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FORECASTING GLOBAL CRISIS; FINANCIAL, ARTIFICIAL INTELLIGENT SYSTEMS, PANDEMICS AND GEOPOLITICAL CRISIS EFFECT ON WORLD ECONOMY

Previsão de crise global: sistemas financeiros, de inteligência artificial, pandemias e efeito da crise geopolítica na economia mundial

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ABSTRACT

A global Crisis is an unanticipated, abrupt event that upsets an economy's equilibrium and presents severe difficulties for governments. Whether caused by pandemics, natural disasters, global financial crises, or geopolitical upheavals, these shocks necessitate prompt and efficient policy responses to lessen their impacts. The study models are designed to summarise time series data for thirty major economies, as well as potential trade partners, during the period from 2002 to 2022. The study will employ Trend and GMM statistical techniques to assess the effects of government expenditure responses on economic stabilisation actions across various Global Crises. This research examines the impact of the global crisis on government expenditure responses and the underlying causes that determine fiscal policy choices following these Crises. The study identifies several key elements that influence government spending decisions, including the global crisis, the political and economic climate, fiscal policy frameworks, and international interdependencies. Additionally, it examines the outcomes of various spending reactions and assesses their long-term effects on the economy. The results are statistically significant and favourable, consistent with earlier studies. At a 1% significance level, the impact of crises on the diversity factor shows a strong and significant positive influence on economic activity across all estimators. The study recommended that technological advancement can significantly support long-term economic recovery. The most effective global agreement, the 2015 United Nations Sustainable Development Goals, must establish goals to increase economic efficiency and mitigate global crises.

Keywords: Global crisis; Artificial Intelligence (AI); Financial crises; Geopolitical crises; Pandemics crises; Government spending

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PREVISÃO DE CRISE GLOBAL; SISTEMAS FINANCEIROS, DE INTELIGÊNCIA ARTIFICIAL, PANDEMIAS E CRISE GEOPOLÍTICA EFEITO NA ECONOMIA MUNDIAL

Global crisis forecasting: financial systems, artificial intelligence, pandemics and the effect of the geopolitical crisis on the world economy

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RESUMO

Uma crise global é um evento inesperado e abrupto que desequilibra a economia e apresenta sérias dificuldades para os governos. Seja causados por pandemias, desastres naturais, crises financeiras globais ou convulsões geopolíticas, esses choques exigem respostas políticas rápidas e eficientes para diminuir seus impactos. Os modelos de estudo foram projetados para resumir dados de séries temporais de trinta grandes economias, bem como potenciais parceiros comerciais, durante o período de 2002 a 2022. O estudo empregará técnicas estatísticas de Tendência e GMM para avaliar os efeitos das respostas dos gastos governamentais nas ações de estabilização econômica em diversas Crises Globais. Esta pesquisa examina o impacto da crise global nas respostas aos gastos governamentais e as causas subjacentes que determinam as escolhas de política fiscal após essas crises. O estudo identifica vários elementos-chave que influenciam as decisões de gastos do governo, incluindo a crise global, o clima político e econômico, os marcos de políticas fiscais e as interdependências internacionais. Além disso, examina os resultados de várias reações de consumo e avalia seus efeitos de longo prazo na economia. Os resultados são estatisticamente significativos e favoráveis, consistentes com estudos anteriores. Em um nível de significância de 1%, o impacto das crises no fator diversidade mostra uma influência positiva forte e significativa na atividade econômica em todos os estimadores. O estudo recomendou que o avanço tecnológico pode apoiar significativamente a recuperação econômica de longo prazo. O acordo global mais eficaz, os Objetivos de Desenvolvimento Sustentável das Nações Unidas de 2015, deve estabelecer metas para aumentar a eficiência econômica e mitigar crises globais.

Palavras-chave: Crise global, Inteligência Artificial, Crises financeiras, Crises geopolíticas, Crises de pandemias, Gastos governamentais

INTRODUCTION

Modern economies will inevitably experience Global Crises, ranging from supply-side Crises like natural disasters or geopolitical crises to demand-side Crises like recessions or artificial intelligence and pandemics (Abd El-Aal, 2024; Ferguson & Storm, 2023; Musella, 2023). These crises frequently cause major disruptions in trade, production, artificial intelligence and labor force participation risk rate (Gayathri, Vijayabanu, & Theresa, 2024; Manta, 2020). Fiscal policy decisions, particularly those about government expenditure, are crucial in reducing the adverse consequences of the Global Crisis, and governments play a crucial role in responding to these disruptions (Giordano, Momigliano, Neri, & Perotti, 2007; Hafiz, Oei, Ring, & Shnitser, 2020). Comprehending the dynamics of government expenditure reactions to the Global Crisis is essential to creating successful policy interventions (Auerbach & Gorodnichenko, 2012). By thoroughly examining how governments might better anticipate and respond to global crises, this study will add to the body of literature already available on fiscal policy and crisis management (Larch, Claeys, & Van Der Wielen, 2024; Rosenthal & Kouzmin, 1997).

Artificial intelligence (AI) can maximize government spending by increasing efficiency, automating repetitive tasks, and improving decision-making (Kuziemski & Misuraca, 2020; Mishra et al., 2024). Predictive models and data analysis make it possible to allocate resources more effectively. However, budgets are impacted because AI also necessitates training and technological investment (Challoumis, 2024; Sarkhosh, 2024).

Government spending rises during financial crises as nations enact stimulus plans to stabilize their economies (Stone, 2020; Zabavnik & Verbič, 2025; Zia et al., 2025). This frequently entails increasing the national debt and reallocating money to help social programs and faltering industries. Austerity measures to restore financial stability may be among the long-term effects (Edo-Osagie; Jamil & Rasheed, 2025).

Governments may spend more on trade protection policies, subsidies, and economic stimulus in response to geopolitical crises to counteract trade disruptions (Guo, Zhu, Yu, & Zhang, 2025; Saint Akadiri & Ozkan, 2025). Supporting home-grown businesses and broadening supply chains are common examples. The ensuing expenses may impact long-term economic growth and national budgets (Damiyano, 2025; Jamil & Rasheed, 2024a).

Government spending on emergency response, healthcare, and economic assistance programs rises in response to pandemics and other health emergencies (Mercogliano et al., 2025; Sen-Crowe, McKenney, & Elkbuli, 2020). Governments frequently allot funds for medical supplies, vaccine distribution, and assistance for impacted industries and workers (Jamil & Rasheed, 2023; Stein & McNeill, 2025). Changes to healthcare systems and rising national debt are examples of long-term fiscal effects (Katagiri, Koeda, Miyamoto, Nirei, & Unayama, 2025).

This research's main query is: How does Global Crisis affect how the government responds to spending? Investigate the various forms of Global Crisis and how they affect how the government decides how much money to spend. Further examine how political, economic, and structural factors influence government reactions to the Global Crisis. Moreover, it analyzes how successful various government expenditure initiatives are at promoting economic recovery and stabilization. The study investigates how the type of shock, the political climate, the budgetary space, and the global backdrop influence government spending choices during economic crises. Give policymakers advice on how to create expenditure plans that will be flexible and long-lasting as the economy experiences more Crises.

1 LITERATURE REVIEW

Government spending patterns have been greatly influenced in recent years by various financial, geopolitical, and health crises, as well as technological developments like artificial intelligence (AI). This literature review examines how various crises affect government spending and the long-term effects on the economy.

Government spending optimization may be possible with artificial intelligence (AI). AI boosts public sector operations' efficiency by improving decision-making processes and automating repetitive tasks, which can result in more effective resource allocation (De Sousa, de Melo, Bermejo, Farias, & Gomes, 2019; Fernandez-Cortez, Valle-Cruz, & Gil-Garcia, 2020; INTELLIGENCE, 2016). Large-scale dataset analysis and predictive model development are additional tools that support strategic spending by guaranteeing that funds are allocated to areas with the most significant potential for impact (Brazill-Boast et al., 2018; Olanrewaju, Daramola, & Ekechukwu, 2024). The initial costs of integrating AI are high, especially regarding workforce training and technology

investment. Even though AI leads to long-term efficiency gains, these expenditures may have a short-term impact on government budgets (Ernst, Merola, & Samaan, 2019; Wenjuan & Zhao, 2023).

On the other hand, government spending typically rises in response to financial crises, mainly due to stimulus plans meant to stabilize economies. These interventions frequently entail increasing the national debt and reallocating funds to support the most impacted industries and social programs (Bangura, 2000; Khatiwada, 2009). Even though this spending is necessary during hard times, it can lead to long-term financial strains. Governments are frequently compelled to implement austerity measures as part of a recovery plan, which may include raising taxes or reducing public services to regain financial stability (Cardarelli, Elekdag, & Lall, 2011; Grossi & Vakulenko, 2025; Jamil & Rasheed, 2024b).

Government spending faces an additional unique challenge in the form of geopolitical trade crises. These crises usually result in increased government spending on economic stimulus, trade protection, and subsidies to offset the negative economic effects of trade disruptions (Leal-Arcas et al., 2024; Topić-Pavković, 2024). Governments can also invest in diversifying supply chains and supporting domestic industries to lessen the impact of decreased international trade (Grossman, Helpman, & Lhuillier, 2023; Nicita, Ognivtsev, & Shirotori, 2013). However, these policies may impede economic growth and strain national budgets if trade disputes continue (Akume & Akadiri, 2025; Kachi et al., 2025).

The COVID-19 pandemic and other health emergencies have highlighted the pressing need for government funding for emergency relief and medical care. Government spending on healthcare systems, vaccine distribution, medical supplies, and assistance for workers and industries affected by lockdowns and disruptions must frequently be increased dramatically (Aristei et al., 2022; Assefa et al., 2022). Although they may result in a rise in the national debt, these expenses are essential for maintaining economic stability and public health during a crisis. Additionally, these incidents call for long-term changes to healthcare systems, which would impact upcoming government spending plans and policy choices (Hopkins, 2006; Vărzaru, 2025). Both technology advancements like artificial intelligence and different crises drive significant shifts in government spending. While AI can potentially increase efficiency over time, its initial expenses must be considered. Similarly, crises like financial, geopolitical, and health-related issues frequently call for higher government spending, which can have a lasting impact on fiscal policy and national budgets. The government's capacity to recover and maintain economic stability largely depends on how well it can handle these financial strains (D'Orazio, 2025).

Prior Research on the Reactions of Governments to Global Crises valued, emphasizing the global financial Crisis of 2008, the COVID-19 epidemic, and natural disasters like Hurricane Katrina (Chang et al., 2022). The usefulness of various government spending plans and their effects on economic recovery are clarified. Different kinds of Crises that affect economic performance are distinguished by economic theory (Hallegatte, 2014; Kirman, 2010). The study examined supply-side Crises, which arise from interruptions in production capacity, like natural disasters or increases in the cost of essential resources, and demand-side Crises, which happen as a result of decreased consumer or company expenditure (Ciccarelli & Marotta, 2024; del Rio-Chanona, Mealy, Pichler, Lafond, & Farmer, 2020). The literature on both kinds of Crises will be reviewed, emphasizing the economic processes by which these Crises affect the decisions made by the government about expenditure and Spending in Response to Policy (Jermann & Quadrini, 2012; Ramey, 2016). The contribution of public spending to economic stabilization will be reviewed in this section (Agu, Okwo, Ugwunta, & Idike, 2015). According to Keynesian economics, government expenditure is crucial during economic downturns to offset the decline in private-sector demand (Seccareccia, 1995). Some schools of thinking, including supply-side economics, support tax breaks and infrastructure spending by the government to promote economic recovery (Alvord, 2020; Sabry, 2024). These various methods of government spending in reaction to the Global Crisis will be compared and contrasted in research (Forni & Gambetti, 2016; Olaoye, Okorie, Eluwole, & Fawwad, 2021). Global Crisis significantly impacts government spending reactions, whether from financial crises, natural disasters, health problems, or geopolitical upheavals (Burkle Jr, 2006; Gayathri et al., 2024). The function of government fiscal interventions in economic instability has long been discussed among academics and decision-makers (Carmignani, 2003; Jacobs, 2016). This literature overview will examine numerous ideas, empirical research, and case studies that shed light on how the Global Crisis affects government expenditure (Coenen & Straub, 2005; Ramey, 2016). The review comprises Global Crisis theories, government expenditure as a policy reaction, political and institutional considerations, and empirical case studies (Agrawal, Hoyt, & Wilson, 2022; Hooren, Kaasch, & Starke, 2014).

Global Crises cause an economy's supply and demand to become out of balance, and their effects are frequently not uniform across industries (Baqaee & Farhi, 2022; Baumol, 1967). Supply-side Global Crises are the primary types, and each poses unique difficulties that affect how governments implement fiscal policy in response (Ferrero, Pisani, & Tasso, 2022; Jørgensen & Ravn, 2022; Occhipinti et al., 2025). Recessions and financial crises are examples of demand-side Crises for which Keynesian economics highlights the significance of government involvement (Baqaee & Farhi, 2022; Cynamon & Fazzari, 2010). Private sector demand declines during downturns, resulting in underutilization of resources and unemployment (Keynes, 1936; Osuoha, 2023). Governments should intervene during these periods by raising public spending to increase aggregate demand and lessen the effects of the recession (Bermeo & Pontusson, 2012). This opinion is supported by a significant study, which shows that fiscal policy, particularly public spending, is essential for keeping the economy stable during times of low demand (Auerbach & Gorodnichenko, 2011). On the other hand, supply-side Crises, such as natural disasters or rising oil prices, can potentially impair the economy's production ability (Ciccarelli & Marotta, 2024; Gazzani, Venditti, & Veronese, 2024). The government must respond to these Crises in a way that restores production capacity (Guerrieri, Lorenzoni, Straub, & Werning, 2022). Government spending in subsidies to impacted companies or infrastructure investments can assist in lessening the negative consequences of supply-side disruptions (Braunerhjelm, 2022). In contrast to broad-based fiscal stimulus, supply-side Crises typically result in more focused actions meant to address particular industries (O. J. Blanchard & Leigh, 2013). The idea of automatic stabilizers has become popular when discussing government expenditure during economic downturns (McKay & Reis, 2016). Some fiscal policies, like progressive taxation or unemployment insurance, can sustain the economy independently without direct government action (Nandy & Sur, 2024; Surrey, 1970). In order to lessen the impact of the shock, these automated mechanisms raise government expenditure through welfare payments and unemployment benefits when demand declines (Friedman, 2018).

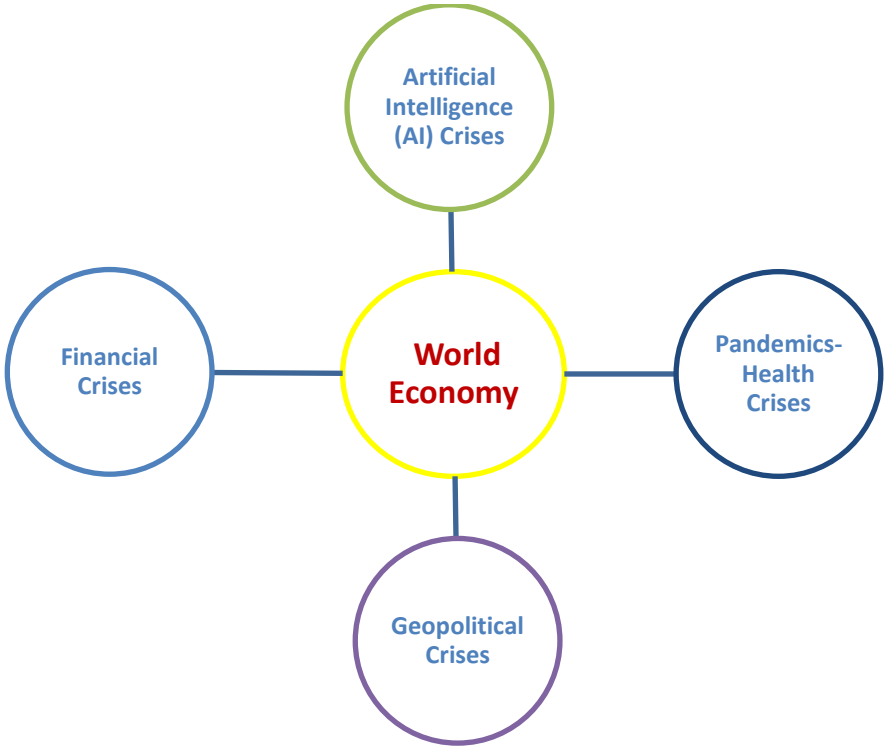
Government spending is the main instrument used to address the economic effects of Crises (Larch et al., 2024). Numerous studies have examined the function of fiscal policy in times of economic volatility (Ding, Jiang, Li, & Wei, 2024; Marioli, Fatás, & Vasishtha, 2024; Yiming, Xun, Umair, & Aizhan, 2024). The relationship between government spending and economic recovery during crises is the subject of numerous studies (Asiri, 2024; Güzel & Çetin, 2016). A substantial amount of research indicates that government expenditures can serve as a fiscal stimulus that is wildly successful in promoting recovery during recessions (Spilimbergo, Symansky, Blanchard, & Cottarelli, 2009; Steel & Harris, 2020). Government spending has a fiscal multiplier effect, which means that for every dollar spent, the economy can produce more, mainly when interest rates are close to zero, as they frequently are during economic crises (Ramey, 2011). Although Keynesian theory highlights the advantages of higher government expenditures during recessions, some research indicates that fiscal consolidation, or austerity measures, may result in longer-term and more sustainable growth (Antelo & Peón, 2014; Kolev & Matthes, 2013). Austerity measures like lowering government spending and deficits can boost investor confidence and ensure long-term economic stability. However, especially during periods of severe economic recession, these actions may also worsen immediate financial difficulties (Alesina & Ardagna, 2010). Fiscal stimulus, such as tax cuts and government spending, significantly reduces the adverse effects of the Global Crisis (Romer & Romer, 2010). In the wake of the 2008 financial crisis, for instance, the U.S. government responded with a large fiscal stimulus package that included spending on unemployment insurance, health care, and infrastructure (Romer, 2021). The efficiency of the approach was disputed, although it did lessen the worst consequences of the recession (Kanger, Sovacool, & Noorkõiv, 2020).

In response to the Global Crisis, government spending is significantly shaped by institutional and political considerations. Political philosophies, institutional structures, and popular support for interventionist programs influence how governments react (Haggard & Webb, 2018; Pierson, 1993). The political ideology of the ruling party is frequently reflected in how the government responds to the Global Crisis through expenditure (Alesina, Perotti, Tavares, Obstfeld, & Eichengreen, 1998; Spies-Butcher & Bryant, 2024). It lessens the impact on disadvantaged groups, and left-leaning governments are more inclined to boost public spending on social welfare programs, including direct transfers and unemployment benefits (O. Blanchard & Wolfers, 2000). However, further researchers argue that right-leaning governments might prioritize tax breaks and business incentives when their economic stimulus plans are implemented (Alesina, Ardagna, & Trebbi, 2006); in political economics models, the fiscal reaction will be determined by interest groups' bargaining strength and the desires of political elites (Persson

& Tabellini, 2003). Both the effectiveness of governmental institutions and political stability are important considerations. The government is more likely to carry out efficient spending responses in nations with robust bureaucratic capabilities and well-established democratic institutions (Bangura, 2000; Ritahi & Echaoui, 2024). On the other hand, inefficient or postponed expenditure can worsen the shock's impact in politically unstable or corrupt regimes (Acemoglu & Robinson, 2013). For example, the United States and the European Union mobilized substantial fiscal resources during the 2008 global financial crisis because of their strong institutional frameworks. In contrast, other nations with weaker institutions found it challenging to implement timely relief measures (Dunaway, 2009).

A helpful way to understand the efficacy of various government expenditure responses to Global Crisis is through empirical case studies (Ravn, Schmitt-Grohé, & Uribe, 2007; Stuckler, Basu, Suhrcke, Coutts, & McKee, 2009). According to these case studies, fiscal policy can help lessen the impact of economic crises (Aisyah, Suarmanayasa, Efendi, Widiastuti, & Harsono, 2024; Easterly & Rebelo, 1993). Fiscal rule (Buda, 2024), A wealth of information about government spending during the Global Crisis can be found in the response to the global financial crisis of 2008 (Dept., 2009; Zezza & Guarascio, 2024). The American Recovery and Reinvestment Act, which the federal government passed in the United States, comprised a combination of tax breaks, unemployment insurance, and direct government spending totaling $787 billion (Wibisono, 2023). The stimulus package lowered unemployment and halted additional economic deterioration (Meyer-Ohlendorf, Görlach, Umpfenbach, & Mehling, 2009). Similar differences existed in the fiscal policies of the EU's member states, with some choosing austerity measures and others raising expenditures to boost demand (Karanikolos et al., 2013; Meyer-Ohlendorf et al., 2009). The conflicting answers to these questions underscore how crucial context is in determining how well government expenditure works in times of crisis (Pandey, 2024). One of the most important Global crises of the twenty-first century was brought on by the COVID-19 epidemic (Zainullin, Alvarez-Gila, Zainullina, & Gómez-Gastiasoro, 2022). In response, governments worldwide implemented significant fiscal policies, such as direct payments to citizens, business subsidies, and more financing for the health sector (Aisyah et al., 2024; Akin, Birdsall, & De Ferranti, 1987). The pandemic clarified how crucial social safety nets and direct government action are to stabilizing economies (Ozili, 2021). However, the timing, scope, and focus of the budgetary measures affected the effectiveness of these responses in different nations (Schick, 2003). While nations with weaker social programs had trouble maintaining their citizens, those with robust welfare systems, like Canada and Germany, could enact more successful fiscal measures (Ashford, Hall, Arango-Quiroga, Metaxas, & Showalter, 2020). Research indicates that supply-side and demand-side Global Crises significantly impact government spending (Grech, Cuschieri, Grech, & Stephanie, 2021). In order to understand how governments can use public expenditure to offset the impacts of demand Crises, Keynesian theories of fiscal stimulus offer a solid foundation (Cwik & Wieland, 2011). The degree and type of government intervention are, nevertheless, also influenced by political philosophy, institutional capability, and international economic circumstances (Roberts, 2011; Weaver & Rockman, 2010). Examples like the COVID-19 epidemic and the global financial crisis 2008 highlight the significance of prompt, well-targeted government spending in bringing the economy back to stability (Carranza et al., 2020; Farhana & Siti-Nabiha, 2024). The subsequent investigation was deeper into the enduring consequences of these reactions, specifically concerning the sustainability of debt and economic disparity (Marín-Rodríguez, Gonzalez-Ruiz, & Botero, 2023; Stallings, 1992; Wang & He, 2024).

Figure 1 - Model Structure



2 RESEARCH METHODOLOGY

This study will use a quantitative approach strategy and evaluate the effects of government spending reactions to Global Crisis on important economic indicators like GDP growth. Data will be gathered from various sources, such as scholarly publications, government reports, and international institutions like the World Bank and IMF. The diversified government spending responses and their efficacy will be demonstrated using case studies of recent Global Crisis, including the COVID-19 pandemic, the 2008 financial crisis, and the 2011 Japanese disaster. The study will employ Trend and GMM statistical techniques to assess the effects of government expenditure responses on economic stabilisation and recovery by comparing the results of these actions across various Global Crises. A thorough examination of fiscal policy documents will aid in identifying the main determinants of government spending decisions.

When it comes to predicting Global Crisis (referred to as S) using artificial intelligence (AI) related variables like labor force Risk (LF), unemployment rate (UR), inflation rate (IR), health expenditures (HE), and quality services (QS); Finance related independent variables, i.e., foreign direct investment (FDI), Public debt (PD), Gross capital formation (GCF), Financial Development Index (FDIX), and Tax Revenue (TR); Political independent variables, i.e., Political Stability (PS), Trade (TRD), Rule of Law (RL), Government expenditure (GE), and Government Effectiveness (GEE); Pandemics-Social independent variables, i.e., Pandemics Index (PI), Health Index (HI), Educational Expenditure (EE), Human Development Index (HDI), and Population growth (PG) and the Generalized Method of Moments (GMM) offers a flexible and reliable estimation approach, especially when standard assumptions of ordinary least squares (OLS) are invalid, such as when Endogeneity or unobserved heterogeneity is present. GMM is well-suited to handle potential problems like simultaneity, Endogeneity, and measurement errors.

Modeling one Global Crisis AIC as a function of many variables relating to Artificial intelligence and Circular Economy is our goal.

$$CE(AIC)_{it} = \alpha + \beta_1 LF_{it} + \beta_2 QS_{it} + \beta_3 HE_{it} + \beta_4 UR_{it} + \beta_5 IR_{it} + X_{it}\gamma + \mu_i + \lambda_t + \mathcal{E}_{it} \ldots\ldots 1$$

Modeling two; Global Crisis FC as a function of many variables relating to Financial Crises is our second goal.

$$CE(FC)_{it} = \alpha + \beta_1 FDI_{it} + \beta_2 PD_{it} + \beta_3 GCF_{it} + \beta_4 FDIX_{it} + \beta_5 TR_{it} + X_{it}\gamma + \mu_i + \lambda_t + \mathcal{E}_{it}\, 2$$

Modeling three; Global Crisis PC as a function of many variables relating to Political Crises is our third goal.

$$\mathrm{CE}(PC)_{\mathrm{it}} = \alpha + \beta_1 PS_{\mathrm{it}} + \beta_2 TRD_{\mathrm{it}} + \beta_3 RL_{\mathrm{it}} + \beta_4 GE_{\mathrm{it}} + \beta_5 GEE_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}} \ldots\ldots 3$$

Modeling four; Global Crisis PSC as a function of many variables relating to Pandemics-Social Crises is our fourth goal.

$$\mathrm{CE}(PSC)_{\mathrm{it}} = \alpha + \beta_1 PI_{\mathrm{it}} + \beta_2 HI_{\mathrm{it}} + \beta_3 EE_{\mathrm{it}} + \beta_4 HDI_{\mathrm{it}} + \beta_5 PG_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}} \ldots\ldots 4$$

CE_{it} : Circular Economy (CE), C for Global Crisis $_{\mathrm{i}}$ and $_{\mathrm{t}}$ for time, AI for Artificial intelligence crises; F for Financial Crises; P for Political Crises and PS for Pandemics-Social Crises.

$_{\mathrm{it}}$: $_{\mathrm{i}}$ For Country and $_{\mathrm{t}}$ for Time, with Independent Variable.

X_{it} : Other Control Variables.

μ_{i} : Country specific fixed effects (Heterogeneity Unobserved).

λ_{t} : Time Specific Effect (Common Stock/Cross Countries).

$\mathcal{E}_{\mathrm{it}}$: For Error Terms.

The dynamic nature of Global Crisis is taken into consideration since they may show persistence over time (for example, Crises in one period may affect subsequent periods). It is possible to specify a dynamic panel data model by providing the dependent variable's lagged values. This enables us to take into consideration the Crises' ability to persist over time.

$$CE(AIC)_{\mathrm{it}} = \alpha S_{\mathrm{it-1}} + \beta_1 LF_{\mathrm{it}} + \beta_2 QS_{\mathrm{it}} + \beta_3 HE_{\mathrm{it}} + \beta_4 UR_{\mathrm{it}} + \beta_5 IR_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}} \ldots. 5$$

$$CE(FC)_{\mathrm{it}} = \alpha S_{\mathrm{it-1}} + \beta_1 FDI_{\mathrm{it}} + \beta_2 PD_{\mathrm{it}} + \beta_3 GCF_{\mathrm{it}} + \beta_4 FDIX_{\mathrm{it}} + \beta_5 TR_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}}\ 6$$

$$\mathrm{CE}(PC)_{\mathrm{it}} = \alpha S_{\mathrm{it-1}} + \beta_1 PS_{\mathrm{it}} + \beta_2 TRD_{\mathrm{it}} + \beta_3 RL_{\mathrm{it}} + \beta_4 GE_{\mathrm{it}} + \beta_5 GEE_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}} \ldots 7$$

$$\mathrm{CE}(PSC)_{\mathrm{it}} = \alpha S_{\mathrm{it-1}} + \beta_1 PI_{\mathrm{it}} + \beta_2 HI_{\mathrm{it}} + \beta_3 EE_{\mathrm{it}} + \beta_4 HDI_{\mathrm{it}} + \beta_5 PG_{\mathrm{it}} + X_{\mathrm{it}}\gamma + \mu_{\mathrm{i}} + \lambda_{\mathrm{t}} + \mathcal{E}_{\mathrm{it}} \ldots. 8$$

$C_{\mathrm{it-1}}$: Global Crisis Lagged Value.

Economic crises like recessions, financial crises, or pandemics are brought on by abrupt drops in aggregate demand. The study looks at how government spending might increase investment and consumption in these periods, paying special emphasis to programs like direct cash transfers, unemployment insurance, and stimulus packages (Allen, 2023; Elyassi, 2021). Natural disasters, rising energy prices, and supply chain interruptions are examples of supply-side Crises that will be examined (Wei et al., 2023). These circumstances frequently require specific government spending to restore production capacity, such as funding energy subsidies, infrastructure repairs, or aid to impacted industries.

Government expenditure reactions to geopolitical upheavals (such as trade wars and Crises associated with war) and health emergencies such as COVID-19 (Gayathri et al., 2024). The emphasis will be on fiscal measures to stabilize impacted sectors and the quick distribution of resources to healthcare systems (Ibn-Mohammed et al., 2021). Political beliefs influence government reactions. Governments that lean left, for instance, might place more emphasis on social spending, whereas those that lean right might prioritize business assistance or tax breaks (Beck, 2024; Block, 2009). We will examine how public expectations and political pressures influence spending decisions.

Fiscal deficits and the amount of government debt have a significant impact on how the economy reacts to Crises (Reinhart, Sack, & Heaton, 2000). The trade-off between stimulus spending and preserving fiscal sustainability is handled differently by governments in different fiscal positions high vs. low debt (Buckle & Cruickshank, 2013). In addition to how international financial institutions, foreign aid, and interruptions in global trade affect government expenditure responses during Global Crisis, the role of global economic conditions and interdependencies will be examined (Borio & Disyatat, 2010; Rogoff, 1999).

The 2008 financial crisis was addressed by several governments, including those in the US, the EU, and emerging economies, through financial bailouts, social welfare expenditures, and fiscal stimulus plans (Balaraj, 2023; Hammond, 2024; Stiglitz, 2009). In response to the COVID-19 pandemic, governments around the world implemented social welfare initiatives, direct financial aid to individuals and businesses, and emergency healthcare spending (Clemente-Suárez et al., 2021; Ozili, 2021). Natural calamities like the 2011 Japanese earthquake and Hurricane Katrina in the United States, with an emphasis on disaster relief and infrastructure spending (Boustan, Kahn, Rhode, & Yanguas, 2020; Parsons, 2016). By comparing the outcomes of these measures across different crises and Global Crisis, the study will employ statistical methods to evaluate the impact of government spending

responses on economic stabilization and recovery. A careful analysis of fiscal policy documents will help identify the primary factors influencing government spending decisions.

Table 1 - Variable Description

	Variables	Measurement Units	Source
LF	Labor Force (LF) Intelligent systems participation and Labor Force (humanity) at Risk rate, total (% of total population ages 15-64) (model ILO estimate)		WDI
QS	Quality Institutional and Organizational Services		WDI
PI	Health Index Current health expenditure (% of GDP)		WDI
TR	Tax Revenue as % of GDP		WDI
PD	Public debt		IMF
HE	Health Expenditures Current health expenditure (% of GDP)		WDI
EE	Government expenditures on EDUCATION		WDI
PG	Population growth (annual %)		WDI
UR	Unemployment, total (% of total labor force)		WDI
IR	Inflation, consumer prices (annual %)		WDI
GE	Government expenditure, Percent of GDP (% of GDP)		WDI
GDP	GDP growth (annual %)		WDI
GEE	Government Effectiveness: Estimate		WDI
RL	Rule of Law: Estimate		WDI

3 RESULTS

In economics, various measurements and factors interact to influence the overall state of the economy. These factors affect societal well-being, employment, inflation, and growth. Let us examine how economic socks and the inflation, unemployment, healthcare spending, and service quality indicators affect the economy's overall health. The study Figures 2–5 show the descriptive Trend of thirty countries and their relationship between the Global Crisis and economic responses. It also indicates the panel countries' performance trends toward economic Recovery and effectiveness. This study aligns with the underlying Global Crisis: the artificial intelligence (AI), political and pandemics-social, and fiscal policy choices of these Crises.

Figure 2 - Artificial Intelligence (AI) Crisis

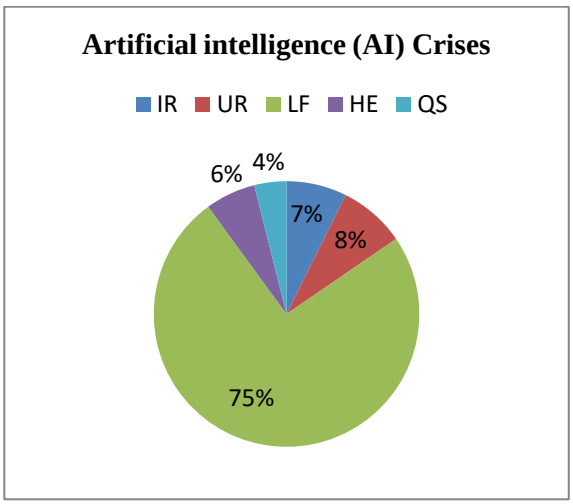
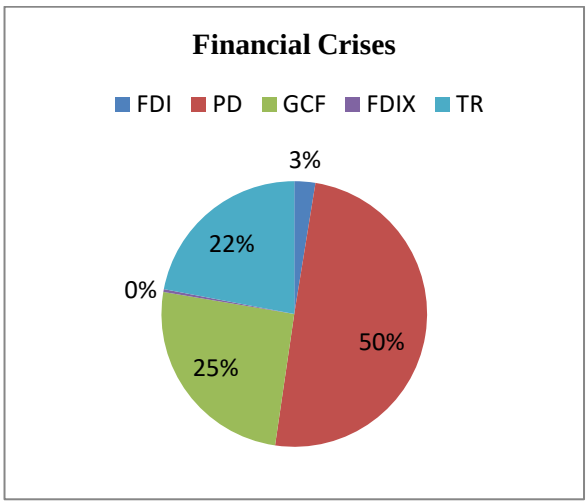


Figure 3 - Financial Crisis



Figures 2 and 3 of the report show the economic patterns in 30 countries, emphasizing important economic variables and how each affects economic activity. The Artificial intelligence (AI) Crisis patterns show that the

labour force (LF)) Intelligent systems participation and Labor Force (humanity) at risk is in the top 75%, as shown in Figure 2. Given the significant labour force share and the direct impact of policies aimed at the labour force on the global economy, it is imperative to prioritise policies that promote economic growth. Although national differences in LF are significant for the global economy, the corresponding financial consequences must also be considered. The overall state of the economy is also influenced by other elements, such as the 8% unemployment rate (UR), 7% inflation rate (IR), 6% Health expenditure (HE), and 4% quality of services (QS). Designing artificial intelligence (AI) mechanisms supporting a successful economy is essential to sustainable growth. Using a database that records global crisis during the financial crisis from 2002 to 2022, Figure 3 shows how different financial factors affected the economy. The financial factors depicted in Figure PD (public debt), GCF (gross capital formation), TR (Tax Revenue), and FDI (foreign direct investment) represent important elements that influenced the state of the economy during this time.

Global Crisis was most significantly influenced by public debt, at 50%. This suggests that a significant factor influencing economic stability during the crisis was the growth of the national debt and its management. A significant influence was also exerted by Gross Capital Formation, which accounts for 25% and gauges the amount of capital invested in the economy for future production. Investments in machinery, infrastructure, and other capital assets directly impacting economic growth are reflected in the GCF's high or low level. Tax income is crucial for assessing a nation's financial stability and capacity to finance its government. Due to decreased economic activity, tax revenues may fall during a financial crisis, worsening the situation. Given its 22% contribution, it implies that while tax revenue declines contribute significantly to Global Crisis, they do so to a smaller extent than capital formation and private debt. Foreign entities' investments in a nation's assets and enterprises are called FDI. Although it has the least impact of 3%, a decline in FDI can signify waning investor confidence within this dataset. According to this, foreign direct investment (FDI) has a less significant immediate impact on the economy during crises than other factors. To maintain sustainable growth, stabilize the economy, and raise living standards, policymakers must carefully balance these factors.

Figure 4 - Political Crisis

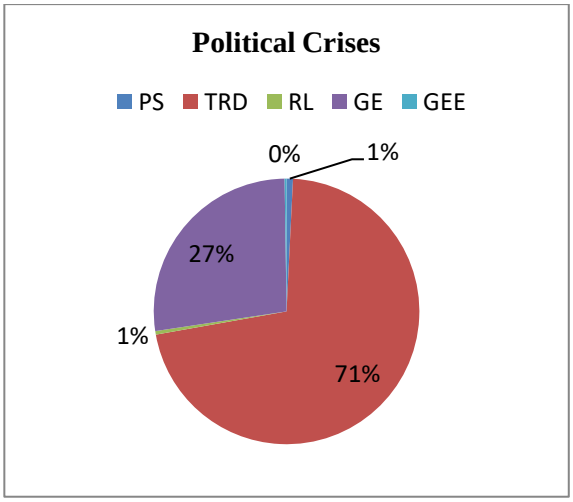
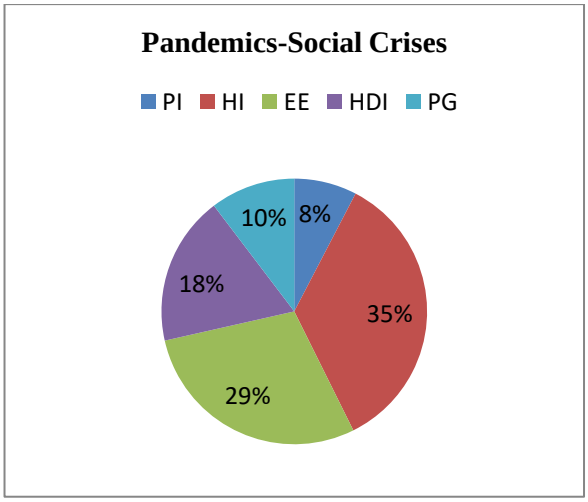


Figure 5 - Pandemics-Social Crisis



The data in Figure 4 analyze the outcomes of a political crisis from 2002 to 2022, focusing on how different political issues impacted Global Crisis throughout this time frame. The proportional contribution of each component to this Global Crisis is used to quantify it. TRADE is the dataset's most important political component, accounting for 71% of the Global Crisis that occurred over that time. Generally, trade relations refer to the agreements and stability between nations about imports, exports, tariffs, and sanctions. Economic instability, a decline in imports or exports, and a decline in market confidence are all consequences of political crises that frequently upset trade agreements. According to the high proportion, trade disruptions brought on by political unrest were the main factor impacting Global Crisis throughout the 2002–2022 timeframe. The term "rule of law" describes how well a nation upholds its legal norms, which include contract enforcement, property rights protection, and general legal stability.

The economy may become unstable if the rule of law is disturbed, as may happen with corruption, judicial independence, or legal ambiguity. It only makes up 1% of the political influence on Global Crisis in this instance, indicating that its significance was negligible throughout the period under study. The term government effectiveness describes the ability of the government to create and carry out policies, provide public services, and uphold law and order is measured by its effectiveness. According to this analysis, decreasing government effectiveness (due to poor governance, poor management, or a lack of capacity) can lead to economic instability. However, it only accounts for 0.22% of Global Crisis. This suggests that, compared to other political issues like trade relations, the direct influence of government performance on Global Crisis was relatively small. Political debt, likely state debt or debt stemming from political decisions can have an impact on a nation's economic well-being. Increased government expenditure or poor state financial management are common outcomes of political crises, and they can increase the nation's debt load. Although relevant, political debt, in this instance, only explains 1% of the influence on Global Crisis, indicating that trade relations or other factors had a more significant impact. According to the statistics in Figure 4, trade relations (TRD) account for 71% of the total influence and is the most important political factor influencing Global Crisis. This demonstrates the importance of stable foreign trade and relations in assessing a nation's economic well-being during political unrest. By contrast, the contribution of elements such as political debt (PD), government effectiveness (GEE), and the rule of law (RL) is significantly lower, with PD and RL accounting for 1% of the total and GEE for just 0.22%. This suggests that these factors have a reduced impact on economic results during political crises between 2002 and 2022.

Figure 5 shows that pandemics and social crises have various economic effects, which show the elements that contributed to Global Crisis throughout this time. These factors are quantified by their percentage contribution to economic instability. With the health index accounting for 35% of Global Crisis, it is clear how important population health is in determining economic outcomes, especially during pandemics or other health-related social crises. The money spent on the educational system is called education expenses (EE). Education systems may be shut down, their financing reduced, or other interruptions may occur during pandemics and societal crises. These events can have long-term economic repercussions, including a workforce with lower skill levels and less human capital development. Given that a population's capacity to adjust to future economic demands largely depends on its educational system, the 29% contribution suggests that disruptions in education are a major contributor to economic instability. The 18% contribution demonstrates that a country's overall social development significantly impacts economic stability, especially during crises affecting multiple life aspects. A decline in HDI during a pandemic or social crisis suggests a broader quality of life and socio-economic development deterioration. An increasing population may put more strain on housing, healthcare systems, and other vital services during pandemics, which could result in economic disruptions. The 10% contribution implies that while population dynamics play a significant role, it is not as significant as human development, education, or health. Although pandemics are important, their economic impact is frequently exacerbated by additional variables like health problems, school disruptions, and societal obstacles. According to this data, pandemics contribute 8% of all Global Crisis.

The findings show how different Pandemics-Social Crisis components affected Global Crisis from 2002 to 2022. The Health Index (HI) is the most important element, accounting for 35% of economic instability. This shows how public health issues have a direct impact on the economy. The long-term economic effects of educational disruptions during social crises were reflected in the 29% contribution from education expenses (EE). With an 18% share, the Human Development Index (HDI) highlighted the broader social influences on economic results. With a 10% contribution, population growth (PG) had less influence, suggesting that demographic shifts are important but less significant. Lastly, the Pandemics Index (Pi) contributed the least, at 8%, indicating that although pandemics are important occurrences, the broader social and health aspects surrounding them have a more significant impact on Global Crisis.

Table 2 - Artificial Intelligence (AI) Crises

Variable		Coefficient	t-Statistic	Prob.
LF		0.103300***	24.76378	0.0000
QS		0.056007	1.077185	0.2818
HE		-0.535488***	-8.765679	0.0000
UR		0.041111**	1.988290	0.0472
IR		0.024004***	3.262201	0.0012
R-squared	0.227094	Mean dependent var		1.212673
Sum squared resid	626.6248	S.D. dependent var		1.742035
Durbin-Watson stat	1.991111	J-statistic		2.626598
Instrument rank	6	Prob(J-statistic)		0.105087

*** 01% ** 05% *10%

Table 2 appears to be the results of a statistical GMM regression study, most likely from an econometric model, in which Economic socks, a dependent variable, is predicted using several Artificial intelligence (AI) independent variables, i.e., Labour Force Intelligent systems participation and Labor Force (humanity) at Risk (LF), Quality Services (QS), Health Expenditures HE, Unemployment Rate (UR), and Inflation Rate (IR). The coefficients show how the Economic socks change when the corresponding Artificial intelligence (AI) independent variable changes by one unit. Labour Force Intelligent systems participation and Labor Force (humanity) at Risk 0.103300*** and Inflation Rate 0.024004*** were 95%, and unemployment 0.041111** had a 90% significant positive effect on the Economic socks. Conversely, health expenditures (0.535488***) were negative and 95% significant, and quality services (QS) had an insignificant impact on economic socks. T-statistic values indicate a strong relationship between variables. R-squared value 0.227094 suggested model, and Sum squared resid 626.6248 indicate (observed and predicted value) were a better fit. The Durbin-Watson statistic determines whether the residuals are auto-correlative or correlated with time. The study research value of 1.991111 is close to 2, indicating no autocorrelation issue. The instrumental variable (IV) regression model is correlated with the J-statistic 2.626598. A more excellent J-statistic value suggests that the model's instruments might be reliable, and the p-value for the J-statistic is Prob 0.105087 instruments are reliable. Therefore, indications are clear: Inflation Rate, Unemployment Rate, Labour Force Risk (LF), and Health Expenditures are highly significant and reliable for Economic socks.

Table 3 - Financial Crises

Variable		Coefficient	t-Statistic	Prob.
FDI		0.296870***	4.957316	0.0000
PD		-0.012498**	-2.075980	0.0383
GCF		0.171247***	12.75757	0.0000
FDIX		-2.406756**	-2.499502	0.0127
TR		0.027392*	1.653294	0.0988
R-squared	0.154167	Mean dependent var		4.282753
Sum squared resid	7002.271	S.D. dependent var		3.627871
Durbin-Watson stat	1.621133	J-statistic		7.937118
Instrument rank	6	Prob(J-statistic)		0.004843

*** 01% ** 05% *10%

Table 3 appears to be the results of a statistical GMM regression study, in which Economic socks, a dependent variable, is predicted using several financial independent variables, i.e., foreign direct investment (FDI), Public debt (PD), Gross capital formation (GCF), Financial Development Index (FDIX), and Tax Revenue (TR). The coefficients show how the Economic socks change when the corresponding financial independent variable

changes by one unit. Foreign direct investment 0.296870*** and gross capital formation 0.171247*** were 95%, and tax revenue 0.027392* had an 85% significant positive effect on economic socks. On the other hand, Public debt (0.012498**) and Financial Development Index (2.406756**) had a negative 90% significant impact on Economic socks. Financial T-statistic values indicate a strong relationship between Economic socks. R-squared value 0.154167 suggested the model, and Sum squared resid 7002.271 indicates (that observed and predicted values) was a better fit. The Durbin-Watson statistic determines whether the residuals are auto-correlative or correlated with time. The study research value of 1.621133 is close to 2, indicating no autocorrelation issue. The instrumental variable (IV) regression model is correlated with the J-statistic 7.937118. A more excellent J-statistic value suggests that the model's instruments might be reliable, and the p-value for the J-statistic is Prob 0.004843 instruments are reliable. Therefore, indications are cleared. Financial Indicators: Foreign direct investment, Public debt, Gross capital formation, Financial Development Index, and Tax Revenue are highly significant and reliable for Economic socks.

Table 4 - Political Crises

Variable	Coefficient	t-Statistic	Prob.
PS	-0.687078***	-4.538346	0.0000
TRD	0.032031***	10.19108	0.0000
RL	-1.692417***	-5.769415	0.0000
GE	0.034565***	3.377264	0.0008
GEE	0.482862*	1.801376	0.0721

R-squared	0.115874	Mean dependent var	0.726598
Sum squared resid	625.9507	S.D. dependent var	1.380895
Durbin-Watson stat	2.004841	J-statistic	10.10391
Instrument rank	6	Prob(J-statistic)	0.001480

*** 01% ** 05% *10%

Table 4 appears to be the results of a statistical GMM regression study, in which Economic socks, a dependent variable, are predicted using several Political independent variables, i.e., Political Stability (PS), Trade (TRD), Rule of Law (RL), Government expenditure (GE), and Government Effectiveness (GEE). The coefficients show how the Economic socks change when the corresponding Political independent variable changes by one unit. Trade 0.032031*** and government expenditure 0.034565*** were 95%, and government effectiveness 0.482862* had an 85% significant positive effect on economic socks. Conversely, Political Stability (0.687078***) and Rule of Law (1.692417***) had a negative 95% significant impact on Economic socks. Political T-statistic values indicate a strong relationship between Economic socks. R-squared value 0.115874 suggested model, and Sum squared resid 625.9507 indicates (that the observed and predicted values) were a better fit. The Durbin-Watson statistic determines whether the residuals are auto-correlative or correlated with time. The study research value of 2.004841 is close to 2, indicating no autocorrelation issue. The instrumental variable (IV) regression model is correlated with the J-statistic 10.10391. A more excellent J-statistic value suggests that the model's instruments might be reliable, and the p-value for the J-statistic is Prob 0.001480 instruments are reliable. Therefore, indications are cleared. Political Indicators Political Stability, Trade, Rule of Law, Government expenditure, and Government Effectiveness are highly significant and reliable for Economic socks.

Table 5 - Pandemics-Social Crises

Variable	Coefficient	t-Statistic	Prob.
PI	0.005796***	4.581086	0.0000
HI	-0.003302***	-9.299781	0.0000
EE	-0.000162***	-2.639318	0.0085
HDI	1.012952***	8143.851	0.0000

PG		1.018363***	2075.236	0.0000
R-squared	0.999991	Mean dependent var		83.06975
Sum squared resid	616.7104	S.D. dependent var		322.4795
Durbin-Watson stat	1.964437	J-statistic		1.990597
Instrument rank	6	Prob(J-statistic)		0.158278

*** 01% ** 05% *10%

Table 5 appears to be the results of a statistical GMM regression study, in which Economic socks, a dependent variable, predicted using several Pandemics-Social independent variables, i.e., Pandemics Index (PI), Health Index (HI), Educational Expenditure (EE), Human Development Index (HDI), and Population growth (PG). The coefficients show how the Economic socks change when the corresponding Pandemics-Social independent variable changes by one unit. Pandemics Index 0.005796***, Human Development Index 1.012952*** and Population Growth 1.018363*** had a 95% significant positive effect on the Economic socks. On the other hand, the Health Index (0.003302***) and Educational Expenditure (0.000162***) had a negative 95% significant impact on Economic socks. Pandemics-Social T-statistic values indicate a strong relationship between Economic socks. R-squared value 0.999991 suggested the model and the Sum squared resid 616.7104 indicates (that observed and predicted values) were a better fit. The Durbin-Watson statistic determines whether the residuals are auto-correlative or correlated with time. The study research value of 1.964437 is close to 2, indicating no autocorrelation issue. The instrumental variable (IV) regression model is correlated with the J-statistic 1.990597. A more excellent J-statistic value suggests that the model's instruments might be reliable, and the p-value for the J-statistic is Prob 0.158278 instruments are reliable. Therefore, indications are that the Pandemics-Social Indicator Pandemics Index, Health Index, Educational Expenditure, Human Development Index, and Population growth are highly significant and reliable for Economic socks.

Overall, the findings are positive, highly significant, revealed and consistent with previous findings. Crises Influence diversity factor positively affects economic activity across all estimators at a 1% significant level (Chen, Li, & Zhu, 2024; Duval & Vogel, 2008; Malizia & Ke, 1993; Occhipinti et al., 2025; Watson & Deller, 2017). The evidence study coincides with that economies indicated a linkage between pandemics, natural disasters, global financial crises, and geopolitical upheavals which create economic disturbance (Aboelazm, 2025; Chu, Truong, & Dung, 2023; Gayathri et al., 2024; Nguyen, Nguyen, & Grote, 2023; West, 2016).

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The authors should cover the results and their interpretation in light of prior research and working hypotheses. The findings should be discussed in the widest possible context, together with their ramifications. This might also identify potential avenues for future study.

Global Crisis is sudden, unforeseen events that throw an economy out of balance and cause significant problems for governments. These Crises require quick and effective policy responses to mitigate their harmful effects, regardless of whether pandemics, natural disasters, global financial crises, or geopolitical upheavals bring them on.

A statistical GMM regression, most likely from an econometric model, in which Economic socks a dependent variable, is predicted using several Artificial intelligence (AI) independent variables, i.e., Inflation Rate (IR), Unemployment Rate (UR), Labour Force Intelligent systems participation and Labor Force (humanity) at Risk (LF), Health Expenditures (HE), and Quality Services (QS) indicated Economic socks changes when the corresponding Artificial intelligence (AI) independent variable changes by one unit. The Inflation rate and Labour Force Risk were 95%, and unemployment was 90%, a highly significant positive effect on the Economic socks. On the other hand, health expenditures were negative 95%, and quality services (QS) had an insignificant impact on economic socks. Therefore, indications are clear: Inflation Rate, Unemployment Rate, Labour Force Risk (LF), and Health Expenditures are highly significant and reliable for Economic socks.

Statistical GMM regression 2nd a model in which Economic socks, a dependent variable, is predicted using several financial independent variables, i.e., foreign direct investment (FDI), Public debt (PD), Gross capital

formation (GCF), Financial Development Index (FDIX), and Tax Revenue (TR). Economic socks change when the corresponding financial independent variable changes by one unit. Foreign direct investment and gross capital formation were 95%, and tax revenue was 85%, which significantly positively affected the economic socks. On the other hand, Public debt and the Financial Development Index had a negative 90% significant impact on Economic socks. Therefore, indications are cleared. Financial Indicators: Foreign direct investment, Public debt, Gross capital formation, Financial Development Index, and Tax Revenue are highly significant and reliable for Economic socks.

Statistical GMM regression 3rd Model in which Economic socks a dependent variable is predicted using several Political independent variables, i.e., Political Stability (PS), Trade (TRD), Rule of Law (RL), Government expenditure (GE), and Government Effectiveness (GEE). Economic socks change when the corresponding Political independent variable changes by one unit. Trade and Government expenditure was 95%, and Government Effectiveness was 85%, high significant positive effect on the Economic socks. Conversely, Political Stability and the Rule of Law had a negative 95% significant impact on Economic socks. Therefore, indications are cleared. Political Indicators Political Stability, Trade, Rule of Law, Government expenditure, and Government Effectiveness are highly significant and reliable for Economic socks.

Statistical GMM regression 4th Model in which Economic socks, a dependent variable, is predicted using several Pandemics-Social independent variables, i.e., Pandemics Index (PI), Health Index (HI), Educational Expenditure (EE), Human Development Index (HDI), and Population growth (PG). Economic socks change when the corresponding Pandemics-Social independent variable changes by one unit. The Pandemic index, Human Development Index and Population growth had a 95% significant positive effect on the Economic socks. On the other hand, the Health Index and Educational Expenditure had a negative 95% significant impact on Economic socks. Therefore, indications are that the Pandemics-Social Indicator Pandemics Index, Health Index, Educational Expenditure, Human Development Index, and Population growth are highly significant and reliable for Economic socks.

Similar Related studies have shown harmful effects on Economic socks, regardless of whether they are caused by national or international natural disasters, pandemics, financial crises, or geopolitical disturbances (Dhanda, 2024). Demand and supply and Economic socks (Burman et al., 2024), financial crises and Economic socks (Biswas, 2023; Edey, 2009), politics and economic socks (Kubitscheck, 2022; Simmons, 2022), Pandemics-Social and economic socks (Bright, 2020; Govender, King, Nyamaruze, & Quinlan, 2023; Kossowska, Letki, Zaleskiewicz, & Wichary, 2022; Neeraja & Aditi, 2020).

Similar empirical studies validate our result; the study has value toward the Crises Influence diversity factor and positively affects economic development. An economic activity currently faces enormous soaring socks. Numerous internal and external factors interact in a complex way to influence how governments react to Global Crisis. These include international considerations, fiscal space, political climate, economic conditions, and Pandemics-Social shock. The primary solution to the Economic socks context determines the best course of action to manage debt, promote long-term recovery, and stabilize the economy. Fiscal and monetary measures, such as tax breaks, government expenditure, and changes to central bank interest rates, are used to sustain demand and supply, which gets attention from policymakers. Our study reveals the importance of economic Influence sources and substantial solutions for sustainable economic development.

Global Crisis significantly impact how governments respond to them with public spending. The labor force and AI crisis is complicated, with opportunities and risks. Although artificial intelligence (AI) has enormous potential to boost output, efficiency, and the development of new industries, it also presents serious difficulties for workers, especially in the industry's most susceptible to automation. To find solutions that guarantee that the advantages of AI are widely distributed and that workers are assisted during the transition, governments, businesses, and employees will need to collaborate. The AI-driven labor force crisis will require policies addressing inequality, reskilling, and income redistribution. Keynesian theories of fiscal stimulus offer a solid framework for understanding how governments can counteract demand Crises with public spending. However, political ideology, institutional capacity, and global economic conditions also affect the scope and type of government intervention. The COVID-19 pandemic and the global financial crisis 2008 highlight the significance of timely, well-targeted government spending in stabilizing the economy. Future studies could also look more closely at the long-term effects of these responses, especially in terms of debt sustainability, economic inequality, higher government

expenditure on inflation, the national debt, structural reforms, and the possible ramifications for fiscal policy in the future.

Policymakers will receive recommendations on how to create more successful fiscal responses to future Crises, with a focus on designs that are flexible, responsive, and able to support long-term economic recovery. Technological and environmental progress leads to environmental performance; using 1% investment injection growth will also lead to environmental stability. Therefore, the energy sector should have more personal and external Risk in the future scope.

Technological advancement and artificial intelligence (AI) can deliver the most significant support for long-term economic recovery and meeting the United Nations Economic Agreement. The most effective global agreement, the 2015 Paris Climate Agreement, must establish goals to increase economic efficiency and lower economic stress.

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