Czech University of Life Sciences Prague

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Diploma Thesis

Unemployment in Jordan: Causes and Possible Solutions

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Summary

This diploma thesis examines the unemployment situation in Jordan, delving into its root causes, demographic disparities, and the impact of both public and private sectors on employment rates. Central to this exploration is the construction and analysis of an econometric model aimed at identifying the primary determinants affecting Jordan's unemployment rates, focusing on variables such as real GDP growth, government education expenditure, new business registrations, refugee populations, and significant socio-political events.

The findings reveal that new business registrations, the refugee population, and significant events significantly impact unemployment rates, underlining the importance of entrepreneurship and the complex challenges posed by socio-political dynamics and the refugee influx. Contrarily, real GDP growth and government education expenditure are not significant determinants, suggesting that economic growth alone does not guarantee employment creation, and that there is a mismatch between the education system's output and the labour market's needs.

Predictions for 2023–2030 suggest a gradual decrease in unemployment rates, reflecting the potential effectiveness of economic recovery measures and job creation policies, yet underscoring the need for comprehensive and sustained policy-making to tackle the multifaceted nature of unemployment in Jordan. To combat these issues, the thesis proposes several practical recommendations, including fostering investments in labour-intensive sectors, reforming education and vocational training systems, supporting entrepreneurship, and enhancing public-private sector collaboration.

These strategies aim for a multifaceted approach to reducing unemployment, enhancing economic growth, and ensuring a resilient labour market capable of absorbing the country's young and rapidly growing population. The thesis can serve policymakers in Jordan and other similar economies to devise effective strategies addressing unemployment and fostering economic development.

Keywords: unemployment, economic growth, GDP, Jordan

Table of Contents

AIMS

The primary target of this diploma thesis is to explore the unemployment situation in Jordan. It aims to analyze the root causes, looking closely at various elements – with a focus on socioeconomic trends – that may have significantly influenced the current situation.

A significant portion of the study will be dedicated to analyzing the implications of prolonged unemployment, particularly focusing on demographic disparities such as youth unemployment, gender-based differences, and regional variations within Jordan. This will provide a comprehensive picture of the affected groups and the unique challenges they face. In addition, the role of the private sector will be explored to determine its influence on employment rates and its potential to drive future job creation.

The main aim is to construct an econometric model that will examine the unemployment situation in Jordan, specifically focusing on the influence of variables such as GDP growth, government education expenditure, the number of new businesses, the refugee population, and the impact of significant events such as the Arab Spring and COVID-19 pandemic. This model analyses how these factors impact Jordan's unemployment rates.

Lastly, this thesis will not just highlight problems but also propose actionable, evidence-based solutions. The aim is to find a long-term solution to reduce unemployment and boost economic growth in Jordan.

The stated objectives can be divided into the following aims:

I.   Construct an econometric model that identifies the main factors determining Jordan's unemployment rate.

II. Based on the constructed econometric model, conduct a prediction of the unemployment rate for the period 2023–2030.

III. Following the research conducted, propose specific recommendations to reduce unemployment in Jordan.

Hypotheses

The set of hypotheses below was created to direct the research. These hypotheses aim to explore different factors influencing Jordan's unemployment rate. By adopting this systematic approach, it is aimed to examine the complex interactions between economic growth, societal changes, and employment trends, offering a deeper insight into the labour market's mechanics.

- H_1: Real GDP growth is negatively correlated with the unemployment rate, with higher economic growth leading to job creation and lower unemployment.

- H_2: Higher government education expenditure is expected to correlate with lower unemployment rates, under the assumption that better-funded education systems improve job readiness and economic participation.

- H_3: An increase in the number of new businesses registered indicates private sector growth and is expected to be negatively correlated with the unemployment rate, as new businesses can create new job opportunities.

- H_4: An increase in the refugee population in Jordan is posited to correlate with a rise in the unemployment rate due to additional pressures on the job market, potentially worsen by a parallel increase in informal employment, as refugees may seek work outside the formal job market.

- H_5: Events such as the Arab Spring and the COVID-19 pandemic are expected to show a positive correlation with the unemployment rate, reflecting the negative impact these events had on the economy, particularly through the downturn in certain sectors such as tourism, which is a significant source of employment in Jordan.

METHODOLOGY

The diploma thesis is divided into two parts; a theoretical one in the form of a literature review and an analytical one containing conducted analyses. The research draws from the theoretical foundations of economic theory with a focus on unemployment issues.

To gain a comprehensive understanding of the unemployment landscape in Jordan, a range of econometric and statistical methods are employed. These methods are critical in interpreting data, which are primarily sourced from reputable institutions such as the International Labour Organization and the World Bank.

The focus is on Jordan's unemployment rate, and how it is impacted by factors such as real GDP growth, government education expenditure (% of budget), growth of the private sector (new businesses registered), size of the refugee population, and shock events represented by the Arab Spring and the COVID-19 pandemic. All indicators are collected for the period 2006–2022.

CONCLUSION

This thesis embarked on a detailed exploration to understand the complex dynamics of unemployment in Jordan, examining its roots, impacts, and viable solutions through a methodical econometric model. The research aimed to construct a detailed model to find out the key determinants impacting Jordan's unemployment rates, predict future unemployment trends, and propose actionable strategies to tackle this long-term issue.

The econometric analysis revealed significant insights into the determinants of unemployment in Jordan. It highlighted the critical role of new business registrations, the refugee population, and significant socio-political events such as the Arab Spring and the COVID-19 pandemic in shaping the unemployment landscape. These findings underscore the importance of fostering an environment encouraging entrepreneurship, effectively managing the integration of refugees into the labour market, and preparing for the economic consequences of unpredicted global and regional crises.

Contrary to the initial hypotheses, the research found that real GDP growth and government education expenditure do not significantly influence unemployment rates. This suggests that while Jordan has experienced economic growth, it has not been adequately labour-intensive to substantially reduce unemployment. Additionally, the insignificance of government education expenditure as a determinant points to a disconnect between the skills provided by the education system and the demands of the job market. This misalignment emphasizes the need for a substantial reform in education and vocational training systems to equip young Jordanians with the skills required in the contemporary labour market.

The data presented above fulfilled the first aim; construct an econometric model that identifies the main factors determining Jordan's unemployment rate.

The projections for unemployment rates between 2023 and 2030 highlight a path filled with challenges and opportunities. The expected gradual decrease in unemployment rates suggests an emerging phase of economic recovery and the potential effectiveness of job creation policies. This outlook, however, is tempered by the unpredictability of future trends. The near match between the predicted unemployment rate for 2023 and the actual rate suggests the model's reliability in forecasting economic conditions within Jordan's labour market.

By 2025, a noticeable decline in unemployment to 17.63% suggests positive effects of economic recovery or job creation efforts. Yet, the forecasted rise in rates for 2026 and 2027 signals possible economic instability or challenges in maintaining job growth momentum. The predictions for 2028 to 2030, with unemployment rates expected to drop to pre-2016 levels, reflect an optimistic view of Jordan's economic policies and structural reforms positively influencing the labour market.

These forecasts underline the complexity of addressing unemployment in Jordan and the need for a sustained policy approach to achieve long-lasting reductions in unemployment rates. The anticipated fluctuations in unemployment rates underscore the critical need for resilient economic and labour market policies.

The data presented above fulfilled the second aim; based on the constructed econometric model, conduct a prediction of the unemployment rate for the period 2023–2030.

The results and conclusions presented in this diploma thesis can serve officials of Jordan, or other authorized persons addressing the issue of unemployment. Based on the analysis and findings, a set of recommendations emerges to combat unemployment in Jordan. These suggestions aim to stimulate job creation, enhance skills alignment, and boost economic resilience.

First, investment in labour-intensive industries such as catering, leather, and textiles should be encouraged to capitalize on their employment generation potential. The industrial sector's significant workforce growth from 2011 to 2021 underscores this opportunity.

Second, reforms in education and vocational training are needed to better align with job market demands. This includes curriculum updates and quality improvements in vocational training, emphasizing the collaboration between educational institutions and the private sector.

Third, supporting entrepreneurship through better access to finance, regulatory simplification, and incentives, especially for youth and women, can drive job creation. Expanding microfinance, as evidenced by World Bank findings, could significantly empower entrepreneurs.

Fourth, enhancing public-private partnerships to stimulate private sector growth and job creation is critical. Drawing on successful models such as the IFC's initiatives can provide a blueprint for fostering economic development.

Lastly, developing programs for refugee integration into the labour market, without displacing local workers, is essential. Encouraging refugee entrepreneurship, through dedicated support centres, can mitigate unemployment impacts and contribute to the economy.

Implementing these strategies requires collabourative efforts from the government, the private sector, educational institutions, and international organizations to achieve a meaningful reduction in unemployment rates in Jordan.

The data presented above fulfilled the third aim; following the research conducted, propose specific recommendations to reduce unemployment in Jordan.

REFERENCES

Literature

1. **Ajluni, S.**: "The Syrian Refugee Crisis and Its Impact on the Jordanian Labour Market". West Asia-North Africa Institute, 2019.

2. **Alawad, A., Kreishan, F., Selim, M.**: "Determinants of Youth Unemployment: Evidence from Jordan". International Journal of Economics and Business Administration, 2020, vol. 4, no. 152-165. ISSN: 2241-4754.

3. **Al-Azzam, F., Al-Emyan, M., Abu-Hamatte, Z. S. H., Abu-Hamatte. S. S.**: "Towards possible dynamic and flexible labour market: Aqaba-Jordan". Current Politics and Economics of the Middle East, 2011, vol. 1, no. 1/2. ISSN: 1939-5809.

4. **Al-Sawai'e, K. M., Sawaie, K.**: "The Relationship between Unemployment and Economic Growth in Jordan: An Empirical Study using the ARDL Approach". International Journal of Innovation, 2020, vol. 14, no. 2. ISSN: 1757-2223.

5. **Al-Tal, R., Al-Husseini, J.**: "Youth Unemployment in Jordan: Failed Strategies and Deferred Promises". Arab Renaissance for Democracy and Development, 2023. HAL ID: halshs-04362170.

6. **Assaad, R., Krafft, C.**: "The Jordanian Labour Market: Between Fragility and Resilience". 2019. ISBN: 978-0198846079.

7. **Assaad, R.**: "The Jordanian Labour Market in the New Millennium". 2014. ISBN: 978-0198702054.

8. **Elkahlout, G., Hadid, A.**: "Stable Jordan: How a Monarchy Survived Disorder". Asian Affairs, 2021, vol. 52, no. 4. ISSN: 1477-1500.

9. **Chandorkar, M., Furtlehner, C., Poduval, B., Camporeale, E., Sebag, M.**: "Dynamic Time Lag Regression: Predicting What and When". ICLR 2020 - 8th International Conference on Learning Representations, 2020. HAL ID: hal-02422148.

10. **CHF International**: "Syrian Refugees Crisis: Rapid Assessment". 2012.

11. **Cull, R., Morduch, J.**: "Microfinance and Economic Development". World Bank Group, 2017, Policy Research Working Paper, no. 8252.

12. **Elsby, M. W. L., Michaels, R., Solon, G.**: "The Ins and Outs of Cyclical Unemployment". American Economic Journal: Macroeconomics, 2009, vol. 1, no. 1. ISSN: 1945-7715.

13. **European Training Foundation**: "Jordan – Education, Training and Employment Developments 2020". European Union, 2020.

14. **Hailat, M., Baniata, A., Magableh, S.**: "Informal Employment in Era of Asylum: insights from the Second Highest Worldwide Host Country of Refugees". Migration Letters, 2023, vol. 21, no. 1. ISSN: 1741-8984.

15. **Hamed, N.**: "The determinants of Jordan's stability case study: The arab spring (2011–2019) and the COVID-19 pandemic". Asian Journal of Comparative Politics, 2021, vol. 7, no. 3. ISSN: 2057-8911.

16. **International Finance Corporation**: "Creating Markets in Jordan: Country Private Sector Diagnostic". World Bank Group, 2021.

17. **International Labour Organization**: "School-to-work transition of young women and men in Jordan". 2023. ISBN: 978-92-2-038882-2.

18. **Ismail, L. B., Alawamleh M., Giacaman, S., Alawamleh, K. J.**: "The mismatch between labour market needs and education: the example of Jordan". International Journal of Business Excellence, 2020, vol. 22, no. 2. ISSN: 1756-0047.

19. **Jordan's Minister of Energy and Mineral Resources**: "Summary of Jordan Energy Strategy 2020-2030". 2020.

20. **Kasoolu, S., Hausmann, R., O'Brien, T., Santos, M. A.**:: "Female Labour in Jordan: A Systematic Approach to the Exclusion Puzzle". Center for International Development at Harvard University, 2019.

21. **Khaled, N., Almaaitah, A., Al-Abadi, A. F., Al Manasir, A. H.**: "The Effect of Covid-19 on the Economy of Jordan". YMER Digital, 2022, vol. 21, no. 2. ISSN: 0044-0477.

22. **Matta, C. E., Bianchesi, N. M. P., Oliveira, M. S., Balestrassi, P. P., Leal, F.**: "A comparative study of forecasting methods using real-life econometric series data". Production, 2021, vol. 31, no. 17. ISSN: 1980-5411.

23. **Perosino, L.**: "Comprehensive Overview of the Agricultural Sector in Jordan". Agence Française de Développement, 2023, no. 72. ISSN: 2492-2838

24. **Razzaz, S.**: "A Challenging Market Becomes More Challenging: Jordanian Workers, Migrant Workers and Refugees in the Jordanian Labour Market." International Labour Organization, 2017. ISBN: 97892213034.

25. **Qaqish, A., Al-Omari, M., Abbas, M. M., Ghazo, M.**: "Two years of COVID-19 pandemic in Jordan: A focus on epidemiology and vaccination". Journal of Global Health, 2022, vol. 12. ISSN: 2047-2986.

26. **Tobin, S. A.**: "Jordan's Arab Spring: The Middle Class and Anti-Revolution". Middle East Policy, 2012, vol. 19, no. 1. ISSN: 1475-4967.

27. **United Nations Development Programme**: "Labour Market: The Case of Vocational Training in Jordan". 2014.

28. **World Bank**: "Hashemite Kingdom of Jordan Understanding How Gender Norms in MNA Impact Female Employment Outcomes". 2018.

29. **World Bank**: "Jordan - Resolving Jordan's Labour Market Paradox of Concurrent Economic Growth and High Unemployment". 2008.

30. **Winkler, H., Gonzalez, A.**: "Jobs Diagnostic Jordan". World Bank Group, 2019, Jobs Series, no. 18.

Internet sources

1. **All About Circuits** [online]: "The Normal Distribution: Understanding Histograms and Probability". 2020 [cit. 21.02.2024]. Available at: https://www.allaboutcircuits.com/technical-articles/normal-distribution-understanding-histograms-probability

2. **CEIC** [online]: "Jordan Real GDP Growth". 2023 [cit. 31.12.2023]. Available at: https://www.ceicdata.com/en/indicator/jordan/real-gdp-growth

3. **Consultancy-me** [online]: "Jordan's tourism sector set for strong post-pandemic revival". 2021 [cit. 25.1.2024]. Available at: https://www.consultancy-me.com/news/4281/jordans-tourism-sector-set-for-strong-post-pandemic-revival

4. **European Bank for Reconstruction and Development** [online]: "The EBRD in Jordan – Competitive private sector, SME and inclusive growth". 2022 [cit. 11.1.2024]. Available at: https://www.ebrd.com/private-sector-jordan.pdf&ved=2ahUKEwihsbi60pOFAxXIgP0HHatqCGsQFnoECBMQAQ&usg=AOvVaw1e3cbh_kK_A11Lw0xkySoC

5. **International Monetary Fund** [online]: "Econometrics: Making Theory Count".
   2023 [cit. 18.12.2023]. Available at:
   https://www.imf.org/external/pubs/ft/fandd/basics/econometric.htm

6. **International Monetary Fund** [online]: "Economic Models: Simulations of
   Reality". 2023 [cit. 16.12.2023]. Available at:
   https://www.imf.org/external/pubs/ft/fandd/basics/models.htm

7. **International Monetary Fund** [online]: "What Is Econometrics?". 2023 [cit.
   18.12.2023]. Available at:
   https://www.imf.org/external/pubs/ft/fandd/2011/12/basics.htm

8. **International Labour Organization** [online]: "ILO Response to Syrian Refugee
   Crisis in Jordan". 2019 [cit. 12.01.2024]. Available at:
   https://www.ilo.org/beirut/areasofwork/employment-policy/syrian-refugee-
   crisis/jordan/lang--en/index.htm

9. **International Labour Organization** [online]: "Jordan endorses a national
   framework for regulating the informal economy ". 2015 [cit. 11.1.2024]. Available
   at: https://www.ilo.org/beirut/media-centre/news/WCMS_363990/lang--
   en/index.htm

10. **International Labour Organization** [online]: The Jordanian Labour Market -
    Multiple segmentations of labour by nationality, gender, education and occupational
    classes. 2015 [cit. 10.1.2024]. Available at:
    https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-
    beirut/documents/publication/wcms_471869.pdf

11. **Introduction to Econometrics with R** [online]: "Random Variables and
    Probability Distributions". 2023 [cit. 15.12.2023]. Available at:
    https://www.econometrics-with-r.org/2.1-random-variables-and-probability-
    distributions.html

12. **Harvard University** [online]: "Econometrics". 2023 [cit. 21.12.2023]. Available at:
    https://economics.harvard.edu/files/economics/files/honor_review_1123.pdf

13. **Jordan Economic Forum** [online]: "Unemployment in Jordan: Reality, Expectations and Proposals". 2020 [cit. 10.12.2023]. Available at: https://www.jordaneconomicforum.com/wp-content/uploads/2020/11/JEF-Unemployment-Reviewed-ENG-.docx.pdf

14. **Jordan's Department of Statistics** [online]: "Gross Domestic Product At current Prices ". 2021 [cit. 18.02.2024]. Available at: http://www.dos.gov.jo/dos_home_a/main/economic/nat_account/sel2/nat_6/3.pdf

15. **Jordan's Ministry of Planning and International Cooperation** [online]: "Five-Year Reform Matrix". 2020 [cit. 22.1.2024]. Available at: https://www.mop.gov.jo/ebv4.0/root_storage/en/eb_list_page/five_year_reform_matrix_-_midterm_progress_update_-_july_2020-0.pdf

16. **Macrotrends** [online]: "Jordan Population Growth Rate 1950-2024". 2024 [cit. 10.01.2024]. Available at: https://www.macrotrends.net/global-metrics/countries/JOR/jordan/population-growth-rate

17. **MED MSMEs Programme** [online]: "MSME development policies and programmes in Jordan". 2024 [cit. 16.01.2024]. Available at: https://medmsmes.eu/jordan

18. **Middle East Institute** [online]: "Is Jordan's public debt on a sustainable path". 2023 [cit. 15.01.2024]. Available at: https://www.mei.edu/publications/jordans-public-debt-sustainable-path

19. **Middle East Institute** [online]: "Overcoming unemployment in Jordan: The need for evidence-based policies". 2021 [cit. 21.02.2024]. Available at: https://www.mei.edu/publications/overcoming-unemployment-jordan-need-evidence-based-policies

20. **Project on Middle East Democracy** [online]: "Jordan: What Happened, Why, and What's Next?". 2021 [cit. 16.01.2024]. Available at: https://pomed.org/publication/jordan-what-happened-why-and-whats-next

21. **Statistics By Jim** [online]: "7 Classical Assumptions of Ordinary Least Squares (OLS) Linear Regression". 2018 [cit. 17.12.2023]. Available at: https://statisticsbyjim.com/regression/ols-linear-regression-assumptions

22. **Statistics By Jim** [online]: "How to Interpret P-values and Coefficients in Regression Analysis". 2018 [cit. 22.12.2023]. Available at: https://statisticsbyjim.com/regression/interpret-coefficients-p-values-regression

23. **Statistics How To** [online]: "Breusch-Pagan-Godfrey Test: Definition". 2024 [cit. 10.02.2024]. Available at: https://www.statisticshowto.com/breusch-pagan-godfrey-test

24. **Statistics How To** [online]: "Durbin Watson Test & Test Statistic". 2024 [cit. 9.02.2024]. Available at: https://www.statisticshowto.com/durbin-watson-test-coefficient

25. **Statistics How To** [online]: "Jarque-Bera Test". 2024 [cit. 11.02.2024]. Available at: https://www.statisticshowto.com/jarque-bera-test

26. **The Jordan Times** [online]: "IFC's Amman office becomes regional hub". 2023 [cit. 1.03.2024]. Available at: https://www.jordantimes.com/news/local/ifcs-amman-office-becomes-regional-hub

27. **The Jordan Times** [online]: "Unemployment rate declines to 21.4% in Q4 2023 – DoS". 2024 [cit. 29.02.2024]. Available at: https://jordantimes.com/news/local/unemployment-rate-declines-214-q4-2023-%E2%80%94-dos

28. **UNICEF** [online]: "Jordan – Youth". 2024 [cit. 11.01.2024]. Available at: https://www.unicef.org/jordan/youth

29. **United Nations High Commissioner for Refugees** [online]: "Jordan". 2024 [cit. 10.1.2024]. Available at: https://reporting.unhcr.org/operational/operations/jordan

30. **United Nations Office for the Coordination of Humanitarian Affairs** [online]: "Influx of Syrian Refugees in Jordan | Effects on the Water Sector". 2021 [cit. 15.1.2024]. Available at: https://reliefweb.int/report/jordan/influx-syrian-refugees-jordan-effects-water-sector

31. **U.S. Department of State** [online]: "Spark Initiative: Promoting Global Entrepreneurship". 2017 [cit. 5.03.2024]. Available at: https://2009-2017.state.gov/e/eb/cba/entrepreneurship/spark/index.htm

32. **World Bank** [online]: "Ease of Doing Business rankings". 2024 [cit. 15.01.2024]. Available at: https://archive.doingbusiness.org/en/rankings?region=middle-east-and-north-africa

33. **World Bank** [online]: "Jordan: COVID-19 Pandemic Weighs Heavily on the Economy, as it does on the Region". 2020 [cit. 16.01.2024]. Available at: https://www.worldbank.org/en/news/press-release/2020/07/14/jordan-covid-19-pandemic-weighs-heavily-on-the-economy-as-it-does-on-the-region

34. **XLSTAT** [online]: "Ordinary Least Squares regression (OLS)". 2023 [cit. 18.12.2023]. Available at: https://www.xlstat.com/en/solutions/features/ordinary-least-squares-regression-ols