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Is an 'Immaculate Disinflation' Within Reach?

By Vivekanand Jayakumar, Ph.D.



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After reaching forty-year highs, U.S. inflation rates have declined sharply over the past year and a half. The CPI-based headline inflation rate peaked at 9% and the PCE-based headline inflation rate peaked at 7.1% in June 2022 (see Figure 1). By early 2024, the headline CPI-based inflation rate was fluctuating in the 3-3.5% range and the headline PCE-based inflation rate was hovering around 2.5%. Intriguingly, this rapid disinflation was achieved without much deterioration in labor market conditions – the official (U-3) unemployment rate remained under 4% during this entire phase.

Economic growth also remained solid – quarterly real GDP growth rate was over 2% (on an annualized basis) during the entire 2022Q3-2023Q4 period (see Figure 2). Such 'immaculate disinflation' was accomplished amid an unusually rapid central bank rate hiking cycle that saw the target range for the Federal Funds Rate go from 0.00-0.25%

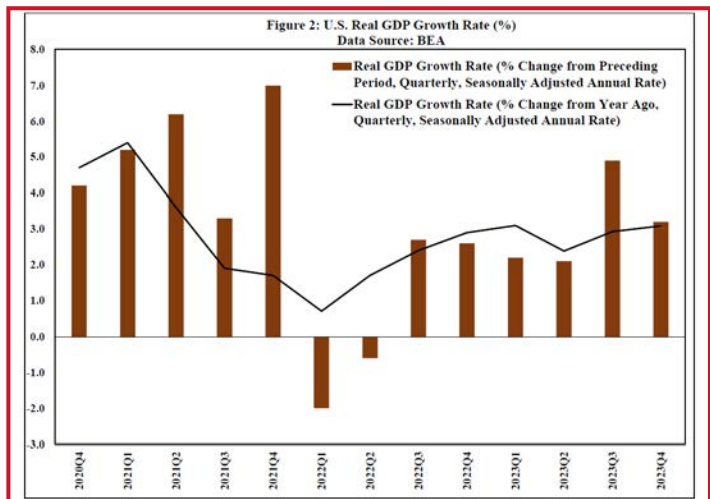
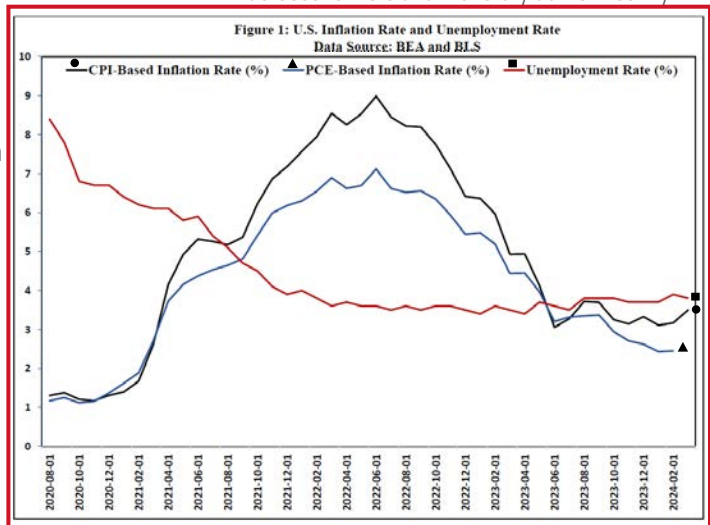
in March 2022 to 5.25%-5.50% in July 2023 and remain there ever since (see Figure 3).

These unexpected, albeit positive, developments have caused some puzzlement among both macroeconomists and monetary authorities. By

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the U.S. economy blew past expectations in 2023 (annual GDP growth rate in 2023 was 2.5%, markedly above the 1.9% achieved in 2022).

We are thus faced with two key macroeconomic puzzles. First, why did 525 basis points of interest rate hikes fail to have much effect on real economic activity? Has something fundamentally changed regarding the monetary transmission mechanism (MTM)?

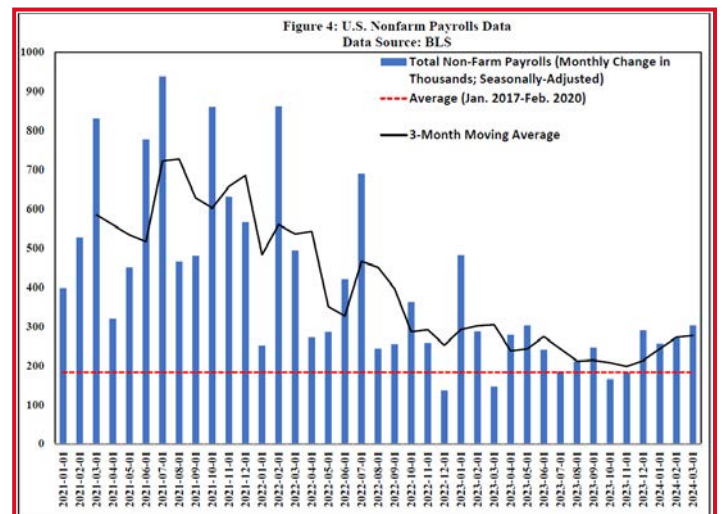
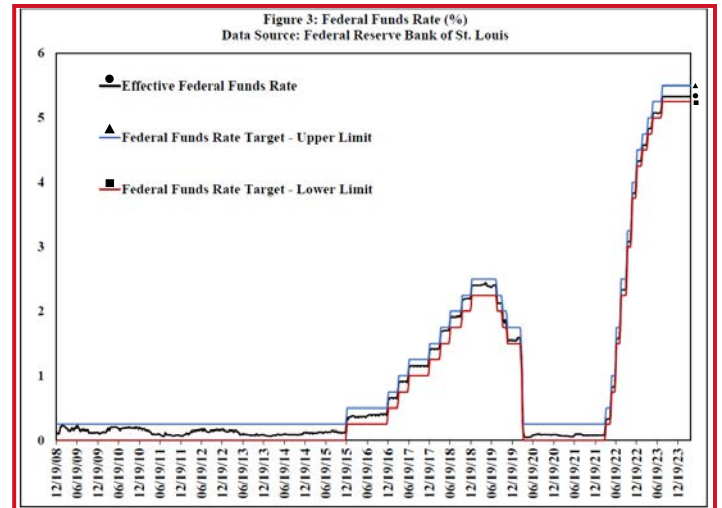
Second, has there been a breakdown in the relationship between inflation and unemployment? Prominent economists had argued that a substantial increase in unemployment rate would be necessary to bring inflation under control.¹ Yet, significant disinflation was achieved amidst robust job growth (see Figure 4) and persistently low unemployment rate.

Before directly addressing these puzzling developments, it is necessary to highlight a few key distortions that were introduced by policymakers during and after the 2020 pandemic shock. It is worth noting that the brief 2020 U.S. recession (which lasted between February 2020 and April 2020) was not caused by shifts in underlying economic forces. It was largely a "man-made" recession – the downturn was triggered by government responses to the pandemic, which included lockdowns, discouragement of face-to-face interactions, and drastic curtailment of the normal flow of goods and people across borders. Furthermore, both fiscal and monetary authorities undertook unprecedented levels of peacetime stimulus to avoid a collapse in private sector confidence and to maintain the purchasing power of large segments of the society.

Due to the unusual nature of the pandemic shock, and the scope and magnitude of the associated policy response, traditional recession and recovery patterns turned out to be unreliable guideposts. This time around, normally dependable statistical relationships consistently failed to aid forecasters in their attempts to foretell macroeconomic developments. It is therefore essential to identify the idiosyncratic features of the current business cycle to better grasp the unique aspects of the post-pandemic recovery.

To address the first major macroeconomic puzzle of the post-pandemic cycle (the failure of rapid and significant interest rate hikes to materially slowdown real economic activity), we need to evaluate the distortionary factors that appear to have substantially impacted the MTM. Typically, economists consider six channels through which monetary policy shifts affect the real economy. The Federal Reserve (or any other major central bank) can directly affect short-term nominal interest rates but must often rely on indirect forces to affect long-term nominal interest rates. Furthermore, to ultimately affect real interest rates, central bankers must also influence inflation expectations.

the end of 2022, a widespread consensus had emerged around the notion that an economic hard landing was inevitable given the speed and magnitude of the Federal Reserve's rate hikes. Yet,



The primary channels through which short-term policy rate changes initiated by central banks can affect the real economy include the interest rate channel, the wealth channel, the balance sheet channel, the bank lending channel, the risk-taking channel, and the exchange rate channel. Shifts in the underlying structure of the economy (or fundamental changes in the financial system) can affect the relative significance of each of these transmission mechanisms.

The interest rate channel is the most direct channel through which policy-induced changes to short-term money market rates affect the real economy. In essence, changes to policy interest rates (federal funds rate target, interest on reserve balances, and the overnight reverse repo rate) directly impact money market rates, and indirectly affect the deposit and lending rates set by banks and other financial intermediaries. Additionally, by offering guidance on the future direction of short-term rates, the central bank can influence long-term nominal interest rates (in theory, long-term

nominal bond yields are assumed to reflect the geometric mean of the yields on a series of short-term bonds plus a term premium to compensate for the additional risks associated with holding long-term debt securities).

If inflation expectations remain stable and well-anchored, nominal interest rates movements directly feed into real interest rate changes. Changes in real interest rates are then expected to impact the spending behavior of households and businesses. For instance, facing higher real borrowing costs, households may scale back their spending on housing, automobiles and other durable goods, and firms may decide to reduce new capital investment or even delay some activities.

The interest rate channel was significantly muted during the recent rate hike cycle due to a couple of key factors. Ironically, the Federal Reserve's overly aggressive stimulus response to the pandemic shock appears to have been a factor. After lowering policy rates to near-zero levels in March 2020, the central bank engaged in large-scale purchases of long-dated Treasury securities and mortgage-backed securities (its balance sheet expanded from around \$4 trillion at the beginning of 2020 to nearly \$9 trillion by early 2022). These so-called quantitative easing (QE) measures, alongside public pronouncements (referred to as forward guidance) that ultra-accommodative monetary policies would be maintained for an extended period, caused the average 30-year fixed mortgage rate to fall under 3% (it reached a record weekly low of 2.65% in January 2021), and the yield on the benchmark 10-year T-note to drop below 1% (the benchmark yield remained under 1% for much of 2020 and did not exceed 2% until early 2022). Such historically low rates (see Figure 5) allowed many households and businesses to lock in exceptionally low borrowing costs. A large segment of the private sector was thus largely shielded from the full impact of the rate hikes undertaken by Federal Reserve in 2022 and 2023.

Furthermore, due to elevated inflation rates, the real policy interest rate (defined here as the difference between the effective federal funds rate

and the trimmed mean PCE inflation rate) did not reach positive levels until May 2023 (see Figure 6). Hence, a reasonable argument can be made that, even though the Federal Reserve initiated nominal policy rate hikes in March 2022, monetary policy did not become truly restrictive until Summer 2023. Some have also suggested that the economy's equilibrium real interest rate (r -star) may have risen sharply and thus raised the bar for achieving constrictive monetary policy.

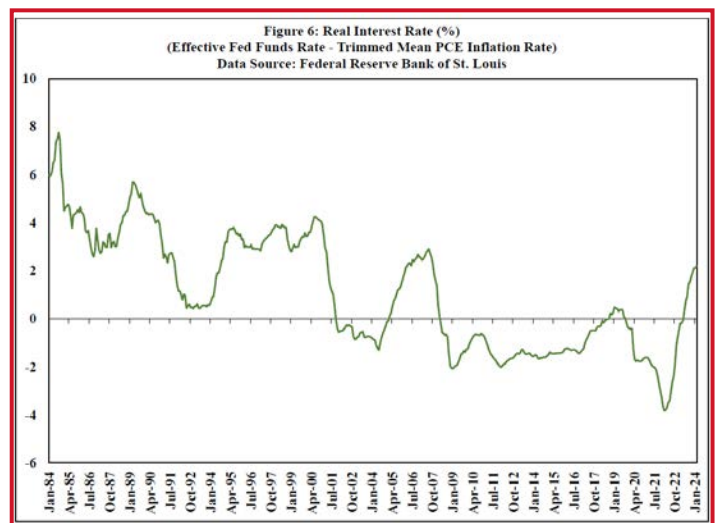
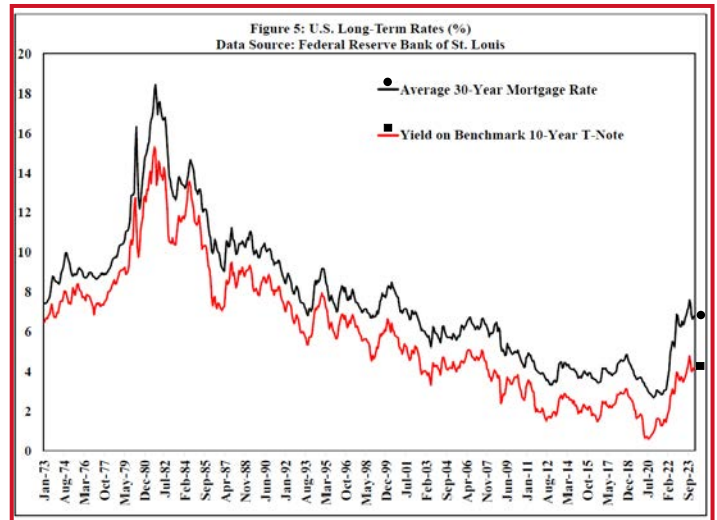
The wealth channel and the balance sheet channel are linked to changes in asset prices. In theory, an actual or expected increase (decrease) in policy and money market rates causes asset prices to fall (rise). Lower (higher) asset prices reduce (boost) household net worth and generate a negative (positive) effect on consumption. Furthermore, falling (rising) net worth make it harder (easier) to borrow since lower (higher) collateral values make lending a more (less) risky proposition.

This time around, both the wealth and balance sheet channels were affected by the fact that home prices remained at or near record highs in much of the country, despite a doubling of mortgage rates. Existing home sales plummeted in 2023 on the back of low inventories as households that locked in historically low mortgage rates in 2020 and 2021 remained on the sidelines. Limited supply and continuing demand (especially for single-family units) have allowed home values to

remain elevated despite the spike in mortgage rates.

On the equity market side, losses suffered in 2022 were quickly overcome and the S&P 500 index scaled new all-time highs in the first quarter of 2024. Despite a higher discount rate, optimism (sometimes bordering on frenzy) associated with artificial intelligence (AI), resilient corporate profit margins, and multiple expansion revived stock markets. Consequently, U.S. household balance sheets remained strong (see Figure 7) and supportive of robust consumer spending.

The role of the bank lending channel briefly assumed significance during the first half of 2023. The failure of Silicon Valley Bank, Signature Bank



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and First Republic Bank initially raised fears of widespread regional bank failures and a potential drying up of credit access for households and small businesses. Rapid intervention by the FDIC and the Federal Reserve quickly staunched the financial sector bleeding. While lending by traditional banking sector cooled in the aftermath, the private credit market quickly stepped in to fill the gap. Furthermore, credit spreads failed to widen much during this entire rate hiking cycle and corporations retained access to bond markets.

Tighter or looser financial conditions can also affect the real economy by influencing the risk perceptions and attitudes of households, investors, and corporations – the so-called risk-taking channel. Interestingly, financial conditions, except for a few brief periods, have remained relatively easy throughout much of the recent rate-hiking cycle (see Figure 8).

For the U.S., the exchange rate channel is of somewhat secondary importance due to the widespread practice of dollar-invoicing of imports. Additionally, the U.S. economy is not particularly reliant on exports. Consequently, the macroeconomy is largely shielded from any negative short-run effects associated with a strong dollar (that is linked to monetary tightening).

Two other aspects of the current recovery cycle are crucial for understanding the muted effect of interest rate hikes on the real economy. Consumers entered this rate-hike cycle with not just robust balance sheets but also a significant amount of excess savings and this provided a solid cushion that largely insulated household spending throughout 2022 and 2023.

Economic growth was also buoyed by various fiscal measures that offset some of the downside effects associated with monetary tightening. The Infrastructure Investment and Jobs Act (IIJA) of 2021, the Inflation Reduction Act (IRA) of 2022, and the CHIPS and Science Act of 2022

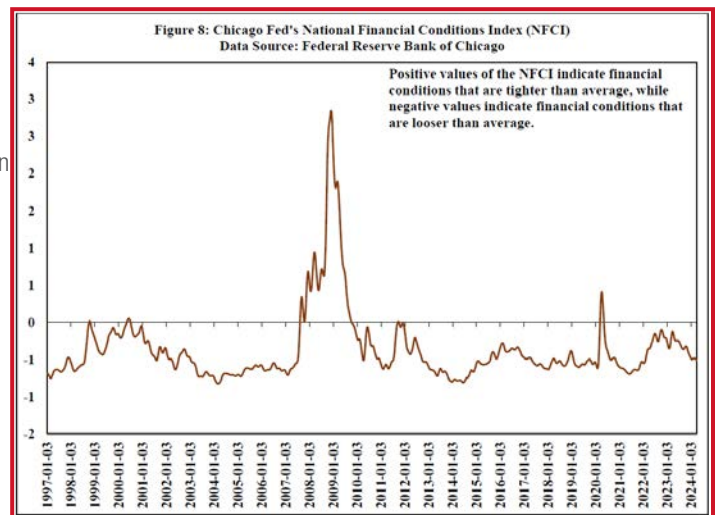
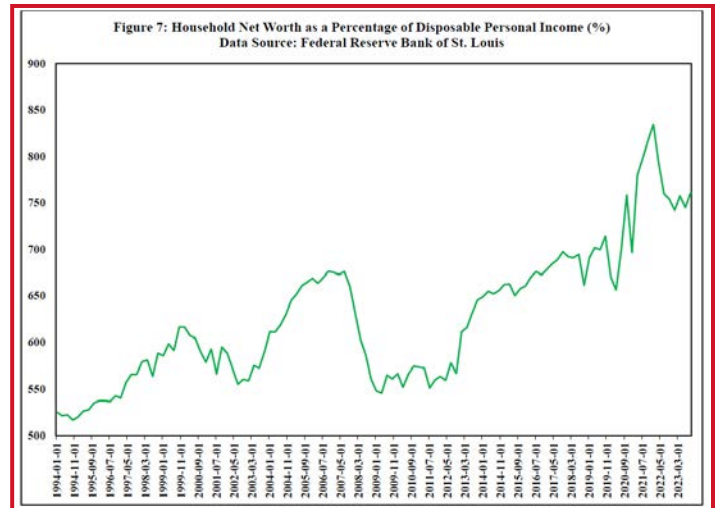
(CHIPS) have supported private business investment and capital expenditure. Increased factory and plant construction, alongside robust new residential investment (especially in single-family units), prevented a sharp downturn in overall private domestic investment despite major headwinds associated with rising borrowing costs and higher labor and material costs.

Turning our attention to the second major puzzle associated with the ongoing disinflationary phase (the apparent disconnect between labor market tightness and overall inflation), it is worth emphasizing that some version of the so-called Phillips curve has been an integral part of various iterations of macroeconomic modeling since the 1960s. The Phillips curve is an empirical relationship between economic slack (reflecting the available but unused resources, as captured by either the output gap or the unemployment gap) and the inflation rate. Modern versions of the Phillips curve also incorporate inflation expectations and supply shocks.

Domash and Summers (2022) offered the following rationale for expecting a spike in the unemployment rate: ² "The idea that inflation can fall dramatically without a corresponding rise in labor market slack, however, runs counter to standard economic theory, and is inconsistent with the historical evidence. The original Phillips curve suggests that there is a trade-off between the tightness of the labor market, usually proxied by the aggregate unemployment rate, and inflation. The empirical evidence supports the view that

taming accelerating inflation requires a substantial increase in economic slack. Since 1955, there has never been a quarter with price inflation above 4% and unemployment below 5% that was not followed by a recession within the next two years."

A possible explanation for the absence of sustained upward wage pressure may be related to the impressive recovery in U.S. labor supply from mid-2022 onwards. Sharply lower levels of immigration acted as a labor supply headwind during the initial phase of the post-pandemic recovery and likely contributed to upward wage pressure. However, a dramatic surge in immigration over the past two years appears to have acted as a massive tailwind for labor supply (see Figure 9). The uptick in migrant workers



allowed employers to fill open positions without generating upward pressure on wages. Wage pressures were also mitigated by the fact that the prime-age (individuals in the 25-54 age range) labor force participation rate recovered rapidly and now exceeds the pre-pandemic rate.

Another intriguing explanation has been offered by Figura and Waller (2022).³ Because there was an unusually large number of vacancies in 2021 and 2022 (reflecting an unprecedented level of labor market tightness), they argued that a soft landing was feasible this time around. They hypothesized that, as the labor market cooled, firms would resort to reducing their job postings instead of pursuing worker layoffs. In essence, a decline in vacancy rate would be the primary labor market adjustment mechanism, and reduce the need for a sharp uptick in the unemployment rate.

To understand the underlying logic of the hypothesis put forth by Figura and Waller (2022), it is essential to understand the labor market distortions created by the pandemic shock. Historically, job vacancies typically rise as unemployment falls and vice versa (the relationship is referred to as the Beveridge curve). In 2021, as the U.S. economy was reopened in earnest, pent-up demand, which was juiced by a record amount of stimulus, created an unusual dynamic in the labor market. Pandemic-related disruptions (and highly restricted immigration flows) meant that businesses couldn't find enough workers, and this led to an explosive growth in job vacancy postings.

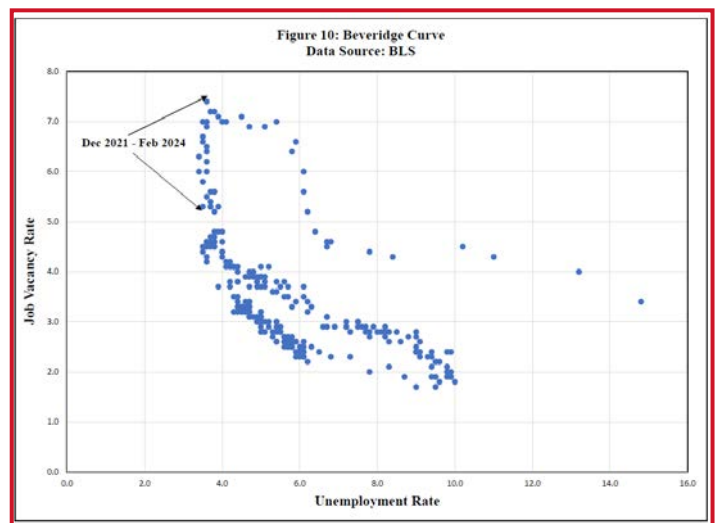
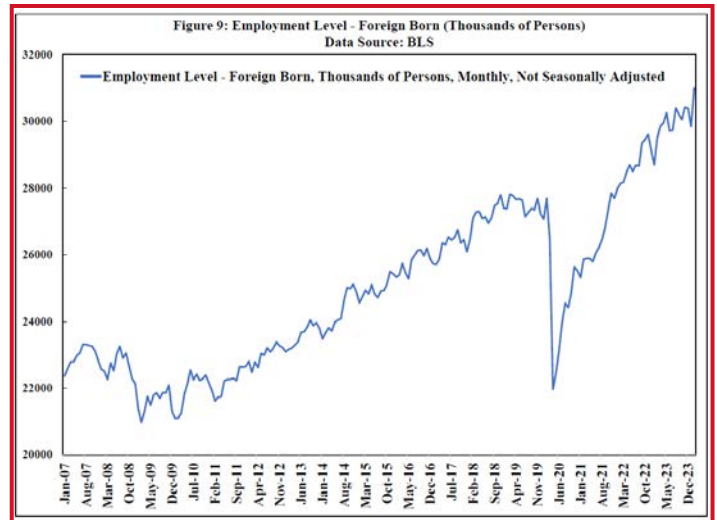
Figura and Waller (2022) noted that the Beveridge curve had become nearly vertical – the implication being that vacancies rose sharply even as the unemployment rate stabilized near historic lows (see Figure 10). Consequently, they projected that cooling labor demand would cause vacancies to plummet without necessarily triggering a spike in unemployment rate. As the distortions associated with the pandemic shock disappeared, the Beveridge curve would return to its pre-pandemic downward sloping curve form.

In addition to experiencing a steepening of its slope, the U.S. Beveridge curve also appears to have shifted substantially higher in the aftermath

of the pandemic recession. While the inverse relationship between unemployment and job vacancies represented by a normal Beveridge curve captures cyclical forces affecting the demand for labor and the available pool of unemployed workers, actual shifts in the curve often derive from structural changes or shocks.

In a recent study, Kindberg-Hanlon and Girard (2024)⁴ find “support for the existing view that layoffs and reallocation driven by the pandemic has resulted in shifts in the Beveridge curve, as workers were re-hired into their previous roles or new sectors and locations. This factor was likely to be most important early in the recovery from the pandemic.” They also note that “a large labor shortage generated by the pandemic has driven intense competition for workers, leading to high hiring intensity (and thus vacancies), increased job-to-job flows, and lower layoffs” and “estimate that the labor force was approximately 2 million below trend at the start of 2023 due to COVID-19-related mortality, lower older-worker participation rates, and lower immigration. This shortage of workers, alongside the large initial layoffs and reallocation effects driven by the pandemic, has also been a large contributor to the observed upward shift in the Beveridge curve.”

In their paper titled, “The Dual Beveridge Curve,” Anton Cheremukhin and Paulina Restrepo-Echavarria⁵ offer a somewhat different take on



the anomalous behavior of the Beveridge curve during the post-pandemic recovery phase. They argue that the surge in job vacancy postings was largely driven by a spike in “poaching vacancies” – aimed at attracting already employed workers interested in making a job switch. In their analysis, they separate out overall job vacancies into two categories: vacancies meant to be filled by unemployed workers (which would affect the unemployment rate) and the so-called poaching vacancies (which can generate job switches but result in no changes to the unemployment rate). Their thesis also supports the notion that a soft landing is feasible if monetary tightening primarily reduces poaching vacancies meant to be filled by already employed workers, as this would not result

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as this would not result in a spike in the unemployment rate.

The discussions so far provide a set of explanations that address two major macroeconomic puzzles – the failure of substantial monetary tightening to significantly cool the real economy and the attainment of considerable disinflation without causing a sharp deterioration in labor market conditions. Looking ahead, the critical question on the minds of economists, investors and policymakers is the following: Can the U.S. economy maintain its current course towards a soft landing?

During 2023, negative supply shocks largely faded just as positive supply shocks emerged. China's much delayed reopening disappointed as its economy struggled to overcome property market excesses and low consumer confidence. However, for the U.S. and the global economy, the reopening removed a crucial source of supply chain distortions and unleashed deflationary forces that kept a lid on goods and commodity prices worldwide. Dramatic increases in immigration levels and improving labor productivity have also acted as positive supply-side developments. Labor market strength, asset market recovery, excess savings, and belated improvements in consumer sentiments have allowed households to maintain their spending levels. Business investment

has been supported by ongoing fiscal stimulus measures and optimism surrounding the AI revolution.

As of Spring 2024, the overall situation does appear quite favorable for the U.S. economy and a "softish" landing scenario is now the consensus view. It is, however, necessary to be cognizant of potential headwinds on the horizon. This being an election year, and given the extremely polarized nature of domestic politics, political risk cannot be taken off the table. Geopolitical risks (such as the conflicts in the Middle East and Eastern Europe, the expanding U.S.-China strategic rivalry, and the fragmentation of international trade ties) are also posing enormous challenges for business leaders and policymakers.

If the Federal Reserve is forced to maintain interest rates higher for longer (a distinct possibility as the last mile of the inflation battle may yet prove to be the toughest), it is possible that the commercial real estate sector will be adversely affected and this may cause renewed turmoil in the regional banking sector. Furthermore, consumers, especially at the lower end of the income spectrum, have exhausted their pandemic-era excess savings and are now becoming increasingly reliant on revolving credit to maintain their spending levels. There are also early signs of credit trouble as delinquency rates for auto and credit loans have spiked, even in a generally healthy labor market. Any significant deterioration in the labor market, alongside an uptick in borrowing costs, may pose a serious threat to the ability of many households to meet

their debt obligations.

To conclude, the U.S. economy has enjoyed a period of low unemployment, decent economic growth, and relatively rapid disinflation over the past year and a half. So far, it has benefited from several favorable supply-side developments. Aggregate supply sets the economy's speed limit. Boosting an economy's potential to supply goods and services in the face of rising demand is key to achieving non-inflationary growth. Whether curtailment of aggregate demand is necessary or if favorable supply-side developments will be enough to bring inflation towards its two-percent target is the key question facing the Federal Reserve in early 2024. 🔥

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¹ Blanchard, Olivier J., Domash, Alex, and Summers, Lawrence H., 2022. "Bad News for the Fed from the Beveridge Space," Policy Briefs, PB22-7, Peterson Institute for International Economics.

² Domash, Alex and Summers, Lawrence H., 2022. "A Labor Market View on the Risks of a U.S. Hard Landing," Journal of Policy Modeling, Elsevier, vol. 44(4), pages 758-767.

³ Figura, Andrew, and Chris Waller, 2022. "What does the Beveridge curve tell us about the likelihood of a soft landing?" FEDS Notes. Washington: Board of Governors of the Federal Reserve System

⁴ Kindberg-Hanlon, Gene and Girard, Michael, 2024. "What Caused the Beveridge Curve to Shift Higher in the United States During the Pandemic?" IMF Working Papers 2024/008, International Monetary Fund.

⁵ Cheremukhin, Anton A. and Restrepo-Echavarria, Paulina, 2022. "The Dual Beveridge Curve," Working Paper 2221, Federal Reserve Bank of Dallas, Revised February 2024.

The Performance of the Tampa Bay Economy Over the Biden and Trump Terms

By John R. Stinespring, Ph.D.



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This is an unusual election year for many reasons, one being that both candidates have a presidential record to compare. Donald Trump is attempting to win a non-consecutive second presidential term, a task many have attempted but was only achieved by one former president, Grover Cleveland. President Biden has completed more than three years of his term which gives him a time frame equal to Trump's just prior to the COVID-19 shutdown. With sufficient data for an economic comparison, we consider the Biden and Trump terms as each entered his final year in office and before COVID-19. Though a president's impact on the economy has limitations, voters view the economy's performance over their terms as indicative of their elected leader's policies and effectiveness. Given memories deviate from historical reality over time, this retrospective of the actual performance of the economy is valuable for an accurate assessment. We will examine the economic data for the Tampa Bay metropolitan area (consisting of Hernando, Hillsborough, Pasco, and Pinellas counties combined). To assess the local economy over each candidate's tenure we examine labor, retail, and housing markets of Tampa Bay (TB) with references to Florida and the U.S. economy where relevant. By doing so, we provide insight into how the two administrations impacted TB, what the current prospects are for TB, and why consumer sentiment is low when the economy is so strong.

Before the comparison, note some of the similarities indicated in Table 2.1. Both Biden and Trump initiated large stimulus packages in their first two years in office. The Trump administration and the Republican Congress passed the Tax Cuts and Jobs Act (TCJA) in 2017 that lowered individual and corporate tax rates. This tax reform was the largest stimulus expenditure in

the first three years of the Trump term (TT). The following year's Bipartisan Budget Act of 2018 further stimulated the economy by raising the governmental spending caps by \$143 billion, representing a 13% increase over the previous year's level. Though increasing government

regimes?

Figure 2.1 shows that RGDP, on a year-over-year basis, were positive for the first three years of both terms. Whereas Trump's averaged 2.6%, Biden's

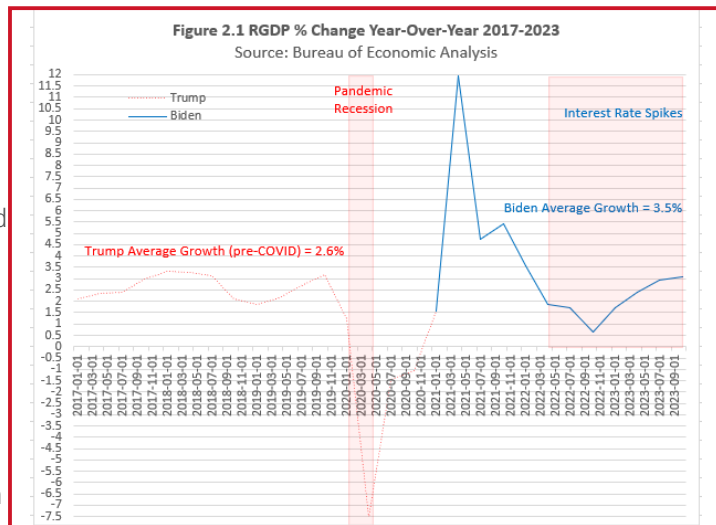
Table 2.1 President's Stimulus Packages (COVID-19 Packages in bold)

2017	2018	2019	2020	2021	2022	2023
Tax Cuts and Jobs Act	Bipartisan Budget Act of 2018 (Raised Debt Ceiling)		CARESACT (March)	American Rescue Plan (March)	Inflation Reduction Act(Aug)	
			Consolidated App Act (Dec)	Infrastructure Investment and Jobs Act (Nov)	CHIPS and Science Act(Aug)	

spending and decreasing tax revenues produced record-breaking peace-time deficits, they provided significant short-term stimulus to sustain the economic expansion.

Biden's first year in 2021 included the Infrastructure Investment and Jobs Act (IIJA). The following year he passed both the Inflation Reduction Act and CHIPS and Science Act which includes governmental spending through tax credits and funding to incentivize green-energy projects. Both also spent around \$400 billion to combat COVID-19. The TT injected \$413 billion through the CARES Act in March 2020 and the Consolidated Appropriations Act signed in December 2020 and implemented in early 2021. The Biden term (BT) added its own stimulus, the American Rescue Plan totaling \$401 billion.

averaged nearly a full percentage point higher at 3.5%. Throughout our comparison we will exclude the Trump term's pandemic recession given by



the narrow-shaded area and include the Federal Reserve's interest rate spikes that occurred during the Biden term and shown by the wider-shaded area.

How did U.S. real GDP fare under these stimulus

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The Performance of the Tampa Bay Economy Over the Biden and Trump Terms

To consider the differences in the candidates' economies, consider Figure 2.2. It shows unemployment for TB, FL, and the U.S. At the start of the TT, the local unemployment rate was 4.5% in January 2017 for Tampa Bay and 4.7% for both Florida and the U.S. The U.S. was in the eighth year of its longest recorded economic expansion. The expansion continued during Trump's first three years and the unemployment rate fell by January 2020 to 3.0%, 3.0% and 3.6%, for TB, FL, and the U.S., respectively. At the start of the BT, the unemployment rate was 5.4% in January 2021 for TB and 6% for both FL and the U.S. At this point, the negative economic shock from COVID-19 remained prevalent on the supply side of the U.S. In fact, the U.S. labor force was smaller at the end of the TT than at its beginning, something over which no other modern U.S. president has presided. By January 2024, the unemployment rate had fallen to 3.3%, 3.1%, and 3.7%, for TB, FL, and the U.S., respectively. This represented a 2.1 percentage point decline in TB unemployment for the BT compared to a 1 point decline for the TT over the same duration. As of the time of this report, the unemployment rate, however, has bottomed out since March 2022 when the Federal Reserve began its aggressive series of 11 federal funds rate hikes in an attempt to throttle inflation to the Fed's 2% target. These hikes raised the federal funds rate from 0-0.25% to 5.25-5.5% within just over one year's time.

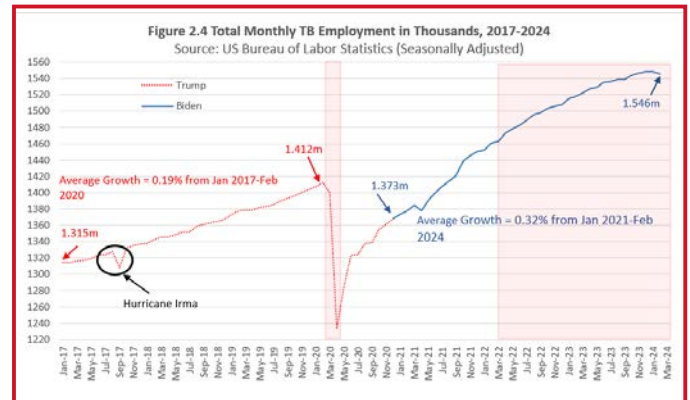
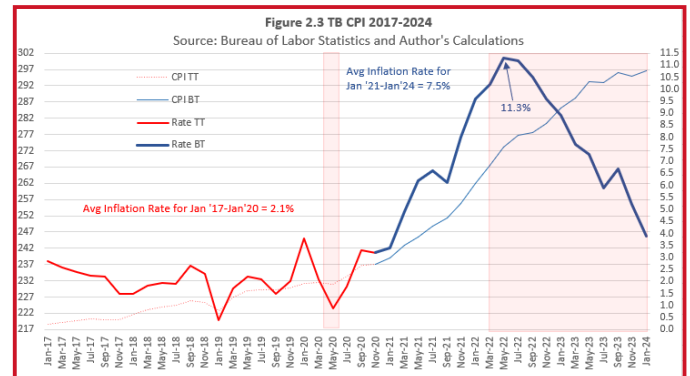
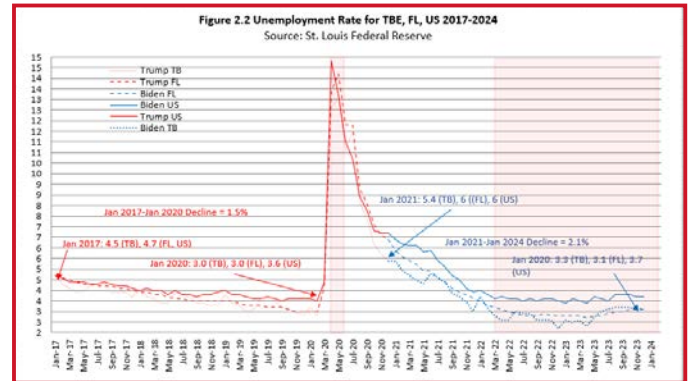
The slowing supply and elevated demand boosted inflation over the first year and a half of the BT. The left-hand side of Figure 2.3 shows the TB Consumer Price Index (indexed at 100 for 1987) and the right-hand side shows TB's inflation rate (calculated as year-over-year and shown by the solid line). Over the first half of the BT, TB's inflation rate reached a peak of 11.3% in May 2022 compared with an inflation rate reaching only 3.8% over the January 2017 to January 2020 period. The 11.3% increase gives TB the dubious distinction

of exhibiting the highest inflation rate of all U.S. metro areas. Though not as high as TB, the U.S. inflation rate reached a 40-year high near 9% at the same time.

The unemployment declines and spikes over the two terms were mirrored by expansions and declines in TB payrolls data. Figure 2.4 shows a long increase in monthly payrolls throughout the period with the exception of the pandemic. The TT started with 1.315 million on TB payrolls and by February 2020 had 1.412 million, a growth of 97,300 new jobs. The BT started with 1.373 million and had 1.546 million by February 2024, a growth of 172,500. Over these same durations, the BT experienced an average monthly payroll growth of 0.32% while the TT experienced an average monthly payroll growth of 0.19%. The growth trajectory, though positive, may have plateaued in the remaining quarter of 2023. The payroll data also reveals the resilience of TB over the pandemic: even with the pandemic data included, TB payrolls show growth of 53,500 jobs over the TT while the U.S. payrolls shrunk overall.

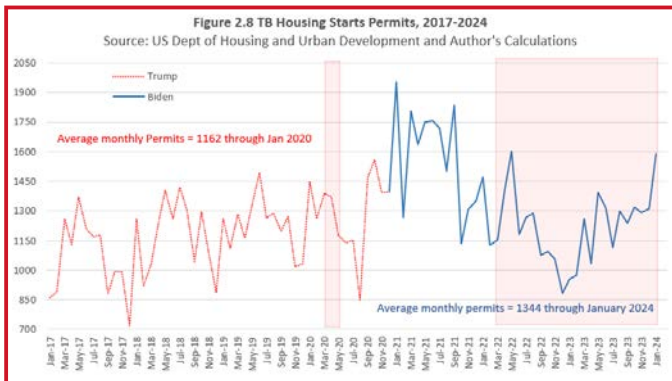
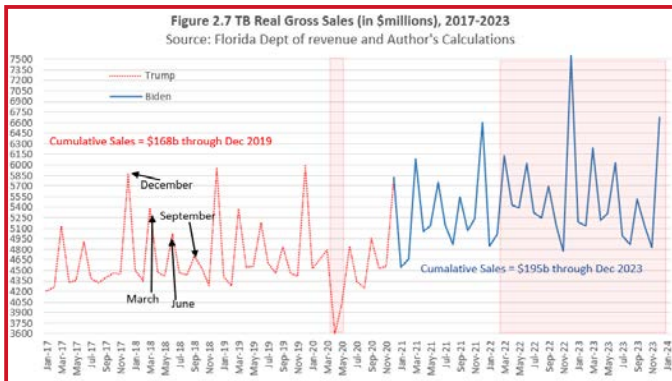
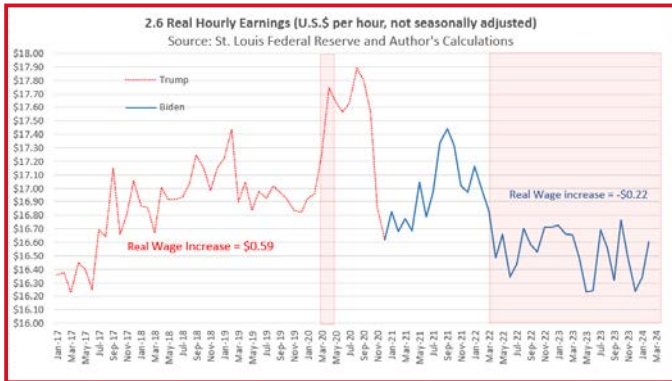
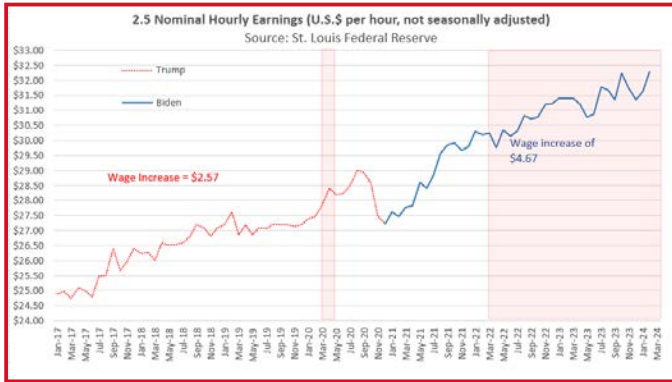
The job growth and low unemployment combined to put upward pressure on nominal hourly earnings as seen in Figure 2.5. Excluding the pandemic again, we see a wage increase of \$2.57 per hour over the TT through February 2020. For the BT we see a wage increase of \$4.67 per hour through February 2024. Real earnings, however—that is nominal earnings adjusted for the price level—tell a different story. Figure 2.6 shows that over the TT real hourly earnings initially grow significantly but then plateau

around a volatile \$17 prior to the pandemic. Over the BT we also see real hourly earnings initially grow but then rapidly decline as inflation rises significantly as the Federal Reserve initiates its aggressive contractionary policy. Real hourly earnings fall to \$16.60 by February 2024. In terms of wage changes, TT experienced a \$0.59 increase in real hourly wages while the BT experienced a \$0.22 decline over the commensurate time period. Interestingly, both series peaked at \$17.44 (prior to pandemic for TT).



THE TAMPA BAY ECONOMY

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How did the variations in employment and wage growth affect aggregate demand within our local economy? To get a measure of our local overall demand, we use Real TB Gross Sales depicted in millions of inflation-adjusted dollars shown in Figure 2.7. Real Gross Sales in TB is our measure of overall demand and is useful as a coincident indicator that reveals the local economy's current position in the business cycle. Sales decline during recessions and growth during expansions allowing for seasonal spikes in December, March, June, and September for each year. Given real wages grew under the TT and fell under the BT, we might expect inflation-adjusted sales to have been lower during the latter presidency. Real Gross Sales for TB, however, trended upward over the two presidencies but higher over the BT. The TT experienced cumulative sales of \$168 billion through December 2019, while the BT experienced cumulative sales of \$195 billion through December 2023. In terms of the reported nominal data, cumulative sales were \$423 billion under the TT and \$566 billion under the BT.

Housing may be the market in Tampa Bay, and indeed the U.S., that appeared most resilient to the pandemic and most vulnerable to interest rate hikes. Prices in the housing market accelerated during the pandemic and fell during the Fed tightening. This market is particularly important as it serves as a leading indicator to predict the future direction of the economy. Sustained increases in construction lead economic expansions while recessions are presaged by sustained declines. Figure 2.8 shows TB building permits over the two presidential terms up to January 2024. Average monthly permits over the TT were 1,162 through January 2020. After the steep pandemic decline, permits made up losses by overshooting the trend from January to October 2021. Permits returned to a slightly higher level thereafter until the Fed contractionary policy was enacted. Permits experienced precipitous declines after May 2022 and only returned to the higher level in January 2024. Even with such headwinds, average monthly permits over the BT were 1,344 through January 2024, 16 percent higher than the same period in the TT.

The housing market's resilience and vulnerability are even more pronounced in the home price data. Figure 2.9 shows the Case-Shiller housing price index (adjusted for inflation) increasing for low-, medium-, and high-tier home prices in TB (where index = 100 for year 2000 and adjusted for inflation). All tiers of TB homes experienced a relatively steady increase over the TT up to January 2020.

Prices in January 2020 reached 7, 14, and 32 percent above their January 2017 levels for high-tier, mid-tier, and low-tier, respectively. Over the BT through January 2024, the increases were 28, 26, and 34 percent above their January 2021 levels, respectively. These significant increases came to an abrupt halt shortly after the Fed's contractionary policy. By June 2022, prices fell for all tiers until January 2023 where they have basically plateaued for the time being.

The correlation between these housing movements and 30-year mortgage rates is evident from Figure 2.10. Inflation in the first 1.5 years of the BT (2021 through March 2022) lowers the real rates but then spurs the contractionary monetary policy which quickly reverses the negative 4.4 real rate to a positive 4.4 real rate over the following 1.5 years (March 2022 through September 2023). These reversals make the subsequent slowdown in permits and cessation of price appreciation essentially inevitable.

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The Performance of the Tampa Bay Economy Over the Biden and Trump Terms

Many assets besides housing suffer from contractionary policy. The stock market, here proxied by the S&P 500 index, reveals the negative impact of the Fed's interest rate policy as illustrated in Figure 2.11 which shows the nominal and real S&P500. Though the S&P 500

and other market indices are at all-time highs, the cumulative increase was three times larger under the TT than the BT, as the figure reveals.

This update has assessed the Tampa Bay economy over two U.S. presidential terms and Table 2.2 provides a summary of the data presented herein. The performance of the economy over the next few months, however, depends much more on monetary policy rather than fiscal. The Federal Reserve Bank is attempting a soft landing for the economy whereby they lower inflation without

creating a recession. As of now, our data shows that their aggressive interest rate hikes have indeed lowered inflation and slowed, but not reversed, the gains in local jobs, retail sales and housing markets. This, in and of itself, is quite impressive. Whether the Fed can sustain the effort and create an "immaculate disinflation" is the topic of the other article in this issue of the *Tampa Bay Economy*. 🏠

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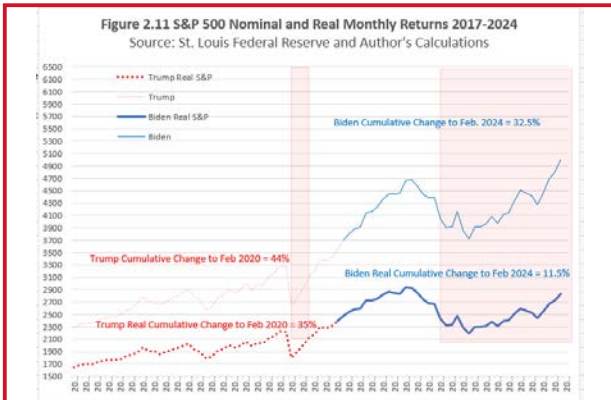
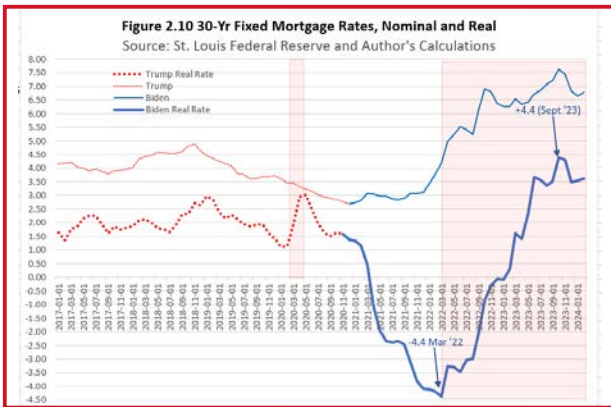
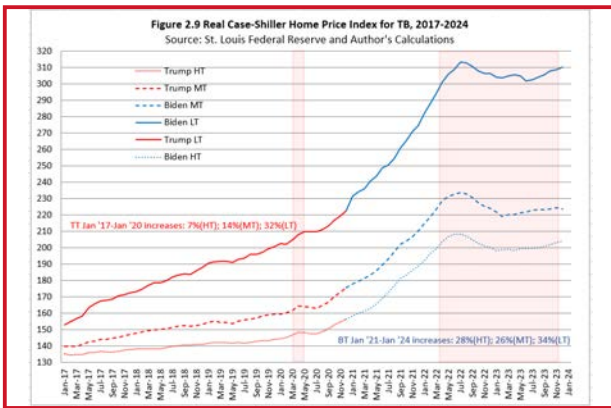


Table 2.2

TB Variable	Trump Term	Biden Term
Decrease in Unemployment (percentage point decrease)	1.5	2.1
Increase in Payrolls	97.3	172.5
Increase in Nominal Wages	\$2.57	\$4.67
Increase in Real Wages	\$0.59	-\$0.22
Nominal Gross Sales	\$423b	\$566b
Real Gross Sales	\$168b	\$195b
Average Monthly Permits	1162	1344
Real Home Price Appreciation High-Tier; Mid-Tier; Low-Tier (%)	7; 14; 32	28; 26; 34
Lower Average Monthly Inflation	2.1%	7.5%
Average Monthly Nominal 30-yr Fixed Mortgage	4.1	5.07
Average Monthly Real 30-yr Fixed Mortgage	2.0	-0.5
US Variable		
Average Real GDP Growth Q-over-Q (Y-over-Y) (%)	2.7 (2.6)	3.0 (3.5)
Increase in Nominal (Real) S&P500 Index (%)	44(35)	32.5 (11.5)
Lower Governmental COVID-19 Packages	\$413b	\$401b

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