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The effect of economic policy uncertainty on bank valuations

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Abstract

This paper examines how economic policy uncertainty (EPU) affects bank valuations. Using a large sample of banks over a long period, we find that EPU has a negative effect on bank valuations. One explanation for this result is that EPU reduces bank loan growth, and lower loan growth then leads to lower bank valuations. Consistent with this explanation, we find that the negative effect of EPU is more pronounced for banks with a higher ratio of loans to total assets.

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1. Introduction

Recent research suggests that policy uncertainty has important economic consequences. For example, Pástor and Veronesi (2012, 2013) show that political uncertainty affects stock prices. Kelly, Pástor, and Veronesi (2016) find that political uncertainty is priced in the option market. Brogaard and Detzel (2015) find that economic policy uncertainty (EPU) is an important risk factor for equities. A number of studies find that EPU reduces corporate investment (e.g., Julio and Yook, 2012; Baker, Bloom, and Davis, 2016; Gulen and Ion, 2016). Bordo, Duca, and Koch (2016) find that EPU reduces bank loan growth. Shoag and Veuger (2016) argue that increased uncertainty contributed to the severity of the Great Recession.

In this paper, we find that EPU has a negative effect on bank valuations. This result holds after controlling for a variety of bank characteristics and macroeconomic variables. One explanation for this result is as follows: EPU reduces bank loan growth (Bordo, Duca, and Koch, 2016); lower loan growth then leads to lower bank valuations (Niu, 2016). Consistent with this explanation, we find that the negative effect of EPU is more pronounced for banks with a higher ratio of loans to total assets.

2. Data

Our sample consists of quarterly observations on publicly-traded bank holding companies (hereafter, banks) in the US from 1990:Q1 to 2015:Q4. We obtain stock data from the CRSP database, and accounting data from the Federal Reserve's Y-9C database. We merge the stock data with the accounting data using a dataset created by the Federal Reserve Bank of New York.[2]

To measure valuations, we use Tobin's Q, computed as the ratio of the market value of equity plus the book value of liabilities to the book value of assets. To proxy for EPU, we use the EPU index developed by Baker, Bloom, and Davis (2016). This index is based on frequency counts of newspaper articles that contain terms about the economy, policy, and uncertainty. The index has been used by many researchers (e.g., Pástor and Veronesi, 2013; Bordo, Duca, and Koch, 2016; Brogaard and Detzel, 2015; Gulen and Ion, 2016).

Many studies find that EPU rises during recessions (e.g., Pástor and Veronesi, 2013; Baker, Bloom, and Davis, 2016; Gulen and Ion, 2016). To distinguish the impact of EPU from the impact of recessions, we include three measures of economic conditions in the regressions. First, we include the growth rate of real GDP, obtained from the Bureau of Economic Analysis. Second, we include the unemployment rate, obtained from the Bureau of Labor Statistics. Finally, we include the federal funds rate, obtained from the Federal Reserve.

We choose bank-level control variables based on previous studies on bank valuations (e.g., Caprio, Laeven, and Levine, 2007; Fang et al., 2014; Niu, 2016). These variables include bank size (measured as the natural logarithm of total assets in constant December 2015 dollars), the

[2] The dataset is available at https://www.newyorkfed.org/research/banking_research/datasets.html

ratio of equity to total assets, the ratio of loans and leases to total assets, the ratio of domestic deposits to total assets, the growth rate of loans and leases, and the return on equity.

To ensure that our results are not driven by outliers, we winsorize all bank-level variables except size at the 1% and 99% levels.

3. Results

Table 1 presents summary statistics for the variables. Tobin's Q has a mean of 1.047 with a standard deviation of 0.065. It ranges from 1.002 at the 25th percentile to 1.082 at the 75th percentile. The average bank has a capital ratio of 9.1% and a return on equity of 13.2%. On average, loans account for 64.9% of total assets. EPU has a mean of 1.114 with a standard deviation of 0.435. The large standard deviation is consistent with the notion that EPU varies substantially over time (Baker, Bloom, and Davis, 2016).

[Table 1 near here]

Table 2 reports the regression results. Column (1) reports the results from a regression of Tobin's Q on EPU, macroeconomic controls, and bank-level controls. Standard errors are clustered at the bank level.

[Table 2 near here]

The coefficient on EPU is negative and significant at the 1% level. This result shows that EPU has a negative effect on bank valuations. To assess the economic magnitude of the coefficient, recall that EPU has a standard deviation of 0.435. Thus, a one standard deviation change in EPU is associated with a change in Tobin's Q of 0.52 percentage point (= 0.435 x 0.012 x 100). To put this magnitude in perspective, we note that a one standard deviation change in GDP growth is associated with a change in Tobin's Q of 0.59 percentage point (= 0.025 x 0.236 x 100).

Turning to macroeconomic controls, we find that GDP growth is positively associated with bank valuations, while unemployment rate is negatively associated with bank valuations. These results are consistent with the notion that banks usually have higher valuations when the economy is strong. Federal funds rate is negatively associated with bank valuations.

Turning to bank-level controls, we find that the results are generally consistent with previous studies. The coefficient on size is positive and significant, indicating that larger banks have higher valuations. One interpretation of this result is that larger banks experience scale economies (e.g., Hughes and Mester, 2013). Faster loan growth is associated with higher valuations. This result is consistent with Niu (2016). Return on equity is positively associated with valuations, as expected.

Why does EPU affect bank valuations? Pástor and Veronesi (2013) use a general equilibrium model to examine the effects of policy uncertainty on stock prices (and, by extension, firm valuations). Here, we propose a simple explanation that is specific to the banking industry. Our explanation is based on two recent papers: Bordo, Duca, and Koch (2016) find that EPU

significantly reduces bank loan growth, and Niu (2016) finds that a slowdown in loan growth results in lower bank valuations. Taken together, these results suggest that EPU affects bank valuations by influencing loan growth.

Our explanation implies that the negative effect of EPU should be more pronounced for banks with a higher ratio of loans to total assets, because a change in loan growth has a larger impact on valuations at such banks (Niu, 2016). To test this prediction, we add an interaction term between EPU and the ratio of loans and leases to total assets in the regression. Column (2) reports the regression results of this alternative specification. Consistent with our prediction, the interaction term enters negatively and significantly at the 1% level.

4. Conclusion

Using quarterly observations on a large sample of banks, we find that EPU has a negative effect on bank valuations. We also find that the negative effect of EPU is more pronounced for banks with a higher ratio of loans to total assets. These results add to the growing literature that investigates the economic consequences of policy uncertainty.

References

Baker, S.R., Bloom, N., Davis, S.J., 2016. Measuring economic policy uncertainty. Quarterly Journal of Economics 131, 1593-1636.

Bordo, M.D., Duca, J.V., Koch, C., 2016. Economic policy uncertainty and the credit channel: Aggregate and bank level U.S. evidence over several decades. Journal of Financial Stability 26, 90-106.

Brogaard, J., Detzel, A., 2015. The asset-pricing implications of government economic policy uncertainty. Management Science 61, 3-18.

Caprio, G., Laeven, L., Levine, R., 2007. Governance and bank valuation. Journal of Financial Intermediation 16, 584-617.

Fang, Y., Hasan, I., Marton, K., Waisman, M., 2014. Bank valuation in new EU member countries. Economic Systems 38, 55-72.

Gulen, H., Ion, M., Policy uncertainty and corporate investment. Review of Financial Studies 29, 523-564.

Hughes, J.P., Mester, L.J., 2013. Who said large banks don’t experience scale economies? Evidence from a risk-return-driven cost function. Journal of Financial Intermediation 22, 559-585.

Julio, B., Yook, Y., 2012. Political uncertainty and corporate investment cycles. Journal of Finance 67, 45-83.

Kelly, B., Pástor, L., Veronesi, P., 2016. The price of political uncertainty: Theory and evidence from the option market. Journal of Finance 71, 2417-2480.

Niu, J., 2016. Loan growth and bank valuations. Quarterly Review of Economics and Finance 61, 185-191.

Pástor, L., Veronesi, 2012. Uncertainty about government policy and stock prices. Journal of Finance 67, 1219-1264.

Pástor, L., Veronesi, 2013. Political uncertainty and risk premia. Journal of Financial Economics 110, 520-545.

Shoag, D., Veuger, S., 2016. Uncertainty and the geography of the great recession. Journal of Monetary Economics 84, 84-93.

Table 1
Summary statistics

	Mean	Standard deviation	25th percentile	Median	75th percentile	N
Tobin's Q	1.047	0.065	1.002	1.037	1.082	39,276
Size	21.594	1.605	20.435	21.207	22.393	39,276
Capital	0.091	0.026	0.075	0.088	0.103	39,276
Loans	0.649	0.123	0.587	0.664	0.732	39,275
Deposits	0.766	0.127	0.720	0.796	0.849	39,276
Loan growth	0.026	0.059	-0.003	0.017	0.041	38,185
Return on equity	0.132	0.182	0.101	0.163	0.215	38,703
EPU	1.114	0.435	0.820	1.009	1.297	39,276
GDP growth	0.026	0.025	0.014	0.027	0.040	39,276
Unemployment rate	0.060	0.015	0.049	0.056	0.068	39,276
Federal funds rate	0.032	0.024	0.010	0.032	0.053	39,276

Notes: Tobin's Q is the ratio of the market value of equity plus the book value of liabilities to the book value of assets. Size is the natural logarithm of total assets in constant December 2015 dollars. Capital is the ratio of equity to total assets. Loans is the ratio of loans and leases to total assets. Deposits is the ratio of domestic deposits to total assets. Loan growth is the quarterly growth rate of loans and leases. Return on equity is the annualized ratio of income before income taxes and extraordinary items to the book value of equity. EPU is the economic policy uncertainty index of Baker, Bloom, and Davis (2016) divided by 100. GDP growth is the annualized percent change of real GDP from preceding quarter. Unemployment rate is the number of unemployed people as a percentage of the labor force. Federal funds rate is the interest rate on overnight unsecured loans among depository institutions.

Table 2
The effect of economic policy uncertainty on bank valuations

	(1)	(2)
EPU	-0.012***	0.010
	(0.001)	(0.007)
EPU x Loans		-0.033***
		(0.011)
GDP growth	0.236***	0.234***
	(0.019)	(0.019)
Unemployment rate	-1.732***	-1.734***
	(0.068)	(0.068)
Federal funds rate	-0.425***	-0.425***
	(0.048)	(0.048)
Size	0.006***	0.006***
	(0.001)	(0.001)
Capital	0.100	0.097
	(0.071)	(0.070)
Loans	-0.017	0.020
	(0.013)	(0.016)
Deposits	0.003	0.003
	(0.019)	(0.019)
Loan growth	0.019**	0.019**
	(0.008)	(0.008)
Return on equity	0.096***	0.095***
	(0.006)	(0.006)
Constant	1.027***	1.004***
	(0.035)	(0.034)
Observations	38,185	38,185
R-squared	0.333	0.333

Notes: The dependent variable is Tobin's Q. Standard errors are clustered at the bank level and reported in parentheses. *** and ** indicate statistical significance at the 1% and 5% level, respectively.