Assessing the Macroeconomic Consequences of External Financial Upheavals on China: A Caution of a Silicon Valley Bank’s Collapse

Jingnan Wang and Yugang He

Abstract: In the context of an increasingly interconnected global economy, deciphering the complex ripple effects of external financial disruptions on national economies is a task of utmost significance. This article dives deep into the intricate repercussions of such disturbances on the macroeconomic dynamics of China using the example of the potential insolvency of a Silicon Valley bank. Grounded in empirical scrutiny, we leverage data spanning from Q1 2000 to Q1 2022 and the analytical utility of the impulse response function to illuminate our findings. We find that external financial tumult triggers a global recession, adversely impacting China’s export-driven economy while simultaneously unsettling aggregate output, employment levels, and wage stability. Simultaneously, these disruptions induce variability in consumption tendencies, investment trajectories, and import volumes and inject instability into interest rate paradigms. We also acknowledge the potential for currency depreciation and bank insolvency incidents to induce inflationary stresses, primarily by escalating the costs of imports. However, these inflationary tendencies may be offset by the concomitant economic slowdown and diminished demand inherent to global recessions. Importantly, the tightening of global credit conditions, coupled with existing financial ambiguities, may obstruct investment initiatives, curtail imports, and exert influence on both risk-free and lending interest rates. Our investigation also probes into the response of the Chinese government’s monetary policy to these external financial shocks. Despite the vital role of monetary policy in alleviating the impacts of these shocks, the potential secondary effects on China’s domestic economy warrant attention. Our study underscores the imperative of proper policy design rooted in a profound understanding of the intricate economic interdependencies for effective management and mitigation of the potentially detrimental consequences of such financial upheavals on China’s macroeconomic resilience within the tapestry of a tightly knit global financial ecosystem.

Keywords: external financial disturbances; China’s macroeconomic landscape; impulse response function; monetary policy; Silicon Valley bank

MSC: 40B05; 60H30; 82M31; 82M60

1. Introduction

Within the intricate dynamics of the global financial system, the influence of significant foreign financial disruptions—epitomized in this case by the hypothetical collapse of a bank in Silicon Valley—should not be underestimated [1]. Silicon Valley, a nexus of technological innovation and considerable financial activity, plays a vital role in the global economy. The downfall of a bank within its sphere would not only indicate a significant shift in local and global financial stability but also set off a ripple effect that could resonate across the globe, reaching economies as large and interconnected as China’s [2]. As a key player in international trade, China’s economy is intricately woven into the tapestry of the global financial system, with the U.S. and, by extension, Silicon Valley, among its
significant trade partners [3]. Consequently, any substantial disturbance in the U.S. financial landscape could echo within China’s economic framework, affecting key macroeconomic indicators [4]. This study embarks on a detailed analysis of how such external financial shocks could reverberate through China’s economy [5]. The immediate aftermath of a significant external shock, such as the aforementioned bank collapse, could include fluctuations in foreign exchange rates, affecting the competitiveness of China’s exports [6]. Additionally, a resulting contraction in global credit could lead to tightened liquidity in Chinese markets, potentially stifling economic growth [7]. Furthermore, the far-reaching effects of such an event could destabilize China’s economic pillars: output, employment, and real wages. A substantial external shock could disrupt China’s production capabilities, potentially causing a decline in output and an increase in unemployment [8].

Simultaneously, these disruptions could result in an alteration of consumption patterns, potentially causing a decline in consumer spending due to lower disposable income and heightened economic uncertainty [9]. Having established the potential consequences of such an external financial shock on China’s economy, it’s vital to explore the measures that the Chinese government could employ to mitigate these effects. Specifically, this analysis turns toward the potential role and effectiveness of China’s monetary policy as a response to these external financial tremors [10]. However, it is crucial to recognize that while these policy tools could serve to dampen the impacts of external shocks, they should be employed properly to avoid unintended domestic repercussions [11]. In assessing the role of monetary policy in this context, it’s pertinent to acknowledge the balancing act required by China’s central bank [12]. While policy measures such as lowering interest rates, increasing the money supply, or implementing quantitative easing could potentially offset some of the negative impacts of an external financial shock, they also come with potential pitfalls. These include the risk of triggering inflationary pressures or contributing to asset bubbles [13]. Moreover, it’s crucial to keep in mind that while these monetary policy measures can influence economic conditions, they cannot entirely shield an economy from external shocks. For instance, in the face of a major financial disruption causing capital flight, monetary policy alone might not be sufficient to prevent tightened liquidity in the domestic market, which could consequently stifle growth.

Guided by the overarching context and backdrop elucidated heretofore, the primary objective of this research is to unravel the repercussions of an external financial upheaval such as the collapse of a Silicon Valley bank on China’s macroeconomic indicators. Our analytical lens, focused on empirical data extracted from the time frame beginning in the first quarter of 2000 through the first quarter of 2022, harnesses the analytical might of the impulse response function to dissect the nuanced effects. Such a financial tempest, born out of external turmoil, sets off a chain reaction leading to a global recession, which negatively impacts China’s export-driven economy. This disruption extends its tendrils into the realms of overall output, employment, and the stability of real wages, threatening to destabilize these foundational pillars. Concurrently, it incites fluctuations in consumption trends, investment trajectories, and import volumes while instigating an unpredictable climate within interest rate mechanisms. Simultaneously, the dual threats of currency depreciation and bank insolvency can potentially ignite inflationary pressures. This is primarily accomplished through the inflation of imported goods’ costs. However, such inflationary impulses may be neutralized by the constricting economy and the waning demand that accompany a global recession. Moreover, the tightening grip around global credit markets, amplified by the pervading ambiance of financial ambiguity, can obstruct investment initiatives, curtail importation, and exert pressure on risk-free and lending interest rates. A significant portion of our analysis is devoted to comprehending the Chinese government’s monetary policy responses to such external financial tremors as a potential Silicon Valley bank downfall. While monetary policy tools can be wielded to counterbalance the impacts of these financial tremors, it is crucial to simultaneously consider their potential internal ramifications for China’s domestic economy. In summation, our exploration underscores the fundamental necessity for proactive planning and robust
financial contingency measures within the domain of global economic policy development. These strategies are instrumental in fortifying economies with the resilience to absorb the ripple effects instigated by external financial disturbances. By equipping economies with this resilience, they can maintain stability, thereby contributing positively to the broader canvas of the global economic landscape.

Through the academic probing conducted herein, we have made meaningful strides across five distinct realms of our shared economic understanding: (1) Our investigation offers an elucidation of the complex ripple effects instigated by external financial disturbances, specifically within the context of a hypothetical collapse of a Silicon Valley bank. It peels back the layers of economic consequences spawned by such an event and significantly bolsters comprehension of the elaborate web of influences on an economy as grand and fundamental as China’s. This knowledge presents an invaluable resource for both economists and policymakers, facilitating their direction through the landscape of international financial interdependencies. (2) Our study delineates the subtle ramifications of a foreign financial jolt across a myriad of macroeconomic indicators within the Chinese economy. It scrutinizes these effects in the context of variations in consumption behavior, investment trends, import volumes, and interest rate stability. This multi-angled inquiry furnishes a holistic view of the microeconomic implications of a macroeconomic perturbation, thereby bridging a gap in the extant economic literature. (3) We deliver an in-depth assessment of potential inflationary pressures incited by currency depreciation and bank solvency events. By examining the counterbalance of such pressures by economic contraction and dwindling demand, our research offers insights into inflationary dynamics in the face of financial crises. (4) Our exploration also ventures into the arena of monetary policy, specifically scrutinizing the Chinese government’s reaction to foreign financial shocks. By taking into account the potential domestic consequences of these policy responses, our research offers a balanced viewpoint to the ongoing discussion on the efficacy of monetary policy in cushioning the blows of foreign financial disruptions. (5) Our analysis underlines the importance of strategic financial precautions and proactive measures in the field of global economic policy design. This illuminates the substantial role of policy foresight and strategic preparation in enabling economies to withstand the ramifications of external financial disruptions. By highlighting the crucial importance of resilience and stability, our study constructs an argument for the integration of risk management within the architecture of economic policy.

The rest of this article is arranged as follows: Section 2 initiates an examination of the current literature conducted through pertinent studies and establishing meaningful connections with our investigation’s aims. Section 3 illuminates the theoretical underpinnings and mathematical constructs that shape our empirical analysis. In Section 4, we display both results and discussion. Finally, Section 5 shows the conclusion, policy implications, limitations, and future research directions.

2. Literature Review

Unraveling the elaborate dynamics of the international financial architecture necessitates an understanding of the extensive economic consequences that can be catalyzed by an external financial disruption, such as the dissolution of a leading Silicon Valley financial institution. This incident serves as an antecedent, triggering a chain reaction of economic repercussions that resonate within China’s macroeconomic framework, a fallout that emerges from the woven intricacies of global trade and fiscal relationships.

The financial turbulence instigated by an event such as a significant bank failure often yields a depreciation of the U.S. dollar. This depreciation, as discussed by Nor et al. [14], potentially escalates the prices of imported goods, resulting in profound economic repercussions. However, Nor et al.’s analysis could benefit from considering how specific economic or policy actions might mitigate these effects. Further inquiry could address this limitation by analyzing the complex mechanisms behind the impact of a depreciation in the U.S. dollar on import prices. The United States, being a major destination for Chinese
exports, could experience a reduction in demand for Chinese goods during an economic downturn, thereby reducing import prices—a proposition consistent with Vatandoust and Sheipari [15]. However, their study did not provide a comprehensive evaluation of how specific sectors might be differentially affected by such dynamics, pointing to an area requiring further investigation. Simultaneously, the collapse of a foreign bank could trigger a global credit crunch, a scenario documented by Bernanke [3]. The ensuing credit contraction could stifle the growth of Chinese businesses, subsequently reducing exports. However, Bernanke’s research lacks in-depth scrutiny of how the severity of credit contraction could vary across industries and countries with different financial resilience levels. Moreover, the collapse of a foreign bank could potentially precipitate a global recession, consequently diminishing global economic activity—a premise corroborated by Jain et al. [16]. However, their study failed to fully recognize the interplay between industry-specific factors and economic downturns, thereby creating opportunities for further investigation into these interrelations. Such a recession could also impact labor markets, leading to decreased employment levels as companies grapple with falling demand and credit restrictions—a phenomenon well documented by Omay et al. [17] and Yaya et al. [18]. At the same time, these studies, while insightful, could benefit from a deeper examination of the resilience of labor markets in different countries, the role of social safety nets, and government response during crises.

In these circumstances, real wages might also suffer due to the combined effect of higher import prices and stagnant wages, which could lead to reduced purchasing power. These market dynamics could culminate in lowered consumption, a scenario further aggravated by declining wages and employment levels. Can et al. [19] provided insights into how inflation dynamics were impacted by a bank’s failure, but a more comprehensive understanding could be achieved by investigating the role of monetary policies during such instances. Investment activities could also be suppressed due to the uncertainty that infiltrates the financial markets post-collapse. Bashir et al. [20] and Rafay and Farid [21] documented the contraction in financing opportunities that followed a bank failure. However, their studies left a gap in the understanding of the potential mitigating effects of fiscal policy interventions and innovations in financial markets. Lastly, the collapse of a foreign bank could impact China’s import volume due to the ensuing devaluation of the domestic currency, making imported goods more expensive. If these bank failures triggered a recession, the demand for foreign goods might decline, thereby further reducing imports. Financial shocks could also impact interest rates, with central banks often resorting to lowering interest rates to stimulate economic activity. However, as Albrizio et al. [22] and Cesa-Bianchi and Sokol [23] theorized, if bank failure induced financial market uncertainty, the risk-free rate might increase due to the amplified demand for risk-free assets.

As we critically distill and synthesize the results from a plethora of rigorous research studies, the far-reaching ramifications of external financial perturbations, such as the collapse of a foreign bank, become markedly evident. These disturbances possess the capacity to disrupt the intricate tapestry of China’s macroeconomic indicators, amplifying the necessity for robust, adaptive economic strategies that can capably navigate the turbulent waters of global financial disruptions, as propounded by Bjørnskov and Voigt [24]. In addressing lending rates, a cascade in the banking sector may induce a tightening in the global credit landscape, thereby inflating lending rates. This surge could be interpreted as banks’ risk mitigation response to the amplified perception of risk associated with lending, a premise first established by Stiglitz and Weiss [25]. Concurrently, the prevailing uncertainty permeating financial markets in the aftermath of such a collapse could trigger a further escalation in lending rates. As a defensive strategy against heightened market risk perception, lending institutions might augment these rates, thereby exacerbating the credit crunch, as emphasized by Al-Azzam and Parmeter [26]. A salient aspect illuminated by this scholarly discourse is the potency of monetary policy as a buffer against financial shocks. Echoing the perspectives of Walter and Wansleben, L. [27], central banks often employ monetary policy as a stabilization tool amid economic tumult. In a recessionary climate, for
instance, the People’s Bank of China may opt to suppress interest rates or inflate the money supply to stimulate economic activity, a strategy also advocated by Nguyen and Dinh [28]. However, these measures are not devoid of risk and may engender potential inflation or economic overheating, necessitating a judicious and nuanced approach, as emphasized by Taylor [29]. The discussion also underscores the necessity of preventative measures to mitigate the detrimental impacts of financial shocks. A triad of prudent macroeconomic management, rigorous financial regulation, and efficacious risk management systems could form a formidable defense against such shocks. This standpoint aligns with the argument advanced by Sedunov [30] and reinforced by Rizwan et al. [31] on the critical role of an early warning mechanism within financial markets.

Furthermore, the importance of studying the repercussions of banking sector collapse within specific industrial sectors or regions is paramount. The impacts of a global credit crunch and ensuing economic downturn can vary significantly across industries and countries with different financial resilience levels. This differential impact presents a crucial research gap that future studies could address. Moreover, a deeper exploration of the role of government and social safety nets during times of economic distress would be beneficial. While it is known that recessions can negatively impact labor markets, the effectiveness of government interventions and social safety nets in preserving employment levels and real wages is a field warranting further investigation. Lastly, the import volume of a country can be significantly affected by the collapse of foreign banks, which has potential implications for global trade dynamics. However, current literature offers limited insight into how fiscal policies and international trade agreements can mitigate these impacts. In conclusion, while existing literature provides a useful foundation for understanding the implications of a foreign bank’s collapse on macroeconomic indicators, there is a pressing need for more comprehensive, critical, and contextual analysis. Future research should strive to fill these gaps by examining the role of policy responses, regulatory frameworks, industrial and regional variations, government interventions, and international trade dynamics. By doing so, it will contribute to a richer and more nuanced understanding of the complex interplay between financial shocks and global economic activity.

3. Model

3.1. Household

In the current study, we adopt a conceptual framework based on the notion of an instantaneous utility function, drawing upon the established economic construct of a representative household with an infinite time horizon. This archetypal household is conceptualized as deriving income from labor activities and satisfaction from engaging in leisure activities. The pivotal aspect of the household’s strategic behavior lies in the balancing of labor and leisure allocation to maximize its overall utility throughout its ever-extending lifespan. Building upon the foundational research conducted by He and Lee [32], we propose a typical formulation that captures the essence of the utility function (U) for our representative household, further enhancing our understanding of its decision-making processes.

\[
U = E_0 \sum_{t=0}^{\infty} \beta^t \left( \frac{C_1^{1-\sigma}}{1-\sigma} - \Omega \frac{L_{1+n}}{1+n} \right),
\]

In Equation (1), \( E_0 \) is employed to represent the expectation operator in mathematical discourse, exerting its influence upon prospective values spanning the full range of variables. \( \beta \) is indicative of a discount factor, encompassing the temporal significance of resources. \( C \) and \( L \) serve to represent consumption and labor supply, respectively. \( \Omega \) is allocated to denote the disutility of labor, while \( \sigma \) stands for the parameter of relative risk aversion. Moreover, \( n \) is employed to represent the reciprocal of the labor supply elasticity. Given the illustrative concept of a typical household, it functions within rational budgetary confines, implying a steadfast restriction where overall expenditures must never exceed total income. In Equation (2), the comprehensive sum of outlays is encapsulated on the left
side and the total income is signified on the right side. The budget constraint, expressing this balance between expenditure and income, is mathematically articulated as follows:

$$P_t C_t + B_{t+1} \leq W_t L_t + R_t B_t + D_t, \quad (2)$$

Within the mathematical structure of Equation (2), B is utilized to signify risk-free nominal bonds, serving as an embodiment of secure financial instruments. P denotes the price level, giving an indication of the general scale of prices within an economic system. The gross nominal interest rate, a critical component in the financial domain, is represented by the notation R. W is used to symbolize the nominal wage, a reflection of the monetary compensation for labor prior to adjusting for inflation. Lastly, D represents the nominal dividend, which is the financial return disbursed by domestic firms. This wide array of variables reflects diverse aspects of the financial and economic structure, each playing a crucial role within the given equation.

Within the context of period t, $C_t$ denotes the final goods that a typical household consumes. This construct represents an aggregate consumption index synthesized from the components of domestic goods consumption, represented by $C^h_t$, and the consumption of foreign goods, symbolized by $C^f_t$. The definition of this composite consumption index embodies the mathematical form of the constant elasticity of substitution, a functional form widely acknowledged in economics. It is thusly delineated in the context of its functional form and theoretical underpinnings:

$$C_t = \left[ \alpha \frac{n-1}{\eta} \left( C^h_t \right)^{\frac{n-1}{\eta}} + (1 - \alpha) \frac{1}{\eta} \left( C^f_t \right)^{\frac{n-1}{\eta}} \right]^{\frac{1}{n-1}}, \quad (3)$$

In this context, $\alpha$ is employed to represent the fraction of domestic goods contained within the composite domestic consumption assortment. Meanwhile, $\eta$ is utilized to depict the elasticity of substitution that exists between domestic and foreign goods. This elasticity effectively measures the responsiveness of the consumption ratio of these two categories of goods to their relative price changes. The price index, indicated by $P_t$, is derived from the process of cost minimization, which involves a strategic effort to reach the lowest conceivable cost while still adhering to consumption needs and preferences. This price index is mathematically expressed as follows:

$$P_t = \left[ \alpha \left( P^h_t \right)^{1-\eta} + (1 - \alpha) \left( P^f_t \right)^{1-\eta} \right]^{\frac{1}{1-\eta}}, \quad (4)$$

Within Equation (4), $P^h_t$ is employed as a notation to signify the price of domestically produced goods, while $P^f_t$ denotes the price associated with foreign goods. This distinct representation of domestic and foreign goods’ prices allows for nuanced comparisons and analyses. Furthermore, the ensuing equation presents additional significant relationships within our framework, thus contributing to our comprehensive understanding of this economic model. This is mathematically defined as follows:

$$\frac{C_t^h}{C_t^f} = \frac{\alpha}{1 - \alpha} \left( \frac{P^h_t}{P^f_t} \right)^{-\eta} = \frac{\alpha}{1 - \alpha} \phi^\eta, \quad (5)$$

In this framework, $\phi$ is employed to represent the terms of trade, a critical economic indicator that reflects the relative value of a country’s exports in relation to its imports. This metric essentially captures the ratio of export prices to import prices, providing a measure of a nation’s trade competitiveness.
3.2. Firm

Firms in this economic model procure financing in the form of $q_t k_t$ from financial intermediaries, leverage this capital to acquire assets from capital producers, and engage labor services from households. Following the production of consumption goods, denoted as $Y_t$, these firms liquidate the depreciated capital back to the capital producers. Consequently, their operational strategy is directed towards the minimization of their overall costs, and this minimization process is mathematically illustrated as follows:

$$\text{Cost} = R_t Q_t K_t - Q_t (1 - \delta) K_t + W_t L_t,$$

(6)

Within the mathematical formulation of Equation (6), $Q$ represents the nominal price of capital, elucidating the market value of assets prior to adjustments for inflation. $K$ is allocated to symbolize the capital, encapsulating the total volume of assets that can be utilized for production. Moreover, $\delta$ stands for the depreciation rate, a key parameter indicating the rate at which the value of capital stock diminishes over time. The budget constraint gives:

$$Y_t = A_t K_t \varpi t L_t = \varpi t,$$

(7)

In the context of Equation (7), $A$ is employed to signify the level of total factor productivity, a crucial indicator of economic output that characterizes the efficacy of all input factors. $\varpi$ represents the output elasticity of capital and labor inputs, encapsulating the sensitivity of output to alterations in these production factors.

3.3. Capital Producers

Capital producers, within this economic model, acquire a portion of the final commodities from the domestic goods market, employing these assets to generate investment goods. This procedure involves integrating the current capital stock with freshly produced investment goods and subsequently vending these newly formed capital goods to entrepreneurial entities. In the context of a quadratic capital adjustment cost, a mechanism to account for the friction associated with modifying the capital stock, these capital producers strategize to maximize their returns. This optimization endeavor is expressed mathematically as follows:

$$R = Q_t I_t - I_t - K_t \left( \frac{I_t}{K_t} - \delta \right) K_t,$$

(8)

Within the mathematical framework of Equation (8), $\kappa$ is utilized to symbolize the extent of capital adjustment costs, a parameter representing the frictions and costs associated with modifying the capital stock. $I$ signifies investment, a critical input in the production process, and a determinant of future productive capacity. The budget constraint gives:

$$K_{t+1} = I_t + (1 - \delta) K_t,$$

(9)

3.4. Retailer

Retailers are incorporated into the model primarily to facilitate the inclusion of nominal price rigidity, an economic phenomenon that hinders price adjustments in response to changes in the economy. These retail entities procure wholesale goods from firms at a cost equivalent to the nominal marginal cost incurred by the firms. They subsequently engage in a differentiation process, as outlined in Equation (10), effectively modifying the goods to establish an identity or value proposition in the market.

$$Y_t = \left( \int_0^1 Y_t(j) \xi^{-1} \, dj \right)^{\frac{1}{\xi}},$$

(10)

$\xi$ is employed in this context to signify the intermediate-goods elasticity of substitution, encapsulating the degree of substitutability between distinct intermediate goods. Upon differentiation, retailers vend these commodities within a market characterized by
monopolistic competition, a market structure that blends elements of perfect competition and monopoly. In accordance with the theory postulated by Calvo [33], we introduce the assumption that a fraction, denoted by $\zeta$, of retailers are unable to optimally modify their prices during any given period $t$. Consequently, an individual retailer, denoted as $j$, optimizes the selection of its price $P_{h}^{j}$, $t(i)$ to maximize the utility derived from Equation (11).

$$E_{t} \sum_{i=0}^{\infty} \zeta \beta_{i} \frac{u_{t}^{h} P_{h}^{j}(j) Y_{t+i}(j)}{P_{h}^{t+i}} - \frac{MC_{h}^{t+i} Y_{t+i}(j)}{P_{h}^{t+i}}.$$  \hspace{1cm} (11)

Under conditions of symmetric equilibrium, a state wherein all variables remain unchanged over time and all agents make identical choices, the first-order condition for optimization manifests as Equation (12).

$$E_{t} \sum_{i=0}^{\infty} \zeta \beta_{i} \frac{u_{t}^{h} (P_{n}^{t} P_{h}^{j} - \zeta - 1) Y_{t+i} + \xi \zeta - 1 MC_{h}^{t+i} Y_{t+i}}{P_{h}^{t+i}}.$$  \hspace{1cm} (12)

Within this framework, $P_{n}^{t}$ denotes the newly established equilibrium price, reflecting the balancing point between market supply and demand. Furthermore, the progression of the domestic aggregate price index, a broad measure reflecting the price level of a selected group of goods and services, abides by the structure outlined in Equation (13).

$$P_{h}^{t+1} = (1 - \zeta) P_{h}^{t} + \zeta (1 - \zeta), \hspace{1cm} (13)$$

3.5. Banker

In alignment with the studies conducted by Gertler and Karadi [34], Curdia and Woodford [35], and Gambacorta and Signoretti [36], the banking sector assumes a pivotal position in this model. This prominence stems from the unique capability of banks to maintain foreign assets or incur foreign debts. Bankers leverage their net worth and foreign indebtedness as a means to extend credit to domestic manufacturers. The financial posture of a banker, encapsulated in the form of a balance sheet, is mathematically represented through Equation (14). This equation provides a detailed account of a banker’s assets, liabilities, and equity at a given point in time.

$$P_{h}^{t} N_{t} + S_{t} B^{*}_{t} = Q_{t} K_{t+1}, \hspace{1cm} (14)$$

Within Equation (14), $S_{t}$ symbolizes the exchange rate, which is quantified as the value of the domestic currency relative to the foreign currency. $N_{t}$ is employed to represent the banker’s net assets, a key financial measure that provides an assessment of the banker’s financial health and is calculated as the difference between the banker’s assets and liabilities. Furthermore, $B^{*}_{t}$ denotes foreign bonds. In the context of this study, we postulate the existence of information asymmetry between domestic bankers and foreign investors, a circumstance wherein the domestic bankers possess information that is not known to the foreign investors. Consequently, domestic bankers bear the burden of a risk premium when procuring funds denominated in foreign currencies from these investors. This premium reflects the additional interest rate that domestic bankers must pay due to the perceived risk by foreign lenders.

$$E_{t} R_{t} Q_{t} K_{t+1} S_{t} = R_{t}^{*} \psi_{t+1}, \hspace{1cm} (15)$$

In the given framework, $R_{t}^{*}$ symbolizes the gross nominal interest rate prevailing in the foreign country, whereas $\psi_{t+1}$ represents the risk premium, the additional interest that domestic bankers must pay to compensate foreign investors for the increased risk. The stated equation is a modified version of the uncovered interest parity condition, an economic theory that posits that the interest rate differential between two countries is equal to the expected change in exchange rates. Drawing from the insights of Gerali et al. [37], Buera et al. [38], and Borio [39], we presume that the risk premium is influenced by the
leverage ratio of banks, which encapsulates the proportion of a bank’s total capital that has been borrowed.

\[ \psi_{t+1} = \frac{Q_t K_{t+1}}{\text{P}^h_t \text{N}_t} \]  

(16)

Within this context, the notation \( \Theta \), a positive quantity greater than zero, and \( \chi \), a symbol allocated to represent the risk premium, are integrated into the model. The risk premium, denoted by \( \chi \), encapsulates the additional return required by investors to compensate them for the risk associated with a particular investment, in this case, lending to domestic bankers. Consequently, the trajectory of net worth, a critical financial metric encapsulating the financial health of an entity, evolves according to the following mathematical formulation:

\[ P_h^t N_t = (1 - \varphi)(R_t Q_t K_t - R_t^* \psi_t^t B_t^*) - \varphi^t P_h^T T_t, \]  

(17)

In Equation (17), \( \varphi \) serves as a representation of the probability that a banker can not sustain in the financial marketplace, and \( T \) stands for the monetary transfer that a new banker obtains from a banker who has experienced failure. When translated into real terms, an economic metric that adjusts for inflation, this equation corresponds to the one outlined in Equation (18).

\[ N_t = (1 - \varphi \theta_t)(R_t Q_t K_t - R_t^* \psi_t^t S_{t+1}) + T_t - \varphi \theta_t T_t, \]  

(18)

Within the structure of Equation (18), the symbol \( \theta_t \) serves to denote the bank failure shock, a critical variable representing unforeseen disturbances that can lead to bank failure. The following dynamics control how this shock develops:

\[ \log \theta_t = \rho \theta_{t-1} + \epsilon_t^\theta, \]  

(19)

In Equation (19), \( \theta \) is employed as the notation for the autocorrelation coefficient, a statistical measure of the degree of similarity between a given time series and a lagged version of itself over successive time intervals. Furthermore, \( \epsilon_t^\theta \) stands for an independently and identically distributed innovation, which follows a normal distribution characterized by a standard deviation symbolized by \( \sigma_{\epsilon^\theta} \).

3.6. Importer

In this section, we introduce the concept of incomplete exchange rate pass-through, a theoretical perspective inspired by the work of Gali and Monacelli [40]. Domestic importers encounter a Calvo-style price-setting predicament similar to that encountered by domestic retailers discussed in the preceding section, with the nominal marginal cost now being represented as \( S_t P_t^f \). Given that a portion of firms, denoted as \( \xi^f \), are unable to optimally adjust their prices in any given time period \( t \), a retail firm \( j \) undertakes the selection of \( P^f_{t}(j) \), in order to optimize the outcome as per Equation (20). This choice balances the firm’s desire to maximize profit with the constraints imposed by the market and the pricing model.

\[ E_t \sum_{i=0}^{\infty} \xi^f_{i} \beta^{i} u_t^c \left\{ \frac{\left[ P^f_{t}(j) - MC^f_{t+i}\right] C^f_{t+i}(j)}{P^f_{t+i}} \right\}, \]  

(20)

Under the conditions of a symmetric equilibrium, the first-order condition can be formulated as follows:

\[ E_t \sum_{i=0}^{\infty} \xi^f_{i} \beta^{i} u_t^c \left( P^f_{t+i} \xi^{f-1}_{i} C^f_{t+i} + \frac{\xi}{\xi-1} MC^f_{t+i} C^f_{t+i} \right), \]  

(21)
\( P_{n,t} \) denotes the freshly determined equilibrium price under current market conditions. Concurrently, the evolution of the import price index, an essential gauge of the price changes for imported goods and services, adheres to the mathematical representation provided in Equation (22).

\[
P_{f,1-\zeta} = \left(1 - \zeta^t\right)P_{f, n, 1-\zeta} + \zeta^t P_{f,1-\zeta}
\]

### 3.7. Central Bank

Drawing on the insights of Benchimol and Fourçans [41], Górajski et al. [42], and Xu and Xu [43], we make the assumption that the central bank employs a Taylor-type rule to maneuver the short-term interest rate, represented by \( R_t \). This rule, often used by central banks, guides policy decisions by relating the interest rate to inflation and output fluctuations. This mathematical depiction of the rule is as follows:

\[
R_t = R_{t-1}^{\rho_{rt}} \left(1 - \rho_{rt}\right) \rho_{\pi} \pi_t \left(1 - \rho_{\pi}\right) \rho_{y} \left(1 - \rho_{y}\right) \rho_{s} \epsilon_{rt}, \quad (23)
\]

Within this framework of Equation (21), \( s_t \) symbolizes the real exchange rate, while \( \epsilon_{rt} \) represents an independently and identically distributed innovation adhering to a normal distribution characterized by a standard deviation denoted by \( \sigma_r \). The proposition of a monetary authority directly responding to the exchange rate remains a point of contention. Empirical evidence supporting this concept has been found by Curi and Murgia [44], Lee et al. [45], and Miteza et al. [46], which suggest the inclusion of the exchange rate in the Bank’s policy rule. Nevertheless, we maintain the possibility that the Bank of China may adjust its monetary policy in response to exchange rate fluctuations.

### 3.8. Some Identities

**Inflation rate:**

\[
\pi_t = \frac{P_t}{P_{t-1}}, \quad (24)
\]

**Real wage:**

\[
w_t = \frac{W_t}{P_t}, \quad (25)
\]

**Deviation from the law of one price:**

\[
\frac{MC_t}{P_t} = \frac{S_t P^{f,t}}{P^t}, \quad (26)
\]

Assuming a scenario of complete pass-through, the deviation from the law of one price equates to unity. Given this scenario, we can deduce the following mathematical expression:

\[
P_t = S_t P^{f,t}, \quad (27)
\]

While the real exchange rate becomes:

\[
s_t = \frac{S_t P^{f,t}}{P_t}, \quad (28)
\]

### 3.9. Market Clearing Condition

The state of market equilibrium, a theoretically optimal state where demand perfectly aligns with supply, is realized under certain circumstances denoted as market-clearing conditions. The mathematical representation of these conditions is as follows:

\[
Y_t = C_t^h + C_t^{h,*} + I_t, \quad (29)
\]
4. Results and Discussion

4.1. Parameter Calibration and Estimation

In this investigation, our choice of parameters was shaped by two distinct yet synergistic sources, lending an enriched perspective and increased precision to our study. Initially, we reviewed the China-centric scholarly literature, drawing on relevant resources to inform our parameter selection. Complementing this, our second source involved a more empirical approach, capitalizing on a dataset derived from data available within the Chinese milieu. Utilizing the Bayesian estimation method, we harnessed this dataset to derive our parameters. This methodology harmonizes prior knowledge with observed data, yielding estimates. By interweaving these two separate sources—the theoretical scaffolding from scholarly literature and empirical outcomes from Bayesian estimation—our goal was to craft a parameter set that simultaneously draws upon scholarly consensus and mirrors the realities of the Chinese context.

In the parameter calibration phase of this study, we anchored our choices in the academic literature explicitly pertaining to the Chinese sphere. Guided by the studies of Yang et al. [47] and He [48], we selected a discount factor of 0.99. The proportion of domestic goods in consumption, influenced by the research of Jin et al. [49], Wang and Yao [50], and Ma [51], was established at a value of 0.5. The banker survival rate of 0.95 was derived in alignment with Song et al. [52], Ge et al. [53], and Ma and Lv [54]. In correspondence with the insights of Wang et al. [55] and Le et al. [56], we set the share of capital income at 0.3. The intermediate-goods elasticity of substitution, based on the works of Xiao et al. [57] and Liu and He [58], was established at a value of 6. Informed by Zheng and Guo [59] and Sun et al. [60], the depreciation rate was determined to be 0.025. Moreover, the steady-state interest rate, guided by the findings of Ma and Jiang [61], was set at a value of 1.00511. Lastly, following the research of Li and Wang [62], we decided upon a steady-state ratio of exports to output of 0.5.

To ensure a robust and relevant dataset for this study, we employ quarterly data to implement Bayesian estimation. We harness key metrics from China, including real GDP, the consumer price index, and the exchange rate dynamics between the Yuan and the US dollar. They are sourced from the National Bureau of Statistics of China. In alignment with the methodologies articulated by He [63], we employ a process of seasonal adjustment on these data points, followed by detrending via the Hodrick–Prescott filter to neutralize cyclical volatility and irregular influences. Internationally, our gaze is cast towards the United States, viewed as a representative foreign body for the purposes of this investigation. The temporal canvas for our study extends over two data-rich decades, initiating in the first quarter of 2000 and stretching through to the first quarter of 2022, thereby providing a temporal panorama for our exploration. To ensure precision in our estimations and streamline the execution process, we make use of the Markov Chain Monte Carlo simulation technique. This computational algorithm facilitates a sequence of random samplings, specifically a count of 40,000. With the need for stability in the simulation process, we disregard the initial 20,000 samples to offset any potential anomalies introduced during the nascent phase. Such an approach to data curation and methodological deployment underscores our commitment to fortifying the reliability and validity of our research outcomes. The results are shown in Table 1.
Table 1. Results of prior and posterior distributions.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Prior Distribution</th>
<th>Posterior Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Distribution</td>
<td>Mean</td>
</tr>
<tr>
<td>σ</td>
<td>Gamma</td>
<td>2.0</td>
</tr>
<tr>
<td>n</td>
<td>Gamma</td>
<td>0.5</td>
</tr>
<tr>
<td>Θ</td>
<td>Gamma</td>
<td>1.0</td>
</tr>
<tr>
<td>η</td>
<td>Gamma</td>
<td>1.0</td>
</tr>
<tr>
<td>ρ_t</td>
<td>Beta</td>
<td>0.8</td>
</tr>
<tr>
<td>κ</td>
<td>Gamma</td>
<td>5.0</td>
</tr>
<tr>
<td>ζ</td>
<td>Beta</td>
<td>0.7</td>
</tr>
<tr>
<td>ρ_n</td>
<td>Gamma</td>
<td>2.5</td>
</tr>
<tr>
<td>ρ_f</td>
<td>Gamma</td>
<td>0.57</td>
</tr>
<tr>
<td>ρ_s</td>
<td>Normal</td>
<td>0.05</td>
</tr>
<tr>
<td>ρ_A^2</td>
<td>Beta</td>
<td>0.75</td>
</tr>
<tr>
<td>ϵ_{i1}</td>
<td>Inverse gamma</td>
<td>0.01</td>
</tr>
<tr>
<td>ϵ_{e1}</td>
<td>Beta</td>
<td>0.7</td>
</tr>
<tr>
<td>ϵ_t</td>
<td>Inverse gamma</td>
<td>0.01</td>
</tr>
</tbody>
</table>

4.2. The Ramifications of Overseas Financial Disturbances (Bank Collapses) on China’s Macroeconomic Indicators

The catastrophic collapse of financial institutions located within Silicon Valley in the United States has precipitated significant upheaval within the realm of cross-border investment, thereby engendering a profound sense of instability in the financial markets. Furthermore, this disturbance has created a shift in the global economic milieu and engendered an unfavorable modification of credit conditions. Hence, this necessitates a keen exploration and in-depth analysis of this tumultuous phenomenon. As such, the primary objective of this section is to meticulously devise a theoretical model that encapsulates the reverberating effects of these foreign financial shocks (predominantly originating from the United States) on the key macroeconomic indicators of China. An array of macroeconomic indices has been chosen for this analysis, encompassing import price, export, total output, employment, real wage, total consumption, home price, inflation, investment, import, risk-free interest rate, and loan interest rate. These indices offer an exhaustive purview of the intricate web of a nation’s economy and, hence, provide a holistic understanding of the resultant economic repercussions. The ensuing results of our conducted simulation, as illustrated in Figure A1 of Appendix B, offer a compelling depiction of the domino effect of external financial perturbations on these selected macroeconomic variables.

The echoes of an international financial crisis, as exemplified by a Silicon Valley bank collapse, undeniably reverberate across China’s economic panorama, as elaborated in Figure A1 of Appendix B. The intricate cascading effects emanating from a substantial devaluation of the U.S. dollar, precipitating an upsurge in import prices, set off a domino effect in China’s economic macrocosm. One should note that a weakened United States economy, an essential nexus for China’s exports, instigates a weakened demand for Chinese commodities, inflicting downward pressure on the prices of imports. Simultaneously, the ensuing worldwide credit contraction, spawned by foreign banking failures, exposes Chinese enterprises to an increasingly constrictive borrowing landscape. Such impediments inevitably stifle opportunities for expansion, thereby augmenting the contraction of China’s exports.

The repercussions of a global recession stemming from a foreign banking collapse can impart a significant contraction in China’s gross output. This arises from a subdued demand environment, instigating a chain reaction that compels businesses to pare back production levels. A domino effect ensues, with employment rates plummeting in response to curtailed production and reduced demand, inevitably casting a shadow over real wage trends. Amplifying the financial turmoil, a depreciated currency exacerbates the cost of imports, eroding purchasing power given fixed wage levels and exerting a downward
force on real wages. The international banking sector’s collapse inflicts a significant blow on consumption patterns: dwindling wages and employment levels truncate disposable income, subsequently curtailing consumption. Meanwhile, heightened economic uncertainty pervading post-banking failures may skew consumer behavior towards savings at the expense of spending. This financial uncertainty may also extend its influence to global price trends for goods and services. Currency depreciation, riding on the coattails of foreign banking failures, could inadvertently inflate import prices, thereby escalating the domestic price level in China. Such an inflationary environment could witness a counterbalancing effect through diminished demand during a global recession, thereby alleviating price pressures. However, if currency depreciation persists, the resultant surge in import prices could incite inflationary trends.

Investments also find themselves in the crosshairs of foreign banking collapses. The consequent constriction of the global credit market hampers financing capabilities, thereby suppressing investment activity. Moreover, the ambient financial uncertainty in the aftermath of such failures may deter businesses and individuals from making new investments. Simultaneously, the potential devaluation of domestic currency triggered by bank failures raises the prices of imports, thereby constricting import activity. Further, a recessionary environment emanating from these failures may dampen China’s appetite for foreign goods, consequently truncating import activity. Finally, the ripple effects of a financial shock permeate the interest rate landscape. During a recession, central banks often employ interest rate reductions as a stimulative maneuver, potentially driving down the risk-free rate. However, if the specter of banking failures stokes financial market uncertainty, investors may seek solace in safer assets, fostering increased demand for risk-free assets, which could conversely push up the risk-free rate. Lending rates are not immune to these disturbances either. Global credit market tightening, stemming from banking collapses, could augment lending challenges and potentially push lending rates higher. Simultaneously, the financial market uncertainty catalyzed by banking failures could exacerbate this rise in lending rates.

4.3. The Implications of Monetary Policy Shifts on China’s Macroeconomic Landscape

Reacting to external financial disturbances, such as the insolvency of banks in Silicon Valley, the People’s Bank of China (PBOC) possesses an array of monetary tools to counteract and buffer the potential negative reverberations on the nation’s macroeconomic performance. One effective countermeasure involves a reduction in benchmark interest rates, a move intended to spur economic activity. This reduction can effectively lower borrowing costs, thereby catalyzing both corporate and personal spending, stimulating aggregate demand, and mitigating recessionary risks [64]. Simultaneously, the PBOC can secure financial market stability through the provision of liquidity support. This can be achieved either through the lowering of reserve requirements or via open market operations [65]. This strategy amplifies capital flow within the banking system, ensuring the continuity of lending practices and promoting a healthy credit market environment. Moreover, the PBOC has the capacity to exert influence over the renminbi (RMB) exchange rate. In scenarios where foreign financial shocks provoke capital flight and depreciation pressures on the yuan, the PBOC can act assertively to stabilize the exchange rate by purchasing RMB in the foreign exchange market, as highlighted by Feng et al. [66]. A stable exchange rate can curtail the price of imported goods, alleviate inflationary pressures, and secure the stability of China’s financial landscape, thereby averting the possibility of financial panic. This paper explores the practical implementation of such a reduction in benchmark interest rates as a tactic to invigorate the economy and resist the deleterious impacts of foreign financial shocks, such as those stemming from the bankruptcy of Silicon Valley banks in the United States. The resultant simulation outcomes are illustrated in Figure A2 of Appendix B, offering an empirical depiction of this monetary strategy’s effectiveness.

As we traverse the intricacies of monetary policy shocks visualized in Figure A2 of Appendix B, it’s discernible that a tighter monetary policy typically sets off a cascade leading to an appreciation of China’s domestic currency. This appreciation, while beneficial
in reducing import prices as foreign goods become relatively more affordable, harbors the flip side of potentially diminishing the competitiveness of domestic goods on the global stage, thereby curbing export volume. The levers of monetary policy, whether through reducing interest rates or expanding the money supply, can stimulate demand, thereby augmenting total output. This relationship, however, inverts when monetary policies veer towards contraction. A nuanced interpretation of the simulation outcomes showcases the short-term reduction in unemployment as an immediate repercussion of stringent monetary policy, driven by stimulated economic activity. A tighter monetary policy may concurrently apply a downward thrust on inflation, potentially inflating real wages, provided nominal wages retain their stickiness. Concomitantly, lower interest rates could stimulate consumer spending as the appeal of saving wanes in the face of diminished borrowing costs. Notably, an expansionary monetary policy can incite an escalation in the overall price level due to the amplified demand, potentially inducing inflation, especially when the economy operates at or near its maximum capacity. This outcome underscores the concept that tighter monetary policies, given elevated price levels, may instigate inflation.

The allure of lower interest rates can catalyze businesses to secure loans for new capital projects, thereby invigorating economic growth. Simultaneously, as the domestic currency appreciates in response to a tight monetary policy, the diminished cost of imports can drive an upsurge in import volume. Central to the influence of monetary policy is its impact on the risk-free interest rate, where contractionary measures typically elevate these rates. An intimate relationship also exists between the central bank’s policy rate and lending rates. A diminished policy rate typically results in a reduction in lending rates, thereby incentivizing borrowing. In interpreting these simulation outcomes, the implications for China’s economy emerge in stark relief. A tighter monetary policy, though stimulating short-term economic activity and potentially containing inflation, can exert a constraining effect on exports. It also reveals the delicate balance between leveraging monetary policy to manage domestic currency value and its subsequent impact on import volumes. These outcomes elucidate the efficacy of monetary strategy in buffering the impacts of foreign financial shocks, underscoring the imperative for a finely balanced, responsive approach to monetary policy.

4.4. Discussion

These results underscore the necessity for structuring resilient financial safeguards and efficacious mechanisms to counter or dampen the impact of financial contagion. An intensified regulatory vigilance over banks, particularly those classified as ‘too big to fail’, is deemed essential to forestall future financial crises. Additionally, economies should aspire to cultivate diversified trade alliances to temper the potential impacts of shocks emanating from any single partner nation. Upon juxtaposing these results with the established literature, they resonate with the systemic risk literature, highlighting the potential ripple effects of bank failures on the global economic landscape [67]. However, they offer an original contribution by illuminating the specific ramifications for China, considering its distinctive economic configuration and vast trade relationship with the United States. The findings also echo research demonstrating the exchange rate pass-through effect, whereby fluctuations in the exchange rate substantially influence import and export prices [68]. This study, however, broadens this effect to embrace an extensive range of macroeconomic indicators, especially within the context of financial shocks, thereby enriching the existing scholarly corpus. The insights generated by this research also align with the financial accelerator literature, shedding light on how adverse financial shocks can amplify credit market conditions, consequently impacting real economic activities [69]. This work uniquely emphasizes the potential unfolding of these financial market dynamics in the aftermath of foreign banking failures.

Furthermore, the impact of such foreign financial shocks on China’s risk-free and lending rates finds echoes in the findings of the authors of [70], who demonstrated how shocks could influence bank lending channels and subsequently shape the broader econ-
Axioms 2023, 12, 755

5. Conclusions

In comprehending the intricacies of the global financial ecosystem, one can’t overlook the profound domino effect elicited by severe foreign financial disruptions, exemplified vividly by a Silicon Valley bank’s downfall. Such an event acts as the initial catalyst for a series of complex economic implications reverberating throughout China’s economy. This is characterized by the depreciation of the U.S. dollar and the ensuing global credit contraction, birthing an intricate nexus of influences on China’s array of macroeconomic indicators. Guided by empirical data spanning the first quarter of 2000 to the first quarter of 2022 and harnessing the potency of the impulse response function for the analysis, we unveiled the nuances of these effects. The external financial turmoil instigates a global recession that detrimentally hampers China’s export-oriented economy and intrudes on
overall output, employment, and real wage stability. Concurrently, it precipitates oscillations in consumption patterns, investment dynamics, and import volumes while inducing instabilities in interest rate frameworks. Simultaneously, currency depreciation and bank insolvency events can potentially induce inflationary pressures, primarily by amplifying the costs of imported goods. Nonetheless, such inflationary tendencies may be counteracted by the economic contraction and dwindling demand accompanying a global recession. On another note, the constriction of global credit markets, coupled with the prevailing financial uncertainty, can stymie investment activities, suppress importation, and exert influence on both risk-free and lending interest rates. In addition, our analysis extends to the monetary policy response of the Chinese government to external financial shocks, such as the collapse of Silicon Valley banks in the United States. While monetary policy can serve as a mitigating force against the impacts of external financial shocks, it is also critical to acknowledge its potential side effects on China’s domestic economy. In summation, our investigation underlines the criticality of preemptive actions and strategic financial safeguards in the realm of international economic policymaking. Such measures are pivotal in equipping economies with the necessary fortitude to counteract the cascading effects of foreign financial disruptions, thereby nurturing resilience and stability in the broader global economic tapestry.

In extrapolating from the data-oriented conclusions and analytical perspectives amassed in this study, we can demarcate several strategic policy implications that may inform strategy development: (1) The robustness of macroprudential oversight is instrumental in the face of the pervasive effects of foreign financial disturbances on China’s economic landscape. This warrants a systemic perspective from regulators, extending beyond the confines of individual financial entities. Implementing a multi-tiered surveillance strategy that includes stress tests, liquidity coverage ratios, and countercyclical capital buffers will enhance the system’s resilience to foreign shocks. (2) This study underscores the necessity for agile and responsive monetary policy to counter potential inflationary pressures and interest rate volatility. Adopting a flexible inflation target that adjusts to the prevailing economic climate can help stabilize prices, while a two-tiered approach that separates short-term liquidity management from long-term interest rate policy could enhance the effectiveness of the central bank’s interventions. (3) In the wake of potential currency devaluation from significant external financial shocks, robust currency hedging strategies emerge as crucial. Offering derivative products through China’s financial markets, such as currency futures and options, would provide firms with tools to manage foreign exchange risk, thus preserving their economic stability. (4) The rippling effects of foreign financial disruptions on China’s economy underscore the value of international financial collaboration. Establishing bilateral currency swap agreements with key trading partners could offer a buffer against external shocks, while engagement in multi-lateral platforms such as the G20’s Financial Stability Board could provide avenues for coordinated action during global financial crises. (5) Finally, the need to diversify China’s economy to insulate against global recessionary risks comes to the fore. Policies promoting investment in the high-tech and service sectors, as well as domestic consumption, could help reduce China’s reliance on exports. The implementation of incentives such as tax breaks, subsidies, or low-interest financing for businesses in these sectors may catalyze this transition.

While this study sheds light on the significant implications of external financial disruptions on China’s economy, exemplified through the lens of a Silicon Valley Bank’s potential failure, it inevitably embodies certain constraints, thereby paving the way for future investigative directions. (1) Our investigation remains primarily insular, focusing on China while possibly neglecting the reciprocal repercussions echoed in other economies. Consequently, comparative studies investigating the effects of analogous shocks across a diverse array of economies, each with its own distinct structural and policy fabric, could yield a more comprehensive understanding of the intricate web of global financial interdependencies. (2) While the current study appraises the buffering role of monetary policies in weathering external financial shocks, the potential implications of fiscal policies remain
relatively unexplored. Future research could probe into the amalgamated effects of fiscal and monetary responses, thereby augmenting the suite of policy tools that could be mobilized to maintain economic balance amidst external financial disturbances. (3) Our analysis is contextualized within the potential failure of a Silicon Valley bank. Nonetheless, the origins of financial disruptions are manifold, encompassing housing market crashes, stock market crashes, and sovereign debt crises, among others. Therefore, future studies should consider a broader spectrum of financial shock origins and scrutinize their unique impacts on China’s economy, offering a more inclusive perspective on China’s varied responses to differing categories of financial disruptions. (4) Implicit in the research is the assumption of uniform policy responses across all sectors of the Chinese economy. In practice, however, sector-specific policies could be enacted, leading to divergent outcomes. This generalization could mask the complex underlying mechanisms at play, indicating the need for a sectoral lens in future research endeavors. (5) The research assumes that the Chinese government possesses the requisite policy flexibility and capacity to deploy appropriate monetary policy instruments in response to external shocks. However, practical considerations such as existing domestic economic conditions, policy guidelines, and political constraints could limit the government’s agility and efficacy in response, suggesting a more nuanced approach in future policy assessments. (6) The focus of the study is the immediate impacts of an external financial shock, potentially glossing over the longer-term effects, which could materially differ from short-term outcomes. Future research could pay greater attention to the dynamics of economic recovery post-shock, potential structural alterations within the economy, and long-term policy adaptations. (7) Finally, an underlying presumption is that the policy measures enacted by the Chinese government in response to the shock will be effective. However, implementation lags, institutional inefficiencies, and potential economic unresponsiveness could potentially constrain the efficacy of these policies, highlighting the need for research on optimal policy design and execution in the face of external shocks.

Author Contributions: Conceptualization, Y.H.; methodology, J.W.; software, J.W.; validation, J.W.; formal analysis, Y.H.; investigation, J.W.; resources, J.W.; data curation, J.W.; writing—original draft preparation, J.W.; writing—review and editing, Y.H.; visualization, J.W.; supervision, Y.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: The data presented in this study are available from the authors upon request.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Relative to China, the sector for foreign countries is established as delineated below.

\[ C_{t}^{h,s} = \frac{\alpha}{1 - \alpha} \left( \frac{p_{t}^{h,s}}{p_{t}^{l,s}} \right)^{-\eta} C_{t}^{l,s}. \]  
(A1)

\[ C_{t}^{l,s} = C_{t}^{s} = Y_{t}^{s}. \]  
(A2)

\[ P_{t}^{l,s} = P_{t}^{s}. \]  
(A3)

\[ P_{t}^{h,s} = \frac{P_{t}^{h}}{S_{t}}. \]  
(A4)

Appendix B

The Figures cited in this article are shown below:
References

15. Vatandoust, G.R.; Sheirpari, M. Modified J-Curve Theory, Iran’s Socio-Economic Bottlenecks and the 1979 Fall of the Pahlavi Monarchy. Middle East Crit. 2023, 32, 111–127. [CrossRef]
17. Omay, T.; Shahbaz, M.; Stewart, C. Is There Really Hysteresis in the OECD Unemployment Rates? New Evidence Using a Fourier Panel Unit Root Test. Empirica 2021, 48, 875–901. [CrossRef]
23. Cesa-Bianchi, A.; Sokol, A. Financial Shocks, Credit Spreads, and the International Credit Channel. J. Int. Econ. 2022, 135, 105343. [CrossRef]
35. Galí, J.; Monacelli, T. Monetary Policy and Exchange Rate Volatility in a Small Open Economy. Rev. Econ. Stud. 2005, 72, 707–734. [CrossRef]
37. Górajski, M.; Kuchta, Z.; Leszczyńska-Pazczesna, A. Price-Setting Heterogeneity and Robust Monetary Policy in a Two-Sector DSGE Model of a Small Open Economy. Econ. Model. 2023, 122, 106227. [CrossRef]


48. He, Y. Home Production: Does It Matter for the Korean Macroeconomy during the COVID-19 Pandemic? *Mathematics* 2022, 10, 2029. [CrossRef]


53. Ge, X.; Li, X.-L.; Li, Y.; Liu, Y. The Driving Forces of China’s Business Cycles: Evidence from an Estimated DSGE Model with Housing and Banking. *China Econ. Rev.* 2022, 72, 101753. [CrossRef]


63. He, Y. Unraveling the COVID-19 Pandemic’s Impact on South Korea’s Macroeconomy: Unearthing Novel Transmission Channels within the Energy Sector and Production Technologies. *Energies* 2023, 16, 3691. [CrossRef]


Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.