# Does a Distant War Move a Domestic Economy? The Afghanistan War (2001–2021), Indian Policy Engagement, and the Components of India's GDP

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**Abstract**
This study analyses the Afghanistan War (2001–2021), in which India was never a combatant, shows a measurable relationship with India's Gross Domestic Product (GDP) and its four expenditure components: private consumption, investment, government expenditure and net exports. Annual World Bank data in current US dollars and annual inflation rates for 2001–2021 are combined with a policy timeline of the Vajpayee, Singh and Modi governments. The analysis comprises descriptive statistics, growth and share calculations, correlation coefficients, comparisons across the three administrations, and a scale comparison of India's Afghan commitments with the national accounts. Nominal dollar GDP grew by 9.9% a year on average (SD 8.9 percentage points), and consumption accounted for 58.6% of GDP. Growth did not differ significantly across the three administrations (ANOVA p = 0.51), and inflation was uncorrelated with GDP growth (r = −0.02). India's total commitments of roughly US$3 billion equal about 0.1% of GDP, and the annual flow is far smaller. The evidence supports a limited and indirect relationship at most: movements in India's macroeconomy are explained far better by the 2003–2007 global expansion, the 2008 financial crisis, food-led inflation and the 2020 pandemic than by Afghanistan-related policy. The study contributes a policy-linked, component-level and scale-checked perspective on how a prolonged conflict intersects with a non-combatant emerging economy.

**Keywords:** Afghanistan War; India; GDP components; inflation; conflict spillovers; foreign policy.

## 1. INTRODUCTION

### 1.1 Background

Prolonged conflicts can have negative impacts even on economies that are far from the theatre of military operations. They can cause dislocation of trade routes, disruption of financial markets, rise of energy and commodity prices and changing directions of investments. And the impact of such conflicts can be extended even to countries, which are not participants of them and can manifest themselves in the components of GDP.

The Afghanistan War, which lasted from 2001 to 2021, is one of the most protracted wars in the modern history. The war was waged between Afghan insurgents and coalition led by the USA. Nevertheless, the war had many strategic and economic implications outside the region of military operations, especially in South Asia. India had been keeping close diplomatic, economic and developmental ties with Afghanistan, investing in infrastructure, education and healthcare projects in Afghanistan.

The two-decade period also saw the reigns of three Prime Ministers (Atal Bihari Vajpayee, Manmohan Singh and Narendra Modi) and five Presidents. The reason why the two-decade period is interesting here is because of the connection between India's relations with Afghanistan and macroeconomics since the former is managed by India's government while the latter is done by the President who is a ceremonial position.

### 1.2 Related literature

The first literature to consider concerns the relationship between growth and war/conflict. Collier (1999) found that civil war decreases growth in the country in which the war takes place. Murdoch and Sandler (2002) found the spillover effects of conflict onto the growth of the neighbours and that the spillovers are bigger in the short-run. Blomberg and Hess (2002) showed that the business cycle and conflict are endogenously related, hence cautioning from interpreting the relationship between the two one-way causally.

The second body of literature considers directly India's macroeconomy. Ball, Chari and Mishra (2016) found that India's inflation is very much similar to that of the advanced economies in the 1970s and 1980s and that food and commodity shocks play a significant role there. Agarwal and Whalley (2013) compared China's and India's growth relative to their reforms' dates. Bhandari and Frankel (2015) claim that targeting nominal GDP may be more appropriate for economies that are exposed to supply shocks. Hulten and Nakamura (2022) argue that GDP is a flawed measure of welfare and hence studying it captures part of the impact of the policy on the economy.

This study is different in terms of methodology. Romer and Romer (2007) use the narrative approach to identify exogenous shocks and then study the causality and structural estimation and simulations are used elsewhere. In the current study I simply examine if a conflict that India does not take part in is associated with the components of the GDP.

## 2. Objectives and Hypotheses

There are two goals of the study:

1. In order to determine whether India's GDP, and its constituent parts, together with inflation, and taken for the periods of Vajpayee, Singh and Modi administrations and their respective relationship with Afghanistan War in 2001-2021 period, including four policy-related events (2005-06, 2006-07, 2009-10 and 2017-18).
2. In order to see, through scale comparison, whether India's Afghan engagements have been large enough to have a reflection on the national accounts at all.

Three testable propositions follow.

**H1:** average growth varies between the three administrations.

**H2:** inflation is correlated with the growth of GDP or its constituents.

**H3:** years featuring significant Afghan policy-related events have significantly different growth than the other years. As an additional test, a scale comparison will provide more information about the possibility or impossibility of the causal connection despite any findings from the correlation analysis.

## 3. Methodology

### 3.1 Research design and data

The study is a descriptive-comparative time-series analysis based on secondary data. GDP, private consumption, gross investment, government expenditure and net exports (exports minus imports) are taken from the World Bank (n.d.), in current US dollars, for 2000–2021. The year 2000 serves only as the base for computing 2001 growth. The series were converted from the source's units of US100milliontoUS billion. Annual inflation rates for 2001–2021 come from Macrotrends (n.d.) and the Ministry of Statistics and Programme Implementation. One data-entry error in the inflation series, in which 2014 was labelled "1014", was corrected before analysis.

Sources for the information of Prime Ministers and Presidents are Ministry of External Affairs and reference sources. The following external documents are the sources for verifying and expanding the information: a Lok Sabha response about India's commitments to Afghanistan (Ministry of External Affairs, 2013), bilateral briefing in Kabul by the Ministry (2020), and the Economic Survey 2009–10 (Ministry of Finance, 2010) and RBI (2010) analysis of 2009–10 inflation in India.

### 3.2 Policy timeline

Table 1 represents the summary of the policy information. Presidents Narayanan, Kalam, Patil, Mukherjee and Kovind performed a ceremonial function and therefore are not treated as policy actors.

**Table 1. Prime Ministers and Afghanistan policy**

| Prime Minister (tenure) | Afghanistan policy | Change from predecessor |
|---|---|---|
| A. B. Vajpayee (to 2004) | Recognised the post-Taliban government, pledged US$100 million, opened a full embassy in Kabul (2002) | Humanitarian and reconstruction aid, no military role |
| M. Singh (2004–2014) | Raised commitments to about US$2 billion, built the Zaranj–Delaram highway, the Parliament building and Salma Dam, signed the 2011 Strategic Partnership Agreement | Aid-only approach became a strategic partnership with infrastructure mega-projects |
| N. Modi (2014–2021) | Completed and inaugurated UPA-era projects, launched the Air Freight Corridor (2017), evacuated citizens in 2021 | Continuity, new trade connectivity, then crisis response after August 2021 |

### 3.3 Analytical procedures

The annual percentage growth, compound annual growth rate (CAGR), expenditure share of GDP, means, medians, standard deviations (SD), minima and maxima were calculated. Pearson and Spearman correlations were used to measure the correlation between inflation and growth. Mean growth was compared across tenures with one-way ANOVA and the Kruskal-Wallis test, while event years were compared to others by means of Welch's t-test. Each year was allocated to the incumbent Prime Minister in this year: Vajpayee 2001–2003 (3 years), Singh 2004–2013 (10 years) and Modi 2014–2021 (8 years). Policy events were selected from the policy timeline and analyzed through year-on-year changes in each component.

### 3.4 Limitations

First, the sample size of 21 annual observations and just three years of Vajpayee tenure imply low statistical power, hence, failure to reject the null hypothesis does not prove the lack of any impact. Second, values are expressed in nominal US dollars and therefore include the exchange-rate effects and economic activity, while the inflation index is domestic, and so the two cannot be compared directly. Third, the components do not sum to the

GDP exactly; the residual is −2.8% of GDP, ranging from −6.1% to +4.9%. Fourth, there is no counterfactual, meaning that it is impossible to find out what India's economy would do without the war. Fifth, no Afghanistan-related time series like annual disbursement of aid or bilateral trade were available for testing and the tests are indirect.

## 4. Analysis

### 4.1 Descriptive statistics

**Table 2. Levels, 2001–2021 (US$ billion; inflation in %)**

| Variable | Mean | Median | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| GDP | 1,689.9 | 1,823.0 | 836.9 | 485.4 | 3,167.2 |
| Private consumption | 991.1 | 1,024.6 | 507.1 | 311.3 | 1,930.4 |
| Investment | 515.7 | 581.0 | 235.0 | 145.3 | 936.8 |
| Government expenditure | 181.2 | 191.1 | 91.1 | 57.0 | 331.8 |
| Net exports | −54.2 | −55.4 | 36.8 | −122.9 | −4.2 |
| Inflation (%) | 6.24 | 5.13 | 2.66 | 3.33 | 11.99 |

GDP grew from US$485 billion in 2001 to US$3,167 billion in 2021, a 6.5-fold growth. India's net exports were negative for all 21 years and declined on average by US$3.2 billion a year, hence, India experienced a persistent external deficit during the entire war period. Inflation averaged 6.2%, with the maximum of 11.99% reached in 2010, and minimum 3.33% recorded in 2017.

**Table 3. Annual growth, 2001–2021 (%)**

| Variable | Mean | SD | Minimum (year) | Maximum (year) | CAGR |
|---|---|---|---|---|---|
| GDP | 9.87 | 8.95 | −5.67 (2020) | 29.41 (2007) | 9.83 |
| Consumption | 9.56 | 7.85 | −5.38 (2020) | 28.61 (2007) | 9.55 |
| Government expenditure | 9.17 | 8.67 | −3.37 (2012) | 30.18 (2007) | 9.21 |
| Investment | 10.89 | 12.74 | −9.42 (2020) | 38.01 (2007) | 9.77 |

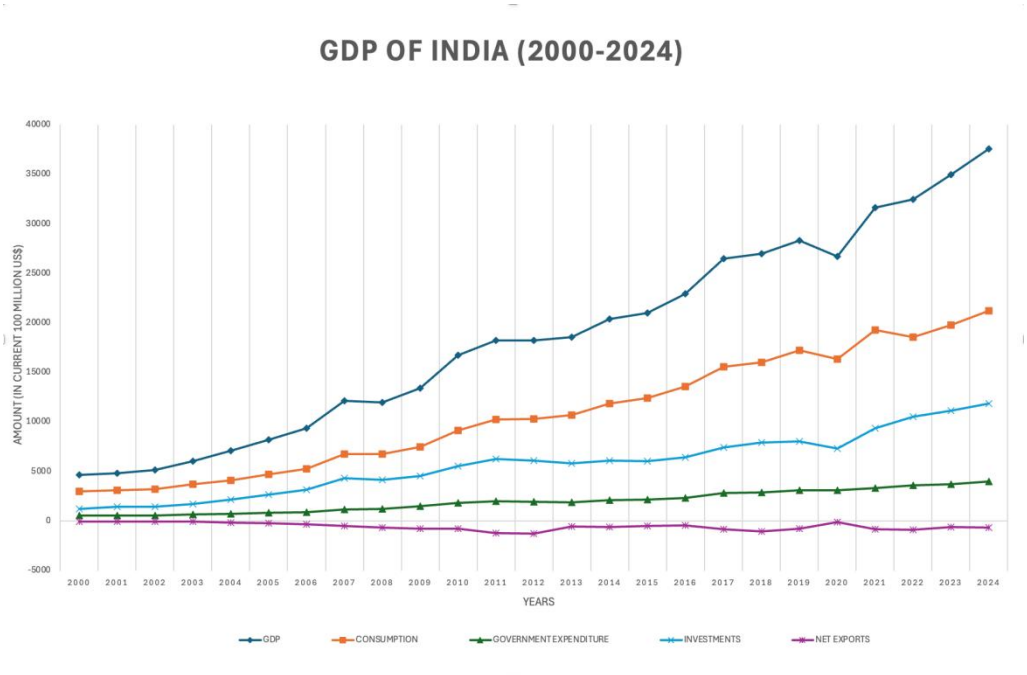


**Figure 1. Change and rise in the Gross Domestic Product of India and its components during the period considered (chart axis spans 2000–2024; amounts in current US$, 100 million)**

*Source: World Bank; Ministry of External Affairs.*

Growth levels were high but erratic; investment was the most volatile factor (SD 12.7%). The GDP decline happened only in two years: 2008 (minus 1.5%) and 2020 (minus 5.7%) corresponding to the global financial crisis and the pandemic rather than to anything specific to Afghanistan. All components experienced their maximum increase in 2007 and, with the exception of government expenditure, minimum growth in 2020. The correlation coefficient of GDP and consumption growth was nearly perfect (r = 0.97) as expected, because the

consumption made up an average of 58.6% of GDP.

**Table 4. Expenditure shares of GDP (%)**

| Component | Mean | SD | Minimum | Maximum |
|---|---|---|---|---|
| Consumption | 58.63 | 2.55 | 54.72 | 64.13 |
| Investment | 30.97 | 2.64 | 27.32 | 35.81 |
| Government expenditure | 10.72 | 0.52 | 9.80 | 11.74 |
| Net exports | −3.11 | 1.81 | −6.72 | −0.39 |

The ratio of consumption to GDP declined from 64.1% in 2001 to 55.8% in 2007 and 54.7% in 2010; then it increased to 60.9% in 2021. On the contrary, investment grew from 29.9% to a peak of 35.8% in 2007 and decreased to 29.6%. Government expenditure had the least variation and remained within a narrow range of 9.8% to 11.7%.

### 4.2 Comparison across Prime Ministerial tenures (H1)

**Table 5. Mean outcomes by tenure**

| Indicator | Vajpayee 2001–03 (n=3) | Singh 2004–13 (n=10) | Modi 2014–21 (n=8) |
|---|---|---|---|
| GDP growth (%) | 9.25 | 12.24 | 7.15 |
| Consumption growth (%) | 7.90 | 11.41 | 7.87 |
| Investment growth (%) | 12.56 | 13.77 | 6.66 |
| Government expenditure growth (%) | 5.83 | 11.66 | 7.31 |
| Inflation (%) | 3.96 | 7.98 | 4.91 |
| Net exports (% of GDP) | −0.85 | −4.32 | −2.45 |
| Investment (% of GDP) | 28.86 | 33.38 | 28.75 |

GDP growth was higher during the Singh tenure and lower during the Modi tenure; the greatest disparity was observed in investment and government expenditure. Still, the difference is not statistically significant: the one-way ANOVA of GDP growth gives F = 0.70 (p = 0.51); the Kruskal-Wallis test gives p = 0.72. Thus, H1 is not supported. The Singh years correspond to the period of the global expansion in 2003-2007, the crisis of 2008, and the high-inflation phase of 2009-2013. In this way, the tenure comparison does not separate domestic policy from world cycle and any Afghan effect. Also, the Singh period shows the greatest external deficit (4.3% of GDP). This can be explained by the analysis provided below and is not the Afghan effect.

### 4.3 Inflation and growth (H2)

**Table 6. Correlation of inflation with growth, 2001–2021**

| Growth variable | Pearson r | p-value |
|---|---|---|
| GDP | −0.02 | 0.93 |
| Consumption | 0.02 | 0.93 |
| Government expenditure | 0.07 | 0.75 |
| Investment | −0.21 | 0.37 |

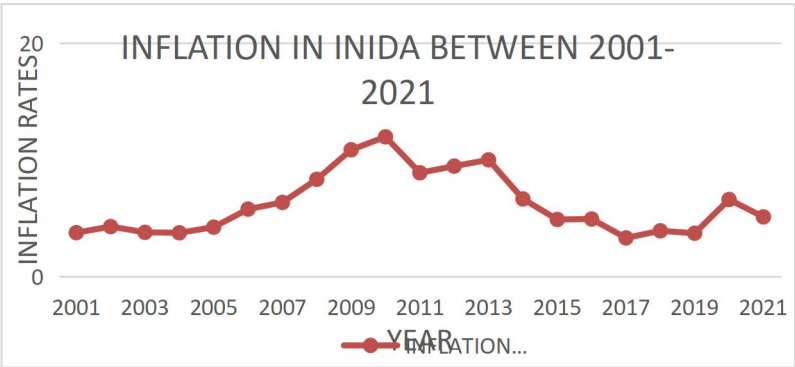


**Figure 2. Change and rise in the inflation rates of India during the period considered**

*Source: macrotrends.net; Ministry of Statistics and Programme Implementation*

The Spearman correlation of inflation and GDP growth is minus 0.14 (p = 0.55). With one year lag, none of the

coefficients exceeds 0.16. So, H2 is not supported; nominal dollar growth is statistically independent of inflation. It is important for interpretation because according to the data of 2017-18, it would be reasonable to say that growing inflation caused GDP increase. However, the data cannot confirm this hypothesis; the inflation rose only by 0.6 percentage point in 2018 and throughout the whole period, the years with higher inflation rate were not the years of higher growth.

There is a strong correlation between net exports as a share of GDP and the level of inflation ($r = -0.67$, $p < 0.001$); however, it is caused by common trends because they both increased in 2008-2013. The correlation is lost when the first difference is used ($r = +0.34$, $p = 0.15$).

**4.4 Policy-linked episodes (H3)**

**Table 7. Year-on-year change in selected episodes**

| Episode | GDP | Consumption | Government | Investment | Δ Net exports (US$ bn) | Inflation (%) |
|---|---|---|---|---|---|---|
| 2005-06 | +14.6% | +12.1% | +8.4% | +17.5% | −7.1 | 4.25-5.80 |
| 2006-07 | +29.4% | +28.6% | +30.2% | +38.0% | −19.7 | 5.80-6.37 |
| 2009-10 | +24.9% | +22.1% | +20.0% | +22.2% | −1.2 | 10.88-11.99 |
| 2017-18 | +1.9% | +2.9% | +2.5% | +6.6% | −17.9 | 3.33-3.94 |

2005-06: Education and Consumption. One possibility is that education-oriented policies by Prime Minister Singh improved employability and hence consumption, even as high inflation reduced the purchasing power. The data support the latter part of the argument, as consumption increased by 12.1%, below GDP (14.6%), resulting in a smaller consumption ratio (from 57.4% to 56.1%), owing to the rise in inflation by 1.55%. Aggregated data cannot disentangle the effects of education from the overall boom experienced from 2003 to 2007.

2006-07: Infrastructure and Investment. Investment saw a 38.0% increase, the highest one in this period, and its ratio rose to 35.8%. An Afghan-reconstruction channel implies that there should be a concentrated effect on investment, yet government expenditure (+30.2%), consumption (+28.6%), and GDP (+29.4%) saw almost equal rapid increases. This suggests a broader growth rather than the impact of a particular project. The decline in net exports (−US$19.7 billion) is consistent with an import-dependent investment boom.

2009-10: Aid, Government Expenditure, and Inflation. The inflation reached 11.99% in 2010. The policy-related interpretation of this inflation is that more aid to Afghanistan (US$1.5 billion in that period) stimulated increased government expenditure, amid a domestic food shortage. In the external record, the inflation was seen in the food and fuel prices. According to the Economic Survey 2009-10, the surge from September 2009 was due to primary articles, especially food. Also, the Reserve Bank of India arrived at the same conclusion. The jump in government expenditure (21.7%, against 11.9% growth in GDP) seems more likely to be the reaction to the global financial crisis than an Afghan effect. In 2010, government expenditure increased by 20.0% while GDP grew by 24.9%; the ratio fell from 11.5% to 11.0%. Despite inflation of 12%, the consumption rose by 22.1% nominally. A precautionary spending on necessities appears plausible but cannot be verified with aggregated data.

2017-18: The Air Freight Corridor. It was opened on 19 June 2017 (Ministry of External Affairs, 2020). The Ministry explains the need for it by mentioning the challenges of transit through Pakistan that hindered overland trade, thus giving a more specific reason than the general impact of war only. Net exports declined by US$17.9 billion in 2018, while GDP growth dropped to 1.9%. Even if the corridor increased the exports, the effect could not be identified in this data: the trade between India and Afghanistan is reported as about US$1.5 billion (India Global Business, n.d.) or 0.19% of India's trade, which constitutes less than 9% of the decline in net exports in one year.

The pooled mean GDP growth in the four events was 17.7% versus 8.0% in other years, but the difference is not statistically significant (Welch $p = 0.21$, with only four event years), and 2018 is one of the weakest years in the sample. H3 is not supported.

**4.5 Scale comparison**

Commitments grew from approximately US$1.5 billion in 2009 to US$2 billion in 2011 (Ministry of External Affairs, 2013) to US$3 billion in 2020 (India Global Business, n.d.). Therefore, US$1.5 billion and US$2 billion or above are cited for the Singh era: US$1.5 billion is related to the pledge of the 2000s while US$2 billion or above is related to the amount since 2011.

In terms of national accounts, these numbers are quite insignificant. For instance, US$1.5 billion is just 0.11% of GDP in 2009, 0.33% of investment in 2009, and 0.98% of government spending in 2009, if it was spent within one year. US$3 billion is equal to 0.09% of GDP in 2021. Within 20 years, the average annual flow of US$0.15 billion is 0.08% of

mean government spending and 0.01% of mean GDP. Such a level of flow can hardly produce the 20-30% annual variations in components seen in Table 7. Thus, any potential impact of the Afghan factor on the national accounts should take place in the form of wider channels like regional stability, trading routes or investor sentiment, which cannot be isolated through the provided data.

**5. Discussion**

In this context, the results are consistent with each other. The first message concerns attribution. Every time, there is a more reasonable and documented way to explain an apparent connection between some policy and macroeconomic events: global expansion for the period from 2005 to 2007, global financial crisis and shocks of prices for 2008-2010, and structure of Indian foreign trade for the net export deficit. It is consistent with Blomberg & Hess's (2002) warning concerning interaction of conflicts and economic situation and the result of Ball et al. (2016), who have found that Indian inflation is dependent on domestic and commodity factors.

The second message concerns magnitude. India's policies toward Afghanistan are related to soft power, aid, and connectivity but not to the deployment of troops. This explains the lack of discontinuity observed throughout different Prime Ministers' tenures: Vajpayee has laid down the basis of aid program, Singh has developed it into a strategic relationship while Modi has continued implementation of projects and added trade connectivity until 2021 when India has started dealing with the crisis situation. Continuity of the policy has left no room for a break in macroeconomic outcomes under the new leadership. Lack of difference between tenures ($p = 0.51$) is consistent with the continuity of the policy, although the small sample size limits the conclusion strength.

Finally, the third message concerns methodology. Naive time series analysis is unreliable: levels move together, as it can be seen from the spurious net export and inflation correlation; besides, nominal dollar growth includes both real activity and exchange rate movements. Murdoch & Sandler (2002) have found that spillovers from civil wars are more evident in the short run and concentrate in neighboring countries, which suggests that India's distance from the war zone and position behind Pakistan in terms of overland routes could prevent any spillovers.

In terms of policy-making, these findings imply that any Afghanistan-related policies should primarily be supported through strategic, humanitarian and connectivity reasons and not macroeconomic ones. In terms of their aggregate impact, it was not significant, and trying to push this relationship further may prove to be futile. Additionally, this case provides evidence that supply-side shocks to an economy, especially food-related ones, represent a greater threat for the economy than any political ones from abroad, similar to Bhandari and Frankel's (2015) analysis. On the other hand, GDP does not measure the majority of positive effects related to regional stability, security and soft power (Hulten & Nakamura, 2022).

Future research can look at the real GDP and exchange rate series, annual foreign aid and bilateral trade series, employ event-study or synthetic control methodologies and analyze sectors involved in Afghan reconstruction, such as construction and pharmaceutical industries. Comparing the results to other wars will check if the conclusion applies universally.

**6. Conclusion**

This paper investigates if the war in Afghanistan (2001–2021) has a significant relationship with India's GDP and its components. Descriptive statistics show rapid but volatile economic growth (average 9.9% per year in nominal dollars), persistent external deficit and consumption-driven economy where consumption average 58.6% of GDP. No difference in economic growth between Vajpayee, Singh and Modi administrations, statistical insignificance of inflation-GDP correlation, and inability to find better explanations for all four events, connected to policy changes, confirm this. India's expenditures in the amount of $3 billion cannot have direct impact on GDP of this scale.

Thus, the conclusion is that there is little to none significant direct relationship between the war in Afghanistan and India's GDP and its components. It is the conclusion about detectability in aggregate data and not the statement about lack of influence on India since some regional stability, security and strategic benefits are not measured by GDP. The result is based on the sample of nominal dollar series and should be considered with appropriate caution. Future papers using real series, aid and trade data and experimental design can prove or disprove the conclusion.

**References**

1. Agarwal, M., & Whalley, J. (2013). *China and India: Reforms and the response* (NBER Working Paper No. 19006). https://doi.org/10.3386/w19006
2. Ball, L., Chari, A., & Mishra, P. (2016). *Inflation in India* (NBER Working Paper No. 22948). https://doi.org/10.3386/w22948
3. Bhandari, P., & Frankel, J. A. (2015). Developing-country *nominal GDP targeting*

(NBER Working Paper No. 20898). https://doi.org/10.3386/w20898

4. Blomberg, S. B., & Hess, G. D. (2002). Temporal links between conflict and economic activity. *Journal of Conflict Resolution,* 46(1), 74-90. https://doi.org/10.1177/0022002702046001005
5. Collier, P. (1999). The economic consequences of civil war. *Oxford Economic Papers,* 51(1), 168-183.
6. Hulten, C. R., & Nakamura, L. I. (2022). *Is GDP becoming obsolete? The "Beyond GDP" debate* (NBER Working Paper No. 30196). https://doi.org/10.3386/w30196
7. India Global Business. (n.d.). *India's trade ties with Afghanistan to see significant growth* [referring to the statement made by Indian External Affairs Minister at the Geneva Conference on Afghanistan, November 2020]. https://indiaglobalbusiness.com/geopolitics/asia/indias-trade-ties-with-afghanistan-to-see-significant-growth
8. Macrotrends. (n.d.). *Inflation* in India. https://www.macrotrends.net
9. Ministry of External Affairs, Government of India. (2013). *Lok Sabha Unstarred Question No. 596, reply dated 27 February 2013* [India-Afghanistan relations]. https://eparlib.nic.in/bitstream/123456789/635324/1/135377.pdf
10. Ministry of External Affairs, Government of India. (2020). India-Afghanistan *relations: Bilateral brief (Kabul* 2020). https://fsi.mea.gov.in/Portal/ForeignRelation/Kabul_2020.pdf
11. Ministry of Finance, Government of India. (2010). *Economic Survey* 2009-10, Chapter 4: Prices. https://www.indiabudget.gov.in/budget_archive/es2009-10/chapt2010/chapter04.pdf
12. Ministry of Statistics and Programme Implementation, Government of India. (n.d.). Data on *consumer price* index. https://mospi.gov.in
13. Murdoch, J. C., & Sandler, T. (2002). Economic growth, civil wars, and spatial spillovers. *Journal of Conflict Resolution, 46*(1), 91–110. https://doi.org/10.1177/0022002702046001006
14. Reserve Bank of India. (2010). *Macroeconomic and monetary developments* during 2009-10. https://website.rbi.org.in/documents/87730/39710577/MMD101110F_07.pdf
15. Romer, C. D., & Romer, D. H. (2007). *The macroeconomic effects of tax changes: Estimates based on a new measure of fiscal shocks* (NBER Working Paper No. 13264). https://doi.org/10.3386/w13264
16. World Bank. (n.d.). *World Development Indicators* [GDP and expenditure components, India, current US$]. https://data.worldbank.org