Procedia on Economic Scientific Research

Procedia on Digital Economics and Financial Research

ISSN: 2795-5648 Available:

Article

The Transition from Fixed to Flexible Exchange Rates and Its Global Impact

Constantinos Challoumis[1]

1. National and Kapodistrian University of Athens

* Correspondence: challoumis_constantinos@yahoo.com

Abstract: The shift from fixed to flexible exchange rates, which began in the early 1970s, marked a transformative period in global economic policy. This transition was driven by the need for greater national economic policy flexibility and the growing interconnectedness of global financial markets. Initially, economists anticipated that flexible exchange rates would enable governments to pursue tailored economic policies, free from the constraints of the fixed exchange rate system established under Bretton Woods. They believed this flexibility would foster economic stability and growth by allowing countries to adapt their policies to domestic conditions. However, the anticipated benefits of the flexible exchange rate system were tempered by several unforeseen challenges. The mid-1970s financial revolution, characterized by the expansion of the Eurodollar market, deregulation, and technological advancements in financial instruments, led to an unprecedented increase in international financial flows. This surge contributed to greater exchange rate volatility, as financial flows became a dominant force in determining currency values, overshadowing traditional trade flows. The phenomenon of "overshooting" exacerbated this volatility, making it difficult for exchange rates to stabilize. The increased volatility of exchange rates had significant implications for both domestic and international economics. The interconnectedness of global financial markets meant that macroeconomic policies in one country could have substantial spillover effects on others, complicating the management of national economies. In response to these challenges, regional efforts such as the European Monetary System (EMS) were established to stabilize currencies within specific regions and mitigate the impact of global economic fluctuations. Despite these regional initiatives, the international monetary system continued to face instability and inefficiencies. The ongoing debate over the effectiveness of flexible exchange rates and the need for reform underscores the complexity of managing a global economy characterized by high levels of financial integration and volatility. The pursuit of a more stable and rule-based international monetary system remains a critical issue for policymakers worldwide.

Keywords: Flexible Exchange Rates, Fixed Exchange Rates, Bretton Woods System, Financial Revolution, Eurodollar Market

Citation: Constantinos Challoumis. The Transition from Fixed to Flexible Exchange Rates and Its Global Impact. Procedia on Economic Scientific Research 2024, 11, 164-179.

Received: 10th Apr 2024
Revised: 11th Mei 2024
Accepted: 24th Jun 2024
Published: 27th Jul 2024

Copyright: © 2024 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/)

1. Introduction

The transition from a fixed exchange rate system to a flexible one, initiated in the early 1970s, represents a pivotal moment in global economic history. This shift, driven by increasing economic interdependence and evolving financial technologies, aimed to address the limitations of the Bretton Woods system, which had constrained national economic policies and constrained global financial interactions. The Bretton Woods system, characterized by fixed exchange rates anchored to the U.S. dollar and convertible to gold, provided stability but limited the ability of countries to adapt their economic policies in response to changing domestic and international conditions.

As the global economy became more interconnected through trade, investment, and financial flows, the need for a more flexible system that could accommodate diverse economic needs and respond to dynamic global conditions became apparent [1]–[7]. Economists and policymakers anticipated that flexible exchange rates would grant governments greater autonomy to pursue tailored macroeconomic policies, such as adjusting interest rates and fiscal measures, without being bound by fixed exchange rate commitments. This flexibility was expected to facilitate more effective management of inflation, employment, and economic growth. However, the transition to flexible exchange rates introduced a range of unforeseen challenges that reshaped the global economic landscape. The mid-1970s financial revolution, marked by the rapid growth of the Eurodollar market, deregulation of financial systems, and advancements in financial technology, led to an unprecedented increase in international financial flows. This surge in financial activity resulted in greater exchange rate volatility, as currencies became highly responsive to fluctuations in capital movements rather than just trade balances.

The increased volatility was exacerbated by the phenomenon of "overshooting," where exchange rates experienced large and erratic swings rather than stabilizing at equilibrium levels. This instability complicated the task of managing national economies and contributed to broader economic uncertainty. Moreover, the integration of global financial markets meant that macroeconomic policies in one country could have significant spillover effects on others, reducing the effectiveness of domestic economic strategies and making international coordination more complex. In response to these challenges, regional arrangements such as the European Monetary System (EMS) were established to stabilize currencies within specific regions and mitigate the impact of global economic fluctuations. Despite these efforts, the international monetary system continued to face instability and inefficiencies, highlighting the need for ongoing reform and adaptation. The evolving global economic environment underscores the complexity of managing a highly interconnected and volatile financial system, and the pursuit of a more stable and effective international monetary framework remains a critical issue for policymakers worldwide.

Fixed Exchange Rates: Before the shift, the Bretton Woods system of fixed exchange rates established a framework where currencies were pegged to the U.S. dollar, which was in turn convertible to gold. This system aimed to provide stability and predictability in international trade and investment. However, it also constrained national economic policies, limiting governments' ability to address domestic economic issues independently.

The shift to flexible exchange rates was motivated by the belief that it would grant individual governments greater autonomy to implement economic policies tailored to their specific needs. Economists anticipated that flexible rates would alleviate the constraints imposed by the fixed system and allow for more effective management of domestic economic conditions, such as inflation and unemployment.

2. Materials and Methods

The research examines the transition from a fixed to a flexible exchange rate system in the early 1970s, marking a significant shift in global economic policy. The study employs qualitative analysis of historical economic data, policy documents, and scholarly literature to understand the motivations, impacts, and challenges of this transition. The analysis focuses on the limitations of the Bretton Woods system, characterized by fixed exchange rates pegged to the U.S. dollar and convertible to gold, which provided stability but restricted national economic policy flexibility. With increasing global economic interdependence, the shift to flexible exchange rates was intended to grant countries the autonomy to pursue tailored macroeconomic policies. The research highlights the rapid growth of the Eurodollar market, financial deregulation, and advancements in technology during the mid-1970s, which significantly increased international financial flows and exchange rate volatility. This volatility, exacerbated by the phenomenon of "overshooting," posed new challenges for managing national economies and increased global economic uncertainty.The study also considers regional responses such as the European Monetary System, aimed at stabilizing regional currencies and mitigating global economic fluctuations. The findings underscore the ongoing need for reform in the international monetary system to address the complexities of an interconnected and volatile global financial landscape.

3. Result and Discussion

Emergence of the International Financial System

he mid-1970s saw the advent of a financial revolution characterized by the growth of the Eurodollar market and the expansion of American banks abroad. Deregulation, removal of capital controls, and technological advancements in communication and financial instruments accelerated the development of a global financial market. This integration of financial markets increased the scale and velocity of international financial flows, profoundly altering the global economic environment. Contrary to the optimistic expectations of many economists, the flexible exchange rate system resulted in increased volatility. International financial flows, which became significantly larger than trade flows, emerged as a major determinant of exchange rates. This growth in financial activity led to frequent and unpredictable fluctuations in currency values. The tendency for exchange rates to "overshoot"—making large swings rather than settling into stable equilibria—further exacerbated this volatility.

Contrary to the optimistic expectations of many economists, the flexible exchange rate system resulted in increased volatility. International financial flows, which became significantly larger than trade flows, emerged as a major determinant of exchange rates. This growth in financial activity led to frequent and unpredictable fluctuations in currency values. The tendency for exchange rates to "overshoot"—making large swings rather than settling into stable equilibria—further exacerbated this volatility.

Impact on Domestic and International Economics

The integration of global financial markets has had profound implications for both domestic and international economic policy. As global financial markets have become more interconnected, the macroeconomic policies of one country increasingly affect the economic conditions of other nations. For instance, when a country raises its interest rates to combat domestic inflation, it can attract capital from countries with lower interest rates. This capital inflow can create inflationary pressures and economic slowdowns in those countries, complicating their efforts to achieve stable macroeconomic outcomes. Such interconnectedness has reduced the autonomy of individual countries in managing their economic policies and has made it more challenging to maintain stable economic conditions .This complexity is further illustrated through the concept of the money cycle, which examines how savings and investments impact economic stability. In this context, savings can be classified into two categories: enforcement savings and escape savings. Enforcement savings are funds that remain within the local economy, supporting businesses and investments that contribute to the economy's overall capacity.

These savings foster a robust economic environment by encouraging investment in manufacturing and specialized activities, leading to a well-functioning and high-capacity economy. Conversely, escape savings are those diverted from the local economy, often to foreign investments or financial activities outside the domestic framework. These outflows can weaken the local economy by reducing the funds available for reinvestment and economic activity within the country. The Greek crisis provides a poignant example of these dynamics [8]–[53], [53]–[114]. During the crisis, Greece faced significant economic challenges, including high levels of escape savings and capital flight. As Greek macroeconomic policies and fiscal instability led to decreased investor confidence, capital flowed out of the country, exacerbating the financial turmoil.

This capital flight resulted in reduced enforcement savings, which undermined domestic investments and economic stability. The Greek economy struggled with decreased capacity utilization and heightened volatility, as the outflow of funds created additional economic pressures and slowed recovery efforts. The theoretical framework of the money cycle emphasizes the importance of a balanced distribution of savings and investments to strengthen the economy. In Greece's case, the predominance of escape savings over enforcement savings contributed to the crisis, as it led to a reduced capacity for domestic economic activity and weakened the economic structure. Effective monetary and public policy must therefore focus on creating conditions that encourage enforcement savings and investments, while addressing the factors that drive escape savings. By improving regulatory frameworks and financial stability, countries can better manage their economic cycles and mitigate the adverse effects of global financial interconnectedness [112], [115]–[228]. In summary, the interplay between global financial integration and the money cycle highlights the critical need for effective economic policies that balance domestic and international financial dynamics. For countries like Greece, addressing the challenges of escape savings and fostering a robust money cycle are essential for achieving economic stability and growth in an interconnected global economy.

European Monetary System (EMS)

In response to the instability and dissatisfaction with the flexible exchange rate system, European countries established the European Monetary System (EMS) in the late 1970s. The EMS was conceived as a regional initiative to address the economic challenges posed by increased exchange rate volatility and to stabilize European currencies amidst the turbulence of global financial markets. The EMS aimed to create a more stable monetary environment within Europe by introducing mechanisms designed to limit exchange rate fluctuations and foster greater economic integration among member states.

Central to the EMS was the Exchange Rate Mechanism (ERM), which sought to stabilize currency values by maintaining exchange rates within agreed-upon bands. The ERM established a system of fixed but adjustable exchange rate bands, where participating currencies were pegged to a central reference currency, the European Currency Unit (ECU). This arrangement allowed for controlled fluctuations within predefined limits, reducing the degree of volatility experienced in the broader global market. By doing so, the EMS aimed to foster greater economic stability and predictability within Europe, which was essential for promoting trade, investment, and overall economic growth.

The EMS also sought to mitigate the impact of external economic pressures by encouraging closer economic cooperation and coordination among European countries. This included aligning monetary and fiscal policies to support stable exchange rates and reduce the potential for disruptive currency fluctuations. By fostering a more integrated European economic framework, the EMS aimed to enhance the resilience of member economies against global financial shocks and create a more cohesive regional economic space.Despite its intentions, the EMS faced several challenges. Variations in economic performance and policy priorities among member states occasionally strained the system, leading to tensions over the management of exchange rate adjustments. Additionally, the pressures of global financial markets and speculative attacks on currencies tested the limits of the ERM, revealing some of the inherent vulnerabilities of a fixed exchange rate system within a highly dynamic global economy.

Nevertheless, the EMS represented a significant effort to address the shortcomings of the flexible exchange rate system and to promote greater economic stability within Europe. It laid the groundwork for further economic integration, culminating in the establishment of the Economic and Monetary Union (EMU) and the adoption of a single currency, the euro, which aimed to consolidate and deepen the achievements of the EMS.

Ongoing Reforms and Challenges

Despite the establishment of the European Monetary System (EMS) and other regional efforts aimed at stabilizing currencies and mitigating economic volatility, the international monetary system continued to face significant challenges. The cooperative framework among major economic powers, known as the "reference range" system, which was designed to provide a degree of stability through informal agreements and cooperative measures, proved insufficient in addressing the persistent volatility and instability of exchange rates.

The reference range system relied on the collective efforts of central bankers and finance ministers to stabilize currency values through periodic consultations and coordinated actions. However, this approach struggled to cope with the complexities and rapid changes in global financial markets. The limitations of the reference range system became increasingly evident as speculative activities, global financial shocks, and the intricacies of cross-border capital flows continued to exert pressure on exchange rates, causing frequent and often unpredictable fluctuations.

In response to these ongoing challenges, various proposals for reform have emerged over the years. One prominent suggestion has been a return to a rule-based system, which would involve the establishment of more rigid and predictable rules governing exchange rates and international monetary policies. Such a system could potentially offer greater stability by reducing the scope for discretion and enhancing transparency in the management of exchange rates. Proponents argue that a rule-based framework could mitigate the adverse effects of currency volatility and improve the overall predictability of the international monetary system.

Alternatively, there have been calls for enhanced cooperation among major economic powers to better manage exchange rate fluctuations. This approach would involve a more formalized and coordinated strategy for addressing global financial challenges, potentially through strengthened international institutions and agreements. Enhanced cooperation could involve greater alignment of monetary policies, improved mechanisms for resolving currency disputes, and more effective management of capital flows to stabilize exchange rates and support global economic stability.

Despite these proposals, implementing comprehensive reforms has proven challenging due to differing national interests, economic priorities, and geopolitical considerations [229]–[238]. The complexities of the global financial system and the diverse needs of individual countries have made it difficult to achieve consensus on a single solution. As a result, the international monetary system remains a work in progress, with ongoing efforts to balance flexibility and stability, and to address the evolving challenges of global economic management.

The persistence of exchange rate volatility and the need for effective reform highlight the importance of continued dialogue and innovation in the pursuit of a more stable and resilient international monetary system. Policymakers and economic leaders must navigate these challenges by exploring new frameworks and cooperative strategies that can better address the dynamic nature of global financial markets and support sustainable economic growth.

4. Conclusions

The transition from fixed to flexible exchange rates was driven by the desire to enhance national economic policy flexibility and adapt to a more interconnected global economy. This shift was underpinned by the belief that flexible exchange rates would enable countries to pursue more tailored economic policies, free from the constraints of the rigid fixed exchange rate system. By allowing currencies to fluctuate based on market forces, policymakers hoped to achieve greater control over domestic economic conditions, such as inflation, unemployment, and growth, while accommodating the diverse needs of different economies.However, the anticipated benefits of this transition were accompanied by significant challenges. One of the most notable issues was the heightened exchange rate volatility that emerged in the wake of the shift. Flexible exchange rates, while offering greater policy freedom, also led to increased fluctuations in currency values [185], [239]–[243]. This volatility was driven by the rapid expansion of international financial markets and the substantial growth in financial flows, which often overwhelmed traditional trade-based determinants of exchange rates. As a result, currencies began to exhibit erratic swings, complicating efforts to maintain economic stability and predictability.Additionally, the financial revolution of the 1970s, marked by the rise of the Eurodollar market, deregulation of financial systems, and innovations in financial instruments, played a pivotal role in reshaping the global economic landscape. These developments led to a dramatic increase in the scale and speed of cross-border financial transactions, further amplifying exchange rate volatility and challenging traditional economic management practices. The interconnectivity of financial markets meant that macroeconomic policies in one country could have far-reaching effects on other economies, reducing the effectiveness of domestic economic strategies and increasing the complexity of international coordination.The new era of flexible exchange rates also exposed the limitations of traditional economic models and highlighted the need for more robust mechanisms to manage global financial instability. In response, various regional and international efforts have been made to stabilize currencies and mitigate the impact of financial volatility. The European Monetary System (EMS) and other regional arrangements were established to address some of these issues, but they have not fully resolved the underlying challenges. As the world continues to navigate these complexities, ongoing efforts to reform and stabilize the international monetary system remain essential. Policymakers must address the challenges of global economic management by developing more effective frameworks for international cooperation and financial regulation. This includes exploring potential reforms to create a more stable and predictable monetary environment, balancing the benefits of flexible exchange rates with the need for greater economic stability. The evolving global economic context underscores the importance of adapting to new financial realities and striving for a more resilient and coherent international monetary system.

REFERENCES

[1] J. Campos, V. Braga, and A. Correia, “Public policies for entrepreneurship and internationalization: Is there a government reputation effect?,” *J. Sci. Technol. Policy Manag.*, vol. 10, no. 4, 2019, doi: 10.1108/JSTPM-04-2018-0044.

[2] M. Guardino and S. Mettler, “Revealing the ‘Hidden welfare state’: How policy information influences public attitudes about tax expenditures,” *J. Behav. Public Adm.*, vol. 3, no. 1, 2020, doi: 10.30636/jbpa.31.108.

[3] K. S. Jomo and C. H. Wee, “The political economy of Malaysian federalism: Economic development, public

policy and conflict containment," *J. Int. Dev.*, vol. 15, no. 4, 2003, doi: 10.1002/jid.995.

[4] S. D. Kominers, A. Teytelboym, and V. P. Crawford, "An invitation to market design," *Oxford Rev. Econ. Policy*, vol. 33, no. 4, 2017, doi: 10.1093/oxrep/grx063.

[5] M. F. P. Peres *et al.*, "Public policies in headache disorders: Needs and possibilities," *Arq. Neuropsiquiatr.*, vol. 78, no. 1, 2020, doi: 10.1590/0004-282X20190144.

[6] D. . Hai, "Process of Public Policy Formulation in Developing Countries," *Public Policy*, no. C, 2016.

[7] J. C. J. M. va. den Bergh, "The GDP paradox," *J. Econ. Psychol.*, vol. 30, no. 2, 2009, doi: 10.1016/j.joep.2008.12.001.

[8] C. Challoumis, "Comparison between the Cycle of Money with and Without the Enforcement Savings," *SSRN Electron. J.*, pp. 1–8, 2018, doi: 10.2139/ssrn.3174087.

[9] C. Challoumis, "Cycle of Money with Mixed Savings," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3157974.

[10] C. Challoumis, "Impact Factor of Costs to the Tax System," *SSRN Electron. J.*, pp. 1–7, 2018, doi: 10.2139/ssrn.3146573.

[11] C. Challoumis, "Transfer Pricing Methods for Services," *SSRN Electron. J.*, pp. 1–9, 2018, doi: 10.2139/ssrn.3148733.

[12] C. Challoumis, "The Theory of Cycle of Money Without Enforcement Savings," *SSRN Electron. J.*, pp. 1–10, 2018, doi: 10.2139/ssrn.3151945.

[13] C. Challoumis, "Η συμμετοχή της Ελλάδας στην Ε.Κ. από το 1981 έως το 1985," *SSRN Electron. J.*, 2018.

[14] C. Challoumis, "Comparative analysis between risk and bureaucracy - Sensitivity Method," *SSRN Electron. J.*, no. February, pp. 4–6, 2024.

[15] C. Challoumis, "Impact Factor of Liability of Tax System According to the Theory of Cycle of Money (Short Review)," *SSRN Electron. J.*, pp. 5–24, 2017, [Online]. Available: http://repo.iain-tulungagung.ac.id/5510/5/BAB 2.pdf.

[16] C. Challoumis, "Utility of Cycle of Money without the Escaping Savings (Protection of the Economy)," *SSRN Electron. J.*, no. 2, pp. 1–45, 2018.

[17] C. Challoumis, "Essential points of the theory of the CM (Cycle of Money) Βασικά στοιχεία της θεωρίας του ΚΧ (Κύκλου Χρήματος)," *SSRN Electron. J.*, pp. 5–24, 2023.

[18] C. Challoumis, "Q.E. (Quantification of Everything) Method and Econometric Analysis," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3150101.

[19] Challoumis, Constantinos, "Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 29 February 2004," *SSRN Electron. J.*, 2024.

[20] C. Challoumis, "The Theory of Cycle of Money," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3149156.

[21] Challoumis, Constantinos, "Rational economics in comparison to the case of behavioral economics (Keynesian, and Neoclassical approaches)," *SSRN Electron. J.*, 2018.

[22] Challoumis, Constantinos, "Economocracy or World Wars?," *SSRN Electron. J.*, 2018.

[23] C. Challoumis, "Impact Factor of Intangibles of Tax System," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3144709.

[24] C. Challoumis, "With and Without Rest Rewarding Taxes," *SSRN Electron. J.*, pp. 1–8, 2023, doi: 10.2139/ssrn.4438664.

[25] C. Challoumis, "Analysis of Impact Factors of Global Tax Revenue," *SSRN Electron. J.*, pp. 1–16, 2018, doi: 10.2139/ssrn.3147860.

[26] Challoumis, Constantinos, "Selfcure economies and the E.U. economy (bonded economies)," *SSRN Electron. J.*, 2018.

[27] C. Challoumis, "Economocracy," *SSRN Electron. J.*, 2018.

[28] C. Challoumis, "Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 4 April 2004," *SSRN Electron. J.*, no. April 2004, 2024.

[29] Challoumis, Constantinos, "Comparison between the velocities of escaped savings with than of maximum financial liquidity to the case of mixed savings," *SSRN Electron. J.*, 2018.

[30] Challoumis, Constantinos, "Cycle of money with the velocities of the escaped savings and of the financial liquidity considering minimum mixed savings," *SSRN Electron. J.*, 2018.

[31] Challoumis, Constantinos, “Comparison between the velocities of maximum escaped savings with than of financial liquidity to the case of mixed savings,” *SSRN Electron. J.*, 2018.

[32] Challoumis, Constantinos, “Theoretical definition about the velocities of minimum escaped savings with than of,” *SSRN Electron. J.*, 2018.

[33] C. Challoumis, “Tangibles and Intangibles in Controlled Transactions,” *SSRN Electron. J.*, pp. 1–9, 2018, doi: 10.2139/ssrn.3141198.

[34] Challoumis, Constantinos, “A complete analysis of comparisons between velocities with and without the mixed savings,” *SSRN Electron. J.*, 2018.

[35] Challoumis, Constantinos, “Theoretical definition of the velocities of escaped savings with than of financial liquidity,” *SSRN Electron. J.*, 2018.

[36] C. Challoumis, “Mathematical background of the theory of cycle of money,” *SSRN Electron. J.*, 2021, [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3902181.

[37] C. Challoumis, “Elements from Savings to Escape and Enforcement Savings – Στοιχεία από τις Αποταμιεύσεις στις Εκφεύγουσες και Ενισχυτικές Αποταμιεύσεις,” *SSRN Electron. J.*, 2023.

[38] C. Challoumis, “The Great Depression from Keynes, Minsky and Kalecki Approach,” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3133379.

[39] Challoumis, Constantinos, “Comparisons of cycle of money with and without the maximum and minimum mixed,” *SSRN Electron. J.*, 2018.

[40] C. Challoumis, “Cycle of money with the velocities of the escaped savings and of the financial liquidity considering mixed savings,” *SSRN Electron. J.*, 2018.

[41] C. Challoumis, “Analysis of Tangibles and Intangibles Transactions Subject to the Fixed Length Principle,” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3142960.

[42] Challoumis, Constantinos, “Representative Economocracy,” *SSRN Electron. J.*, 2017.

[43] Challoumis, Constantinos, “Comparisons of cycle of money with and without the minimum mixed savings,” *SSRN Electron. J.*, 2018.

[44] C. Challoumis, “Controlled Transactions Under Conditions,” *SSRN Electron. J.*, pp. 1–10, 2018, doi: 10.2139/ssrn.3137747.

[45] Challoumis, Constantinos, “How to avoid an economic global crash? The case of Economocracy (Representative),” *SSRN Electron. J.*, 2020.

[46] Challoumis, Constantinos, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 11 April 2004,” *SSRN Electron. J.*, 2024.

[47] C. Challoumis, “Theoretical Definition about the Velocities of Minimum Escaped Savings with Than of Financial Liquidity,” *SSRN Electronic Journal*. 2019, doi: 10.2139/ssrn.3421113.

[48] C. Challoumis, “Conditions of the CM (Cycle of Money),” *Soc. Econ. Stud. within Framew. Emerg. Glob. Dev. Vol. -1*, pp. 13–24, 2022.

[49] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 21 March 2004,” *SSRN Electron. J.*, no. March 2004, 2024.

[50] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 22 February 2004,” *SSRN Electron. J.*, no. February 2004, 2024.

[51] Challoumis, Constantinos, “Money markets versus Bond Markets: Comparison of the two markets and identification of possible similarities, differences and special characteristics. Description of how they affect and how they are affected by monetary policies,” *SSRN Electron. J.*, 2016.

[52] C. Challoumis, “Comparisons of Cycle of Money,” *SSRN Electron. J.*, pp. 1–11, 2018, doi: 10.2139/ssrn.3153510.

[53] Challoumis, Constantinos, “Comparisons of utility of cycle of money with and without the enforcement savings,” *SSRN Electron. J.*, 2018.

[54] C. Challoumis, “Arm’s Length Principle and Fix Length Principle Mathematical Approach,” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3148276.

[55] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 14 March

2004," *SSRN Electron. J.*, 2024.

[56] Challoumis, Constantinos, "Rewarding taxes for the cycle of money and the impact factor of the education," *2018*.

[57] Challoumis, Constantinos, "Principles for the authorities and for the controlled transactions (Maximization of utility of economy and maximization of utility of companies of controlled transactions)," *SSRN Electron. J.*, 2018.

[58] Challoumis, Constantinos, "Utility of cycle of money without the escaping savings," *SSRN Electron. J.*, 2018.

[59] C. Challoumis, "Το τρίτο νόμισμα," *SSRN Electron. J.*, 2010.

[60] C. Challoumis, "With and without the mixed savings of the money cycle," *SSRN Electron. J.*, pp. 1–9, 2018.

[61] C. Challoumis, "Cycle of Money with the Minimum Mixed Savings," *SSRN Electron. J.*, pp. 1–11, 2018, doi: 10.2139/ssrn.3158175.

[62] C. Challoumis, "Rewarding taxes for the cycle of money and the impact factor of the rest rewarding taxes," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3154122.

[63] C. Challoumis, "Impact Factor of the Education," *SSRN Electron. J.*, pp. 1–10, 2018, doi: 10.2139/ssrn.3155238.

[64] Challoumis, Constantinos, "Rewarding taxes for the cycle of money and the impact factor of the health," *SSRN Electron. J.*, 2018.

[65] Challoumis, Constantinos, "Comparison between the velocities of escaped savings with than of financial liquidity to the case of mixed savings," *SSRN Electron. J.*, 2018.

[66] C. Challoumis, "Chain of Cycle of Money with Mixed Savings," *SSRN Electron. J.*, pp. 1–17, 2018, doi: 10.2139/ssrn.3158422.

[67] C. Challoumis, "Economic Technical Report of Cycle of Money – The case of Greece - Week initiating on 4 January 2004," *SSRN Electron. J.*, no. January 2004, 2024.

[68] C. Challoumis, "A Complete Analysis of Cycle of Money," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3152588.

[69] Challoumis, Constantinos, "Behavioral Economics concepts," *SSRN Electron. J.*, 2015.

[70] C. Challoumis, "Comparison between the Velocities of Escaped Savings with Than of Minimum Financial Liquidity," *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3159572.

[71] C. Challoumis, "A Complete Analysis of Utility of Cycle of Money," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3157173.

[72] Challoumis, Constantinos, "Cycle of money with the velocities of the escaped savings and of the minimum financial liquidity," *SSRN Electron. J.*, 2018.

[73] C. Challoumis, "Economic Technical Report of Cycle of Money – The case of Greece - Week initiating on 25 January 2004," *SSRN Electron. J.*, no. January 2004, 2024.

[74] Challoumis, Constantinos, "The survey of Radical-Marxist mostly empirical literature of the last Greek economic crisis," *SSRN Electron. J.*, 2016.

[75] Challoumis, Constantinos, "Analysis of axiomatic methods in economics," *2018*.

[76] Challoumis, Constantinos, "Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 18 April 2004," *SSRN Electron. J.*, 2024.

[77] C. Challoumis, "Quantification of Everything (A Methodology for Quantification of Quality Data with Application and to Social and Theoretical Sciences)," *SSRN Electron. J.*, pp. 1–8, 2018, doi: 10.2139/ssrn.3136014.

[78] C. Challoumis, "The Commerce in the Middle Ages from the View of Richard Cantillon's Approach," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3261911.

[79] C. Challoumis, "Impact Factor of Health to the Cycle of Money," *SSRN Electron. J.*, vol. 11, no. 2, 2018, doi: 10.2139/ssrn.3155246.

[80] Challoumis, Constantinos, "Cycle of money with the velocities of the escaped savings and of the financial liquidity considering maximum mixed savings," *SSRN Electron. J.*, 2018.

[81] C. Challoumis, "Utility of Cycle of Money without the Enforcement Savings," *SSRN Electron. J.*, pp. 1–10, 2018, doi: 10.2139/ssrn.3156629.

[82] C. Challoumis, "Evolution From Axiomatics to Multiple Axiomatics (Q.E. Method)," *SSRN Electron. J.*, 2024, doi: 10.2139/ssrn.4656098.

[83] Challoumis, Constantinos, “Cycle of money with the velocities of the escaped savings and of the financial liquidity,” *SSRN Electron. J.*, 2018.

[84] C. Challoumis, “Chain of Cycle of Money,” *SSRN Electron. J.*, pp. 1–14, 2018, doi: 10.2139/ssrn.3157657.

[85] Challoumis, Constantinos, “Cycle of money with the velocities of the minimum escaped savings and of the financial liquidity,” *SSRN Electron. J.*, 2018.

[86] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 28 March 2004,” *SSRN Electron. J.*, no. March 2004, 2024.

[87] C. Challoumis, “Utility of Cycle of Money,” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3155944.

[88] C. Challoumis, “Impact Factor of Risks of Tax System,” *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3145207.

[89] Challoumis, Constantinos, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 8 February 2004,” *SSRN Electron. J.*, 2024.

[90] C. Challoumis, “Impact Factor of Liability of Tax System (Stable Tax System),” *SSRN Electron. J.*, pp. 1–7, 2018, doi: 10.2139/ssrn.3143985.

[91] Challoumis, Constantinos, “Comparison between the velocities of escaped savings with than of financial liquidity,” *SSRN Electron. J.*, 2018.

[92] C. Challoumis, “Impact factor of costs to the tax system,” *SSRN Electron. J.*, 2018.

[93] Challoumis, Constantinos, “Multiple Axiomatics Method in the Sense of Fuzzy Logic,” *SSRN Electron. J.*, 2018.

[94] C. Challoumis, “Intangible Controlled Transactions,” *SSRN Electron. J.*, pp. 1–9, 2018, doi: 10.2139/ssrn.3140026.

[95] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 25 April 2004,” *SSRN Electron. J.*, no. April 2004, 2024.

[96] Challoumis, Constantinos, “Multiple axiomatics method through the Q.E. methodology,” *SSRN Electron. J.*, 2018.

[97] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 1 February 2004,” *SSRN Electron. J.*, no. February 2004, 2024.

[98] Challoumis, Constantinos, “Fuzzy logic concepts in economics,” *SSRN Electron. J.*, 2015.

[99] Challoumis, Constantinos, “Comparisons of cycle of money with and without the maximum mixed savings,” *SSRN Electron. J.*, 2018.

[100] C. Challoumis, “Rest Rewarding taxes,” *SSRN Electron. J.*, pp. 1–6, 2018.

[101] Challoumis, Constantinos, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 2 May 2004,” *SSRN Electron. J.*, 2024.

[102] C. Challoumis, “An Analysis of Panel Data with Econometrics,” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3123469.

[103] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiating on 18 January 2004,” *SSRN Electron. J.*, 2024.

[104] C. Challoumis, “Curved space economy,” *SSRN Electron. J.*, pp. 1–9, 2018.

[105] Challoumis, Constantinos, “The theory of cycle of money without escaping savings,” *SSRN Electron. J.*, 2018.

[106] C. Challoumis, “Comparisons of Cycle of Money with and Without the Maximum and Minimum Mixed Savings,” *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3158399.

[107] C. Challoumis, “Methods of Controlled Transactions and Identification of Tax Avoidance,” *SSRN*. 2018, doi: 10.2139/ssrn.3134109.

[108] Challoumis, Constantinos, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiating on 11 January 2004,” *SSRN Electron. J.*, 2024.

[109] C. Challoumis, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 15 February 2004,” *SSRN Electron. J.*, no. February 2004, 2024.

[110] Challoumis, Constantinos, “Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 7 March 2004,” *SSRN Electron. J.*, 2024.

[111] C. Challoumis, “Impact Factor of Sensitivity of Tax System (The Bureaucracy),” *SSRN Electronic Journal*. 2018, doi: 10.2139/ssrn.3143209.

[112] C. Challoumis, "The Velocities of Maximum Escaped Savings with than of Financial Liquidity to the Case of Mixed Savings," *Int. J. Econ. Financ. Ina. Sustain. Dev.*, vol. 5, no. 6, pp. 124–133, 2023.

[113] C. Challoumis, "Comparisons of utility of cycle of money with and without the enforcement savings," *SSRN Electron. J.*, pp. 1–10, 2019, doi: 10.2139/ssrn.3420124.

[114] Challoumis, Constantinos, "Theoretical Definition of the Equations of Cycle of Money, of Minimum Escaped Savings and of Velocity of Financial Liquidity," *SSRN Electron. J.*, pp. 1–7, 2018, doi: 10.2139/ssrn.3159200.

[115] C. Challoumis, "Velocity of Escaped Savings and Minimum Financial Liquidity According to the Theory of Cycle of Money," *Eur. Multidiscip. J. Mod. Sci.*, vol. 23, no. 2023, pp. 17–25, 2023.

[116] C. Challoumis, "Sensitivity plot of cy:{(m2+m)*10-4} - Cycle of money," *Acad. J. Digit. Econ. Stab.*, vol. 37, no. 2, pp. 37–48, 2024.

[117] C. Challoumis, "The Cycle of Money with and Without the Minimum Mixed Savings," *Pindus J. Cult. Lit. ELT*, vol. 3, no. 10, pp. 29–39, 2023.

[118] C. Challoumis, "Sensitivity plot of cy:{(m4 + 3* m)*10-4} - Cycle of money," *Int. J. Glob. Sustain. Res.*, 2024.

[119] C. Challoumis, "Index of the cycle of money - The case of Montenegro," *Montenegrin J. Soc. Sci.*, vol. 5, no. 1–2, pp. 41–57, 2021.

[120] C. Challoumis, "Utility of Cycle of Money without the Escaping Savings (Protection of the Economy)," in *Social and Economic Studies within the Framework of Emerging Global Developments Volume 2, V. Kaya*, 2023, pp. 53–64.

[121] C. Challoumis, "The Cycle of Money with and Without the Maximum and Minimum Mixed Savings," *Middle Eur. Sci. Bull.*, vol. 41, no. 2023, pp. 47–56, 2023.

[122] C. Challoumis, "The Impact Factor of Education on the Public Sector and International Controlled Transactions," *Complex Syst. Res. Cent.*, vol. 2019, pp. 151–160, 2019, [Online]. Available: https://www.researchgate.net/publication/350453451_The_Impact_Factor_of_Education_on_the_Public_Sector_and_International_Controlled_Transactions.

[123] C. Challoumis, "Sensitivity plot of cy:{(m4 - 3* m3)*10-4} - Cycle of money," *Int. J. Econ. Bus. Manag. Account.*, 2024.

[124] C. Challoumis, "The Cycle of Money (C.M.) Considers Financial Liquidity with Minimum Mixed Savings," *Open J. Res. Econ.*, vol. 6, no. 1, pp. 1–12, 2023.

[125] C. Challoumis, "The impact factor of Tangibles and Intangibles of controlled transactions on economic performance," *Econ. Altern.*, 2024.

[126] C. Challoumis, "Sensitivity plot of cy:{(m4 - 3* m)*10-4} - Cycle of money," *Cent. Asian J. Innov. Tour. Manag. Financ.*, 2024.

[127] C. Challoumis, "Estimations of the cycle of money without escape savings," *Int. J. Multicult. Multireligious Underst.*, vol. 11, no. 3, 2024.

[128] C. Challoumis, "Index of the cycle of money – the case of Switzerland," *Risk Financ. Manag.*, vol. 17, no. 4, pp. 1–24, 2024, doi: https://doi.org/10.3390/jrfm17040135.

[129] C. Challoumis, "Impact Factor of the Rest Rewarding Taxes," in *Complex System Research Centre*, 2022.

[130] C. Challoumis, "The cycle of money with and without the enforcement savings," *Complex Syst. Res. Cent.*, 2021.

[131] C. Challoumis, "The Impact Factor of Education on the Public Sector – The Case of the U.S.," *Int. J. Bus. Econ. Sci. Appl. Res.*, vol. 13, no. 1, pp. 69–78, 2020, doi: 10.25103/ijbesar.131.07.

[132] C. Challoumis, "Methods of Controlled Transactions and the Behavior of Companies According to the Public and Tax Policy," *Economics*, vol. 6, no. 1, pp. 33–43, 2018, doi: 10.2478/eoik-2018-0003.

[133] C. Challoumis, "Utility of cycle of money with and without the enforcement savings," *Gospod. Innow.*, vol. 36, no. 1, pp. 269–277, 2023.

[134] C. Challoumis, "The arm's length principle and the fixed length principle economic analysis," *World Sci. News*, vol. 115, no. 2019, pp. 207–217, 2019, doi: 10.2139/ssrn.1986387.

[135] C. Challoumis, "Comparative analysis between cost and bureaucracy - Sensitivity Method," *Open J. Res. Econ.*, 2024.

[136] C. Challoumis, "The cycle of money with and without the maximum mixed savings (Two-dimensional

approach)," *Int. J. Cult. Mod.*, vol. 33, no. 2023, pp. 34–45, 2023.

[137] C. Challoumis, "G7 - Global Minimum Corporate Tax Rate of 15%," *Int. J. Multicult. Multireligious Underst.*, vol. 10, no. 7, 2023.

[138] C. Challoumis, "Comparative analysis between cost and liability based on the Sensitivity Method," *Open J. Sociol. Stud.*, 2024.

[139] C. Challoumis, "The Velocity of Escaped Savings and Velocity of Financial Liquidity," *Middle Eur. Sci. Bull.*, vol. 41, no. 2023, pp. 57–66, 2023.

[140] C. Challoumis, "The Role of Risk to the International Controlled Transactions," *Econ. Appl. Informatics*, vol. 2018, no. 3, pp. 57–64, 2018, doi: I https://doi.org/10.26397/eai1584040917.

[141] C. Challoumis, "Index of the cycle of money - the case of Poland," *Res. Pap. Econ. Financ.*, vol. 6, no. 1, pp. 72–86, 2022, [Online]. Available: https://journals.ue.poznan.pl/REF/article/view/126/83.

[142] C. Challoumis, "Comparative analysis between cost and request of intangibles - Sensitivity Method," *Open J. Sociol. Stud.*, 2024.

[143] C. Challoumis, "Utility of Cycle of Money with and without the Escaping Savings," *Int. J. Bus. Dipl. Econ.*, vol. 2, no. 6, pp. 92–101, 2023.

[144] C. Challoumis, "Comparative analysis between cost and risk based on the Sensitivity Method," *Open J. Sociol. Stud.*, 2024.

[145] C. Challoumis, "Theoretical analysis of fuzzy logic and Q. E. method in econo-mics," *IKBFU's Vestn.*, vol. 2019, no. 01, pp. 59–68, 2019.

[146] C. Challoumis, "The cycle of money - Escape savings and the minimum financial liquidity," *Int. J. Multicult. Multireligious Underst.*, vol. 11, no. 4, 2024.

[147] C. Challoumis, "The cycle of money with mixed savings," *Open J. Res. Econ.*, vol. 6, no. 2, pp. 41–50, 2023.

[148] C. Challoumis, "Impact Factor of Liability of Tax System According to the Theory of Cycle of Money," in *Social and Economic Studies within the Framework of Emerging Global Developments Volume 3, V. Kaya*, vol. 3, 2023, pp. 31–42.

[149] C. Challoumis, "Economocracy versus capitalism," *Acta Univ. Bohemiae Merid.*, vol. 25, no. 1, pp. 33–54, 2022.

[150] C. Challoumis, "The Theory of Cycle of Money - How Do Principles of the Authorities on Public Policy, Taxes, and Controlled Transactions Affect the Economy and Society?," *Int. J. Soc. Sci. Res. Rev.*, vol. 6, no. 8, 2023.

[151] C. Challoumis, "Comparisons of the Cycle of Money Based on Enforcement and Escaped Savings," *Pindus J. Cult. Lit. ELT*, vol. 3, no. 10, pp. 19–28, 2023.

[152] C. Challoumis, "Index of the Cycle of Money - The Case of England," *Br. J. Humanit. Soc. Sci.*, vol. 26, no. 1, pp. 68–77, 2023.

[153] C. Challoumis, "Elements of the Theory of Cycle of Money without Enforcement Savings," *Int. J. Financ. Bus. Manag. (IJFBM)Vol. 2No. 1, 2023*, vol. 2, no. 1, pp. 15–28, 2023, [Online]. Available: https://journal.multitechpublisher.com/index.php/ijfbm/article/view/1108/1202.

[154] C. Challoumis, "Comparative analysis between cost and capital based on the Sensitivity Method," *Open J. Res. Econ.*, 2024.

[155] C. Challoumis, "Index of the cycle of money -the case of Bulgaria," *Econ. Altern.*, vol. 27, no. 2, pp. 225–234, 2021, [Online]. Available: https://www.unwe.bg/doi/eajournal/2021.2/EA.2021.2.04.pdf.

[156] C. Challoumis, "Shortcuts from the Declaration of the Rights of Man and the Citizen to the Industrial Revolution," *Pindus J. Cult. Lit. ELT*, vol. 4, no. 3, pp. 15–29, 2024.

[157] C. Challoumis, "Sensitivity plot of cy:{-m2*10-4} - Cycle of money," *Eur. J. Bus. Startups Open Soc.*, vol. 4, no. 3, pp. 207–219, 2024.

[158] C. Challoumis, "Sensitivity plot of cy:{-m4*10-4} - Cycle of money," *Int. J. Econ. Innov.*, vol. 24, no. 11, pp. 273–285, 2024.

[159] C. Challoumis, "Multiple Axiomatics Method and the Fuzzy Logic," *MIDDLE Eur. Sci. Bull.*, vol. 37, no. 1, pp. 63–68, 2023.

[160] C. Challoumis, "Index of the cycle of money - The case of Belarus," *Econ. Banks*, no. 2, 2021.

[161] C. Challoumis, “From Axiomatics Method to Multiple Axiomatics Method – Q.E. (Quantification of Everything) Method,” *Int. J. Multicult. Multireligious Underst.*, 2024.

[162] C. Challoumis, “Capital and Risk in the Tax System,” in *Complex System Research Centre*, 2023, pp. 241–244.

[163] C. Challoumis, “Sensitivity plot of cy:{-(m2+m)*10-4} - Cycle of money,” *Am. J. Public Dipl. Int. Stud.*, vol. 2, no. 3, pp. 352–364, 2024.

[164] C. Challoumis, “Index of the cycle of money - The case of Ukraine from 1992 to 2020,” *Actual Probl. Econ.*, 2023.

[165] C. Challoumis, “The Velocity of Escaped Savings and Maximum Financial Liquidity,” *J. Digit. Econ. Stab.*, vol. 34, no. 2023, pp. 55–65, 2023.

[166] C. Challoumis, “Index of the cycle of money - The case of Greece,” *IJBESAR (International J. Bus. Econ. Sci. Appl. Res.*, vol. 14, no. 2, pp. 58–67, 2021.

[167] C. Challoumis, “Sensitivity plot of cy:{(m4 - 3* m2)*10-4} - Cycle of money,” *Int. J. Econ. Bus. Manag. Account.*, 2024.

[168] C. Challoumis, “Index of the cycle of money - The case of Canada,” *J. Entrep. Bus. Econ.*, vol. 11, no. 1, pp. 102–133, 2023, [Online]. Available: http://scientificia.com/index.php/JEBE/article/view/203.

[169] C. Challoumis, “Synopsis of principles for the authorities and controlled transactions,” *Int. J. Multicult. Multireligious Underst.*, 2024.

[170] C. Challoumis, “THE IMPACT FACTOR OF HEALTH ON THE ECONOMY USING THE CYCLE OF MONEY,” *Bull. Transilv. Univ. Braşov*, vol. 11, no. 60, pp. 125–136, 2018, [Online]. Available: https://webbut.unitbv.ro/index.php/Series_V/article/view/2533/1979.

[171] C. Challoumis, “Chain of the Cycle of Money with and without Maximum and Minimum Mixed Savings,” *Eur. Multidiscip. J. Mod. Sci.*, vol. 23, no. 2023, pp. 1–16, 2023.

[172] C. Challoumis, “Impact factor of liability using the Sensitivity Method,” *Peter Lang*, 2024.

[173] C. Challoumis, “Impact Factor of Capital to the Economy and Tax System,” *Complex Syst. Res. Cent.*, vol. 2020, pp. 195–200, 2020, [Online]. Available: https://www.researchgate.net/publication/350385990_Impact_Factor_of_Capital_to_the_Economy_and_Tax_System.

[174] C. Challoumis, “Maximum mixed savings on the cycle of money,” *Open J. Res. Econ.*, vol. 6, no. 1, pp. 25–34, 2023.

[175] C. Challoumis and M. Savic, “Rational and Behavioral Economics,” *Ekon. signali*, vol. 19, no. 1, 2024.

[176] C. Challoumis, “Sensitivity plot of cy:{m4*10-4} - Cycle of money,” *Int. J. Econ. Innov.*, vol. 45, no. 11, pp. 259–272, 2024, doi: https://doi.org/10.1515/npf-2019-0049.

[177] C. Challoumis, “Chain of the Cycle of Money with and Without Maximum Mixed Savings (Three-Dimensional Approach),” *Acad. J. Digit. Econ. Stab.*, vol. 34, no. 2023, pp. 43–65, 2023.

[178] C. Challoumis, “Shortcuts from Liberalism to the First World War,” *Pindus J. Cult. Lit. ELT*, vol. 4, no. 3, pp. 1–14, 2024.

[179] C. Challoumis, “Sensitivity plot of cy:{(m-m4)*10-4} - Cycle of money,” *J. Mark. Emerg. Econ.*, vol. 4, no. 2, pp. 24–35, 2024.

[180] C. Challoumis, “Index of the cycle of money - The case of Serbia,” *Open J. Res. Econ.*, vol. 4, no. 1, 2021, [Online]. Available: https://centerprode.com/ojre.html.

[181] C. Challoumis, “Currency rate of the CM (Cycle of Money),” *Res. Pap. Econ. Financ.*, vol. 7, no. 1, 2023.

[182] C. Challoumis, “Peer Review Economic Technical Report of Cycle of Money – The case of Greece - Week initiated on 9 May 2004pp 3825-3837 June 2024,” *Int. J. Res. Publ. Rev.*, vol. 5, no. 6, pp. 3825–3837, 2024, [Online]. Available: https://ijrpr.com/uploads/V5ISSUE6/IJRPR30184.pdf.

[183] C. Challoumis, “Comparative analysis between capital and liability - Sensitivity Method,” *Open J. Res. Econ.*, 2024.

[184] C. Challoumis, “The R.B.Q. (Rational, Behavioral and Quantified) Model,” *Ekonomika*, vol. 98, no. 1, pp. 6–18, 2019, doi: 10.15388/ekon.2019.1.1.

[185] C. Challoumis, “Identification of Significant Economic Risks to the International Controlled Transactions,” *Econ. Appl. Informatics*, vol. 2018, no. 3, pp. 149–153, 2018, doi: https://doi.org/10.26397/eai1584040927.

[186] C. Challoumis, "From Economics to Economic Engineering (The Cycle of Money): The case of Romania," *Cogito*, vol. XVII, no. 2, 2024.

[187] C. Challoumis, "Rewarding taxes on the economy (The theory of cycle of money)," *Int. J. Multicult. Multireligious Underst.*, vol. 11, no. 3, 2024.

[188] C. Challoumis, "The Keynesian Theory and the Theory of Cycle of Money," *Hyperion Econ. J.*, vol. 6, no. 3, pp. 3–8, 2018, [Online]. Available: https://hej.hyperion.ro/articles/3(6)_2018/HEJ nr3(6)_2018_A1Challoumis.pdf.

[189] C. Challoumis, "The cycle of money - Minimum escape savings and financial liquidity," *Int. J. Multicult. Multireligious Underst.*, vol. 11, no. 5, 2024.

[190] C. Challoumis, "Chain of the Cycle of Money with and without Minimum Mixed Savings (Three-Dimensional Approach)," *Int. J. Cult. Mod.*, vol. 33, no. 2023, pp. 22–33, 2023.

[191] C. Challoumis, "Index of the cycle of money - The case of Ukraine," *Actual Probl. Econ.*, vol. 243, no. 9, pp. 102–111, 2021, [Online]. Available: doi:10.32752/1993-6788-2021-1-243-244-102-111.

[192] C. Challoumis, "Index of the cycle of money - The case of Slovakia," *S T U D I A C O M M E R C I A L I A B R A T I S L A V E N S I A Ekon. univerzita v Bratislave*, vol. 14, no. 49, pp. 176–188, 2021.

[193] C. Challoumis, "Minimum Mixed Savings on Cycle of Money," *Open J. Res. Econ.*, vol. 6, no. 2, pp. 61–68, 2023, [Online]. Available: https://centerprode.com/ojre/ojre0602/ojre-0602.html.

[194] C. Challoumis, "Approach on arm's length principle and fix length principle mathematical representations," in *Innovations and Contemporary Trends in Business & Economics*, 2024.

[195] C. Challoumis, "Impact factor of bureaucracy to the tax system," *Ekon. signali*, vol. 18, no. 2, p. 12, 2023.

[196] C. Challoumis, "Sensitivity plot of cy:{(m4 - 3* m)*10-4} - Cycle of money," *Hum. Cap. Innov. Manag.*, vol. 1, no. 3, pp. 60–74, 2024.

[197] C. Challoumis, "Analysis of the Theory of Cycle of Money," *Acta Univ. Bohemiae Merid.*, vol. 23, no. 2, pp. 13–29, 2020, doi: https://doi.org/10.2478/acta-2020-0004.

[198] C. Challoumis, "Velocity of the escaped savings and financial liquidity on mixed savings," *Open J. Res. Econ.*, vol. 7, no. 2, 2024.

[199] C. Challoumis, "Index of the Cycle of Money - The Case of Latvia," *Econ. Cult.*, vol. 17, no. 2, pp. 5–12, 2021, doi: 10.2478/jec-2020-0015.

[200] C. Challoumis, "Analysis of the velocities of escaped savings with that of financial liquidity," *Ekon. signali*, vol. 13, no. 2, pp. 1–14, 2018, doi: 10.5937/ekonsig1802001c.

[201] C. Challoumis, "Principles for the Authorities on Activities with Controlled Transactions," *Acad. J. Digit. Econ. Stab.*, vol. 30, no. 1, pp. 136–152, 2023.

[202] C. Challoumis, "Shortcuts From the Last Period of the Middle Ages to the Enlightenment on the View of Economic Aspects," *Pindus J. Cult. Lit. ELT*, vol. 4, no. 3, pp. 30–43, 2024.

[203] C. Challoumis, "FROM SAVINGS TO ESCAPE AND ENFORCEMENT SAVINGS," *Cogito*, vol. XV, no. 4, pp. 206–216, 2023.

[204] C. Challoumis, "The cycle of money with and without the escaped savings," *Ekon. signali*, vol. 14, no. 1, pp. 89–99, 2019, doi: 336.76 336.741.236.5.

[205] C. Challoumis, "Conditions of the CM (Cycle of Money)," in *Social and Economic Studies within the Framework of Emerging Global Developments, Volume -1, V. Kaya*, 2022, pp. 13–24.

[206] C. Challoumis, "Sensitivity plot of cy:{(m4+m)*10-4} - Cycle of money," *Int. J. Econ. Innov.*, vol. 24, no. 11, pp. 286–298, 2024.

[207] C. Challoumis, "Impact factor of cost using the Sensitivity Method," *Int. J. Multicult. Multireligious Underst.*, 2024.

[208] C. Challoumis, "Sensitivity plot of cy:{(m4 + 3* m2)*10-4} - Cycle of money," *Int. J. Appl. Adv. Multidiscip. Res.*, 2024.

[209] C. Challoumis, "Velocity of the escaped savings and financial liquidity on maximum mixed savings," *Open J. Res. Econ.*, vol. 7, no. 1, 2024.

[210] C. Challoumis, *Rewarding taxes on the cycle of money*, vol. 5. 2024.

[211] C. Challoumis, "The Issue of Utility of Cycle of Money," *J. Assoc. SEPIKE*, vol. 2019, no. 25, pp. 12–21, 2019,

[Online]. Available: https://5b925ea6-3d4e-400b-b5f3-32dc681218ff.filesusr.com/ugd/b199e2_dd29716b8bec48ca8fe7fbcfd47cdd2e.pdf.

[212] C. Challoumis, "Sensitivity plot of cy:{(m4 + 3* m3)*10-4} - Cycle of money," *J. Ilm. Pendidik. Holistik*, 2024.

[213] C. Challoumis, "A comparison of the velocities of minimum escaped savings and financial liquidity," in *Social and Economic Studies within the Framework of Emerging Global Developments, Volume - 4, V. Kaya*, 2023, pp. 41–56.

[214] C. Challoumis, "Index of the cycle of money - The case of Thailand," *Chiang Mai Univ. J. Econ.*, vol. 25, no. 2, pp. 1–14, 2021, [Online]. Available: https://so01.tci-thaijo.org/index.php/CMJE/article/view/247774/169340.

[215] C. Challoumis, "THE INFLATION ACCORDING TO THE CYCLE OF MONEY (C.M.)," *Econ. Altern.*, 2024.

[216] C. Challoumis, "Risk on the tax system of the E.U. from 2016 to 2022," *Economics*, vol. 11, no. 2, 2023.

[217] C. Challoumis, "Impact factor of capital using the Sensitivity Method," *Int. J. Multicult. Multireligious Underst.*, 2024.

[218] C. Challoumis, "Structure of the economy," *Actual Probl. Econ.*, vol. 247, no. 1, 2022.

[219] C. Challoumis, "Comparisons of the cycle of money with and without the mixed savings," *Econ. Law*, 2023, [Online]. Available: http://el.swu.bg/ikonomika/.

[220] C. Challoumis, "Chain of cycle of money," *Acta Univ. Bohemiae Merid.*, vol. 24, no. 2, pp. 49–74, 2021.

[221] C. Challoumis, "Sensitivity plot of cy:{(m2 - 3* m)*10-4} - Cycle of mone," *Middle Eur. Sci. Bull.*, vol. 44, no. 21, p. 33, 2024.

[222] C. Challoumis, "Transfer Pricing Methods for Services and the Policy of Fixed Length Principle," *Econ. Bus.*, vol. 33, no. 1, pp. 222–232, 2019, doi: https://doi.org/10.2478/eb-2019-0016.

[223] C. Challoumis, "Minimum escaped savings and financial liquidity in mathematical representation," *Ekon. signali*, vol. 19, no. 1, 2024.

[224] C. Challoumis, "Impact Factors of Global Tax Revenue - Theory of Cycle of Money," *Int. J. Multicult. Multireligious Underst.*, vol. 11, no. 1, 2024.

[225] C. Challoumis, "Index of the cycle of money: The case of Costa Rica," *Sapienza*, vol. 4, no. 3, pp. 1–11, 2023, [Online]. Available: https://journals.sapienzaeditorial.com/index.php/SIJIS.

[226] C. Challoumis, "Velocity of the escaped savings and financial liquidity on minimum mixed savings," *Open J. Res. Econ.*, vol. 7, no. 2, 2024.

[227] C. Challoumis, "Index of the cycle of money - The case of Moldova," *East. Eur. J. Reg. Econ.*, vol. 8, no. 1, pp. 77–89, 2022.

[228] C. Challoumis, "The Impact Factor of Costs to the Tax System," *J. Entrep. Bus. Econ.*, vol. 8, no. 1, pp. 1–14, 2020, [Online]. Available: http://scientificia.com/index.php/JEBE/article/view/126.

[229] Alekseĭ Matveevic Rumi͡ant͡sev, *Political Economy*. PROGRESS Guides to the Social Sciences, 1983.

[230] R. Gilpin and J. M. Gilpin, *Global Political Economy*. PRINCETON UNIVERSITY PRESS PRINCETON AND OXFORD, 2001.

[231] J. M. Keynes, *The General Theory of Employment, Interest, and Money*. Harcourt Brace, 1936.

[232] K. Marx, *Das Kapital: Critique of Political Economy*. Verlag von Otto Meissner, 1867.

[233] A. Papageorgiou, "Wage Policies and Economic Inequality During the COVID-19 Crisis in Greece," *Greek J. Econ. Policy*, vol. 12, no. 2, pp. 45–67, 2021.

[234] J. Harris, "Economic Policy Responses to the COVID-19 Pandemic," *J. Econ. Perspect.*, vol. 34, no. 4, pp. 35–60, 2020.

[235] OECD, *Economic Outlook for Greece*. Organisation for Economic Co-operation and Development, 2021.

[236] F. Engels, *The Condition of the Working Class in England*. Otto Wigand, 1844.

[237] IMF, *Fiscal Policies to Support the COVID-19 Recovery*. International Monetary Fund, 2021.

[238] V. I. Lenin, *Imperialism, the Highest Stage of Capitalism*. The Marx-Engels-Lenin Institute, 1916.

[239] N. Miailhe, "Economic, Social and Public Policy Opportunities enabled by Automation," *F. Actions Sci. Reports. J. F. actions*, no. Special Issue 17, 2017.

[240] C. M. Herrington, "Public education financing, earnings inequality, and intergenerational mobility," *Rev. Econ.*

Dyn., vol. 18, no. 4, 2015, doi: 10.1016/j.red.2015.07.006.

[241] D. Stone, “Global public policy, transnational policy communities, and their networks,” *Policy Stud. J.*, vol. 36, no. 1, 2008, doi: 10.1111/j.1541-0072.2007.00251.x.

[242] A. Kamradt-Scott and C. McInnes, “The securitisation of pandemic influenza: Framing, security and public policy,” *Glob. Public Health*, vol. 7, no. SUPPL. 2, 2012, doi: 10.1080/17441692.2012.725752.

[243] A. Azar, L. Maldonado, J. C. Castillo, and J. Atria, “Income, egalitarianism and attitudes towards healthcare policy: a study on public attitudes in 29 countries,” *Public Health*, vol. 154, 2018, doi: 10.1016/j.puhe.2017.09.007.