The curious case of shackled Leviathan: State capacity, civil liberty, and bank intermediation*

Seyit Gokmen[†]and Arisyi F. Raz[‡]

February 29, 2024

Abstract

We examine the effects of political stability and institutions on bank liquidity creation. Theory suggests that a strong state that is able to maintain the civil liberty of its populace, or a Shackled Leviathan, creates political stability that ultimately stimulates investment and economic activities. In turn, intensified economic activities increase demand for financial services and encourage banks to create liquidity in the economy. We empirically test this conjecture and find a strong effect of state capacity on liquidity creation when civil liberty is high. We conjecture that state capacity and civil liberty affect liquidity creation via political stability, as well as innovation and entrepreneurship channels. Our findings confirm the presence of both channels, thus offering novel insights into the significant effect of political stability and democracy on the banking sector.

JEL-Codes: F50, G21, P48.

Keywords: bank liquidity creation; state capacity; civil liberty; democratic institutions.

1 Introduction

State capacity can be a double-edged sword. A weak state has an ineffective government that is prone to violence and instability, creating negative externalities and undermining the Schumpeterian process of creative destruction (Harstad and Mideksa, 2017; Lowes and Montero, 2021; Powell, 2013). In contrast, a strong state can provide public goods provisions that improve government effectiveness, create economic and political stability, as well as contribute to financial and economic development (Acemoglu et al., 2015; Besley and Persson, 2009). Unfortunately, a strong state has a tendency to become an authoritarian government, referred to as the Leviathan, if its power is unchecked (Acemoglu and Robinson, 2020). Evidence shows that authoritarian states are prone to civil unrest that frequently undoes their achieved economic progress in the long-run (Acemoglu et al., 2019).[1] To avoid this, civil society needs to maintain its liberty and counterbalance the power of the state, creating a shackled Leviathan.

A shackled Leviathan therefore creates a balanced power sharing between the state and civil society. Equally strong state and civil society result in an effective government, while simultaneously enabling free flows of information. This condition creates economic stability and attracts investment. Higher investment increases the demand for financial products offered by financial institutions, including banks, thanks to their role as financial intermediaries that enable them to draw short-term liabilities and transform it into long-term assets (Diamond and Dybvig, 1983). Based on this background, we conjecture that democratic institutions, represented by the levels of state capacity and civil liberty, contribute positively to bank intermediary function, measured using its liquidity creation capability.

Identifying the causal effects of state capacity and civil liberty on bank liquidity creation might be challenging, due to the possible presence of unobserved characteristics of the bank's country that are correlated with state capacity, civil liberty, and liquidity creation. Indeed, prior research suggests that these measures are arguably exogenous because

---

[1]Historical evidence confirms this statement. For example, various Middle Eastern kingdoms and societies from the medieval until the early modern eras show that in the long-run authoritarian rulers would eventually collapse even though they managed to establish strong institutions in their early ruling periods (Pamuk, 2014).

our state capacity and civil liberty measures have clear constitutional or institutional basis (de jure), thus are unlikely to react to the changes in bank characteristics (Besley and Persson, 2009; Cohen et al., 2018; Delis et al., 2020; Glaeser et al., 2004). However, our empirical strategy further employs various steps to address this concern such as the inclusion of bank and year fixed effects as well as various bank-level and country-level controls. We also conduct balancedness test outlined by Pei et al. (2019) to ensure that our findings are not driven by potential confounders. Finally, we complement our baseline results with an instrumental variable (IV) estimator.

Using bank-level panel data across 148 countries between 2011 and 2019, our results find that a strong state contributes positively to bank liquidity creation. Further examination, however, suggests that the positive effect of state capacity is only optimized when there is an adequate level of civil liberty in the country. Our findings document that the combined effects of state capacity and civil liberty are not only statistically significant but also economically meaningful. We also decompose bank liquidity creation into its on-balance sheet and off-balance sheet items. The results suggest that the effects of state capacity and civil liberty on bank liquidity creation is driven by the former only.

Next, we explore the possible mechanisms through which state capacity and civil liberty may have influenced the evolution of bank liquidity creation. The first potential channel is through political stability. Our test shows that countries with higher levels of state capacity and civil liberty are more resistant to political instability shocks, represented by the occurrence of a terrorist incident, thus reducing business risks and ensuring the sustained utilization of financial products. Another potential channel is through the proliferation of innovation and entrepreneurship. Using the number of researchers per one million people as a proxy for innovation and the ratio between total employers to total employees to represent entrepreneurship, our results show that these factors contribute to increased liquidity creation.

Our research relates to two strands of literature. First, it builds on a small but growing literature about the relation between political institutions and the behaviour of financial agents. Acemoglu et al. (2017) show how protests in Egypt during the Arab Spring are associated with lower stock market valuations for firms affiliated with incumbent political

groups. In a similar vein, a study by Doerr et al. (2022) documents the effect of the German banking crisis of 1931 on political radicalization in Germany. Meanwhile, our paper extends this line of research by showing how political institutions and stability can encourage business and increase the demand for financial services.

A subset of this literature focuses on the effects of democratic institutions on the banking sector. For example, a study by Cohen et al. (2018) documents a strong association between fiscal capacity, which is a component of state capacity, and bank liquidity and credit supply. Their results suggest that a state's spending cut improves state solvency and creates balance sheet slack that leads to increased bank lending. Meanwhile, Qian and Strahan (2007) show that legal capacity, another dimension of state capacity, creates stronger creditor protection and reduces interest rates. The similarity between these studies is that they focus on a specific element of state capacity, while omitting the influence of civil liberty or democratization level. In contrast, a study by Delis et al. (2020), which links the relationship between democratic institutions and the cost of loans, views democracy as a very broad term.[2] As pointed out by the authors, future research should aim at capturing more specific characteristics of democracy. Our study therefore extends this line of research by finding a middle ground. Specifically, we attempt to capture the overall level of state capacity using a dichotomous measure rather than focusing a specific and narrow aspect of state capacity. However, in our effort to capture the broader aspect of state capacity and democratization level, we still avoid overgeneralization. Instead of using a single measure representing democratic institutions, our study employs two main indicators, namely the levels of state capacity and civil liberty. Additionally, rather than focusing on a specific aspect of bank behavior, we attempt to study the effect of these political institutions on the banking sector's overall intermediary function, measured using liquidity creation capability.

Second, our paper relates to works on the determinants of bank liquidity creation. Prior research has shown that factors such as financial regulations, policy uncertainty, corporate governance, and industry characteristics (Acharya and Thakor, 2016; Berger

---

[2]For example, the authors consider both government effectiveness and civil liberty as an inseparable part of democracy. In contrast, our study disentangles these characteristics into separate individual elements using our state capacity and civil liberty indices.

et al., 2016, 2022; Silva, 2019). Recently, a subset of this literature focuses on the determinants outside financial economic themes. For example, Raz (2023) documents the negative relation between Ramadan fasting intensity and liquidity creation. Our findings add to this strand of literature by examining the effects of various democratic institutions on liquidity creation.

The paper proceeds as follows. Section 2 summarizes theories that underpin the empirical analysis. Section 3 provide an overview of the variable descriptions, data sources, descriptive statistics, and empirical identification. We report our econometric results in Section 4 and present robustness checks in Section 5. Section 6 draws conclusions.

2   Conceptual framework

State capacity is defined as the ability of state functionaries and agencies to achieve their goals, including the acquisition of new technologies, resources allocations, enforcement of standards and regulations, as well as establishment of social pacts (Acemoglu et al., 2015). Existing theoretical literature has established a firm linkage between state capacity and financial economic development. For example, Acemoglu et al. (2015) suggest that high levels of state capacity provide public goods provisions crucial for economic development. The presence of a capable state also creates the need to finance public goods, ultimately easing access to credit, improving investor protection, and developing the financial system (Besley and Persson, 2009). However, state capacity alone is not sufficient to achieve sustainable financial economic development. To quote Acemoglu and Robinson (2020):

> Wherever the Leviathan has shown up, the lot of liberty has hardly improved. Even though it has enforced laws and kept the peace in some domains, the Leviathan has often been despotic, thus unresponsive to society, and has done little to further the liberty of its citizens. Only shackled states have used their power to protect liberty. The Shackled Leviathan has been distinctive in another sense too—in creating broad based economic opportunities and incentives and promoting a sustained rise in economic prosperity. (pp. 27–28)

Therefore, the presence of able state needs to be accompanied by a thriving democracy

5

that values civil liberty. In this paper, we conceptualize civil liberty as the presence of institutions that protect individual and minority rights against the potential oppression by the state. Hence, we view civil liberty as a long-term institution-based rather than short-term perception-based (Delis et al., 2020; Glaeser et al., 2004). Prior theoretical research has shown the benefits of democracy for economic development by suggesting the positve impact of democracy on transparency, thus improving business efficiency and contributing to economic growth (Shleifer and Vishny, 1993). The presence of democratic institutions also improve human capital that creates sustainable economic development (Baum and Lake, 2003).

Given this backdrop, we aim to investigate the effects of state capacity and civil liberty on the banking sector, which is a narrower but crucial aspect of economic development. Specifically, we measure banking sector development using bank liquidity creation index outlined by Berger and Bouwman (2009), which captures a bank's ability to perform its financial intermediary functions. We hypothesize two potential channels in which state capacity and civil liberty can affect bank liquidity creation: 1) the political stability channel; and 2) the innovation and entrepreneurship channel.

For the former, strong state institutions (or high levels of state capacity) form market expectations about the protection of property rights, political stability, and the formation of check and balances that can affect the functioning of the economy (Acemoglu et al., 2019; Besley and Persson, 2009). Legal capacity, which is one of many dimensions of state capacity, also creates business certainty and protects creditor rights (Bae and Goyal, 2009; Qian and Strahan, 2007). Literature further shows that high levels of civil liberty create political stability that increases financial literacy and reduces financial risks, including the cost of credit (Acemoglu et al., 2017; Delis et al., 2020). The combined effects of high levels of state capacity and civil liberty therefore create political stability that reduces business risks and increases the utilization of financial products, including those offered by the banking sector.

The levels of state capacity and civil liberty can also influence bank liquidity creation via innovation and entrepreneurship channel. Prior research suggests that the presence of capable state and strong democratic institutions contribute positively to human capital

6

and development (Acemoglu et al., 2016, 2019). Specifically, high levels of state capacity lead to grater public goods provision that expand welfare provision, set up public education, and more responsible government spending (Dittmar and Meisenzahl, 2019; O'Reilly and Murphy, 2022). Meanwhile, democratic societies enable information to flow more freely, generating economic security and facilitating the exchange of ideas (Delis et al., 2020; Gratton and Lee, 2023). Together, capable state institutions and democratized society establish a new social order with interlocking provisions that create various economic incentives for entrepreneurs to start new businesses and innovate (Babina et al., 2023; Tian and Xu, 2021). These entrepreneurs attract investors that increase demand for services from the banking sector and create liquidity in the economy (Babina et al., 2024; Black and Strahan, 2002; Cetorelli and Strahan, 2006).

Whether any or both mechanisms prevail is an empirical matter.

3 Variables, data, and identification strategy

3.1 Measuring state capacity and civil liberty

Measuring state capacity is a challenging task as the concept involves several interrelated facets. Broadly speaking, it is defined as a state's ability to establish the rule of law, effectively collect tax revenue, assert authority over its territory, and implement impartiality of public administration (Acemoglu et al., 2015; Besley and Persson, 2009; O'Reilly and Murphy, 2022). This includes aspects such as legal formalism, legal origin, and regulatory enforcement that create legal mechanisms to maintain justice and allocate state resources efficiently. High state capacity therefore provides abundant public goods to the economy.

[Insert Figure 1]

Due to its complex and multifaceted definition, literature offers several measures to capture state capacity focusing on different dimensions such as military, bureaucratic administration and political institutions. In our study, we follow O'Reilly and Murphy (2022) that construct a state capacity index (country-year) or *Capacity* based on six components from the Varieties of Democracy (V-Dem) dataset (www.v-dem.net). Specifically, the

7

index captures: 1) the enforceability of law with an emphasis on transparency, independence and equal application (rule of law); 2) the percentage of total territory effectively controlled by the state; 3) the effectiveness of public administration; 4) the inclusive capacity to provide public goods; 5) the sources of state revenue to achieve the established goals; and 6) the capacity to provide high-quality education. This index does not only capture various elements of state capacity but is also consistent with theoretical literature (Acemoglu et al., 2015; Besley and Persson, 2009). Appendix Table A.1 provides the list of variables used in creating the index. The original index outlined by O'Reilly and Murphy (2022) ranges between -5 (lowest state capacity) and 5 (highest state capacity). For easier interpretation, we scale the index to ranging between 0 (lowest state capacity) and 1 (highest state capacity).

Quantifying civil liberty is also empirically challenging. In this paper, we define civil liberty as an institution-based (de jure) indicator rather a perception-based, which allows us to study the impact of institutional democracy that has mostly filtered out its perception-based element. Prior research mostly uses the institutional democracy index provided by the Polity IV Project (Bowman et al., 2005; Delis et al., 2020; Glaeser et al., 2004).[3] As pointed out by Delis et al. (2020), however, the institutional democracy index captures a broad definition of democracy without converging to a particular aspect of democracy. The authors further suggest the variables provided by the V-Dem dataset to capture a more specific aspect of democracy such as civil liberty. We therefore measure civil liberty using civil liberty index (country-year) or *Liberty* retrieved from the V-Dem dataset (in the V-Dem website the variable name is *v2x_libdem*). This index captures the degree of which individual and minority rights are protected from the tyranny of the state and the tyranny of the majority, which is consistent with Acemoglu and Robinson (2020). We further discuss the qualitative characteristics of this measure in Appendix A.2. The index ranges between 0 (lowest civil liberty) and 1 (highest civil liberty), which has a similar scale to our state capacity index.

Figure 1 plots the distribution of the average of state capacity index and civil liberty index, and divides into four quadrants. Quadrant 1 consists of countries with low state

---

[3]Now has been updated to the Polity V version (Polity Project, 2018).

capacity and civil liberty. Quadrant 2 comprises of countries with low state capacity but high civil liberty.[4] Quadrant 3 composes of countries with high state capacity and low civil liberty. Finally, Quadrant 4 consists of countries with high state capacity and civil liberty.

3.2   Bank liquidity creation

Our key outcome variable, bank liquidity creation, is measured using a variant of Berger and Bouwman (2009) methodology.[5] In short, bank liquidity creation is calculated as the weighted sum of all asset-side, liability-side, and off-balance sheet activities. Banks therefore create liquidity when they transform illiquid assets (e.g., commercial and industrial loans) into liquid liabilities (e.g., saving deposits) and destroy liquidity when they transform liquid assets (e.g., securities) into illiquid liabilities (e.g., subordinated debt). Off-balance sheet activities also behave similarly to on-balance sheet items. Based on this rationale, activities that create liquidity are given positive weights and activities that destroy liquidity are given negative weights. Appendix Table A.1 provides details of the construction of liquidity creation measure.

We retrieve bank-level data from Bureau van Dijk's BankFocus to construct liquidity creation measure. We exclude bank holding companies and other non-bank financial institutions. We also drop observations with missing assets and convert financial statements reported in local currency to US dollar using annual exchange rates data provided by the Organisation for Economic Co-operation and Development (OECD). Finally, to make the liquidity creation measure comparable across banks, we normalize by the bank's total assets.

[4]There are fewer observations in our sample that falls into this category. Acemoglu and Robinson (2020) argue that a nation with low state capacity and high civil liberty creates a stateless society that would cage the economy due to the absence of economic incentives. The authors suggest that this condition is more likely to be found in small tribal societies, even though historically, there were instances where a country became a stateless society, such as the Democratic Republic of the Congo in the 1960s.

[5]Berger and Bouwman (2009) outline several variants in measuring liquidity creation, namely 'cat fat', 'cat nonfat', 'mat fat', and 'mat nonfat'. In this paper, we use the most preferred variant by the literature, 'cat fat', because it classifies the liquidity of loan items based on loan type rather than maturity, and considers off-balance sheet items in the calculation. Defining loan by type rather than maturity also reflects bank liquidity better because the former determines the ability of banks to securitize and sell loans. As part of robustness checks, we also use other liquidity creation variants. Appendix Table C.1 shows that the results are consistent with our baseline findings.

3.3 Data and Summary statistics

In addition to our main variables, we also follow the literature by including a range of bank-level and country-level control variables (Berger et al., 2016, 2022; Raz, 2023). We retrieve bank-level controls from BankFocus, which include log assets ($Size$), net interest margin (NIM), return on assets (ROA), and loan loss provisions to assets (LLP). Country-level data are obtained from the World Bank's World Development Indicators (WDI), namely log of GDP per capita (GDP), unemployement rate ($Unemp$), and FDI to GDP ratio (FDI).

We merge these data and construct an unbalanced annual panel containing information on 7,994 banks from 148 countries between 2011 and 2019. The sample starts in 2011 to avoid the confounding effects of banks transforming their balance sheets composition in the aftermath of the financial crisis. Ending the sample in 2019 ensures our inferences are not influenced by the COVID-19 pandemic. The merged dataset provides a sample of 58,529 observations. Table 1 describes variable definitions and sources.

[Insert Table 1]   [Insert Table 2]

Table 2 presents descriptive statistics. The first set of statistics describes information on bank liquidity creation, state capacity, and civil liberty for all observations. The second set presents the statistics of observations from Quadrant 1 (low state capacity and low civil liberty). The third set shows data from Quadrant 3 (high state capacity and low civil liberty), while the fourth set reports the statistics of observations from Quadrant 4 (high state capacity and high civil liberty). The sample has an average bank liquidity creation of 14.9%. Banks from Quadrant 4 have the highest liquidity creation (15.6%), while banks from Quadrant 1 have the lowest liquidity creation (10.6%). These statistics provide initial insights regarding the correlation between state capacity, civil liberty, and liquidity creation. Appendix A.3 reports the descriptive statistics of all included variables.

3.4 Identifying a causal effect

Our identification strategy revolves around studying the causal effects of state capacity and civil liberty on bank liquidity creation. State capacity and civil liberty are arguably

exogenous to the characteristics of bank behaviour. The reason is because both measures have clear constitutional or institutional basis (de jure) and are not driven by perceptions (Delis et al., 2020; Glaeser et al., 2004). Additionally, these measures are less likely to endogenously react to the changes in bank liquidity creation, which rules out simultaneity bias concern.

However, we take several additional steps to address the possible presence of unobserved characteristics of the bank's country that are correlated with state capacity, civil liberty, and liquidity creation. First, we include bank and year fixed effects in our identification strategy. Bank fixed effects control for any time-invariant bank-specific characteristics that affect liquidity creation, while year fixed-effects control for annual shocks common to all banks in our sample. The use of these effects along with bank-level and country-level controls should capture the effect of several unobserved variables affecting liquidity creation. We therefore estimate:

$$
\begin{aligned}
y_{i,c,t} = \alpha \cdot Capacity_{c,t} \times Liberty_{c,t} + \beta \cdot Capacity_{c,t} + \gamma \cdot Liberty_{c,t} + \\
\delta \cdot X_{i,c,t} + \varphi_i + \varphi_t + \epsilon_{i,c,t}.
\end{aligned}
\tag{1}
$$

where $y_{i,c,t}$ is the outcome of interest (bank liquidity creation) for bank i in country c in year t; $Capacity_{c,t}$ and $Liberty_{c,t}$ are capacity index and civil liberty index in country c in year t, respectively; φ_i and φ_t are bank and time fixed effect; $\epsilon_{i,c,t}$ is the error term. $X_{i,c,t}$ is a vector of bank-level and country-level covariates. Standard errors are clustered at the bank level.[6]

Second, because the inclusion of various bank-level and country-level controls might also lead to "bad-controls" phenomenon, we conduct a balancedness test suggested by Pei et al. (2019) to detect potential confounders by placing state capacity and civil liberty on the left-hand side of the regression instead of the outcome variables. Our results in Appendix Table B.2 show that none of the balancing regressions yields a systematic correlation between either state capacity or civil liberty and any of the control variables. These results suggest that our findings are not likely explained by selection on observables.

---

[6]As suggested by Wooldridge (2023), we test whether we should cluster the standard errors at the country or bank level by following a procedure outlined by Ibragimov and Müller (2016). Our results in Appendix Table B.1 suggest that clustering from a much finer partition (bank level) is preferred.

Third, even though it is unlikely that the levels of state capacity and civil liberty systematically and simultaneously changes with with other unobserved determinants of liquidity creation within a country, we further test the robustness of our results using an IV method.

4   Results

4.1   Main findings

Table 3 presents the estimates of Equation (1). In column 1 of Panel A we show that capacity is positively associated with liquidity creation, and the estimate is significant at the 1% level. Economically, one standard deviation rise ($\sigma_{Capacity} = 0.1304$) in state capacity index increases liquidity creation by 7 percentage points. Similarly, column 2 of Panel A displays a positive and significant relationship between civil liberty and liquidity creation. This time, one standard deviation rise ($\sigma_{Liberty} = 0.2214$) in civil liberty leads to a 3 percentage points increase in liquidity creation.

[Insert Table 3] [Insert Figure 2]

Our findings document that the effect of state capacity is relatively more substantial than that of civil liberty. One potential explanation to this evidence is because the presence of a strong state, or the Leviathan, are more likely create various economic incentives such as security, predictability, and order, at least in the short-term (Acemoglu and Robinson, 2020). Indeed, the sustainability of these incentives need to be complemented by the presence of a democratic society represented by a high level of civil liberty, which would shackle the Leviathan. We therefore test this conjecture by interacting state capacity and civil liberty, and estimate the effect on bank liquidity creation. Our estimates in column 3 of Table 3 display that the coefficient of interest is positive and statistically significant at the 1% level. Figure 2a illustrates the effect of this interaction using predictive margins. It shows that the effect of state capacity on liquidity creation becomes stronger as civil liberty increases, which is reflected by the steeper slope.

In Panel B, we attempt to examine further the nonlinear effect of the civil liberty on liquidity creation. In column 1, we regress liquidity creation on state capacity using

observations with civil liberty index below 0.25. The estimated coefficient is positive but statistically insignificant. This implies that the positive effect of state capacity on bank intermediation is curbed when there is no thriving democratic society in a country. Column 2 estimates a similar regression using observations with civil liberty index above 0.75. This time, the coefficient of interest is interest and significant. In column 3, we interact state capacity with dummies representing whether a country falls within the $< 0.25, 0.25 - 0.50$, $0.50 - 0.75$, or > 0.75 ranges in terms of civil liberty index. We find that the effect of the interaction coefficient becomes larger as civil liberty index increases. The results of this nonlinear specification can be seen graphically in Figure 2b, which illustrates the estimated coefficients for each civil liberty index bins, along with 90% confidence intervals.

At the bottom of Table 3 Panel B, we examine whether these interaction coefficients are significantly different from each other. The results suggest that, while the interaction variable with civil liberty dummy of < 0.25 is not significantly different from that of $0.25 - 0.50$, we find that the interaction coefficient with with civil liberty dummy of $0.25 - 0.50$ $(0.50 - 0.75)$ is significantly different from that of $0.50 - 0.75$ (> 0.75). These results confirm further that the positive effect of state capacity increases as a country's democratization level improves.

We measure bank liquidity creation using the preferred variant ('cat fat') suggested by Bowman et al. (2005). However, to ensure that our results are not confounded by the selection of our liquidity creation measure, we estimate Equation (1) using other variants ('cat nonfat', 'mat fat', and 'mat nonfat') as the dependent variables. Berger and Bouwman (2009) outline several variants to measure bank liquidity creation. In addition to the preferred variant (*cat fat*), Berger and Bouwman (2009) also estimate the *cat nonfat*, *mat fat*, and *mat nonfat* versions of bank liquidity creation. To ensure that our results are not confounded by the selection of our liquidity creation variant, we estimate Equation (1) using these alternative variants. Appendix Table C.1 demonstrates the results are robust.

We also use alternative measurements of state capacity and civil liberty to prevent data-induced measurement error. For the former, we use other state capacity variants outlined by O'Reilly and Murphy (2022), namely the *Baseline*, which only include the first four components of state capacity, and *Fiscal*, which captures the first four components

13

as well as the fifth (fiscal capacity) component of their state capacity index. The results in Appendix Table C.2 show that our baseline findings remain robust. Meanwhile, we use democratization index (*Democracy*) and egalitarian democracy index (*Egalitarian*) retrieved from Polity V and V-Dem, respectively, as our alternative measures.[7] Our findings in Appendix Table C.3 remain economically consistent when using these alternative measures.

To further insulate our analysis from the possibility of endogeneity bias, we use the frequency of terrorist incidents to instrument state capacity. We first conjecture that terrorism against government institutions can lead to a reduction in state capacity through diminishing the effectiveness of state. However, terrorism-related actions are likely to be plausibly exogenous with respect to bank liquidity creation measures but relevant determinants of state capacity.[8] In addition, we include a second measure to capture terrorist attacks aimed specifically at civilians. This is because terrorism against civilians can be motivated by a variety of reasons, potentially imposing different impacts on state capacity. Table 4 presents the estimates of instrumental variable estimations.

[Insert Table 4]

Column 1 in Table 4 shows first state estimates of (1) using state capacity as the outcome variable. Our first instrument, the frequency of terrorist attacks against government institutions within one-year, have negatively related with state capacity. In contrast, the frequency of terrorist incidents against civilians positively associated with state capacity. Economically, the coefficient estimates imply each variable has a meaningful affect.

Next, we report the second stage estimates in column 2 and 3 of Table 4. The results show that strong state capacity impose higher liquidity creation. After adding civil liberty as additional independent variable in Column 3, the state capacity coefficient remain positive and significant at 1% significance level. Hence, the local average treatment effect

---

[7]Democratization index (in the Polity V Project the variable name is *DEMOC*) measures a broad aspect of institutional democracy that encompasses various constitutional elements (Polity Project, 2018). Egalitarian democracy index (in the V-Dem website the variable name is *v2x_egaldem*) represents the degree of protection of rights and freedoms of individuals across all social groups as well equal distribution of resources and power across all social groups.

[8]Terrorist activities against government institutions are strongly linked to one of the components of our state capacity metric:*state authority over its territory*. In addition, while it is likely that such activities have potential association with other components of state capacity.

(LATE) is statistically significant, indicating a causal relationship between state capacity and liquidity creation.

4.2   Decomposing bank liquidity creation

Bank liquidity creation can be decomposed into asset, liability, and off-balance sheet dimensions. We therefore study which dimension of liquidity creation contributes to the overall effect of bank liquidity in response to changes in state capacity and civil liberty. To do this, we estimate Equation (1) using each liquidity creation dimension as the outcome variables. Columns 1-3 of Table 5 documents the results.

[Insert Table 5]

Column 1 of the table reports estimates of Equation (1) using asset-side liquidity creation (LCA) as the outcome variable. The result shows that our coefficient of interest is positive and significant at the 1% level. Column 2 also indicates that the combined effect of strong state capacity and civil liberty leads to higher liability-side liquidity creation (LCL). In column 3, we find a negative and significant relationship between the interaction variable and off-balance sheet liquidity creation. Despite this result, the estimated coefficient is relatively small—only one third of the combined magnitude of the effects on asset-side and liability-side liquidity creation. The net effect of these changes is a significant increase in liquidity creation as shown by our results in Table 3.

[Insert Table 6]

Next, we follow Berger and Bouwman (2009) by breaking down further each liquidity dimension into liquid, semiliquid, and illiquid balance sheet classifications. We then study the effects of state capacity and civil liberty on these items using Equation (1). Columns 1-3 of Table 6 document these effects on asset items. In column 1, the interaction coefficient is negative and statistically significant. This implies that higher levels of state capacity and civil liberty reduce liquid assets (LCA^L) such as securities and trading assets. Column 2, however, shows that the coefficient of interest is statistically insignificant, indicating that it has no effect on semiliquid assets (LCA^S) such as consumer loans and

other loans to depository institutions. In contrast, column 3 shows a positive and significant relationship between the interaction variable and illiquid assets (LCA^I) such as commercial and industrial (C&I) loans.

Columns 4-6 examine the effects of state capacity and civil liberty on liability items. Columns 4 and 5 report estimates of (1) using liquid liabilities (LCL^L), such as demand and savings deposits, as well as semiliquid liabilities (LCL^S), such as time deposits, as the outcome variables. The estimates show that the interaction coefficient is positive and statistically significant. In contrast, column 6 of Table 6 documents a negative and significant relationship between our variable interest and illiquid liabilities (LCL^I such as llong-term borrowing and subordinated debt.

Overall, our findings are consistent with the liquidity creation theory, which suggests that banks create liquidity when they transform liquid liabilities into illiquid assets (Diamond and Dybvig, 1983). When the levels of state capacity and civil liberty are high, banks can accumulate more short-term deposits and use this liquidity to originate more long-term loans such as C&I loans. The increases in liquid liabilities and illiquid assets are counterbalanced by the decreases in illiquid liabilities as well as liquid assets, as shown by our results.

In columns 7-9 of Table 6 we show the effects of state capacity and civil liberty on off-balance sheet items. In column 7, we find that the levels of state capacity and civil liberty are positively and significantly correlated with liquid off-balance sheet items (LCO^L) such as bank guarantees and committed credit facilities. Meanwhile, evidence shows no significant relationship between our variable of interest and semiliquid off-balance sheet items (LCO^S), and a negative and significant correlation between the interaction variable and illiquid off-balance sheet items (LCO^I).

4.3 Political stability channel

Our conceptual framework suggests that one of the potential channels in which state capacity and civil liberty can influence liquidity creation is through political stability. To study this channel, we first measure political instability using the probability of a terrorist inci-

dent in a country given a particular year.[9] We retrieve country-year terrorist incidents data between 2011 and 2019 from the Global Terrorism Database (www.start.umd.edu/gtd). Each observation provides exhaustive details on the characteristics of a terrorism activity such as the type of the violent act, target, outcome of the action. Due to various definitions of terrorist activity may change the data, we attempt to filter out the sample using the following criteria. First, we consider an activity as a terrorist activity if the action undoubtedly intends to attain a political, economic, religious, and/or social goal. Then, the act must intimidate or publicize to a larger audience through methods outside the context of legitimate warfare, as reflected in the Geneva Conventions of 1949. Finally, we define a couple of measures showing the number of fatalities and incidents against the government or civilians within a year. We then create a dummy, *Incidents*, that is equal to one if there is at least a terrorist incident occurs in a country given a particular year and zero otherwise. We then interact this dummy variable with our main variable of interest and append Equation (1) using this triple interaction.

[Insert Table 7]

Table 7 documents the results. In column 1, we study the impact of state capacity and terrorist incident on bank liquidity creation. The coefficient of state capacity remains positive and significant, which is consistent with our baseline result. We also find a negative and significant relationship between the probability of a terrorist incident and bank liquidity creation. The coefficient suggests that the occurrence of a terrorist incident decreases bank liquidity creation by 4 points. The combined effects, represented by the interaction variable, display a positive and significant correlation. These findings suggest that, even though terrorist incid ents can have a negative influence on liquidity creation, the effect is curbed in countries with stronger state capacity. In column 2, we substitute state capacity with civil liberty. Overall, we find similar evidence to our estimates in column 1, i.e., the negative effect of a terrorist incident can be suppressed if a country has a high level of civil liberty.

---

[9]This measure is commonly used in the literature. For example, see Eckstein and Tsiddon (2004); Straetmans et al. (2008); Grossman et al. (2019). Appendix A.5 provides detailed explanation regarding the justification of using this variable.

Column 3 of Table 7 displays the combined effects of state capacity, civil liberty, and terrorist incidents on liquidity creation. First, we find that terrorist incident is negatively and statistically correlated with bank liquidity creation. Second, the interaction between state capacity and civil liberty is positive and statistically significant. The magnitude of the coefficient is also larger than the individual effects of state capacity and civil liberty found in columns 1 and 2, respectively. Finally, we document that the triple interaction is positive and statistically significant at the 5% level, corroborating our previous findings.

In addition to resistance to political instability shocks, literature also suggests that high levels of state capacity and civil liberty decrease business and financial risks that ultimately contribute to the increased demand for financial services (Acemoglu et al., 2017; Delis et al., 2020). We therefore study the impact of state capacity and civil liberty on bank business risk and stability. Following prior research we measure bank business stability using the volatility of net interest margin (σ_{NIM}) and the volatility of ROA (σ_{ROA}) (Houston et al., 2010; Laeven and Levine, 2009).

[Insert Table 8]

Table 8 documents the results. In column 1, our findings suggest that the combination of high levels of state capacity and civil liberty lead to lower volatility of net interest margin, and the result is significant at the 5% level. Our estimates remain consistent when using the volatility of ROA as the outcome variable, as shown by column 2 of the table. These findings therefore provide further evidence regarding the significance of the political stability channel.

4.4 Innovation and entrepreneurship channel

Now, we test the hypothesis in which state capacity and civil liberty can affect bank liquidity creation via innovation and entrepreneurship channel. We follow prior research by using the number of researchers per one million people ($Researcher$) as a proxy for innovation (Peters and Taylor, 2017; Babina et al., 2024). Similarly, we use the entrepreneurship ratio ($Entrepreneur$), which is the ratio of total employers to total employees, as a proxy for entrepreneurship. Following the approach outlined by Raz (2023), we create low innovation and entrepreneurship dummies, $High_{Researcher}$ and $High_{Entrepreneur}$, that are

equal to one if the innovation level or entrepreneurship ratio is higher than the sample's median and zero otherwise, and interact these dummies with our state capacity and civil liberty variables.

[Insert Table 9]

Table 9 presents the results. In column 1, we find a positive and statistically significant effect of this triple interaction on bank liquidity creation. This implies that high levels of researchers in an environment with high levels of state capacity and civil liberty contribute positively to bank liquidity creation. Column 2 also reports a positive and statistically significant effect of the triple interaction, indicating a crucial role of entrepreneurship in increasing bank liquidity creation. In other words, evidence suggests that state capacity and civil liberty do not only influence bank liquidity creation through political stability channel, but also innovation and entrepreneurship channel.

5 Robustness checks

5.1 Country-level analysis

To validate our baseline results, we conduct a cross-country analysis to examine the relationship between state capacity, civil liberties, and their impact on various macroeconomic indicators. Following equation (1), we use *Production Capacity Index (PCI)*, *Lending Interest Rate* and *Number of Depositors per 1000 people* as dependent variables. Panel A of Table D.1 represents the the effect of state capacity and liberty on PCI and its components. We find that the interaction between state capacity and civil liberty is positive and statistically significant, stating a positive association with PCI. Furthermore, we break down the components of PCI and observe that our interaction coefficient is remains notably significant and positive particularly for energy, communication, natural capital and transport components of PCI. Additionally, both metrics of capacity and liberty contribute to an improvement in the institutions component of PCI.

[Insert Table D.1]

19

Panel B of Table D.1 reports the estimates on how our baseline indicators affect the aggregate lending interest rates and the number of depositors per 1000 people in each country. Our primary objective here is to understand the behaviour of depositors and financial institutions in response to changes in state capacity and liberty. In column 1 and 2 of Table D.1, indicate that the impact of state capacity on lending interest rates and the average number of depositors becomes more pronounced as civil liberties increase. Favourable conditions promote lower lending interest rates and attract higher number of depositors. In Column 3 and 4 of Table D.1, we introduce terrorist incidents as the third interaction term to examine how political instability might affect overall market conditions. Our findings suggest that counties with robust state capacity and liberty demonstrate greater resilience to political instabilities.

5.2   Other robustness checks

Our clustering test suggests that the correct clustering of standard errors is by bank. To reflect country representativeness and reduce heteroscedasticity concerns, we follow previous studies by estimating weighted least squares using the inverted share of observations in each country in each year as the weight (Raz, 2023). The results in Appendix Table E.1 are very similar to our baseline.

Our identification strategy has conducted various tests to reduce the possibility that our variables of interest does not capture other country-specific characteristics observed at the country-level. We attempt to reduce this possibility further by controlling for various controls reflecting economic, institutional, and financial economic conditions such as banking sector's industry concentration, industrialization level, overall economic value added. Appendix Tale E.2 shows that our estimates are hardly affected by this sensitivity test.

China's state capitalism has been applauded, which has managed to develop the country significantly. We therefore study whether the China's experience is an outlier and different from other countries. To test this, we create a China country dummy and interact it with our interaction variable. Column 2 of Table E.3 documents that the results are robust. Appendix Table A.2 reports that our sample disproportionately include US banks

(27,291 observations). To ensure that our results are not driven by the characteristics of US banks, we create a US country dummy and interact it with our interaction variable. Alternatively, we drop US banks from the sample, resulting in a sample of 31,238 observations. Columns 2 and 3 of Appendix Table E.3 present these results and confirm that the interaction coefficient remains qualitatively and quantitatively similar to before.

6   Conclusions

We empirically show that strong state capacity is positively associated with bank liquidity creation. These findings are optimized when there is a satisfactory level of civil liberty within the country. The existence of strong state must be complemented by flourishing democracy that promotes civil liberty. We conjecture that civil liberty underlies countries' institutional progress that safeguard individual rights and freedom, and consequently, it increase the effectiveness of state capacity on bank liquidity creation. Furthermore, we establish the causal effect of state capacity on bank liquidity creation by employing *terrorist attacks* as instruments. The findings suggest a significant causal relationship between state capacity and liquidity creation.

We aim to identify baseline results by examining two transmission channels. First, we employ terrorist incidents as a proxy for current political stability within the country. We find that the countries with strong state capacity are able to achieve greater liquidity creation despite the adverse impact of terrorist attacks on bank liquidity creation. Second, greater levels of innovation and entrepreneurial activities coupled with higher state capacity and civil liberty, positively contribute to liquidity creation.

Our research emphasizes the need for a well-balanced state capacity and civil liberty to enhance economic prosperity through increased bank liquidity creation. The results suggest that strengthening both state capacity and civil liberty is pivotal. While our paper provides some channels to explain the baseline results, one promising avenue for future research is to delve into the specific mechanisms of state influence on bank liquidity creation from a microeconomic perspective.

21

References

Acemoglu, D., García-Jimeno, C., and Robinson, J. A. (2015). State capacity and economic development: A network approach. *American Economic Review*, 105(8):2364–2409.

Acemoglu, D., Hassan, T. A., and Tahoun, A. (2017). The power of the street: Evidence from Egypt's Arab Spring. *The Review of Financial Studies*, 31(1):1–42.

Acemoglu, D., Moscona, J., and Robinson, J. A. (2016). State capacity and American technology: Evidence from the nineteenth century. *American Economic Review*, 106(5):61–67.

Acemoglu, D., Naidu, S., Restrepo, P., and Robinson, J. A. (2019). Democracy does cause growth. *Journal of Political Economy*, 127(1):47–100.

Acemoglu, D. and Robinson, J. (2020). *The Narrow Corridor: States, Societies, and the Fate of Liberty.* Penguin Press, New York.

Acharya, V. V. and Thakor, A. V. (2016). The dark side of liquidity creation: Leverage and systemic risk. *Journal of Financial Intermediation*, 28:4–21.

Babina, T., Fedyk, A., He, A., and Hodson, J. (2024). Artificial intelligence, firm growth, and product innovation. *Journal of Financial Economics*, 151:103745.

Babina, T., He, A. X., Howell, S. T., Perlman, E. R., and Staudt, J. (2023). Cutting the innovation engine: How federal funding shocks affect university patenting, entrepreneurship, and publications. *The Quarterly Journal of Economics*, 138(2):895–954.

Bae, K.-H. and Goyal, V. K. (2009). Creditor rights, enforcement, and bank loans. *The Journal of Finance*, 64(2):823–860.

Baum, M. A. and Lake, D. A. (2003). The political economy of growth: Democracy and human capital. *American Journal of Political Science*, 47(2):333–347.

Berger, A. N., Bouwman, C. H., Kick, T., and Schaeck, K. (2016). Bank liquidity creation following regulatory interventions and capital support. *Journal of Financial Intermediation*, 26:115–141.

Berger, A. N. and Bouwman, C. H. S. (2009). Bank liquidity creation. *The Review of Financial Studies*, 22(9):3779–3837.

Berger, A. N., Guedhami, O., Kim, H. H., and Li, X. (2022). Economic policy uncertainty and bank liquidity hoarding. *Journal of Financial Intermediation*, 49:100893.

Besley, T. and Persson, T. (2009). The origins of state capacity: Property rights, taxation, and politics. *American Economic Review*, 99(4):1218–44.

Black, S. E. and Strahan, P. E. (2002). Entrepreneurship and bank credit availability. *The Journal of Finance*, 57(6):2807–2833.

Boix, C., Miller, M. K., and Rosato, S. (2022). Boix-miller-rosato dichotomous coding of democracy, 1800-2020. *Harvard Dataverse*, V1.

Bowman, K., Lehoucq, F., and Mahoney, J. (2005). Measuring political democracy: Case expertise, data adequacy, and Central America. *Comparative Political Studies*, 38(8):939–970.

Cameron, A. C. and Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *The Journal of Human Resources*, 50(2):317–372.

Cetorelli, N. and Strahan, P. E. (2006). Finance as a barrier to entry: Bank competition and industry structure in local U.S. markets. *The Journal of Finance*, 61(1):437–461.

Cohen, L. J., Cornett, M. M., Mehran, H., and Tehranian, H. (2018). The effect of state solvency on bank values and credit supply: Evidence from state pension cut legislation. *Journal of Financial and Quantitative Analysis*, 53(4):1839–1870.

Delis, M. D., Hasan, I., and Ongena, S. (2020). Democracy and credit. *Journal of Financial Economics*, 136(2):571–596.

Diamond, D. W. and Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3):401–419.

Dittmar, J. E. and Meisenzahl, R. R. (2019). Public goods institutions, human capital, and growth: Evidence from German history. *The Review of Economic Studies*, 87(2):959–996.

Doerr, S., Gissler, S., Peydro, J.-L., and Voth, H.-J. (2022). Financial crises and political radicalization: How failing banks paved Hitler's path to power. *The Journal of Finance*, 77(6):3339–3372.

Eckstein, Z. and Tsiddon, D. (2004). Macroeconomic consequences of terror: Theory and the case of israel. *Journal of Monetary Economics*, 51(5):971–1002.

Glaeser, E. L., La Porta, R., Lopez-De-Silanes, F., and Shleifer, A. (2004). Do institutions cause growth? *Journal of Economic Growth*, 9:271–303.

Gratton, G. and Lee, B. E. (2023). Liberty, security, and accountability: The rise and fall of illiberal democracies. *The Review of Economic Studies*, 91(1):340–371.

Grossman, D., Khalil, U., and Ray, A. (2019). Terrorism and early childhood health outcomes: Evidence from Pakistan. *Social Science & Medicine*, 237:112453.

Harstad, B. and Mideksa, T. K. (2017). Conservation contracts and political regimes. *The Review of Economic Studies*, 84(4):1708–1734.

Houston, J. F., Lin, C., Lin, P., and Ma, Y. (2010). Creditor rights, information sharing, and bank risk taking. *Journal of Financial Economics*, 96(3):485–512.

Ibragimov, R. and Müller, U. K. (2016). Inference with few heterogeneous clusters. *The Review of Economics and Statistics*, 98(1):83–96.

Laeven, L. and Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2):259–275.

Lowes, S. and Montero, E. (2021). Concessions, violence, and indirect rule: Evidence from the congo free state. *The Quarterly Journal of Economics*, 136(4):2047–2091.

MacKinnon, J. G., Ørregaard Nielsen, M., and Webb, M. D. (2023). Cluster-robust inference: A guide to empirical practice. *Journal of Econometrics*, 232(2):272–299.

O'Reilly, C. and Murphy, R. H. (2022). An index measuring state capacity, 1789–2018. *Economica*, 89(355):713–745.

Pamuk, S. (2014). *Institutional change and economic development in the Middle East, 700–1800*, page 193–224. Cambridge University Press.

Pei, Z., Pischke, J.-S., and Schwandt, H. (2019). Poorly measured confounders are more useful on the left than on the right. *Journal of Business & Economic Statistics*, 37(2):205–216.

Peters, R. H. and Taylor, L. A. (2017). Intangible capital and the investment-q relation. *Journal of Financial Economics*, 123(2):251–272.

Polity Project (2018). *Political Regime Characteristics and Transitions, 1800-2018: Dataset Users' Manual*. Center for Systemic Peace, 5th edition.

Powell, R. (2013). Monopolizing violence and consolidating power. *The Quarterly Journal of Economics*, 128(2):807–859.

Qian, J. and Strahan, P. E. (2007). How laws and institutions shape financial contracts: The case of bank loans. *The Journal of Finance*, 62(6):2803–2834.

Raz, A. F. (2023). Bank liquidity creation and religious observance: Evidence from Ramadan fasting. *Journal of Corporate Finance*, 83:102500.

Shleifer, A. and Vishny, R. W. (1993). Corruption. *The Quarterly Journal of Economics*, 108(3):599–617.

Silva, A. F. (2019). Strategic liquidity mismatch and financial sector stability. *The Review of Financial Studies*, 32(12):4696–4733.

Straetmans, S. T. M., Verschoor, W. F. C., and Wolff, C. C. P. (2008). Extreme US stock market fluctuations in the wake of 9/11. *Journal of Applied Econometrics*, 23(1):17–42.

Tian, X. and Xu, J. (2021). Do place-based policies promote local innovation and entrepreneurship? *Review of Finance*, 26(3):595–635.

Wooldridge, J. M. (2023). What is a standard error? (And how should we compute it?). *Journal of Econometrics*, 237(2, Part A):105517.

Tables

Table 1: Variable descriptions and sources

Variable	Description	Source
Outcome variables		
LC	textit{cat fat} version of bank liquidity creation to assets as outlined by Berger and Bouwman (2009)	BankFocus
LCA	Asset-side liquidity creation to assets	Idem
LCL	Liability-side liquidity creation to assets	Idem
LCO	Off-balance sheet liquidity creation to assets	Idem
LCA^L	Liquid assets to assets	Idem
LCA^S	Semiliquid assets to assets	Idem
LCA^I	Illiquid assets to assets	Idem
LCL^L	Liquid liabilities to assets	Idem
LCL^S	Semiliquid liabilities to assets	Idem
LCL^I	Illiquid liabilities to assets	Idem
LCO^L	Liquid off-balance sheet to assets	Idem
LCO^S	Semiliquid off-balance sheet to assets	Idem
LCO^I	Illiquid off-balance sheet to assets	Idem
LC_{alt1}	textit{cat nonfat} version of bank liquidity creation to assets as outlined by Berger and Bouwman (2009)	Idem
LC_{alt2}	textit{mat fat} version of bank liquidity creation to assets as outlined by Berger and Bouwman (2009)	Idem
LC_{alt3}	textit{mat nonfat} version of bank liquidity creation to assets as outlined by Berger and Bouwman (2009)	Idem
σ_{NIM}	Standard deviation of net interest margin	Idem
σ_{ROA}	Standard deviation of ROA	Idem
Explanatory variables: State capacity and civil liberty variables		
$Capacity$	A state capacity index that includes: 1) the enforceability of law with an emphasis on transparency, independence and equal application (rule of law); 2) the percentage of total territory effectively controlled by the state; 3) the effectiveness of public administration; 4) the inclusive capacity to provide public goods; 5) the sources of state revenue to achieve the established goals; and 6) the capacity to provide high-quality education.	O'Reilly and Murphy (2022)
$Baseline$	A state capacity index that only include the first four components of state capacity.	O'Reilly and Murphy (2022)
$Fiscal$	A state capacity index that only include the first five components of state capacity.	O'Reilly and Murphy (2022)
$Liberty$	The degree of which individual and minority rights are protected from the tyranny of the state and the tyranny of the majority.	V-Dem
$Democracy$	The indicator is an additive 11-point scale (0–10). Zero indicates no institutional democracy, and 10 indicates a maximum level of institutional democracy. The measure is rescaled to 0-1 for easier interpretation.	(Polity Project, 2018)
$Egalitarian$	The degree of protection of rights and freedoms of individuals across all social groups as well equal distribution of resources and power across all social groups.	V-Dem
Explanatory variables: Bank-level characteristics		
$Size$	Log of total assets	BankFocus
NIM	Net interest margin	Idem
ROA	Return on assets	Idem
LLP	Loan loss provisions to assets	Idem
Explanatory variables: Country-level characteristics		
$Incident$	A dummy equal to one if there is at least a terrorist incident occurs in a country given a particular year and zero otherwise.	Global Terrorism Database
$High_{Researcher}$	A dummy equal to one if the innovation level, represented by total researchers per one million people, is higher than the sample's median and zero otherwise.	WDI
$High_{Entrepreneur}$	A dummy equal to one if the entrepreneurship level, represented by employers to employees ratio, is higher than the sample's median and zero otherwise.	Idem
GDP	Log of per capita GDP	Idem
$Unemp$	Unemployment rate	Idem
FDI	FDI to GDP	Idem
$Agriculture$	Agriculture sector to GDP	Idem
$Industry$	Manufacturing sector to GDP	Idem
$Services$	Service sector to GDP	Idem
$Value\ added$	Industrial value added to GDP	Idem
HHI	A country's banking sector Herfindahl–Hirschman index	BankFocus
	The consecutive years of current regime type.	Boix et al. (2022)

Notes: This table reports variable descriptions, which include variables used in the robustness checks and Appendix.

Table 2: Descriptive statistics

Variable:	LC	LCA	LCL	LCO	Capacity	Liberty
All sample						
Mean	0.1487	0.2365	-0.1135	0.0257	0.7265	0.7170
SD	0.2644	0.2284	0.3176	0.0819	0.1304	0.2214
p50	0.0689	0.2352	-0.0540	0.0000	0.7698	0.8060
p25	-0.0080	0.0650	-0.5000	0.0000	0.7303	0.7370
p75	0.3477	0.4821	0.1703	0.0361	0.7912	0.8510
N	58,614	58,614	58,614	58,614	58,614	58,614
Quadrant 1						
Mean	0.1058	0.0667	-0.0158	0.0549	0.4132	0.1922
SD	0.2618	0.1925	0.1770	0.1339	0.0739	0.1144
p50	0.1292	0.0758	-0.0022	0.0240	0.4491	0.1210
p25	-0.0359	-0.0593	-0.1041	0.0000	0.3854	0.1130
p75	0.2725	0.1991	0.0993	0.0734	0.4556	0.2530
N	5,541	5,541	5,541	5,541	5,541	5,541
Quadrant 3						
Mean	0.1160	0.0900	-0.0010	0.0270	0.5537	0.2865
SD	0.2357	0.1663	0.1553	0.1371	0.0446	0.1493
p50	0.1312	0.0939	0.0079	0.0108	0.5438	0.3210
p25	-0.0016	-0.0158	-0.0853	0.0000	0.5245	0.1420
p75	0.2571	0.2037	0.0997	0.0639	0.5728	0.4150
N	3,206	3,206	3,206	3,206	3,206	3,206
Quadrant 4						
Mean	0.1556	0.2648	-0.1315	0.0224	0.7725	0.8030
SD	0.2658	0.2237	0.3337	0.0676	0.0656	0.0694
p50	0.0380	0.2878	-0.0830	0.0000	0.7740	0.8370
p25	-0.0076	0.0922	-0.5000	0.0000	0.7460	0.7510
p75	0.3709	0.4908	0.1900	0.0314	0.8083	0.8510
N	49,782	49,782	49,782	49,782	49,782	49,782

Notes: This table reports variable descriptions, which include variables used in the robustness checks and Appendix. WDI denotes World Bank's World Development Indicators.

Table 3: State capacity, civil liberty, and liquidity creation

Panel A: State capacity, civil liberty, and liquidity creation

	(1)	(2)	(3)
Dependent variable:	LC	LC	LC
$Capacity \times Liberty$			0.8169***
			(4.96)
$Capacity$	0.5392***		0.2536*
	(7.49)		(1.94)
$Liberty$		0.1243***	-0.6543***
		(4.91)	(-5.23)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	58,529
R^2	0.8867	0.8862	0.8870

Panel B: Sub-samples analysis based on civil liberty index

	(1)	(2)	(3)
$Liberty$	0.25	0.75	All sample
Dependent variable:	LC	LC	LC
$Capacity$	0.0220	1.4052***	
	(0.09)	(10.29)	
$Capacity \times Liberty^{<0.25}$			0.3424***
			(3.66)
$Capacity \times Liberty^{0.25-0.50}$			0.3283***
			(3.91)
$Capacity \times Liberty^{0.50-0.75}$			0.3847***
			(4.76)
$Capacity \times Liberty^{>0.75}$			0.4113***
			(5.20)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	5,231	39,666	58,529
R^2	0.7150	0.9267	0.8870
Coefficient comparison			F-test
$Liberty^{<0.25}$ vs $Liberty^{0.25-0.50}$			0.26
$Liberty^{0.25-0.50}$ vs $Liberty^{0.50-0.75}$			7.90***
$Liberty^{0.50-0.75}$ vs $Liberty^{>0.75}$			53.32***

Notes: Panel A of the table reports estimates of Equation (1) using bank liquidity creation (LC) as the outcome variable. Panel B of the table examines further the nonlinear effect of the civil liberty on liquidity creation. Columns 1 and 2 regress the outcome variable on state capacity using observations with civil liberty index below 0.25 and above 0.75, respectively. Column 3 includes the interactions between state capacity and dummies representing whether a country falls within the < 0.25, $0.25-0.50$, $0.50-0.75$, or > 0.75 ranges in terms of civil liberty index. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Baseline IV Estimates

	(1)	(2)	(3)
Estimator	IV-FS	IV-SS	
Dependent Variable	*Capacity*	*LC*	*LC*
Incidentsagainstgovernment	-0.0003***		
	(-8.6383)		
Incidentsagainstcivilians	0.0002***		
	(8.0412)		
Capacity		1.7584**	1.9216***
		(2.2699)	(2.8225)
Liberty			-0.4417**
			(-2.1966)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	58,529
R-squared	0.9913	-0.0163	-0.0041
KB-Paap F-stat	-	42.82	129.69
Hansen J	-	0.15	0.68

Notes: This table reports IV estimates of Equation (1) using bank liquidity creation (*LC*) as the outcome variable. Columns 1 represents the first stage estimates on state capacity. Column 2 and 3 reports the estimates of second stage on bank liquidity creation. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Liquidity creation dimensions

Dependent variable:	(1) LCA	(2) LCL	(3) LCO
$Capacity \times Liberty$	0.7265***	0.5039***	-0.4135***
	(6.37)	(6.34)	(-4.27)
$Capacity$	0.2134**	-0.0832	0.1235
	(2.48)	(-1.28)	(1.55)
$Liberty$	-0.5652***	-0.3898***	0.3007***
	(-6.64)	(-6.42)	(3.99)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	58,529
R^2	0.9236	0.9764	0.7261

Notes: This table reports estimates of Equation (1) using asset-liquidity creation (LCA), liability-liquidity creation (LCL), and off-balance sheet liquidity creation (LCO) as the outcome variables. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: Liquid, semiliquid, and illiquid balance sheet items

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Assets			*Liabilities*			*OBS*	
Dependent variable:	LCA^L	LCA^S	LCA^I	LCL^L	LCL^S	LCL^I	LCO^L	LCO^S	LCO^I
$Capacity \times Liberty$	-0.6405***	-0.1719	0.8125***	0.2589**	0.4478***	-0.7489***	0.4357***	0.0087	-0.3914***
	(-5.09)	(-1.39)	(6.08)	(2.46)	(3.45)	(-6.88)	(2.99)	(1.01)	(-2.82)
$Capacity$	-0.2276**	0.0284	0.1991**	0.0007	0.0134	0.1672*	0.0785	0.0012	0.3255**
	(-2.44)	(0.32)	(1.98)	(0.01)	(0.13)	(1.83)	(0.91)	(0.70)	(2.55)
$Liberty$	0.5429***	0.0446	-0.5874***	-0.2323***	-0.3266***	0.5473***	-0.3603***	-0.0112	0.2411**
	(5.87)	(0.48)	(-5.78)	(-2.89)	(-3.32)	(6.61)	(-2.79)	(-1.08)	(2.44)
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	58,529	58,529	58,529	58,529	58,529	58,529	58,529	58,529	58,529
R^2	0.8618	0.9223	0.9441	0.9552	0.9215	0.9700	0.5827	0.2028	0.7798

Notes: This table reports estimates of Equation (1) using liquidity creation components (according to their liquidity classification) as the outcome variables. The superscripts L, S, and I represent liquid, semiliquid, and illiquid classification, respectively. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ∗∗∗, ∗∗, and ∗ denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: Resistance to terrorist activity

Dependent variable:	(1) LC	(2) LC	(3) LC
$Capacity \times Liberty \times Incident$			0.0243**
			(2.21)
$Capacity \times Incident$	0.0541***		
	(3.19)		
$Liberty \times Incident$		0.0327***	
		(2.86)	
$Capacity \times Liberty$			0.7750***
			(4.67)
$Capacity$	0.4874***		0.2520*
	(6.55)		(1.93)
$Liberty$		0.0971***	-0.6356***
		(3.49)	(-5.08)
$Incident$	-0.0419***	-0.0252***	-0.0151**
	(-3.18)	(-2.87)	(-2.18)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	58,529
R^2	0.8867	0.8863	0.8870

Notes: This table examines the effects of the interactions between terrorist incident, state capacity and civil liberty on bank liquidity creation. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 8: The effect on bank risk

Dependent variable:	(1) σ_{NIM}	(2) σ_{ROA}
$Capacity \times Liberty$	-0.1654**	-0.2037***
	(-2.13)	(-8.01)
$Capacity$	0.0186	0.0702***
	(0.22)	(3.29)
$Liberty$	0.1116**	0.1204***
	(1.96)	(6.82)
Controls	YES	YES
Bank FE	YES	YES
Year FE	YES	YES
Observations	58,529	58,529
R^2	0.4862	0.5414

Notes: This table reports estimates of Equation (1) using the volatility of net interest margin (σ_{NIM}) and the volatility of ROA (σ_{ROA}) as the outcome variables. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 9: The role of entrepreneurship and innovation

Dependent variable:	(1) LC	(2) LC
$Capacity \times Liberty \times High_{Researcher}$	0.0379**	
	(1.97)	
$Capacity \times Liberty \times High_{Entrepreneur}$		0.0649***
		(2.74)
$Capacity \times Liberty$	0.7608***	0.8577***
	(4.55)	(5.18)
$Capacity$	0.2761**	0.2212*
	(2.10)	(1.68)
$Liberty$	-0.6367***	-0.6929***
	(-5.09)	(-5.52)
Controls	YES	YES
Bank FE	YES	YES
Year FE	YES	YES
Observations	58,529	58,529
R^2	0.8870	0.8870

Notes: This table reports estimates of Equation (1) using asset-liquidity creation (LCA), liability-liquidity creation (LCL), and off-balance sheet liquidity creation (LCO) as the outcome variables. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Figures

Figure 1: Scatterplot
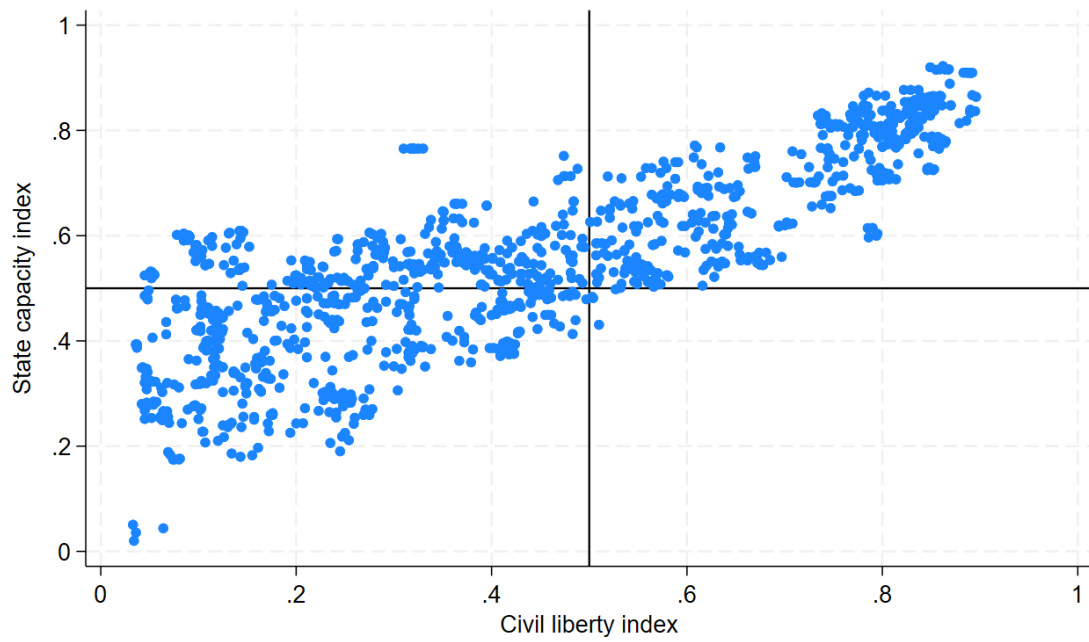
Notes: The figure illustrates a scatter plot for the levels of state capacity and civil liberty. Quadrant 1 consists of countries with low state capacity and civil liberty. Quadrant 2 comprises of countries with low state capacity but high civil liberty. Quadrant 3 composes of countries with high state capacity and low civil liberty. Quadrant 4 consists of countries with high state capacity and civil liberty.

Figure 2: Predictive margins and coefficient estimates
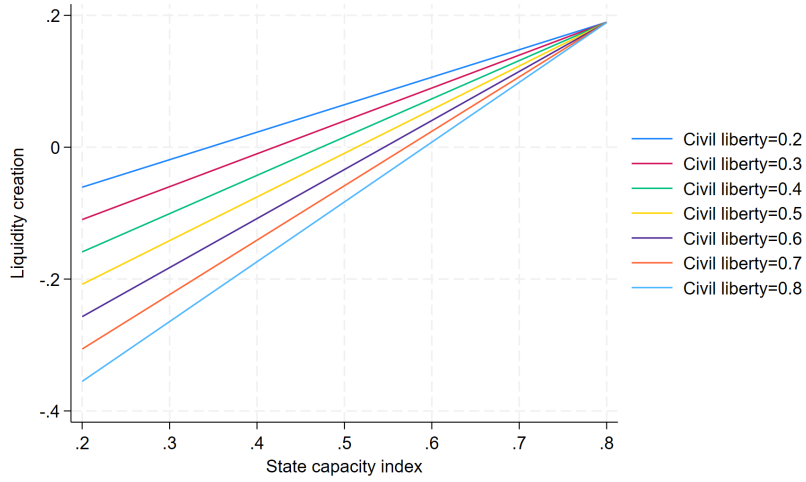
(a) Predictive margins
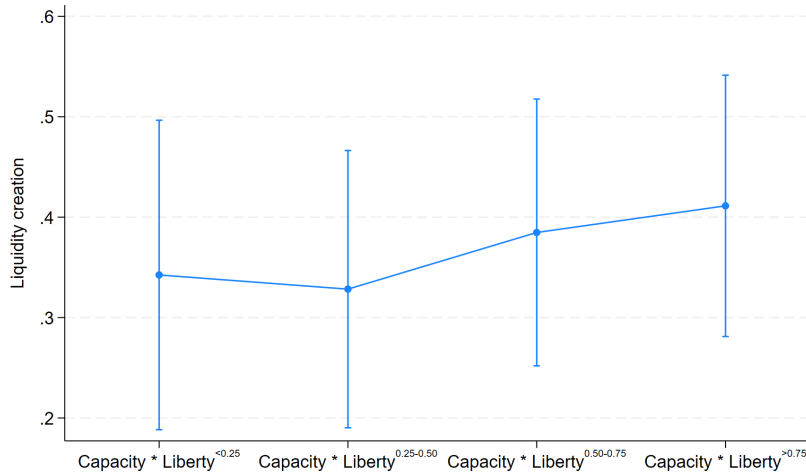
(b) Coefficient estimates

Notes: Panel A illustrates the effect of state capacity on liquidity creation while holding the value of civil liberty constant at values between 0.2 and 0.8. It shows that the magnitude of the effect of state capacity on liquidity creation becomes bigger as civil liberty increases. Panel B plots the estimated effects of state capacity on bank liquidity creation at different levels of civil liberty index. For each category, it is the linear combination of the main coefficient and the corresponding interaction coefficient in column 3 of Table 3. The vertical bars represent the 90% confidence intervals.

Appendix

A   Additional information

A.1   State capacity components

The state capacity index outlined by O'Reilly and Murphy (2022) is constructed based on six variables from V-dem dataset. Variable names are given in brackets.

1. *Rule of law index (v2x˙rule)*

   The variable represents to what extent government officials comply with the law in various aspects. Specifically, it asks how laws are transparently, independently, predictably, impartially, and equally enforced. This index consists of several other variables which considering respect to judiciary system and constitution, court independence, rigorous and impartial public administration, transparent laws with predictable enforcement, access to justice for men and woman, judicial accountability, judicial corruption, public sector corrupt exchanges, public sector theft, executive bribery, corrupt exchanges, executive embezzlement and theft.

2. *State authority over territory (v2svstterr)*

   The variable indicates the percentage of territory effectively under the control of the state. The data scale ranges from 0 to 100 percent.

3. *Rigorous and impartial public administration (v2clrspct)*

   The indicator assesses if public officials are diligent and unbiased in carrying out their responsibilities. Its primary objective is to gauge the degree to which public officials adhere to the law, with responses categorized on a scale from 0 to 4:

   0: The law is not respected by public officials. Arbitrary or biased administration (i.e nepotism, cronyism, or discrimination). of the law is rampant.

   1: The law is weakly respected by public officials. Arbitrary or biased administration of the law is widespread.

   2: The law is modestly respected by public officials. Arbitrary or biased administration of the law is moderate.

3: The law is mostly respected by public officials. Arbitrary or biased administration of the law is limited.

4: The law is generally fully respected by the public officials. Arbitrary or biased administration of the law is very limited.

4. *Particularistic or public goods (v2dlencmps)*

The variable evaluates the range of a state's spending of the national budget, distinguishing between "particularistic" and "public" spending. Particularistic spending is directed at specific entities such as corporations, sectors, social groups, or regions, while social and infrastructural spending is considered widely public when it is intended to provide benefit to all groups within the country. The indicator is scaled between 0 and 4:

0: Almost all of the social and infrastructure expenditures are particularistic.

1: Most social and infrastructure expenditures are particularistic, but a significant portion.

2: Social and infrastructure expenditures are evenly divided between particularistic and public goods programs.

3: Most social and infrastructure expenditures are public-goods but a significant portion.

4: Almost all social and infrastructure expenditures are public-goods in character. Only a small portion is particularistic.

5. *State fiscal source of revenue (v2stfisccap)*

The variable measures the sources of central government that primarily rely on:

0: The state is not capable of raising revenue to finance itself.

1: The state primarily relies on external sources of funding (i.e loans and foreign aid).

2: The state primarily relies on directly controlling economic assets (i.e natural resource rents, public monopolies, and the expropriation of assets within and outside the country).

3: The state primarily relies on taxes on property and trade.

4: The state primarily relies on taxes on economic transactions, and/or taxes on

income, corporate profits, and capital.

6. *Educational equality (v2peedueq)*

   The variable measures the percentage of the population that receives a high-quality basic education, enabling them to exercise their fundamental rights. The outcomes are expressed on the following scales:

   0: Provision of high-quality basic education is extremely unequal and at least 75 percent of children receive such low-quality education that undermines their ability to exercise their basic rights.

   1: Provision of high-quality basic education is extremely unequal and at least 25 percent of children receive such low-quality education that undermines their ability to exercise their basic rights.

   2: Basic education is relatively equal in quality but ten to 25 percent of children receive such low-quality education that undermines their ability to exercise their basic rights.

   3: Basic education is overall equal in quality but five to ten percent of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.

   4: Basic education is equal in quality and less than five percent of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.

A.2   Measuring civil liberty

Literature offers several measures representing democracy and civil liberty. For example, Delis et al. (2020) use a democracy index from Polity IV Project (www.systemicpeace.org), which is an institution-based indicator that enables the examination of the effect of institutional democracy (encompassing constitutional elements) to a large extent purified from perception. As noted by the authors, however, this measure has a flaw because it relies on one-measure for all aspect and not accuracy issues. Instead, the authors recommend V-Dem (www.v-dem.net) measures that estimate various aspects of democracy and civil liberty without converging into a single indicator.

Based on this consideration, we rely on V-Dem indicators in measuring democracy and civil liberty. In particular, we choose its liberal democracy index (*v2x_libdem*) as a proxy for civil liberty in our study. We deem this is the most appropriate measure because the measure emphasizes "the importance of protecting individual and minority rights against the tyranny of the state and the tyranny of the majority", which fits the definition of civil liberty in Acemoglu and Robinson (2020), particularly in the context of the "Red Queen Effect" where there is a constant race between state capacity and civil liberty to counterbalance each other. In other words, society needs to retain and protect its liberty as well civil rights to prevent the emergence of overly strong state (Despotic Leviathan).

A.3   Measuring liquidity creation

Table A.1: Liquidity creation methodology

Assets	BankFocus items	Liabilities	BankFocus items	Off-balance sheet	BankFocus items
Liquid assets (weight = -1/2)		**Liquid liabilities (weight = 1/2)**		**Illiquid guarantees (weight = 1/2)**	
Cash and cash equivalents	DATA50000	Demand deposits	DATA60000	Guarantees	DATA80200
Securities		Savings deposits	DATA60100	Commited credit facilities	DATA80220
AFS	DATA50700	Overnight federal funds purchased	DATA60700	Acceptances and documentary credits	DATA80210
HTM	DATA50800	Trading liabilities	DATA60900	Other contingent liabilities	DATA80250
Others	DATA50810	**Semiliquid liabilities (weight = 0)**		**Semiliquid guarantees (weight = 0)**	
Trading assets	DATA50600	Time deposits	DATA60200	Managed securitized assets	DATA80230
Reverse repos	DATA50400	Other customer deposits	DATA60250	Other exposure to securitizations	DATA80240
Semiliquid assets (weight = 0)		Bank deposits	DATA60400	**Liquid guarantees (weight = -1/2)**	
mat		Other wholesale deposits	DATA60450	Others guarantees	Remaining items
Residential real estate loans	DATA51000	ST debt	DATA60460		
Consumer loans	DATA51100	**Illiquid liabilities plus equity (weight = -1/2)**			
Loans to depistory institutions	DATA50100	Bank's liability	DATA60550		
cat		LT debt	DATA60500		
All loans ≤ 1 year	DATA99641	Other long-term borrowing	DATA60600		
Illiquid assets (weight = 1/2)		Subordinated debt	DATA61800		
mat		Equity	DATA63300		
C&I loans	DATA51200	Other liabilities	Remaining items		
Other loans	DATA51300				
cat					
All loans > 1 year	Loans-DATA99641				
Other real estate owned	DATA51700				
Customers' liability	DATA51500				
Investment in subsidiaries	DATA50900				
Intangible assets	DATA52500				
Other intangible assets	DATA52400				
Derivative financial instruments	DATA50500				
Other assets	Remaining items				

Notes: Liquidity creation variable definitions. The variables used in this study taken from the "BankFocus - Bureau van Dijk" database are defined above. All variables are scaled by total assets unless otherwise specified. The weights are based on the methodology outline by Berger and Bouwman (2009).

A.4 Country sample

Table A.2: Sample countries

Country	Obs.	Liquidity Creation	State Capacity	Civil Liberty	Country	Obs.	Liquidity Creation	State Capacity	Civil Liberty	Country	Obs.	Liquidity Creation	State Capacity	Civil Liberty	Country	Obs.	Liquidity Creation	State Capacity	Civil Liberty
AFG	12	-0.0929	0.2618	0.2120	DNK	240	0.3155	0.9096	0.8883	KGZ	63	0.1062	0.5509	0.3218	POL	169	0.3029	0.7507	0.6877
AGO	138	-0.0039	0.3402	0.1629	DOM	122	0.0107	0.4552	0.2870	KHM	71	0.0861	0.3243	0.0990	PRT	531	0.2787	0.8218	0.8424
ALB	56	0.1027	0.5224	0.4252	DZA	120	0.3049	0.4633	0.1668	KOR	46	0.0072	0.8144	0.7547	PRY	85	0.2494	0.3856	0.4258
ARE	13	0.5154	0.5947	0.0871	ECU	79	0.1561	0.5408	0.3412	KWT	18	0.2142	0.5715	0.2857	QAT	12	0.4012	0.5600	0.0992
ARG	178	-0.1316	0.6295	0.6168	EGY	112	0.1047	0.3622	0.1128	LAO	41	0.0887	0.4685	0.0834	ROU	64	0.0333	0.6151	0.5523
ARM	88	0.0604	0.5752	0.2879	ESP	407	0.1145	0.8095	0.7789	LBN	97	-0.0477	0.3801	0.3136	RUS	2,064	0.0677	0.4516	0.1145
AUS	144	0.1770	0.8479	0.8378	EST	7	0.1110	0.8701	0.8404	LBR	13	0.3943	0.4539	0.4606	RWA	42	0.1362	0.6000	0.1379
AUT	2,162	0.4664	0.7902	0.7893	ETH	47	0.4122	0.4741	0.1214	LBY	54	0.1286	0.2630	0.1867	SAU	5	-0.4082	0.4851	0.0474
AZE	78	0.0794	0.2586	0.0644	FIN	334	0.2928	0.8311	0.8327	LKA	49	0.1759	0.5880	0.4166	SDN	83	0.1749	0.1891	0.0810
BDI	21	0.2012	0.3032	0.0882	FJI	10	0.2112	0.5816	0.2145	LSO	21	0.1344	0.5593	0.4516	SEN	104	0.2805	0.5182	0.5646
BEL	152	0.1534	0.8153	0.8324	FRA	714	0.2507	0.7886	0.8204	LUX	376	0.1828	0.8294	0.7865	SGP	47	-0.0594	0.7654	0.3202
BEN	54	0.1994	0.6362	0.5284	GAB	33	0.3105	0.4980	0.2298	LVA	7	0.1665	0.7869	0.7459	SLE	9	0.0477	0.4873	0.3299
BFA	56	0.2581	0.5284	0.4745	GBR	984	0.0719	0.8069	0.7990	MAR	24	0.2689	0.4376	0.2375	SLV	104	0.0153	0.4855	0.4636
BGD	60	0.2578	0.4087	0.1268	GEO	28	0.0710	0.6320	0.5116	MDA	68	0.0382	0.5237	0.4902	SRB	129	0.0539	0.5574	0.3708
BGR	29	0.1176	0.6641	0.5541	GHA	83	0.0516	0.5375	0.6297	MDG	43	0.1456	0.2693	0.2166	SVK	37	0.0039	0.7111	0.7318
BHR	36	0.0283	0.3417	0.0454	GIN	26	0.3011	0.3363	0.1538	MDV	8	0.1304	0.5128	0.2358	SVN	17	0.1115	0.8141	0.7854
BIH	153	0.2062	0.4487	0.3931	GMB	6	0.1907	0.4580	0.2025	MEX	172	-0.0676	0.4756	0.4300	SWE	158	0.0552	0.8326	0.8891
BLR	117	0.0769	0.5807	0.1074	GNB	8	0.1130	0.3621	0.2824	MLI	64	0.3245	0.3960	0.3339	SWZ	21	0.1869	0.4216	0.1057
BOL	68	0.2965	0.4477	0.3770	GNQ	2	-0.2607	0.3224	0.0545	MLT	38	0.2136	0.7359	0.5805	SYR	7	0.2029	0.2786	0.0430
BRA	1,116	-0.0080	0.5620	0.6708	GRC	18	0.3595	0.6983	0.7833	MMR	33	0.2174	0.4107	0.2038	TCD	17	0.4775	0.2703	0.0951
BRB	10	0.0929	0.7366	0.6680	GTM	105	0.0296	0.4149	0.4392	MNE	65	-0.1482	0.6526	0.3657	TGO	36	0.1814	0.5735	0.2461
BTN	12	0.2692	0.7206	0.4767	GUY	22	0.0393	0.5856	0.4408	MOZ	74	0.1921	0.4341	0.2977	THA	73	0.0681	0.4750	0.1585
BWA	41	0.0295	0.6873	0.5918	HND	2	-0.2071	0.3713	0.2560	MRT	30	0.2968	0.3344	0.1670	TJK	7	-0.0159	0.2837	0.0494
CAF	4	0.3519	0.2276	0.2238	HRV	151	0.0622	0.6963	0.6791	MWI	12	0.1992	0.5078	0.4473	TTO	15	-0.1172	0.6652	0.6448
CAN	50	0.1742	0.8249	0.7513	HTI	7	0.3117	0.2844	0.2477	MYS	140	0.0449	0.5399	0.2310	TUN	28	0.0503	0.5994	0.6398
CHE	677	0.0448	0.8583	0.8567	HUN	48	0.0314	0.6399	0.4898	NAM	6	-0.0581	0.6208	0.5730	TUR	135	0.1995	0.4444	0.1949
CHL	21	-0.2126	0.7265	0.8383	IDN	604	0.2073	0.5763	0.5031	NER	41	0.3019	0.4874	0.4622	TZA	157	0.1950	0.5584	0.3545
CHN	557	0.0731	0.5258	0.0503	IND	225	0.0549	0.5775	0.4494	NGA	77	-0.0129	0.3865	0.4019	UGA	94	0.0960	0.4923	0.2443
CIV	114	0.3183	0.5507	0.3483	IRL	54	-0.1455	0.7785	0.8118	NLD	96	0.0899	0.8401	0.8298	UKR	321	0.2170	0.4730	0.2403
CMR	63	0.4546	0.3413	0.1473	IRQ	171	-0.0218	0.2461	0.2542	NOR	565	0.0279	0.9174	0.8601	URY	43	0.3124	0.8215	0.8213
COD	46	0.1972	0.2388	0.1320	ISL	23	-0.1116	0.8597	0.7883	NPL	115	0.3739	0.5097	0.4574	USA	27,291	0.0734	0.7628	0.8127
COL	73	-0.0830	0.5362	0.5372	ITA	2,631	0.0357	0.7242	0.7959	NZL	67	0.0535	0.8619	0.8445	UZB	36	0.0831	0.4023	0.0478
CRI	119	0.1386	0.7813	0.8563	JAM	7	0.0155	0.6206	0.6996	PAK	123	0.1226	0.3030	0.2457	VNM	108	0.0094	0.5396	0.1406
CYP	51	0.0664	0.6675	0.7426	JOR	29	0.0599	0.5150	0.2249	PAN	174	0.2312	0.5326	0.5556	YEM	7	-0.0530	0.2242	0.1474
CZE	80	0.0679	0.7588	0.7626	JPN	1,440	0.1939	0.8139	0.7447	PER	220	0.1481	0.5568	0.6706	ZAF	58	0.0005	0.6023	0.6324
DEU	7,136	0.4574	0.8481	0.8468	KAZ	136	0.0619	0.4422	0.1178	PHL	275	0.0640	0.5345	0.3865	ZMB	57	0.1048	0.5525	0.3390
DJI	17	0.3315	0.4151	0.1160	KEN	93	0.1208	0.5617	0.3882	PNG	7	-0.0715	0.3887	0.3293	ZWE	93	0.1639	0.4763	0.2084

The table displays the total number of observations by country as well as country-level averages of bank liquidity creation, state capacity, and civil liberty.

Table A.3: Full descriptive statistics

Variable	Mean	SD	p50	p25	p75
LC	0.1487	0.2644	0.0689	-0.0080	0.3477
LCA	0.2365	0.2284	0.2352	0.0650	0.4821
LCL	-0.1135	0.3176	-0.0540	-0.5000	0.1703
LCO	0.0257	0.0819	0.0000	0.0000	0.0361
LCA^L	0.1647	0.1869	0.0995	0.0097	0.2676
LCA^S	0.1975	0.2584	0.0668	0.0000	0.3300
LCA^I	0.6377	0.3206	0.6670	0.3737	0.9816
LCL^L	0.2580	0.2965	0.0967	0.0000	0.5231
LCL^S	0.2423	0.2703	0.1489	0.0000	0.4200
LCL^I	0.4849	0.3925	0.2780	0.1363	1.0000
LCO^L	0.0161	0.0899	0.0000	0.0000	0.0000
LCO^S	0.0001	0.0059	0.0000	0.0000	0.0000
LCO^I	0.0675	0.1455	0.0000	0.0000	0.0767
LC_{alt1}	0.1230	0.2469	0.0377	-0.0111	0.2942
LC_{alt2}	0.3294	0.3162	0.3457	-0.0004	0.6257
LC_{alt3}	0.3037	0.2900	0.3237	-0.0004	0.5609
σ_{NIM}	0.0563	0.0897	0.0117	0.0011	0.1303
σ_{ROA}	0.0282	0.0439	0.0060	0.0010	0.0680
$Capacity$	0.7265	0.1304	0.7698	0.7303	0.7912
$Baseline$	0.6999	0.1105	0.7456	0.7051	0.7616
$Fiscal$	0.7374	0.1232	0.7787	0.7480	0.8042
$Liberty$	0.7170	0.2214	0.8060	0.7370	0.8510
$Democracy$	0.8539	0.2093	1.0000	0.8000	1.0000
$Egalitarian$	0.6566	0.1932	0.7350	0.6280	0.7740
$Size$	17.8070	2.9903	17.3715	15.9682	20.0255
NIM	0.0283	0.1206	0.0168	0.0000	0.0308
ROA	0.0298	0.0707	0.0070	0.0013	0.0516
LLP	0.0131	0.0533	0.0016	0.0000	0.0102
GDP	10.3287	1.0563	10.8828	10.3477	10.9466
$Unemp$	6.2085	3.2613	5.2300	4.1200	7.3700
FDI	2.2244	6.0662	1.7107	1.4350	2.5375
$Agriculture$	6.4770	12.3301	1.4400	1.3700	3.9300
$Industry$	21.8580	4.3297	19.9500	19.7400	25.8700
$Services$	71.6665	11.5804	78.5300	70.0700	78.7600
$Value\ added$	22.6811	6.1111	19.4075	18.5871	26.9542
HHI	0.0928	0.1440	0.0469	0.0426	0.0735
$Regime$	129.2054	86.8322	131.0000	31.0000	216.0000

The table displays descriptive statistics of all variables in our analysis, which include variables used in the robustness checks and Appendix.

Figure A.1: Sample countries
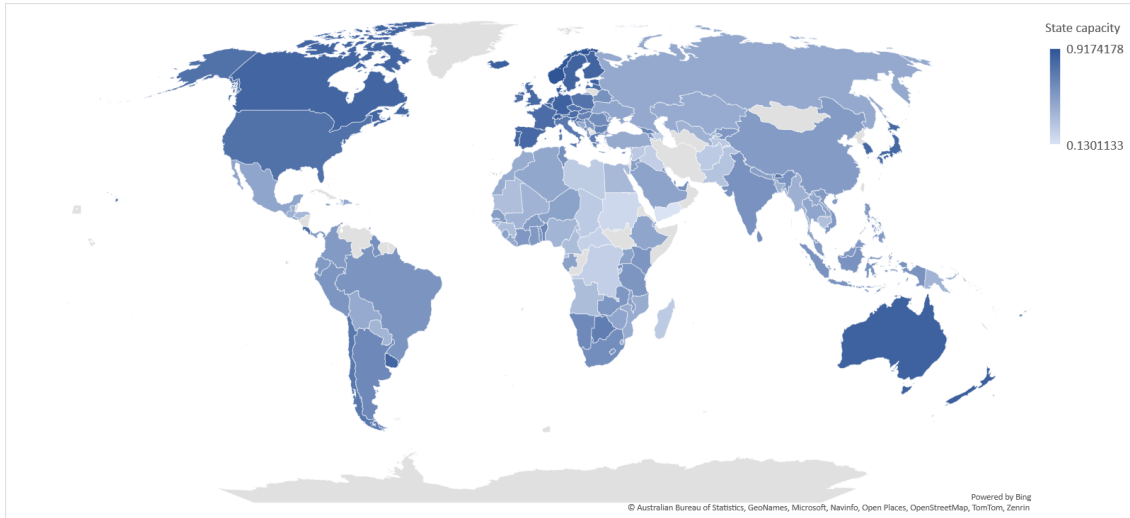
(a) State capacity across the globe
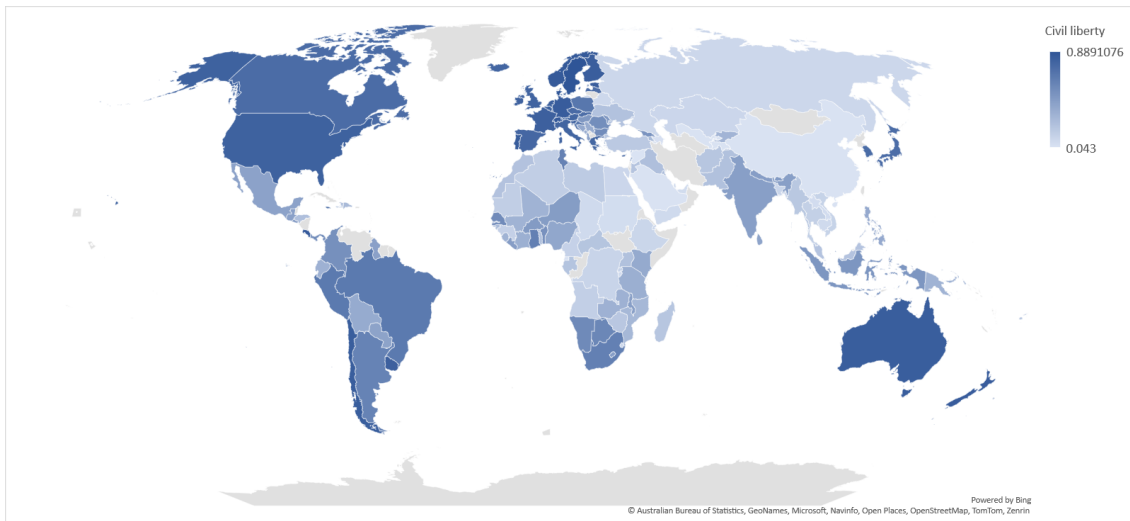
(b) Civil liberty across the globe

Notes: Panel A illustrates the effect of state capacity on liquidity creation while holding the value of civil liberty constant at values between 0.2 and 0.8. It shows that the magnitude of the effect of state capacity on liquidity creation becomes bigger as civil liberty increases. Panel B plots the estimated effects of state capacity on bank liquidity creation at different levels of civil liberty index. For each category, it is the linear combination of the main coefficient and the corresponding interaction coefficient in column 3 of Table 3. The vertical bars represent the 90% confidence intervals.

A.5 Terrorist incidents

Terrorism is a global phenomenon that covers a wide range of activities based on numerous motivations. However, there is no universally agreed definition of terrorism, as it is often open to interpretations. Following the definitions of international institutions,[10] we describe terrorist activity as an act of violence with the objective of influencing a state's policy by destabilizing or dismantling the fundamental structures of a country.

Figure A.2: Terrorist incidents, state capacity, and civil liberty

(a) State capacity and terrorist incidents   (b) Civil liberty and terrorist incidents
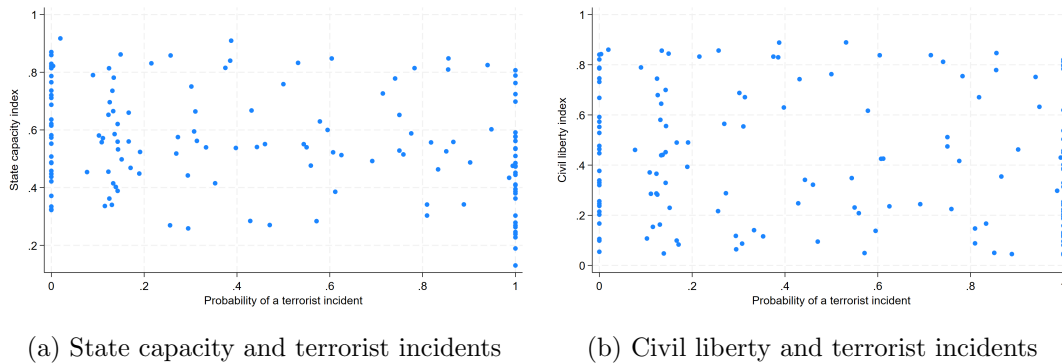
Notes: Try develop vs underdevelop countries

Prior research suggests that terrorist activity is exogenous to the characteristics of financial and economic performance (Eckstein and Tsiddon, 2004; Straetmans et al., 2008). Even if the initial planning is not random, the probability of a successful terrorist attack is more likely to be a function of various quasi-random elements (Grossman et al., 2019). Therefore, they are independent with respect to bank liquidity creation. Terrorist activity is also less likely to be correlated with the levels of state capacity and civil liberty. Figure A.2 confirms this by visualizing the distribution of the probability of a terrorist incident across state capacity index and civil liberty index, respectively. The figure illustrates that he probability of a terrorist incident is completely random across different levels of state capacity and civil liberty.

---

[10]We rely on the definitions given by the European Union (eur-lex.europa.eu) and the United Nations (www.unodc.org)

B Additional specification tests

Table B.1: Ibragimov and Müller (2016) test for clustering analysis

Dependent variable:	LC	LCA	LCL	LCO
p-val	0.7071	0.2912	0.9864	0.1343

Notes: Existing empirical studies generally cluster at the coarsest feasible level, such as clustering by state, rather than the finer level, such as clustering by bank (Cameron and Miller, 2015). However, recent econometric literature suggests that clustering at the coarsest level can be dangerous when the clusters are heterogeneous in size (such as the case of our sample), leading to standard errors that are much too conservative (MacKinnon et al., 2023). When such issue arises, Wooldridge (2023) suggests that a model-based approach can be employed to justify clustering in panel data settings. We therefore follow the test outlined by Ibragimov and Müller (2016), where the null hypothesis states that clustered standard errors from a much finer partition (bank level) are correct. Specifically, we estimate Equation (1) using liquidity creation measures as the outcome variables and compare the standard errors clustered by bank (finer) and by country (coarser) using IM test. The results cannot reject the null hypothesis and confirm that our clustering at bank level is correct.

Table B.2: Balancedness test

Panel A: State capacity

Dependent variable:	(1) $Size$	(2) NIM	(3) ROA	(4) LLP	(5) GDP	(6) $Unemp$	(7) FDI
$Capacity$	0.3404	-0.1068	0.4450	-0.3509	0.2674	0.5102	0.1107
	(0.84)	(-0.11)	(0.46)	(-0.23)	(1.23)	(0.94)	(0.28)
Country FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Observations	1,227	1,227	1,227	1,227	1,227	1,227	1,227
R^2	0.9755	0.4583	0.4852	0.6280	0.9983	0.9490	0.6175

Panel B: Civil liberty

Dependent variable:	(1) $Size$	(2) NIM	(3) ROA	(4) LLP	(5) GDP	(6) $Unemp$	(7) FDI
$Liberty$	0.3170	0.3626	0.4079	-0.7208	0.0344	0.5358	-0.1103
	(1.46)	(0.92)	(0.83)	(-0.70)	(0.50)	(1.27)	(-0.59)
Country FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Observations	1,227	1,227	1,227	1,227	1,227	1,227	1,227
R^2	0.9757	0.4585	0.4854	0.6289	0.9983	0.9494	0.6175

Notes: This table reports results on balancedness test at the country level as outlined by Pei et al. (2019). Panel A reports results for the regression $Control_{i,t} = \beta \cdot Capacity_{i,t} + \varphi_i + \varphi_t + \epsilon_{i,t}$. All explanatory variables are averaged at the country level and normalized to have mean zero and a standard deviation of one. Panel B reports results for the regression $Control_{c,t} = \beta \cdot Liberty_{i,t} + \varphi_i + \varphi_t + \epsilon_{i,t}$. All explanatory variables are normalized to have mean zero and a standard deviation of one. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

C   Alternative measures

Table C.1: Alternative liquidity creation measures

Dependent variable:	(1) LC_{alt1}	(2) LC_{alt2}	(3) LC_{alt3}
$Capacity \times Liberty$	1.2304***	0.4217***	0.8353***
	(8.94)	(3.07)	(8.14)
$Capacity$	0.1301	0.1674	0.0439
	(1.23)	(1.48)	(0.54)
$Liberty$	-0.9550***	-0.3698***	-0.6705***
	(-9.32)	(-3.52)	(-8.68)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	58,529
R^2	0.8998	0.9434	0.9544

Notes: This table reports estimates of Equation (1) using *cat nonfat* version of liquidity creation (LC_{alt1}), *mat fat* version of liquidity creation (LC_{alt2}), and *mat nonfat* version of liquidity creation (LC_{alt3}) as the outcome variables. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding *t*-statistics are reported in parentheses. ∗∗∗, ∗∗, and ∗ denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table C.2: Alternative state capacity measures

	(1)	(2)
State capacity measure:	*Baseline*	*Fiscal*
Dependent variable:	LC	LC
$Capacity \times Liberty$	1.0326***	0.9501***
	(5.60)	(5.38)
$Capacity$	0.3035**	0.2829**
	(2.18)	(2.12)
$Liberty$	-0.8631***	-0.7999***
	(-6.26)	(-5.68)
Controls	YES	YES
Bank FE	YES	YES
Year FE	YES	YES
Observations	58,529	58,529
R^2	0.8873	0.8871

Notes: This table reports estimates of Equation (1) using bank liquidity creation (LC) as the outcome variable. Columns 1 and 2 use the baseline (*Baseline*) and fiscal (*Fiscal*) versions of state capacity measures outlined by O'Reilly and Murphy (2022), respectively. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table C.3: Alternative civil liberty measures

| | (1) | (2) |
| Civil liberty measure: | *Democracy* | *Egalitarian* |
Dependent variable:	LC	LC
Capacity × Liberty	0.4191***	0.9428***
	(2.94)	(4.76)
Capacity	0.4880***	0.2125
	(3.07)	(1.54)
Liberty	-0.3391***	-0.7454***
	(-3.25)	(-4.88)
Controls	YES	YES
Bank FE	YES	YES
Year FE	YES	YES
Observations	38,917	58,529
R^2	0.8717	0.8870

Notes: This table reports estimates of Equation (1) using bank liquidity creation (LC) as the outcome variable. Column 1 uses the democratization index (*Democracy*) retrieved from Polity V, while column 2 uses the egalitarian democracy index (*Egalitarian*) retrieved from V-Dem. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

D   Country-level analysis

Table D.1: Country-level analysis

Panel A: Production Capacity, State Capacity and Social Liberty

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	PCI Overall				PCI Components				
Dependent Variable:	PCI	Energy	Human Capital	Communication	Institutions	Natural Capital	Private Sector	Structural Changes	Transport
State capacity * Civil liberty	1.4683*	1.7705*	-0.6274	1.7690**	-0.8932	2.3604**	-0.5338	-0.2796	2.7919*
	(1.6793)	(1.7708)	(-1.0216)	(2.2833)	(-0.9436)	(2.1266)	(-0.3633)	(-0.1922)	(1.9130)
Capacity	0.0214	-0.4392	-0.0973	-0.5070	1.1836**	-1.1237**	-0.1558	0.7883	0.2447
	(0.0448)	(-0.7973)	(-0.3432)	(-1.4511)	(2.6242)	(-2.1747)	(-0.2303)	(1.1177)	(0.2749)
Liberty	-0.7234	-1.0443*	0.5774	-1.0580**	1.2489*	-1.2066*	0.1213	0.0848	-1.8146*
	(-1.2531)	(-1.7588)	(1.3979)	(-2.1055)	(1.9301)	(-1.7238)	(0.1420)	(0.0987)	(-1.8001)
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	535	535	535	535	535	535	535	535	535
R-squared	0.9932	0.9931	0.9976	0.9945	0.9923	0.9906	0.9872	0.9833	0.9646

Panel B: Bank Lending, Depositors and State Capacity

	(1)	(2)	(3)	(4)
Dependent Variable:	Lending Interest Rate	Depositors per 1000	Lending Interest Rate	Depositors per 1000
Capacity * Liberty * Incident			-5.3060***	3.1016***
			(-3.1805)	(3.7772)
Capacity * Incident			1.0237	-0.2227
			(1.6590)	(-0.7069)
Liberty * Incident			2.8232***	-2.2368***
			(3.3380)	(-4.2156)
State capacity * Liberty	-2.9738*	2.3707*		
	(-1.9676)	(1.7472)		
Capacity	0.3249	-1.3161	-1.7668	-1.0929
	(0.3265)	(-1.6569)	(-1.1991)	(-1.6159)
Liberty	1.9544*	-1.1373	1.1757	0.9389**
	(1.9784)	(-1.5212)	(1.3039)	(2.0448)
Controls	YES	YES	YES	YES
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	814	593	437	437
R-squared	0.9328	0.9577	0.9340	0.9562

Notes: This table reports estimates of Equation (1) using a country-level dataset. Control variables are aggregated at country level. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

E   Additional robustness checks

Table E.1: Weighted least squares

Dependent variable:	(1) LC	(2) LCA	(3) LCL	(4) LCO
$Capacity \times Liberty$	0.8590***	0.7604***	0.5097***	-0.4111***
	(5.09)	(6.57)	(6.26)	(-4.15)
$Capacity$	0.2222*	0.2053**	-0.1044	0.1213
	(1.66)	(2.34)	(-1.56)	(1.48)
$Liberty$	-0.6698***	-0.5836***	-0.3865***	0.3003***
	(-5.27)	(-6.80)	(-6.27)	(3.93)
Controls	YES	YES	YES	YES
Bank FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	58,529	58,529	58,529	58,529
R^2	0.8755	0.9050	0.9675	0.6977

Notes: This table reports the weighted least square estimates of Equation (1) using liquidity creation (LC), asset-liquidity creation (LCA), liability-liquidity creation (LCL), and off-balance sheet liquidity creation (LCO) as the outcome variables. The estimates use the inverted share of observations in each country in each year as the weight. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table E.2: Additional controls

Dependent variable:	(1) LC	(2) LCA	(3) LCL	(4) LCO
$Capacity \times Liberty$	1.1584***	1.1037***	0.5341***	-0.4794***
	(6.72)	(8.69)	(6.49)	(-5.12)
$Capacity$	0.1246	0.0884	-0.0982	0.1344*
	(0.95)	(1.00)	(-1.51)	(1.69)
$Liberty$	-0.8442***	-0.7714***	-0.4170***	0.3442***
	(-6.63)	(-8.39)	(-6.72)	(4.88)
$Agriculture$	0.9684***	1.1410***	-0.1816**	0.0090
	(6.43)	(9.99)	(-2.22)	(0.11)
$Industry$	0.9615***	1.1418***	-0.1860**	0.0057
	(6.39)	(10.02)	(-2.27)	(0.07)
$Services$	0.9603***	1.1334***	-0.1839**	0.0108
	(6.39)	(9.95)	(-2.25)	(0.14)
$Value\ added$	0.0006	-0.0016***	0.0009*	0.0014
	(0.64)	(-2.78)	(1.78)	(1.64)
HHI	-0.0622***	-0.0244*	-0.0193	-0.0184*
	(-3.01)	(-1.87)	(-1.60)	(-1.66)
$Regime$	0.0002	-0.0001	-0.0001	0.0004
	(0.33)	(-0.34)	(-0.36)	(1.42)
Controls	YES	YES	YES	YES
Bank FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	58,523	58,523	58,523	58,523
R^2	0.8876	0.9243	0.9764	0.7269

Notes: This table reports estimates of Equation (1) using liquidity creation (LC) as the outcome variables. *Agriculture* is the share of the agriculture sector to GDP. *Industry* is the share of the manufacturing sector to GDP. *Services* is the share of the sector to GDP. *Value added* is the value of industrial value added to GDP. *HHI* is the measure of banking sector's industry concentration. *Regime* is the consecutive years of current regime type. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding *t*-statistics are reported in parentheses. ∗∗∗, ∗∗, and ∗ denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table E.3: Country dummies

Dependent variable:	(1) All sample LC	(2) All sample LC	(3) Exclude US LC
$Capacity \times Liberty \times China$	0.3607		
	(0.07)		
$Capacity \times Liberty \times US$		-0.2740***	
		(-3.90)	
$Capacity \times Liberty$	0.8169***	1.4088***	1.6383***
	(4.96)	(5.70)	(6.24)
$Capacity$	0.2534*	0.0454	-0.0680
	(1.94)	(0.29)	(-0.41)
$Liberty$	-0.6542***	-0.9508***	-1.0848***
	(-5.23)	(-6.10)	(-6.46)
Controls	YES	YES	YES
Bank FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	58,529	58,529	31,278
R^2	0.8870	0.8871	0.8595

Notes: Columns 1 and 2 examine the effects of the interaction between state capacity, civil liberty, and country dummies on bank liquidity creation. $China$ is a dummy equal to one if a bank is headquartered in China and zero otherwise. US is a dummy equal to one if a bank is headquartered in US and zero otherwise. Column 3 reports the estimates of Equation (1) by dropping US banks from the sample. The unreported control variables are log assets, net interest margin, return on assets, loan loss provisions to assets, log GDP per capita, unemployment rate, and FDI to GDP. Variable definitions are reported in Table 1. Standard errors are clustered at the bank level and the corresponding t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.