ARCHIVES OF ECONOMIC HISTORY

Volume XXXVI No 2 July – December 2024

ΑΡΧΕΙΟΝ ΟΙΚΟΝΟΜΙΚΗΣ ΙΣΤΟΡΙΑΣ

Τόμος XXXVI Τεύχος 2 Ιούλιος – Δεκέμβριος 2024

CONTENTS - ΠΕΡΙΕΧΟΜΕΝΑ

ATHENS - ΑΘΗΝΑΙ, 2024

ARCHIVES OF ECONOMIC HISTORY

Volume XXXVI No 2 July – December 2024

ΑΡΧΕΙΟΝ ΟΙΚΟΝΟΜΙΚΗΣ ΙΣΤΟΡΙΑΣ

Τόμος XXXVI Τεύχος 2 Ιούλιος – Δεκέμβριος 2024

CONTENTS - ΠΕΡΙΕΧΟΜΕΝΑ

ATHENS - ΑΘΗΝΑΙ, 2024

ARCHIVES OF ECONOMIC HISTORY

84, Galatsiou Avenue, Athens – 111 46, Greece, tel. +30 210 2934916 / +30 6937 244739
e-mail: akiohos@otenet.gr • www.archivesofeconomichistory.com

INSTITUTIONAL SETTING OF THE BANKING INDUSTRY IN EUROPEAN UNION

K. VASILAKOPOULOS* C. TZOVAS**

Abstract

Similarly to the non-financial firms, banks face the same problems regarding market frictions such as taxes, information asymmetry and transaction costs. However, in the case of banks, there are two factors that complicate the analysis of their business and the incentives of their managers. Firstly, bank debt is held by small and generally uninformed investors. Secondly, their access to the safety net makes them susceptible to the moral hazard problem.

This paper discusses the institutional setting of the banking sector and focuses on the regulatory framework of the European Union. We review the theory for financial intermediation in order to explain the operations of banks. Furthermore, we present the special characteristics of banks that justify the reason for imposing regulation on the banking sector. In addition, we present the theoretical alternatives for the design of the safety net that aims to protect dispersed depositors from bank runs and banks' risk-shifting behavior. We also review the regulatory regime of the Basel Accord that comprises the base for the contemporary regulatory systems around the world.

We focus on the analysis of the institutional framework and the regulatory regime of the European Union. Furthermore, we present previous results from analyses of the banking sector in the European Union.

This paper aims to explain the basic attributes of the banking sector and it is useful for the understanding of issues relating to academic research concerning banking sector.

JEL Classification: G21, G14, M41, M42

Keywords: banks, regulatory framework, EU

1. Introduction

Previous studies argue that banks are one of most valuable financial intermediaries due to their role as providers of liquidity and delegated monitors of their investors. Furthermore, banks' provision of transformation and divisibility services minimize transaction costs. Within this context, the functioning of

* Ph.D., Department of Accounting and Finance, Athens University of Economics and Business, Athens, Greece, e-mail: vasilakopoulos@gmail.com

** Associate Professor, Department of Accounting and Finance, Athens University of Economics and Business, Athens, Greece, e-mail: ctzovas@aueb.gr

banks has ramifications for the operations of firms and the prosperity of nations (Levine, 2004).

Although banks' operations are beneficial for the social welfare, they have special attributes that may distort the whole financial system. Firstly, similarly to non-financial firms, banks face the same agency problems from the separation of ownership and control. Secondly, banks' role as providers of liquidity requires the investment in long-term loans that are mainly financed by short-term deposits. Within this context, a sudden withdrawal of depositors' funds may force even a sound bank to go bankrupt if it is not able to return the funds of its creditors. The risk of a run gets even greater given that banks' loan quality is not observable and as a result they can hide problems by extending loans to clients that cannot service previous debt obligations[1]. Thirdly, the existence of a deposit insurance scheme, which aims to protect depositors, may lead to moral hazard by increasing bankers' risk-taking incentives.

The negative ramifications of a potential bank run on society comprise the main justification that the banking sector is one of the most heavily regulated industries (Freixas and Santomero, 2003). A series of regulatory mechanisms such as regulation on banking activities, minimum capital requirements, official supervision, private sector monitoring and government participation aim to limit banks' risk-shifting behavior and prevent their stakeholders. However, heavy regulation may cause adverse results by hampering competition or making banks to adjust their risk-shifting behavior accordingly (Freixas and Santomero, 2003).

The efficiency of regulation is also influenced by the differences of the institutional background between countries in the globalized economy. Therefore, many countries asked for the harmonization and the convergence of international capital standards. Within this context, the Basel Committee on Banking and Supervision (hereinafter, BCBS) released the first international regulatory framework in 1988. The framework that is known as the Basel Accord was initially adopted by the G-10 countries. Since then it was applied to a number countries and it has been amended several times.

Similarly to other countries, the European Union (hereinafter, EU) has fully adopted the principles and the guidelines of the Basel Accord in order to achieve the integration of its financial services sector. However, a series of failures during the financial crisis of 2008 raised serious questions about the efficiency of its institutional setting. Therefore, the EU took initiatives in order to enhance supervision and improve banks' transparency and the legislation that protects their stakeholders, as well.

The analysis of institutional setting of the banking sector is useful for understanding banks' complex activities. In addition, the analysis of the regulatory regime is useful for understanding the behavior of banks' managers who aim to maximize their shareholders' value or their private benefits by avoiding a potential regulatory intervention. Finally, this analysis is an integral part of the next chapters because it explains banks' functional background and presents the selection sample.

The rest of paper is organized as follows: section 2 explains the reasons for the existence of financial intermediaries and particularly banks; section 3 examines the reasons for regulating banking industry; section 4 presents alternative regulatory tools for preventing banks runs; section 5 overviews the Basel Accord regulatory regime; section 6 presents the institution framework of the EU. Finally, Section 7 concludes this Chapter.

2. Theory of financial intermediation

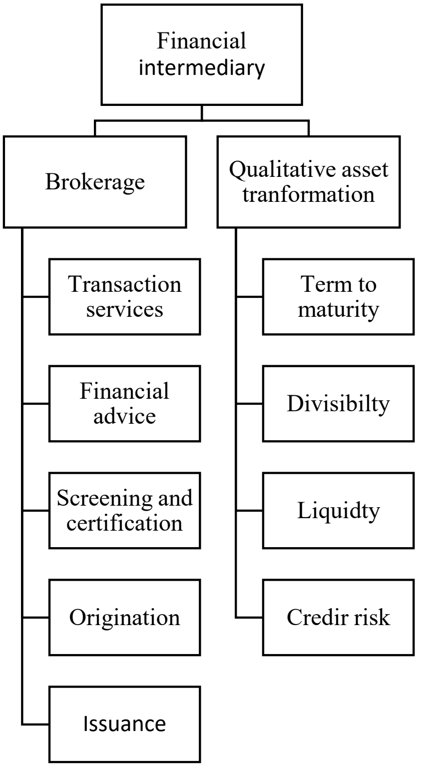
Financial intermediaries provide brokerage and qualitative asset transformation services as presented in Figure 1. Although financial intermediaries tend to specialize in the provision of specific services, banks have traditionally provided all these services (Bhattacharya and Thakor, 1993).

Previous studies argue that there was no microeconomic theory of banking before 1980 because the complete market assumption of the Arrow-Debreu general equilibrium model cannot explain the economic role of banks (Freixas and Rochet, 2008)[2]. In fact, when markets are complete investors and borrowers can achieve efficient risk allocation on their own (Santos, 2001). However, in the real world markets are incomplete due to the presence of a series of frictions such as taxes, transaction costs and information asymmetry. The existence of such frictions comprises the departing point for the justification of the existence of financial intermediaries (hereinafter, FIs).

Earlier literature for financial intermediation suggests that the main activity of FIs is the transformation of securities issued by firms (shares and bonds) into securities demanded by investors (deposits) (Gurley and Shaw, 1962). Within this context, FIs are able to provide services of divisibility and risk allocation, which borrowers cannot obtain on their own due to transaction costs (Benston and Smith, 1976; Fama, 1980)[3].

In contrast with early literature, modern theory of financial intermediation argues that the emergence of an intermediary sector is justified by the presence of information asymmetry[4]. Bhattacharya and Thakor (1993) state "…*We believe that informational asymmetries are the most basic form of transaction*

Figure 1: Services provided by financial intermediaries



costs, and thus information based theories of intermediation provide a more fundamental interpretation… (p.8)"

The main justification for the fundamental role of FIs is the provision of liquidity insurance (Bryant, 1980; Diamond and Dybvig, 1983). In particular, households face idiosyncratic shocks due to their inter-temporal consumption needs that are not publically observable. Therefore, banks that issue demand deposits contribute to the improvement of risk-sharing among households. In addition to the provision of liquidity insurance, banks may contribute to the creation of a safe asset, as well. Gorton and Penacchi (1990) argued that intermediaries provide liquidity by designing securities that can protect uninformed investors from the costs they would incur when trading with investors that possess superior information.

The second justification for the existence of FIs arises from the role of banks as providers of monitoring services[5]. Diamond (1984) argues that FIs act as delegated monitors to investors and thus the duplication of monitoring costs is avoided. In particular, firms are assumed to have more information about their investments than their investors. However, investors can obtain the appropriate information but only after incurring a monitoring cost. Within this context, they can delegate monitoring to banks which will provide the firm with funds. As a result, investors save on monitoring costs and firms are funded with a lower cost than direct lending.

3. Regulating banking industry

Regulation is justified by the existence of market failures such as information asymmetry, transaction costs and other externalities. Regulation may become beneficial if it protects consumers and ensures the safe provision of goods and services that are important for society. In the case of banks, regulation is important due to their special characteristics[6]. Firstly, the banking system is inherently unstable. Secondly problems in the banking sector may directly influence all other market participants. A sudden halt of bank payments will directly influence credit lines and investment across the entire economy. Thirdly, in contrast with other sectors, a potential bank run will weaken all competitor banks in the short-run due to the interdependence between financial institutions.

Previous literature argues that there are two specific arguments for imposing regulation in the banking industry; the systemic risk argument and the depositors' representative argument. Diamond and Dybvig (1983) argue that the role of banks as providers of liquidity makes them susceptible to runs. The rationale behind their argument is the maturity mismatch between a bank's assets and its liabilities. In particular, one of the main roles of banks is the provision of monitoring services. Within this context, banks have to hold a large portion of long term assets in the form of loans that are financed with short-term liabilities in the form of deposits[7]. Therefore, a bank run may occur even when there is perfect information about the bank's assets due to depositors panic. For instance, if depositors panic they may try to withdraw their funds due to the fear that other depositors will do so first. Consequently, even a sound bank may be forced into bankruptcy.

Jacklin and Bhattacharya (1988) argue that the existence of information asymmetry may create another source of runs which is related with the release of information on the value of those assets[8]. If the bank run is caused by the release of information about a bank's poor performance may be beneficial because it comprises a source of discipline[9]. However, when information asymmetry is present it will impose costs in the system because it forces the premature liquidation of assets. Furthermore, a bank run may cause a consequent contagion run which may distort the whole financial system[10].

Although the potential costs of a bank run provide an adequate explanation for regulation in banking. Dewatripont and Tirole (1993a, 1993b) suggest that regulation is also necessary due to the corporate governance problems that arise from the separation of ownership and control. They argue that, similarly to other firms, banks face the same problems of agency costs and information asymmetry. Therefore, investors have to monitor them efficiently. In the case of banks, monitoring is costly because bank debt is mainly held by uninformed depositors who do not possess the necessary information to monitor banks efficiently. Furthermore, banks' depositors are dispersed and hold only a small portion of banks' deposits. Within this context, depositors should be represented by a private or public agent who will perform all the monitoring function on behalf of them. The role of this agent can be assigned to regulation that mimics all the monitoring procedure.

4. The safety net

The risk of a system failure and its negative ramifications in economy comprises the main justification for imposing regulation. The part of regulation that aims to prevent or limit bank failures is known as the "safety net". Although the main objective of the "safety net" is to protect small and uniformed depositors, it can be further extended to other financial stakeholders in order to avoid all the undesirable externalities of a possible bank run.

The design and the implementation of such a mechanism influence a series of factors such as firms' risk-taking and investment activities by changing state-dependent returns and subsidizing risk-activity. Freixas and Santomero (2003) state that "*It is the cost of creating a safety net, which may have desirable aggregate and structural stability effects. The appropriate height of the safety net will involve a weighting of these costs of its assistance against the benefits of the implied financial stability it brings. (p.14)*".

From an economic perspective, the probability of a bank run could be fully eliminated if banks were financed with equity rather than demand deposits. However, this choice could hamper system efficiency because demand deposits have more advantages than equity contracts in insuring households against random shocks of their consumption needs (Jacklin, 1987). Furthermore, Calomiris and Khan (1991) suggest that if banks stopped funding with demandable debt, depositors' incentives for efficient monitoring would be fully eliminated.

Another proposal is related with the suspension of convertibility. This proposal implies that banks should not liquidate more than the portion of their illiquid loans that is necessary for the repayment of those depositors who wish to withdraw their funds early. Within this context, the rest consumers will be discouraged to run on the bank. Santos (2001) states that this mechanism provides full insurance only when the portion of early consumers is known at the beginning and liquidity shocks are perfectly diversifiable.

A third proposal is related with the development of narrow-banks[11]. Narrow banks are fully protected against runs given that they invest only in riskless securities. On the other hand, narrow-banking offsets the benefits from the provision of liquidity to households. Consequently, new firms will substitute banks as providers of liquidity, inheriting the problem of runs (Diamond and Dybvig, 1986; Wallace, 1996).

A fourth proposal suggests that banks can face liquidity difficulties, provided that they are solvent, could seek for funds from the Lender of Last Resort (hereinafter, LLR)[12]. The LLR should lend an illiquid bank with a premium in order to reduce banks' incentives to use these loans to finance normal business and only against good collateral. Flannery (1996) clarifies that a bank with good collateral is always able to borrow for the market. Therefore, the LLR is valuable only when there is information asymmetry about a bank's financial condition and the bank does not appear able to meet its liquidity needs in the interbank market. Although, the LLR comprises an efficient solution for liquidity issues, banks in financial distress have often used as a method to obtain a rescue package. This is because it is often impossible to distinguish *ex ante* (and even occasionally *ex post*) whether a loan is to solve an illiquidity problem being experienced by the institution or a solvency problem (Freixas and Santomero, 2003).

Finally, the governmental provision of deposit insurance was another efficient proposal to prevent bank from runs and protect depositors (Diamond and Dybvig, 1983). In fact, the provision of full insurance may offer banks a complete protection from runs (Santos, 2001). Merton (1977) used the arbitrage pricing method and showed that banks' risk-shifting incentives are completely eliminated if the deposit insurance premium is fairly priced[13]. However, the opaque nature of bank assets implies that markets are not complete and information asymmetry is present. Thus, it is impossible to obtain a fair deposit insurance pricing (Chan et al., 1992). Within this context, deposit insurance is costly because it may lead to moral hazard.

5. Minimum capital requirements

Deposit insurance is an efficient way to limit bank fragility. However, its benefits may be offset by the incurred costs of moral hazard (Merton, 1977; Kareken and Wallace, 1978). The provider of the deposit insurance offers a guarantee to depositors and simultaneously bears the risk that they would otherwise have borne. Within this context, it reduces depositors' incentives to monitor banks efficiently and demand interest payments which meet each bank's perceived level of risk. Furthermore, if banks are charged with a risk-insensitive premium, they are encouraged to engage in excessive risk activities because they do not internalize the full cost of risk[14]. As a result, governments and policy-makers focused on other regulatory mechanisms such as the charge of banks risk-related insurance premium and regulation of capital structure.

5.1. Theoretical arguments for capital regulation

The theory of capital regulation is mainly based on the information asymmetry between banks and depositors. Flannery et al. (2004) argue that bank monitors' inability to value banks due to lack of timely and accurate information implies that market mechanisms cannot control bank managers and should be substituted by a regulator. Furthermore, Diamond and Dybvig (1983) suggest that banks are susceptible to runs due to the maturity mismatch between banks' assets and liabilities. Therefore, the regulation of bank capital has the potential to reduce the likelihood of a run because it limits bankers' risk-taking incentives.

Early literature on bank capital regulation explained the role of capital regulation by introducing deposit insurance (Kahane, 1977; Sharpe, 1978; Kareken and Wallace, 1978). These studies argue that deposit insurance reduces depositors' incentives to control banks. In addition, the charge of a flat insurance premium encourages banks to engage in risk-taking activities and a result capital regulation is needed to limit banks' risk incentives.

Another stream of studies examined capital regulation and the imposition of a risk-based capital requirement. Koehn and Santomero (1980) and Kim and Santomero (1988) adopted a securities portfolio approach and showed that the adoption of flat capital requirement forces bank managers to reduce leverage and alter the composition of their risky assets portfolio. In particular, bank managers will invest in riskier assets in order to recover the loss from the reduction of leverage. Within this context, risk-based capital requirements can eliminate bankers' risk-taking incentives[15]. Moreover, Furlong and Keeley

(1989) and Keeley and Furlong (1990) provided evidence that a bank never increases portfolio risk as a result of increased capital standards when it pays a flat rate deposit insurance premium.

Santos (1999) explained the need for capital regulation through a principal-agent problem between a banks and the borrowing firm. His findings provided evidence that the contract between the bank and firm is distorted because the bank is funded with insured deposits. Consequently, an increase of capital standard forces the bank to adjust the shifting costs to the firm, which, in turn, reduces its risk. This procedure leads to the minimization of the risk for a banks' insolvency.

Finally, Dewatripont and Tirole (1993a) used an incomplete contracting approach and argued that regulation is needed when high-risk claims are held by dispersed and potentially unsophisticated investors. Within this context, the presence of a regulator increases managers' effort for performance improvement. In particular, they argue that bank managers do not care about monetary incentives but instead, they enjoy private benefits from running the bank in the absence of interference. Within this context, minimum solvency requirement could be part of such regulation defines the threshold for the transfer of control to the regulator.

5.2. The Basel Accord Capital Regulation

The opaque activities of international banks and the complaints for unfair competition prompted regulators to develop a regulatory framework which would promote the international convergence of capital standards and improve regulation across countries. Within this context, the Basel Committee on Banking Supervision (hereinafter, BCBS) was delegated to propose a new set of regulatory standards which is known as the Basel Accord.

The Basel Accord I was introduced in 1988 and came into effect by January 1993. The framework aimed to strengthen the soundness and the stability of the international banking system and diminish any source of inequality among internationally operating banks. The framework required banks to hold a minimum total capital equal to 8% of risk-adjusted assets, with at least half of this met by Tier I capital. The regulatory capital of each bank consisted of Tier I capital (equity capital and disclosed reserves) and Tier II capital, which include hybrid capital instruments, revaluation reserves, subordinated-term debt and a portion of general provisions[16]. Risk-adjusted assets were defined as the sum of the risk-adjusted assets on and off balance sheet and were explicitly sensitive only to credit risk. On-balance sheet assets were assigned to one of four risk buckets (0%, 20%, 50% and 100%) and then weighted by the bucket's weight. Off-balance sheet contingent contracts, such as letters of credit, loan commitments and derivative instruments, which are traded over the counter, needed to be first converted to a credit equivalent and then multiplied by the appropriate risk weight.

During 90s, financial innovation and the globalization of banking businesses increased information asymmetries and banks' opaqueness. In addition, regulators and policy-makers argued that banks are probably better informed about their risk than supervisors and that the uniform capital standards of the Basel Accord I cannot adequately fit to the operations of each and every bank. Thus, in 2001, the BCBS released its final proposal for a new capital adequacy framework which came into effect in 2008 and is known as the Basel Accord II. The new framework was based on three pillars: minimum capital standards, supervisory review process and market discipline.

The first pillar maintained the basic constituents of regulatory capital and provided changes with regard to the computation of risk-based assets. In particular, the framework required the maintenance of minimum regulatory capital not only for credit risk but also for market and operational risk. In addition, banks could calculate their risk-based assets with one of the following methods: the Standardized Approach, the Internal Ratings Based (hereinafter, IRB) method and the Advanced IRB method. Under the Standardized Approach, banks are required to use ratings from External Credit Rating Agencies to quantify required capital for credit risk. Under the IRB method, banks are allowed to develop their own empirical model to estimate the PD (probability of default) for individual clients or groups of clients. Finally, the advanced IRB approach permits banks to use their own quantitative models to estimate PD (probability of default), EAD (exposure at default), LGD (loss given default) and other parameters required for calculating their risk-adjusted assets. Then total required capital is calculated as a fixed percentage of the risk-adjusted assets.

The second pillar of the new framework is related with the supervisory review. The framework anticipates the importance of the supervisory process to ensure bank stability. Thus, it proposes four principles for enhancing supervisory process. First, banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels. Second, supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Third, supervisors should expect banks to operate above the minimum capital regulatory ratios and should have the ability to require banks to hold capital in excess of the minimum. Fourth, supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid action if capital is not maintained.

Finally, the last pillar is intended to encourage banks to disclose information in order to enhance the role of market participants in monitoring banks. Within this context, the BCBS is proposing that banks have to continue disclosing information that are set by their accounting framework and should provide additional disclosures with regard to their components of regulatory capital, risk exposures and risk-based capital ratios computed in accordance with the Accord's methodology.

5.3. Complementary Regulatory Mechanisms

The implementation of the Basel Accord regulatory framework aims to improve supervisory practices and financial stability by introducing a set of "best practices" and harmonized regulatory standards around the world. However, there is no evidence that a set of best practices appeal have the same results in countries with different institutional settings (Barth et al., 2004)[17]. Boyd et al. (1998) found that in a country with generous deposit insurance that intensifies moral hazard problems broad banking powers provide excessive opportunities for risk-taking and therefore the restriction of banking activities is the most appropriate regulatory solution. Regarding minimum capital requirements, theory suggests that they may be beneficial when official supervision is weak and banking business are complex (Barth et al, 2004).

Although deposit insurance schemes and minimum capital requirements are the most dominant regulatory tools, policy-makers use more regulatory tools depending on each country's institutional setting. The most common regulatory mechanisms are: banking licensing and restriction on bank's activities, supervision, government ownership, and private monitoring.

(i) Banking licensing and restriction on bank's activities

Licensing comprises the first component of banking regulation. A banking license is a legal prerequisite for a financial institution that wants to carry on a banking business. There are a series of banking licenses such as full banking licenses, international banking licenses and non-banking financial institution[18]. Licenses are typically issued by a national banking regulator to applicant corporations that meet its banking requirements. The requirements may include minimum capital requirements, minimum number of directors, residence of shareholders, spread of shareholdings, disclosure of beneficial shareholders, besides other matters. These requirements may differ between jurisdictions, and may differ depending on the type of license being sought.

Licensing is useful for regulators because they can impose restrictions on banks' activities. Previous studies concentrate the benefits of such a regulatory mechanism. Firstly, the engagement of banks in diverse activities such as real estate investment, securities underwriting and insurance may cause a conflict of interest (Saunders, 1985; John et al., 1994). Secondly, Boyd et al. (1998) argue that a broader range of activities increase the opportunity of banks to take on excessive risk. Thirdly, large and complex banks concentrate economic and political power and they become "too big to discipline" (Barth et al., 2004). Furthermore, large financial conglomerates may hamper competition and efficiency.

In contrast, restricting bank activities may cause adverse results. Claessens and Klingebiel (2000) argue that fewer regulatory restrictions permit the exploitation of economies of scale. In addition, fewer regulatory restrictions may increase the franchise value of banks and thereby augment incentives for more prudent behavior. Lastly, broader activities may enable banks to diversify income streams and thereby create more stable banks.

Licensing is useful in imposing regulation son domestic and foreign banks entry, as well. The restrictions that are related with the entrance in the banking sector may promote stability because banks with monopolistic power have greater franchise value, which enhances prudent risk-taking behavior (Keeley, 1990). On the other hand, Shleifer and Vishny (1998) argue that such policies may hamper competition and stability.

(ii) Supervision

Supervision is an integral part of banking regulation and is related with the continuous assessment of banks' activities. Supervisory activities involve on-site inspection of the bank's records, operations and processes or evaluation of the reports submitted by the bank. Supervision may be performed either by a government regulatory body (e.g. Central Bank) or by another independent governmental agency.

Previous literature suggests that the delegation of bank's monitoring to official supervisors is advantageous for a series of reasons. Firstly, bank's depositors are usually dispersed and uninformed. Therefore, obtaining the necessary information is costly and weakens efficient monitoring. Secondly, banks' opaque operations make them prone to runs. Thirdly, the use of a deposit insurance scheme increases banks' excessive monitoring incentives and hampers efficient monitoring by stakeholders. Within this context, official supervisors can act prudentially and prevent banks and society from the aforementioned market failures.

In contrast, a stream of research suggests that powerful supervisors may act opportunistically and use their powers to obtain private benefits at the expense of tax payers (Shleifer and Vishny, 1998; Djankov, et. al., 2002; Quintyn and Taylor, 2002). As a result, supervision may increase corruption and hamper the system's stability.

(iii) Private sector monitoring

Some supervisory agencies require banks to produce a series of comprehensive information that enhance transparency and eliminate information asymmetries. Barth et al. (2004) state that "*…some countries credibly impose a "no deposit insurance" policy to stimulate private monitoring… (p.9)*".

In fact the involvement of auditors and rating agencies in banks' monitoring is questionable. Shleifer and Vishny (1998) argue that strict regulation will force banks to influence politicians and unduly influence supervisory oversight. In addition, private sector monitors can enhance supervision in cases that official supervisors act for their own interest. On the other hand, countries with poorly-developed capital markets, accounting standards, and legal systems may not be able to rely effectively on private monitoring. Furthermore, banks' opacity may make private monitoring extremely difficult even in the most developed economies.

(iv) Government ownership[19]

Economic theory suggest that governmental ownership of banks may be successful in preventing banks from market failures and promoting strategically important projects (Gerschenkron, 1962). The justification of this view is based on governments' incentives to promote socially desirable investments.

In contrast, Shleifer and Vishny (1998) argue that government ownership instead politicizes resource allocation, softens budget constraints, and hinders economic efficiency[20]. Freixas and Satntomero (2003) mention that "*Budget constrained governments frequently use the banking system as a source of off-budget finance to fund initiatives for which they chose not to raise taxes or borrow… (p.8)*". Furthermore, recent evidence showed that politically connected lending may influence the efficiency and soundness of the financial system (Santomero 1997, 1998).

Although, the economic rationale for financial regulation is well-established, a potential over-regulation may impose huge costs in on the system and on the suppliers of financial services. In particular, regulatory and supervisory services are not provided through a market process but are imposed externally. Thus, the consumers have no choice regarding the amount of regulation they are prepared to pay for (Llewellyn, 2005). Within this context, Santomero and Freixas (2003) suggest that the optimal regulatory design is a complex work which have to take into account a series of factors such as the type of regulation, the number of supervisors and their incentives and the feedback of the market because both banks and consumers are expected to adjust their behavior depending on the regulatory supply.

6. The banking sector in the European Union

The European System of Central Banks (hereinafter, ESCB) is established according to the paragraph 1 of the Article 1 of the Treaty for the European Union. The ESCB consists of the European Central Bank (hereinafter, ECB) and the national central banks (hereinafter, NCBs) of all 28 member states of the European Union. The main objective of the ESCB is the price stability across the EU and the improvement of financial cooperation between the Eurosystem[21] and member states outside the Eurozone.

The European Central Bank (ECB) is the central bank of the ESCB and administers monetary policy within the Eurozone, which comprises 19 member states of the European Union. The bank's capital stock is owned by all 28 central banks of each EU member state. The primary objective of the ECB, mandated in Article 2 of the Statute of the ECB is to maintain price stability within the Eurozone. Furthermore, the ECB implements the monetary policy for the Eurozone, conducts foreign exchange operations and manages the foreign reserves of the ESCB and the market infrastructure under the TARGET2[22] payments system. Finally, the ECB has the exclusive right to authorize the issuance of euro banknotes.

6.1. Legislative framework 2000-2011

(i) Capital Requirement Directives

The European Union has introduced a regulatory framework that determines the capital standards and the minimum capital requirements for all EU banks through a series of Directives which are known as Capital Requirement Directives (hereinafter, CRDs).

The CRD I (2000/12/EC) was introduced in 2000 aimed to improve the transparency of the EU banking legislation by replacing seven Banking Directives that had been issued before. The adoption of the Basel II regulatory regime was adopted through the recasting of the Banking Directive (Directive 2006/48/EC) and the issuance of the Capital Adequacy Directive (Directive 93/6/EEC). Both Directives entered into force on 20 July 2006.

On 16 September 2009, the Council and the European Parliament officially adopted Directive 2009/111/EC (CRD II), which is part, together with Directives 2009/27/EC and 2009/83/EC, of the second legislative package aimed at ensuring the financial soundness of banks and investment firms.

On 24 November 2010, the Council and the European Parliament officially adopted Directive 2010/76/EU (CRD III) on capital requirements for the trading book and for re-securitizations and the supervisory review of remuneration policies. CRD III (Directive 2010/76/EU) implemented in two phases. The first phase included a series of provisions for capital requirements and remuneration policies which should have come into force until 1st January of 2011. The remaining provisions had to be implemented by 31 December 2011.

(ii) Deposit Insurance Directives

The deposit insurance scheme was established by the Directive 94/19/EC on deposit-guarantee schemes which requires all member states to have a deposit guarantee scheme for at least 90% of the deposited amount, up to at least 20,000 euro per person. This Directive came into effect on May 1994. On October 7, 2008, the EU's ministers of finance agreed to increase the minimum amount to 50,000. The increased amount followed on Ireland's move, in September 2008, to increase its deposit insurance to an unlimited amount. Many other EU countries, starting with the United Kingdom, reacted by increasing its limit to avoid that people transfer savings to Irish banks. From October 2008, many EU countries increased the amount covered by their deposit insurance schemes.

According to Article 7 (1a) of Directive 94/19/EC all EU Member States were expected to increase the amount to EUR 100,000 as of 31 December 2010. This is the case in all EU countries. For countries with non-EURO currency the limits are near to EUR 100,000. For instance the limit in Denmark is DKK 750,000 which is near to that limit, depending on EUR-DKK rate.

6.2. The Banking Union and related legislation

The aftermath of the financial crisis of 2008 raised serious questions among governments about the financial strength of EU banks and the sovereign credit of their home countries. Within this context, the EU moved on the next step for a Banking Union which requires the transfer of responsibility for banking policy from the national to the EU level in several countries of the European Union, initiated in 2012.

The changes in the EU financial market was based on the adoption of the Basel Accord III regulatory regime and the establishment of the Single Supervisory Mechanism (hereinafter, SSM) and the Single Resolution Mechanism (hereinafter, SRM).

The introduction of the Basel Accord III was made through the Capital Requirements Regulation Directive (CRD IV; Directive 2013/36/EU). The new regulatory framework adopts the proposals of the Basel Committee regarding banks' capital, liquidity and the leverage ratio and introduces a series of measures for banks' remuneration policy, requirements for corporate governance and enhanced transparency.

The SSM was established with the Council Regulation (EU) No 1024/2013 and the Regulation (EU) No 1022/2013. It is the legislative and institutional framework that provides the ECB with full authorization in licensing and supervising the banks of the EU. Eurozone countries are required to participate, while participation is voluntary for non-eurozone member states. While all banks in participating states will be under the supervision of the ECB, this will be carried out in co-operation with national supervisors. The most significant institutions, including those with holdings greater than 30 billion euros or 20% of the GDP of the state where they are based, and those directly funded by the European Stability Mechanism or European Financial Stability Facility, or have applied for such financing, will be directly supervised by the ECB. Smaller banks will remain directly monitored by their national authorities, though the ECB has the authority to take over direct supervision of any bank.

The SRM came into force on 19 August 2014 and is directly responsible for the resolution of the entities and groups directly supervised by the European Central Bank as well as other cross-border groups. The SRM allows for troubled banks operating under the SSM (as well as other cross border groups) to be restructured with a variety of tools including bailout funds valued at least 1% of covered deposits of all credit institutions authorized in all the participating member states. Like the SSM, the SRM Regulation will cover all banks in the Eurozone, with other states eligible to join.

6.3. Banking sector evolution

Previous studies have examined the population of EU banks in order to investigate the structure and the main characteristics of the industry. Rajan and Zingales (2003a) explained the reasons that caused the change of the EU financial system from the period of 1980 to 2000. The authors concluded that after the market-based trend that dominated for the specific period in EU, new forces that seek the completion of the economic and political integration "…*might trigger a shift in the pro-market stand of the European Union*…(p.58)". Furthermore, they proposed that the EU should promote structural reforms in Southern Europe countries and focus on the enlargement of the Union in order to increase competition and move in to the integration of the financial services sector.

The financial integration of the financial services in EU required a minimum level of harmonization, home-country regulation and mutual recognition of the authorization of institutions. The convergence of the standards across EU Members was accomplished by the Lamfalussy committees the scope of which was to establish an institutional infrastructure to facilitate supervisory convergence, cooperation and information sharing by 2005. Despite the effort of the European Commission, Carletti and Vives (2009) outlined that the financial integration had not been fully achieved by the end of 2007. Although cross-border mergers and money transfers increased rapidly, considerable cross-country differences in the legal and regulatory framework for financial institutions remained an impediment for the progress[23].

Liikanen et al. (2012) evaluate the business models of the EU banks in order to make a series of proposals for the improvement of regulation and the elimination of potential weaknesses. The authors found that the banking sector in the EU was characterized by high diversification regarding banks' size. In particular, they report that Germany, Austria and some other Member States have many small savings and co-operative banks most of which have assets of less than €1 billion. Furthermore they report that a second group of banks are medium sized and their assets range from 1 billion to 100 billion euro and these banks often operate on a country-wide scale. Finally, there are very large banks with assets from 100 billion to 2 trillion euros and they do a significant part of their business abroad.

Their analysis implies that size appears to influence banks' activities since smaller banks engage more in traditional commercial banking business, resulting in a balance sheet that has more loans and fewer assets held for trading. Similarly, smaller banks also tend to have a more stable funding base given the higher proportion of total customer deposits and a higher tier 1 capital ratio.

With regard to the ownership structure of EU banks, Liikanen et al. (2012) found remarkable differences that are related with banks' size and range of activities. Smaller banks tend to develop their business with the form of a co-operative or savings bank. According to the European Association of Cooperative Banks, there are approximately 4,000 local cooperative banks[24]. This type of banking is dominant in Austria, France, Netherlands, Italy, Finland, Germany and Spain as well. These banks are focused on retail services providing savings products and credit lending to consumers and SMEs.

In line with Liikanen et al. (2012), Cernov and Urbano (2018) examined a sample of 5,292 credit institutions that on a solo basis in the EU as of December 2015. Their findings showed that majority of banks –57%– were classified as cooperative banks or savings and loans associations. The next biggest categories in terms of number were savings banks (14% of credit institutions) and local universal banks (10%). Furthermore, they found that the business model of institutions varied from country to country. The authors classified EU countries into 4 groups regarding the dominant business model of the banking sector. The first group, comprising Germany, Greece, Spain, Italy, Hungary, Austria, Poland, Portugal, Finland, had more than 50 % of their institutions assigned to the business model of cooperative banks and savings and loans associations. The second group of countries –Estonia, Croatia, Cyprus, Latvia, Lithuania, Romania, Slovenia and Slovakia– was dominated by local universal banks or cross-border universal banks (more than 50 % of institutions). The third group of countries –Denmark– had a majority of institutions (more than 50 %) assigned to savings banks. Lastly, Belgium, Czech Republic, Ireland, France, Luxembourg, Malta, Netherlands, Sweden and United Kingdom had more diversity in the institutions' business models without any specific business model outnumbering the others.

With regard to the governmental ownership, Schmit et al. (2011) found notable deviations with regard to the involvement of the public sector. Their results showed that the public sector was involved in the ownership of the 21% of the EU banks. In turn, almost the 50 % of these banks were public companies (more than 50% of control rights belong to the public authorities) and the rest of them were partially owned by public authorities (at least 5% participation).

1.8. Conclusion

Banks comprise one the most valuable financial intermediaries due to their role as providers of liquidity insurance and as delegated monitors of their stakeholders. In particular banks cover households' consumptions needs and produce valuable information about their customers which is difficult to obtain due to high transaction costs. However, the maturity mismatch between their assets and liabilities makes them prone to runs. This weakness may force a bank to go bankrupt and even worse may distort the whole financial system.

The provision of governmental guarantees through deposit insurance systems and the fact that the most of a bank's debt is held by dispersed depositors may encourage bankers to invest in riskier assets. Within this context, policy-makers use a series of regulatory mechanisms in order to limit or eliminate banks' risk-taking incentives.

Previous studies suggested that the most successful way to minimize bank's risk is the regulation of bank capital. Therefore, the vast majority of countries around the world have adopted the regulatory framework of the BCBS which is known as the Basel Accord. The Basel Accord regulatory regime provides specific guidelines about uniform and efficient capital standards.

Similarly to other countries, the EU adopted the Basel Accord regulatory framework combined with a series of other regulatory mechanisms. The Basel Accord regulatory framework comprises an important part of the regulation in EU, because the integration of the financial services sector has been influenced by institutional differences across EU countries (Carletti and Vives, 2009). Besides, the aftermath of the financial crisis of 2008 raised serious concerns with regard to the regulatory weakness of the banking sector. Thus, the EU took a series of initiatives in strengthening the regulatory mechanisms of the banking sector by adopting stricter standards and imposing enhanced supervision.

Despite that regulation aims to protect the social welfare from banks' opportunistic behavior, it may create costs for the economy, as well. Firstly, the regulatory framework is going to change the incentives and strategies of the regulated agents (Kroszner and Rajan, 1993; Aghion et al., 1999). Secondly, if regulation is not optimal, competition benefits may decline (Freixas and Santormero, 2003). Therefore, regulatory design should always be determined carefully and accompanied by high standards of transparency that can alleviate the negative impact of banks' opaqueness.

Notes

1. Morgan (2002) finds that bond analysts disagree more over the bonds issued by banks than by nonfinancial firms.

2. Freixas and Rochet (2008) used an extended model that included the

banking sector and showed that households are completely indifferent between deposits and securities and firms are completely indifferent between bank loans and securities.

3. For a review of earlier banking literature, see Santomero (1984).

4. For a review of modern banking theory, see Bhattacharya and Thakor (1993) and Freixas and Rochet (1997).

5. Models here have concentrated on the actual use of borrowed funds (Boot and Thakor, 1993), effort involved (Allen and Gale,1988) and *ex post* outcome revelation (Diamond, 1984; Gale and Hellwig (1985).

6. See Dowd (1996) and Benston and Kaufman (1996), who dispute of the arguments often presented in defense of bank regulation.

7. Bhattacharya and Gale (1987) suggest that if each bank's investment in the short-term asset were publicly observable then depositors could be fully insured against the liquidity risk faced by their bank if banks could lend to each other. However, the maturity mismatch of banks' assets and the information asymmetry will impede banks to provide depositors will full liquidity insurance.

8. Chari and Jagannathan (1988) develop a model where both types of runs can arise. Their model implies both "poor performance" runs and "panic" runs can occur when there is equilibrium in depositors' actions.

9. Calomiris and Kahn (1991) model bank runs as a way to prevent opportunistic behavior.

10. See Calomiris and Gorton (1991) for a review of the literature on bank panics.

11. For a discussion on narrow banks, see Kareken (1986), Litan (1987) and Gorton and Pennacchi (1992).

12. The classical justification of the lender of last resort dates from the 19th century and is based on the presumption that the money market may fail to allocate liquidity to solvent banks that require it. Bahegot (1873) argues that the central bank should make clear in advance its readiness to lend any amount to a bank that is having liquidity problems provided the bank is solvent.

13. Merton (1977) shows that that deposit insurance can be viewed as a put option on the value of the bank's assets with a striking price equal to the promised maturity value of its debt.

14. Boot and Greenbaum (1993) argue that when insurance premium is risk-insensitive the funding related benefits of reputation are eliminated because the implied premium fixes the bank's future funding costs.

15. Rochet (1992) shows that when limited liability is taken into account and bank capital is exogenously set at a certain level, a bank may behave as a

risk lover. In this case, even a risk–based capital regulation that makes use of "market-based" risk weights may not be enough to restrain the bank's appetite for risk.

16. See Cooke (1990) for the debate that led to the Accord and Basel Committee (1999a) for the Accord and its amendments. For a comparison of banks' and securities firms' capital standards, see Ball and Stoll (1998).

17. For the diversity of institutional arrangements for financial regulation and supervision that exists in the world, see Carmichael, et al., (2004) and Healey (2001).

18. Full banking licenses permit general banking activities. International banking licenses (offshore banking licenses) prohibit any local business activities. Non-banking financial institution is an institution that provides financial services but has to comply with fewer regulations than one with a full banking license.

19. For a review of government involvement in banks' ownership see LaPorta et al. (2002).

20. LaPorta et al. (2002) found that countries with higher initial levels of government ownership tend to have subsequently less financial development and slower economic growth.

21. The Eurosystem is the monetary authority of the eurozone, the collective of European Union member states that have adopted the euro as their sole official currency.

22. TARGET2 is an interbank RTGS payment system for the clearing of cross-border transfers in the eurozone.

23. Regulation 2560/2001 on cross border transfers and cash withdrawals according to which since 1 July 2003 consumers are charged the same for cross border transfers as for domestic transfers and can withdraw cash at the same cost in the 15 euro countries as in their own country.

24. For a review of co-operative banks, see Ayadi et al., (2010).

References

Aghion, P., Bolton, P. & Fries, S., 1999. Optimal Design of Bank Bailouts: The Case of Transition Economies. *Journal of Institutional Theoretical Economics,* Volume 155, pp. 51-70.

Allen, F. & Gale, D., 1988. Optimal Security Design. In: F. D. G. Allen, ed. *Financial Innovation and Risk Sharing.* Cambridge and London: MIT Press, pp. 157-197.

Allen, F. & Gale, D., n.d. s.l.: New York University.

Anandarajan, A., Hasan. I. & McCarthy, C., 2007. Use of loan loss provisions for capital, earnings management and signaling by Australian banks.. *Accounting and Finance,* Volume 47, pp. 357-379.

Ayadi, R. et al., 2010. *Investigating Diversity In The Banking Sector In Europe: Key Developments, Performance And Role of Cooperative Banks.* [Online] Available at: http://www.ceps.be/book/investigating-diversity-banking-sector-europe-key-developments-performance-and-role-cooperative[Accessed November 2011].

Bagehot, W., 1873. *Lombard street: A Description of the Money Market.* London: H. S. King.

Ball, C. & Stoll, H. R., 1998. Regulatory Capital of Financial Institutions: A Comparative Analysis. *Financial Markets, Institutions and Instruments,* 7(3), pp. 1-57.

Barth, J., Caprio, G. & Levine, R., 2004. Bank regulation and supervision: what works best. *Journal of Financial Intermediation,* 13(2), pp. 205-248.

Benston, G. L. & Kaufman, G. G., 1996. The Appropriate Role of Bank Regulation. *Economic Journal,* 106(436), pp. 688-697.

Benston, G. & Smith, C. W., 1976. A Transactions Cost Approach to the Theory of Financial Intermediation. *The Journal of Finance,* 31(2), pp. 215-231.

Bhattacharya, S. & Gale, D., 1987. Preference Shocks, Liquidity, and Central Bank Policy. In: W. A. B. a. K. J. Singleton, ed. *New Approaches to Monetary Economics.* Cambridge: Cambridge University Press, pp. 69-88.

Bhattacharya, S. & Thakor, A. V., 1993. Contemporary Banking Theory. *Journal of Financial Intermediation,* Volume 3, p. 2–50.

Boot, A. & Greenbaum, S., n.d. Bank Regulation, Reputation and Rents: Theory and Policy Implications. In: C. 2. Cambridge University Press, ed. *Capital Markets and Financial Intermediation.* s.l.: C. Mayer and X. Vives.

Boot, A. & Thakor, A., 1993. Security Design. *Journal of Finance,* 48(4), pp. 1349-1378.

Boot, A. & Thakor, A. V., 1997. Financial System Architecture. *Review of Financial Studies,* Volume 10, p. 693-733.

Boyd, J. H., Chang, C. & Smith, B. D., 1998. Moral Hazard Under Commercial and Universal Banking. *Journal of Money, Credit, and Banking,* 30(3.2), pp. 426-468.

Bryant, J., 1980. A Model of Reserves, Bank Runs, and Deposit Insurance. *Journal of Banking and Finance,* Volume 4, p. 335-344.

Calomiris, C. & Gorton, G., 1991. The Origins of Banking Panics,. In: G.

Hubbard, ed. *Financial Markets and Financial Crisis.* Chicago: University of Chicago Press, p. 109-172.

Calomiris, C. & Kahn, C. M., 1991. The Role of Demandable Debt in Structuring Optimal Banking Arrangements. *American Economic Review,* Volume 81, p. 497-513.

Carletti, E. & Vives, X., 2009. Regulation and Competition Policy in the Banking Sector. In: X. Vives, ed. *Competition Policy in Europe: Fifty Years of the Treaty of Rome.* Oxford: Oxford University Press.

Carmichael, J., Fleming, A. & Llewellyn, D. T., 2004. *Aligning Financial Supervisory Structures with Country Needs.* Washington: World Bank Institute.

Cernov, M. & Urbano, T., 2018. *Identi,* s.l.: EBA Staff Paper Series..

Chan, Y., Greenbaum, S. I. & Thakor, A. V., 1992. Is Fairly Priced Deposit Insurance Possible?. *Journal of Finance,* Volume 47, p. 227-245.

Chari, V. & Jagannathan, R., 1988. "Banking Panics, Information, and Rational Expectations Equilibrium. *Journal of Finance,* Volume 43, p. 749-761.

Claessens, S. & Klingebiel, D., 2000. *Competition and Scope of Activities in Financial Services,* Washington D.C: World Bank, mimeo.

Cooke, P., 1990. International Convergence of Capital Adequacy Measurement and Standards. In: E. P. M. Garden, ed. *The Future of Financial Systems and Services: Essays in Honor of Jack Revel.* s.l.:St Martin's Press, p. 310-335.

Dewatripont, M. & Tirole, J., 1993a. *The Prudential Regulation of Banks.* Cambridge: MA, MIT Press.

Dewatripont, M. & Tirole, J., 1993b. Efficient Governance Structure: Implications for Banking Regulation,. In: C. Mayer & X. Vives, eds. *Capital Markets and Financial Intermediation.* Cambridge: Cambridge University Press, p. 12-35.

Diamond, D., 1984. Financial Intermediation and Delegated Monitoring. *Review of Financial Studies,* Volume 51, p. 393-414.

Diamond, D. & Dybvig, P. H., 1983. Bank Runs, Deposit Insurance and Liquidity. *Journal of Political Economy,* Volume 91, p. 401-419.

Diamond, D. & Dybvig, P. H., 1986. Banking Theory, Deposit Insurance, and Bank Regulation. *Journal of Business,* Volume 59, p. 53-68.

Djankov, S., La Porta, R., Lopez-de-Silanes, ,. F. & Shleifer, A., 2002. The Regulation of Entry. *Quarterly Journal of Economics,* Volume 117, pp. 1-37.

Dowd, K., 1996. The case for Financial Laissez-Faire. *Economic Journal,* 106(436), pp. 679-687.

Fama, E., 1980. Banking in the Theory of Finance. *Journal of Monetary Economics,* 6(1), pp. 39-57.

Flannery, M., 1996. Financial Crises, Payment Systems Problems, and Discount Window Lending. *Journal of Money, Credit and Banking,* 28(4), p. 804-824.

Flannery, M. J., Kwan, S. H. & Nimalendran, M., 2004. Market evidence on the opaqueness of opaqueness. *Journal of Financial Intermediation,* Volume 22, pp. 55-84.

Freixas, X. & Rochet, J. C., 2008. *Microeconomics of Banking.* 2nd ed. ed. Cambridge: MA: MIT Press.

Freixas, X. & Santomero, A., 2003. *An Overall Perspective on Banking Regulation.* [Online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=387140

Furlong, F. & Keeley, M. C., 1989. Capital Regulation and Bank Risk–Taking: A Note. *Journal of Banking and Finance,* Volume 13, p. 883-891.

Gale, D. & Hellwig, M., 1985. Incentive-compatible Debt Contracts: The One-PeriodProblem. *Review of Economic Studies,* Volume 52, pp. 647-663.

Gebhardt, G. & Novotny-Farkas., Z., 2011. Mandatory IFRS Adoption and Accounting Quality of European Banks. *Journal of Business Finance & Accounting,* 38(3-4), pp. 289-333.

Gerschenkron, A., 1962. *Economic Backwardness in Historical Perspective: A Book of Essays.* Cambridge: Belknap Press of Harvard University Press..

Gorton, G. & Pennacchi, G., 1990. Financial Intermediaries and Liquidity Creation. *Journal of Finance,* Volume 45, p. 49-71.

Gorton, G. & Pennacchi, G., 1992. Money Market Funds and Finance Companies: Are they the Banks of the Future. In: M. K. a. L. White, ed. *Structural Change in Banking.* Irwin: Homewood Illinois, p. 173-214.

Gurley, J. & Shaw, E., 1962. *Money in a Theory of Finance.* Washington D.C.: Brookings.

Hamadi, M., Heinen, A., Linder, S. & Porumb, V. A., 2016. Does Basel II affect the market valuation of discretionary loan loss provisions?. *Journal of Banking and Finance,* Volume 70, p. 177-192.

Healey, J., 2001. Financial Stability and the Central Bank: International Evidence. In: R. A. B. e. al., ed. *Financial Stability and Central Banks.* London: Routledge.

Jacklin, C., 1987. Demand Deposits, Trading Restrictions, and Risk—Sharing. In: E. C. P. a. N. Wallace, ed. *Contractual Arrangements for Intertemporal Trade.* s.l.:University of Minnesota Press, p. 26-47.

Jacklin, C. & Bhattacharya, S., 1988. Distinguishing Panics and Information–Based Bank Runs: Welfare and Policy Implications. *Journal of Political Economy,* Volume 96, p. 568-592.

John, K., John, T. A. & Saunders, A., 1994. Universal Banking and Firm Risk Taking. *Journal of Banking and Finance,* Volume 18, pp. 307-323.

Kahane, Y., 1977. Capital Adequacy and the Regulation of Financial Intermediaries. *Journal ofBanking and Finance,* Volume 1, p. 207-218.

Kareken, J., 1986. Federal Bank Regulatory Policy: A Description and Some Observations. *Journal of Business,* Volume 59, p. 3-48.

Kareken, J. & Wallace, N., 1978. Deposit Insurance and Bank Regulation: A Partial-Equilibrium Exposition. *Journal of Business,* Volume 51, p. 413-438.

Keeley, M. C., 1990. Deposit Insurance, Risk, and Market Power in Banking. *American Economic Review,* 80(5), pp. 1183-1200.

Keeley, M. & Furlong, F. T., 1990. A Re-examination of the Mean–Variance Analysis of Bank capital Regulation. *Journal of Banking and Finance,* Volume 14, p. 69-84..

Kim, D. & Santomero, A. M., 1988. Risk in Banking and Capital Regulation. *Journal of Finance,* Volume 43, p. 1219-1233.

Koehn, M. & Santomero, A. M., 1980. Regulation of Bank Capital and Portfolio Risk. *Journal of,* Volume 35, p. 1235-1244.

Kroszner, R. S. & Rajan, R., 1993. Is the Glass-Steagall Act Justified?. *American Economic Review,* 845(4), pp. 810-832.

La Porta, R., Lopez-de-Silanes, F. & Shleifer, A., 2002. Government Ownership of Commercial Banks. *Journal of Finance,* 57(1), pp. 265-301.

Levine, R., 2004. The corporate governance of banks: A concise discussion of concepts and evidence. *Working Paper, The World Bank..*

Liikanen, E., 2012. *The High-Level Expert Group on Reforming the Structure of the EU Banking Sector,* s.l.: s.n.

Litan, R. E., 1987. *What Should Banks Do?.* Washington, D.C.: The Brookings Institution.

Llewellyn, D., 2005. Institutional Structure of Financial Regulation and Supervision: the Basic Issues. In: L. D. a. C. J. Fleming A., ed. *Aligning Financial Supervision Structures with Country Needs.* Washington D.C: World Bank Publications, pp. 19-85.

Merton, R., 1977. An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees. *Journal of Banking and Finance,* Volume 1, p. 512-520.

Morgan, D. P., 2002. Rating banks: Risk and uncertainty in an opaque industry. *American Economic Review,* pp. 874-888.

Quintyn, M. & Taylor M., 2002. Regulatory and Supervisory Independence and Financial Stability,. *International Monetary Fund Working Paper No. 02/46.*

Rajan, R. & Zingales, L., 2003a. Banks and markets: the changing character of European Finance. *European Central Bank 2nd Annual Conference,* Volume 2003, pp. 124-167.

Rochet, J. C., 1992. Capital Requirements and the Behaviour of Commercial Banks. *European Economic Review,* Volume 36, p. 1137–1178.

Santomero, A., 1984. Modelling the Banking Firm: A Survey. *Journal of Money, Credit and Banking,* Volume 16, p. 576-602.

Santomero, A., 1997. Effective Financial Intermediation. In: K. B. Staking, ed. s.l.:Inter-American Development Bank, 1997.

Santomero, A., 1998. The Regulatory and Public Policy Agenda for Effective Intermediation in Post Soviet Economies. In: V. M. a. C. W. J. Doukas, ed. *Financial Sector Reform and Privitization in Transition Economies.* s.l.:Elsevier Science Publishers B.V. 1998., pp. 153-175.

Santos, J., 1999. Bank Capital and Equity Investment Regulations. *Journal of Banking and Finance,* Volume 23, p. 1095-1120.

Santos, J., 2001. Bank capital regulation in contemporary banking theory: a review of the literature. *Financial Markets, Institutions & Instruments,* 10(2), p. 41-84.

Saunders, A., 1985. Conflicts of Interest: An Economc View", in I. Walter. In: *Deregulating Wall Street: Commercial Bank Penetration of the Corporate Securities Market.* New York: John Wiley & Sons, pp. 207-230.

Schmit, M., Denuit, T., Gheeraert, L. & Warny, C., 2011. *Roles, missions and business models in public financial institutions in Europe,* s.l.: SUERF study 2011/5.

Schoenmaker, D., 2011. The European banking landscape after the crisis. *Duisenberg School of Finance Policy Paper No. 12.*

Sharpe, W. F., 1978. Bank Capital Adequacy, Deposit Insurance and Security Values. *Journal of Financial and Quantitative Analysis,* Volume 13, p. 701-718.

Shleifer, A. & Vishny, R., 1998. *The Grabbing Hand: Government Pathologies and their Cures,.* Cambridge: Harvard University Press.

Wallace, N., 1996. *Narrow Banking Meets the Diamond-Dybvig Model,* s.l.: Federal Reserve Bank of Minneapolis.

ECONOMIC CRISES IN THE 20TH CENTURY: BRIEF REVIEW AND COMPARISON

I-M. TSIFLIKIDOU* T. METAXAS**

Abstract

This study aims to review major economic crises throughout the centuries, in order to see what valuable lessons can be learned from re-examining them. As the 20th century was marked by tremendous economic turmoils, that changed the world economy of today, we will focus on the Great Depression of 1929 and the Oil Crisis of 1973, comparing them also with the 21st century global crisis of 2008. Through a lens of historic and periodic analysis, content analysis, and comparative analysis, this study seeks to unravel the intricacies of these financial crises, their similarities, differences and what went wrong in each case and what role the Federal Reserve's System played in in shaping economic outcomes. The findings underscore the significance of macroeconomic imbalances, poorly regulated financial markets, and inadequate risk management in amplifying the impact of economic events. Policymakers' responses and reforms after each crisis are examined, highlighting the recurring theme of claims of increased preparedness for future scenarios. The study concludes by urging a re-evaluation of the Federal Reserve's policies, emphasizing the need for a proactive and informed approach to address potential future crises and advocating for a better understanding of the global impact of national policies.

JEL Classification: G01, G18, G38

Keywords: economic crises, 20th century, qualitative analysis, review and comparison

1. Introduction

Financial or economic crises have been troubling economies for years, if not centuries. They persist in echoing across time, manifesting under varied yet interconnected circumstances. Crises have been the topic of discussion for a plethora of studies throughout the years, with researches worldwide trying to find the causes, effects and aftermath of each crisis (i.e. Kindleberger & Aliber, 2005; Barro & Ursúa, 2008; Bordo & Meissner, 2016; Kirman, 2010; Choi & Douady, 2012). Characterized by tumultuous fluctuations, economic crises possess the disruptive capacity to derail otherwise robust financial systems by

* Department of Economics, University of Thessaly, Volos, Greece, email: itsiflikidou@uth.gr

** Professor, Department of Economics, University of Thessaly, Volos, Greece, email: metaxas@uth.gr, corresponding author

impinging on the delicate balance of the investment process, pushing economies away from equilibrium (Mishkin, 1991).

This paper embarks on an exploration of the financial crises that unfolded throughout the 20th century, which stand as monumental chapters for global economic history. Within this century, marked by two world wars, the global economy faced a formidable challenge in maintaining its health and stability. Consequently, a myriad of crises unfolded across various countries and periods, reshaping economic landscapes. However, we will focus on two particularly important crises of this century which changed the course of events; the Great Depression of 1929 (Bernanke, 2000; Metaxas & Trompatzi, 2015; Oana & Cosmin, 2018) and the Oil Crisis of 1973 (Merrill, 2007; Mitchell, 2010; Corbett, 2013), comparing them also to the 21st century Global Crisis of 2008 (Ivashina & Scharfstein, 2008; Schwartz, 2009). We will begin with the opening section of the 20th century, with post World War I America, and how the Great Depression occurred, collapsing the United States stock market and economy. Transitioning to the mid-century, the Oil Crisis of 1973 brought forth a new dimension to economic turmoil. Triggered by geopolitical events in the Middle East, this crisis witnessed a quadrupling of oil prices, causing ripple effects across the global economy (Akins, 1973; Oana & Cosmin, 2018; Mitchell, 2010). Fast-forwarding to the 21st century, the Global Financial Crisis of 2008 emerged. Caused by the collapse of the high-risk mortgage market in the United States, this crisis unleashed a cascade of repercussions, exposing the fragility of financial institutions worldwide (Acemoglu, 2009; Swedberg, 2013; Schwartz, 2009).

Through a lens of historic, periodic case study and comparative analysis, this study seeks to unravel the intricacies of these financial crises. By delving into the causes, environments, effects, aftermath and governmental responses to the crises of 1929, 1973, and 2008, it aims to discern patterns, similarities, and differences. Ultimately, the critical exploration seeks to elucidate why history appears to cyclically repeat itself in the realm of financial and economic crises, offering valuable insights for future policy considerations and academic inquiries into the complex interplay of economic forces.

2. The theory behind financial crises

Definitions as to what an economic crisis is, vary. Based on Oxford Reference by Oxford University press, a financial crisis is a disintegration to the price of financial obligations and liabilities, which can lead to an economic collapse. It is a complex phenomenon characterized by a sudden, widespread disruption in economic activities, often leading to a sharp decline in key economic indicators, such as gross domestic product (GDP), employment, and investment. These crises transcend mere economic downturns, evolving into multifaceted challenges with far-reaching social, political, and cultural implications. In literature however, according to Mishkin (1991), views on financial crises are split into two categories. The first one being monetarists who support that financial crises derive from bank panics and their effect on the money supply, while the second one is a broader definition (Minsky, 1972), with a financial crisis involving sharp declines in asset prices, failures of both large financial and nonfinancial firms, deflations or disinflations, disruptions in foreign exchange markets, or some combination of all of these. (Schwartz, 1986). Monetarists do not view events such as these as real financial crises, with Schwartz (1986) characterising these situations as “pseudo financial crises”. Oana & Cosmin (2018) mentioned that the banking system also plays a complex role in multiple ways, acting on the overall economy, by leveraging financial resources from deposits and capital to generate profit. However, the significant diversification of their operations influences the overall economic system in various ways, as highlighted in the 2008 global crisis.

Economic crises are seldom the result of a singular event; rather, they are intricate interplays of various factors that converge to create a perfect storm. Mishkin (1991) notes that there is asymmetric information on financial crises and their consequences for the economy. His approach indicates that financial crises have greater effects compared to those resulting from banking panics. One primary catalyst is the fragility of financial systems, where interconnections between institutions can amplify shocks. Neal and Weidenmier (2003) concluded that each crisis case is different, depending on the government’s weaknesses. However, countries prone to budget deficits were well advised not to lend freely at a penalty rate, but instead should have maintained their previous discount rates so they could lend judiciously with side conditions to only the most solvent of their customers. This did not happen, leading to risk-taking by the local banking establishment, causing damage to the country's economic growth. Poorly regulated financial markets, excessive risk-taking, and inadequate risk management practices can magnify the impact of adverse economic events.

Additionally, macroeconomic imbalances, such as high levels of debt, trade deficits, and inflation, can act as precursors to crises. The intricate dance of these factors sets the stage for the unpredictable and often devastating economic crises that have punctuated the 20th century. With two world wars and a financial system not so equipped as today, it is expected that the previous century had its fair share of crisis throughout the globe.

3. Setting the background in brief by period

3.1 1900 to 1950

Starting of the century, the Bank Panic of 1907 was a financial crisis that occurred in the United States (Metaxas & Trompatzi, 2015). It was triggered by a series of events, including the failure of the Knickerbocker Trust Company and a run-on banks. The panic highlighted the need for financial reforms, eventually leading to the creation of the Federal Reserve System in 1913 (Bordo & Prescott, 2019). Following this event, World War I, also known as the Great War, began in 1914 (Prior & Wilson, 2000). The conflict involved major world powers and alliances, with the Central Powers (Germany, Austria-Hungary, Ottoman Empire) facing the Allied Powers (France, UK, Russia, and later, the United States). The war saw trench warfare, new military technologies, and significant loss of life. It ended with the signing of the Treaty of Versailles in 1919. The period between World War I and World War II saw economic challenges, cultural changes, and political upheavals. The Treaty of Versailles imposed heavy reparations on Germany, contributing to economic instability. During the 1920s, there was economic prosperity in some areas (Zeitz, 2017) but that ended with the Wall Street Crash of 1929. Some believe that the Wall Street crash led to a severe worldwide economic downturn, named the Great Depression, which lasted globally for around a decade. It resulted in widespread unemployment, poverty, and a decline in industrial production (Bernanke, 2000; Metaxas & Trompatzi, 2015). Governments worldwide struggled to address the economic crisis, and the Depression had profound social and political consequences. In 1939, another major global conflict begun, World War II, which involved the majority of the world's nations, with the Axis powers, Germany, Italy, and Japan, fighting against the Allies, consisting of the UK, the Soviet Union, China, and later, the United States (Harrison, 1998). The war saw major battles, atrocities, and the development and use of nuclear weapons. It ended in 1945 with the unconditional surrender of Germany and Japan, marking the beginning of the post-war era, in which the Cold War between the United States and the Soviet Union begun (Schlesinger, 1967). Another major event of the late 1940s, was the establishment of the International Monetary Fund (IMF) in 1944, helping economies in crises worldwide (Adams, 1983).

3.2 1950 to 1980

The 1950s were marked with the beginning of the Korean war, which lasted until 1953 (Lee, 2002). North Korean forces, backed by the Soviet Union and

China, invaded South Korea. The United Nations, led by the United States, intervened to support South Korea. The conflict ended in 1953 with an armistice, but a formal peace treaty was never signed, leaving the Korean Peninsula divided into North and South Korea. From 1955 to 1975, another war was taking place, this time in in Vietnam, Laos and Cambodia, named the Vietnam War, an "economically trivial event" as mentioned by Riddell (1989). North Vietnam, supported by the Soviet Union, China, and other communist states was fighting against South Vietnam, supported by the United States and other anti-communist allies, making it a major conflict of the Cold War, which was still ongoing between the US and the Soviet Union (Schlesinger, 1967). The conflict was characterized by political tension, military buildup, and the threat of nuclear war and it shaped international relations for much of the 20th century, with proxy wars, the space race, and the arms race as key features. The Space Race was a competition between the United States and the Soviet Union to achieve significant milestones in space exploration (Siddiqi, 2000). In 1957, the Soviet Union launched Sputnik 1, the first artificial satellite, initiating the space age. The United States responded with the creation of NASA (National Aeronautics and Space Administration) in 1958. A little over a decade later, the oil crisis and oil embargo of 1973 was triggered by geopolitical events in the Middle East, particularly the Yom Kippur War between Israel and a coalition of Arab states (Bernanke, 2000; Merrill, 2007; Mitchell, 2010; Corbett, 2013). This crisis had significant economic implications and prompted efforts to reduce dependence on foreign oil and increase energy efficiency.

3.3 1980 to 2000

The 1980s and 1990s were riddled with economic and political conflict. In 1987, a global stock market crash occurred. On Black Monday, October 19th, stock markets worldwide experienced a rapid and severe decline in value, remaining in history as the day with the largest stock market declines of all time (Oana & Cosmin, 2018). The exact causes of the crash remain complex and debated, but factors such as program trading, overvaluation, and economic uncertainties contributed to the sharp downturn. Despite the crash, the markets eventually recovered. The late 1980s and early 1990s are marked by the end of the Cold War, which ended with the collapse of the Soviet Union, with the fall of the Berlin Wall in 1989 symbolizing the end of the ideological divide between the communist and capitalist worlds (Schlesinger, 1967).

Following Oana and Cosmin (2018) point of view, the rest of the 1990s had three important crisis. Starting with the Mexican crisis, occurring in 1994, which was triggered by a sudden devaluation of the Mexican peso, leading to a financial crisis. The crisis had widespread economic repercussions in Mexico and other emerging markets. To stabilize the situation, Mexico received financial assistance from the IMF. Then, in 1997, the Asian Financial Crisis began, when, yet again, a series of currency devaluations and financial collapses hit several East Asian economies, including Thailand, Indonesia, South Korea, and Malaysia. The crisis was fuelled by a combination of economic imbalances, high levels of foreign debt, and speculative attacks on local currencies. Lastly, the Russian Financial Crisis of 1998, which was triggered by a combination of factors, including a sharp decline in oil prices, the financial meltdown in Asia, and domestic economic mismanagement. Russia defaulted on its debt, and the crisis resulted in the devaluation of the Russian Ruble and economic turmoil. The IMF provided financial assistance to help stabilize the situation, yet again.

3.4 2000 to 2020

The new century unfortunately begun with a terrifying event. On September 11, 2001, a series of coordinated terrorist attacks took place in the United States, when two hijacked planes crashed into the Twin Towers of the World Trade Centre in New York City (Makinen, 2002). Most of the Wall Street area had no utilities or communication services and was covered in debris and the attacks had profound and lasting effects on global politics and security. Following the attack, in 2003, the United States, supported by their allies, invaded Iraq, citing concerns about weapons of mass destruction and links to terrorism, but the aftermath of the invasion contributed to instability in the region (Hinnebusch, 2007). After some years of stability and economic growth in the United States, in 2008, a mortgage crisis due to a speculative bubble in the housing industry. This led to a severe worldwide economic downturn, causing widespread unemployment and affecting various sectors (Ivashina & Scharfstein, 2008; Schwartz, 2009). Governments around the world implemented measures to stabilize financial markets and stimulate economic recovery. After the global financial crisis, the world experienced a period of economic recovery and growth, with emerging markets playing a significant role. China, in particular, emerged as a major economic power during this period, contributing to global economic expansion (Zhu, 2012).

However, there were regional variations in economic performance. But the 2010s ended with something no one could have predicted. In late 2019, coronavirus SARS-CoV-2 emerged, starting the COVID-19 pandemic (Maital & Barzani, 2020; Estrada et al, 2020). Governments implemented various measures, including lockdowns and travel restrictions, to curb the spread of the virus. The pandemic had profound effects on public health, daily life and most importantly, economies (Reisinger & Mavondo, 2005; Ayittei et al, 2020)

4. Methodology

The purpose of this paper, is to conduct a comprehensive review of the financial crises that unfolded in the 20^{th} century. By investigating into the intricacies of each crisis that was previously mentioned, the ultimate goal is to unravel the systemic flaws within the global financial architecture and offer nuanced insights through some further analysis.

The basic research question of this study is what valuable lessons could we gain by re-examining such major events such as global financial crises. It is a well-known fact that history repeats itself and by delving into these phenomena, we could potentially fortify our financial systems against the recurrence of similar catastrophic scenarios in the future. This question serves as a guide to direct this paper's finds to potentially give insight and aid to policymakers, economists, and financial practitioners.

To unravel the complexities contained within each crisis, this paper's methodology consists of a qualitative approach combining case study and comparative analysis across the three selected case studies: the Great Depression of 1929, the Oil Crisis of 1973 and the Global Financial Crisis of 2008. First, with a case study analysis. Case studies can involve either single or multiple cases and multiple levels of analysis (qualitative (e.g. words), quantitative (numbers), or both (Priya, 2021; Lindgreen et al., 2021). Following Starman (2013) point of view, case study is a ticket that allows us to enter a research field in which we discover the unknown within well-known borders while continually monitoring our own performance; scalability; and our own, as well as general, existing knowledge. Secondly, comparative study is also applied, which is a methodology of scientific research. Comparative case studies are conducted over time and emphasize comparisons within and across contexts. They may be chosen when it is not feasible to conduct an experimental design and/or when there is a need to understand and explain how context characteristics affect the success of program or policy initiatives. This information is valuable for tailoring interventions to support the achievement of the intended results. Comparative case studies involve the analysis and synthesis of similarities, differences, and patterns in two or more cases that share a common focus or objective. The rationale for selecting specific cases is directly linked to the key evaluation questions (KEQs) and therefore to what needs to be explored (Gelderblom & Trivellato, 2018; – Haupt & Kocka, 2004).

Although the focus of this paper is the crises that occurred in the 20th century, the 2008 crisis is also examined to showcase events that get repeated through the centuries. The deliberate choice of these crises is grounded in their proximity to major historical events, primarily wars involving the United States and the fact that all three of them either started or majorly affected the US' economy. Additionally, they all caused a chain reaction effect in the worldwide economy, prompting shifts in policies and cascading crises in nations with less financial stability. By comparing the events and the aftermath of these crises, we aim to discern patterns, similarities, and divergences, shedding light on their global ramifications.

It is important to be self-aware and acknowledge the limitations and weaknesses of this paper. As there is a plethora of opinions and an abundance of previous studies on the topic of what goes wrong in an economy to cause such massive crises, it is a challenge to come to one conclusion as to their causes, due to the several divergent perspectives. Also, as this paper lacks empirical evidence and only focuses on previous studies and theories, the results of the analysis could be up for interpretation or be considered ambiguous by some.

The 20th century was marked by a plethora of intense rivalry, conflict and economic challenges, which influenced geopolitics, economies, and societies on a global scale. Although it is worth analysing the majority of the crises that took place in the last 120 years, this paper will focus on the three following.

5. The case studies

5.1 The Great Depression (1929)

The economic catastrophe that started in 1929 commonly known as the Great Depression, serves as a haunting reminder of the vulnerability inherent in global economic systems. According to Bernanke (2000) and Romer (1990), although it started in the United States, it quickly affected the worldwide economy, making it the biggest, longest and deepest downturn in the modern industrial economy. The end of the Great Depression is debated, as in a lot of countries it wasn't as severe, had less effects and had ended by 1931. However, in the United States the contraction persisted until 1933, and although there was some hope for recovery, the economy mostly remained stagnant until 1935. It was not until 1937 that a continued growth started appearing, but that was cut short with the beginning of World War II.

As the economic bloom of the 1920's came to an end, a major American stock market crash occurred in the autumn of 1929, named the Wall Street

Crash. After the collapse of the shares, bankruptcies began to appear, marking the beginning of the Depression. But the association between the two is still questionable, as there was already a recession taking place in the United States' economy, and according to Cecchetti (1997), the two events were not caused by one another, but rather hindered the financial situation. The most enduring impact of the Depression was the transformation of the federal government's role in the economy. Although the Federal Reserve existed, several policy mistakes rendered its efforts ineffective at the time (Metaxas & Trompazi, 2015). Wheelock (1995) argued that during this time, around 9.000 banks defaulted, meanwhile following to Smiley (2008), in 1929 to 1933, 10.763 of the 24.970 commercial banks in the US had defaulted. US industrial production dropped by 47%, real GDP declined by 30%, the General Price Level Index fell by 33%, and the unemployment rate surpassed 20% (Metaxas & Trompazi, 2015).

Economists have long debated the causes of the Great Depression, with discussions in the 1980s and 1990s particularly focusing on the role of bank failures (Wheelock, 1995). Bernanke (2000) and Cecchetti (1997) specifically attribute the crisis to the actions of the Central Bank, the Federal Reserve System, and the gold standard. The gold standard, an outdated monetary system where the economic unit of account was based on a fixed quantity of gold, served as the foundation for the international monetary system from the 1870s until 1971, when the United States ended the convertibility of the US dollar to gold. Cecchetti argues that the financial system's collapse could have been avoided if the Federal Reserve had understood its role as a lender of last resort and had effectively countered deflation, which exacerbated the recession rather than providing relief. Bernanke contends that the Federal Reserve's leaders, though acting in what they believed to be the public interest, ultimately harmed the economy further due to their disagreements on the best response, resulting in the failure to implement effective policies.

At the time, the Federal Reserve's decision-making structure was decentralized and often ineffective, as the Board lacked the authority and tools to be autonomous and to understand what had gone wrong. When governors would agree, monetary policy would be extremely effective. Unfortunately, they often disagreed, which led to confusion and potentially taking the wrong course of action (Richardson, 2013). Richardson argues that the Fed could have averted deflation by preventing the banking system's collapse or countering it with an expansion of the monetary base, but it failed to take these actions. Although Congress granted the Federal Reserve the necessary authority in 1932, allowing it to aggressively expand the monetary base, it was too late to save what had already collapsed.

In previous depressions, unemployment was caused by a decrease in wages, but for the Great Depression, that was not the case (Richardson, 2013). Due to President Herbert Hoover's new economic policies, wages would not fall and consequently, employers started laying off workers, leading to even higher rates of unemployment, which eventually led to business failures. Bank failures also started occurring and Hoover's fiscal policy only accelerated the decline. They raised taxes and tariffs on imports, tried to balance the budget by cutting government spending, reduced the money supply, and allowed numerous banks to fail, leading to a sharp decline in household and firm expenditures (Metaxas & Trompazi, 2015). It is believed that the US Central Bank permitted or caused the significant drop in money supply partly to maintain the gold standard (Romer, 1990). In 1931, following Great Britain's exit from the gold standard, investors worldwide were waiting for the US to either devalue the dollar or also exit the gold standard, otherwise the dollars in their possession would be deemed worthless. If the Central Bank had adopted an expansionary policy, foreign investors would have lost confidence in the US commitment to the gold standard, leading to significant outflows of gold reserves and forcing a currency devaluation. Many economists, following the Keynesian view, also blamed the Depression on inadequate demand and argued that it was the government's responsibility to stabilize the economy to prevent the Depression (Metaxas & Trompazi, 2015).

In 1933 bank runs and bank failures kept ongoing, and for that, new president Roosevelt decided to declare banking holidays, closing down financial sectors (Richardson, 2013). Thanks to his decision, the runs and failures ended and the economy started to slowly recover. But by 1937 the recovery was at a halt, with a new contraction, which ended around June 1938. It is thought that World War II in 1939 provided the stimulus to aid the US economy to exit the Great Depression, but for consumers, true recovery finally came at the end of the war. People truly suffered during those years, as thousands lost their jobs and homes, living below the poverty line for close to a decade, perhaps even more.

During the Depression, the flaws of the Federal Reserve became extremely apparent, leading to reforming of the entire financial system, which is still in works today. Bernanke believed that due to these reforms, it would be very unlikely that a depression of such size would occur again, as policymakers now had the tools to prevent it from happening.

5.2 The Oil Crisis (1973)

In the early 1970s, the world experienced another seismic shift in economic dynamics with the onset of the Oil Crisis of 1973. There is not such a plethora of papers for this crisis, due to the fact that its causes were not as ambiguous as the Great Depression's were. It begun in the Middle East, because of the Yom Kippur War between Israel and a coalition of Arab states. It started when the Organization of Arab Petroleum Exporting imposed an oil embargo on the US and other nations supporting Israel in the war. Oil-producing countries used this natural resource as leverage, increasing the price per barrel from $3 to $12, which triggered an energy crisis in many countries (Oana & Cosmin, 2018; Schwartz, 2009). Although the embargo was officially lifted in March 1974, the elevated oil prices persisted (Merrill, 2007).

Corbett (2013) notes that non-OAPEC oil sources were declining as a share of the global oil industry, allowing OAPEC to gain a larger market share and thus greater influence. This shift enabled OAPEC to dominate price-setting mechanisms in the oil market since its formation in 1960. Corbett also highlights that the devaluation of the dollar in the early 1970s was a key factor in OAPEC's price increases. As oil prices were quoted in dollars, the dollar's decreasing value reduced the revenues for OAPEC nations, prompting them to price their oil in terms of gold instead of dollars (Hammes & Wills, 2005).

Similarly to the Great Depression, a key factor here was the Federal Reserve and how it handled the situation. According to policymakers, the 1973-74 oil crisis further complicated the macroeconomic environment, particularly regarding inflation (Corbett, 2013). In 1979, Federal Reserve Chairman Burns attributed the inflation to several factors: the Vietnam War, the dollar devaluations in 1971 and 1973, the global economic boom of 1972-73, the crop failures and subsequent surge in world food prices in 1974-75, and the sharp increase in oil prices. Policymakers at the time collectively agreed that cost-push inflation, which arises from an increase in the prices of inputs to the economy, was beyond the influence of monetary policy (Romer & Romer, 2013).

Economists have since understood the role a central bank can play in such situations. Corbett (2013) points out that a central bank can influence the impact of supply shocks on inflation, but it faces a trade-off. Higher oil prices lead to both inflation and slower economic growth because oil is a highly sought-after commodity, resulting in a short-term inverse relationship between the two factors. Bernanke (2004) argues that monetary policy cannot simultaneously counteract the recessionary and inflationary effects of rising oil prices. He emphasizes that the choice to tighten or ease monetary policy depends on how policymakers weigh the risks associated with achieving employment and price stability.

The oil crisis and the oil embargo were extremely important, although unpleasant, events for the trajectory of the United States and global economy.

The inflation and devaluation of the dollar that occurred, led to policymakers in the Federal Reserve to re-evaluate their power once more and ponder on what the central bank can do to offset such domino-effect phenomena.

1.3 The Global Financial Crisis (2008-2009)

Fast-forwarding to the 21st century, the world witnessed yet another economic upheaval with the advent of the Global Financial Crisis in 2008. Stemming from the collapse of the subprime mortgage market in the United States, driven by an asset price bubble during the housing boom, the crisis saw Lehman Brothers, Inc. declare bankruptcy, Merrill Lynch acquired by Bank of America, and Goldman Sachs and Morgan Stanley transitioned into bank holding companies (Schwartz, 2009). This crisis swiftly spread to financial institutions globally, profoundly shaking the worldwide economy and triggering crises worldwide, with some nations still grappling with its repercussions to this day.

According to Schwartz (2009), at least three factors contributed to the emergence of the global financial crisis. First, she mentions the expansive monetary policy that was placed by the Federal Reserve, which caused the asset boom. The policy made it appealing to individuals to take mortgages in order to get a new home, but there was no regulations regarding borrowing. It reacted rather slow to the situation that was happening, delaying tightening the monetary policy until it was too late. The rate cuts begun in 2007 and an even bigger reduction occurred in 2008, in a very hasty manner. The second factor that Schwartz mentions, was the adoption of flawed financial innovations, including secularization, derivatives, and auction-rate securities, before the markets fully understood their fundamental design flaws, which was the challenge of determining their price. Banking innovations, particularly in the derivatives industry, contributed to mortgage lending problems by introducing complex risk-shifting practices that were poorly understood by both designers and buyers. The difficulty of determining the price of derivatives and mortgage-backed securities, combined with the spread of secularization beyond the mortgage industry to other loan categories, further complicated the financial landscape. Credit markets face significant hurdles when accurate pricing for assets in a borrower's portfolio is elusive. This should have prompted investors to exercise caution with untested innovations, particularly concerning mortgage-backed securities and other novel asset types. Schwartz identifies the collapse of certain financial instruments as the third and final factor. One such instrument was the auction rate security, a long-term investment where interest rates are periodically reset through auctions. Initially utilized by municipalities, hospitals, museums, student loan finance authorities, and closed-end mutual funds, these securities faced challenges when auctions failed. Up until 2007, failed auctions were rare, however that changed due to banks' reluctance to support auctions amidship credit losses from the subprime mortgage market collapse. Consequently, investors withdrew funds from auction rate securities, causing borrowing costs to soar and market chaos to ensue. Schwartz concluded that investor losses would stall market operation until overall credit market stability and tranquility returned and weaknesses were rectified. However, this didn't materialize for all institutions, with many banks forced to close.

Ivashina and Scharfstein (2008) through examining empirical evidence, understood that in order to truly grasp the genuine impacts of the financial crisis, researchers must examine the investment decisions and performance of potential borrowers, rather than solely focusing on lenders, as most studies have done. Despite this, researchers discovered a significant decrease in new lending across all loan categories during the financial crisis. This reflects the fact that businesses refrain from expanding during a recession, therefore a drop in loan demand. Additionally, there was a supply affect, as Ivashina and Scharfstein note, since smaller banks had to reduce their lending as they has less to deposits and reserves.

The 2008 crisis left many consequences behind it. After the collapse of the US market and economy, many other countries followed, making it a global crisis.

6. Comparative analysis

At this point, all of the three previously mentioned crises will be analysed simultaneously, in order to aid in the finding of their similarities and differences (see Table 1).

The 1900 to 1950 time period faced a lot of challenges, with bank panics, World War I, the Great Depression, World War II and the beginning of the Cold War. In 1929, a pivotal moment in global economic history was marked, as the Great Depression begun. It originated in the United States and it quickly affected the worldwide economy, making it the biggest, longest and deepest downturn in the modern industrial economy. It could be linked to the Wall Street Crash of 1929, but the association between the two is debatable, since there was already a recession taking place in the country. During this time many banks failed. Its causes are attributed to various factors, including the operation of the central bank, the Federal Reserve's policy mistakes and the

Table 1: Comparative Analysis Results

Great Depression (1929)	Oil Crisis (1973)	Global Financial Crisis (2008)
Originated in the US.	Originating from the Middle East affecting the US.	Originated in the US.
Occurred close to a war (WWII).	Oil embargo due to a war in the Middle East.	Mortgage related crisis.
Banks failed.	Devaluation of the dollar and inflation.	Banks failed.
Caused by the US's decision to stand by the gold standard.	Now measuring price of oil in gold instead of USD.	Failed financial innovations and collapse of financial instruments.
The Federal Reserve should have implemented an expansive monetary policy but kept an expansive one.	The Federal Reserve did not apply any monetary policies	The Federal Reserve had an expansive monetary policy, instead of a restrictive one.
Policymakers claimed to have understood their mistakes.	Policymakers claimed they understood their mistakes.	Policymakers claimed they understood their mistakes.

Source: Authors

gold standard. The Fed should have implemented an expansive monetary policy, in order to prevent the collapse of the banking system and deflation. However, such an occurrence would likely erode foreign investors' confidence in the US commitment to the gold standard, potentially triggering substantial outflows of gold reserves and necessitating a devaluation of the US dollar. There is speculation that the Central Bank facilitated or contributed to the significant decrease in money supply partly to maintain the gold standard. The shortcomings of the Federal Reserve, which became extremely apparent during the Depression, prompted a comprehensive reform of the entire financial system.

From 1950 to 1980, world economy yet again had to face wars and financial imbalances, such as the Korean War, the Vietnam War, the ongoing Cold War and the 1973 Oil Crisis. It emerged from the Yom Kippur War in the

Middle East, leading to an oil embargo by the Organization of Arab Petroleum Exporting Countries (OAPEC). The crisis resulted in a fourfold increase in oil prices, as the OAPEC were the sole influences for the price setting mechanism, impacting global economies. The devaluation of the dollar at the time also played a key role, as the price of oil was denominated in dollar terms, causing a drop in the revenues that OAPEC nations were getting from their oil. The Federal Reserve faced challenges in managing the situation, as inflation had resulted from the war of Vietnam, the devaluations of the dollar and the sharp increase in oil prices and drop in oil supply. Policymakers at the time believed that there was nothing they could do, since a cost-push inflation 'was outside of monetary policy'. Since then, the central bank's role in such cases has been re-evaluated, as there are certain things the Central Bank can do to provide some stability in the economy, however they have to sacrifice economic growth for the inflation to be dealt with.

The new century, from 2000 to 2020, also had its fair share of financial imbalances. It begun with the 9/11 terrorist attacks, followed by an invasion to Iraq by the United States, then the Global Financial Crisis, and after some years the pandemic of COVID-19, which brought down many economies that were still trying to fully recover from the crisis in 2008. It erupted from the downfall of the subprime mortgage market in the US, spreading globally, causing worldwide economic turmoil. Once again, one of the major factors contributing to the crisis included the Fed's expansive monetary policy, which caused the asset boom. The Fed reacted very slowly to the situation that was happening, delaying tightening the monetary policy. Maybe the asset price boom could have been avoided if a restrictive monetary policy had been applied in time. Another factor was the flawed financial innovations, which contributed to mortgage lending problems due to their poorly understood risks by both designers and buyers, teaching investors that they need to be cautions when innovations have not been properly tested. One more factor was the collapse of financial instruments such as auction rate securities. Failed securities had been rare, but as banks started defaulting, that changed, furthering worsening the conditions of the American and worldwide economy, as many banks had to shut down. The aftermath led to a decline in new lending, reflecting reduced business expansion during the recession. Also, new policies were implemented worldwide on who can borrow and how much they are allowed to borrow.

Certain similarities and differences can be noticed throughout the crises. Each of them highlights the significant role the Federal Reserve's System has in shaping economic outcomes. They are all critical milestones in economic history, influencing the trajectory of financial systems and prompting reforms.

The 1929 and 2008 crises both originated in the US and although the 1973 oil crisis started due to actions in the middle east, it greatly affected the US economy. After the US' economy was compromised, it started a chain event of crises worldwide, in all three cases. The only crisis fully connected to a war, is the 1973 one. The other two are also connected to major events happening at the time, but they are not associated with them. A similarity between the 1929 and the 1973 crisis, is the role that gold plays. In 1929 it is speculated that the Central Bank permitted a substantial decrease in the money supply to uphold the gold standard, and in 1973 the US dollar got d evaluated due to the price of oil being measured from USD to gold. A main resemblance between the 1929 and 2008 crises, is the resulting bank fails that derived from them.

There was one constant parallel occurring across all cases, and that is the role the Federal Reserve's system had in each and one of them. In 1929 the Fed should have implemented an expansive monetary policy, but didn't, as that would push investors away. However, in 2008 it should have implemented a restrictive monetary policy, and it took too long to restrict the expansive one, because it was making it easier for people to get loans and buy property. In 1973 the Fed did not even try to battle the inflation taking place, as policy-makers claimed that cost-push inflation could not be fought with monetary policies, due to the fact that they did not want to sacrifice economic growth to battle the inflation. After each and every case, policymakers claimed they came out more knowledgeable, understanding what they did wrong and reforming the system to battle similar scenarios in the future. Specifically, in 1929, they reformed the Fed's policies, in 1973 they comprehended what they have to do in situations like that to provide stability, and in 2008 new borrowing policies were implemented worldwide.

7. Conclusions

As previously mentioned, the purpose of this research is to shed light on what went wrong in the crises that took place during the 20th century. From that time period, the 1929 Great Depression and the Oil Crisis of 1973 were analysed, to try and understand the ground-works and causes of each and one of them. By also comparing them to the 2008 Global Crisis, we can make connections to the systemic changes and flaws that still batter policymakers in the 21st century. It is important to note the political and economic environment in the previous century, as many wars and financial imbalances kept occurring, making it difficult for economies to thrive.

The common nominator in the three crises that were studied, was the role the Federal Reserve played in them. As all of them originated from, or at least greatly affected, the United States' economy, it was the Fed's job to apply the correct policies in time to save the situation. However, numerous mistakes took place, turning the national crises international, as the United States was and is a major power that affects the economy of several countries throughout the globe.

After every crisis, policymakers noted that they understood what went wrong and they will be prepared for next time when a potential similar situation arises. But how is it possible that the Federal Reserve always applies the wrong monetary policy or does not try to take action at all. The claims policymakers make that they are now equipped to handle similar scenarios after the crises take place has been proven wrong over and over again. It is important to note that even though the crises bear similarities, the ground-works for them to occur and the way they affected the economy was different in each case. However, that does not mean the Federal Reserve is not supposed to be aware of the events taking place and how to battle them. In one case, they should have implemented an expansive monetary policy, but didn't, because it wasn't "worth it", as investors would be driven away. In another case, they didn't take action at all, as that would worsen the country's economic growth. Lastly, when they should have implemented a restrictive monetary policy, they didn't, to keep interest rates low.

Perhaps it is time for the Federal Reserve's System to begin truly re-evaluating its policies and courses of action. The policymakers need to understand that it is better to make some sacrifices in order to aid the economy in the long run and they need to keep in mind the power their country holds and how it affects the worldwide economy. It is not as easy as in theory to make such decisions when the time comes, but nowadays the tools and knowledge economists have at their disposal should aid them in choosing the correct approach. There is hope for the future, when a new crisis will eventually arise, potentially stemming from the United States or another powerful nation, that its policymakers will quickly choose the correct approach to manage the situation, even if some sacrifices have to be made.

References

Acemoglu D. (2009). The crisis of 2008: lessons for and from economics, *Critical Review*, 21:2-3, 185-194, doi.org/10.1080/08913810902933788

Adams, R.H.J. (1983). The role of research in policy development: The creation of the IMF cereal import facility. *World Development*, 11 (7):549-563, doi.org/10.1016/0305-750X(83)90001-3

Akins J. (1973). The Oil Crisis: This Time the Wolf Is Here, *Foreign Affairs*, 51 (3): 462-490, https://doi.org/10.2307/20037995

Barro, RJ. & Ursúa, JF. (2008). Macroeconomic crises since 1870. National Bureau of Economic Research, Working Paper 13940, http://www.nber.org/papers/w13940

Bernanke, B. (2000). Essays on the Great Depression. Princeton: Princeton University Press

Bernanke, B. (2004). Oil and the Economy. Remarks at the Distinguished Lecture Series, Darton College, Albany, GA.

Bordo, M.D. & Meissner, C.M. (2016). Fiscal And Financial Crises. National Bureau of Economic Research. Working Paper 22059. http://www.nber.org/papers/w22059

Bordo, M.D., and Prescott E.S. (2019). "Federal Reserve Structure, Economic Ideas, and Monetary and Financial Policy." Federal Reserve Bank of Cleveland, Working Paper no. 19-13. https://doi. org/10.26509/frbc-wp-201913.

Cecchetti, S. (1997). Understanding the Great Depression: Lessons for current policy. National Bureau of Economic Research Working Paper Series. No.6015.

Choi, Y., & Douady, R. (2012). Financial crisis dynamics: attempt to define a market instability indicator. *Quantitative Finance*, *12*(9):1351–1365. https://doi.org/10.1080/14697688.2011.627880

Corbett, M. (2013). Oil Shock of 1973–74. Federal Reserve Bank of Boston. https://www.federalreservehistory.org/essays/oil-shock-of-1973-74#:~:text=October%201973%E2%80%93January%201974&text=The%20embargo%20ceased%20U.S.%20oil,a%20barrel%20in%20January%201974

Gelderblom, O., & Trivellato, F. (2018). The business history of the preindustrial world: Towards a comparative historical analysis. *Business History*, *61*(2):225–259. https://doi.org/10.1080/00076791.2018.1426750

Hammes, D. & Wills, DT. (2005). Black Gold: The End of Bretton Woods and the Oil Price Shocks of the 1970s. *Independent Review* 9 (4): 501-11, http://www.jstor.org/stable/24562081

Harrison, M. (1998). The economics of World War II: an overview, in *The Economics of World War II: Six Great Powers in International Comparison,* pp. 1-42. Edited by Mark Harrison. Cambridge: Cambridge University Press, 1998

Haupt, H-G, Kocka, J. (2004). Comparative history: methods, aims, problems, in Cohen Deborah, O'Connor Maura (eds.), *Comparison and history:*

Europe in cross-national perspective, New York, Routledge, 23-39 https://hdl.handle.net/1814/11625

Hinnebusch, R. (2007). The American Invasion of Iraq: Causes and Consequences. *Perceptions*, 12(1): 9-27

Ivashina, V. & Scharfstein, D. (2008). Bank Lending During the Financial Crisis of 2008. *Journal of Financial Economics,* 97(3): 319-338

Kindleberger C.P. & Aliber R. (2005), *Manias, Panics, and Crashes: A History of Financial Crises* (Palgrave Macmillan, 2005 ISBN 978-1-4039-3651-6)

Kirman A. (2010). The Economic Crisis is a Crisis for Economic Theory, *CESifo Economic Studies*, 56 (4): 498-535, https://doi.org/10.1093/cesifo/ifq017

Lee, JW. (2002). The Impact of the Korean War on the Korean Economy. *International Journal of Korean Studies*, Volume V, Number J., 97-118

Lindgreen, A., Di Benedetto, C. A., & Beverland, M. B. (2021). How to Write Up Case-study Methodology Sections. *Industrial Marketing Management*, *96*, A7-A10. https://doi.org/10.1016/j.indmarman.2020.04.012

Maital, S. & Barzani, E. (2020). The Global Economic Impact of COVID-19: A Summary of Research. Samuel Neaman Institute for National Policy

Makinen, G. (2002). The Economic Effects of 9/11: A Retrospective Assessment. Report for Congress, Received through the CRS Web. Congressional Research Service. The Library of Congress. Sourced from Yale School of Management, EliScholar.

Merrill, K. (2007). *The Oil Crisis of 1973-1974: A Brief History with Documents*. Boston: Bedford/St. Martin's.

Metaxas, T. & Trompatzi, G. (2015). From the Bank Panic of 1907 to the Great Depression of 1929 and the Savings and Loan Crisis of the 1980s: Comparative Analysis and Lessons for the Future. *Applied Econometrics and International Development*, 15(1):79-102

Minsky, HP. (1972) Financial Stability Revisited: The Economics of Disaster. In: Board of Governors of the Federal Reserve System, Reappraisal of the Federal Reserve Discount Mechanism, vol. 3. Washington, D.C: 95-136

Mishkin, FS. (1991). Anatomy of a Financial Crisis. National Bureau of Economic Research, Working Paper No. 3934

Mitchell, T. (2010). The Resources of Economics. Making the 1973 Oil Crisis. *Journal of Cultural Economy, 3*(2), 189-204. https://doi.org/10.1080/17530350.2010.494123

Neal L. & Weidenmier M. (2003). Crises in the Global Economy from Tulips to Today: Contagion and Consequences. National Bureau of Economic

Research, Volume Title: Globalization in Historical Perspective, University of Chicago Press, (p. 473-514)

Oana, O. & Cosmin, T. (2018). Financial Crises Between the 20th and 21st Centuries. "Ovidius" University Annals, *Economic Sciences Series*, Volume XVIII, Issue 1/2018

Prior, R. & Wilson, T. (2000). Review article. The First World War. *Journal of Contemporary History*, 35(2): 319-328, http://www.jstor.org/stable/261210

Priya, A. (2021). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin*, *70*(1): 94-110. https://doi.org/10.1177/0038022920970318

Richardson, G. (2013). The Great Depression, 1929-1941. Federal Reserve Bank of Richmond, https://www.federalreservehistory.org/essays/great-depression

Riddell, T. (1989). Inflationary impact of the Vietnam War. *Vietnam Generation*, 1 (1), Article 4. Available at: http://digitalcommons.lasalle.edu/vietnamgeneration/vol1/iss1/4

Romer, C. (1990). The Great Crash and the Onset of the Great Depression, *Quarterly Journal of Economics,* 105, 597-624. https://doi.org/10.2307/2937892

Romer, C. & Romer, D. (2013). The Most Dangerous Idea in Federal Reserve History: Monetary Policy Doesn't Matter. *American Economic Review*, 103(3): 55-60, doi.org/10.1257/aer.103.3.55

Schlesinger, A.J. (1967). Origins of the Cold War. *Foreign Affairs*, 46(1):22-52, https://www.jstor.org/stable/20039280

Schwartz, AJ. (2009). Origins of the Financial Market Crisis of 2008. *Cato Journal*, 29(1):19-23

Schwartz, AJ. (1986). Real and Pseudo-Financial Crises. National Bureau of Economic Research, "Money in Historical Perspective", University of Chicago Press, (p. 271-288), http://www.nber.org/chapters/c7506

Siddiqi, A.A. (2000). Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974, Washington, D.C.: National Aeronautics and Space Administration

Smiley, G. (2008). Great Depression, https://www.econlib.org/library/Enc/GreatDepression.html

Starman A. B. (2013). The case study as a type of qualitative research. *Journal of Contemporary educational studies* / Sodobna Pedagogika, 64(1), 28-43.

Swedberg R. (2013). The financial crisis in the US 2008-2009: losing and restoring confidence, *Socio-Economic Review*, 11(3):501-523, https://doi.org/10.1093/ser/mws022

Wheelock, D. (1995). Regulation, market structure and the bank failures of the Great Depression. *Federal Reserve Bank of St. Louis Review*. 77(2):27-38.

Zeitz J. (2017). *The Roaring Twenties*. The Gilder Lehrman Institute of American History.

Zhu, X. (2012). Understanding China's Growth: Past, Present, and Future. *Journal of Economic Perspectives*, 26(4), 103-124, doi.org/ 10.1257/jep.26.4.103

OUTER SPACE TREATY AND JAPAN

A. MANIATIS*

Abstract

The Outer Space Treaty is vague on space exploitation and devoid of nowadays mainstreaming terms, such as "exploitation", "sustainability", "outer space heritage", "hospitality" and "tourism". It has gained acceptance by many States, including the spacefaring ones, and has proved to be respectable. Besides, new trends have emerged, such as privatization of space activities and space tourism. The current research highlights the fact that the Cosmic Constitution is intensively similar to the 1946 version of the Constitution of Japan. Although the Constitution does not allow any Japanese armed forces and other war potential, that country achieved its re-militarization, being enhanced through the amendment of the Outer Space Law in 2008, which emphasized the military approach to space, for security reasons. Furthermore, it expanded its tendency to international democratization of consumption, as it has helped non space-faring countries in the satellite domain. So, militarization and democratization, two of the mainstreaming axes of its postwar policy on Earth, have been much or less applied also in space. Based on the managerial method of organizational simplification since 2003, Japanese public sector has achieved elements of technological perfection and in January 2024 even smooth landing on the Moon whilst private sector attempted it, in 2023.

JEL Classification: K

Keywords: Artemis Accords, Japan, JAXA, Moon Treaty/Agreement, Outer Space Treaty (OST), space business

1. Introduction

Public International Law is a diachronic body of rules, whose autonomous discipline is the Law of the Sea. The modern Law of the Sea emerged as a customary law, in the 17th century, being marked by the emergence of a new maritime zone, called territorial sea or territorial waters. The current codification of this branch consists in the United Nations Convention on the Law of the Sea (UNCLOS), concluded in 1982, which constitutes the first single code on the matter and is sometimes at the doctrinal level called "Constitution for the Oceans" (De Pooter).

---

* Adjunct Lecturer, Aviation Sciences Department, Hellenic Air Force Academy, Attica, Greece, HDR in Juridical Sciences of the University of Rouen Normandy, France, Associate Member of the Institute of Interdisciplinary Juridical Research François-Rabelais of the University of Tours, France, e-mail: maniatis@dikaio.gr.

Ancient Greeks made use of the Greek word "cosmos" to declare the space whilst this term means the order. The vocable "order" is currently very common, in reference to the legal order, in general. A much recent development consists in the combination of the two concepts, through the emergence of the expression "Outer Space Law" or commonly "Space Law". This term refers to the set of rules on objects and activities beyond the Earth's atmosphere. It was first mentioned in a journal article in Paris, in 1910, but Space Law was an idea without shape or substance (Doyle, 2011). Its initial phase in the 20th century took place from 1910 till 1957, when Sputnik 1, the first artificial satellite, was launched, by the Soviet Union into an elliptical low Earth orbit, and it was marked by the development of concepts on this law (Doyle, 2011). The ten-year exploitation of outer space by the U.S. and the Soviet Union (1957-1967) without specific legal regulations as well as the various legal issues that resulted led to the creation of Space Law (Kolovos, 2006), in a narrow sense.

Initially, space legislation emerged as a field within Public International Law, including basically international treaties and soft law instruments regulating the conduct of States. However, over time, it acquired a very rich profile, as it is based inter alia on domestic legislation and Private International Law on the relations among non-State actors of different nationalities. More precisely, Space Law was actively developed in the 20th century, then there was a period of long stagnation but in recent years, its development has begun to revive, as it is the case of the UK which in 2018 adopted the "Law on the space industry" (Halunko, 2019). The new wave of this branch is attributed to various factors, such as the emergence of private business in outer space, a significant increase in the amount of space debris and potential attempts by some States to move the arms race into outer space (Halunko, 2019).

This paper deals with the mainstreaming international text on the matter, consisting in the Outer Space Treaty (OST), and also examines the case of the public sector and the private one of Japan, in the space domain.

RQ: *We assume that the OST is an actual legal instrument for the international community, including Japan.*

2. The History of the OST

The OST is officially titled "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies" and is also known with the acronym OST. In June 1966, both superpowers of that era, namely the U.S. and the Soviet Union, submitted draft treaties on the uses of space, to the United Nations. Those texts were reconciled in the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS). Since its establishment in 1959 by the General Assembly of the United Nations, its membership has continued to expand. It is about an institution of major importance, given that it constitutes the unique committee of the General Assembly dealing exclusively with the international cooperation as far as peaceful use of the outer space is concerned. An agreement was reached in the General Assembly in the same year of the preparation of the text, in virtue of resolution 2222 (XXI).

The Treaty was largely based on the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, which had been adopted by the General Assembly in its resolution 1962 (XVIII) in 1963. The first international space legal act contains the fundamental principles of International Space Law, in form of recommendations, including the exploration and use of outer space for the benefit and in the interests of all mankind.

These principles later formed the basis of the OST, but a few original provisions were added (United Nations, Office for Outer Space Affairs). The new text was opened for signature by the three depository Governments (the Russian Federation, the UK, and the U.S.) in January 1967. It entered into force very soon, just in October 1967, unlike other important conventions of Public International Law, such as the UNCLOS. With the leading intervention of the U.S., being no contracting party of the UNCLOS to date, an attempt was made to modify the relevant part XI of the Convention, which is titled "The Area". The amendment was achieved through the 1994 New York Agreement and formally is a complement of the initial Convention.

The OST has gradually gained a wide acceptance by the members of the international community, given that it was ratified by 113 States as of August 2023. Nevertheless, it is about still a rather limited number, at least in comparison with the current number of sovereign States. This tendency of abstention could be rather interpreted by the lack of interest of some countries, such as developing ones with no particular space activities.

The treaty has been called "Magna Carta Libertatum" or simply "Magna Carta" (Eleftheriou, 2018), for the Outer Space Law (Argyrou, 2021). Although this expression is the most common, there is also in use the term "constitution" of outer space (Stuart, 2017). It results that the mainstreaming name is comparable to the aforementioned denomination "Constitution for the Oceans" for the UNCLOS whilst the second one is identical.

In a period of twelve years since the entry into force of the treaty, to further develop the legal framework on space activities some other treaties related to the United Nations were signed. It is about:

- The Rescue Agreement (1968),
- The Space Liability Convention (1972),
- The Registration Convention (1975), as for space vehicles and
- The Moon Treaty or Moon Agreement (1979).

The Moon Treaty had only eighteen parties in March 2023, without including space-faring nations. Saudi Arabia, which has become a contracting party of the 2020 Artemis Accords, namely the soft-law arrangements of the U.S. and other States on the norms expected to be followed in outer space, notified the Secretary-General of the United Nations of its withdrawal from the Moon Agreement in January 2023 (Bartóki-Göncz, 2023). With the exception of this Treaty, all other Space Law conventions have been ratified by most mainstreaming space nations.

Besides, the Cosmic Constitution was subject to a first challenge in case of the "Declaration of the First Meeting of Equatorial Countries". This text, commonly known as the Bogota Declaration, was promulgated in 1976 by eight equatorial States to assert sovereignty over those portions of the geostationary orbit that continuously lie over the signatory nations' territory. Those claims did not receive wider international support and were abandoned. According to a doctrinal approach, international space agreements that will be implemented by the world community can only be adopted by permanent members of the UN Security Council, which includes all the leading space States (Halunko, 2019). Nevertheless, this opinion is not fully convincing, especially from 2023 and on, given that India and Japan, which are no permanent members, have achieved their first smooth landing on the Moon.

Last but not least, it is notable that for all the years of its existence, the OST has never been directly violated (Halunko, 2019). However, in February 2024 the U.S. announced that Russia was developing a space-based capability to attack satellites using a nuclear weapon (Davenport et al., 2024). The use of a nuclear bomb would amount to a "suicide kamikaze attack". This revelation has brought back fears relevant to the use of nuclear weapons in outer space, which go back to the Cold War. Anyway, it is clear that an installation of that weapon in space would constitute a violation of the OST.

3. The Content of the OST

The OST provides the basic framework on International Space Law, including the following principles (United Nations, Office for Outer Space Affairs):

1. Good for all mankind

According to Article I, "*The exploration and use of outer space, including* *the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind*".

The Moon Agreement is not limited to those provisions about the Earth's satellite, but it adds that due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.

It is to clarify that there is no use of the term "exploitation" as far as outer space is concerned, in the entire text of the OTC. Similar remarks are valid for the term "mining" activities. The U.S. position has been consistent: the OST does not ban the exploitation of space resources, which is a freedom guaranteed by Article I (Bartóki-Göncz, 2023). The Commercial Space Launch Competitiveness Act of 2015 cites that the "*United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States*". Furthermore, the executive order of the President of the U.S., issued in April 2020, declares that "*outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons. According, it shall be the policy of the United States to encourage international support for the public and private recovery and use of resources in outer space, consistent with applicable law*".

2. Openness – Equality

Pursuant to Article I, outer space shall be free for exploration and use by all States, without discrimination of any kind. It is to underline that there is an explicit reference to "equality". This principle is mentioned twice in this text, with the second time in Article X as for the opportunity of States Parties to observe the flight of space objects launched by a State Party.

3. Exclusion of national appropriation by claim of sovereignty

According to Article II, outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means. The formulation is vague and odd, particularly as long as it is not quite clear whether national appropriation (in terms of the classical right to ownership) is permitted or not. The sovereignty is limited to certain regions of the Earth, not in traditionally inaccessible parts, such as the Area of the International Seabed.

4. Ban on nuclear weapons or other weapons of mass destruction

According to Article IV, States Parties shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner. It is notable that this text does not prohibit the deployment of conventional weapons in orbit (Halunko, 2019).

Besides, in 2007 China was thought to have violated the OST when it shot down one of its own weather satellites with a ground-based medium-range ballistic missile. This fact was regarded as aggressive by Japan, but since the missiles did not come under the definition of weapons of mass destruction, it was found that it did not violate the OST. There was, however, international outcry because of the debris cloud it caused within the orbit (Stuart, 2017). Such practices have been repeated by other countries, like Russia.

5. The principle of peaceful purposes

The doctrine highlights the fact that the OST has been significantly inspired by the Antarctic Treaty, signed in 1959 and regulating Antarctica, the unique continent being deprived of autochthonous inhabitants. According to Article IV of the OST, the Moon and other celestial bodies shall be used by all State Parties exclusively for peaceful purposes, as it is the case for Antarctica pursuant to Article, paragraph 1, of the Antarctic Treaty. In a similar way, the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuverers on celestial bodies shall be forbidden, just like in Antarctica.

6. The status of astronauts as the envoys of mankind

According to Article V, States Parties shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. It is plausible to guarantee the right of "astronauts" (USA) or "cosmonauts" (Russia) or "taikonauts", namely space travelers (China), to safety. Although there is no use of this term, the OST cites that when astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle. Furthermore, even assistance among astronauts of different States Parties in carrying on activities in outer space and on celestial bodies is previewed.

7. State responsibility for national space activities, even of non-governmental entities, and "lifting the veil"

According to Article VI, States Parties shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the OST. It is about a strong publicization of the responsibility for space activities, of each Member State. This phenomenon has been institutionalized as a dominance of the State over all entities involved. No freedom is consecrated, but just the opposite, a system of public control which justifies the aforementioned responsibility of the polity. More precisely, the activities of non-governmental entities in outer space shall require authorization and continuing supervision by the appropriate State Party.

Besides, it is to put the stress on the fact that the OST has a quite original approach to the legal person of international organization against its members, exemplifying the doctrine being known as "lifting the veil". It cites that when activities are carried on in outer space by an international organization, responsibility for compliance with the OST shall be borne both by the international organization and by the States Parties participating in such organization. It is comparable to this application of the theory on lifting the veil that according to Article XIII, in fine, any practical questions arising in connection with activities carried on by international intergovernmental organizations in the exploration and use of outer space shall be resolved by the States Parties to the OST either with the appropriate international organization or with one or more States members of that international organization, which are Parties to the OST.

8. State liability for damage caused by its space objects

Pursuant to Article VII, each State Party that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the OST or to its natural or juridical persons by such object or its component parts on the Earth, in air or in outer space, including the Moon and other celestial bodies.

9. State avoidance of harmful contamination of space and celestial bodies

Article IX is marked by environmental concern, a few years before the emergence of the branch of Environmental Law, in the framework of the United Nations Conference on the Human Environment, which took place in June 1972. States Parties shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party has reason to believe that an activity or experiment planned by it or its nationals in outer space, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment.

4. The Case of Japan

Kamikaze means literally "divine wind", in Japanese. It is about a word which has been used since August 1281 to refer to the two typhoons that sank or dispersed Kublai Khan's fleets which invaded Japan, in 1274 and also in 1281. Furthermore, the same term is related to a member of air attack corps of the Japanese Empire in World War II, assigned to realize a suicidal crash on a target, like a ship.

The Land of the Rising Sun has been one of the most important States, technologically as well as economically, in the post-war era. Its military occupation by the Allied Powers, which was carried out almost uniquely by the U.S. forces under General Douglas MacArthur, began in 1945 and ended in 1952. The 1946 version of the 1889 Constitution of the Empire of Japan, the oldest Constitution without being formally amended even once worldwide, essentially incorporated the political volunteer of the U.S. The amended Constitution is best known for Article 9 on renunciation of war, though the Kellog-Briand Pact of 1928 was the first international legal tool to ban the war as a means of settling international disputes (Maniatis, 2024). According to paragraph 1 of this Article, aspiring sincerely to an international peace based on justice and order, the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as means of settling international disputes. It is to signalize that there is a negative formulation of the approach to peace, in the sense that any war methodology is excluded, whilst the preamble is not based uniquely on that formulation but emphasizes peace. The emblematic explicit consecration of the guarantee of peace, which is an authentic fundamental right that emerged in the framework of the second generation of constitutional rights, can be read in the following disposition: "*We recognize that all peoples of the world have the right to live in peace, free from fear and want*". Paragraph 2 cites that in order to accomplish the aim of the preceding paragraph, land, sea, and air forces, as well as other war potential, will never be maintained. The right of belligerency of the State will not be recognized.

MacArthur's plans turned from demilitarization and democratization, being mainstreaming axes of the postwar Constitution, to re-militarization and economic stabilization (Goto-Jones, 2009). Indeed, the focus of interest very quickly shifted from democracy, which was neither abolished nor limited, to economic stabilization, according to this new doctrine (Maniatis, 2024). It is to put the stress on the fact that the comeback of the economic democracy implicated an important democratization inter alia of consumer consumption worldwide, due to the affordable prices of exported manufactured goods, such as watches (Maniatis, 2024).

Pursuant to the U.S.-Japan Treaty of Mutual Cooperation and Security, concluded initially in 1960, Japan was not allowed to develop aviation and aerospace technologies whilst those restrictions were loosened in 1969, although not fully. Currently, this country has successfully modernized its organizational structure in the matter of space, on the basis of the promising managerial method of organizational simplification. Authorities elected to merge the three competent groups into one, in 2003, by creating a single independent administrative agency, the "Japan Aerospace Exploration Agency (JAXA)". So, the fusion of those components was a landmark moment in the process of emergence of Japan as an important space power.

Another political initiative of major importance took place five years later. One year after the episode consisting in destruction of a satellite by China, the Japanese Parliament amended the Basic Space Law, to bring Japan in line with the OST (Vijayakumar, 2020). That amendment has enabled the country to deploy defensive capabilities in space, paving the way for increased military use of outer space, for various reasons, such as inter alia the perceived doubts regarding the reliability of its security guarantee from the U.S., the North Korea's threat and its own resurgence through the placement of strategic assets in space (Vijayakumar, 2020). This polity has so far been unique in refraining from participating in the space weaponization bandwagon, it clearly has the technological capability to do so, if required (Vijayakumar, 2020).

It is notable that it has made use of space diplomacy as a mainstreaming part of its strategy to emerge as a space power. This is the case of its technological expertise in the framework of the International Space Station (ISS), whose elements were constructed in its territory.

Moreover, the Land of the Rising Sun has contributed significantly to the democratization of the use of space. The "BIRDS" project (Joint Global Multination Birds Satellite Project), supported by the Kyushu Institute of Technology that is a national university of Japan, has demonstrated a successful model of technological assistance in facilitating space launches for non space-faring nations (Vijayakumar, 2020). This mediation is exemplified by the fact that Nigeria, Mongolia, Bangladesh, and Ghana could launch their own cube satellites aboard SpaceX's Falcon-9 rocket in 2017.

Besides, Japan has attempted to find out a solution for the space debris and has been endowed with world records in space exploration the last decades, such as the following ones:

- The Hayabusa spacecraft, which was launched in 2003, became the first to return asteroid dust to Earth.
- Japan launched the first robotic astronaut, Kirobo, in 2013, to the ISS (which successfully demonstrated that it could perform tasks upon receiving verbal instruction from a human, like astronaut Koichi Wakata).
- The successor of the above-stated spacecraft, called "Hayabusa-2", which was launched in December 2014, was the first to collect surface and subsurface samples from an asteroid.

After being the world's second largest economy, in terms of gross nominal domestic product, from 1968 until 2010, the Land of the Rising Sun fell behind China and since 2023 also behind Germany, to fourth place, with the U.S. occupying the first place. This economic giant slips into recession, but it achieved a smooth landing on the Moon with an uncrewed spacecraft, the Smart Lander for Investigating the Moon, called SLIM, on 20 January 2024. As indicated by its name, SLIM is endowed with precision-landing technology. It is designed to land within a 328 foot (100 meter) zone, far smaller than previous lunar landers which have had landing zones spanning multiple kilometers and, as a result, this technology could assist future landings by allowing spacecraft to land in relatively small areas amid rocky or uneven terrain (Borowitz, 2024).

JAXA's launch comes only six months after India's Moon landing and just weeks after a failed attempt by a U.S., non-public company, commonly referred to as Astrobotic, whilst both Russia and the private enterprise iSpace made unsuccessful landing attempts in 2023 (Borowitz, 2024). It is to underline the fact that even iSpace is a Japanese private company, which was founded on 10 September 2010 in Tokyo and develops robotic spacecraft and other technology to compete for transportation and exploration mission contracts from space agencies and other industries which do not belong to the public sector. The robotic Hakuto-R aimed to become the first private spacecraft, and the first Japanese-built vehicle, ever to land softly on the surface of the Moon, but in vain. In the meanwhile, the Texas-based private company "Intuitive Machines" made this achievement. Its spacecraft landed near the Moon's south pole on 22 February 2024, the first U.S. touchdown on the lunar surface in more than half a century and the first ever achieved by a private entity. It was also the first time any spaceship had visited a spot so far in the Moon's south, down in a region where ice is preserved in permanently shadowed craters (Kluger, 2024).

JAXA is about a major player in the global endeavor of Moon exploration whilst the U.S. keeps being the leader in space exploration, in general. Furthermore, the independent agencies JAXA and NASA of the two countries involved have established essential bonds on the matter. Furthermore, those polities have been two of the eight initial signatories of the aforementioned Artemis Accords, demonstrating their foundational commitment of peaceful space exploration. JAXA has partnered with the U.S. and taken on a very important component of the NASA's Artemis missions – the development of a pressurized lunar rover, which is a new and complex technology that will be critical to human missions on the Moon, in coming years (Borowitz, 2024).

5. Conclusion

The current research comes to the conclusion that the RQ has been partly confirmed, as the OST is not fully actual. First of all, the main drawback of the OST as a source of law is the lack of an international law enforcement Agency that would ensure its implementation with the help of international coercion (Halunko, 2019). This text makes no reference to the outer space as "common heritage of mankind" and so it is about a rather conservative and fragmentary text, even in comparison to some regions of the Earth, such as the Area according to the UNCLOS. It is also notable that article 11, paragraph 1, of the Moon Agreement goes further, citing that "*The moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article*", which provides for the establishment of an international regime on the exploitation of natural resources of the Moon, as such exploitation is about to become feasible.

Besides, the OST essentially does not directly regulate the activities of private companies in outer space, whilst nowadays there has been an advanced privatization and commercialization of the exploration and use of it (Halunko, 2019). For instance, lunarland and many other private enterprises have offered to sell plots of land on celestial bodies, such as the Moon, on the ground that the OST cites that territory is not subject to national appropriation. Therefore, private companies or individuals could make claims to celestial territories because they are not polities.

It is also notable that the OST is deprived of explicit reference to space tourism, which has recently made significant progress in contradiction to underwater tourism

(Jégouzo, 2018). Space law should be modernized, through inter alia the regulation of the rights and legitimate interests of space tourists. To sum up, nowadays mainstreaming terms, such as “exploitation”, “sustainability”, “outer space heritage”, “hospitality” and “tourism”, are fully inexistent in the Cosmic Constitution.

In a similar way, the terms “exploitation”, “sustainability”, “heritage”, “hospitality” and “tourism” are not present in the postwar version of the Japanese Constitution, whilst there is the civil law term “inheritance”. Moreover, this text is also deprived of other vocables that are mainstreaming at least in Constitutions, like “democracy”. Twenty years after the first and unique amendment of the initial version of the Japanese Constitution, the OST was formed, with the contribution of the U.S. whilst Americans had also made the draft for the amendment of the supreme source of law of Japan. The OST implicated disarmament of the space to a big extent, but it did not ban the role of the military bodies for scientific purposes, so it did not impose a full demilitarization. However, it banned certain military activities of major importance, such as the deployment of weapons of mass destruction in space and on celestial bodies, which was an innovative development in comparison to earlier guidelines for international space conduct. It is remarkable that both texts are explicitly based on the model of peaceful approach to their scope.

It is to put the stress on the fact that the OST is intensively similar to the current Japanese Constitution. This similarity is both terminological, including the question of terms that are fully inexistent but are nowadays very common in legal texts, and material, as it is the case of peace and demilitarization or disarmament. Nevertheless, it has some modern aspects, like the environmental concern, which is inexistent in the compared text.

Furthermore, the State of Japan acquired one of the most powerful armies nowadays worldwide, despite the fact that the formulation of the Constitution does not seem to allow such development. This re-militarization according to MacArthur’s new doctrine has been enhanced through the amendment of the Outer Space Law in 2008, given that Japan has emphasized for the first time the military approach to outer space, for security reasons. This country did not expand in space merely its approach to militarization but also its tendency of democratization of consumption, having an internal aspect and an international one, given that it has helped non space-faring countries in the satellite domain.

To sum up, the OST is to a big extent an actual international legal tool for the international community in the current context, let alone the fact that outer space has already evolved into the fourth dimension of military force, beyond the classical set of the land, the air and the sea (Kolovos, 2006). This remark is valid mainly for space-faring countries like Japan, which has formally realized a reform in its internal law, to take full advantage of this text. In spite of the questions that have emerged, the OST is endowed with a positive assessment, as a general rule. It has long formed the basis for International Law with regards to outer space and it remains as the important backbone of outer-space governance (Stuart, 2017), let alone for endeavors of both the public sector and the private one, as it is the case inter alia of Japan, being endowed with elements of technological perfection on the matter.

***

After the 1904 war between Russia and Japan, the term “Japanese” became the synonym of the word “modernized”, 120 years later this vocable is also applicable for humans in outer space.

Acknowledgments

I would like to acknowledge Professor of the University of Tours Pierre-Yves Monjal for our academic osmosis.

References

Argyrou, D. (2021). *Military activities and use of weapons in the space*. FFLine Post (in Greek), https://www.offlinepost.gr/2021/12/30/oi-stratiotikes-drastiriotites-kai-i-xrisi-oplon-sto-diastima/

Bartóki-Göncz, B., and Nagy, B. (2023). *The Artemis Accords*. International Legal Materials, pp. 888-898.

Borowitz, M. (2024). *Japan becomes the 5th country to land on the Moon*. The Conversation, https://theconversation.com/japan-is-now-the-5th-country-to-land-on-the-moon-the-technology-used-will-lend-itself-to-future-lunar-missions-221570

Davenport, Ch., Nakashima, E., Hauslohner, A, and Harris, Sh. (2024). *With a dire warning, concerns rise about conflict in space with Russia*. The Washington Post, https://www.washingtonpost.com/technology/2024/02/15/space-weapons-russia-china-starlink/

De Pooter, H.. *Une Constitution de l’ONU pour les océans*. La Vie - Le Monde, hors-série, pp. 144-145.

Doyle, S. (2011). *A Concise History of Space Law: 1910-2009. New Perspectives on Space Law*. Internet Archive, https://archive.org/details/2010keynote/page/n9/mode/2up

Eleftheriou, S. (2018). *Space Law: Achievements, challenges and problematics of the newest branch of the International Law*. Expressis Verbis Law Journal, II:II, pp. 132-136 (in Greek), https://ejournals.lib.auth.gr/XVLaw/article/view/6777/6532

Goto-Jones, Ch. (2009). *Modern Japan. A Very Short Introduction.* Oxford University Press.

Halunko, V. (2019). *Space Law: the Present and the Future*. Advanced Space Law, Vol. 3, pp. 30-47, https://www.researchgate.net/publication/335595976_Space_Law_the_Present_and_the_Future

Jégouzo, L. (2018). *Le droit du tourisme*. 2e édition, LGDJ.

Kluger, J. (2024). *The Odysseus Lunar Landing Brings NASA One Step Closer to Putting Boots on the Moon*. Time, https://time.com/6802043/why-the-odysseus-moon-landing-is-so-important/

Kolovos, A. (2006). *Space and National Security. Political and Strategic Dimensions*. 2nd Edition, Poiotita Editions, Athens (in Greek).

Maniatis, A. (2024). *Japanese constitutionalism*. Int. J. Human Rights and Constitutional Studies, Vol. 11, No. 3, pp. 253-263, https://www.inderscience.com/offers.php?id=139650

Stuart, J. (2017). *The Outer Space Treaty has been remarkably successful – but is it for the modern age?*. The Conversation, https://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381

United Nations, Office for Outer Space Affairs. *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*. https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html

Vijayakumar, A. (2020). *To Infinity and Beyond: Japan's Rise as a Space Power*. The Diplomat, https://thediplomat.com/2020/01/to-infinity-and-beyond-japans-rise-as-a-space-power/

FINANCIAL CRISES AS SOURCES OF WESTERN ECONOMIC AND GEOPOLITICAL DECLINE: AN ANALYSIS OF THE 1987-2024 PERIOD

I-D. SALAVRAKOS*

Abstract

The current international system is extremely unstable due to the Russian invasion of Ukraine, the Middle East crisis and the navigation problems which Houthi attacks create in the Red Sea. These geopolitical factors are not the only source of concern. To illustrate many point out that the geographical space from the Arctic to Gibraltar is associated with numerous conflicts and also disputes which may trigger additional regional conflicts. The Ukrainian war and the South China Sea disputes had created a conflicting atmosphere between the West on the one hand and Russia China on the other, with many predicting a new Cold War or even worse a direct military conflict.

Simultaneously, the international economic system is also a source of instability. Many refer to the problem of global debt which is already triple from the global GNP. A closer look to the evolution of the international economic system reveals that throughout the 1987-2024 period the global economy was destabilized by numerous crises with harmful economic social and even geopolitical ramifications. Thus the intellectual aspiration of the current paper is to demonstrate how international economic crises generated additional instability.

JEL Classification: P10, G01

Keywords: financial crises, geopolitics

1. Introduction

The international economic system of the late 1980s and 1990s was associated with numerous financial crises which have negative ramifications for the real sphere of the economy. After a limited time period pause the great crisis of the 2007-2015 took place. Almost immediately the COVID-19 crisis of 2019-2021 period had also negative economic ramifications and then the Russian invasion of Ukraine followed in 2022. Throughout the period a constant interaction occurred between destabilizing economic forces and destabilizing

* Assistant Professor of Political Economy, Hellenic Army Academy, Attica, Greece, e-mail: isalavra@turkmas.uoa.gr. *The views expressed are personal. They do not reflect the views of the Academy or of the Hellenic Ministry of Defense.*

political, social, cultural, environmental, and medical forces which eventually create a very dangerous and unstable global environment.

The paper argues that the crises of 2007-2015 as well as the crises of 2022-2024 period have partial roots in the crises of the 1980s and 1990s. The reader may be puzzled by the above assertion; however we will demonstrate how BREXIT was associated with the Sterling crisis of 1992, the two Russian invasions in Ukraine in 2014 and 2022 were associated with the Russian financial crisis of 1998 and the current instability in South China Sea is associated with the Asian crisis of 1997-1998. We will also demonstrate that the crises are associated with the notion of the “weak West”.

Thus the paper has the following structure: The first section analyzes the economic crises of the 1987-2024 period. The second section analyzes the geopolitical impact of these crises. The third section shifts the focus of analysis from politics to economics and analyzes the economic crises which are caused by the financial system. Conclusions follow.

2. The economic crises of the 1987-1998 period

At the end of the Cold War the main economic issue was associated with the competition between the Japanese and the US economies. During the 1980s Japan had achieved the status of the second biggest economy in the world. A second issue was the economic transformation for the former Eastern European Economies (EEEs). The Soviet Union, the Warsaw Pact and the COMECON had all collapsed and the main issue was associated with the type of transition from centrally planned economies to capitalist market oriented economies. The prevailing rationale at that time was that the neoliberal economic model will dominate the world[1].

The economic legacy from the 1980-1992 period was the re-emergence of banking capitalism as the dominant form of the system as opposed to industrial capitalism. To illustrate, portfolio investments, (i.e. investments in stocks, bonds, Foreign Exchange etc.) skyrocketed as opposed to real investments (i.e. foreign direct investments, investments in real assets, production-oriented investments). During the 1981-1992 period total global portfolio investments reached the staggering figure of $3,759.7 billion ($3.5 trillion), as opposed to the figure of $2,316 billion ($2.3 trillion) for real investments. According to the Bank of England the daily transactions in the London FX (Foreign Exchange) market increased from $90 billion in 1986 to $187 billion in 1989. The figures for other FX markets were as follows: In New York from $58 billion to $129 billion and in Tokyo from $48 billion, to $115 billion, respectively. The economic crises of the 1970s had hit industrial capitalism and the shift to financial capitalism seemed a correct policy. Actually the rise of financial capitalism was seen as the solution to economic problems.

However during the 1980s that is during the first golden era of the new financial capitalism the first signal was given that calamities were in front of us. At that time according to one source:

"On Monday, October 19, 1987, about half a trillion dollars of corporate equity out of nearly $ 4 trillion total US market value was extinguished in one 7-hour trading day in New York. Similar large avalanches ...occurred in all of the world's equity markets".[2]

The crisis in the stock market occurred from October 12 1987 (when the Dow Jones Industrial Index was 2,471.44 points and collapsed to 1,738.74 points on October 19th then the index recovered to 1,988.41 points on November 5th). However, in the 1980s that was the only major financial crisis. The impact of the 1980s crisis was marginal and specifically time oriented. The markets continued to develop. In 1997, the daily volume of financial transactions was 40 times bigger the volume of international trade. The daily average volume of transactions in the global financial market in 1997 was $1.2 trillion as opposed to the $200 billion of 1986. In 1998 the daily average volume of transactions was increased to $1.5 trillion. According to the Bank of International Settlements the global Futures and Options market by the end of March 1995 was capitalized at $40.7 trillion. In addition the US based Trust and Hedge Funds which in 1981 had a total wealth of $2 trillion in 1990 had increased the figure to $6.5 trillion. The numbers for the UK were £130 billion in 1980 and £550 billion in 1990 respectively. At that time 90% of global capital was absorbed by portfolio investments as opposed to only 10% which financed real investments (agriculture, industry, construction shipping etc.). To illustrate the General Director of the IMF during the Mexican crisis of 1994-1995, Michael Camdesuss remarked that he could not easily gather the sum of $50 billion in order to support the Mexican Peso. This wealth accumulation to financial investments deprived the real global economy from funds, jobs, infrastructure projects, investment in new technologies etc. This resulted in a vicious cycle of poverty, underdevelopment which created the path to the rise of extreme ideologies. However the constant rise of financial capitalism in the 1990s was not a story of euphoria and success. This time four crises occurred, which had tremendous economic, social, cultural and geopolitical implications. The analysis of them follows.

2.1 The sterling crisis of 1992

In July 1st 1992 Britain took over the EU rotating presidency from Portugal. In August 26th 1992, the "Institute of Directors" announced that only the 13% of British entrepreneurs were optimistic about the course of the economy as opposed to 50% two months earlier. The announcement of future pessimistic expectations had ramifications to the FX market. The British Pound (BP) had reached the minimum exchange rate viz. a viz. the German Mark (Deutsche Mark DM) which forced the intervention of the Bank of England. A web of economic and political events will trigger the September 16th 1992 crisis.

In Tuesday September 1st 1992 the US Dollar (USD) was depreciated against the DM reaching the rate of ($1=1.3895 DM), due to low growth rate and low interest rates in the US as opposed to Germany. During the next two days the market invested in DM and many investors sold other currencies and bought DMs. This obviously had ramifications for the BP. On Thursday September 3rd 1992, the Bank of England intervened in the international financial markets in order to support the BP by buying FX worth of £7.3 billion. The turbulence in the financial markets was triggered by political developments. On June 2nd 1992, a referendum occurred in Denmark which resulted in a marginal rejection of the Maastricht Treaty. A second referendum was scheduled planned to take place in France (on September 20th 1992) and many believed that French voters would replicate the result of the Danish voters. If that occurred then the whole process for European unity could collapse.

Simultaneously, to the above expectations, pressure starts to mount from the markets on all EU currencies. On Friday September 4th 1992 the Italian Lira was devalued and the Bank of Italy in an attempt to stabilize the currency increased the discount rate to 15%. Early next week (Tuesday 8th of September) the Norwegian Corona was under pressure and as a result the Norwegian Central Bank increased the interest rates from 13% to 17%. The Swedish Corona and the Finnish Mark were also under pressure, and as a result the Swedish interest rates increased from 8% to 24%. However the Finnish currency was depreciated by 13%. On Wednesday September 9th the Italian government announced measures to reduce the public deficit but the next day the Italian Lire would depreciate inside the ECU system against the DM.

On Monday September 14th 1992, the German Central Bank (Bundesbank) reduced the basic rate by 0.25%. With lower interest rates it is expected that international investors would stop buying DMs or at least reduce the pace of investments. This concession however was made one day after the public announcement of the Italian government for depreciating the Lira by 7%.

The next day September 15th two European currencies are already depreciated (the Finnish and the Italian respectively) and at that day the President of the Bundesbank Karl Otto Pohl , published a report which demanded the "change" of the exchange rate of the British Pound. The report was a signal for the markets. The next day September 16th the so called "Black Wednesday" the BP was under pressure. The Bank of England in an attempt to stabilize the currency was forced to use 50% of its foreign currency reserves almost $20 billion, but without any positive outcome. In addition to this interest rates were increased from 10% to 12% with a second increase to 15% throughout the day, but the British Pound reached its minimum exchange rate inside the ECU system. When these measures were unsuccessful the British Minister of Economics Norman Lamont was forced to temporarily withdraw the British Pound from the European Monetary System, a decision associated with devaluation. The Italian Lire and the Spanish Peseta will experience a 5% devaluation each as well. Thus from September 4th to September 16th six major European currencies (Italian Lire, Spanish Peseta, Portuguese Escudo, Finnish Mark, Norwegian Corona and British Pound) were devalued against the German DM. The only exemption from this was the French Franc (FF). The FF was the only European currency which the German Bundesbank supported both with words and with deeds, i.e. in the international financial markets[3].

The next day Thursday September 17th the FX crisis became political. The British government blamed Germany and the Bundesbank as the main protagonists of British Pound devaluation. The next day the pound was devalued by 6% against the DM. On Monday September 21st the results of the French referendum on the Maastricht Treaty were published. The outcome was marginally in favor for the Maastricht Treaty. However Germany was under heavy criticism from Britain the country which had the Presidency of the EU, as well as from other states. On the 22nd of September both Germany and France spoke about a "two-tier Europe" and the next day both the German Bundesbank and the Banque d' France supported the FF and the DM jointly in the international financial markets. The policy of German monetary authorities was astonishing. The Germans took no action, neither verbal nor real in order to defend the European currencies. They had supported only the FF. Now if this is a sign of common European mentality or even common policy it is up to everyone to decide. On September 30th the German embassy in London provided an essay of the Bundesbank which rejected the British accusations. Between November 19th to 21st 1992, a new wave of monetary instability was triggered with the Swedish Corona exiting the European Currency Union (ECU) mechanism, and with further devaluation of the Spanish peseta and the Portuguese escudo by 6%[4].

It is true that when Britain joined the European Currency Union (ECU) mechanism, (on October 8th 1990) the economy had structural problems associated with balance of payment deficits which obviously create pressure for currency devaluation. It is also true that the British Economics Minister (Chancellor of the Exchequer) Nigel Lawson, had been focused in short term inflation goals instead of attempting to pursue a long term revival of British competitive position in the international economy[5]. In addition the technological (and productivity) gap between the UK economy and other European economies was also a major issue[6]. However the German policy was short sited. Germany during the 1990-1992 period had followed a policy of high interest rates for domestic purposes. The German unification of 1990 between West and East Germany had created immense finance needs for the former East German state thus high interest rates would guarantee an inflow of financial capital to the German economy. The problem however was that this high interest rate policy gathered all finances to Germany and for the rest of the Europeans there was nothing left to absorb. Thus this policy in the long run was an anti-European policy.

The selective German support for the French Franc created additional frustrations. The real looser was the idea of a United Europe.

The constant and multiple speculative attacks against different currencies in the international financial markets was a worrying development with long term negative ramifications for the stability of the international monetary system as a whole. This phenomenon could be addressed by collective governmental action but nothing happened. The problem would reappear during the 2007-2015 period more intensively. The immediate outcome in British domestic political landscape was the rise of the "Euro-sceptics" as opposed to the "Pro-Europeans". The routes of the BREXIT process can be traced in the 1992 sterling crisis.

2.2 The Mexican peso crisis of 1994

The crisis is the outcome of both historic and long term rigidities associated with opportunistic short-term policies. From 1519 until 1824 Mexico was a Spanish colony. The Spanish authorities imposed the system of "encomienda". According to this, the land belonged to the Spanish Crown however Spanish settlers and locals could be used as workers. The locals however were considered unpaid labor force. Later this system was replaced by the "repartimiento" which provided to the locals a modest salary. As the Archibishop of Voladolid pointed out this system created two social classes "those who had everything and those who had nothing". The Mexican democracy was established in 1824, but both political and social developments remained problematic. During the 1846-1848 period a war with the US erupted and after the defeat of Mexico huge territories were given to the US (California, West Colorado, Nevada, New Mexico, Texas and Utah.). In 1861 France occupied Mexico and in 1864 Maximilian of the Habsburgs became king. However his reign ended in 1867 and he was executed. The period of Porfirio Diaz followed known as Porfiriato (1872-1911). During this period limited economic development occurred with partial positive results. A civil war followed which ended in 1917 with Venustiano Carranza as a winner. This new regime however failed to provide any stable political and economic framework for development. Throughout the 1917-1970 period the country had a closed economy with trade with selective countries. During this period the average annual growth rate was 6% and the growth rate of industrial production was 8%. These statistics were less compared to other Latin American states and the distribution of wealth remained unequal. To illustrate in 1965 the industrial plants which established closed to the borders (the manquilas) were giving very low wages to their workers and no social security benefits[7].

During the 1970s Mexico borrowed immensely in order to finance investments in the oil industry. However after the oil peak of the 1970s the reduced oil prices made the finance of Mexico's debt extremely problematic. According to Spero & Hart (1997) between 1982 and 1988 the Mexican economy suffered from stagflation and zero growth. In spite of its economic problems in 1986 Mexico entered the GATT (General Agreement on Tariffs and Trade) and trade barriers were reduced. During the 1987 and 1988 years the country experienced an annual inflation of 100%, which in 1989 was reduced to 20%. During the 1989-1992 period the economy had an average annual growth rate of 3.5% and inflation in 1992 was checked at 15%. Furthermore, the Peso was pegged to the USD. During the 1990-1993 period Mexico had received net inward investments worth $ 94 billion which was almost 20% of aggregate capital inflows to all developing economies. In addition, net portfolio investments which during the 1983-1989 period were negative, suddenly increased to $ 4.5 billion in 1990 and to $ 28.4 billion in 1993[8]. This inflow of capital although positive did not alter the poverty status of millions. Thus just before the start of the crisis the country had 300 very rich families, a middle class of nearly 20 million people and around 70 million were living in poverty with 15 million of them in extreme poverty that is less than $1 per day[9].

This uunequal wealth distribution triggered immense social tensions and eventually the 1994 crisis. In January 1994 a revolution occurred in the south province of the Chiapas which continued for more than one year. In March 1994, few months before the August planned elections, the candidate of the ruling party PRI (Partido Revolucionario Institucional) was assassinated. One month after the elections the General Secretary of the PRI was also assassinated. These political developments turned foreign investors vigilant. Thus in 1994 portfolio investments were reduced from \$ 28.4 billion in 1993 to just \$ 7.8 billion[10].

During the same period the US central bank (FED) had followed high interest rates policy due to high inflationary pressures. This made the repayment of Mexican debt more difficult. For short term financing the Mexican government was forced to issue the so called “tosobonos”. These were bonds pegged to the US dollar but were re-payed by using Pesos. Since both the peso and the Mexican stock-market were collapsing the interest rates increased on December 20th 1994. The government was forced to devalue the peso and in 22nd of December the government was forced to accept that it could not support the currency viz. a viz. the USD. In order to face the crisis the government was forced to ask US assistance which as a NAFTA member, they provided \$ 9 billion as assistance and mobilized various international organizations (IMF, World Bank) which also provided \$ 18 billion to Mexico[11]. In 1995 the Mexican GNP collapsed by 6.9% and as a result one million jobs were lost. The external aid associated with a domestic stabilization program and this made a healthy rebound after 1996[12]. The crisis was the outcome of social internal turmoil, due to poverty, corruption. At that time the annual profit from drugs was \$7 billion[13]. The markets have invested short term capital instead of making long term real investments (FDI). These short term funds were quickly withdrawn from the Mexican market. Although the economic doctrine was providing emphasis to “growth via exports” strategy especially via the NAFTA, the failure to address internal wealth redistribution issues created an explosive economic situation.

2.3 The Asian crisis of 1997-1998

The crisis started in April 1997 and was catastrophic for all the “tigers” (Indonesia, Malaysia, Philippines, Thailand, Hong-Kong, South Korea)[14]. In order to understand the causes we use Taiwan as a case study. In the early 1950s the 76% of labour force was employed in the agricultural sector of the economy, but food production was low. In 1951 the government donated all public lands to the farmers and in 1953 a new law was imposed and forced the big-scale landlords to donate land to small farmers as well. The outcome was the double of agricultural production. Simultaneously the government wanted to increase the share of industrial production to GNP. At the beginning this would be achieved via labor oriented light industries which aimed for import substitution of basic goods. Between 1952-1972, this policy generated a healthy income increase of 5.6%. After 1970 the aim of industrial policy shifted to the development of capital intensive industries. In 1979 there were 25,000 graduates of technical schools and universities thus a well-educated labor force was the basis for this policy. The oil crisis of 1973 had minor effects on the economy and the growth rate remained positive (+2.5%). After 1983 the economy skyrocketed. In 1984 both per capita income and industrial production increased by 12%. Exports increased by 21% and inflation was reduced by -0.03%. This was the beginning of the "Asian Miracle". In 1992 per capita income was $ 10,100 whereas in 1984 it was just $ 3,067[15].

The case of Taiwan is similar to that of other regional economies. (Indonesia, Malaysia, Singapore, Philippines, South Korea). To illustrate Porter (1990) points out that Korean enterprises invested in modern technologies and large scale production[16]. In 1991 South Korea's GNP stood at $ 274.4 billion, when North Korea's was just $ 23 billion. During the 1980-1991 period the average annual GNP growth rate was 8.7%[17]. By the middle of the 1990s the other regional countries (Indonesia, Malaysia, Singapore, Philippines, Thailand), were equally successful[18]. The crisis was triggered by Thailand which had until then an annual average GNP growth rate of 7%. This growth was achieved mainly because of low incomes and short-term capital inflows, in spite of the industrial transformation[19]. In addition a large part of investments was in land and properties, i.e. there was no productive orientation[20]. In addition the majority of public debt was of short-term orientation and was increasing rapidly. Thus the economy was vulnerable to short-term financing which could easily enter and exit the economy causing FX crises.

The character of "Family Capitalism" (i.e. a dominant trait of Asian capitalism) played also its role. To illustrate across the region the financing of enterprises, banks, insurance companies, was made with family criteria rather than economic criteria. The banker would more easily provide funds to his brother or nephew even if he had a bad credit rating instead of financing a stranger with a sound credit! This practice would have catastrophic results. To illustrate the ninth biggest bank of the country (the Bangkok Bank of Commerce) had invested more than half of its assets to relatives and friends of the Bank's Chairman without any guarantee[21].

When local banks had losses or NPLs (Non-Performing Loans) they borrowed more and invested in high risk – high return assets in an attempt to increase their revenues and cover the losses. In addition they were investing in the stock market for short term gains via speculative price increases. These were very risky strategies.Thus listed firms in the stock market increased from 214 in 1990 to 454 in 1996[22].

The crisis was triggered by political developments, just as in the case of Mexico. When the former head of the armed forces Chavalit Yongchaiyudh, became Prime-Minister in January 1997 foreign investors were alarmed. Then a report by the "Quantum Funds", pointed out that the Thai baht was overvalued. The result was a stock market collapse and the default of the biggest financial enterprise of the country (Finance One). On July 2nd 1997, the fixed exchange rate between the USD and the Thai baht seized to exist. In six months period the exchange rate was altered from \$ 1=24.35 baht to \$ 1=47 baht. In August 1997 Thailand requested the assistance of the IMF who provided \$ 17 billion imposing fiscal cuts and higher interest rates. This development triggered the collapse of the Chavalit Yongchaiyudh government and a new coalition government occurred under the leadership of Chuan Leekpai. The crisis had implications across ASEAN states with the case of Indonesia being the most tragic[23].

The IMF intervened across the region providing total aid worth more than \$ 115 billion. (\$ 57 billion to South Korea, \$ 43 billion to Indonesia, \$ 17 billion to Thailand)[24]. It is obvious that the uneven wealth distribution associated with family capitalism, high risk short term financial investments and political instability triggered the crisis. The internal debt equity ratio, in many local enterprises and the opportunistic behavior of local managers were additional problems.

2.4 The Russian crisis of 1998

The Russian crisis started in August 1998. Many blame the financier George Soros for this development. For them Soros triggered the crisis when the Financial Times newspaper on the August 14th 1998 edition published a Soros article which pointed out that the Russian currency was overvalued. Soros, rejected these accusations pointing out that the aim of his letter was to make the G-7 governments to realize the problem and for the Russian government to achieve additional aid from abroad[25].

The immediate outcome was severe. On August 17th the Russian government was forced to suspend all payments in foreign currencies and declared default on internal public debt repayments. The Moscow stock-exchanged collapsed and the ruble was devalued by 35% against the USD. Many Russian banks also collapsed[26]. The devaluation of the USD / Ruble exchange rate continued and reached the level of 70% The Russian economy was in deep crisis long before August 1998[27]. The Russian crisis was exactly the opposite when compared to the crises of Mexico and Asia. In Asia and Mexico ceases the countries had endorsed an extrovert economic doctrine. This was targeting the inflow of FDI aiming to upgrade the technological standards of the domestic economy. The aspiration was that this initial transformation would bring technological parity with the developed Western economies, import substitution and in a later stage domestic technological development. However in spite of technological inflow these countries remained at the level of assembly lines, since R&D continued to be situated in the developed Western economies. In the opposite of this model Russia for many years during the USSR period had developed its own technology endogenous, attempting also to achieve parity with the West. The Russians managed this in some sectors (defense, space technologies, aviation), but overall the Russian economy and products were inferior to those of the West and could not compete it terms of quality and price. This resulted in economic collapse. In the case of Russia the endogenous economic development process was based on the concept of autarchy according to which economic development was the outcome of use of domestic resources (raw materials and labor force) via massive public investments in "strategic" economic sectors. In reality resources were mismanaged if not wasted completely which eventually led to low quality products and low production volumes which also created the conditions for black market.

Furthermore the following points should be considered:

1. In Russia there was a huge unequal wealth distribution just as in Mexico and Asia. To illustrate, ten years after the collapse of central planning 38% of citizens lived under the poverty line, and an aggregate 75% of the total population had worse living standard conditions when compared to the USSR period. As Pravilova (2023) points out after the collapse of the USSR the previous Soviet Republics (now independent states) abolished the ruble and introduced their own currencies. Thus the local populations of these new states which still hold massive amounts of rubles attempted to exchange them inside Russia, thus a huge influx of rubles occurred from former Soviet republics to Russia. As a result in 1993 the Russian government decided to replace all rubles issued, between, 1961-1992, with new ones. This exchange:

"wiped out people savings. As the prime minister Victor Chernomyrdin half-jokingly recognized, "We wanted the best, but it turned out as always" Chernomyrdin's phrase went viral and came to symbolize the persistence of old patterns in government policy that prioritized state interests over the needs of the impoverished population".[28]

2. Russia had massive corruption just like Mexico. To illustrate, Handelman (1996) points out that Mafia (Mafiya) syndicates had under their control 40,000 enterprises, including 1,500 state enterprises, 500 joint-ventures, 500 banking institutions and at least 47 local stock-markets[29].

3. Russia had immense political instability, just as Mexico.

4. In the case of Russia speculative short term financial capital inflows/outflows played a similar negative role just as in the cases of Mexico and Asia.

5. Although verbally Western and US assistance was immense many Russians believed that the real financial assistance was limited[30].

6. The crisis perished the living standards of the Russian citizens. In their eyes the economic transformation from centrally planned economies to capitalism was a huge error. In addition the West was demonized for not providing aid. Under these conditions Russia should re-emerge from this crisis if not as a new Soviet Union but as a new Imperial power.

3. The geopolitical implications of the monetary/economic crises of the 1990s

All the four crises of the 1992-1998 period were transformed to social and political ones sooner or later. The crises of Mexico, Asia and Russia increased social and political instability quickly and triggered almost immediate geopolitical tensions and problems. The Sterling crisis had similar outcomes but these were not immediate or instant. In the case of the UK there was a time-lag for triggering the harmful effects. According to one source in the case of Asia:

"The Asia crisis…produced some significant security and diplomatic headaches for the United States. In particular the crisis resulted directly in regional political instability, including changes in government in Thailand, South Korea and Indonesia; a dramatic rise in official anti-American public rhetoric; a precipitous felloff in regional defense commitments by key allies; a rise of transnational crime; a resurgence in interethnic conflict; and the growth of radical anti-democratic Islamic movements…Southeast Asian leaders noted the concern and generosity Washington showered upon Russia as it struggled with economic reforms and bristled at what they saw as a callous and indifferent approach as economic shockwaves spread across their region. Conditions imposed by the IMF…were seen as a cynical, opportunistic attempts by Washington to exploit the crisis on behalf of American banks…Malaysian Prime Minister Mahathir Mohamad and former Japanese Vice Minister Eisuke Sakakibara countered American charges that "crony capitalism" had undermined Asian economies with accusations that rapacious American hedge funds

and other currency speculators were the true source of the havoc…The sharp rise in Korean anti-American passions was particularly unnerving in Washington…[who] backed a record $57 billion IMF rescue package …Yet as the package was announced on December 3 1997, many South Koreans reacted in anger…Newspapers …accused the United States of exploiting the crisis to further its own commercial interests…The crisis led … to a …fallout in defense capabilities among US allies…Indonesia, Malaysia, Thailand and the Philippines cut defense expenditures dramatically after 1996…and did not surpass 1992 levels again until 2002…China continued to spend prodigiously on its naval, air-force and strategic missile force capability …This led to concerns … that China could become more aggressive…In North East Asia, the financial crisis, raised concerns of renewed hostilities in the Korean Peninsula…Ethnic Chinese inhabitants of Indonesia, while representing a mere 3.5 percent of the population, control nearly 75 percent of …assets. In the wake of the financial crisis…their homes, businesses …were targeted…Washington has long been concerned that conflict between ethnic Chinese and the ethnic (largely Muslim) majorities in Indonesia and Malaysia could lead to rising tensions with China…The South East Asian terrorist network Jemaah al Islamiyah (JI) … was created in Malaysia around 1995 …JI is widely believed to have been behind the October 2002 terrorist bombing in Bali.. JI benefited significantly from the economic and political turmoil surrounding the Asian financial crisis…".[31]

According to the same source the Russian crisis had the following geopolitical implications:

"The …August 1998 collapse …significantly exacerbated two interrelated security problems for the United States. The first was a dramatic expansion of Russian organized crime…The second was a decline in the ability of the Russian government to finance and control the safeguarding …of its weapons of mass destruction…In September 1998 an American team visiting the Kurchatov Institute in Moscow found 100 kilograms of highly enriched uranium ..wholly unguarded. The Institute could no longer afford the $200 a month for a guard. …In November, it was reported that guards had left their posts at several nuclear facilities in order to forage for food…US experts estimated that 650 tons of highly enriched uranium and plutonium stored outside nuclear weapons had been left at risk of theft …specifically because of the financial crisis".[32]

The main effect of the crisis was the raise of Russian nationalism, the collapse of the Yeltsin regime and the rise of Vladimir Putin to power. When the crisis erupted Putin was a member of the Presidential Council, a title without any association to important state power (May 25th 1998). In a short time period Yeltsin appointed Putin the Head of FSB, which had evolved from the former KGB. Putin took this position on July 25th 1998, but in a year's time (August 9th 1999) Yeltsin appointed him First Deputy Prime Minister. At that time he was still unknown to the Russian public. On December 31st 1999 Yeltsin resigned from the Presidential post and he was replaced by Putin who became an Acting President. The new presidential elections occurred on March 26, 2000 and Putin scored his first overwhelming victory. Wegren & Herspring (2010) analyze the first period of Putin presidency (2000-2008) pointing out that when Putin became President (January 1st 2000) the country was facing enormous problems. Both the economy and the political system were in absolute paralysis. In addition the social and ethical forces of the society were declining. The first priority was to revitalize the economy and the real incomes of the population. This was achieved via increased exports of raw materials, agricultural products, oil and natural gas. In 2006 the termination of natural gas exports to Ukraine demonstrated the vulnerability of Western Europe from imported Russian gas. The US started to view Russia as a state which weaponized energy in order to achieve foreign policy objectives[33].

Although certain investors achieved short term gains from the various crises, in the long term all triggered long term geopolitical anomalies. Thus the Sterling crisis created the path to BREXIT. The Mexican crisis increased the US influence on the Mexican economy and country. The Asian crisis reduced the strength of US allies, increased the power of China and increased the instability across Asia and convinced North Korea that capitalism is doomed to fail thus any opening or liberalization of the economy and the state was nullified. The Russian crisis gave birth to a new Russian nationalism. A new multi-polar and unstable world was generated partially by the actions of speculators. The responsible political leaders (if any) should learn and draw the proper conclusions.

4. The economic developments of the 1999-2007 period - Financial Capitalism continues to rise and the 2007-2015 global economic crisis

The crises of the 1990s were more severe from that of October 1987. The markets continued to develop and continued to follow the same principles and practices (deregulation, short term decision making, speculation, inside trading, opportunism, high risk and high return investments, unequal wealth creation and distribution etc.). Any rational and wise political leadership should have acknowledged the risks associated with the financial capitalism and should intervene not to destroy it or to put the bankers in jail. However some limited regulation would provide a shield not only to the global economy and to the Western economies but even to bankers themselves. Paradoxically no such policy occurred. The inability to deduct the correct lessons from the 1987 and 1992-1998 crises paved the way to the great crisis of the 2007-2015 period. According to one source:

"These [financial] transactions which reached…in 2007 the value of about $ 2 trillion each day, are, according to some economists, beneficial for economic growth because they favour saving collection and efficiently allocate investments, as Alan Greenspan believed. Greenspan …was the main force behind American monetary policies between 1987 and 2006 (the exact period when financial capitalism was shaped) …Greenspan was also a great supporter of sub-prime lending and derivatives, stating "Derivatives have been an extraordinarily useful vehicle to transfer risk from those who should' not be taking it to those who are willing to and are capable of doing so"".[34]

This new idea about creating high-risk and simultaneously high-return financial assets turned out to be catastrophic. According to the official US Inquiry for the 2007 crisis:

"The derivatives markets are organized as exchanges or as over-the-counter (OTC) markets…As the OTC market grew …a wave of significant losses and scandals hit the market. In 1994 Procter & Gamble …reported a pre-tax loss of $ 157 million the largest derivatives loss by a non-financial firm…[in another case the] Gibson Greeting Cards [lost] $ 23 million, larger than Gibson's prior-year profits…In late 1994, Orange Country, California, announced it had lost $ 1.5 billion speculating in OTC derivatives…In 1996, Japan's Sumitomo Corporation lost $ 2.6 billion on copper derivatives traded on a London exchange. The Commodity Futures Trading Commission (CFTC) charged the company with using derivatives to manipulate copper prices…The CFTC also charged Merrill Lynch with knowingly and intentionally aiding, abetting and assisting the manipulation of copper prices…In May [1998] the CFTC …would re-examine the way it regulated the OTC derivatives market [however]…For months Rubin, Greenspan, Levitt, and Deputy Treasury Secretary Lawrence Summers opposed the CFTC's efforts…in October 1998… Greenspan continued to champion derivatives and advocate deregulation of the OTC market…At year end 2000…the…amount of OTC derivatives …globally was $ 95.2 trillion, and the gross market value was $ 3.2 trillion. …until June 2008, when the market peacked, outstanding OTC derivatives increased …to $ 672.6 trillion, their gross market value was $20.3 trillion.".[35]

Here we have the first harmful economic effect of financial capitalism. Derivatives have become a speculative asset and the real experience from the financial markets was that they could trigger massive losses in many cases. It was completely rational to anticipate new regulations in order to cover not only the public interest but also the personal interest of the market players *per se*. However, a small number of elite individuals opposed any legal / state intervention. It goes without saying that the opportunity cost of the OTC capital (i.e. the potential to have used the above funds for financing real investment projects in both developed and developing economies) would have generated millions of jobs with obvious positive effects on consumption, taxation, reduction of unemployment benefits, national insurance contributions, etc. it is obvious that the "multiplier effect" for the global economy would have been higher. According to the official US Report the crisis occurred due to the nexus of the following elements:

"1) massive amount of toxic products in the market, 2) failure of financial regulations or excess deregulation, 3) highly risky [and even opportunistic] behavior of the financial players, 4) excessive borrowing, risky investments and lack of transparency, 5) ill preparation of government to respond to the crisis, 6) collapse of mortgage lending standards, 7) OTC derivatives harmful effect, failure of credit rating agencies to assess correctly financial institutions clients and products".

In addition the US report acknowledges as an additional factor which triggered the crisis:

"a systemic breakdown in accountability and ethics".

The report states that:

"we witnessed an erosion of standards of responsibility and ethics…this was not universal, but these breaches stressed from the ground level to the corporate suits [i.e. managers]…as a nation we must accept responsibility for what we permitted to occur. Collectively …we acquiesced to or embraced a system, a set of policies and actions, that gave rise to our present predicament".[36]

It is obvious that the Official US Inquiry portrays a certain type of investment behaviour (speculation) as a major source of the 2007 crisis, and of course this has been the main cause of all the previous crises. Therefore, we can argue that opportunistic behaviour associated with short term goals was responsible for the crises. The social ramifications inside the US society (and economy) are described by one source as follows:

"According to Forbes, Warren Buffet's net worth was USD 2.1 billion back in 1987 and it is now [2014] about USD 73 billion. Call that 35 [times up]…

[in the opposite of this] The average weekly wage of full-time workers in constant 1982 dollars was USD 330 per week in 1987 and is currently [2014] USD 340.".[37]

The authors point out that they cannot guarantee the accuracy of the above numbers however the numbers portray a huge gap of wealth between the financial elite versus the average worker. This wealth gap is described by other publications. To illustrate Warren & Blasio (2015) point out that after 1980, only the rich benefit from economic development. They remark:

"In the past 35 years the top 10 percent got all the income growth. The rest of America –90 percent of Americans– got nothing. Zip Zero".[38]

The social rigidities which accrue from this unbalanced wealth distribution do not need any further discussion. However another interesting issue is associated with capital budgeting theories and the optimal lifetime of investment assets *per se*.

Without making the current paper too technical we point out that there are two different set of theories here. The first points out that the owner of a particular asset makes a decision on how long to keep an asset based on the notion of how long the investment opportunity remains profitable. To illustrate in a single investment cycle and as long as the return of the investment is adequate (or healthy) the investor keeps the asset. The opposite of this is the case when re-investments occur indefinitely at equal time intervals[39]. However the problem with the financial assets is that because financial markets have high volatility market parameters both theories can be applicable or non-applicable! This may sound puzzling but the idea is that the financial markets are chaotic. They can respond to small and big events (external shocks) in an unprecedented way. To illustrate they can respond (in a positive or negative way) to big changes (wars, climate catastrophes, change of government), but they can also respond to small changes (inflation rates, productivity data, interest rate changes, unemployment and GNP figures etc.). There is no way that someone can predict if an investor (private individual or institution) will buy (or sell) shares or bonds, or any other asset for a limited period or for a long period. No one can predict the volume of transactions, as well. Short term orientation, inside trading, opportunistic goals, pure speculation, bounded-rationality, ill-information, pessimism for the economic future, cultural differences among global investors, etc. can all play their role in the decision making process. In other words the more developed the financial markets became (in terms of volumes of transactions and values), the more chaotic and unpredictable they become. Despite the disadvantages the evolution of financial capitalism continued (Table 1).

Table 1: Total assets of US financial institutions 2002-2022 (in trillion $)

Year	Value of total US assets held by US banks in trillion USD
2002	44.98
2003	50.14
2004	55.64
2005	60.24
2006	66.46
2007	72.84
2008	69.92
2009	71.38
2010	73.3
2011	74.95
2012	79.79
2013	86.17
2014	90.3
2015	90.01
2016	93.12
2017	99.91
2018	99.2
2019	108.96
2020	123.53
2021	135.68
2022	127.16

Source: https://www.statista.com/statistics/421697/financial-institutions-assets-usa/#:~:text [retrieved 14-3-2024].

Table 1 demonstrates that banking assets in the US increased from $44.9 trillion in 2002 to $72.8 trillion in 2007 they were reduced in the next two years due to the crisis but after 2010 they increased constantly reaching in 2021 the peak of $135.6 trillion! This is financial capitalism at its heyday.

The 2007 crisis erupted in the US as a direct result of NPLs (non-performing loans) in the US housing market. Many banks collapsed (including high profile institutions like Merrill Lynch, Fannie Mae, Lehman Brothers, Freddie Mac etc.). The complete collapse of the US financial system was avoided because the US government intervention piped in the system more than $700 billion. As the former US President Bush described it in his memoirs:

"We proposed an appropriation of $700 billion –about 5 percent of the mortgage market, which we thought would be big enough .... Many legislators recognised the need for a large and decisive measure, but that didn't diminish their shock or anger…One Republican senator said our plan would "take away the free market and institute socialism in America" …Early in the afternoon of Monday September 29 2008 the House of Representatives held a vote on the financial rescue bill…At 2:07 the final vote…was cast. It failed 228 to 205…I knew the vote would be a disaster…within minutes the stock market went into free fall…shortly after the vote, I met…with the economic team…we really had only one option. We had to make another run at the legislation… On Friday October 3, I made another round of calls…my warnings about the system going down had a lot more credibility this time…the bill passed 263 to 171…Deploying TARP (=Troubled Asset Relief Program) sent an unmistakable signal that we would not let the American financial system fail".[40]

The crisis was spread across the world and the European economies were also extremely vulnerable. To illustrate NPLs in Europe (EU) increased from almost 2% in December 2008 to 4.4% in June 2015 thus they were doubled. Total Non-Performing Loans, across Europe, increased from €882 billion to €1,187 billion, respectively[41]. The crisis of 2007-2015 period was the biggest proof that the economic doctrine of Financial Capitalism was catastrophic for the Western world. As already pointed out no one denies the important of finance in the economy. However economic growth cannot be generated exclusively from the monetary side of the economy. Advances in real production are the stable recipe for economic growth.

The second alarming development was that by that time the industrial dominance of the Western world was shaken. From 1980 to 2015 the Western economies were developing stock-markets, banks, bonds OTC transactions and other …paper assets. In the opposite the developing world with China as the most important country were developing real factories and real products. The results were catastrophic. In 2014 the ten main emerging economies (China, South Korea, India, Taiwan, Mexico, Brazil, Russia, Turkey, Indonesia, Poland) had an aggregate industrial output of 3,510 billion dollars which represented the 35% of total global manufacturing. The traditional Western industrial powers (USA, Germany, UK, France, Italy, Switzerland, Netherlands, Japan) had an aggregate industrial output of 4,447 billion dollars which represented the 47% of total global industrial production. Although the traditional industrial powers (US, Germany, Britain, Japan) had in 2014 a total of 39% of global industrial production one can simply refer to 1913-1914 when their share was 61.4% (US: 32%, Germany: 14.8%, Britain:13.6%, Japan: 1%). In 1938 the major Western industrial powers had a total share of 54.9% of global production (US: 28.7%, Germany: 13.2%, Britain: 9.2% and Japan: 3.8%)[42]. In the post-World War II economic order one can mention that in 1950 the share of the four major Western industrial powers was 82.3% (US: 61.9%, Germany: 10.1%, Britain: 8.2% and Japan: 2.1%), whereas in 1977 it was 77.9% (US: 44%, Germany: 16%, Britain: 4.5% and Japan: 13.4%)[43]. Thus in hundred years, time (1914-2014) the four major Western economies managed to reduce their share in global industrial production from 61.4% to 39%.

The biggest winner was China which after 1979 the year when the Open Door policy started its economy received a massive inflow of foreign direct investments. During the 1979-2015 period a total of 838,037 investment projects valued at $1,479.4.01 billion (or $1.47 trillion) were made[44]. In 2016 China absorbed another $118 billions of FDI. In 2017: $135 billion, in 2018: $139 billion, in 2019: $124.39 billion. In 2020 China absorbed the record number of $163 billion which made for the first time the country the number one destination for foreign investments higher than the US (that year the US absorbed $134 billion). Thus throughout the 1979-2020 period China absorbed $2,158.39 billion (or $2.15 trillion) of foreign investments[45]. These developments would trigger geopolitical developments. The third important trait was the rise of the debt, however this trait is related to the "War on Terror" and its analysed below.

5. The geopolitical developments of the 1999-2024 period - The War on Terror, the decline of western military power, the rise of autocratic powers and war mobilization economic potential

The September 11th 2001 terror attacks socked the US and its Western allies. The US immediately responded by developing a "War against Terror Doctrine". This was targeting specific terror organizations across the world with anti-Western ideology and aims. In addition any state which directly or indirectly supported these organizations or endorsed anti-Western ideology was also targeted.

The war on terror was not a typical full scale war, it was rather a lengthy low intensity conflict. However this type of struggle still required mobilization of resources. Thus someone should expect an intensive economic industrial mobilization and a shift of resources (financial, manpower, raw materials etc.) from the civil sector of the economy to the military sector of the economy. Paradoxically as we have seen financial resources were not shifted from the civil sector to the military. Two important developments occurred. The main war on terror fronts (Iraq and Afghanistan) during the 2001-2007 period had a direct cost of $3.496 trillion to the US economy. During the 2001-2011 decade, the finance of all types of anti-terror operations in Afghanistan, Iraq, Yemen and Pakistan had a $4.4 trillion cost. The result of the war on terror was an increase of US public debt. The debt increased from $5.8 trillion in 2001 to $17.8 trillion in 2014. The debt increase was not only associated with the War on Terror but also with the post 2007 economic crisis. In addition the share of US GNP to global GNP was reduced from 28.1% in 2004 to 22.2% in 2014. By 2017 the debt was increased to $19.9 trillion. Throughout the period numerous studies had pointed out that the US were melting economically and fiscally. According to Ferguson (2004) the US had three weaknesses. The first was that the country was transformed from a net lender to a net borrower. The second was the demographic decline of the state. The third was that in spite of the public statements about the creation of a global liberal order both leadership and society had no real motive to implement such a plan. The study of Stiglitz & Bilmes (2008) calculated the cost of the wars during the 2001-2007 period between $2,334 billion and $3,496 billion (or $2.3 trillion and $3.4 trillion respectively)[46]. According to another study the high defense spending instead of creating jobs in the defense and other related industries it actually reduced employment by 464,000 less jobs during the 2001-2011 period. The expectation for the next twenty years was an additional loss of 668,100 jobs. On the other hand inflationary pressures would be modest (just 0.9% increase in the first decade and 1.1% in the next twenty years)[47]. Finally Rockoff (2012) also calculated a high cost war[48]. The War on Terror has terminated in the main fronts of Iraq and Afghanistan however it continues until today in various isolated parts of the world. The US withdraw from Afghanistan (August 31st 2021) was a huge blow. According to press reports which remain unconfirmed the US abandoned in Afghanistan military equipment worth approximately $83 billion[49]. Whatever the cost of the war on terror (a ten trillion dollar bill for the period 2001-2021 of both direct and indirect costs is a potential correct estimate) the paradox is that the overall US military strength declined.

In 1991 at the end of the Cold War the US had 2,029,600 military personnel.

The Army had 731,700 personnel with 15,585 tanks, 1,265 light tanks, 5,524 Armour Fighting Vehicles, 26.480 Armour Personnel Carriers, 2,323 towed artillery guns, 3,466 Self Propelled Guns, 426 MLRS systems (multiple rocket launch systems). The Army Aviation had 534 planes and 8,458 helicopters. The US Navy had 548,800 personnel, with 121 submarines (34 nuclear), 207 surface vessels (13 carriers, 2 battleships, 46 cruisers, 49 destroyers, 97 frigates, 30 patrol ships), with more than 250 support ships. The US Air-Force had 517,400 personnel with 4,084 combat ready planes and more than 1,000 in reserve. The Nuclear Triad consisted of: 1,000 ICBMs (Inter-Continental Ballistic Missiles), the nuclear submarines with 640 SLBMs (Submarine Launched Ballistic Missiles) and with 277 bombers for nuclear strike (another 24 in reserve).

The USSR at that time had a total military personnel of 4,394,000 men and women. The Army had 1,400,000 personnel with 20,725 tanks, 1,000 light tanks, 28,000 Armor Fighting Vehicles , 50,000 Armor Personnel Carriers, 64,200 guns (33,000 towed, 9.000 Self Propelled Guns guns, 13,000 mortars, 8,000 rocket systems, 1,000 howitzers), 8,000 anti-tank guns, 12,000 anti-aircraft guns. The Army aviation had 2,370 planes and 4,500 helicopters.

The Soviet Navy had 450,000 personnel with 317 submarines (60 nuclear), 218 surface vessels (5 aircraft and helicopter carriers, 38 cruisers, 146 frigates, 29 destroyers, 76 corvettes, 82 missile boats, 32 torpedo-boats, 192 patrol ships). The naval air-force had 1,354 planes and 312 helicopters. The Air-Force had 420,000 personnel with 4,905 combat ready planes. The Nuclear Triad had: 1,388 ICBMs (Inter-Continental Ballistic Missiles), the nuclear submarines with 912 SLBMs (Submarine Launched Ballistic Missiles) and 587 bombers for nuclear strike[50].

In 1991 China had total personnel of 3,030,000. The Army had 2,300,000 personnel with 7,500-8,000 tanks, 1,200 light tanks, 2,800 Armor Carrier Vehicles, 14,500 towed guns, 15,000 anti-aircraft guns. The Navy had strength of 260,000 personnel with 94 submarines (just 1 nuclear), 56 surface vessels (19 destroyers, 37 frigates), 869 patrol ships. The Naval Air-Force had 30 bombers, 600 fighters, 100 support planes. The Air-Force had 220,000 personnel with 120 bombers, 350 light bombers and 4,000 fighters. The Nuclear Triad had: Just 8 ICBMs (Inter-Continental Ballistic Missiles, one nuclear submarine with 12 SLBMs (Submarine Launched Ballistic Missiles) and 120 bombers for nuclear strikes[51].

In 2014 the US Armed Forces had a total strength of 1,492,200 personnel. The US Army had 552,100 personnel with 2,338 tanks, (and 3,500 in reserve), 4,559 Armour Fighting Vehicles, 25,209 Armour Personnel Carriers, 5,889 artillery guns (969 self-propelled, 1,205 MLRS systems). The Army Aviation had 231 airplanes with 4,096 helicopters. However much of the US Army was deployed at that time in Europe, US mainland, Iraq and Afghanistan.

The US Navy had a total strength of 322,700 personnel with 72 submarines (14 nuclear), 10 aircraft carriers, 22 cruisers, 62 destroyers, 13 frigates, 55 patrol ships, 275 landing crafts and amphibious ships. The US Naval Air Force had 1,089 airplanes and more than 650 helicopters.

The US Air Force had 329,500 personnel with 1,696 fighters (195 F-22A, 473 F-15, 1.003 F-16, 25 F-35A), 343 A-10, 446 trainers and more than 500 special mission planes (transport, ELINT, Re-fuelling etc.).

The US Nuclear Triad had 450 ICBM-Inter-Continental Ballistic Missiles, the Navy nuclear submarines were equipped with 24 SLBM-Submarine Launched Ballistic Missiles each and the Air-Force had 91 bombers capable for nuclear strike (72 B-52H and 19 B-2A).

In the same year (2014) the Chinese armed forces had a total strength of 1,250,000 personnel with 6,947 tanks and 7,953 artillery guns. The PLA Navy had 62 submarines (9 nuclear), 1 aircraft carrier, 21 destroyers, 52 frigates, 15 corvettes, 86 missile patrol boats, 57 large transport ships. The PLA Air Force had 1,700 fighters, 400 bombers, 475 transports, 115 special mission planes (ELINT etc). China was abandoning obsolete systems and was replacing them with modern ones. The biggest progress in the Chinese arsenal was associated with the presence of at least 1,200 SRBM-Short Range Ballistic Missiles. The Chinese nuclear triad had 50-60 ICBM-Inter-Continental Ballistic Missiles, with maximum range of 11,200 km. The 9 nuclear submarines were equipped with missiles with a range of 7,400 km and from the 400 bombers the 00-120 were capable for nuclear strike (H-6 type)[52].

Russia had declined to a third place with total personnel of 845,000. The Army had 205,000 personnel with 2,550 tanks, 7,360 Armor Infantry Fighting Vehicles, 9,700 Armor Personnel Carriers, 5,436 guns (1,820 S/P guns, 550 towed, 1,106 MLRS). The Navy had 130.000 personnel with 64 submarines (11 nuclear), 1 aircraft carrier, 5 cruisers, 18 destroyers, 9 frigates, 82 patrol vessels and corvettes. The Naval Air-Force had 104 fighters and 212 helicopters. The Air-Force had 150,000 personnel with 1,389 fighters, 343 ground support, 382 trainers, 100 transport planes. The Nuclear Triad had: 356 ICBMs (Inter-Continental Ballistic Missiles), the nuclear submarines with 16 SLBMs (Submarine Launched Ballistic Missiles) each (although one had 20 missiles instead of the 16) and 78 bombers for nuclear strike[53].

Examining the changes in US arsenal we can see that between 1991-2014 the number of tanks decreased from 15,585 to 2,338 (85% reduction), the number of main artillery types (towed, SPs and MLRS) was reduced from 6,215 to 3,416 (45.04% reduction), the number of carriers was decreased from 13 to 10 (23.1% reduction), and the ICBMs were reduced from 1,388 to 450 (67.6% reduction). It is obvious that in spite of the War on Terror overall US military strength was reduced. The Russian military power was also quite inferior compared to that of the USSR.

From 2017 the US entered in a new era of "Great Power competition" with both China and Russia. The defense expenditure (in current prices) for the 2014-2017 period was as follows:

- US Spending: 2014: $653.9 billion, 2015: $641.2 billion, 2016: $664.05 billion, 2017: $818.2 billion.
- Russian Spending (in rubles): 2014: 2.49 trillion, 2015: 3.3 trillion, 2016: 3.145 trillion, 2017: 3.9 trillion. In USD the above numbers were as follow: $69.3 billion, $52 billion, $69.2 billion and $66.3 billion.
- Chinese Spending: 2014: $191.9 billion, 2015: $204.51 billion, 2016: $216.03 billion, 2017: $228.17 billion.

Total global defense spending in 2017 were $ 1 trillion and 739 billion ($1,739 billion) according to SIPRI, which represented the 2.2% of global GNP. In 2018 global defense spending stood at $1,822 billion (or $1,8 trillion). The US spent $649 billion, China $250 billion, Russia $61.4 billion[54]. In 2019 global defense spending was $1,917 billion (or $1.91 trillion). The US spend, $732 billion, China $261 billion, Russia $65.1 billion[55]. In 2020 global defense spending was $1,981 billion (or $1.98 trillion). The US spend $778 billion, China $252 billion and Russia $61.7 billion[56]. In 2021 global defense spending surpassed the threshold of $2 trillion for the first time in history. It is interesting to point out that this development occurred and global pandemic conditions, which should require investments in the health sector. However total global defense spending reached the astonishing level of $2,113 billion (or 2.113 trillion). US spending was $801 billion. China in spite of COVID-19 increased its spending to $293 billion. Russia spent $65.9 billion[57]. Although the US is the largest spender on defense the military is facing adequate problems. To illustrate according to Scharre (2023):

"Maintenance ...is big money for the DoD. The department spends over 280 billion annually in operations and maintenance ...In 2018 Secretary of Defense Mattis directed the Air-Force and Navy to increase the mission-capable rates of their fighter aircraft to 80 percent...At that time the Air Force was well short of this goal, with only 70 percent of F-16s mission capable, 55 percent of F-35s, and 49 percent of F-22s.The Navy was in even worse shape, with less than half of its F-18 Super Hornets mission capable. These readiness

rates made it more expensive to field a given number of flight ready aircraft. At an 80 percent mission-capable rate, the US military would need to purchase 100 aircraft to had 80 ready to fly. At a 50 percent mission capable rate, it would need to purchase 160 aircraft (60 percent more) to have 80 aircraft available for missions".[58]

Focusing exclusively on conventional weapons the recent US Strategic Posture points out:

"US defense strategy seeks to deter and, if necessary defeat adversary aggression through a combination of forward-deployed conventional forces and their reinforcement ...But current US strategy ...reflects a "one major war" ...this strategy is sufficient to deter opportunistic or collaborative two theatre aggression today, but it will fall short in the 2027-2035 timeframe. Adversary nuclear and non-nuclear capabilities will greatly increase the risk that the current strategy will fail to deter such aggression…The threat of conflicts with China and Russia requires significantly increased US, allied and partner investments in fielding and optimization of conventional forces; without these necessary enhancements to the conventional force, an increased reliance on the nuclear deterrent is likely".[59]

The above demonstrates that deterrence and stability must be preserved and this can be achieved via additional allocation of funds. As already pointed the approximate number of $850 billion defense spending in the US sounds astronomical however if we compare the above figure with the banking assets of $135.6 trillion it is obvious that defense spending is approximately 6% of the banking assets!

However underfunding due to financial capitalism is not the primary evil here. Financial capitalism is partially responsible for perishing US industrial base which is necessary precondition for armaments production and war mobilization.

The above quote points out that re-enforcements and constant inflow of supplies in both Europe and Asia are key for victory. This requires a cargo shipping fleet which has the capacity to supply vast numbers of ammunition, medical equipment, food, oil via the Atlantic to Europe and via the Pacific to Asia, exactly as the US did during World War II. However, in the commercial shipping industry in 2022 US had just 5 ships under construction as opposed to the 1,794 ships under construction in Chinese shipyards. The logical deduction process is obvious here…

Turning to additional but still limited industrial comparisons between US and China, it is easy to observe that in 2023 the US had 13,000,000 industrial workers as opposed to the 104,000,000 manufacturing workers in China.

Turning to military ships during the 2016-2020 period, the US constructed 36 vessels of 393,000 tons, whereas China constructed 83 vessels of 582,000 tons.

In the European theatre the war in Ukraine demonstrated a huge imbalance of production capacity between the West and Russia. According to Russian sources during January-December 2023 the Russian defense industry supplied to the Army 1,500 tanks, 1,400 artillery and MLRS systems, 22,000 armor vehicles of all types, 300,000 submachine guns, sniper rifles, grenade launchers, flamethrowers, 93,000 radio-stations, 193 radio-electronic warfare systems, more than 1,000,000 body armour and helmets. In 2023 the Navy received 33 multipurpose boats, 11 naval aircraft and helicopters, and more than 7,700 different missiles. The Air-Force received more than 100 new and repaired aircrafts, 150 helicopters, more than 400,000 air related weapons (missiles, anti-aircraft shells), 3,500 UAV operators were trained each month and the annual supply of UAVs and drones reached the astonishing number of 22,000. The Russian defense industry increased its personnel by more than 500,000 workers. Only for the attack of February 7th 2024, the Russians used a staggering number of 64 aerial projectiles (20 Iranian Shahed UAVs, 29 Kh-55 cruise missiles, 4 Kh-22 cruise missiles, 3 Kalibr cruise missiles, 3 Iskander ballistic missiles, 5 S-300 anti-aircraft missiles). The cost of these articles is approximately $423 million, that is in one day of attack the Russians consumed ammunition worth of almost $450 million![60] Obviously the above numbers cannot be verified so we cannot know if these are the actual numbers or if this is just the outcome of propaganda. However one issue is certain. After two years of war Russia has under its occupation almost 25% of pre-war Ukrainian territory. On the opposite side the NATO Secretary General and the US Secretary of Defense asked from NATO countries to increase their defense production capacity on January 29th 2024 in order to assist Ukraine[61]. However costs have increased immensely. To illustrate the price of 155 mm artillery shells increased from $2,100 per piece in February 2022 to $8,400 per piece in January 2024. The cost of the program for short range air defense systems for the German Army increased from €240 million in 2018 to €1,3 billion in 2024.[62]

6. Epilogue

The orientation towards financial capitalism has generated financial crises with numerous geopolitical ramifications across the world. These crises created a cultural barrier between the developing world and the West. For the majority of the people of the developing world the economic and social model of the West is not functioning. On the contrary, in their eyes the economic model of China is more appealing. As one eminent politician of the developing world noted:

"From China we receive an airport. From the US ... a lecture".[63]

Thus the influence of the West across the world has been reduced. Furthermore, financial capitalism reduced the industrial base of both the US and Europe, and undermined their ability for quick industrial mobilization in case of war. The West continues to enjoy an abundant supply of human and technological resources as well as raw materials over other states however the pace of industrial mobilization is slower. *The paper assets of financial capitalism cannot serve war deterrence strategies. Only industrial real assets can do that. By prioritizing financial assets to real assets (or financial capitalism to industrial capitalism) may be the US and Europe's greatest and gravest mistake. The West won the first Cold War there is no guarantee that it will repeat the triumph in the current one. Obviously the worst case scenario is that if deterrence fails then the twenty first century may verify the claim of Count Louis Charles de Boubon, grandson of the French king Louis XIIII which was repeated by Napoleon: "The guns are the last argument of the kings".*

Notes

1. See: 1) Bill Emmot: *The Sun Also Sets Why Japan will not be Number One*, Simon & Schuster, 1989, 2) Karoly Kiss: *The Demise of the Soviet Union-Was it necessary?*, Institute for World Economics, Hungarian Academy of Sciences, Working Paper No.13, Budapest, January 1993 3) Karoly Kiss: *Western Prescriptions for Eastern Transition A Comparative Analysis of the different Economic Schools and Issues?*, Institute for World Economics, Hungarian Academy of Sciences, Working Paper No.18, Budapest, June 1994.

2. See: Ernest Bloch: *Inside Investment Banking*, Dow-Jones Irwin, second edition, 1989, page 64.

3. See: David Cobham: *Inevitable disappointment? The ERM as the framework for UK monetary policy 1990-1992*, Occasional Paper No. 9601, Department of Economics, University of St. Andrews, UK.

4. See: David Cobham: *Bounded credibility: the post-ERM framework for monetary policy in the UK*. Occasional Paper, 9602, Department of Economics, University of St. Andrews, UK.

5. During the Lawson-boom period of 1986-1988, the Pound was depreciated against the DM and inflation increased. See: David Cobham: *The Lawson Boom: Excessive Depreciation versus financial liberalisation*, Discussion Paper No.9411, March 1994, University of St. Andrews, Scotland, UK.

6. See: 1) Patel P. & Pavitt K.: *A Comparison of Technological Activities in West Germany and the United Kingdom*, National Westminster Bank Quarterly Review, May 1989, pages 27-42, 2) Eltis W. & Fraser D. & Ricketts M.: *The Lessons for Britain from the superior economic performance of Germany and Japan*, National Westminster Bank Quarterly Review, February 1992, pages 2-23, 3) Glynn S. & Booth A.: *Modern Britain. An economic and Social History*, Routledge, London, 1996, pages 234-236.

7. See: 1) Jaime Suchlicki: *Mexico: From Montezuma to NAFTA, Chiapas and beyond*, Brassey's 1996, 2) John Ross: *Mexico in Focus: Guide to the people, politics and culture*, Latin American Bureau, 1996.

8. See: Spero J. & Hart J.: *The Politics of International Economic Relations*, Routledge, 1997, pages 203-205. This evolution was partially associated with the entry of Mexico in the NAFTA.

9. See: UGI (Understanding Global Issues), 98/3, page 13.

10. See: Spero J. & Hart J.: *The Politics of International Economic Relations*, Routledge, 1997, p. 14.

11. Total aid given to Mexico was $ 50 billion. For the US Mexico was the third biggest trading partner and the Mexican market was crucial for US interests. See: White House: *A National Security Strategy for a New Century*, May 1997, page 16.

12. In 1996 the GNP increased by 5.1%, in 1997 it was 7% and in 1998 the growth rate was 5%.

13. See Understanding Global Issues (UGI) 98/3, page 16, which provides an analysis of Mexico's "narco-democracy".

14. See: 1) Sharma S.: *Asia' s Economic Crisis and the IMF* in Survival, vol. 40, No.2, Summer 1998, pages 27-52, 2) Dibb P., Hale D. and Prince P.: *The Strategic Implications of Asia's Economic Crisis*, in Survival, vol. 40, No.2, Summer 1998, pp: 5-26. 3) Porter M.: *The Competitive Advantage of Nations*, Macmillan, fifth edition 1994, pages 453-479, 685-689, 4) Yip G.: *Asian Advantage. Key Strategies for winning in the Asia-Pacific Region*, Addison Wesley, 1998, 5) Eddy Lie: *The Asian Financial Crisis: the challenge for social policy*, International Labour Office, 1998, 6) Jomo K.S. (ed.): *Tigers in trouble: Financial governance, liberalisation and crises in East Asia*, ZED Books, 1998.

15. The following statistics demonstrate the economic dynamics: GNP growth rate: 1992: 7.6%, 1993: 7%, 1994: 6.8%, 1995: 6.4%, 1996: 5.8%, 1997: 5.7%, 1998: 5%, 1999: 4.8%. Inflation: 1992: 5%, 1993: 4.3%, 1994: 4.2%, 1995: 3.9%, 1996: 3.3%, 1997: 3.5%, 1998: 3.3%, 1999: 2.9% [Source: EIU].

16. See: M. Porter: *The Competitive Advantage of Nations*, Macmillan, fifth edition 1994, page 685.

17. The following statistics demonstrate the economic dynamics: GNP growth rate: 1992: 7.1%, 1993: 6.5%, 1994: 7.4%, 1995: 7.2%, 1996: 6.8%, 1997: 7.3%, 1998: 6.2%,1999: -2.3%. Inflation: 1992: 7.8%, 1993: 5.5%, 1994: 6%, 1995: 5.4%, 1996:4.8%, 1997: 4.4%, 1998: 4.5%, 1999: 5.7%. [Source: EIU].

18. To illustrate per capita income of Indonesia increased from $ 90 in 1972 to $ 880 in 1994. The exports of the country increased from $ 23.8 billion in 1980 to $ 56.1 billion in 1996. The share of industrial exports increased from 2% in 1980, to 51% in 1996. For Malaysia industrial exports increased from 19% in 1980 to 76% in 1996. For the Philippines industrial exports increased from 1980: 21%, to 1996:84%. For Singapore the percentages were 1980: 47%, 1996: 84% respectively. For Thailand they were 1980: 25%, 1996: 73%. [Sources: World Bank, IMF, economic press].

19. See: Yip G.: *Asian Advantage. Key Strategies for winning in the Asia-Pacific Region*, Addison Wesley, 1998, page 204.

20. See: Yip G.: *Asian Advantage. Key Strategies for winning in the Asia-Pacific Region*, Addison Wesley, 1998, page 206, Table 9.1.

21. See: G. Soros: *The crisis of Global Capitalism*, Little Brown and Company, 1998 pages 135-152, for the analysis of the Asian crisis.

22. See: World Development Indicators, World Bank 1998.

23. After the devaluation of the baht on July 2nd 1997, the stock markets of Singapore, Hong-Kong, Malaysia and the Philippines collapsed. By the end of July the currencies of these countries were also devalued. The devaluations continued during the 1998 as well. To illustrate, the exchange rate between the USD and the Indonesian rupee was $ 1=2,435 in the middle of 1997 and became $ 1=14,500 rupees in the middle of 1998. The Philippines Peso was $ 1=26.4 in the middle of 1997 and became $ 1=41.4 in the middle of 1998. The Won of South Korea was $ 1=888 in the middle of 1997 and became $ 1=1,371 in the middle of 1998. The Singapore dollar was $ 1=1.43 in the middle of 1997 and became $ 1=1.69 in the middle of 1998.

24. The aid was provided by the IMF, the Asian Development Bank, the World Bank, and the governments of US, Japan, Singapore and other fifteen states.

25. See: G. Soros: *The Crisis of Global Capitalism*, Little Brown Book 1998, page 163.

26. In March 1998 around 500 small sized Russian banks had already collapsed. These institutions had a weak capital of less than one million ECUs each. This was a clear signal for what was about to occur in the near future.

27. Already during the 1986-1988 period the planned economy experienced the early shocks of limited liberalization. After the collapse of the USSR Russia had to repay the lion's share of Soviet external debt ς (61.36%), under complete social and economic chaotic conditions. To illustrate inflation was as follows: 1991:161%, 1992:2506,1%, 1993:840%, 1994:204.4%, 1995:128.6%, 1996:21.8%, 1997:10.9%, 1998:84.55%. The GNP growth rate was as follows: 1991:-5%, 1992:-14.5%, 1993:-8.7%, 1994:-12.7%, 1995:-4.1%, 1996:-3.5%, 1997:+0.8%, 1998:-4.6%. The exchange rate with the USD was as follows: 1991: $1=1.69, 1992:$1=317, 1993:$1=1,165, 1994:$1=2,927, 1995:$1=4,496 1996:$1=5,437 1997:$1=5,870 1998:$1=16,030. See: 1) Karoly Kiss: "The Demise of the Soviet Union –Was it Necessary? (An appraisal of the Gorbachev era)", Institute for World Economics, Hungarian Academy of Sciences, Working Paper No. 13, Budapest, January 1993, 2) Ch. Vlachoutsicos.: *Aspects of forming Joint Ventures in the USSR*, Harvard Business School Working Paper 90-028, August 1989,

28. See: Ekaterina Pravilova: *The Ruble A Political History*, Oxford University Press, 2023, page 360.

29. See: S. Handelman.: *Comrade Criminal: Russia's new mafiya*, Yale University Press 1996

30. See: A. Stent.: *Russia's Economic Revolution and the West*, Suvival Spring 1995, IISS Quarterly, Oxford University Press.

31. See: Benn Steil & Robert E. Litan: *Financial Statescraft The role of Financial Markets in American Foreign Policy*, Council of Foreign Relations & Brookings Institution, 2006, pages 81-90.

32. See: Benn Steil & Robert E. Litan: *Financial Statescraft The role of Financial Markets in American Foreign Policy*, Council of Foreign Relations & Brookings Institution, 2006, pages 90-93.

33. See: Steven K. Wegren & Dale R. Herspring (eds.): *After Putin's Russia*, Rowman & Littlefield, 2010, pages 1-2.

34. See: Pasquale Tridico: *Inequality in Financial Capitalism*, Routledge, London, 2017, page 8.

35. A derivative is defined as a *Financial contract whose price is determined (derived) from the value of an underlying asset, rate, index or event*. See: *The Financial Crisis Inquiry Report*, Financial Crisis Inquiry Commission, Authorized edition, Public Affairs, New York 2011, pages 45-48 and 452.

36. See: *The Financial Crisis Inquiry Report. Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, Authorized edition, January 2011, p. xxiii.

37. See: V. Anantha Nageswaran & Gulzar Natarajan: *The Rise of Finance*

Causes, Consequences and Cures, Cambridge University Press, 2019, pages 6-7.

38. See: Elisabeth Warren & Bill de Blasio: *How to revive the American Dream*, The Washington Post, 6-5-2015.

39. See: 1) S. Nickell: *A Closer Look at Replacement Investment*, Journal of Economic Theory, Vol. 10, 1975, pp: 54-88, 2) C.D. Mauer & S.H. Ott: *Investment under Uncertainty: The Case of Replacement Investment decisions*, Journal of Financial and Quantitative Analysis, Vol. 30, 1995, pp. 581-605.

40. See: George W. Bush: *Decision Points*, Virgin books, London, 2010, p. 439-465.

41. See: 1) Michael Hennigan: *Europe's Non Performing Loans rise to 1.2 trillion*, assessed from www.finfacts.org and 2) B.Mesnard, A.Margerit, C.Power and M.Magnus: *Non-performing loans in the Banking Union: stock-taking and challenges*, European Parliament, Economic Governance Support Unit, 18-3-2016, p. 10.

42. See: 1) Chris Rhodes: *Manufacturing: International Comparisons*, House of Commons British Parliament serial number 05809, 18-8-2016, page 4, 2) Paul Kennedy: *The Rise and fall of Great Powers*, Fontana Press, 1989, page 259 for Britain, Germany and US and 3) V. Kremmidas: *Introduction to the Economic History of Europe*, Gnosi editions, Athens, 1989, page 337 for Japan. For 1938 data see: Lawrence James: *The Rise and Fall of the British Empire*, Abacus, 1998, page 457.

43. See: William H. Branson & Herbert Giersch & Peter G. Peterson: *Trends in United States international trade and investment since World War II*, in the volume: Martin Feldstein (ed.): *The American Economy in Transition*, University of Chicago Press, 1980, pages 183-274, especially page 191.

44. See: Xiuping Zhang & Bruce P. Corrie: *History of Foreign Investment in China*, Springer. 2018, pages 3-12.

45. See: 1) *China received $118 billion FDI with over 4% growth in 2016*, The Economic Tines 13-1-2017, 2) *China Focus: China 2017 FDI rises to record high* Xinhua, 16-1-2018, 3) *China bucks global trend with record FDI in 2018: UN Report*, Xinhua 13-6-2019, 4) *China says its foreign direct investments increased 5.8% in 2019*, CNBC News, 5) *Economic Watch: China's 2020 FDI hits record high amid recovering economy*, Xinhua 20-1-2021.

46. See: 1) Niall Ferguson: *Colossus The Rise and Fall of the American Empire*, Penguin books, 2004, pages 286-302, 2) Joseph Stiglitz & Linda Bilmes: *The Three Trillion Dollar War The true cost of the Iraq conflict*, Allen Lane, 2008, page 59.

47. See: Dean Baker: *The Economic Impact of the Iraq War and Higher*

Military Spending, Center for Economic and Policy Research, Washington, May 2007.

48. See: Hugh Rockoff: *America's Economic Way of War*, Cambridge University Press, 2012, pages 305-321). See also: www.statista.com/statistics/187867/public-debt-of-the-united-states-since-1900/ and www.DefenceNet.gr/ 4-07-2011.

49. See: Adam Andrzejewski: *Staggering Costs – US Military Equipment Left Behind in Afghanistan*, Forbes, 23-8-2021 for the claim of the $83 billion loss. However this assertion was questioned days later see: Dan Evon: *Did the US Leave More Than 80 B Worth of Equipment to the Taliban?* 31-8-2021, in www.snopes,com In 2022 a US Pentagon report acknowledged the loss of military equipment valued at just $7 billion. See: Ellie Kaufman: *First on CNN: US left behind 7 billion of military equipment in Afghanistan after 2021 withdrawal, Pentagon report says*, www.cnn.com 22-4-2022.

50. See: *The Military Balance 1991-1992*, Brassey's International Institute for Strategic Studies, London, 1991, pages 12-45. In the US Forces the Marines and the Coast-Guard are omitted. In the Soviet forces the Marines, are also omitted.

51. See: *The Military Balance 1991-1992*, Brassey's & International Institute for Strategic Studies, London, 1991, pages 150-153.

52. See: *China Military Power 2015 Annual Report to the Congress*, US Department of Defense, 7-4-2015. The data for US forces are obtained from the IISS Annual Review, the SIPRI Annual Review and other open sources.

53. See: *The Military Balance 2014*, International Institute for Strategic Studies, London, 2014, pages 42-58 and pages 180-192. In the US Forces the Marines and the Coast-Guard are omitted. In the Soviet forces the Marines, are also omitted.

54. See: *Trends in World Military Expenditure 2018*, SIPRI Fact Sheet April 2019.

55. See: *Trends in World Military Expenditure 2019*, SIPRI Fact Sheet April 2020.

56. See: *Trends in World Military Expenditure 2020*, SIPRI Fact Sheet April 2021.

57. See: *World Military expenditure passes $2 trillion for first time*, www.sipri.org [25-4-2022].

58. See: Paul Scharre: *Four Battlegrounds Power in the Age of Artificial Intelligence*, W.W. Norton & Company, 2023, pages 196-197.

59. See: *America's Strategic Posture The Final Report of the Congressional Commission on the Strategic Posture of the United States*, October 2023, page 28.

60. See: www.tass.com [26-1-2024, 1-2-2024] and www.bulgarianmilitary.com [5-1-2024 3-2-2024, and 7-2-2024].

61. See: https://news.yahoo.com/us-secretary-defence-nato-secretary-003729807.html?

62. See: Sebastian Sprenger: *Europeans are building a War Economy. Can they master it?*, in Defense News, Vol. 39, No.3, March 2024, pages 24-25.

63. See: www.naftemboriki.gr 14-4-2023.

References

1. Official Documents (according to chronological order of publication)

America's Strategic Posture The Final Report of the Congressional Commission on the Strategic Posture of the United States, October 2023.

China Military Power 2015 Annual Report to the Congress, US Department of Defense, 7-4-2015.

Chris Rhodes: *Manufacturing: International Comparisons*, House of Commons British Parliament serial number 05809, 18-8-2016.

B.Mesnard, A.Margerit, C.Power and M.Magnus: *Non-performing loans in the Banking Union: stocktaking and challenges*, European Parliament, Economic Governance Support Unit, 18-3-2016.

Wayne M. Morrison & Marc Labonte: *China's holdings of US Securities: Implications for the US economy*, Congressional Research Paper 19-08-2013.

OECD publication entitled: *Social spending during the crisis*, 2012.

The Financial Crisis Inquiry Report. Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, Authorized edition, January 2011.

Speech of the heir to the British throne, Prince Charles, at Hampton Court Palace, October 25th, 2007.

Report on the economic and monetary union in the European Community, 1990.

The Military Balance 2014, International Institute for Strategic Studies, London, 2014.

The Military Balance 1991-1992, Brassey's International Institute for Strategic Studies, London, 1991.

Trends in World Military Expenditure 2018, SIPRI Fact Sheet April 2019.

Trends in World Military Expenditure 2019, SIPRI Fact Sheet April 2020.

Trends in World Military Expenditure 2020, SIPRI Fact Sheet April 2021.

2. Memoirs (according to alphabetical order)

Gordon Brown: *Beyond the Crash. Overcoming the First Crisis of Globalisation*, Simon & Schuster, London, 2011.

George W. Bush: *Decision Points*, Virgin books, London, 2010.

3. Books, book chapters, journal articles, working papers in English (according to alphabetical order)

Anat Admati & Martin Hellwig: *The Bankers new clothes. What is wrong with Banking and what to do about it*, Princeton University Press, 2013.

Dean Baker: *The Economic Impact of the Iraq War and Higher Military Spending*, Center for Economic and Policy Research, Washington, May 2007.

Christopher Booker & Richard North: *The Great Deception. The Secret History of the European Union*, Continuum, London, 2003.

Ernest Bloch: *Inside Investment Banking*, Dow-Jones Irwin, second edition, 1989.

William H. Branson & Herbert Giersch & Peter G. Peterson: *Trends in United States international trade and investment since World War II*, in the volume: Martin Feldstein (ed.): *The American Economy in Transition*, University of Chicago Press, 1980, pages 183-274.

David Cobham: *Bounded credibility: the post-ERM framework for monetary policy in the UK*. Occasional Paper, 9602, Department of Economics, University of St. Andrews, UK.

David Cobham: *Inevitable disappointment? The ERM as the framework for UK monetary policy 1990-1992*, Occasional Paper No. 9601, Department of Economics, University of St. Andrews, UK.

David Cobham: *The Lawson Boom: Excessive Depreciation versus financial liberalisation*, Discussion Paper No.9411, March 1994, University of St. Andrews, Scotland, UK.

Ian Davidson & Gordon Weil: *The Gold War. The secret battle for financial and political domination from 1945 onwards*, Secker & Warburg, London, 1970.

Eltis W. & Fraser D. & Ricketts M.: *The Lessons for Britain from the superior economic performance of Germany and Japan*, National Westminster Bank Quarterly Review, February 1992.

Bill Emmot: *The Sun Also Sets Why Japan will not be Number One*, Simon & Schuster, 1989,

Niall Ferguson: *The Great Degeneration*, Allen Lane, 2012.

Niall Ferguson: *Colossus The Rise and Fall of the American Empire*, Penguin books, 2004.

Kevin Freeman: *Secret Weapon. How Economic Terrorism Brought Down the US Stock Market and Why it can Happen Again*, Regnery Publishing, 2012, Washington DC.

J.K Galbraith: *The Great Crash 1929*, Penguin books, 1975.

J. Gapper & N. Denton: *All that Glitters. The Fall of Barings*, H-H Editions, London, 1996.

Glynn S. & Booth A.: *Modern Britain. An economic and Social History*, Routledge, London, 1996.

B. Harrison & B. Bluestone: *The Great U-Turn: Corporate Restructuring and Polarizing of America*, Basic Books, 1988.

S. Handelman.: *Comrade Criminal: Russia's new mafiya*, Yale University Press 1996.

J. Hughes & L. P. Cain: *American Economic History*, Addison Wesley, 1998.

H. James & H. Lindgren & A. Teichova (eds.): *The role of Banks in the interwar economy*, Cambridge University Press, 2002.

Lawrence James: *The Rise and Fall of the British Empire*, Abacus, 1998.

Paul Kennedy: *The Rise and fall of Great Powers*, Fontana Press, 1989.

Karoly Kiss: *Western Prescriptions for Eastern Transition A Comparative Analysis of the different Economic Schools and Issues?*, Institute for World Economics, Hungarian Academy of Sciences, Working Paper No.18, Budapest, June 1994.

Karoly Kiss: *The Demise of the Soviet Union-Was it necessary?*, Institute for World Economics, Hungarian Academy of Sciences, Working Paper No.13, Budapest, January 1993.

S. Mallaby: *More Money than God*, Penguin Books, 2010.

C.D. Mauer & S.H. Ott: *Investment under Uncertainty: The Case of Replacement Investment decisions*, Journal of Financial and Quantitative Analysis, Vol. 30, 1995, pp. 581-605.

Robert A. Mundell: *Theory of Optimal Currency Areas*, American Economic Review, 51, 1961.

V. Anantha Nageswaran & Gulzar Natarajan: *The Rise of Finance Causes, Consequences and Cures*, Cambridge University Press, 2019.

S. Nickell: *A Closer Look at Replacement Investment*, Journal of Economic Theory, Vol. 10, 1975, pp: 54-88.

Patel P. & Pavitt K.: *A Comparison of Technological Activities in West Germany and the United Kingdom*, National Westminster Bank Quarterly Review, May 1989.

Ekaterina Pravilova: *The Ruble A Political History*, Oxford University Press, 2023.

Carmen M. Reinhart & Kenneth S. Rogoff: *This time is different Eight centuries of financial folly*, Princeton University Press, 2009.

James Rickards: *Currency Wars. The making of the next global crisis*, Portfolio-Penguin editions, 2011, USA.

Hugh Rockoff: *America's Economic Way of War*, Cambridge University Press, 2012.

Paul Scharre: *Four Battlegrounds Power in the Age of Artificial Intelligence*, W.W. Norton & Company, 2023.

G. Soros: *The Crisis of Global Capitalism*, Little Brown Book 1998.

Spero J. & Hart J.: *The Politics of International Economic Relations*, Routledge, 1997.

Benn Steil & Robert E. Litan: *Financial Statescraft The role of Financial Markets in American Foreign Policy*, Council of Foreign Relations & Brookings Institution, 2006.

A. Stent.: *Russia's Economic Revolution and the West*, Suvival Spring 1995, IISS Quarterly, Oxford University Press.

Joseph Stiglitz & Linda Bilmes: *The Three Trillion Dollar War*, Allen Lane, London 2008.

Gustav Stolper: *The German Economy: 1870 to the Present*, Harcourt & World Inc. New York, 1967.

Pasquale Tridico: *Inequality in Financial Capitalism*, Routledge, London, 2017.

Ibrahim Warde: *The Price of Fear: Al Qaeda and the Truth behind the Financial War on Terror*, I.B. Tauris, London, 2007.

Steven K. Wegren & Dale R. Herspring (eds.): *After Putin's Russia*, Rowman & Littlefield, 2010.

Yip G.: *Asian Advantage. Key Strategies for winning in the Asia-Pacific Region*, Addison Wesley, 1998.

Xiuping Zhang & Bruce P. Corrie: *History of Foreign Investment in China*, Springer. 2018.

4. Bibliography in Greek (according to alphabetical order)

V. Kremmidas: *Introduction to the Economic History of Europe*, Gnosi editions, Athens, 1989.

Panos Panayiotou: *Markets Tango*, Livanis editions, Athens 2012.

5. Internet sources

US cites
http://www.cnn.com
http://www.washingtontimes.com
http://www.USdebtclock.org
https://news.yahoo.com

Russian cites
http://russia-insider.com
http://sputniknews.com
http://www.tass.com

Chinese cites
http://www.chinamilitary.com.english.cn
http://xinhua.com

Greek cites
http://www.naftemboriki.gr

Other cites
http://www.coindesk.com
http:// www.statista.com
http://marketrealist.com
http://www.primevalues.org
www.sipri.org
http://ticdata.treasury.gov
http://www.wikipeadia.org
http://www.bulgarianmilitary.com

AIMS AND SCOPE

With our semi-annual edition we aim to present the exploratory work of experienced economists as well as economists of the younger generation who take an active interest in economic life and economic thought as well as their development.

Above all the *Archives of Economic History* will endeavor to shed some light on the course of economic policy and economic thought based on historical material.

In order to render its mission more complete, the *Archives of Economic History* will include the publication of selected double blind peer reviewed papers of general scientific interest cited in the Journal of Economic Literature (JEL) classification system.

The *Archives of Economic History* is indexed/abstracted in the electronic bibliographies of the American Economic Association since 1995 and in the Greek Reference Index for the Social Sciences and Humanities (GRISSH) since 2015.

AUTHORS GUIDELINES

The submitted papers must be original work without prior publication or currently being considered for publication, and will be approved by two specialists. The following conditions and procedures for the articles submission should be taken into consideration:

1. **Articles must be written in English and submitted in MS-Word (doc or docx).**

   Their length should not exceed a maximum of 30 pages. A complete article should contain two files: the abstract file (maximum length: 120 words) and a main body text file.
2. **On the first page of the abstract file** the following information should be printed:
   a. Title of the article
   b. Author's/Authors' name and surname (in capital letters)
   c. Name of Institution and Department where the author is employed
   d. Author's contact details: mailing address, telephone number and e-mail address. The code of classification of the submitted article should appear after the abstract according to the JEL classification system, and should be no more than 6 keywords.
3. **Only the title of the article** should appear at the top of the first page of the main body text file. All papers should be submitted to: akiohos@otenet.gr
4. **Acknowledgements of references** of the original source of the articles should appear after the endnotes and before the bibliographical references.
5. **Tables or Graphs** should be written clearly and their size should not exceed a regular A4 page. They should also be entitled and numbered accordingly (e.g. "Table 1:", "Graph 1:" etc.)
6. **Paragraphs** must be numbered in Arabic numbers, starting from introduction (e.g. 1, 1.1, 1.2,2, 2.1, 2.2 etc.).
7. **The article** should be accompanied by the bibliography directly relevant to its subject. Footnotes should be consecutively numbered and appear at the end of the article, before the bibliographical references.
8. **The formulae** should follow a consecutive numbering on the right hand side of the page.
9. **Quotations cited in the main text or in the footnotes** include the surname of the author, the year of publication and specific page numbers, for example: (Elton, 1967) or (Montesano and Brown, 2008) citing both names of two, or (Viaggi et al., 1991), when there are three or more authors.

   Bibliographical references on the last page of the article should be written in alphabetical order, as follows:
   i) **For books:** e.g. Strunk, W., and White, E. B. (1979). The elements of style. (3rd ed.). New York: Macmillan.
   ii) **For articles:** e.g. Van der Geer, J., Hanraads, J. A., and Lupton, R. A. (2000). 'The art of writing a scientific article'. Journal of Scientific Communications, 163 (1), pp. 51–59.
10. **Among the articles submitted**, those that fulfill the above criteria are forwarded to referees for assessment.
11. **Failure to apply the above terms** will result in the rejection of the article or its return to the author for review and editing.
12. **The author is informed** whether or not the article submitted has been accepted or will be accepted upon improvements made based on the comments of the referee or the editorial board. When the author has completed the proofs reading of the articles no further additions or changes to the text are allowed.
13. **Failure to a timely submission** of the proofread article directly means that the article will not be included in the current issue.
14. **Articles under review** should be submitted to the following address: Professor Petros A. Kiochos, Editor in Chief of the Archives of Economic History, 84 Galatsiou avenue, Athens 111 46, Greece, **Tel. No.** (+30) 210-2910866 or, (+30) 693-7244739. Alternatively papers may be submitted to: akiohos@otenet.gr

ARCHIVES OF ECONOMIC HISTORY

It is freely distributed / Διατίθεται Δωρεάν

ISSN 11108-7005