to the value of imports. This simplifies the exposition, though distribution costs may also take the form of a per unit charge.

produced by the Bureau of Labor Statistics—does co-move with domestic price inflation in some periods. Nonetheless, the share of expenditure on imports in final consumption is only about 10%.[2] Therefore, the direct role of fluctuations in import price inflation in accounting for consumer prices is very limited.[3]

Turning attention to tariff changes, U.S. Most-Favored Nation (MFN) tariffs have been generally low and stable since the mid-1990s, when the General Agreement on Tariffs and Trade (GATT) Uruguay Round was concluded. Further, while the U.S. has concluded bilateral free trade agreements over this period, most touch a small overall share of U.S. trade. The exception is the North American Free Trade Agreement (NAFTA), the precursor to the updated U.S.-Mexico-Canada Agreement (USMCA), which entered into force in 1994. As a result, changes in tariffs between 1990 and 2020 will have limited explanatory power over consumer price inflation through direct consumer import price inflation (π_{Ft}). This does not preclude the possibility that the very recent, and very large, tariff changes implemented by the Trump administration could have larger impacts on inflation going forward; however, we defer more detailed discussion on this point to a later section.

In light of this discussion, import price inflation for consumer goods is not the most productive place to look to explain fluctuations in inflation over time. Rather, the surprising conclusion is that we ought to focus on the price of domestically produced goods and the role that import price inflation for intermediate inputs and other supply chain forces play in driving inflation there.

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[2] See: https://fred.stlouisfed.org/graph/?g=1NirM for data on overall PCE price inflation and im-port price inflation for consumer goods. As a reference on the share of imports in consumption expenditure, see: https://www.frbsf.org/research-and-insights/publications/economic-letter/2019/01/how-much-do-we-spend-on-imports/.

[3] As a caveat to this point, we also recognize that that import price inflation and its impact on overall consumer prices may be substantially mis-measured. One reason is that statistical agencies have struggled to capture changes in product quality and variety over time. Auxiliary research suggests that the variety and quality of imports has risen dramatically over time, leading to large unmeasured gains in consumer welfare, which would lower the "effective" (welfare-consistent) price of imports relative to measured price growth. A second reason is that there is important substitution bias built into the price indexes. When consumers switch expenditure from higher priced domestic goods to lower priced import goods, the benefits of this level change in prices are not taken into account. The same applies as consumers switch across import sources (e.g., from higher priced European goods to Chinese goods). See Reinsdorf and Yuskavage (2018) for a more complete treatment of these issues, which apply not only to consumer prices, but also the prices for imported inputs used by firms.

2.2. Inflation on the supply side

Turning our attention to prices for domestically produced goods, the supply side of the economy is usually represented by a Phillips Curve relationship between inflation, real marginal costs, and expected inflation in modern macroeconomic models. To fix ideas, these relationships between inflation, marginal costs, and expected inflation are generally formalized as follows. Consider the following simple representation of the determinants of domestic price inflation:

$$\pi_{Ht} = \phi rmc_t + \beta E_t\,(\pi_{H,t+1}) + \sigma_t, \qquad (1)$$

where $\pi_{Ht} = \ln(P_{Ht}) - \ln(P_{Ht-1})$ is inflation for domestically produced goods.[4] This equation has three components.

First, domestic price inflation is higher when: real marginal production costs—the cost of production relative to the price of output—is above its normal level. This is captured in the term rmc_t, which denotes real marginal costs, defined as marginal production cost relative to the price of output.[5] When real marginal costs are high, producer markups are lower than normal, which implies firms want to raise prices to restore profitability. Think of this as the "cost pressures" channel, and we'll say more about the role of supply chains via this cost channel shortly.

Second, expected future inflation ($E_t\,(\pi_{H,t+1})$) also matters for inflation today because producers are forward looking when they set prices. Higher future inflation provides an incentive for producers to raise prices today to smooth out price changes over time.[6] Inflation expectations depend on various factors, including whether firms anticipate future shocks in advance of their arrival and what beliefs they have about monetary policy responses to present and future shocks. While expectations are important, they are not the central part of our analysis.

Third, other factors may drive adjustment in prices today to be larger or smaller

[4] The parameters ϕ and β capture sensitivity of inflation to real marginal costs and expected inflation, and they are generally positive.

[5] We can write $rmc_t = \ln(MC_t/P_{Ht})$, where MC_t is marginal cost and P_{Ht} is the price level for domestically produced goods.

[6] One standard motivation for this term is that price adjustment frictions imply that individual firms may not be able to (or want to) adjust prices every period, so higher expected inflation leads producers who are able to adjust prices today to raise them now, given that they might not be able to raise them in the future. More generally, costs of adjusting prices that increase with the size of the price change deliver similar smoothing motives.

than these two previous forces imply, and this is captured in the residual σ_t. While this may initially sound like a "fudge factor" in the analysis, one useful interpretation of it is that it reflects the desired price-cost markups of firms. When firms find it optimal to set higher than normal markups, then σ_t will tend to be positive, leading to higher inflation. In the discussion below, we will stress how supply chain constraints may lead firms to optimally set higher markups, driving inflation.

With this broad set up, our plan is to discuss the cost channel in more detail, as it plays a prominent role in policy discussions about supply chain shocks and inflation. Then, we will pivot to identifying two important elements that are missing from this supply-side perspective on inflation and map these elements into a stylized (textbook-style) analysis of how supply chain shocks influence inflation through the interaction of aggregate demand and supply.

2.2.1. **Supply chains in the cost channel**

Conventional analysis of the role of international trade and supply chains focus on the cost channel for domestic goods. Broadly, domestic goods are produced by combining domestic factors of production (labor, capital, etc.) and imported intermediate inputs.[7] As a result, both higher domestic factor costs and higher imported input prices raise producer costs. Further, the importance of each factor depends on the share of them in total costs; if imported inputs constitute a larger share of costs, then fluctuations in those import prices matter more for overall costs.

To make these ideas concrete, consider a stylized setup. Suppose that domestic goods are produced under constant returns to scale by combining domestic factors (e.g., labor) and an imported input. Further, for simplicity, we restrict the production function to take a standard Cobb-Douglas functional form.[8] Then, we can write real marginal costs as follows:

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7 To be careful, most producers use domestic intermediate inputs in production as well. Because those domestic inputs are themselves produced using domestic factors, domestic intermediate inputs, and imported inputs, then one can think about output as ultimately produced by combining domestic factors and imported inputs. Thus, we abstract from intermediate layers of production in order to simplify the discussion below.

8 In this simplified setup, we assume that producers do not use domestic intermediate inputs. We relax this simplification of the domestic supply chain later.

$$rmc_t = \alpha\,(w_t - p_{Ht}) + (1 - \alpha)\,(p_{Mt} - p_{Ht}) \qquad (2)$$

where α is the share of the domestic factor in costs. The first term is log real wages: $w_t - p_{Ht}$. The second term is the log real price of inputs: $p_{Mt} - p_{Ht}$. In this special case where all inputs are imported, the input cost is tied to import prices, as in $p_{Mt} = \ln \tau_t + p_{Ft}$, where p_{Ft} is the (log) dollar price of imports and τ_t is one plus the ad valorem tariff rate.[9] Substituting in, we arrive at:

$$rmc_t = \alpha\,(w_t - p_{Ht}) + (1 - \alpha)\,(\ln \tau_t + p_{Ft} - p_{Ht}) \qquad (3)$$

The first term represents "domestic cost pressures" and the second term captures "import cost pressures." Though highly stylized, this formulation captures several key channels that have been emphasized in past work about the role of trade and global supply chain integration in driving inflation.

First, an increase in reliance on foreign inputs in production would lower the responsiveness of inflation to domestic cost pressures. In the formula above, a decrease in α lowers the weight on domestic cost pressures and makes domestic inflation more responsive to import (foreign) cost pressures. In one extreme case, if $\alpha = 0$, then producers only use foreign inputs in production, so domestic factor costs don't matter at all. On the flip side, if $\alpha = 1$—i.e., the economy is "closed" and producers don't import any foreign inputs—only domestic factor prices matter. Extrapolating these comparisons, as the economy becomes more open to imported inputs (α rises), the sensitivity of real marginal costs to domestic factor costs, and ultimately the sensitivity of inflation to those costs, is diminished. To see this formally, plug Equation (3) into (1), so then inflation (π_{Ht}) depends on real domestic factor costs ($w_t - p_{Ht}$) with a coefficient of $\phi\alpha$. As a result, a lower value of α—i.e., a higher share of imported inputs in production—would flatten the Phillips Curve relationship between domestic factor costs (or output and unemployment gaps) and inflation.[10]

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9 To simplify the exposition, we abstract from distribution costs in this setup, but these are accounted for as a separate domestic input in the models that we take to data.

10 Though not identical in detail, Obstfeld (2020) advances a similar argument along these lines, with references to related work. A distinct channel for trade in flattening the Phillips Curve is that import competition may alter the elasticity of demand, which factors into how producers pass-through cost increases to consumers. In Comin and Johnson (2021), we show that pro-competitive effects of trade may also appear as markup shocks in reduced form; as a result, failure to control properly

A second widely discussed force for disinflation is the expansion in global supply associated with the rise and integration of emerging markets (e.g., the BRICS group) into the global economy. This can be thought of as lowering the cost of foreign inputs (p_{Ft}) in the expression above. Naturally this directly reduces production costs, and more so if producers shift toward lower cost foreign inputs (leading α to fall) over time. In the Phillips Curve relation, this looks like downward shift in the Phillips Curve relation: Holding domestic cost pressures and all else constant, inflation would be lower.

This cost channel, which we will embed into a broader supply and demand framework below, is commonly cited by policymakers as the key to understanding the impact of trade and supply chain integration on inflation. To explain these cost decreases, Greenspan (2005) focused on how the integration of the former Soviet bloc, China, and India expanded global supply, driving down foreign unit labor costs and thus the cost of imports.[11] More recently, Carney (2017) links these changes directly to the canonical Phillips Curve setup, consistent with the discussion above: "The series of positive supply shocks from increased [ed: international] product and labour market integration cause parallel shifts down in the Phillips Curve."

Flipping this cost-shock logic around, recent episodes have run the cost shock in reverse. During the recovery from the COVID pandemic (2020-2022), supply chain disruptions plausibly increased the cost of imported intermediate inputs, including raw materials and energy, as well as sophisticated manufactured inputs like semiconductors. More recently in 2025, tariffs increased, principally in the United States, both on finished goods and inputs. In practice, tariff increases were largest in

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for these trade-induced markup changes can also lead to attenuated estimates of the Phillips Curve slope.

[11] Greenspan (2005) states: "Contributing to the disinflationary pressures that have been evident in the global economy over the past decade [ed: 1995-2005] or more has been the integration of in excess of 100 million educated workers from the former Soviet bloc into the world's open trading system. More recently, and of even greater significance, has been the freeing from central planning of large segments of China's 750 million workforce. The gradual addition of these workers plus workers from India–a country which is also currently undergoing a notable increase in its participation in the world trading system–would approximately double the overall supply of labor once all these workers become fully engaged in competitive world markets. . . the gradual assimilation of these new entrants into the world's free-market trading system has restrained the rise of unit labor costs in much of the world and hence has helped to contain inflation. . . this seminal shift in the world's workforce is producing, in effect, a level adjustment in unit labor costs."

some important input sectors—specifically, steel and aluminum had tariffs raised to 50% for nearly all countries, and tariffs on auto parts were raised to 25% for many countries. Further, China initiated retaliatory policies to restrict exports of rare earth minerals and derivative products (magnets). While these policies have been temporarily paused, they represent a threat of future increases in input costs for U.S. manufacturing industries.

2.3. What's missing from the supply-side perspective?

While the cost channel dominates policy discussions about trade, supply chain shocks, and inflation, there are two important elements that are missing. First, inflation is not determined on the supply side alone; demand matters, too. Moreover, supply-side shocks to supply chains may influence aggregate demand, and these (often overlooked) effects may push inflation in directions that seem counterintuitive from the pure supply-side perspective. Second, supply chain disruptions sometimes lead to binding constraints on production. In this event, the constraints themselves become the most important feature of the supply side in driving inflation, with important implications for policy.

We now highlight the core ideas, within a stylized aggregate demand and supply framework. This non-technical exposition is built upon the full technical analysis of these related questions in Comin and Johnson (2021) and Comin, Johnson and Jones (2023), together with on-going related research.

2.3.1. An AS/AD framework

To set the stage, let us briefly introduce/review the workhorse Aggregate Demand (AD) and Aggregate Supply (AS) framework that macroeconomists use to think about inflation.

In modern macro models, aggregate demand can be thought of as an inverse relationship between current inflation and the current level of output (or output gap). That is, the AD curve reflects the demand for short-run output ($\tilde{Y}_t$), which is decreasing in inflation ($\Pi_t = ln(P_t/P_{t-1})$).[12] The AD curve is also impacted by other variables not represented in the diagram. Most importantly for the discussion to follow, expectations of higher future income raise the demand for current output, all else equal, as consumers seek to smooth their consumption over time.

On the supply side, the Phillips Curve relationship in Equation (1), together with the discussion of consumer prices in Section 2.1, provide a relationship linking inflation to real marginal costs. Then, it is a small leap to say that real marginal costs—in particular, real wages—depend on the level of output, as higher output moves workers up their labor supply curves. To summarize the resulting relationship, the AS curve represents an upward sloping relationship between inflation (Π_t) and short-run output ($\tilde{Y}_t$).

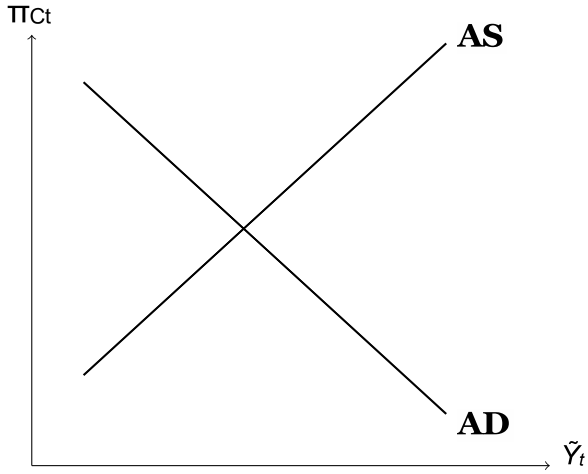
Figure 1 represents the stylized AD/AS model. The intersection of the two curves pins down equilibrium inflation and output today, as is standard. Now let us deploy this simple framework to think about the impacts of supply chain shocks and then modify it to introduce new problems related to capacity constraints within supply chains.

2.3.2. Supply shocks and aggregate demand

In this section, we seek to explain how the dynamics of supply shocks—e.g., changes in input tariffs, shocks to foreign unit costs, etc.—matter for inflation outcomes. We first illustrate the impacts of temporary shocks, which are a widely studied baseline. We then discuss how the analysis changes when shocks have persistent and anticipated components, which influence expectations.

12 To probe deeper, the AD curve represents a combination of an underlying "IS curve," by which current consumption depends negatively on interest rates, and a "monetary policy rule" that describes how central banks raise interest rates when inflation increases. Because consumer behavior underlies the IS curve and consumers are forward looking, expected future changes in consumption shift the aggregate demand curve. When future consumption is expected to be high, consumers seek to draw consumption forward (smoothing consumption over time), leading to a rightward shift in the AD curve. A second way to understand this result is that when consumption is expected to increase over time, then consumers want to borrow, which puts upward pressure on the "natural rate of interest," the interest rate that would prevail in a flexible price economy. Conditional on the current interest rate (controlled by the central bank), this raises aggregate demand, again shifting the AD curve right. Note that we abstract from investment behavior and government spending in this simple description, consistent with initial textbook presentations of aggregate demand.

Figure 1: Aggregate demand and aggregate supply



Current and temporary AS shocks: Reflecting on the discussion of the cost channel in Section 2.2.1, the AD/AS framework immediately delivers standard results about how shocks to supply chains—in particular, the cost of imported inputs—affect inflation. For example, suppose there is an immediate, temporary decrease in the cost of imported inputs. This is a "good" supply shock: It could be due to a true foreign supply shock (e.g., productivity improvements abroad) or decrease in tariffs on imported intermediate inputs.

In this case, the temporary nature of the shock implies that expectations about the future ought to be little changed, so the main effect of the shock is to change the current cost of production. Since the cost of production falls, the AS curve shifts down, as depicted in Figure 2a. As a result, output rises and inflation falls. That is, the shock is both disinflationary and expansionary.[13]

As we discussed above in Section 2.2.1, this analysis also accords well with how policymakers interpreted the globalization shock of the 1990's and early 2000's. In particular, by facilitating access to cheaper intermediate or final goods, globalization allows producers to produce a given level of short-run output at lower prices, inducing a downward shift in the AS curve.[14]

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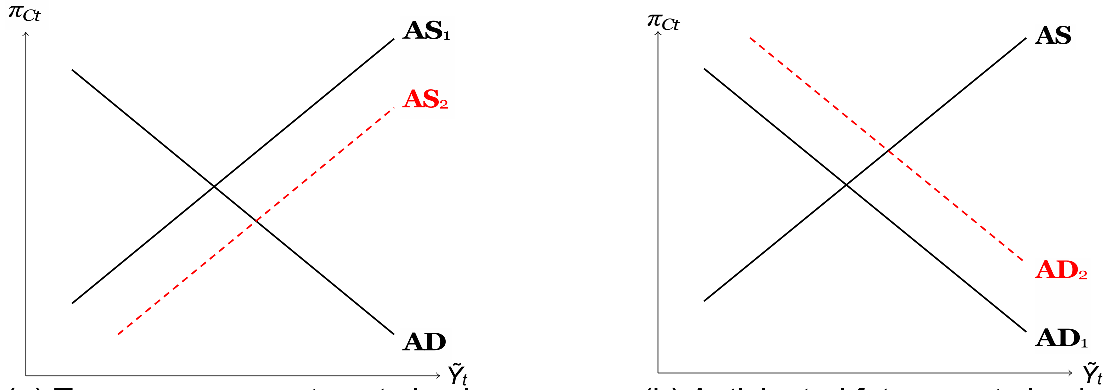
[13] Further, note that in the background, the response of monetary policy to inflation is built into the supply curve, so this has been implicitly taken into account.

[14] Bean (2007) makes exactly this point, with explicit reference to aggregate supply: "the availability

Figure 2: Current-temporary vs. anticipated-persistent cost shocks



(a) Temporary current cost shock (b) Anticipated future cost shock

Anticipated and persistent AS shocks: While the analysis of temporary AS shocks above yields useful insights, we believe it misses important characteristics about many real-world trade and supply chain shocks. For one, input shocks are often persistent (i.e., long-lasting), rather than temporary. For another, they often also have strong anticipated components, which means that agents know that costs are changing in the future, even if they have yet to change very much today.

To fix ideas, consider a stylized scenario. Suppose that an initially closed economy announces it will open up to international trade, and this opening will occur slowly over time. For example, countries that enter free trade agreements negotiate and publicly incorporate the agreements into law long before they are implemented. Further, said agreements are typically phased in slowly over time; due to the sluggish adjustment of trade, even elements implemented immediately usually do not have immediate impacts on sourcing patterns. In this scenario, one would then expect the cost of imports to fall slowly over time. As a result, aggregate supply and income will be higher in the future than they are today.

In the AD/AS diagrams, these changes would manifest as follows. First, the aggregate supply curve today is largely unchanged because there is no change in

of cheap imports from Asia has acted very much like a positive supply shock, boosting potential supply... So a fall in the price of imports relative to domestic goods allows workers to enjoy higher real wages without any cost to their employers. This then tends to raise the equilibrium level of employment in the economy."

unit costs today— the liberalization results in lower future costs.[15] Second, the anticipation of higher future income raises aggregate demand today, shifting the AD curve right, as depicted in Figure 2b. That is, consumer demand is increased by the anticipated increases in future income. As a result, short-run output today is higher and inflation increases. The counterintuitive result is that anticipated enhancements in supply chains are inflationary.

Reading this result against the prior discussion about temporary shocks, the relevant question is: How should we interpret past and current events? Do they look more like temporary cost shocks or anticipated, persistent changes in supply? We delve into this question below.

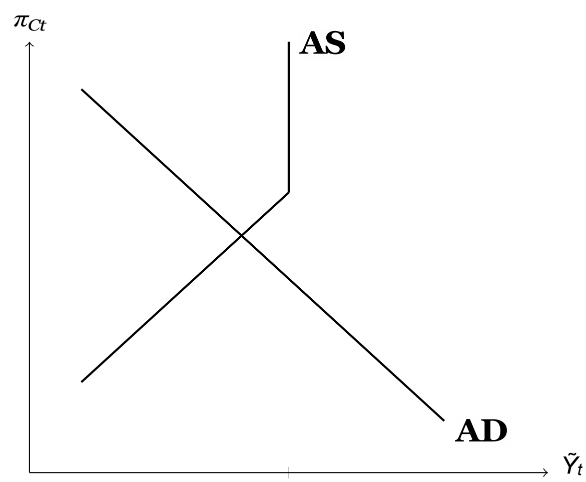
2.3.3. Supply chain constraints

We now extend the canonical framework to address new concerns about supply chain constraints. Specifically, in Comin, Johnson and Jones (2023), we developed an extended production framework in which firms are subject to occasionally binding capacity constraints, which limit how much output firms can produce at any given point in time. These constraints stand in for many possible underlying supply chain concerns. For one, production often requires critical inputs which may be in fixed supply at a given point in time, for which there are no substitutes. As such, supply of those critical inputs (even if they account for a small share of the value of output of the firm) may serve as a binding constraint. More specifically during the COVID period, there were also a myriad of restrictions on normal operations; social distancing regulations that limited the number of workers on each shift would also limit the capacity of firms to produce. For these reasons and others, firms likely do not have unbounded ability to supply output. Moreover, the amount of output a firm can produce may be subject to shocks. For example, disruptions in supplies of critical inputs to the U.S. economy may have led to a tightening of the constraints firms faced.

[15] A subtle point is that the location of the Aggregate Supply curve depends on expected inflation. To simplify, we ignore this channel in the narrative here, though it is taken into account in the full analysis in Comin and Johnson (2021). We show that when changes in globalization are anticipated and sufficiently persistent, shifts in the AD dominate those in the AS.

Translating this idea into the analysis of aggregate supply, firms are unable to supply more output, no matter the price. Thus, the capacity constraint introduces a kink into the firm's supply curve. When the firm's capacity is exhausted, the firm maximizes its profits by raising its output price to the level that buyers are willing to pay for its constrained output. This price may well be far above the marginal cost of production for the last unit produced, which implies that markups may increase substantially. Put differently, in normal times firms maximize profits by setting prices to achieve an optimal markup over marginal cost—a different price would change consumer demand and thus production, leading to lower profits. But when firms are producing at maximum capacity, the profit-maximizing price becomes the one that clears the market, which results in higher markups.

Figure 3: Aggregate demand and aggregate supply with capacity constraints



To link this to the Phillips Curve from Equation (1), binding constraints induce "markup shocks" in reduced form—changes in σ_t—that drive inflation up relative to marginal costs. In fact, when firms are constrained, the shift in pricing behavior of the firms leads σ_t to change dramatically—essentially inflation is whatever it needs to be in order to clear the goods market at the constrained level of supply. To represent this in a simple way, one can think of this mechanism as inducing a kink in the upward sloping aggregate supply relationship. We depict this kinked aggregate supply curve in Figure 3, where $\tilde{Y}_t$ is the constrained level of output.[16]

With this setup, note that we have drawn Figure 3 such that the supply constraint is slack in the initial equilibrium. Think of this as representing “normal times.” Then, one can run into a problem for either of two reasons. First, shocks to capacity shift the vertical segment of the supply curve; a negative shock to capacity that leads $\tilde{Y}_t$ to fall could lead aggregate demand to fall on the vertical segment of the supply curve. If $\tilde{Y}_t$ falls a lot, then this would drive output down and inflation up. Second, large increases in demand—rightward shifts of the aggregate demand curve—may also trigger binding constraints. In this scenario inflation again rises, as does output. However, the increase in output is smaller than one might otherwise expect from the change in demand. That is, the increase in demand is primarily absorbed as higher prices rather than higher output.

Note that this discussion implies that the impact of demand shocks may be state contingent. For example, if capacity ($\tilde{Y}_t$) is abundant—well above the initial equilibrium level of output—then an increase in aggregate demand has a moderate positive effect on both inflation and output. In contrast, if constraints are binding or nearly so ($\tilde{Y}_t$ is at or just above the initial equilibrium level of output), then the same demand shock would cause a surge of inflation, with essentially no output response. Thus, one can obtain highly non-linear effects of demand shocks in this framework, depending on whether capacity is tight or not. To foreshadow the discussion to follow, our reading is that the COVID disruptions tightened capacity, such that positive demand shocks (associated with fiscal and monetary stimulus) triggered the constraints, leading to the sudden inflation surge.

[16] To sketch some technical details, the underlying model (Comin, Johnson and Jones (2023)) features one regime in which constraints are slack. In this case, think about the Phillips Curve as having $\sigma_t = 0$, where firms set sticky prices under monopolistic competition with an ideal (flexible price) markup that is constant. Then, the second regime features binding constraints. In this case, the pricing regime switches, whereby firms price to demand. Then, one can implicitly solve for the reduced-form “markup shock” (σ_t) that describes the wedge from the unconstrained Phillips Curve and realized inflation. In this sense, σ_t is an endogenous variable, which adjusts to give rise to the vertical segment of the Phillips Curve.

3. Applying the framework

Next, we put the framework to work and use it to explore three episodes: (i) the increase in globalization that occurred during the late 1990s and early 2000s, (ii) the recent increase in tariffs during the second Trump administration, and (iii) the surge in inflation during the post-COVID economic recovery.

3.1. Globalization and Inflation

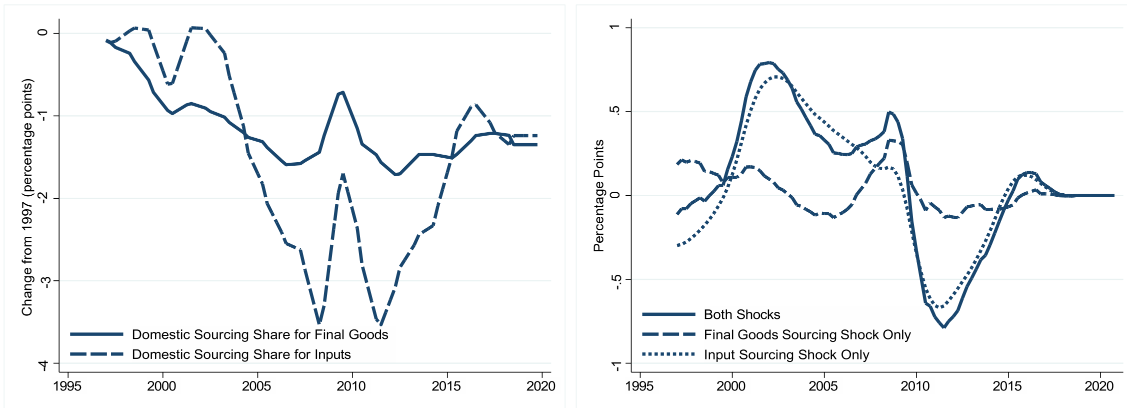
What was the effect of globalization on inflation? In the light of the discussion of section 2.3.2., the answer to this question depends on whether globalization is better characterized as a sequence of unanticipated shocks or as a gradual process which was largely anticipated by agents.

Figure 4a plots the evolution of the share of expenditure on domestically produced goods and services in the United States over time. To interpret the units, we plot log changes in these shares from the fourth quarter of 1996 to each date in time. In both series, there is a significant decline in domestic sourcing (i.e., greater globalization) from 1997 until 2008, with the share of spending on domestic goods falling by about two percentage points for goods and over three percentage points for inputs. To interpret these magnitudes, note that this is an aggregate share, which includes spending on largely non-traded services. Therefore, under the hood, the domestic share of spending for goods falls by 10 percentage points (more for final goods) during this same time. Then, after the Great Recession, there is a reversal in the domestic sourcing share for inputs.

Our view is that the long-run nature of these changes, tied to observable policy, institutional, and structural changes, likely meant that they were largely anticipated and perceived to be persistent in nature. For example, the decline in domestic sourcing took place as globalization took off, which was widely understood to be reshaping global economic geography. Important observable drivers included China's growth and accession to the World Trade Organization (WTO), the rise of emerging market economies more generally, the anticipated development of technologies that drastically reduced the communication and transaction costs with plants offshore, and the phased liberalization of trade policies around the world.

Figure 4: Domestic sourcing shares for final and intermediate goods and simulated inflation

(a) Changes in Domestic Sourcing (b) Simulated Inflation



Note: Panel (a) presents the approximate change (log difference) in the share of U.S. expenditure for final goods and intermediate inputs allocated to domestically produced goods and services. Panel (b) is simulated inflation in response to these changes in domestic sourcing. The figures are reproduced from Comin and Johnson (2021). See that paper for discussion of data sources and details underlying the model simulation.

Given this characterization, the discussion in Section 1 implies that the globalization phase should be inflationary. To recap, anticipation of a more globalized economy likely induced a wealth effect in the late 1990s and early 2000s that raised aggregate demand. Further, in the early years, this increased demand manifested before the globalization actually occurred, meaning that aggregate supply was as yet unchanged. In later years, this demand effect competes with the realization of improved global supply conditions, which tends to lower inflation. The net impact then is a quantitative question, which we address through simulations of an economic model.

In Comin and Johnson (2021), we quantify the impact of these developments by feeding the series of the home share of final and intermediate goods into a model that embeds the core elements of Section 1 into a fully dynamic equilibrium setting. We then compute the response of inflation to these developments. Figure 4b presents the results. The solid line records inflation when domestic sourcing for both final goods and inputs changes in the model, while the dashed lines record simulated inflation for each shock separately (i.e., fed into the model one at a time). With both shocks active, inflation doesn't change much at the outset (1997-2000) but then rises by about 75 basis points after the year 2000 and by 2005 globalization still causes inflation to be 0.3 percentage points higher than if homes shares had been at the 1997 levels. The path of inflation reflects the impact of changes in final goods and input sourcing. Both contribute to high inflation in the early 2000s, though the role of inputs is far larger. Then, after 2010, there is a retreat in inflation coincident with the turn in the globalization trend, toward higher levels of domestic sourcing inputs and a leveling off of the rise in imported final goods.

3.2. Tariff shocks and inflation

Analyzing the outcomes of recent tariff shocks is an ongoing challenge for researchers for several reasons. First, only a short time has yet passed, and the impacts will take time to materialize. For example, there has been much discussion about whether tariff changes to date have been passed through to domestic prices; though we touched on this topic briefly above, we have not explored it at length. Second, the policy has been implemented in a stop-start manner, with announcements ahead of implementation, and then various pauses and renegotiation of applied tariffs along the way. Finally, the policy situation is still unsettled almost a year in, with important legal questions being adjudicated and uncertainty about whether Congress will reassert its constitutional prerogatives over taxation of trade. Against this muddy background, we will make a few basic points about how the AS/AD framework presented in Section 2.3.2 may be used to organize discussion of the impacts of tariffs on inflation.

To start, we note that many policy discussions, by policymakers themselves and academic economists, have concluded that the 2025 tariffs introduced by the Trump administration will be "stagflationary."[17] Interpreting these conclusions using the AD/AS framework, our view is that this conclusion reflects a tacit view that tariffs have led to an aggregate supply (AS) shock. Specifically, if there is an immediate, temporary increase in tariffs on imported intermediate inputs, then the AS curve shifts

[17] https://www.cbsnews.com/news/trump-tariffs-inflation-gdp-stagflation-concerns/.

up, and thus output falls and inflation increases. This is a standard stagflationary cost shock, driven by imported input prices.[18] In the academic literature, transitory tariff shocks have been analyzed in contributions by Auclert, Rognlie, and Straub (2025), Bianchi and Coulibaly (2025), Bergin and Corsetti (2023), Monacelli (2025), and Werning, Lorenzoni, and Guerrieri (2025), among others.[19]

Consistent with this analysis, Federal Reserve Chairman Jerome Powell has recently (September 2025) highlighted that "near-term risks to inflation are tilted to the upside and risks to employment to the downside."[20] While this overall assessment reflects various factors, Powell highlights tariffs as an important contributor to this situation. He states: "Goods prices, after falling last year, are driving the pickup in inflation. Incoming data and surveys suggest that those price increases largely reflect higher tariffs rather than broader price pressures." Further, Powell clearly is interpreting the impacts of tariffs in a manner similar to the simple temporary cost-shock analysis here. Specifically, he has said: "A reasonable base case is that the tariff-related effects on inflation will be relatively short lived—a one-time shift in the price level."

In contrast to this predominant view, we think it is worthwhile to interrogate whether it is correct to view the tariffs as a temporary shock. An alternative interpretation of the 2025 tariff shock is that it signals a long-term turn away from trade, which will lead to a slow unwinding of globalization over time. In this view, the shock could instead be interpreted as a downward revision in expected future trade—i.e., "bad news" about future openness, resulting in lower trade and income in the long run than in the short run. As we emphasized in Section 2.3.2, expectations of

[18] Note that the same results would be obtained if there were a temporary, negative foreign supply shock; for example, an earthquake that temporarily knocks supply offline in a major trading partner. While we focus on a cost shock for imported inputs in the text, similar results hold for temporary shocks that affect the price of imported final goods instead. To see this, consider one-time, temporary increase in the cost of imported consumer goods (e.g., due to increased tariffs on imported consumption goods). To interpret this, recall that that consumer price inflation is on the y-axis in the AD/AS diagram, and consumer price inflation directly depends on import prices. Then, an increase in import price inflation raises consumer price inflation, for any given value of domestic price inflation, which appears again like an upward shift in the aggregate supply curve. And again, output falls and inflation increases.

[19] While transitory shocks are often the benchmark, some also analyze unanticipated, permanent tariff shocks, under which trade immediately jumps on impact.

[20] https://www.federalreserve.gov/newsevents/speech/powell20250923a.htm.

future de-globalization would lead aggregate demand to fall today, lowering inflation. This slow de-globalization scenario, where the full impacts of the tariffs are larger in the long run than the short run, strikes us as imminently plausible. One reason is that it would be broadly consistent with an important stylized fact in the international economics literature, which documents that the long run response of trade to tariff changes is larger than the short run response (see Boehm, Levchenko, and Pandalai-Nayar (2023) for example).

The alternatives can then be framed as follows. If Trump administration trade policies lead to a phased reduction in trade over time, then inflation would be lower in anticipation of those changes. In contrast, if policies enacted by the Trump administration only temporarily restrict trade (e.g., suppose that future policymakers will reverse course), then those same policies may push inflation higher.

In light of these alternatives, it is interesting to conclude with the following question: What can we learn from financial markets about the likely expected effects of Trump tariffs on inflation? One useful indicator would be the change in market inflation expectations. If the markets view the shock as stagflationary, one would expect inflation expectations to rise over short- and medium-term horizons, even if they are anchored in the long run. In contrast, if markets perceived the shock as “bad news” about the medium level of openness of the U.S. economy, then expected inflation might fall. In fact, in a tight interval of time around “Liberation Day” in April 2025, five-year-ahead break-even expected inflation (measured by the spread between U.S. TIPS (inflation-protected) and regular) fell, signaling that markets expected lower inflation over the medium term. This is broadly consistent with the story we told about globalization raising inflation above, where now the Trump shock can be interpreted broadly as a de-globalization shock with persistent and anticipated effects that lower the level of U.S. income over time.

3.3. Inflation during the post–COVID recovery

The COVID-19 pandemic in 2020 caused tensions both in domestic and international supply chains as it limited the ability of firms to obtain critical intermediate goods and to combine them with capital and labor. Yet, it was not until 2021 that advanced economies, including the U.S., experienced a surge in inflation. Comin, Johnson, and Jones (2023) use a sophisticated version of the framework with potentially binding supply chain constraints to study (i) whether capacity constraints were binding, (ii) what impact capacity constraints had on inflation, and (iii) the contribution to various supply, demand, and policy shocks to inflation. We summarize these findings in turn.

Were constraints binding? To understand how we measure the importance of binding constraints, it is useful to think about the potential value of relaxing those constraints. Simply speaking, if a constraint is slack—i.e., the amount of output the firm chooses to produce is less than its capacity level—then increasing capacity has no value (to a first order), as it does not change optimal prices set by the firm or the actual level of output.[21]

In contrast, when a capacity constraint binds, firms would potentially be willing to supply more output but are unable to do so. In this case, the calculus of the firm's problem changes: The value of increasing capacity is positive when the constraint binds, and the more positive it is tells us how intensely the constraint binds. One way to recover that value is to look directly at the firm's pricing decisions: When firms are constrained, they set higher markups given other fundamental determinants of prices (real marginal costs, expected inflation, and so on). Then, it turns out that one can measure the importance of the constraints (the value of relaxing them) by looking at the residual "markup shock"—the σ_t term—in Equation (1).

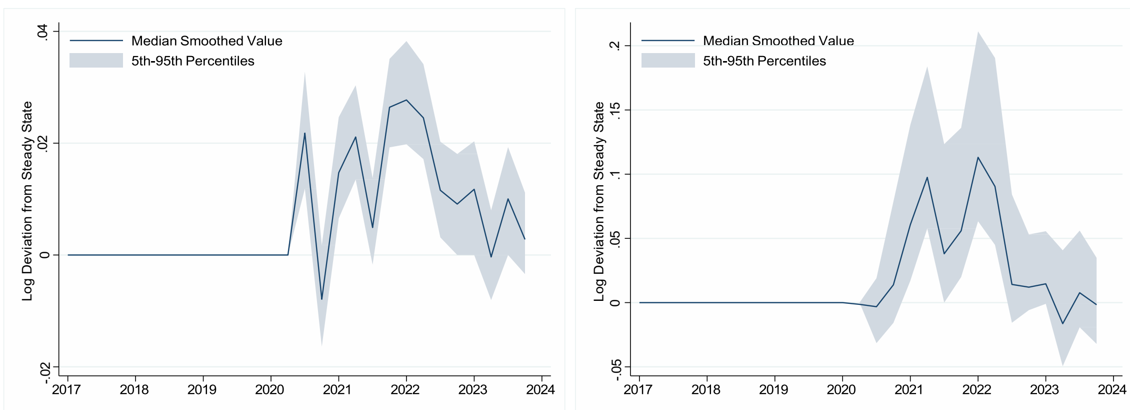
Building on this idea, Comin, Johnson, and Jones (2023) explore the role of two potentially binding capacity constraints—one that restricts production of domestic goods and a second that restricts production of foreign intermediate goods. Figure 5 plots the value of relaxing constraints at different points in time, as revealed by the structural estimation of our model using U.S. macro data. As a matter of interpretation, the units in the figure are comparable to units of inflation. In the left panel, a reduced-form markup shock (σ_t) with magnitude .02 would raise inflation for domestically produced goods by two percentage points on impact, all else equal. In

[21] Excess capacity may have value for precautionary reasons, but these are excluded from our quantitative analysis, by our choice of first-order approximate methods to solve the model.

the right panel, an import markup shock with magnitude .10 raises inflation for imported inputs by ten percentage points on impact. However, because imported inputs are a small share of the value of domestic production, the ultimate impact of that import price change on inflation for domestically produced goods is substantially smaller, roughly one percentage point.

Figure 5: Smoothed values for the reduced-form markup shock implied by the multipliers on constraints

(a) Domestic constraint (b) Foreign constraint



Note: These figures are reproduced from Comin, Johnson, and Jones (2023).

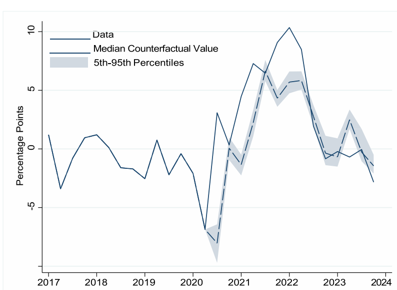
Starting with the import side, constraints appear to be slack in 2020, then bind sharply at the start of 2021, relax somewhat, then bind sharply again into 2022, and ease in the latter half of 2022. Domestic constraints are alternatively binding then slack in 2020, corresponding to plausible gyrations in the U.S. economy, with shutdown orders triggering binding constrains early in 2020 with slacking of those constraints thereafter, where constraints appear to be slack heading into 2021. The model then reveals that constraints bind with rising intensity through 2021 into 2022 and then slacken into 2023. Therefore, we conclude that both domestic and foreign capacity constraints were binding for most of the period from 2020 until the end of 2023.

How much did capacity constraints affect inflation? To quantify the effect of capacity constraints on inflation, Comin, Johnson, and Jones (2023) conduct a counterfactual analysis that computes how inflation would have evolved in the absence of capacity constraints given the path of realized shocks that we infer hit the U.S. economy after 2020. Figure 6 presents results for aggregate consumer price inflation, along with separate results for goods and services. In both sectors, we observe significantly lower inflation in the counterfactual where capacity constraints are slack. Naturally, both domestic and import constraints play a role in driving goods price inflation, as the goods sector relies on imported inputs.

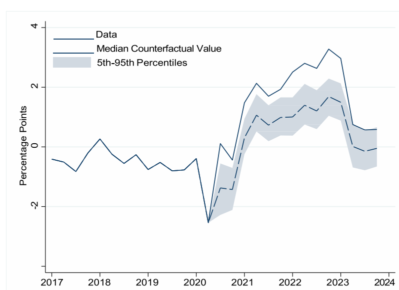
One surprising conclusion from the analysis is that constraints in the goods sector not only boosted goods price inflation itself, which is not terribly surprising, but they also boosted inflation in services. One reason for this is that services use goods as inputs in production, so there was a spillover through the domestic production network. In addition, tighter constraints in the goods sector also led to increased demand for labor, as firms tried to substitute labor for intermediate inputs in production, which then also impacts the cost of producing services. Overall, our findings suggest that binding capacity constraints were responsible for approximately half of the abnormal inflation experienced during the post-COVID period.

Figure 6: Counterfactual consumer price inflation without capacity constraints

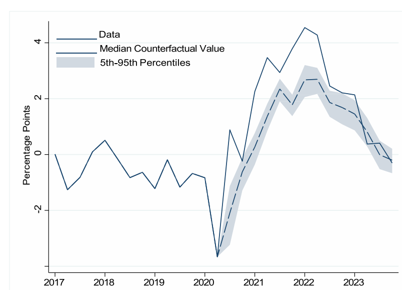
a. Goods inflation



b. Services inflation



c. Aggregate inflation



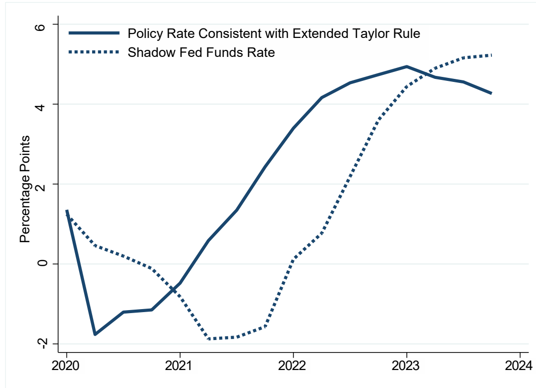
Note: These figures are reproduced from Comin, Johnson, and Jones (2023).

What role did monetary and fiscal shocks play? To investigate how important particular kinds of shocks were in explaining the inflation surge, we distinguished four types of shocks: demand shocks (including fiscal, discount rate and goods-biased preference shocks), monetary policy shocks, capacity shocks, and cost shocks (including domestic productivity and foreign cost shocks). We found that temporary negative demand shocks reduced inflation during the initial phases of the economic shutdown in 2020, but then these effects reversed rapidly. In the third quarter of 2020 when the economy re-opened, negative capacity shocks pushed inflation higher.

Then, rolling into 2021, capacity constraints were tight at the same time that demand recovered strongly, fueled by policy stimulus. First and foremost, monetary policy played an important role in leading the economy to bump up against its constraints. We have found that expansionary monetary policy shocks, together with tight capacity, led inflation to increase by about four percentage points in 2021. Into 2022, the monetary policy shocks dissipate as the Federal Reserve raised interest rates, and inflation fell rapidly. Thus, the dynamics of monetary policy appear to be the most important driving force behind the rapid rise and subsequent fall in inflation. To illustrate these dynamics, Figure 7 plots the effective Federal Funds rate along with the interest rate prescribed by a Taylor-type rule.[22] As is evident, the spread between the two expanded over the course of 2021, reaching 400 basis points at peak. Once the Federal Reserve started tightening policy toward the end of 2021, the gap closed but remained sizable through the end of 2022.

[22] Specifically, we plot the Wu and Xia (2016) shadow Federal Funds rate, which captures not only the nominal interest rate target of the Federal Reserve, but also the impacts of supplemental policy tools on the effective interest rate. These unconventional tools may push the effective interest rate below zero.

Figure 7: Comparing the policy interest rate to the extended Taylor Rule



Note: This figure is reproduced from Comin, Johnson and Jones (2023).

Second, we also found that fiscal policy played a non-trivial role in stimulating inflation in late 2020 and into the first quarter of 2021 as the American Rescue Plan Act of 2021 took effect. However, fiscal stimulus tapered rapidly during the latter half of 2021, as fiscal transfers waned and the budget deficit moved back toward its normal level. As such, our quantitative results suggest that fiscal policy played only a secondary role in explaining the sustained inflation surge through 2021 into 2022. Reflecting the discussion above, the model suggests that monetary accommodation was the pivotal factor during the latter parts of the inflation surge and subsequent retreat in 2023-2024.

4. Current and future policy issues

In this section, we extract lessons from the core framework that are useful for thinking about current and future policy issues. We start with a discussion of fiscal and monetary policy in an economy with potentially-binding supply chain constraints. We then comment on the potential for supply chain disruptions in the future.

4.1. Fiscal and Monetary Policy with Supply Constraints

What takeaways should policymakers draw from the discussion thus far? The first lesson is that in times of supply chain distress, when capacity may be limited, fiscal and monetary policy may trigger capacity constraints. If policy shocks trigger constraints, they will directly increase inflation more than would usually be the case in normal times. Further, if one policy shock triggers the constraints, then it will amplify the impacts of secondary policy and non-policy shocks on inflation. Put differently, the effects of policy shocks may not be additive; rather they may compound in unexpected ways, leading to sharply non-linear changes in outcomes.

However, the interplay between capacity constraints and monetary policy runs deeper than just affecting the likelihood that constraints bind. We have already seen that capacity constraints affect the shape of the AS curve. This suggests that the optimal monetary policy rule changes when capacity constraints bind. To study this issue requires solving analytically for (i) the relationship between the output gap and capacity, and (ii) the Phillips curve when capacity is binding. In Comin, Johnson, and Jones (2025) we do that in the context of a simple version of the framework described in Section 1. We show that, when constraints bind, the Phillips curve is shifted upwards and it is steeper, resulting in a larger level of inflation for any given output gap.

Given this, a monetary authority that wants to balance the dual goals of closing the output gap and keeping inflation as close as possible to a fixed target must, other things equal, unambiguously set interest rates higher when constraints bind. This is the result of two effects that reinforce each other. On the one hand, a higher intercept in the Phillips curve leads, other things equal, to greater inflation. On the other, a steeper Phillips curve makes inflation particularly sensitive to lowering the output gap. Hence the desirability of cooling the economy when constraints bind.

Of course, this prescription is at odds with the very expansionary policy that the Fed conducted in 2021 and much of 2022, as illustrated by Figure 7. So, going forward, policymakers ought to consider supply capacity as they formulate stimulus. This is a warning about what not to do next time.

4.2. Supply chain constraints in the future

Our analysis of supply chain constraints has focused on the important, realized disruptions during the COVID pandemic and recovery. An important question is: Was COVID a one off supply chain disruption event, or are similar supply chain constraints likely to manifest again in the future?

One feature of the COVID shock which makes it different than most historical supply chain shocks was that the supply chain constraints were pervasive, touching many sectors of the economy due to the unusual aggregate nature of the shock. For example, port congestion affected all seaborne imports, not just imports of particular industry. Shutdown and social distancing orders affected most manufacturing plants. And so on.

Going forward, we could experience systemic shocks like the COVID shock again, but it seems relatively unlikely. Instead, the more immediate concerns are related to shocks that are more granular in nature—that is, shocks that hit a subset of the manufacturing sector. For example, shocks to the supply of rare earths and derivative products, or shocks to semiconductor supply, or disruptions due to port strikes and canal blockages (e.g., like the 2021 Suez disruption). These are more similar in nature to the shocks that followed the Japanese earthquake in 2011, which had large effects in some industries (e.g., automotive sectors, due to Japan's large role in that industry).

There are important open questions about how these kinds of granular shocks are propagated to the rest of the economy through input linkages. This may depend in subtle ways on the exact nature of what is disrupted, prospects for substitution of that input, the length of disruptions (whether inventories can carry firms through the disruption), how disruptions cascade forward in the production chain, and so on. All these factors determine whether isolated input disruptions translate into macroeconomically relevant binding constraints.

5. Conclusion

Supply chains are a defining feature of modern production processes. This reality has important implications not just for the evolution of real variables like output and employment but also for the dynamics of nominal variables such as inflation. Analyses based on frameworks that ignore the important role that supply chains play are bound to fail both on positive and normative fronts.

The conceptual framework we have developed and applied in this paper sheds new light on the impact that supply chains have had on inflation dynamics over recent decades. The protracted and anticipated nature of changes in trade during the age of globalization may have led to an expansion of domestic demand and greater inflation over the first half of the 2000s. Conversely, the anticipation of higher future tariffs would decrease aggregate demand, depressing inflation in advance. Supply-chain disruptions, together with the increase in demand caused by expansionary monetary policy, made capacity constraints bind, driving inflation up between 2021 and 2024 to levels unseen since the 1970s. A key normative lesson from recent history is that the possibility of binding capacity constraints should be a relevant consideration in the minds of central banks. When constraints are binding, then monetary policy ought to lean hard against the inflation that results.

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