

The Impact of the Great Recession in 2009 on the exports of goods and services between 2000-2019, by 25 countries in Asia and Africa - Two Way Anova Repeated Measure.

Melusi Shepherd Maseko, MBA Candidate (First Author)

Jerry L. Chi, Ph.D., Ph.D., MBA, School of Business Administration, Andrews University (Co-Author)

Grace C. Chi, Ph.D., MS, RN, School of Health Professions, School of Nursing, Andrews University (Co-Author)

Abstract

Calamities such as the 2007-2009 Great Recession, caused by the collapse of the housing market mainly incited by low interest rates and easy credit, leave a trail of profound and devastating damage in their wake. High rates of unemployment, stock market crashes and reduction in consumption rate etc. are but a few of the effects. There is evidence of certain nations being better equipped to field economic downturns such as recessions or environmental calamities such as floods and storms. The interest area for this research was to ascertain the impact that the 2009 great recession had on exports of goods and services by 25 countries in Asia and Africa between 2000 -2019. Two Way ANOVA Repeat measure data analysis was key to this study and to counteract multiple comparisons problem, Bonferroni method of correction was utilized. Findings revealed a leadership style backed by natural resources is correlated to the level of financial and overall performance of a nation before, during and after a recession calamity. The significant main effects of Test, $F(1, 25) = 30.553$, $p=.001$, Partial Eta Squared = .629 such that Post Test ($M=56.023$, $SD=3.717$) had a significant high than Pre-Test ($M= 26.890$, $SD= 3.727$) indicated more economic opportunity for trade after the Great Recession. Countries such as Saudi Arabia and the UAE had even higher significant interaction effects suggesting a boom in economic trade after the recession as compared to years before.

Introduction

Calamities such as the 2007-2009 Great Recession, caused by the collapse of the housing market mainly incited by low interest rates and easy credit, leave a trail of profound and devastating damage in their wake. High rates of unemployment, stock market crashes and reduction in consumption rate etc. are but a few of the effects.

Problem Statement

Calamities such as the 2007-2009 Great Recession, caused by the collapse of the housing market in the United States of America mainly incited by low interest rates and easy credit, leave a trail of profound and devastating damage in their wake. It is to find out whether recessions contribute significantly to lower or higher trade, specifically exports in various countries selected from Asia and Africa.

Research Purpose

Purpose of the study is to ascertain the impact that the 2009 great recession had on exports of goods and services by 25 countries in Asia and Africa between 2000 -2019.

Literature Review

Great Recession

Jagannathan, Kapoor, & Schaumburg, (2013) Argue that this large increase in the developed world's effective labor supply, triggered by geo-political events and technological innovations, coupled with the inability of existing institutions in the US and developing nations themselves to cope with this shock, set the stage for the great recession, that the financial crisis

in the US was but the first acute symptom. The lead-up to the Great Recession saw an unprecedented rise in leverage in both the household and banking sectors. Household leverage was largely in the form of mortgage debt, occurring in the context of a dramatic boom in housing prices. Both investment banks and commercial banks financed the increase in mortgage holdings by mostly short-term debt of their own. The fact that the bank debt was mostly short term also made the system vulnerable to runs, as we discuss shortly. By 2006, the financial positions of both households and banks were highly vulnerable to the decline in house prices that would soon follow (Gertler & Gilchrist, 2018). Moreover, as noted by Elsby, Hobijn, & Sahin (2010) from the perspective of a wide range of labor market outcomes, the recession that began in 2007 represents the deepest downturn in the postwar era.

According to Gertler & Gilchrist (2018) the exposure of the economy to a financial crisis is closely related to the degree to which borrowers rely on debt. The higher the fraction of financing that is debt, as opposed to equity, the more sensitive the balance sheet becomes to fluctuations in asset prices. For example, consider a borrower that self-finances an asset versus one who self-finances 10 percent and issues debt to finance the rest. of the 10 percent. According to Reid, Carroll, & Ye, (2013), this was the longest recession experienced by the United States of America post World war II period and followed 73 months of economic expansion

High rate of unemployment

In the USA, the Recession disproportionately impacted already marginalized populations. Non-Hispanic blacks (NHB), Hispanics, and those with less than a college education suffered disproportionately high unemployment compared to other groups, due in part to their greater

representation in the hard-hit construction and manufacturing industries (Margerison-Zilko, Goldman-Mellor, Falconi, & Downing, 2016)

Natural Resources

Whilst failings in the financial system triggered the global financial crisis, that crisis and the recession are more deeply rooted in contradictions in the global development trajectory. A paradigm shift in development theory and practice is a crucial element of the socio-institutional transformation now necessary to re-boot the global development cycle. (Gore, 2010). According to Southall & Melber (2009) dramatically escalating prices of raw materials, driven by rapid industrialisation in China and other countries of the global South as well as by looming world shortages, had for the few years preceding the financial meltdown and global recession of 2009 promoted a new scramble for Africa's natural resources. The new scramble for Africa is placed in the historical context of imperialism and the contributors show important continuities with the original nineteenth-century scramble. However, while the previous scramble was between major European powers, today the continent provides a battleground for competition between the US, the European Union, China and other emerging players such as India and South Africa.

Leadership Style

Understanding leadership characteristics, frameworks, components, and contexts that are beneficial to the guidance of organizational policy is useful for understanding the way in which leaders should act during a crisis. Recessions are common throughout economies; yet, many see recessions as crises. Due to the chaotic nature of economic recessions, leaders must work in

conditions of uncertainty, complexity, and volatility. (Walker, Earnhardt, Newcomer, James W. Marion, & Tomlinson, 2016)

Hypothesis

The hypothesis for this research is that the Great recession as the treatment had a significant impact on the exports of products and services after in 25 countries spread across Africa and Asia.

Methods

- Two Way ANOVA Repeat measure data analysis was key to this study. SPSS used for validation, descriptive statistics.
- To counteract multiple comparisons problem, Bonferroni method of correction was utilized
- International Monetary Fund (IMF)Website was the source for the secondary data

Sample and Data Collection

Data was collected from the International Monetary Fund (IMF) covering 25 countries in

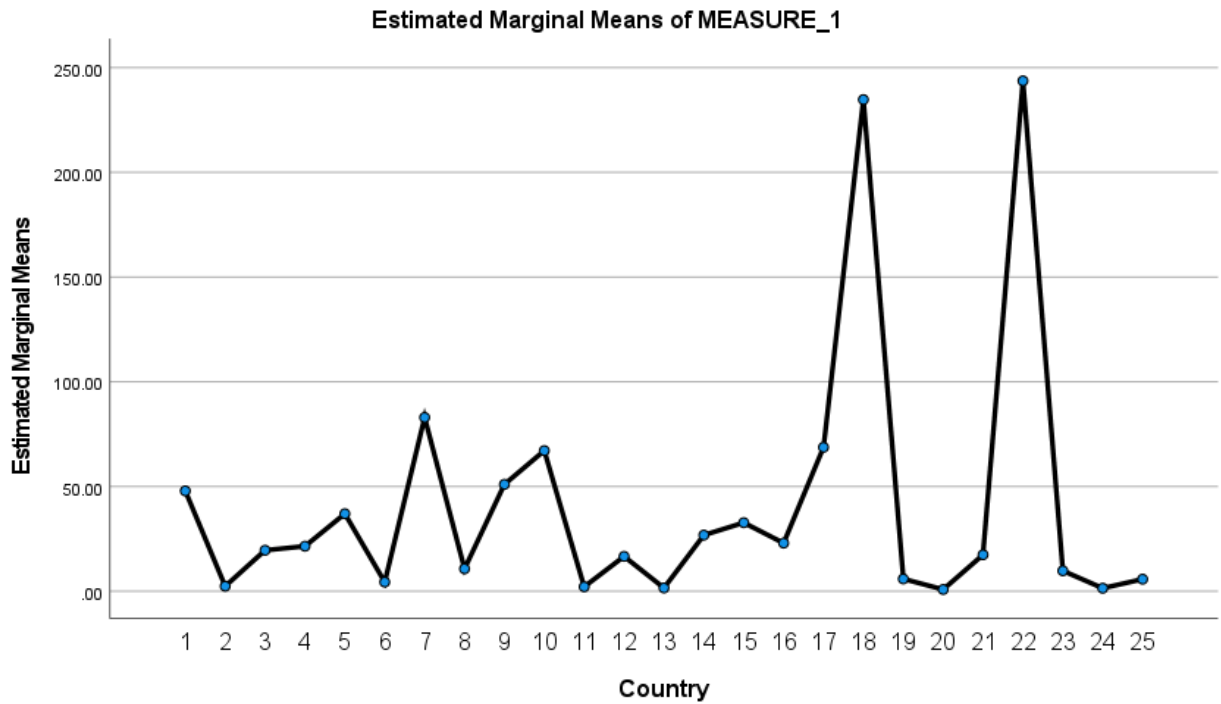
Asia and Africa. See Fig. 1

Country Group	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Algeria	22.56	20.00	20.01	26.03	34.07	48.84	57.32	63.48	82.08	48.17	60.66	76.63	75.69	68.29	63.54	38.04	32.49	37.68	44.44	38.55
Armenia	0.45	0.56	0.75	0.98	1.12	1.46	1.65	1.97	1.94	1.56	2.21	2.74	2.92	3.16	3.32	3.14	3.56	4.41	4.94	5.72
Azerbaijan	2.06	2.37	2.67	3.06	4.24	8.33	13.95	22.52	32.13	22.87	28.54	37.21	36.91	35.91	32.56	20.03	17.58	19.84	25.48	23.63
Bahrain	8.07	7.48	7.94	9.16	12.94	16.36	18.87	20.71	24.83	19.21	22.84	28.61	31.41	34.10	32.07	25.65	23.78	26.88	29.96	29.56
Egypt	15.98	16.93	15.80	18.01	22.95	27.95	33.89	39.43	53.28	47.03	46.61	48.45	45.70	49.01	43.46	44.06	34.78	37.13	47.31	52.92
Georgia	0.85	0.87	0.99	1.25	1.63	2.15	2.50	3.16	3.66	3.18	4.03	5.24	6.02	7.17	7.04	6.11	6.18	7.56	8.90	9.54
Iran, Islamic Republic of	30.72	26.43	34.91	41.85	50.91	66.06	82.84	103.83	106.93	95.21	116.18	154.79	104.28	100.20	98.56	74.56	92.38	105.64	103.29	70.34
Jordan	3.54	3.78	4.55	4.83	6.00	6.71	8.20	9.39	12.71	11.08	12.77	13.76	14.33	14.25	15.55	14.14	13.60	14.32	15.11	16.19
Kazakhstan	10.34	10.19	11.57	14.94	22.61	30.39	41.44	51.77	76.26	48.03	65.51	89.53	91.93	91.10	86.08	51.00	41.57	53.81	67.15	65.91
Kuwait	21.30	17.91	17.01	24.94	32.78	50.08	64.90	72.72	98.41	65.90	76.13	112.94	128.49	121.93	110.74	60.48	52.10	61.79	79.46	73.32
Kyrgyz Republic	0.57	0.56	0.64	0.82	1.02	1.05	1.48	2.02	2.77	2.33	2.38	3.24	3.58	3.89	3.38	2.47	2.45	2.64	2.75	3.13
Lebanon	6.24	6.60	5.88	11.54	12.25	13.57	14.81	16.80	22.82	21.61	20.34	23.93	20.63	20.89	19.26	19.83	19.10	19.16	19.62	18.42
Mauritania	0.40	0.40	0.41	0.36	0.49	0.70	1.41	1.45	1.81	1.48	2.20	2.93	2.79	2.81	2.10	1.63	1.67	2.00	2.15	2.63
Morocco	7.89	8.73	9.46	11.00	13.18	15.95	17.74	27.46	33.43	26.28	30.31	35.53	34.59	35.10	36.18	33.30	34.39	38.77	43.24	44.05
Oman	11.77	11.68	11.78	12.32	14.12	19.63	22.90	26.37	39.54	29.27	38.41	49.42	54.83	59.38	56.70	39.08	31.05	36.96	46.32	43.69
Pakistan	9.58	10.28	11.06	13.69	15.10	17.80	20.31	21.41	24.01	23.21	24.89	31.11	29.73	31.53	30.42	29.96	27.43	27.92	30.62	30.22
Qatar	9.04	11.56	11.68	14.52	20.36	28.98	38.24	48.05	70.73	50.01	77.98	121.84	142.88	144.51	140.23	92.29	72.48	85.20	102.56	92.05
Saudi Arabia	82.26	72.98	77.64	98.96	131.85	191.97	225.21	249.57	322.85	202.06	261.83	376.22	399.42	387.75	354.97	218.01	200.86	239.99	314.92	285.86
Sudan	1.83	1.71	2.08	2.58	3.82	4.97	5.93	9.39	12.09	8.58	11.65	11.03	5.13	6.05	6.02	4.90	4.64	5.88	5.00	5.11
Tajikistan	0.85	0.73	0.77	0.99	1.22	0.49	0.48	0.53	0.58	0.60	0.84	1.05	1.31	0.94	0.84	0.82	0.90	1.12	1.12	1.24
Tunisia	8.56	9.45	9.45	10.84	13.17	14.65	15.98	20.06	25.19	19.92	22.23	22.60	22.25	22.08	21.69	17.55	16.99	17.67	19.50	19.26
United Arab Emirates	51.70	50.79	54.36	69.54	93.97	122.07	152.43	186.69	248.80	201.96	238.33	315.87	375.51	392.27	401.37	361.24	360.63	384.07	408.50	404.05
Uzbekistan	3.38	3.45	2.99	3.88	5.02	5.58	6.66	9.30	11.78	12.14	12.06	14.25	12.98	13.59	12.93	11.85	10.55	12.41	14.14	16.99
West Bank and Gaza	0.89	0.62	0.48	0.52	0.60	0.72	0.74	1.07	1.17	1.13	1.37	1.80	1.87	2.11	2.21	2.24	2.21	2.54	2.60	2.66
Yemen, Republic of	4.01	3.54	3.96	4.29	5.05	6.84	7.87	7.77	10.18	7.12	9.27	9.93	8.80	9.04	9.29	3.84	1.05	1.01	1.31	1.56

Results and Implications

There are two notable peaks for countries 18 and 22, Saudi Arabia and United Arab Emirates respectively. Due to its position as the global highest oil producer, Saudi Arabia was able to mitigate the effects of the Great recession. According to Alkhatlan (2013) results show that oil revenues have a strong positive impact on real Gross Domestic Product (GDP) in both the short and the long runs, and this positive relationship holds for different specification of the model. Domestic consumption of oil in industrial sector has negative impact on GDP in both the short and the long runs.

Fig. 2

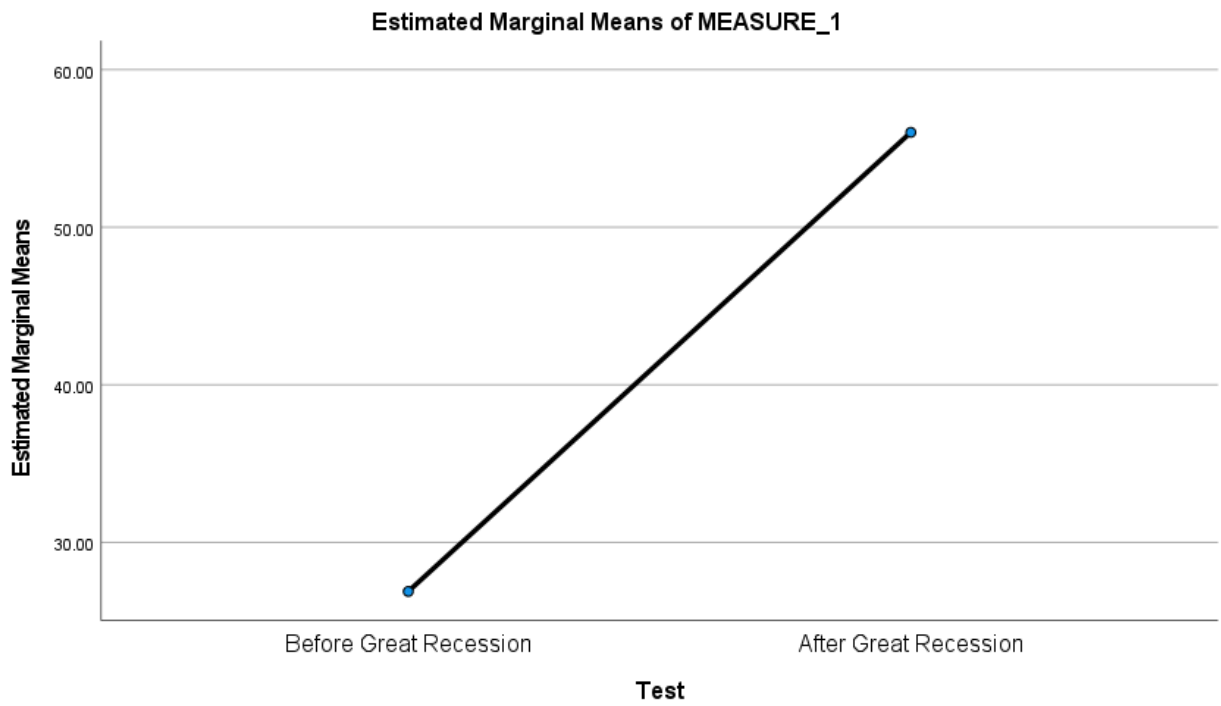


Literature points to UAE as a fast growing economy and according to Cherian & Farouq (2013), UAE is considered as a fast developing country with a strong interest for the best management practices to improve overall performance. A combination of new technologies, diversification of products, quicker credit and risk appraisal, managing treasury and human resource at the priority would take the bank industry to the heights of international excellence in the Gulf region, However the interaction effect was slightly significant indicating that After Great Recession has slightly higher effects in Post-test than Pre-test. (Fig. 3)

Fig. 3



Fig. 4



Graphical Representation and comparison between pre and post-test. Fig.

Fig. 5

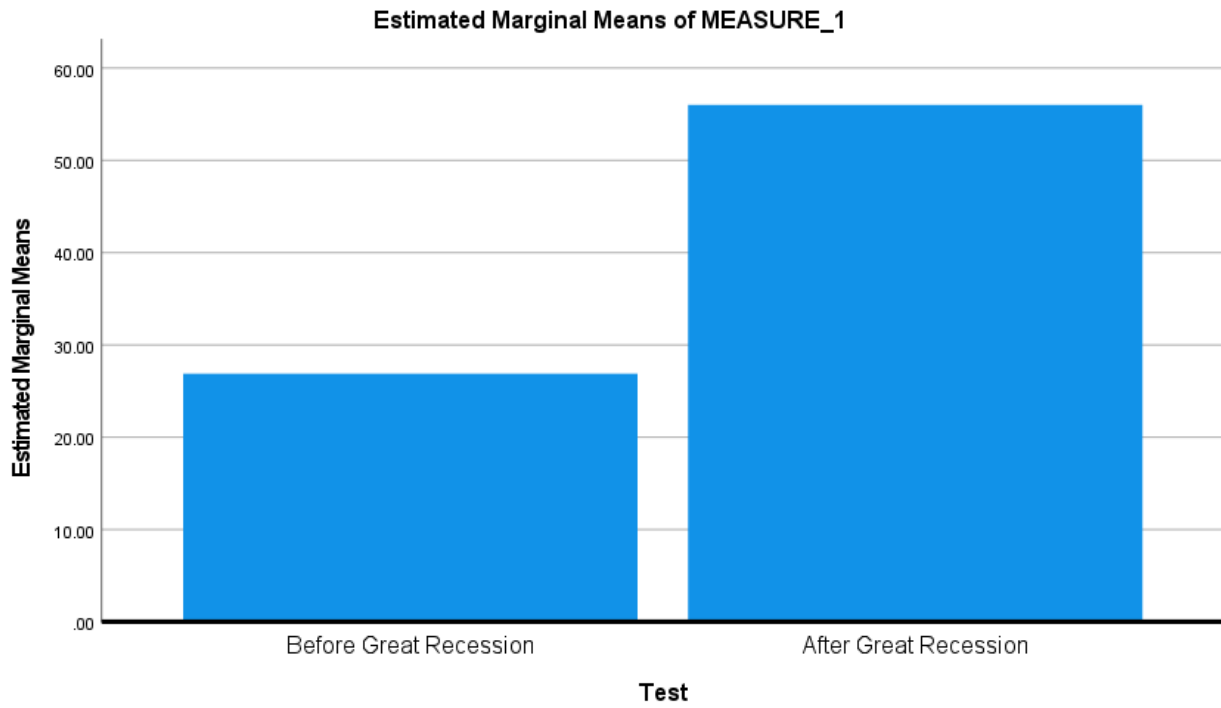


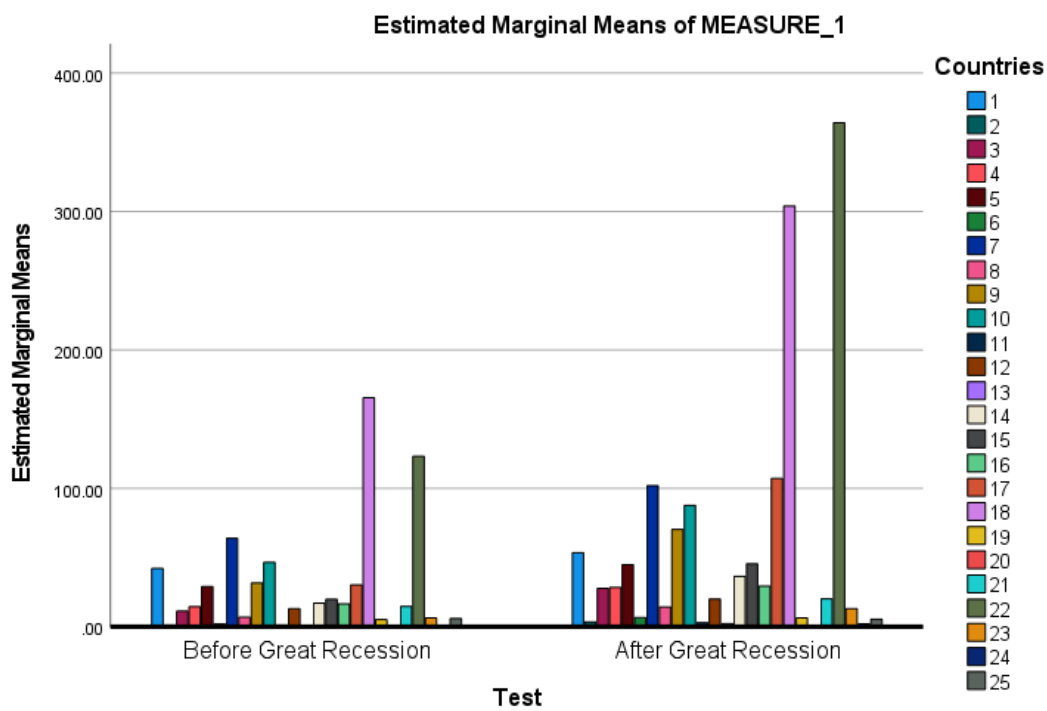
Fig. 6 Test Estimates

Measure: MEASURE_1

Test	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Before Great Recession	26.890	3.727	19.060	34.720
After Great Recession	56.023	3.727	48.193	63.853

There are significant main effects of Test, $F(1, 25) = 30.553, p = .001$, Partial Eta Squared = .629 such that Post Test ($M = 56.023, SD = 3.717$) had a significant high than Pre-Test ($M = 26.890, SD = 3.727$)

Fig. 7



From the above, it is apparent that the Great depression of 2007-2009 created significant differences in how the economies of the affected countries fared pre and post the depression.

Further to this, see fig.

Fig. 8 Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	859328.158	1	859328.158	247.474	<.001	.932	247.474	1.000
Test	106091.752	1	106091.752	30.553	<.001	.629	30.553	.999
Error	62503.171	18	3472.398					

a. Computed using alpha = .05

Significance level of <.001, implying that the Great Recession created differences.

Limitations of the Study

Time constraints necessitated a rather rapid analysis of available data effectively excluding other important parameters that measure economic activity or performance. Data focusses on only 25 nations split over Asia and Africa excluding other major economies such as China, USA etc.

Directions for Future Research

In order to prepare adequately for any possible future calamity such as the great recession it is important to make further investigations as to the nature of policies in place for those

countries that were hardest hit by the recession and compare them against those of nations that fared better. With the current global unrest, Ukraine – Russia war and the general global unrest, there is a likelihood of another global recession and employees face the unpleasant reality of job losses, compounded by the recent onslaught of Covid-19. Future research should have a focus on the relationship between recessions and physical and mental health,

Conclusion

Uncertainty is a harsh reality affecting humanity, and how we navigate through calamities such as recessions, pandemics, endemics etc. calls for extensive preparation to mitigate these challenge. However, this does not guarantee fool proof protection but at least it provides some cushion to weather the myriad of storms typical of recessions such as unemployment, mental and physical health, low demand of goods and services, business closure etc.

References

- Alkhathlan, K. A. (2013, July 6). Contribution of oil in economic growth of Saudi Arabia. *Applied Economics Letters*, 20(4), 343-348. Retrieved from <https://doi.org/10.1080/13504851.2012.703310>
- Cherian, J., & Farouq, S. (2013, June). Does Effective Leadership Style Drive Financial Performance of Banks? Analysis in the Context of UAE Banking Sector. *International Journal of Economics and Finance*, 5(7), 105-114. doi:<http://dx.doi.org/10.5539/ijef.v5n7p105>
- Elsby, M. W., Hobijn, B., & Sahin, A. (2010, May). The Labor Market in the Great Recession. *National Bureau of Economic Research*. doi:10.3386/w15979
- Gertler, M., & Gilchrist, S. (2018). What Happened: Financial Factors in the Great Recession. *Journal of Economic Perspectives*, 32(3), 3-30.
- Gore, C. (2010, July 19). The global recession of 2009 in a long-term development perspective. *Journal International Development*. Retrieved from <https://doi.org/10.1002/jid.1725>
- Jagannathan, R., Kapoor, M., & Schaumburg, E. (2013). Causes of the great recession of 2007–2009: The financial crisis was the symptom not the disease! *Journal of Financial Intermediation*, 22(1), 4-29. Retrieved from <https://doi.org/10.1016/j.jfi.2012.06.002>
- Margerison-Zilko, C., Goldman-Mellor, S., Falconi, A., & Downing, J. (2016). Health Impacts of the Great Recession: a Critical Review. (J. M. Oakes, Ed.) *Current Epidemiology Reports*, 3, 81–91 . doi:<https://doi.org/10.1007/s40471-016-0068-6>
- Reid, N., Carroll, M. C., & Ye, X. (2013). The Great Recession of 2007-2009. *Economic Development Quarterly*, 27(2), 87–89. Retrieved from <https://doi.org/10.1177/0891242413485633>
- Southall, R., & Melber, H. (2009). A new scramble for Africa? Imperialism, investment and development. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:nai:diva-11>
- Walker, S. M., Earnhardt, M. P., Newcomer, J. M., James W. Marion, J., & Tomlinson, J. C. (2016). Crisis Leadership During the Great Recession of 2008. *International Journal of Leadership and Change*, 4 (1). Retrieved from <https://digitalcommons.wku.edu/ijlc/vol4/iss1/9>