

Are Tariffs a Drag? Trade War Pushes Interest Rates Up, Economy Down

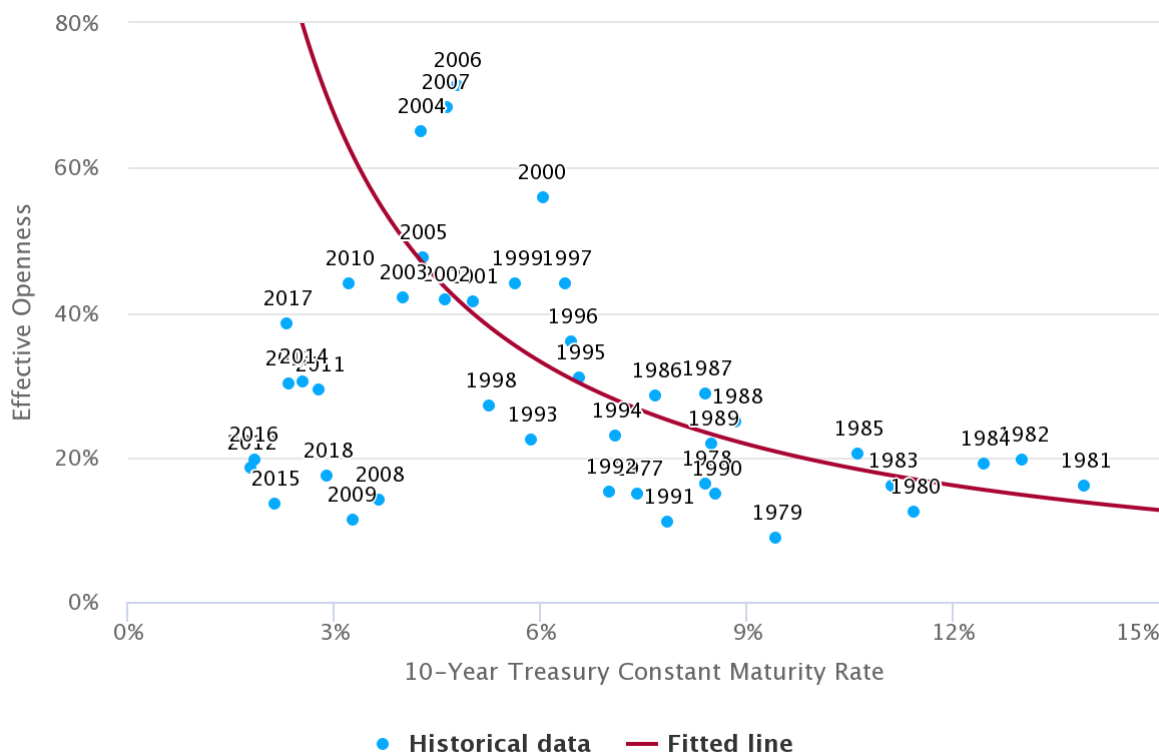
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Summary: We find that, excluding times of intervention by the Federal Reserve, interest rates on U.S. government debt are higher when levels of effective openness to foreign capital flows are lower, increasing the government's borrowing costs.

We [previously](#) defined a measure of effective openness of the U.S. economy to foreign investment flows. We found that, historically, when tariff rates increase, effective openness is lower. Here, we compare the relationship between effective openness and average interest rates on U.S. government bonds with 10-year maturities.¹ Figure 1 displays effective openness and 10-year interest rates in each year.

Figure 1: The Effective Openness of the U.S. to International Investment Flows and the 10-Year Treasury Constant Maturity Rate, 1977–2018 (percent)

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Source: Federal Reserve Bank of St. Louis. Treasury Constant Maturity Rate. Available at: <https://fred.stlouisfed.org/categories/115>.

Demand for government debt assets by all market participants influences the market interest rate on that debt. All else equal, more demand increases the price of government debt, which is equivalent to a lower interest rate. We examine the relationship between foreign demand, measured as effective openness, and the interest rate.

We abstract from a number of features of the debt market, including the effect of secular changes in the supply of debt by U.S. fiscal policy and major interventions by the Federal Reserve in credit markets. For example, during the Quantitative Easing interventions by the Fed, the Fed aggressively purchased longer maturity assets from 2009-2014. Even after expanding its balance sheet, the Fed continued to rollover its assets until 2018, when it stopped purchasing new bonds as older issues matured.

The fitted line in Figure 1 shows the estimated relationship between effective openness and interest rates on 10-year Treasury debt:²

$$\text{Effective Openness} = -0.97 + 204.68 \frac{1}{\text{Interest Rates}}$$

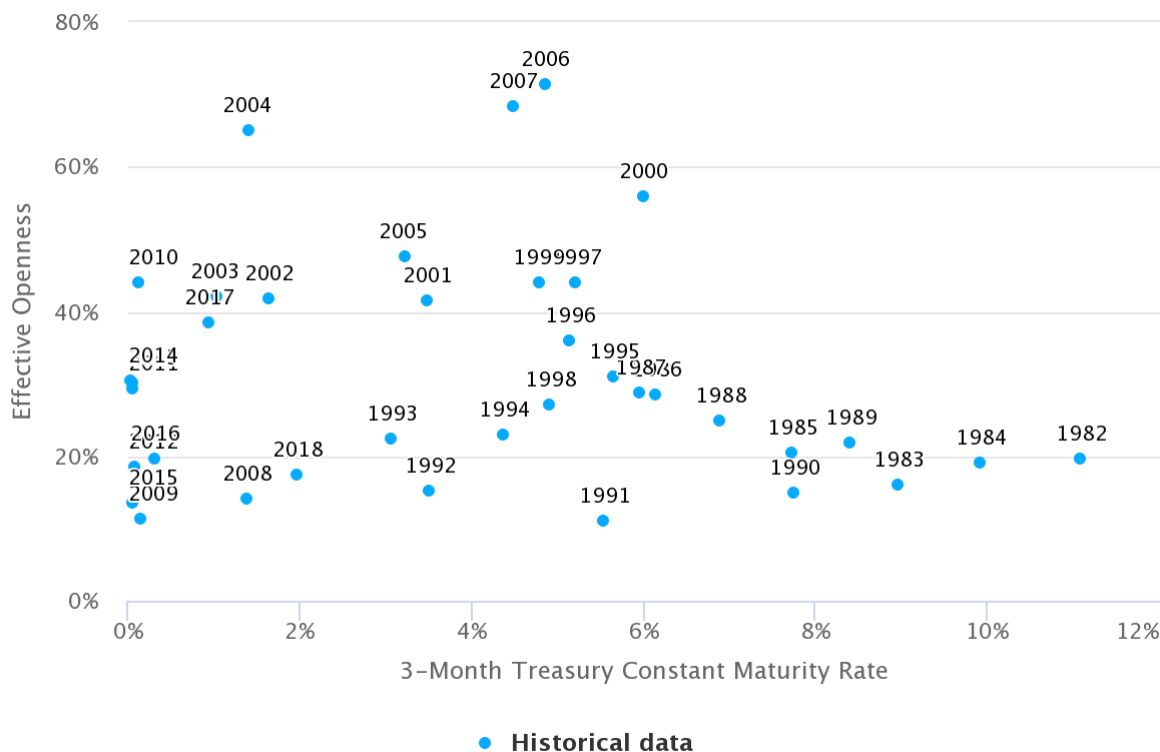
As the effective openness of the economy increases, interest rates decline. This correlation is consistent with the finding in Warnock and Warnock (2009) that foreign purchases of U.S. government bonds have a significant inverse relationship to long-term interest rates.³

While there appears to be a connection between 10-year rates and effective openness, the relationship between effective openness and short-term rates is less clear. If short-term rates are almost entirely set by policy, we expect effective openness to have little effect on them. In addition, we do not expect a strong relationship because foreign demand for long-term Treasury debt is usually higher than demand for short-term debt.⁴ Figure 2 displays effective openness and interest rate on 3-month U.S. Treasuries in each year. We

find that effective openness and short-term interest rates do not appear to be related unless we exclude periods of easing⁵ (that is, lowering of the federal funds rate).

Figure 2: The Effective Openness of the U.S. to International Investment Flows and 3-Month Treasury Constant Maturity Rate, 1982–2018 (percent)

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Source: Federal Reserve Bank of St. Louis. Treasury Constant Maturity Rate. Available at: <https://fred.stlouisfed.org/categories/115>.

Our basic empirical analysis of effective openness and federal debt interest rates shows that foreign asset demand has an inverse relationship with long-term interest rates. We [previously](#) found an inverse relationship between tariff rates and openness. Thus, in a trade-war scenario, we expect higher interest rates on federal debt, unless the Fed steps in. Higher interest payments on government debt would generate a worse outcome for the U.S. economy, and would, for example, increase the dynamic cost that we [previously estimated for the "Tax Cuts and Jobs Act."](#)

1. Federal Reserve Bank of St. Louis. Treasury Constant Maturity Rate. Available at: <https://fred.stlouisfed.org/categories/115>. ↩
2. Our nonlinear regression model takes the form of 1/x with an R-squared measure of 0.41. ↩
3. Warnock, F. and Warnock, V (2009), "International capital flows and U.S. interest rates," *Journal of International Money and Finance*, vol. 28, pp. 903-919. ↩
4. U.S. Department of the Treasury. U.S. liabilities to foreigners re U.S. Securities. Available at: <https://www.treasury.gov/resource-center/data-chart-center/tic/Pages/shlreports.aspx>. ↩

5. Federal Reserve Bank of St. Louis. Effective Federal Funds Rate. Available at:

<https://fred.stlouisfed.org/series/FEDFUNDS>. ↩