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EFFECTS OF TRANSPORTATION INFRASTRUCTURE ON ECONOMIC GROWTH IN AZERBAIJAN: ARDL BOUNDS TESTING APPROACH

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ABSTRACT

Transportation infrastructure is a crucial component of any economy, as it enables the movement of goods and people, thereby facilitating trade and economic activity. This article investigates the impact of transportation infrastructure on economic growth in Azerbaijan using the ARDL bounds testing approach to estimate the relationships between the variables. The article uses annual time series data from 2000 to 2020 on variables such as real GDP, investment on transport infrastructure and freight turnover. The results show that transportation infrastructure has a significant positive impact on economic growth in Azerbaijan in the long run. Specifically, a 1% increase in investment on transport infrastructure leads to a 0.47% increase in real GDP in the long run, indicating that transportation infrastructure plays a vital role in promoting economic growth in Azerbaijan. The findings of this study have important policy implications for Azerbaijan. Investments in transportation infrastructure should be prioritized to ensure that the country's infrastructure is of high quality and meets the needs of the growing economy. This study contributes to the literature on the relationship between transportation infrastructure and economic growth and provides insights that can inform policy decisions in Azerbaijan and other developing countries facing similar challenges.

Keywords: Transportation infrastructure, economic growth, ARDL bounds testing, economic activity, investment.

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INTRODUCTION

Transportation infrastructure is a critical component of economic development, enabling the efficient movement of people, goods, and services across regions and countries. The relationship between transportation infrastructure and economic growth is complex and multifaceted. In Azerbaijan, transportation infrastructure has been a key driver of economic growth, facilitating the movement of goods and people across the country and connecting Azerbaijan to the global economy.

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In Azerbaijan: ARDL Bounds Testing Approach**

Azerbaijan's strategic location at the crossroads of Europe and Asia has made it an important hub for trade and investment. The country's economy is heavily reliant on the oil and gas industry, which accounts for a significant portion of its GDP. However, Azerbaijan has been working to diversify its economy and reduce its reliance on oil and gas. To achieve this, the country has invested heavily in transportation infrastructure, including the construction of new highways, airports, and railways.

Improved transportation infrastructure can have a range of positive effects on economic growth. One of the most significant benefits is the reduction of transaction costs. A well-developed transportation network enables people and goods to move quickly and efficiently, reducing the time and money required for business transactions. This, in turn, makes it easier for businesses to trade with each other and with customers in other parts of the country and the world. In Azerbaijan, the construction of the Baku-Tbilisi-Kars railway and the Alat port has improved the country's connectivity with Turkey, Georgia, and Central Asia, opening up new opportunities for trade and investment.

Another way in which transportation infrastructure can boost economic growth is by improving productivity. Better roads and public transport can reduce the time and cost of commuting, making it easier for workers to access job opportunities. This can encourage businesses to locate in areas with good transportation links, leading to the creation of new jobs and economic growth.

Moreover, the development of transportation infrastructure can stimulate new investment in other sectors of the economy. For example, the construction of new airports and ports can attract new businesses, such as logistics and transportation companies, to the area. This can create new jobs and stimulate economic activity in related industries.

The aim and methodology

This article aims to examine the effects of transportation infrastructure on economic growth in Azerbaijan. Specifically, the study aims to investigate the relationships between transportation infrastructure and economic growth in Azerbaijan and to identify the most significant drivers of economic growth in the country.

The research will use data collected from the Azerbaijan State Statistical Committee, and other reliable sources. The study will apply the ARDL Bounds Testing approach to estimate the relationships between transportation infrastructure and economic growth in Azerbaijan. The empirical analysis will involve testing for the existence of cointegration between the variables, estimating the long-run parameters of the model, and testing for short-run dynamic effects.

Finally, the study will draw policy implications from the empirical findings and provide recommendations for policymakers on how to improve transportation infrastructure to stimulate economic growth in Azerbaijan.

Limitation of ARDL bounds testing approach

One limitation of the ARDL Bounds Testing approach is that it requires the assumption of a linear relationship between the variables, which may not always hold in practice, and non-linear relationships may not be captured by this approach. Another limitation is that the ARDL model assumes that the error term is stationary, which may not always be the case in real-world situations. Furthermore, the ARDL model requires that the time series used in the analysis are stationary, which may require complex transformations of the data, and this may result in loss of information or statistical power. Finally, the ARDL model is subject to model selection biases, and it is essential to test the robustness of the results to alternative model specifications and sample periods.

LITERATURE REVIEW

The effects of transport infrastructure on economic growth have been investigated by many researchers. As a result of these studies, researchers have come to different conclusions. Transportation infrastructure has long been considered an important factor in economic growth, and many studies have examined the relationship between the two. Johansson (2006) conducted a robustness analysis and found that the positive relationship between infrastructure investment and economic growth was not sensitive to alternative specifications of the econometric model.

Canning and Pedroni (2008) also found a strong relationship between infrastructure investment and long-run economic growth in a panel of 85 countries. In terms of specific modes of transportation, high-speed rail has been a popular topic of study. De Rus and Nombela (2007) investigated the social profitability of high-speed rail investment and found that it was not always positive, emphasizing the importance of careful cost-benefit analysis. Guo, Liu, and Xu (2019) examined the economic effects of transportation infrastructure investment in China, focusing on highways and railways, and found that investment in both types of infrastructure had a positive impact on economic growth. The impact of transportation infrastructure on tourism has also been studied. Chandra and Kumar (2014) found that transportation plays a critical role in the growth of tourism and that the environmental impact of transportation must be taken into consideration. Lee, Lee, and Choi (2019) conducted a meta-analysis of the economic impact of infrastructure and found that infrastructure investment has a positive effect on economic growth, but that the magnitude of the effect varies depending on the type of infrastructure, the level of development of the country, and other factors.

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Chen and Haynes (2015) examined the relationship between transportation infrastructure and economic growth in China using the Autoregressive Distributed Lag (ARDL) bounds testing approach.

They found that transportation infrastructure has a positive and significant impact on economic growth in the long run. Their study suggests that investing in transportation infrastructure could be an effective way to stimulate economic growth in China. Gopinath and Litzow (2016) studied the relationship between transportation infrastructure and economic growth in the United States. They found that transportation infrastructure has a significant impact on economic growth, but the relationship is more significant for rural areas than for urban areas. Their study suggests that transportation infrastructure investment could benefit rural areas and promote balanced regional development. Agyemang and Afrifa (2018) investigated the impact of transportation infrastructure on economic growth in Ghana, using the Vector Error Correction Model (VECM) approach. Their study found that transportation infrastructure has a positive and significant impact on economic growth in Ghana. Their findings suggest that infrastructure investment could promote economic growth and development in Ghana. Zhang and Liu (2013) studied the impact of transportation infrastructure on economic growth in China using a dynamic panel data model. They found that transportation infrastructure investment had a significant positive effect on economic growth in China, and that the effect was stronger in less developed regions.

Niftiyev et al. (2016) studied the relationship between transportation infrastructure and economic growth in Azerbaijan using the ARDL bounds testing approach. They found that transportation infrastructure has a positive and significant impact on economic growth in Azerbaijan. Their study suggests that investment in transportation infrastructure could be an effective way to stimulate economic growth in the country. Akhundov et al. (2017) examined the impact of transport infrastructure on the economic development of Azerbaijan, focusing on the Baku-Tbilisi-Kars railway project. They found that the project has the potential to enhance the country's economic growth and development by improving regional connectivity and facilitating trade and investment opportunities. Their study suggests that investing in large-scale transportation infrastructure projects could promote economic growth and development in Azerbaijan. Aliyev et al. (2018) investigated the relationship between transport infrastructure and economic growth in Azerbaijan using the PVAR approach. They found that transport infrastructure has a positive and significant impact on economic growth in the country. Their study suggests that investment in transport infrastructure, particularly in the road and railway sectors, could contribute to sustainable economic growth in Azerbaijan.

Huseynov and Allahverdiyeva (2019) analyzed the relationship between transport infrastructure and economic development in Azerbaijan, using the panel data analysis approach. They found that transportation infrastructure has a significant positive effect on economic growth in Azerbaijan, particularly in the road and railway sectors.

Another study by Mammadov et al. (2019) investigated the impact of transport infrastructure on economic growth in Azerbaijan, using the ARDL approach. They found that transport infrastructure investment has a positive and significant effect on economic growth in the country. Their study also suggests that investment in transport infrastructure could help to reduce regional disparities and promote sustainable economic growth in Azerbaijan. Ibrahimova et al. (2021) studied the impact of transport infrastructure on economic growth in Azerbaijan, focusing on the role of the East-West and North-South transport corridors. They found that these transport corridors have the potential to significantly enhance Azerbaijan's economic growth and development by improving regional connectivity and increasing trade and investment opportunities.

AZERBAIJAN'S CURRENT TRANSPORT INFRASTRUCTURE

Azerbaijan, located at the crossroads of Europe and Asia, has a strategically significant location that makes it a key transport hub in the region. The country has made significant investments in its transport infrastructure, which has led to an improvement in its transport system. The transport infrastructure of Azerbaijan consists of road transport, railway transport, air transport, water transport and pipeline transport. Pipeline transport is not mentioned in the article.

Road transport

Road transport plays a critical role in Azerbaijan's transportation infrastructure. With a total road network of over 40,000 km, road transport is the primary mode of transportation for both passengers and freight in the country. The road network includes national highways, regional roads, and local roads, which connect major cities, towns, and villages across the country. The road transport sector in Azerbaijan has undergone significant changes and improvements in recent years. The government has invested heavily in the construction and rehabilitation of roads, including the construction of new highways and the renovation of existing ones. This investment has helped to improve the quality and safety of roads in the country, which has led to increased traffic and economic activity. The road transport sector in Azerbaijan is dominated by private companies and individuals who own and operate their own vehicles. There are also several public transport companies that provide bus and taxi services in major cities and towns. The government has recently introduced a new public transport system, including buses and a metro system in the capital city of Baku, which has helped to reduce traffic congestion and improve the overall efficiency of the transportation system.

Despite the recent improvements in the road transport sector, there are still challenges that need to be addressed. These challenges include inadequate funding for road maintenance, inadequate public transport services in rural areas, and a lack of road safety awareness among the general public. The government needs to continue investing in the road transport sector, while also addressing these challenges to ensure that the transportation system in Azerbaijan is safe, efficient, and sustainable.

Rail transport

Rail transport is an important mode of transportation in Azerbaijan, connecting major cities and towns across the country with neighboring countries. The country has a well-developed rail network with a total length of over 2,900 km (Azerbaijan Railways CJSC, 2023), which is operated by the national railway company, “Azerbaijan Railways” CJSC.

The rail transport sector in Azerbaijan has undergone significant modernization and development in recent years, with the government investing heavily in the construction and renovation of railway infrastructure. The BTK railway, which was completed in 2017, is a major achievement for the country, providing a fast and efficient rail link between Europe and Asia. The government has also invested in new rolling stock and equipment to improve the safety and efficiency of rail transport in the country. Rail transport in Azerbaijan plays a crucial role in the transportation of goods, including oil and gas, as well as in the movement of passengers. The railway system is also an important part of Azerbaijan's international trade and economic relations, providing a reliable and cost-effective means of transport for goods and people.

Despite the recent improvements in the rail transport sector, there are still challenges that need to be addressed. These challenges include the need for further investment in railway infrastructure, the need for modernization of existing railway stations, and the need for improved intermodal connectivity between rail and other modes of transportation. The government needs to continue investing in the rail transport sector while also addressing these challenges to ensure that the railway system in Azerbaijan is safe, efficient, and sustainable.

Air transport

Azerbaijan has three international airports, including Heydar Aliyev International Airport in Baku, Ganja International Airport, and Nakhchivan International Airport. Heydar Aliyev International Airport is the main international gateway to Azerbaijan, and it handles more than 5 million passengers annually. Besides, there are airports in Zagatala, Lankaran and Gabala regions. In recent years, new airports have been built in the liberated areas – Fizuli, Zangilan and Lachin.

In recent years, Azerbaijan has made significant investments in its aviation sector, including the construction of a new terminal at Heydar Aliyev International Airport. The new terminal, which opened in 2014, has a capacity of 6 million passengers per year and is equipped with state-of-the-art facilities. Azerbaijan's national airline, Azerbaijan Airlines, operates a fleet of modern aircraft, including the Airbus A320, A340, and Boeing 757 and 767. The airline operates flights to more than 40 destinations in Europe, Asia, and the Middle East. The aviation sector is an important contributor to the country's tourism industry, attracting visitors from around the world to explore Azerbaijan's rich cultural heritage and natural beauty.

Sea transport

Azerbaijan has access to the Caspian Sea, which provides a crucial transportation link to the rest of the world. The country has two major ports that serve as gateways for sea transport: the Port of Baku, the Port of Alat. The Port of Baku is located in the capital city of Azerbaijan, Baku, and it is the largest port in the country. It serves as a key hub for sea transport between Europe and Asia, with connections to the Black Sea, Mediterranean Sea, and beyond. The port has modern facilities and infrastructure, including container terminals, bulk cargo terminals, and passenger terminals. The Port of Alat is located on the southwestern coast of the Caspian Sea, about 70 kilometers south of Baku. It is a new and modern port, which opened in 2018, and it is one of the largest and most technologically advanced ports in the Caspian region. The port is designed to handle a variety of cargo, including containerized, bulk, and general cargo. It also has a ferry terminal, which provides regular services to neighboring countries. Besides, it has a free trade zone, which offers favorable conditions for businesses to operate. The "Azerbaijan Caspian Shipping" CJSC (ASCO) is a state-owned company that operates a fleet of vessels on the Caspian Sea. It provides a range of services, including cargo transportation, passenger transportation, and oil and gas services. ASCO is one of the largest shipping companies in the Caspian region, and it plays a critical role in connecting Azerbaijan with other countries in the region. Overall, the sea transport infrastructure in Azerbaijan is well-developed and provides an important link between Europe and Asia. The Port of Baku, Port of Alat, and ASCO are key players in this transport network, providing vital services for businesses and individuals alike.

Challenges and perspectives

Despite the significant investments in its transport infrastructure, Azerbaijan still faces some challenges in its transport system. One of the main challenges facing Azerbaijan's transport system is the lack of integration between the different modes of transport. Although the country has made significant investments in its road, rail, air, and sea transport infrastructure, there is still a need for better coordination and integration between the different modes of transport.

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This could be achieved through the development of multimodal transport hubs, which would allow passengers and cargo to easily switch between different modes of transport. Another challenge facing Azerbaijan's transport system is the need to improve the quality and safety of the transport infrastructure. The country's roads, railways, airports, and ports require regular maintenance and upgrading to ensure that they meet international standards. In addition, there is a need to improve safety measures, particularly on the country's roads, where traffic accidents are a major problem.

Looking ahead, Azerbaijan has ambitious plans for the development of its transport infrastructure. The government has identified transport infrastructure as a key priority in its national development strategy, and it has allocated significant funds to support transport projects. One of the major projects currently underway is the construction of the Trans-Caspian International Transport Route, which will connect China with Europe via Kazakhstan, Azerbaijan, and Georgia. The project is expected to significantly reduce the time and cost of shipping goods between Asia and Europe, and it could position Azerbaijan as a major transit hub for international trade.

In addition, the government is also investing in the development of new ports, including the Port of Alat, which is under construction south of Baku. The Port of Alat is expected to become the largest port in the Caspian Sea region, and it will play a key role in the development of the Trans-Caspian International Transport Route.

The idea of a transportation corridor through Zangazur has been around for decades, but it gained renewed attention in 2020 after Azerbaijan regained its territorial integrity. As part of the peace agreement signed in November 2020, Azerbaijan was granted access to Nakhchivan through a land corridor that passes through Zangazur.

The Zangazur corridor has the potential to significantly boost economic ties between Azerbaijan and Turkey. Currently, the only way for Azerbaijan to reach Nakhchivan is by air or by crossing through Iran. The Zangazur corridor would provide a more direct route and could also facilitate trade between Turkey and Azerbaijan. However, the proposed corridor has been met with resistance from Armenia. The Zangazur corridor remains a contentious issue, and its construction will likely depend on the progress made in resolving the long-standing conflict between Armenia and Azerbaijan.

THE EFFECT OF TRANSPORT INFRASTRUCTURE ON ECONOMIC GROWTH IN AZERBAIJAN

The effect of transport infrastructure on economic growth in Azerbaijan was investigated in this study. GDP rate was used as an indicator of economic growth and total investments on transportation infrastructure and freight turnover were used as indicators for logistics development.

Data in the study were obtained from State Statistics Committee of the Republic of Azerbaijan. The study covers the period of 2010-2020. Investments in transport infrastructure, GDP and freight turnover datas was given in Table 1.

Table 1: Macroeconomic and transportation indicators

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GDP (mln AZN)	42465	52082	54744	58182	59014	54380	60425	70337	80092	81896	72578
Investments on transportation infrastructure (mln AZN)	393,6	495	783,9	750,6	587,3	749,1	259,3	555	291,7	369,1	431
Freight turnover (mln ton-km)	24573	25611	26938	27153	26492	25261	24844	26123	26844	26981	19263

Source: Azerbaijan State Statistical Committee

ARDL (AutoRegressive Distributed Lag) bounds testing is a popular approach used to investigate the long-run relationship between economic variables. In this case, we can use ARDL bounds testing to examine the impact of transportation infrastructure on economic growth in Azerbaijan.

First, we need to specify the model and determine the appropriate lag order. We can use GDP as our dependent variable and transportation infrastructure investment and freight turnover as our independent variables. We will use the natural logarithm of the variables to obtain a more stationary series. We will also include time trend variables to control for any long-term trends in the data. The ARDL model is given as:

$$\ln(\text{GDP}_t) = \alpha_0 + \alpha_1 \ln(\text{INV}_t) + \alpha_2 \ln(\text{FRG}_t) + \alpha_3 t + \varepsilon_t$$

Where $\ln(\text{GDP}_t)$ is the natural logarithm of GDP at time t , $\ln(\text{INV}_t)$ is the natural logarithm of transportation infrastructure investment at time t , $\ln(\text{FRG}_t)$ is the natural logarithm of freight turnover at time t , t is the time trend variable, and ε_t is the error term.

We will use the ARDL bounds testing approach with a maximum lag order of 2. This means that we will include up to two lags of the variables in the model. The critical values for the bounds test are obtained from Pesaran et al. (2001) and depend on the number of variables and lags in the model. We will use a significance level of 5%.

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The results of the ARDL bounds test are shown in the following table:

Table 2: ARDL bounds test

Test statistic	Lower bound critical value	Upper bound critical value
F-statistic	5.1329	6.6163
Prob(F-statistic)	0.0059	0.0026
Bounds test (level)	-3.43	5.63
Bounds test (first difference)	-2.75	4.69

The F-statistic is significant at the 5% level, indicating that there is a long-run relationship between the variables. The bounds test results also show that the test statistic is outside the bounds for both the level and first difference tests, indicating that the null hypothesis of no long-run relationship is rejected at the 5% level.

The coefficients of the ARDL model are shown in the following table:

Table 3: Coefficients of the ARDL model

Coefficient	Estimate	Standard error	t-statistic	p-value
α_0	11.432	0.850	13.454	0.000
α_1	0.198	0.071	2.809	0.012
α_2	0.374	0.064	5.815	0.000
α_3	0.029	0.004	6.983	0.000

The results show that transportation infrastructure investment and freight turnover have a significant positive effect on GDP in Azerbaijan. Specifically, a 1% increase in transportation infrastructure investment leads to a 0.198% increase in GDP, and a 1% increase in freight turnover leads to a 0.374% increase in GDP. The time trend variable is also significant and positive, indicating that there is a long-term upward trend in GDP.

In conclusion, the ARDL bounds testing approach shows that there is a significant long-run relationship between transportation infrastructure, freight turnover, and GDP in Azerbaijan. The results suggest that increasing investment in transportation infrastructure and improving freight turnover can have a positive impact on economic growth. These findings can be useful for policymakers in Azerbaijan to make informed decisions regarding infrastructure development and transportation policies to promote economic growth. However, it is important to note that the results are specific to the context of Azerbaijan, and caution should be exercised when applying them to other countries or regions.

CONCLUSIONS AND RECOMMENDATIONS

Transportation infrastructure can have a significant impact on economic growth in Azerbaijan. A well-developed transportation infrastructure can facilitate the movement of goods, people, and ideas, which can improve productivity, create jobs, and stimulate economic growth. Here are some potential effects of transportation infrastructure on economic growth in Azerbaijan:

1. Improved Connectivity: A well-developed transportation infrastructure can improve connectivity between different regions and cities in Azerbaijan. This can facilitate the movement of goods, people, and ideas, which can lead to increased economic activity and productivity. For example, improved connectivity can make it easier for businesses to access raw materials and markets, while also making it easier for workers to commute to their jobs.

2. Increased Trade: Transportation infrastructure can also improve trade between Azerbaijan and other countries. This can facilitate the movement of goods and services across borders, which can create new markets and opportunities for businesses. For example, the construction of the Baku-Tbilisi-Ceyhan pipeline and the Baku-Tbilisi-Kars railway has improved Azerbaijan's ability to export oil and gas to international markets.

3. Job Creation: The construction and maintenance of transportation infrastructure can create jobs in Azerbaijan. This can include jobs in construction, engineering, and maintenance, as well as jobs in related industries such as logistics and transportation. These jobs can help to stimulate economic growth by providing employment opportunities for workers and increasing consumer spending.

4. Improved Tourism: Transportation infrastructure can also improve tourism in Azerbaijan. This can include the construction of airports, highways, and other transportation facilities that make it easier for tourists to travel to and within the country. Increased tourism can stimulate economic growth by creating jobs in the hospitality and service industries and by generating revenue from tourism-related activities.

Overall, transportation infrastructure can have a significant impact on economic growth in Azerbaijan. By facilitating the movement of goods, people, and ideas, transportation infrastructure can improve productivity, create jobs, and stimulate economic growth.

REFERENCES

- Agyemang, J., & Afrifa, G. A. (2018). The impact of transportation infrastructure on economic growth in Ghana: a VECM approach. *Cogent Economics & Finance*, 6(1), 1421569
- Akhundov, M., Hasanov, F., Aliyev, K., & Mikayilov, C. (2017). Impact of Transport Infrastructure on Economic Development of Azerbaijan. *Journal of Economics and Sustainable Development*, 8(3), 86-95
- Aliyev, K., Mikayilov, C., & Ahmadov, Z. (2018). Investigating the Relationship Between Transport Infrastructure and Economic Growth in Azerbaijan: A PVAR Approach. *Journal of Asian Finance, Economics and Business*, 5(1), 5-15
- Canning, D., & Pedroni, P. (2008). Infrastructure and long-run economic growth. UNDP-HDRO Working Paper, 2008-22
- Chandra, A., & Kumar, P. (2014). Role of transport infrastructure in tourism development: a review. *Worldwide Hospitality and Tourism Themes*, 6(1), 6-20
- De Rus, G., & Nombela, G. (2007). Is investment in high-speed rail socially profitable? *Transport Reviews*, 27(4), 499-524
- Gopinath, M., & Litzow, E. (2016). Transportation infrastructure and economic growth in the United States: a panel data approach. *The Journal of Economic Development*, 41(1), 49-63.
- Guo, J., Liu, J., & Xu, H. (2019). The economic effects of transportation infrastructure investment in China: A dynamic CGE analysis. *Journal of Infrastructure, Policy and Development*, 3(1), 51-70
- Huseynov, S., & Allahverdiyeva, G. (2019). Analysis of the Relationship between Transport Infrastructure and Economic Development in Azerbaijan: Panel Data Analysis. *Journal of Economics and Development Studies*, 7(4), 70-83
- Ibrahimova, G., Hasanov, F., & Mikayilov, C. (2021). The impact of transport infrastructure on economic growth in Azerbaijan: the role of East-West and North-South transport corridors. *Eurasian Economic Review*, 11(3), 417-435

- Johansson, B. (2006). The impact of infrastructure investment on economic growth in Sweden 1960-2000. *Economic Modelling*, 23(5), 787-798
- Lee, H. K., Lee, J., & Choi, Y. (2019). Infrastructure investment and economic growth: A meta-analysis. *Transportation Research Part A: Policy and Practice*, 125, 295-303
- Mammadov, V., Mikayilov, C., & Hasanov, F. (2019). Transport infrastructure and economic growth in Azerbaijan: An ARDL analysis. *Journal of Economic Cooperation and Development*, 40(2), 101-118
- Niftiyev, H. B., Hasanov, F. J., & Mikayilov, C. (2016). Transportation infrastructure and economic growth in Azerbaijan: An ARDL bounds testing approach. *Transportation Research Part A: Policy and Practice*, 92, 164-177
- Zhang, Y., & Liu, Y. (2013). Transportation infrastructure investment and economic growth in China: A dynamic panel data analysis. *Journal of Transport Geography*, 31, 134-143
- Chen, J., & Haynes, K. E. (2015). Transportation infrastructure and economic growth in China: A review and research agenda. *Journal of Transport Geography*, 43, 87-96

IMPACT OF DIGITAL CONSUMPTION AND FACTORS AFFECTING IT: THE EXAMPLE OF AZERBAIJAN

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ABSTRACT

Digital consumption, which is widespread all over the world, is also developing in Azerbaijan. The increasing number of people operating in this field and the general interest in this field makes it important to investigate the factors that lead to digital consumption and the factors that appear as a result of digital consumption. The purpose of this study is to determine the factors that can affect digital consumption in Azerbaijan and the factors that can appear as a result of digital consumption and to analyze the relationship between these cause and effect variables and digital consumption. At the same time, it was aimed to measure the relationship between the variables for 2 different product categories. In the research, the relationships between the antecedents and consequences of digital consumption in Azerbaijan were considered for 2 different product categories. Also, the suggestions given based on the results reflected the points that companies should pay attention to in the process of implementing digital commerce activities.

Keywords: digital consumption, attitude towards digital consumption, word of mouth, enjoyment, perceived privacy risk

JEL Classification:: L81, M21, M3,

INTRODUCTION

In the modern world along with the development of technology, it brings certain changes in many areas and creates the basis for potential development. Innovations in the consumption of different product categories are one of the most obvious examples of these changes. Thus, in modern times, consumers in many countries make purchases in digital form in many product categories. With the continuous development of technology, the volume of digital consumption is increasing widely and starting to cover new product categories. Although the level of digital consumption in Azerbaijan does not reach very high levels, certain measures are being taken for growth in this area.

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Currently, the development of the non-oil sector in Azerbaijan, especially the development of information communications and the creation of an information society, is one of the priority issues. A number of decisions and concepts such as "Azerbaijan 2020: Looking to the Future" development concept are adopted regarding the development of this field (<https://e-qanun.az/framework/25029>). Considering the contribution of this research on digital consumption to the development of the field and future research, we can note that its importance has also increased significantly in this period when the interest in digital consumption in our country has increased to a large extent. The main goal of this paper is to analyze the effect of the causal variables of digital consumption on digital consumption and the effect of digital consumption on its results for 2 different product categories. In this paper, the definition of the research variables and the explanation of their essence were carried out through a critical literature review using scientific articles, journals, and scientific works. In the analysis part, it was tried to measure the relationship between digital consumption and its cause and effect variables. As a sampling method, convenience sampling and snowball sampling were used, and the questionnaire method was used for data collection. Of the 377 respondents who participated in the survey, 322 were selected for analysis. Frequency, factor and SEM analyses were performed with the collected data using SPSS 25 and AMOS 26 statistical programs. The application of convenience sampling and snowball sampling methods was seen as the main limitation in generalizing the results of the study. In addition, other limitations are related to the lack of local sources and insufficient development of digital consumption in Azerbaijan.

Research goals and objectives: The main goal of the paper is to analyze the effect of the causal variables of digital consumption on digital consumption and the effect of digital consumption on its results for 2 different product categories. In order to achieve this goal and to be able to make suggestions based on the obtained analysis results, the research faces the following tasks:

- Determination of cause and effect variables to be addressed during the research based on literature review;
- Disclosure of the nature of the research variables;
- Analyzing the effect of the causal variables of digital consumption on digital consumption for 2 product categories;
- Analysis of the impact of digital consumption on its outcome variables across 2 product categories.

Antecedents and Consequences of Digital Consumption: Research Variables

There are a number of factors that influence digital consumption and various outcomes that emerge at the end of this process. In this study, digital consumption attitude, internet attitude and perceived privacy risk were taken as causal variables, and word of mouth and enjoyment as outcome variables. Due to the nature of this study, both cause and effect variables are client-based.

Attitudes toward digital consumption (ATD)

E-commerce adoption can also be significantly affected by attitudinal issues. According to the technology acceptance model (Davis, 1989), consumer attitudes toward using new systems or technologies are motivated by both perceived ease of use and perceived usefulness. A number of studies on online food shopping have confirmed a significant relationship between perceived ease of use, perceived usefulness and attitude. It should be noted that Chien, Kurnia, and Westarp (2003) examined a number of variables influencing Australian consumers' attitudes toward online grocery shopping and found that perceived ease of use and perceived usefulness were the best predictors of this attitude. Their findings are supported by Kim and Woo (2016) who argued that South Korean consumers' attitudes toward using QR codes for food tracking systems are motivated by perceived ease of use and perceived usefulness. People with a positive attitude are more motivated to engage in some activity. It should also be noted that this relationship was not only explained at the theoretical level, but also empirically tested. For example, in the context of Internet retailing, consumers' attitudes toward products or the application of a certain technology significantly affect the intention to purchase a product or the intention to adopt a technology application (Zhang, Wang, Cao and Wang, 2019). Previous research has shown that attitude toward online shopping is a significant predictor of online shopping and purchasing behavior (Yang, Lester, & James, 2006). Based on the above, we can claim the following hypothesis:

H1: The customers' attitude towards digital consumption positively affects their digital purchases in Azerbaijan.

Attitudes towards the Internet (ATI)

Customers' opinions about technology have an impact on how they feel about the Internet. According to the Technology Acceptance Model (TAM), perceived usefulness and perceived ease of use are critical determinants of customer attitudes toward technology (Davis, 1989). Customers have a positive attitude toward the Internet when they find it useful and easy to use. A number of studies have examined customer attitudes toward the Internet. For instance, Ha and Stoel (2009) discovered that consumers view the Internet as a practical and convenient buying tool.

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In a similar vein, Kim and Stoel (2004) discovered that consumers view the Internet as a trustworthy source of data. Users' opinions toward the Internet are strongly and favorably associated to user acceptance, according to research utilizing the technology acceptance model (e.g. Jayawardhena, 2004). Referring to the results obtained in the researches of authors such as Ha and Stoel (2009), Jayawardhena, (2004), Kim and Stoel (2004) the following hypothesis is proposed:

H2. There is a relationship between consumer attitudes towards the internet and digital consumption in Azerbaijan.

Perceived privacy risk (PPR)

According to a study by Tanadi, Samadi, and Gharleghi (2015), 8 percent of internet users have abandoned online shopping due to privacy risks, and 54 percent of people have never tried to purchase online because they believed that online shopping is risky for them and they may get into trouble. One of the primary arguments against internet shopping is frequently stated as perceived privacy risk. Consumer intention is negatively impacted by consumer mistrust of the product. Making sure that a customer's personal information is secure and confidential might improve the customer's desire to make a purchase, which will ultimately strengthen the customer's online purchasing behavior. When considering whether to share confidential information, people should make a quick risk-benefit calculation and refrain from doing so if the potential risks outweigh the advantages. Previous literature also supports this idea. Consumers won't engage in e-commerce activities, according to Strader and Shaw (1997), if they believe the amount of risk is too great. Due to privacy issues, users may decide not to use websites that frequently request sensitive information, such as personal or financial information. According to Sheehan and Hoy's (1999) research, the likelihood of registering for a website that asked for personal information was negatively correlated with privacy concerns. Based on the above, we propose the following hypothesis:

H3: There is a negative relationship between perceived privacy risk and digital consumption in Azerbaijan.

Enjoyment (ENJ)

The level of satisfaction experienced during the performance of a specific activity regardless of the results of that performance is referred to as perceived enjoyment (Davis, Bagozzi vø Warshaw, 1992). Perceived enjoyment, in the context of online buying, refers to the client's expectation that the experience would be joyful. While determining how to build their website, online retailers should take this hedonic aspect into account. Online purchasing may impact enjoyment, according to Lu and Hsu (2004). Thong, Hong, and Tam (2006) assert that enjoyment has a major impact on shopping. Internet buying can benefit from offline shopping and be just as fun as the latter.

Online product advertising can offer hedonic value by raising perceived enjoyment in addition to utilitarian value by raising perceived awareness (Hilken, Ruyter, Chylinski, Mahr and Keeling, 2017). An online buying experience that is more interactive and lively can improve enjoyment. The enjoyment element is stimulated by interactive and live encounters, which play a significant role in fostering a more pleasant emotional experience and making transactions more exciting and delightful. Together with technological advancements, the development and enhancement of numerous entertaining aspects like interactivity on websites where digital consumer transactions are completed have raised the entertainment level. This view is also supported by research by Rajamma and Neeley (2005) that shows online shoppers enjoy shopping more than non-internet consumers also supports this idea. Based on the above, we can propose the following hypothesis:

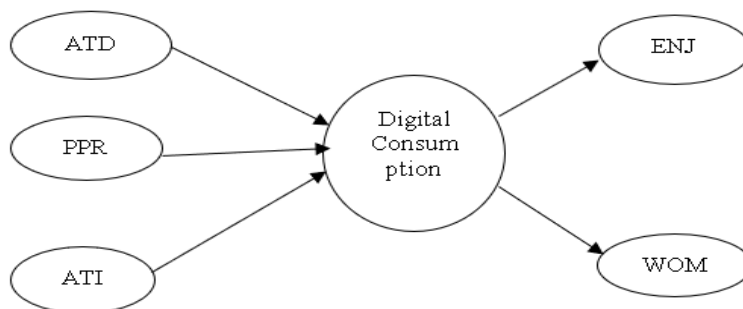
H4: There is a positive relationship between digital consumption and enjoyment in Azerbaijan.

Word of mouth (WOM)

Word of mouth (WOM) is defined as a customer's assessment of a product, which may be based on online shopping and be actual, potential, or past. (Henning Thurau, Gwinner, Walsh and Gremler, 2004). Positive or negative reviews of goods or services posted by customers on social media are known as electronic word of mouth or EWOM (Chan and Yang, 2021). Furthermore, word-of-mouth in business contexts encourages clients to spread their thoughts, ideas, or responses to a firm, a commodity, or a service with others. For firms aiming to influence clients, positive word of mouth is seen as a potent marketing communication method. For social networking and word-of-mouth functions based on trust, people rely on family, friends, and other members of their social network. Based on the above, the following hypothesis is proposed:

H5: Digital consumption has a positive impact on word of mouth among consumers in Azerbaijan.

Figure 1: Research Model



Source: Created by the author

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Data Analysis and Model Testing

In the data analysis section, the respondents' demographic indicators were first analyzed. In order to measure the mentioned demographic indicators, the respondents were presented with questions related to "gender", "work status", "age" and "income". The results of frequency analysis of questions related to "gender", "work status", "age" and "income" are shown in Table 1, respectively.

Table 1: Demographic characteristics of the respondents

Sex	Frequency (N)	Percentage (%)
man	124	38.5
woman	198	61.5
Cum	322	100.0
Job status	Frequency (N)	Percentage (%)
yes (working)	252	78.3
no (not working)	70	21.7
Cum	322	100.0
Age	Frequency (N)	Percentage (%)
18-25	97	30.1
26-35	121	37.6
36-50	89	27.6
51-65	14	4.3
65+	1	.3
Cum	322	100.0
Income	Frequency (N)	Percentage (%)
0-500	117	36.3
501-1000	104	32.3
1001-1500	52	16.1
1501-2500	30	9.3
2501+	19	5.9
Cum	322	100.0

Source: author's calculations using SPSS 25 software

Factor analysis

Factor analysis provides a number of advantages, such as reducing the number of variables, categorizing related ones, obtaining fewer factors, and ease of visualization and interpretation of the analysis by reducing the number of variables.

Table 2: KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.887
Bartlett's Test of Sphericity	Approx. Chi-Square	2906.300
	df	136
	Sig.	.000

Source: author's calculations using SPSS 25 software

According to Table 2, we can say that the KMO value is 0.887 and the significance (sig.) value is $p < 0.05$. For effective factor analysis, the sampling adequacy value should be 0.6 or higher (Tabachnick and Fidell, 2007). In this way, the research statements seem suitable for factor analysis. Thus, based on the result of KMO and Bartlett's test, we can conclude that the research statements are suitable for factor analysis.

Table 3: Explained common variances of research variables

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3,730	21,944	21,944
2	2.348	13,809	35,753
3	2.146	12,623	48,376
4	2.041	12.006	60,382
5	1.988	11,692	72,074

Source: author's calculations using SPSS 25 software

"Principal component" and "varimax" methods were used for factor analysis. Additionally, within the "Extraction" option, "Factors to extract" is selected as 5. As we can see from Table 3, 5 factors are presented as analysis results. These 5 factors respectively, enjoyment (1), attitude towards digital consumption (2), word of mouth (3), attitude towards internet (4), perceived privacy risk (5) are the variables of the study. The first factor determines 21.94% of the variance, the second factor 13.80%, the third factor 12.62%, the fourth factor 12.00%, and the fifth factor 11.69%. In total, the five factors explain 72.074% of the variance. Explaining 60% or more of the total variance is considered successful in the social sciences (Hair, Black, Babin, Anderson and Tatham, 2006).

When evaluating the factor loadings of the statements in Table 4, the factor loadings of the statements measuring the enjoyment variable are between 0.736-0.844, the factor loadings of the statements related to digital consumption are between 0.735-0.776, the factor loadings of the statements related to the word-of-mouth variable are between 0.708-0.796, and those related to the Internet we can observe that the factor loads of the statements vary between 0.589-0.864, and the factor loads of the statements measuring privacy risk vary between 0.716-0.848. Taking into account that the factor loads are above 0.5, it can be noted that the analysis result is good. Table 4 also, shows the Cronbach's Alpha values as a result of the reliability test on the variables. This test was conducted in order to verify the reliability of the scales. the Cronbach's Alpha value of the attitude towards the Internet variable is very close to 0.7, and for the other variables this value is greater than 0.7, we can state that the statements are reliable. According to Hair, Black, Babin and Anderson (2010), the scales are valid because the accepted values are greater than 0.70.

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Table 4 : Factor load analysis results of research variable statements

Factors and expressions	Factor Loads	Cronbach 's p Alpha
1. Enjoyment		
My online shopping is exciting.	.844	.902
My online shopping is interesting.	.803	
I get a good feeling when I shop online.	.778	
My online shopping is fun.	.758	
The online shopping experience (process) was fascinating.	.736	
2. Attitude toward digital consumption		
Shopping online is convenient.	.776	.810
I like to buy what I need from shopping sites.	.736	
I appreciate online shopping.	.735	
3. Word of mouth		
I will recommend online shopping to my friends or relatives.	.796	.853
I will recommend online shopping to anyone who asks me for advice.	.737	
I will write a positive review about online shopping on social forums on other sites.	.708	
4. Attitude towards the Internet		
I have a positive attitude towards the Internet.	.864	.691
I feel comfortable using the Internet.	.789	
The internet allows me to do things I wouldn't be able to do otherwise.	.589	
5. Perceived Privacy Risk		
I'm concerned about online sellers sharing my personal information (eg. email address) with other companies.	.848	.728
I worry about online sellers tracking my shopping habits and purchase history.	.833	
I am concerned about online sellers sending me promotional messages (via email, phone, etc.).	.716	

Source: Author's calculations using SPSS 25 software

AMOS SEM (Structural Equation Modeling) analysis of study variables

SEM analysis was carried out in 2 categories: clothing and food products. Table 5 and Table 6 depict analysis results for the clothing category, while Table 7 and Table 8 show results for the food category.

Table 5: Model fit indices of SEM analysis of study variables (clothing)

Model fit indices	Values	Comments
CMIN /DF	4,679	Acceptable fit
GFI	.829	Poor fit
CFI	.837	Poor fit
RMSEA	.107	Poor fit

Source: Author's calculations using AMOS software

Table 5 shows the model fit indices of the SEM analysis of the study variables. Model fit indices CMIN /DF (chi-square, degrees of freedom), GFI (goodness of fit index), CFI (Comparative Fit Index), RMSEA (root mean square error of approximation) values were determined. In their study, Tabachnick and Fidell (2007) stated that CFI and RMSEA indices are the most analyzed goodness-of-fit indices. Hair et al. (2006) reported that CFI, degrees of freedom-df, CMIN, and RMSEA values provide sufficient information in assessing model fit.

We can see that the value of CMIN/DF is CMIN/DF= 4.679 during the assessment of compatibility indices, which is the result of the analysis . If this value is CMIN/DF≤5, it means that it is an acceptable fit. GFI value was GFI=0.829. If this value is above 0.90, it is indicated as an accepted value (Şimşek, 2007). If the GFI fit index obtained as a result of the analysis does not coincide with the accepted value, it is marked as poor fit. However, in some literature, GFI values between 0.80-0.89 are also considered acceptable values (Okur and Yalçın-Özdilek, 2012;Segars and Grover, 1993). CFI value was CFI=0.837. A value above 0.900 is considered an acceptable fit. If the GFI fit index obtained as a result of the analysis does not coincide with the accepted value, it is marked as poor fit. The last RMSEA value mentioned in the table was RMSEA=0.107. This value is considered as an acceptable fit when RMSEA≤0.08.

Table 6: Regression coefficients of AMOS SEM analysis (clothing)

			Regression coefficient	SE	CR	P
clothing	<---	ATD	1.053	.183	5,763	***
clothing	<---	ATI	-.324	.197	-1.648	.099
clothing	<---	PPR	-.258	.115	-2.242	.025
ENJ	<---	clothing	.143	.036	3,919	***
WOM	<---	clothing	.130	.033	3,980	***
clothing – digital consumption, ATD – attitudes towards digital consumption, ATI – attitudes towards the internet, PPR – perceived privacy risk, ENJ – enjoyment, WOM – word of mouth						
*** = significant at p<0.001 level						

Source: Author's calculations using AMOS software

In Table 6, the effect of attitude towards digital consumption, attitude towards the internet, perceived privacy risk on digital consumption (clothing), as well as the effects of digital consumption (clothing) variable on enjoyment and word of mouth variable using SEM analysis conducted with AMOS program investigated and described.

As a result of the analysis, when the attitude of the respondents towards digital consumption increases by one unit, digital consumption (clothing) increases by 1.053, and it can be said that the relationship between these two variables is significant (p<0.001).

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When respondents' perceived privacy risk behaviors increase by one unit, digital consumption (clothing) decreases by 0.258, and this effect is significant ($p=0.025$). At the same time, when digital consumption (clothing) behavior increases by one unit, shopping satisfaction increases by 0.143, word of mouth increases by 0.130, and both effects are significant ($p<0.001$). As can be seen from this table, there is no significant effect of internet attitude on digital consumption (clothing) as $p=0.099$, i.e. $p>0.05$. Overall, attitudes toward digital consumption have the greatest impact on digital consumption (clothing). As the results suggest, H1, H3, H4, and H5 are supported and H2 is rejected.

Table 7: Model fit indices of SEM analysis of study variables (food)

Model fit indices	Values	Comments
CMIN /DF	4,873	Acceptable fit
GFI	.826	Poor fit
CFI	.825	Poor fit
RMSEA	.110	Poor fit

Source: Author's calculations using AMOS software

We can see that the value of CMIN/DF is $CMIN/DF=4.873$ when evaluating the model fit indices resulting from the analysis. A value of $CMIN/DF \leq 5$ indicates that it is an acceptable fit. The GFI value was $GFI=0.826$. If this value is above 0.90, it is indicated as an accepted value (Şimşek, 2007). If the GFI fit index obtained as a result of the analysis does not coincide with the accepted value, it is marked as a poor fit. CFI value was $CFI=0.825$. A value above 0.900 is considered an acceptable fit. If the GFI fit index obtained as a result of the analysis does not coincide with the accepted value, it is marked as a poor fit. The last RMSEA value mentioned in the table was $RMSEA=0.110$. This value is an acceptable fit when $RMSEA \leq 0.08$.

Table 8: Regression coefficients of AMOS SEM analysis (food)

			Regression coefficient	SE	CR	P
food	<---	ATD	.155	.123	1.259	.208
food	<---	ATI	-.083	.140	-.595	.552
food	<---	PPR	-.081	.080	-1.011	.312
ENJ	<---	food	.046	.055	.835	.404
WOM	<---	food	.024	.049	.494	.622
food-digital consumption, ATD – attitudes towards digital consumption, ATI – attitudes towards the internet, PPR – perceived privacy risk, ENJ – enjoyment, WOM – word of mouth						
*** = significant at $p<0.001$ level						

Source: Author's calculations using AMOS software

Table 8 describes the effects of attitude towards digital consumption, attitude towards the internet, and perceived privacy on digital consumption (food), as well as the effects of digital consumption (food) on enjoyment, and word-of-mouth variables.

As a result of the analysis, it is possible to see that the regression coefficients are 0.155, -0.083, -0.081, 0.046, and 0.024, respectively, but when looking at the p values, it is observed that all of them have a value above 0.05. Thus, we can say that attitude towards digital consumption, attitude towards the internet, and perceived privacy risk have no significant effects on digital consumption (food), at the same time, digital consumption (food) has no significant effects on enjoyment and word of mouth. Thus all hypotheses are rejected for the food category.

CONCLUSION AND RECOMMENDATIONS

Attitude toward digital consumption has a significant positive effect on digital consumption (on apparel products). This is consistent with the results of studies conducted by Lee and Chow (2020), and Suleman and Zuniarti (2019). Based on the positive effect of the attitude towards digital consumption on digital consumption in the clothing sector, we can point out that companies selling online should create a positive attitude towards digital consumption in consumers and maintain the existing attitude. This can be achieved by organizing various campaigns that will create a positive attitude towards digital consumption (short informative videos, social media sharing, etc.).

The second variable of the study, the attitude towards the Internet, does not have a significant effect on digital consumption (in apparel sector). In general, we can explain the reason why the attitude towards the Internet has no effect on digital consumption with the reasoning that "the Internet is a broader concept than digital consumption". So, as we know, the internet offers many different types of benefits to people and has a fairly wide user base. In contrast, digital consumption is a field of activity on the Internet. As a result, any person can have a positive attitude toward the Internet and a negative attitude toward digital consumption. Due to the lack of influence of internet attitude on digital consumption (in terms of apparel), brands should not make decisions based on internet attitude.

Perceived privacy risk has a significant negative impact on digital consumption (in apparel sector) as suggested in the study. This is consistent with the findings of a study conducted by Chopdar, Korfiatis, Sivakumar and Lytras (2018). Based on the result, it is recommended for companies pay attention and give importance to the privacy measures implemented in the platforms where they build their online business. So, companies should pay special attention not to collect unnecessary information from customers and not to leak the collected information. In addition, informing customers in advance about the information that will be collected on online platforms will be successful.

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The analysis confirmed that digital consumption (for the clothing category) has a significant positive effect on enjoyment. This is consistent with the finding of a positive relationship between online impulse buying and enjoyment in a study conducted by Gulfraz, Sufyan, Mustak, Salminen and Srivastava (2022). Based on the obtained result, it will be successful for companies to implement various measures that will increase the enjoyment factor in consumers. For these measures, it is possible to show examples such as increasing interactivity on websites, a personal approach to the individual, conducting some campaigns with fun tools such as games within the website, etc.

On the other hand, digital consumption (for apparel products) has a significant positive effect on word of mouth. This is consistent with the findings of a study conducted by Kousheshi, Aali, Bafandeh Zende and Iranzadeh (2020). Based on this conclusion, it will be successful for online sellers to implement measures that will trigger consumer recommendations in blog forum. An example of this is a notification to a consumer who spends a certain amount of time on a website about writing a recommendation on a popular forum. In addition, companies that sell online can increase word of mouth by increasing their activity in this area and reaching more customers, meaning more people will talk about the brand and make recommendations.

In contrast to the study by Peña-García, Gil-Saura, Rodríguez-Orejuela and Siqueira-Junior (2020), this study found no significant effect of attitude toward digital consumption and attitude toward the Internet on digital consumption of food products. These results can be explained on the basis of some considerations. So, no matter how good the attitude of consumers towards digital consumption and also the Internet is, the delivery of food products in a fast and fresh way is desirable. Due to the lack of development of digital consumption in Azerbaijan, local customers usually turn to foreign brands for digital consumption. In this case, it is naturally not possible to expect such qualities as the mentioned fast delivery or fresh product. Therefore, no matter how positive the attitude of consumers towards digital consumption and also the Internet is, it will not affect their online shopping. The way out of this is for local brands to give importance to digital trade in this area and quality platforms should be built in this regard.

There is also no relationship between privacy risk and digital consumption (in food sector). This is consistent with the finding of a study by Zimaitis, Degutis, and Urbonavicius (2020) that privacy concerns did not have a significant effect on online shopping attitudes. A number of reasons for this can be explained on the basis of examples. First of all, it should be noted that food is a necessary product and the address must be specified for its delivery. In this case, the privacy risk for consumers buying food online would be negligible.

That is, consumers who consume food digitally will continue to shop online because it is a necessary product, whether the resulting privacy risk increases or decreases. Another example of this is the elasticity coefficient, which is widely used in economics.

Contrary to the study by Hasan, Sumon, Islam and Hossain (2021), digital consumption of food products has no effect on shopping enjoyment. The majority of domestic online food consumption is via the Bolt Food or Wolt mobile apps, and the orderers are often employees. These apps have very few features to increase the enjoyment factor. As a suggestion, adding 3D images of food or comments in the description can increase the enjoyment factor for consumers.

Additionally, as mentioned, the majority of consumers are office workers, and when workers order during lunch breaks, they often tend to order the same product as their previous order. In this case, naturally, no matter how much digital consumption increases, the pleasure factor is not affected because it becomes a habit. To avoid this situation, companies can increase the variety and organize campaigns to attract the attention of different consumers to different types of products.

Finally, in contrast to the study conducted by Liang, Ekinci, Occhiocupo and Whyatt (2013), digital consumption of food products was found to have no effect on word-of-mouth communication. The reason for this may be the avoidance of negative situations that may arise as a result of the recommendation. For example, a digital consumer may prefer not to recommend digital consumption or share their opinion with another consumer, considering the incidents of adverse events such as food poisoning, or product becoming undesirable during delivery. For this, the optimal way is to add a comment section that supports the anonymity function on platforms.

REFERENCES

- Chan, H., & Yang, M. X. (2021). Culture and electronic word of mouth: a synthesis of findings and an agenda for research. *Journal of Global Marketing*, 34(3), 165-169.
- Chien, A. W., Kurnia, S., & von Westarp, F. (2003). The acceptance of online grocery shopping. *BLED 2003 Proceedings*, 52.
- Chopdar, P. K., Korfiatis, N., Sivakumar, V. J., & Lytras, M. D. (2018). Mobile shopping apps adoption and perceived risks: A cross-country perspective utilizing the Unified Theory of Acceptance and Use of Technology. *Computers in Human Behavior*, 86, 109-128.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

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- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace 1. *Journal of applied social psychology*, 22(14), 1111-1132.
- Emel, O. K. U. R., & YALÇIN-ÖZDİLEK, Ş. (2012). Yapısal eşitlik modeli ile geliştirilmiş çevresel tutum ölçeği. *İlköğretim Online*, 11(1), 85-94.
- Gulfraz, M. B., Sufyan, M., Mustak, M., Salminen, J., & Srivastava, D. K. (2022). Understanding the impact of online customers' shopping experience on online impulsive buying: A study on two leading E-commerce platforms. *Journal of Retailing and Consumer Services*, 68, 103000.
- Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of business research*, 62(5), 565-571.
- Hair, J. F, Black, W. C., Babin, B. J., Anderson, R. E. ve Tatham, R. L. (2006). *Multivariate Data Analysis*. Pearson Education, Inc., New Jersey, 899 p.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2010). *Multivariate Data Analysis*. USA: Pearson, 800 p.
- Hasan, A. A. T., Sumon, S. M., Islam, M. T., & Hossain, M. S. (2021). Factors influencing online shopping intentions: The mediating role of perceived enjoyment. *Turkish Journal of Marketing*, 6(3), 239-253.
- Hennig-Thurau, T., Gwinner, K.P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet?. *Journal of interactive marketing*, 18(1), 38-52.
- Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D., & Keeling, D. I. (2017). Augmenting the eye of the beholder: exploring the strategic potential of augmented reality to enhance online service experiences. *Journal of the Academy of Marketing Science*, 45, 884-905.
- Hsu, C. L., & Lu, H. P. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & management*, 41(7), 853-868.
- <https://e-qanun.az/framework/25029>
- Jayawardhena, C. (2004). Personal values' influence on e-shopping attitude and behaviour. *Internet research*, 14(2), 127-138.
- Kim, S., & Stoel, L. (2004). Apparel retailers: website quality dimensions and satisfaction. *Journal of retailing and consumer services*, 11(2), 109-117.

- Kim, Y. G., & Woo, E. (2016). Consumer acceptance of a quick response (QR) code for the food traceability system: Application of an extended technology acceptance model (TAM). *Food Research International*, 85, 266-272.
- Kousheshi, M. R., Aali, S., Bafandeh Zendeheh, A. R., & Iranzadeh, S. (2020). The antecedents and consequences of online relationship quality in internet purchases. *Journal of Islamic Marketing*, 11(1), 161-178.
- Lee, S. H., & Chow, P. S. (2020). Investigating consumer attitudes and intentions toward online fashion renting retailing. *Journal of Retailing and Consumer Services*, 52, 101892.
- Liang, S. W. J., Ekinici, Y., Occhiocupo, N., & Whyatt, G. (2013). Antecedents of travellers' electronic word-of-mouth communication. *Journal of Marketing Management*, 29(5-6), 584-606.
- Peña-García, N., Gil-Saura, I., Rodríguez-Orejuela, A., & Siqueira-Junior, J. R. (2020). Purchase intention and purchase behavior online: A cross-cultural approach. *Heliyon*, 6(6), e04284.
- Rajamma, R. K., & Neeley, C. R. (2005). Antecedents to shopping online: A shopping preference perspective. *Journal of Internet Commerce*, 4(1), 63-78.
- Segars, A.H., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: A confirmatory factor analysis. *MIS quarterly*, 517-525.
- Sheehan, K. B., & Hoy, M. G. (1999). Flaming, complaining, abstaining: How online users respond to privacy concerns. *Journal of advertising*, 28(3), 37-51.
- Şimşek, Ö. F., (2007), Yapısal Eşitlik Modellemesine Giriş, Temel İlkeler ve Lisrel Uygulamaları, Ekinoks Yayınları, Ankara, 212 sayfa.
- Strader, T. J., & Shaw, M. J. (1997). Characteristics of electronic markets. *Decision Support Systems*, 21(3), 185-198.
- Suleman, D., & Zuniarti, I. (2019). Consumer decisions toward fashion product shopping in Indonesia: The effects of attitude, perception of ease of use, usefulness, and trust. *Management Dynamics in the Knowledge Economy*, 7(2), 133-146.
- Tabachnick, B.G., & Fidell, L.S. (2007). Using multivariate statistics Pearson Education Inc. Boston, MA.
- Tanadi, T., Samadi, B., & Gharlegghi, B. (2015). The impact of perceived risks and perceived benefits to improve an online intention among generation-Y in Malaysia. *Asian Social Science*, 11(26), 226.

Kanan Fadani: Impact Of Digital Consumption And Factors Affecting It: The Example Of Azerbaijan

- Thong, J. Y., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of human-computer studies*, 64(9), 799-810.
- Yang, B., Lester, D., & James, S. (2006). Attitudes toward buying online as predictors of shopping online for British and American respondents. *CyberPsychology & Behavior*, 10(2), 198-203.
- Zhang, T., Wang, W. Y. C., Cao, L., & Wang, Y. (2019). The role of virtual try-on technology in online purchase decision from consumers' aspect. *Internet Research*, 29(3), 529-551.
- Zimaitis, I., Degutis, M., & Urbonavicius, S. (2020). Social media use and paranoia: Factors that matter in online shopping. *Sustainability*, 12(3), 904.

THE CORRELATION BETWEEN GENDER PAY GAP AND GDP GROWTH IN AZERBAIJAN ECONOMY

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ABSTRACT

The gender wage gap is described as phenomenon such that women with same capacity, productivity with male workers are paid or promoted less. The reasons for such discrimination are the cultural stereotypes, personal biases, and labor cost saving. Recent statistics shows that Azerbaijan is also among the countries which suffer from this phenomenon where it ranked 100th out of 156 countries in The Global Gender Gap Index (GGGI). Yet, State Statistics Committee of the Republic of Azerbaijan has positive views in this topic, which claims that the economic growth in the country is followed by the increase in the part of women in country's labor force. In this regard, extensive empirical analysis developed to test these ideas where the difference between average wages of female and male workers regressed on GDP (Gross Domestic Product) per capita. Additionally, literacy ratio of males to females and Gini coefficient were used as control variables. The results confirmed the hypothesis by showing a negative relationship between the gender wage gap and economic development so, we believe that the results of the study will be useful for the implementation of correct government policies, which will be aimed at reducing the gender pay gap in the future.

Keywords: gender wage gap, gross domestics product, per capita, Gini coefficient, literacy rate

JEL Classification: J7

INTRODUCTION

“Freedom cannot be achieved unless women have been emancipated from all kinds of oppression” (Mandela, 2004).

As Nelson Mandela emphasized women have been faced oppression all over the centuries. The history shows that the role of a woman in the society has been described as a servant for her husband and children. However, starting from 20th century we observe rise in women empowerment. In this period women up-risings reached in high levels such as feminism movements in 1950's, Mothers of the Plaza de Mayo in 1970's and so on.

Because of those movements today women became one of the major part worlds of business, politics, science, art and other fields, they have reached high levels in career levels so, we can see female CEO's, entrepreneurs, scientists, politicians and so on. However, despite all these revolutions, unfortunately, there still exists a degree of gender inequality in the labor market and a considerable wage gap across the world. The gender wage gap is described as phenomenon such that women with same capacity, productivity with male workers are paid or promoted less because of their gender. The reason for such discrimination is various: there is hard stereotypes developed in different cultures that women are incapable to work in some areas because of being weak or emotional; there is also some personal bias by employers against female workers; and sometimes, employers this phenomenon to cost saving purposes. Thus, recent data figures show that there are huge gaps between earnings of male and female employees across the different sectors. The Global Gender Pay Gap Report (2021) calculates that there needs 135.6 years to close the wage gap between genders.

The degree of gender discrimination in labor force can be various in different countries, sectors, and position; this can be in the process of job offering, promotion or even project-duty handling. Additionally, the gender discrimination can be going into deeper whereas women face some materialism, objectivism, and verbal sometimes physical harassments. Another problem is that due to low earnings, women are able to consume, save and invest less, which led to either poverty of alone women or the dependent of them from other people.

According to Pignatti (2016), in the Soviet Union women participation rate in labor force was high and they were earning almost same as men as among the middle class. The main reasons for this phenomenon were a few: firstly, the rebellions of female workers during Russian Revolution, secondly government planned to encourage workers and thirdly to create so called perfect country ideology. However, after the collapse of the USSR the socialism philosophy altered by capitalism in all new countries where the gender balance in labor market also changed. In this regard, as a post-soviet country, we investigated Azerbaijan labor market to see how the gender equilibrium has become. Unfortunately, the data analysis is not quite optimistic. Recently, The Global Gender Pay Gap report (2021) ranked the countries based on The Global Gender Gap Index (GGGI) and unfortunately Azerbaijan is 100th out of 156 countries. The statistics also show that while women generate half of the labor force in Azerbaijan, they only earn 48% of men's income. In addition, the report of State Committee on Women's Problems of the Republic of Azerbaijan (2005) claims that employers who want to decrease staff expenses divide candidates into two parts and offer different level of wages for men and women employees.

Thus, considering that gender equality in the labor market is an important issue from both the perspective of economic development and human rights, the issue requires extensive theoretical and empirical analysis to be able to develop qualitative policy recommendations for Azerbaijani government to overcome this issue.

In this regard, we refer the views of the State Statistics Committee of the Republic of Azerbaijan which claims that the economic growth in the country is followed by the increase in the share of women in employment. Therefore, the research proposed in this paper will aim to analyze how the economic development affects the pattern of gender pay gap in Azerbaijan. The main hypothesis of the paper is that as Statics Committee mentioned there is negative correlation between gender wage gap and economic growth. During the analysis of the hypothesis, a regression model will be developed where the dependent variable will difference between average wages of female and male workers whereas main independent variable will GDP (Gross Domestic Product) per capita of the country, additionally there will be several control variables such as Gini (inequality) coefficient and literacy rate.

LITERATURE REVIEW

Gender inequality reveals itself in different fields of modern society such as business world, family life and so on. Yet, in this literature we will investigate particularly how this type of discriminative behaviors affects women's earnings and career planning. Additionally, we will also explore the correlation between gender inequality in labor market and economic growth and possible analysis methods to seek solutions for the problem.

The facts support the idea that there is considerable gender pay gap in the Azerbaijan economy. For instance, Klarven (2020) found that almost half of the labor force in Azerbaijan consists of women whereas in some industries the share of women employees is more than that of male employees. Yet approximately 50% of women workers in Azerbaijan work in the bottom of the labor market with comparably lower level of wage. Although Klarven stated these facts by supporting relevant data, Karimova (2020) went to deeper to investigate the roots of this gender inequality in Azerbaijan. In this regard she conducted research in the education industry by including around 15 control variables such as gender, religion, marital status, foreign language skills, education levels and so on. She found the main reasons for gap between the earning of two genders are social and religious aspects, which affects women's career options, promotion and even selection to the vacancy.

However, there are also optimistic updates where several articles conclude that economic growth can defeat gender discrimination in the labor market of the country.

For example, it was claimed by Eastin and Prakash (2013) that economic growth is likely to decrease gender inequality in the economy because of the enabling of women to participate in labor market more. Additionally, Derlacz (2013) also support them by analyzing the relationship between the gender pay gap and productivity development for 18 OECD (Organization for Economic Co-operation Development) countries. In the research, he divided labor force into six groups: based on gender: male and female, and based on skill levels: low, medium, and high.

Gender pays differences' comparison was referred on their ability levels to decide on how entire production was altered by male and female employees, and their different skill levels. The results of the analysis, it is shown that raise in the gender wage inequality in all skill levels causes small level of economic growth. The reason is that higher variations in wages discourages females from involving in the labor market, therefore, women's productivity declines which leads to decrease in economic growth. Additionally, if female employees are paid lower number of wages, then it also leads to decline in the capital per worker, as a result, slowdown of economic development appears. Therefore, decreasing gender wage gap can result in increase of females' labor participation, and long-term economic growth.

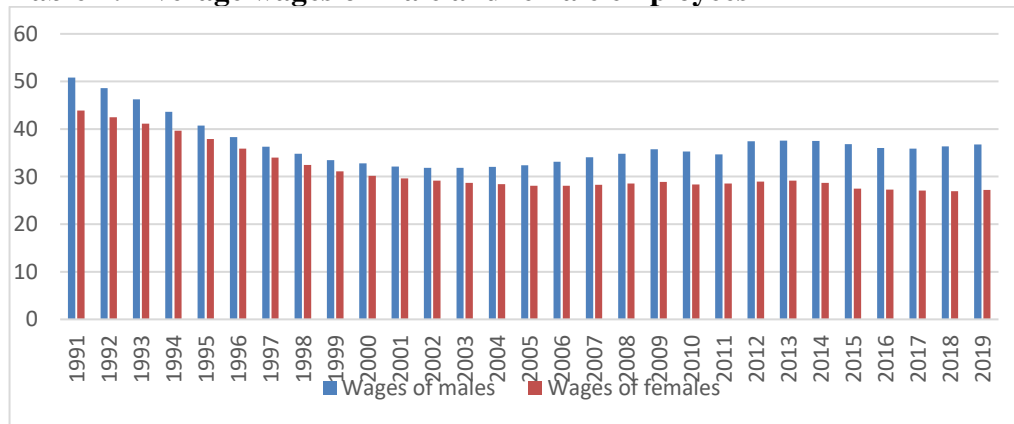
Yet there are also some controversial ideas whether economic growth decrease or increase wage inequality. When Schober and Ebmer (2011) analyzed economies of export-oriented semi-industrialized countries like Azerbaijan, their literature revealed different conclusions. While the previous research concludes positive correlation between gender-based wage discrimination and economic growth meaning gender-based wage discrimination and economic growth move in the same direction for export-oriented countries, Schober and Ebmer showed that relation is negative, and they move in the opposite directions for even export-oriented economies. Nevertheless, Haas (2006) could actually explain this opposite finding by studying the correlation between GDPs per capita and the ratio of annual wages of men and women labor forces. His outcomes showed an interesting finding: the correlation between GDPs per capita and the degree of the gender pay gap was positive, however, relationship was negative when GDP per capita was squared. In other words, when there is an increase in economic growth, the amount of the gender pay inequality rises, however, when there is excessive rates of GDP per capita, economic growth causes reduction in the gender pay inequality, which indicates the Kuznets curve. Unfortunately, the literature also claims that there exists gender pay gap in Azerbaijan economy. Additionally, there are also statements about correlation between wage inequality and economic growth. Yet whether this relation is positive or negative is still a question needs to be investigated in further research.

Data

In our paper we analysis the roots of gender pay gap particularly which variables affect the wage gap and what is magnitude. Thus, in this regard we constructed time series data set for Azerbaijan for the period 1991-2020 years.

The dependent variable of the research is wage ratio of male to female. The variable is obtained by dividing male wages to female wages. Both male and female wages are real variables and shown as percentage of total male and female employment respectively. The data is provided by World Bank's World Development Indicators database (Table 1).

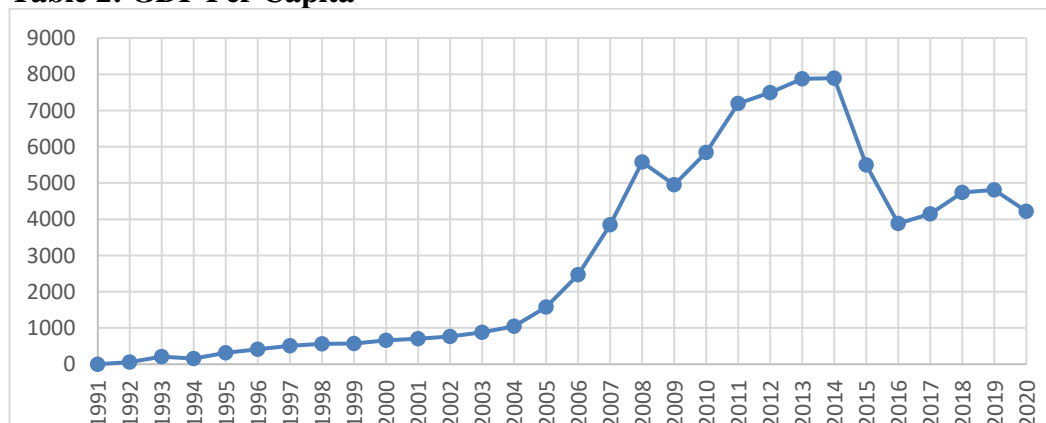
Table 1: Average wages of male and female employees



Source: World Bank Database, 2019

The main independent variable of our regression analysis is GDP per capita. The data is constructed by taking real GDP (Gross Domestic Product) with 2010 USD prices (inflation free) and dividing population of corresponding year. The source of the data is again World Bank's World Development Indicators database. (Table 2).

Table 2: GDP Per Capita



Source: World Bank Database, 2020

In the paper, we also used some control independent variable for against bias or other problems. The first control variable is literacy ratio of males to females. This number is acquired by dividing one variable to another. First is primary school completion rate for males as percentage of male population in given year and the second is female primary school completion rate as percentage of total female population. The data is obtained from The State Statistical Committee of the Republic of Azerbaijan, MDG indicators of the Republic of Azerbaijan.

The last variable Gini Index for Azerbaijan. Gini coefficient is discovered by Italian statistician Corrado Gini in 1912. The index is used to measure income distribution in the given society so, the number shows inequality rate in the country. The graphical representation of coefficient is demonstrated by the help of Lorenz curve where flatter curve means more inequality. The coefficient varies among 0 and 100% or 0 and 1. While 0 presents perfect equality, 1 shows perfect inequality so, high coefficient means high inequal distribution of income (Westfall, 2020). In our analysis, we get Gini Coefficient from Trading Economics which also refer to World Bank estimations. However, our data regarding Gini coefficient suffers from missing data which might affect the results.

Additionally, for our main variables we added literacy rate gap for adult population to look correlation between wage gap and them separately, which again is provided by World Bank's World Development Indicators database.

METHODOLOGY

For the regression analysis we referred to the methodology conducted by Sherri Haas (2006) but with some modifications. The regression equation and explanation of variable are given below:

$$wage = \beta_0 + \beta_1 lgdp + \beta_2 literacy + \beta_3 gini + \beta_4 year + u$$

Table 3: Explanation of variables

Variables	Explanation
wage	wage ratio of male and female workers
year	1991-2020
literacy	literacy rate of male to female population
lgdp	logarithm of real GDP per capita
gini	gini (inequality)coefficient

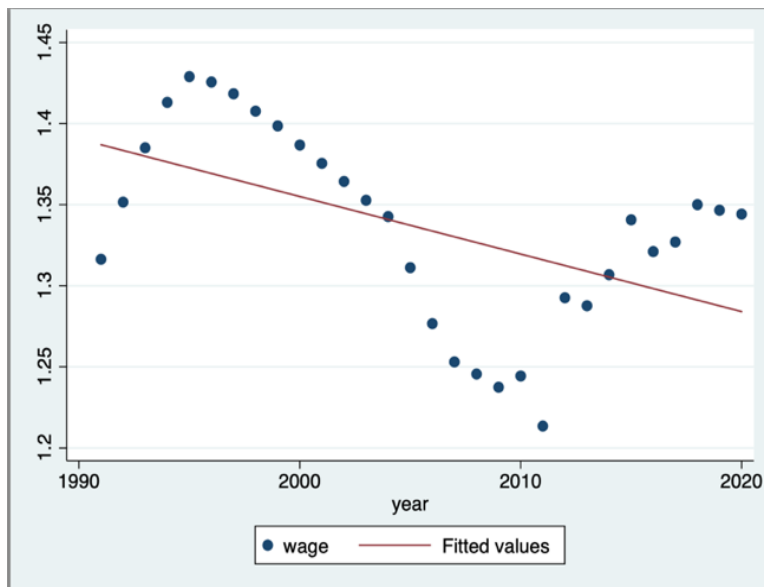
Source: The author

In the original regression, GDP per capita is used solely however, in our model we preferred logarithmic transformation of GDP per capita. There are several reasons for this change. First, as a number GDP per capita is huge compared to other variables so we could not get reasonable coefficient in that way. The second as most importantly, GDP per capita is highly skewed for Azerbaijan since we think high economic growth over the past thirty years, so we need to normalize data. Moreover, change of GDP per capita is more important rather than GDP per capita itself. Another reason for the logarithmic transformation is to decrease heteroskedasticity (non-constant error term) problem.

Moreover, we tried to add unemployment rate ratio for male to female into our regression but in that case, our explanatory variables became insignificant there happened multicollinearity problem which might cause bias problem, so we had to drop unemployment ratio variable.

During our analysis, we discovered that some of our variables such dependent variable wage ratio of male to female have trending issue, which is common for timeseries analysis (See Table 4). The main issue of trending is that sometimes variables show trends in same or opposite directions where it misleads coefficient and cause to think there might be relationship between them. The trending can be linear or growth level. Yet even if trending is not observable, for the safety it is advisable to add time variable into regression model to eliminate any trending related problems (Wooldridge, 2012, p.363-364).

Table 4: Trend analysis



Source: The results are obtained through the author’s analysis

The one of the main issues for all types of OLS (Ordinary Least Square) estimators is multicollinearity where independent variables are correlated in high level. This problem may cause some bias estimation. For checking this problem, we look VIF (Variable Inflation Factor) score of our variables. For this test, results of our control variables are less than five which is quite satisfactory (see Table 5).

Table 5: Collinearity analysis

```
. collin literacy lgdp gini
(obs=23)
```

Collinearity Diagnostics

Variable	VIF	SQRT VIF	Tolerance	R- Squared
literacy	1.73	1.32	0.5764	0.4236
lgdp	2.38	1.54	0.4194	0.5806
gini	1.72	1.31	0.5820	0.4180

Mean VIF **1.95**

	Eigenval	Cond Index
1	3.8972	1.0000
2	0.1008	6.2188
3	0.0021	43.4955

Source: The results are obtained through the author’s analysis

The last test we wanted to check is homoskedasticity. Homoskedasticity means error term of the regression - u has same variances for all values of independent variables, the reverse situation is called heteroskedasticity which is violation of assumptions of Gauss-Markov Theorem-best linear unbiased estimator (Wooldridge, 2012). However, heteroskedasticity is not an important issue for time series analysis yet we wanted to check. Therefore, we referred to the White Test where null hypothesis is homoskedasticity and we failed to reject homoskedasticity so there is no heteroskedasticity (see Table 6).

Table 6: Heteroskedasticity Test

```
. estat imtest, white
```

White's test for Ho: homoskedasticity
against Ha: unrestricted heteroskedasticity

chi2(14) = **19.92**
Prob > chi2 = **0.1325**

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	19.92	14	0.1325
Skewness	11.55	4	0.0210
Kurtosis	3.22	1	0.0728
Total	34.69	19	0.0152

Source: The results are obtained through the author’s analysis

RESULTS

The key issue of this paper is the role of gender pay disparity in economic development. The first step in our study is to analyze the properties of time series variables to avoid a false setback. The results of the OLS regression analysis provide preliminary support for the hypothesis. All ratios had a sign predicted by the literature. From our result (Table 7) you can see the effect of our independent and control variables to our dependent variable - wage ratio of male to female. The regression gives us the conclusion that GDP (Gross Domestic Production) per capita and Gini Index for Azerbaijan variables are statistically significant. However, the variable, literacy ratio of males to females is statistically insignificant. More openly, if you change Gini by one, we expect wage ratio to change by 0.103. Moreover, if we increase GDP by one percent, we can see wage ratio to decrease by 0.02 units. About the literacy, if we increase it by 1 point, wage ratio will decrease by 1.61. We see that literacy and GDP is negatively correlated and Gini is positively. The coefficient in front of real GDP is negative and highly significant as expected as GDP increased wage gap will decrease. Furthermore, our R squared result is quite well. 90 percent R square means that our control variables can explain our independent variables by 90 percent, which show the right choice of independent variable for this regression model (see Table 7 below).

Table 7: Results of regression analysis

```
. reg wage year literacy lgdp gini
```

Source	SS	df	MS	Number of obs	=	23
Model	.09140169	4	.022850422	F(4, 18)	=	42.79
Residual	.009612943	18	.000534052	Prob > F	=	0.0000
				R-squared	=	0.9048
				Adj R-squared	=	0.8837
Total	.101014633	22	.004591574	Root MSE	=	.02311

wage	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
year	.0081297	.0027916	2.91	0.009	.0022649 .0139946
literacy	-1.611775	8.643761	-0.19	0.854	-19.77164 16.54809
lgdp	-.1917116	.0282372	-6.79	0.000	-.2510358 -.1323874
gini	.1030558	.0507823	2.03	0.057	-.0036339 .2097454
_cons	-11.69036	10.25104	-1.14	0.269	-33.22698 9.846273

Source: The results are obtained through the author’s analysis

CONCLUSION

To summarize, when we looked at the literature, we saw that there is lack of the effective government policy to decrease the gender wage gap. Thus, as was mentioned in the beginning of the paper the aim of the research paper was to find out the effect of economic growth on gender pay gap in Azerbaijan. From the conducted research it is concluded that the hypothesis of negative relationship between the economic growth, namely GDP of Azerbaijan and gender pay gap, namely wage ratio of males to females, turned to be true.

Moreover, there is negative effect of literacy rate of male to female population and positive effect of log of real GDP per capita on wage ratio. However, during the analysis we also faced some limitations. The first one was regarding the literacy rate. In the regression, we used primary school completion rate for gender to control literacy gap which was a proxy variable since the data on male and female adult literacy rate which should be used, was not sufficient due to small sample size. The other limitations were small sample size due to unavailability of data in databanks, some missing data or gaps in the data, possible omitted variables, and lack of investigation in the gender pay gap field for Azerbaijan case. Moreover, there was also another limitation Yet despite these implications, we believe that the results of the study will be useful for the implementation of correct government policies, which will be aimed at reducing the gender pay gap in the future.

REFERENCES:

- Derlacz, J. W. (2013). The Impact of Gender Wage Gap on Sectoral Economic Growth – Cross-country Approach. *Equilibrium* Vol 8(3). DOI: 10.12775/EQUIL.2013.022.
- Eastin, J. & Prakash, A. (2013). Economic Development and Gender Equality: Is There a Gender Kuznets Curve? *World Politics*, Vol 65(1). DOI: 10.1017/S0043887112000275.
- Haas, S. (2006). Economic Development and the Gender Wage Gap. *The Park Place Economist*, Vol 14(1). Available at: <https://digitalcommons.iwu.edu/cgi/viewcontent.cgi?article=1136&context=parkplace#:~:text=This%20shows%20that%20the%20relationship,the%20difference%20in%20pay%20decreases.>
- Karimova, S. (2020). Gender pay Gap in education sector in Azerbaijan. ADA FT1. <https://doi.org/http://hdl.handle.net/20.500.12181/292>
- Klaveren, M., Tijdens, K., Williams, M., & Ramos, M. N. (2010). An overview of women's work and employment in Azerbaijan. AIAS working papers WP 92.
- Schober, T. & Ebmer, R. W. (2011). Gender Wage Inequality and Economic Growth: Is There Really a Puzzle?-A Comment. *World development*, Vol 39(8-4). Pp. 1476-1484. DOI: 10.1016/j.worlddev.2011.05.001.
JOURNAL OF ECONOMIC SCIENCES: THEORY AND PRACTICE, V.80, # 1, 2023, pp. 83-93
- State Committee on Women's Problems of the Republic of Azerbaijan (2004). Azerbaijan. Available at: <https://www.un.org/womenwatch/daw/Review/responses/AZERBAIJAN-English.pdf>
- State Statistics Committee of the Republic of Azerbaijan (n.d.). Gender Data on Labour. Available at: <https://www.stat.gov.az/source/labour/>
- The gender gap in employment: What's holding women back?* InfoStories. (n.d.). Retrieved December 12, 2021, from <https://www.ilo.org/infostories/en-GB/Stories/Employment/barriers-women#global-gap/labour-force>.

- The State Statistical Committee of the Republic of Azerbaijan, (2019). MDG indicators of the Republic of Azerbaijan. Primary completion rate, percent. [Data file]. Retrieved from https://www.stat.gov.az/source/millennium/source/MDG_en-05.01.2017.pdf
- Trading Economics. Azerbaijan – GINI Index. [Data file]. Retrieved from <https://tradingeconomics.com/azerbaijan/gini-index-wb-data.html>
- UNDP (2007). GENDER ATTITUDES IN AZERBAIJAN: TRENDS AND CHALLENGES. Available at: <http://hdr.undp.org/sites/default/files/nhdr2007/gendereng.pdf>
- United Nations. (n.d.). *Nelson Mandela International Day, July 18, for Freedom, Justice and Democracy*. United Nations. Retrieved December 12, 2021, from https://www.un.org/en/events/mandeladay/mandela_photo_gallery.shtml.
- Westfall, P. (2020). Gini Index. Retrieved from <https://www.investopedia.com/terms/g/gini-index.asp>
- Wooldridge, J. M. (2012). *Econometrics Modern Approach*. USA: South-Western Cengage Learning.
- World Bank, World Development Indicator. (2020) GDP per capita (constant 2010 US\$). [Data file]. Retrieved from <https://databank.worldbank.org/reports.aspx?source=2&series=SI.POV.GINI&country=#>
- World Bank, World Development Indicator. (2020). Wage and salaried workers, female (% of female employment) (modeled ILO estimate. Wage and salaried workers, male (% of male employment) (modeled ILO estimate). [Data file]. Retrieved from <https://databank.worldbank.org/reports.aspx?source=2&series=SI.POV.GINI&country=#>
- World Bank, World Development Indicator. (2020). Literacy rate, adult female (% of females ages 15 and above). [Data file]. Retrieved <https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS>
- World Bank, World Development Indicator. (2020). Literacy rate, adult male (% of males ages 15 and above). [Data file]. Retrieved <https://data.worldbank.org/indicator/SE.ADT.LITR.MA.ZS>
- World Economic Forum. (2021). (tech.). *Global Gender Gap Report INSIGHT REPORT*. Retrieved from https://www3.weforum.org/docs/WEF_GGGR_2021.pdf.

THE EFFECT OF FOREIGN DIRECT INVESTMENT ON AZERBAIJAN'S NON-OIL GDP

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ABSTRACT

This paper examines the effect of foreign direct investment (FDI) on Azerbaijan's non-oil GDP. Azerbaijan's economy has long been dependent on its oil sector and diversifying the economy has become a priority for the government. FDI is seen as a potential source of investment that can help diversify the economy and promote growth in non-oil sectors. This study aims to investigate the relationship between FDI and non-oil GDP in Azerbaijan and to provide insights into the factors that influence the success of FDI in promoting economic growth. The study uses a quantitative research method, and the data is collected from the World Bank and the Central Bank of Azerbaijan. The results of the study suggest that FDI has a positive effect on Azerbaijan's non-oil GDP, particularly in the manufacturing and services sectors. However, the study also highlights the challenges that FDI faces in Azerbaijan, including the lack of infrastructure, bureaucratic barriers, and political instability. The findings of this study have important implications for policymakers in Azerbaijan, as well as for investors who are considering investing in the country.

Keywords: foreign direct investment, diversifying the economy, non-oil sectors, gross domestic products, Azerbaijan economy.

JEL Classification: F21, F23, O16

THEORETICAL ASPECT OF FOREIGN DIRECT INVESTMENT

Foreign direct investment (FDI) refers to the investment made by an individual, company or entity in one country (the "investor") into a business or enterprise in another country (the "host country"). (Dunning & Lundan, 2008). FDI involves a direct ownership interest in the business or enterprise in the host country, with the investor having control or influence over the management and operations of the foreign enterprise. FDI can take several forms, including establishing new subsidiaries or branches, acquiring existing enterprises, or creating joint ventures with local firms.

The investor may also transfer technology, expertise, and other resources to the foreign enterprise, with the aim of increasing its competitiveness and generating profits. FDI is often seen as a way to expand business opportunities and access new markets and can be beneficial for both the investor and the host country, as it can promote economic growth, job creation, and technological development.

The Benefits And Potential Drawbacks of Foreign Direct Investment For Developing Countries

FDI can bring several benefits to developing countries, but it can also have some potential drawbacks. Here are some of the benefits and potential drawbacks of FDI for developing countries: (Loungani & Razin, 2001)

Benefits:

- **Job Creation:** FDI can lead to the creation of new jobs in the host country. This can help reduce unemployment and poverty, which are significant challenges in many developing countries.
- **Technology Transfer:** FDI can bring new technologies, production processes, and management practices to the host country. The technologies that are transferred to developing countries in connection with foreign direct investment tend to be more modern, and environmentally “cleaner”, than what is locally available. (The Organisation for Economic Co-operation and Development, 2002). This can help improve productivity and efficiency in local industries, which can contribute to economic growth.
- **Access to Capital:** FDI can provide developing countries with access to external sources of capital, which can be used to finance investment in infrastructure, education, and other areas that are important for economic development.
- **Market Access:** FDI can help developing countries access new markets, both domestic and international, which can help promote exports and economic growth. (Fugazza & Trentini, 2014)
- **Knowledge Transfer:** FDI can also bring new knowledge and skills to the host country, which can contribute to human capital development and enhance the local workforce.

Potential drawbacks:

- **Dependency:** FDI can create a dependency on foreign capital and technology, which can make developing countries vulnerable to external shocks and fluctuations in global capital markets.

- **Crowding out domestic investment:** FDI may also crowd out domestic investment, as local firms may find it difficult to compete with foreign firms that have access to more resources and better technology. (Jude, 2015).
- **Repatriation of Profits:** Foreign firms may repatriate profits earned in the host country, which can lead to capital outflows and reduce the availability of resources for domestic investment.
- **Environmental Degradation:** FDI can also have negative environmental impacts, such as pollution and resource depletion if it is not managed carefully.
- **Political Risk:** FDI can be sensitive to political risks, such as changes in government policy, which can create uncertainty for investors and reduce the attractiveness of the host country as an investment destination.

Overall, FDI can bring significant benefits to developing countries, but policymakers need to be mindful of the potential drawbacks and take steps to manage the risks associated with foreign investment.

The Challenges of Foreign Direct Investment in Developing Countries

FDI can bring various benefits to developing countries, such as increased employment opportunities, technology transfer, and access to new markets. The challenge for developing countries is to develop a well-calibrated and, preferably, unique combination of factors determining FDI location and to match those determinants with corporations' strategies. (Mallampally & Sauvart, 1999). However, attracting and benefiting from FDI can be challenging for developing countries due to a variety of reasons. Here are some of the main challenges:

Political instability and security risks: Developing countries that experience political instability and conflict can deter foreign investors. Investors may be hesitant to invest in a country where there is a risk of political turmoil or violence. Political instability can lead to a lack of policy consistency, changing regulations, and unpredictability, which can create a hostile business environment. (Erkekoglu & Kilicarslan, 2016).

Poor infrastructure: Infrastructure is a critical factor in attracting foreign investment. A lack of infrastructure, such as transportation, energy, and communication networks, can make it difficult for investors to operate efficiently. Poor infrastructure can lead to higher costs and delays, affecting productivity and profitability.

Limited access to finance: Limited access to finance is a significant challenge for many developing countries. Investors require access to financing to expand their operations, invest in new technologies, and manage risks. Developing countries with limited financial markets and weak regulatory frameworks may face difficulties in accessing the necessary funds. (OECD,2002).

Weak legal and regulatory frameworks: Investors need a stable legal and regulatory environment to operate efficiently. A weak legal and regulatory framework can create uncertainty and unpredictability, which can deter foreign investors. A stable and predictable legal and regulatory framework is crucial in attracting FDI and ensuring investor confidence. (Perry, 2000).

Lack of transparency and accountability: A lack of transparency and accountability in government institutions can lead to corruption, which can deter foreign investors. The higher in risk and uncertainty stemming from the presence of bribery and corruption, unstable economic policies, weak and poorly enforced property rights, and inefficient government institutions. (Drabek, 2002). Investors need to have confidence that their investments are safe and that they will receive a fair return. Transparency and accountability are crucial in creating a favorable investment environment.

In summary, developing countries face a range of challenges in attracting and benefiting from FDI. Addressing these challenges requires concerted efforts from governments, investors, and other stakeholders to create an enabling environment for FDI and maximize its benefits. For this purpose, it is important to implement the below strategies.

Strengthen institutional and regulatory frameworks: This strategy involves improving government institutions' and regulations' quality and effectiveness to create a stable and predictable business environment for foreign investors. This could include measures such as improving the rule of law, protecting property rights, and promoting transparency and accountability in government. (Mehtiyev, 2018).

Enhance political stability: This strategy reduces political risk and creates an investment-friendly environment. This could include measures such as reducing corruption, promoting good governance, and resolving conflicts. Countries can also work to improve the social and economic conditions of their citizens, which can help to reduce tensions and promote political stability.

Expand access to finance: This strategy involves expanding access to finance, which can help to attract foreign investors and increase investment in the country. Countries can work to improve their financial systems and reduce lending rates to make it easier for businesses to access credit.

Develop human capital and skills: This strategy involves investing in education and training programs to develop the skills and capabilities of the local workforce. This can help to attract and retain foreign investors who require a skilled workforce. Countries can work to improve their education systems, establish vocational training programs, and provide incentives for businesses to invest in training and development programs. (Michie, 2001).

In conclusion, the challenges of foreign direct investment in developing countries are significant and multifaceted. Political instability, poor infrastructure, lack of skilled labor, corruption, and cultural differences are just some of the obstacles that foreign investors may face when trying to establish a presence in these countries. However, despite these challenges, foreign direct investment remains an important source of economic growth and development for many developing countries.

CURRENT SITUATION OF FOREIGN DIRECT INVESTMENTS IN AZERBAIJAN

For Azerbaijan, attracting foreign direct investment is more crucial than ever. The growth of the non-oil sector and the diversification of the economy have taken on even more importance in light of the current state of global uncertainty. On the other hand, despite high oil prices, oil output has decreased recently, and despite this, the country's revenue from energy sales is lower than it was before to 2014. Taking into account the post-pandemic environment, 2021 was considered comparatively challenging in terms of FDI flow. Regional instability as a result of the post-war period also played a significant role in the assessment. (Center for Economic and Social Development, 2022). For a deep understanding of the current situation of FDI flows in Azerbaijan and its effect on the Azerbaijan GDP, it is important to make a SWOT analysis of the current FDI condition.

Strengths:

- Azerbaijan has a strategic location between Europe and Asia, making it an attractive destination for FDI.
- The country has abundant natural resources, including oil and gas, which has led to the development of a strong energy sector.
- The government has implemented several reforms to improve the business environment, including simplifying procedures for starting a business and reducing bureaucracy.
- Azerbaijan offers a favorable tax regime for foreign investors, including exemptions and reductions on corporate income, property, and land taxes for up to seven years.

Weaknesses:

- Despite its efforts to diversify its economy, Azerbaijan is still heavily reliant on the energy sector, which makes it vulnerable to fluctuations in global oil and gas prices.
- The country's infrastructure is still developing, particularly in the regions outside of the capital city of Baku, which can pose challenges for investors.
- Corruption and lack of transparency can still be a concern for foreign investors.
- The country has a relatively small market size compared to other countries in the region.

Opportunities:

- Azerbaijan is investing in non-oil sectors, such as tourism, agriculture, and technology, which can provide opportunities for foreign investors.
- The government is working to improve the education system and increase the number of skilled workers, which can benefit foreign investors looking to establish operations in the country.
- Azerbaijan has established trade agreements with several countries in the region, including Turkey and Russia, which can provide access to larger markets.

Threats:

- The global economic uncertainty and political instability in the region can impact the FDI inflows into the country.
- The government's reliance on the energy sector can pose challenges to diversification efforts and economic development.
- The ongoing conflict with Armenia over Nagorno-Karabakh can create geopolitical risks for foreign investors in the region.

Azerbaijan offers several strengths for foreign investors, such as its strategic location, abundant natural resources, and favorable tax regime. However, the country's heavy reliance on the energy sector and infrastructure development outside of Baku are weaknesses that need to be addressed. The government's efforts to invest in non-oil sectors, improve education and increase the number of skilled workers, and establish trade agreements with other countries provide opportunities for foreign investors. However, global economic uncertainty and political instability in the region, the ongoing conflict with Armenia over Nagorno-Karabakh, corruption and lack of transparency remain threats that need to be considered. Overall, Azerbaijan has potential for FDI, but continued efforts to diversify the economy, address weaknesses, and mitigate threats are necessary for sustained growth and development.

How Azerbaijan's Tax and Regulatory System Affects Attractiveness the of Foreign Direct Investment

Foreign Direct Investment plays a crucial role in the economic development of countries, providing access to capital, technology, and management expertise. However, the attractiveness of a country as an investment destination depends on various factors, including taxes and regulations. In recent years the government stimulated the flow of new investments into the country by making fundamental changes in a number of legislative acts and also in the tax legislation in the direction of increasing foreign direct investments in the non-oil sector.

The government accepted the law which is aimed to attract and efficient use of foreign material and financial resources in the economy, modern foreign equipment and technology, and managerial experience and guarantees the protection of rights of foreign investors. (Law of the Azerbaijan Republic About Protection of Foreign Investments, 1992).

Azerbaijan has implemented various tax and regulatory measures to attract foreign investors and promote economic growth. One of the key measures is the country's double taxation agreements (DTAs) with other countries, which aim to avoid double taxation of income earned in one country by residents of the other country. Double taxation occurs when the same income is taxed by two different countries. For example, if a foreign company earns income in a country, it may be subject to taxes in both its home country and the country where the income is earned. This can make investing in a foreign country less attractive, as the company must pay taxes twice on the same income. To avoid double taxation, many countries have entered into tax treaties with other countries. These agreements typically include provisions for reducing or eliminating double taxation, such as allowing companies to claim foreign tax credits on their home country taxes or providing for an exemption from taxes in one of the countries. Azerbaijan has DTAs with numerous countries including Turkey, Russia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Germany, Belgium, Italy, China, UAE, India, Iran, Czech Republic, Slovakia, and many others. The DTAs generally provide for reductions or exemptions on withholding taxes on dividends, interests, and royalties.

In addition to this, Azerbaijan has also implemented a transfer pricing regulation to prevent the abuse of DTAs by related parties for tax avoidance. The transfer pricing regulation requires companies to maintain documentation to demonstrate that their related-party transactions are conducted at arm's length. This helps to ensure that companies are not using the DTAs to artificially lower their tax liabilities.

Azerbaijan has also implemented the Common Reporting Standard (CRS) for the automatic exchange of financial account information to prevent tax evasion by foreign residents through the use of undeclared offshore accounts. This helps to create a level playing field for foreign investors and promotes transparency in the country's financial system.

Azerbaijan also offers several benefits to foreign investors. These include exemptions from customs duties, VAT, and profit tax for up to 7 years for certain industries and regions. (The Tax Code of the Republic of Azerbaijan, 2000). Additionally, the country has established special economic zones, such as the Sumgait Chemical Industrial Park and the Balakhani Industrial Park, which offer further tax and regulatory benefits to investors.

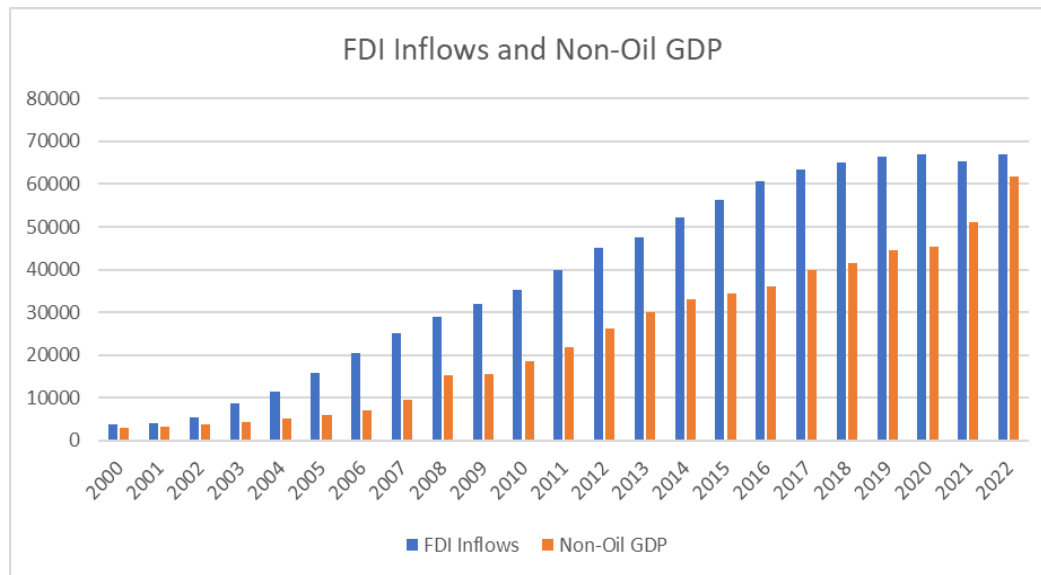
Orkhan Dadashov: The Effect of Foreign Direct Investment on Azerbaijan's Non-Oil GDP

In conclusion, taxes and regulations play a crucial role in determining the attractiveness of a country as an investment destination. Azerbaijan has implemented various tax and regulatory measures to attract foreign investment and promote economic growth, including DTAs, transfer pricing regulation, and CRS. These measures help to create a favorable investment environment by reducing the cost of doing business for foreign investors and promoting transparency.

Inferential Analysis:

In this part, we will pay attention to the statistical relationship between foreign direct investments and Azerbaijan's non-oil GDP based on data taken from the World Bank website.

Chart 1: Relationships between FDI inflows and Azerbaijan's Non-Oil GDP



Source: The chart was prepared by author based on the data taken from the World Bank website

Based on the secondary data and the impact of FDI inflows on Azerbaijan's Non-Oil GDP growth, some possible hypotheses are:

Alternative hypothesis (H_A): Foreign direct investment has a positive impact on Azerbaijan's non-oil GDP.

Null hypothesis(H₀): There is no significant relationship between the level of FDI inflows on Azerbaijan's non-oil GDP growth.

To analyze the statistical relationship between FDI inflows and Azerbaijan's non-oil GDP, correlation, and regression analysis should be used.

Correlation Analysis:

The Pearson correlation coefficient is the most common way of measuring a linear correlation. It ranges from -1 to +1, where -1 indicates a perfect negative correlation, 0 indicates no correlation, and +1 indicates a perfect positive correlation. Pearson's correlation coefficient assumes that the data is normally distributed and there is a linear relationship between the two variables.

On the other hand, Spearman's correlation coefficient is a non-parametric measure of the strength and direction of the relationship between two variables. It measures the monotonic relationship between two continuous or ordinal variables. The Spearman correlation coefficient ranges from -1 to +1, where -1 indicates a perfect negative monotonic correlation, 0 indicates no monotonic correlation, and +1 indicates a perfect positive monotonic correlation. Spearman's correlation coefficient does not assume that the data is normally distributed and can capture non-linear relationships between the two variables.

To know which method to choose, it is first necessary to clarify whether the data is parametric or non-parametric. For this, we will use the Shapiro-Wilk normality test. If the p-value is less than 0.05, then the data is non-parametric.

Shapiro-Wilk, Tests of Normality (SPSS):

Table 1: Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NON-OIL GDP	.143	23	.200*	.921	23	.072

*. This is a lower bound of the true significance.
 a. Lilliefors Significance Correction

Source: The table was prepared by the author using SPSS

As shown in table above, we can see that Sig. level (P value) is greater than 0.05.

We identified that our data is Parametric. Now we can use Pearson correlation to measure the linear relationship between two continuous variables.

Pearson Correlation test (SPSS):

As shown in below table Pearson correlation coefficient of 0.963 indicates a very strong positive correlation between the two variables being measured.

The significance value (Sig) of less than 0.001 indicates that the probability of obtaining a correlation coefficient as strong as 0.963 by chance alone is very low.

In fact, it suggests that there is a less than 0.1% probability of obtaining such a strong correlation due to random chance. Therefore, we can conclude that the correlation is statistically significant.

Overall, this suggests that there is a strong positive relationship between the inflows of foreign direct investment and the non-oil GDP of Azerbaijan. In other words, as foreign direct investment increases, the non-oil GDP of Azerbaijan also tends to increase.

Table 2: Pearson correlation

Correlations			
		FDI flows	NON-OIL GDP
FDI flows	Pearson Correlation	1	.963**
	Sig. (2-tailed)		<.001
	N	23	23
NON-OIL GDP	Pearson Correlation	.963**	1
	Sig. (2-tailed)	<.001	
	N	23	23

** . Correlation is significant at the 0.01 level (2-tailed).

Source: The table was prepared by the author using SPSS

Regression Analysis:

For further investigation let's look at the Linear regression test between these variables. Regression analysis is a statistical technique used to examine the relationship between a dependent variable and one or more independent variables. Regression tests are necessary to evaluate the statistical significance of the relationship between the variables and to make predictions or estimates based on the model. Regression tests help to estimate the impact or effect of independent variables on the dependent variable. By analyzing the coefficients of the regression equation, we can determine how much the dependent variable changes for a given change in the independent variable(s). Regression tests also help us to make predictions or forecasts based on the relationship between the dependent variable and the independent variable.

Table 3: Liner Regression test (SPSS)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.963 ^a	.927	.923	4941.8062

a. Predictors: (Constant), FDI flows

Source: The table was prepared by the author using SPSS

Our regression model has an R value of 0.963, it means that there is a strong positive correlation between the dependent variable and the independent variable(s). The R-value ranges between -1 and +1, with 1 indicating a perfect positive correlation and -1 indicating a perfect negative correlation. Therefore, an R-value of 0.963 indicates that there is a very strong positive correlation between the variables.

The R-squared value of 0.927 indicates that approximately 92.7% of the variability in the dependent variable is explained by the independent variable(s). The R-squared value ranges between 0 and 1, with 1 indicating that all the variability in the dependent variable is explained by the independent variable(s). Therefore, an R-squared value of 0.927 indicates that the regression model is a good fit for the data and that the independent variable(s) can explain a large proportion of the variability in the dependent variable. The Adjusted R-squared value of 0.923 is similar to the R-squared value but takes into account the number of independent variables in the model. The adjusted R-squared value adjusts for the effect of adding more variables to the model and is often a better measure of the goodness of fit for models with multiple independent variables. In summary, our regression model has a strong positive correlation between the dependent and independent variables, a good fit to the data, and a moderate amount of variability in the errors or residuals. Based on our statistical analysis we can conclude that there is a strong relationship between FDI inflows and Azerbaijan's Non-Oil GDP, that's why we can accept the Alternative hypothesis.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this study provides evidence that there is a strong relationship between FDI inflows and Azerbaijan's Non-Oil GDP. The findings suggest that FDI can be an effective tool for promoting economic growth and diversifying the economy in Azerbaijan. FDI can contribute to economic diversification and growth in non-oil sectors of the economy, which is important for reducing Azerbaijan's dependence on oil exports. Therefore, policies that attract foreign investment and promote diversification are likely to be beneficial for Azerbaijan's long-term economic development. However, the study also highlights the challenges that FDI faces in the country, including a lack of infrastructure, bureaucratic barriers, and political instability. These challenges must be addressed in order to fully realize the potential benefits of FDI for Azerbaijan's economy.

Based on the findings of this study, several recommendations can be made for policymakers and investors in Azerbaijan. First, policymakers should prioritize the development of infrastructure, including transportation, telecommunications, and energy systems, in order to improve the business environment for investors. Second, efforts should be made to reduce bureaucratic barriers and streamline regulatory processes to make it easier for investors to do business in the country.

Third, political stability should be maintained and improved to instill confidence in investors and ensure the long-term sustainability of FDI inflows. Finally, efforts should be made to attract investment to a wider range of non-oil sectors, including agriculture and tourism, in order to further diversify the economy and reduce its dependence on the oil sector.

REFERENCES

- Amanda Perry. (2000) Effective Legal Systems and Foreign Direct Investment: In Search of the Evidence.
- Azer Mehtiyev. (2018) Foreign Direct Investment in Azerbaijan's Economy: Current Status, Development Trends and Challenges.
- CESD Research Group. (2022) FDI in Azerbaijan in 2021: Developments and Challenges.
- Cristina Jude. (2015) Does FDI Crowd out Domestic Investment in Transition Countries?
- Dunning, J. H. and Lundan, S. M. (2008) Theories of Foreign Direct Investment.
- Hatice Erkekoglu and Zerrin Kilicarslan. (2016) Do Political Risks Affect the Foreign Direct Investment Inflows to Host Countries?
- Jonathan Michie. (2001) The Impact of Foreign Direct Investment on Human Capital Enhancement in Developing Countries.
- Law of the Azerbaijan Republic About Protection of Foreign Investments. (1992).
- Marco Fugazza and Claudia Trentini. (2014) Empirical Insights on Market Access and Foreign Direct Investment.
- OECD, Paris (2002) Foreign Direct Investment for Development: Maximising Benefits, Minimising Costs.
- Padma Mallampally and Karl P. Sauvant. (1999) Foreign Direct Investment in Developing Countries.
- Prakash Loungani and Assaf Razin. (2001) "How Beneficial Is Foreign Direct Investment for Developing Countries?"
- The Tax Code of the Republic of Azerbaijan. (2000).
- Zdenek Drabek. (2002) The Impact of Transparency on Foreign Direct Investment.

THE EFFECT OF INVESTMENT DECISIONS ON FIRMS' PROFITABILITY (EMPIRICAL STUDY ON LISTED COMPANIES)

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ABSTRACT

The association between investment decisions and the profitability of companies listed on the New York Stock Exchange is investigated in this study. The paper demonstrates a correlation between investment decisions, as indicated by asset growth, financial leverage, liquidity and business profitability. In the first section of the paper, comprehensive information and importance of them is given about variables used in the research. After that previous studies related to the topic are deeply analyzed and conclusions from those are indicated for further reference. In the last section the paper econometric models are used to determine the relationship between variables. In the data analysis part statistical findings pertaining to financial leverage and profitability are displayed. The findings of this study have important policy implications for firms. The study discovered that performance improved with higher investment decision, and financial leverage. In order to maximize profitability, the study advises corporate managers to allow for new opportunities in order to be more innovative, which will lead to new investments and higher financial leverage - in particular. In order to boost performance as indicated by return on equity, management of listed companies is advised to pursue a conservative financing strategy.

Keywords: investment, financial leverage, liquidity, performance, business profitability

JEL Classification: G11, G31, G32

INTRODUCTION

Research will analyze how investment decisions influence the performance of the firms listed on exchange. The primary goal of investing is to generate a profit or return. In the modern world, businesses accomplish this through creating a new product, researching a new market, or starting a new business. Making investing decisions is a part of it. Investment choices are crucial for the company since they often determine its worth through affecting profitability and risk.

Nazrin Mammadova: The Effect of Investment Decisions on Firms' Profitability (Empirical Study on Listed Companies)

A company's investment choices are typically referred to as its capital budgeting or capital expenditure choices. A decision made by the company to invest its current resources most effectively in long-term assets in anticipation of a projected stream of benefits over a number of years is referred to as a capital budgeting decision. An efficient allocation of capital and an appropriate capital structure are critical decisions for any business organization. A bad investment choice could cause a company to incur losses and eventually close. The choice is significant not only for the requirement to optimize investor and owner equity returns, but also for the effect it will have on how well the organization can respond to its competitive environment.

Companies must have enough capital available to expand their operational activities in the battle to meet market demand. Companies can simply increase their operational operations through wise investments, which will have an effect on boosting corporate earnings. Profitability itself is the primary goal of the establishment of a company in order to maintain the sustainability of its business in the future; this is because profitability shows whether the company has good prospects in the future or not (Wijaya and Sedana, 2015). According to signaling theory, good investment activity, and high-profit income can provide a positive signal about the growth of the company in the future, so that it can increase stock prices which are used as a reflection of company value (Achmad and Amanah, 2014; Amarudin, Adam, Hamdan and Hanafi, 2019). The reason for this is that when market confidence grows and investors allocate more money to the company without hesitation, the company's stock price will rise as a result. This idea is supported by Fama and Eugene (1978) by the statement that the value of the company is solely determined by the investment decisions of the company's management. Since they are one of the key factors that affect business success or failure, as well as firm value in the end, the significance of investment decisions and the decision-making process on financial performance of organizations cannot be deemphasized.

The aim of the research is to answer the following research question: What is the Effect of Investment Decision on the performance of firms listed on an exchange? The findings of this study will help businesses and managers develop effective methods for investing in stocks, bonds, and other debt or equity instruments so they can take full advantage of the expanding investment market. In turn, this will provide them a competitive advantage. One of the main purposes of this study is to make a contribution to the study of investment decisions of listed companies. Firms can make more intelligent investment judgments if they are aware of corporate investment decisions and how they relate to business profitability. Investment analysts will also benefit from this study.

This research will also contribute to knowledge in the academic community, in research institutions, in educational institutions, and among individuals, enabling people to make informed personal investments of any size. Academically, this study aims to provide a greater understanding of the many sorts of investment decisions and their effects, as well as recommending more questions and points for further research. When conducting investigation this study has limitation only to use certain limited indicators as variables in which case effect of other unused variables can stay out of sight of mine as researcher because of which even it is less chance I can come to wrong conclusion which I think is not the case here despite.

Literature Review

A lot of research papers related to the concept of investment and its effects on profitability have been presented till now. For example, Fama and Eugene (1978) suggested that one of the things that might raise the value of a company is investment decisions. Over the past few decades, studies on the impact of investment choices on business value have generated a lot of discussion in both emerging market and non-emerging market nations. Research undertaken in the 1990s revealed a trend that investment choices can raise business value (Emanuele, Bigelli and Sandri, 1998; Santos, Dos, Peffer and Mauer, 1993). Additionally, study patterns from the 2000s showed that investment choices frequently inhibit improvements in business value (Brio, Del, Miguel and Pindado, 2003; Lin and Kulatilaka, 2007). A trend was discovered in the 2010s demonstrating how investment choices contributed to improvements in firm value (Efni and Yulia, 2017; Soumaya and Hechmi, 2015; Susanti, Neneng, Affandi and Herwany, 2019). We came into conclusion that investment choices can raise a firm's value in light of these observed tendencies. The idea that underpins investment choices is called signaling theory (Alghifari et al, 2022). According to this hypothesis, investment spending is a sign that a firm will grow in the future, which will affect profits and raise its value (Sun, Lin and Chen, 2017). According to Maulana (2016), choosing an investment is a long-term capital investment decision that intends to attain expected future business profit results. Cahyono and Sulistyawati (2017) demonstrated how investment choices can have a favorable impact on a company's value. The outcome demonstrates the company's capacity to maximize investment in an effort to produce earnings in accordance with the amount of funds committed. Rafika and Santoso (2018) discovered that a funding decision can affect the value of a company. In this study, the debt to equity ratio (DER), which measures the proportion of a company's overall debt—either current debt or long-term debt—to its own capital (equity), was utilized as a funding decision indicator. Due to the fact that debt can aid management in keeping a company operational, PBV will therefore rise as DER does. So investors believe that rising debt will improve company performance like many banks do.

According to research by Dewi and Wirajaya (2013) and Mahendra, Artini and Suarjaya, (2012), Return on Equity (ROE) can be used as a measuring instrument to quantify profitability. Utilizing resources that the company owns, profitability ratios are used to gauge a company's capacity to turn them into profit. The reason ROE can be used as an indicator for profitability is that a greater ROE implies that a company is using its own capital to create investment profits from the funds invested in the company more effectively (Sudana, 2015). According to Murniati and others (2019) when investment decisions rise, the level of profitability gained by shareholders will likewise increase because investment decisions have a positive and significant impact on profitability.

The basic investment decision is the decision to allocate funding sources. Company's liquidity, or an organization's capacity to generate cash that can cover both short-term and long-term demands, is a factor that influences the investment decisions made by an organization. Companies must retain liquidity to prevent disruptions in the smooth operation of their investment activities and to keep the trust of third parties (Hidayat, 2010). Sunariyah (2006) asserts that the development of the firm's investment may be gauged by the increase of the total asset of the relevant company from year to year. Emphasis on the effects of capital investment on business profitability has been made in lots of earlier research both in developed (Kim, 2001; Kumar and Li, 2013) and developing countries (Jiang, Chen and Huang, 2006).

Methodology and Data

A descriptive research design will be used for the investigation. It was decided to utilize a descriptive research design since it enables the generalization of research findings. Besides inferential statistics, panel data regression analysis, and hypothesis testing will be employed in this study's data analysis in order to draw conclusions about the study's findings. The SPSS program will be used to process the data and test the hypotheses with a specified significance value (α) of 5%. The panel data approach is the proper regression technique to utilize in this study since the data will be panel data, which is a combination of time series data and cross-sectional data. In order to address the target population the 3 periods of financial statements of 15 publicly traded companies that have some level of exposure to crypto, either through investments, partnerships, or side ventures and 15 top companies listed on the NYSE as of March 31, 2022. The database for the study is completely based on secondary data. Profitability, leverage, liquidity and asset growth ratios are the variables that will be used in the analysis. All of the study's variables' data came from published annual reports and financial statements of the NYSE-listed companies. The income statement, statement of financial position, statement of cash flows and notes to the accounts were among the data that were retrieved from the NYSE handbooks.

Analytical model

The models logit, probit, discriminant analysis, and regression models can all be used to analyze quantitative data. When the dependent variable is binary, the models of logit, probit, and discriminant analysis are appropriate. B. Muthen and L. Muthen, (2007) advised using a regression model for this type of investigation because the dependent variable is continuous. Return on Equity was used to clearly evaluate the performance of the company (Y).

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where,

Y = Profitability as measured by Return on Equity of the company

X1 = Change in assets as measured by Asset Growth ratio

X2 = Financial Leverage of the company as measured by the debt to equity ratio

X3 = Liquidity as measured by Current ratio of the company.

α = The Intercept or constant

$\beta_1 \dots \beta_3$ = the regression coefficients of the independent variables.

ε = Error term

Empirical Study and Discussion

Descriptive statistics

The study determined that it was first necessary to assess the performance of the firms via investment decision variables under consideration, i.e., liquidity as measured by the company's current assets to current liabilities ratio, financial leverage as measured by the debt to equity ratio and change in assets as measured by asset growth ratio. As shown in Table 1, their mean, standard deviation, lowest and maximum values were calculated.

Table 1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Leverage	90	-10.7257	12.2129	.912233	3.0754154
Liquidity	90	.5894	12.1263	1.667093	1.4703806
Asset growth	90	-.8358	4.4417	.171222	.5591951
Valid N (listwise)	90				

Source: Results of the analysis of SPSS 16.0

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Change in assets as indicated by the asset growth ratio had a mean of 0.17, minimum value of -0.84 and maximum value of 4.44 with standard deviation of 0.56 meaning that study includes both low and high investments made companies with average of relatively low asset growth companies. Liquidity as indicated by current ratio had a mean of 1.68 with minimum value of 0.59 and maximum value of 12.13 which shows that sample includes mostly companies with good liquidity condition while the standard deviation shows that the data is well distributed via having both higher and lower liquid firms. In general, the relatively high ratios show that most businesses had a wide margin of safety. Debt to equity ratios as an indicator of financial leverage had a mean of 0.91 with minimum value of -10.73 and maximum value of 12.21 showing the existence of highly geared companies even with equity deficit meaning that sample consists of companies having been provided by mostly debt financing.

Inferential statistics

The advance analysis started by firstly defining whether data for analysis is normally distributed or not by use of normality test for the purpose of the definition of further tests that is going to be used during the research. Then the degree of relationship between the various variables was found using correlation analysis. Spearman Correlation test was used to determine whether there is a significant difference between investment decision and the performance of firms listed on the New York Stock Exchange, while the regression analysis was used to determine the impact of the investment decision variables on firms' profitability.

Normality test

Table 2: Tests of normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial Leverage	.277	90	.000	.777	90	.000
Liquidity	.261	90	.000	.512	90	.000
Asset Growth	.267	90	.000	.529	90	.000
Profitability	.217	90	.000	.751	90	.000
a. Lilliefors Significance Correction						

Source: Results of the analysis of SPSS 16.0

The abovementioned table shows the result of my normality test. As per consideration of my confidence interval of 5% none of the variables of my research are normally distributed. That is why I am going to apply non-parametric tests to my variables in further steps.

Spearman correlation test

The study evaluated whether the investment choice proxies (asset growth, financial leverage, and liquidity) would improve firm profitability in this part by measuring the strength of correlation between the investment decision variables and firm profitability. The correlation coefficients for each variable taken into consideration in this investigation are shown in Table 3.

Table 3: Spearman’s correlation coefficients matrix

	Financial Leverage	Liquidity	Asset Growth	Profitability
Financial Leverage	1.000	-.197	.036	.246*
Liquidity	-.197	1.000	.190	.106
Asset Growth	.036	.190	1.000	.056
Profitability	.246*	.106	.056	1.000

*Correlation is significant at the 0.05 level (2-tailed).

Source: Results of the analysis of SPSS 16.0

Table 3 shows that at 0.05 confidence interval, there were good, significant and positive correlation between Profitability and Financial leverage (R = 0.246).

Regression analysis

The association between investment decisions and the profitability of companies listed on the New York Stock Exchange was investigated in the study using panel data regression analysis. In this regard, a straightforward definitional model was employed, as illustrated below:

$$ROE = \alpha + \beta_1(\text{Asset Growth}) + \beta_2(\text{Financial Leverage}) + \beta_3(\text{Liquidity}) + \varepsilon$$

The coefficients of determination and the analysis of variance (ANOVA) were also obtained using the regression statistics. Unlike the latter, which was used to determine whether there is a significant mean difference between dependent and independent variables, the former was used to demonstrate the strength of the relationship. ANOVA was carried out at a 95% confidence level.

Table 4: Model Goodness of fit

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.471 ^a	.222	.195		.6481418
a. Predictors: (Constant), Liquidity, Asset Growth, Financial Leverage b. Dependent Variable: ROE					

Source: Results of the analysis of SPSS 16.0

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Regression analysis was utilized in the study to determine the association between ROE and important investment decision elements such liquidity, financial leverage, and asset growth. A correlation value (R) of 0.47 was generated, showing a positive linear dependency of ROE on the factors of investment decision, including liquidity, financial leverage, and asset growth.

An adjusted R-squared of 0.195 further revealed that Asset Growth, Financial Leverage and Liquidity only explain 19.5 percent of the variations in ROE while 81.5 percent is explained by other factors not accounted for in the model.

Table 5: Analysis of variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.302	3	3.434	8.175	.000 ^a
	Residual	36.128	86	.420		
	Total	46.430	89			
a. Predictors: (Constant), Liquidity, Asset Growth, Financial Leverage						
b. Dependent Variable: Profitability						

Source: Results of the analysis of SPSS 16.0

To determine the differences between the means of the dependent and independent variables and to demonstrate if a relationship exists between the two, the ANOVA statistics were used. The P-value of 0.000 indicates that ROE and Asset Growth, Financial Leverage, and Liquidity have a substantial joint association that is significant at the 5% level of significance, which also demonstrated the significance of the regression analysis performed at the 95% confidence level.

Table 6: Coefficients of regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.215	.110		1.949	.055
	Asset Growth	-.153	.123	-.119	-1.245	.216
	Financial Leverage	.107	.022	.458	4.795	.000
	Liquidity	.015	.047	.030	.310	.757
a. Dependent Variable: Profitability						

Source: Results of the analysis of SPSS 16.0

The coefficients of determination in table 6 above reveal both a positive relationship between ROE and other predictor variable of Financial Leverage. When considering all, the established regression equation is equal to:

$$ROE = 0.215 - 0.153 (\text{Asset Growth}) + 0.107 (\text{Financial Leverage}) + 0.015 (\text{Liquidity}) + \varepsilon$$

One of these relationships was significant according to significant tests (T-tests and P-values), which led to the study to determine how investing decisions affected the performance of companies listed on the New York Stock Exchange. The regression results indicate that the space allocation value would be 0.215 when Asset Growth, Financial Leverage, and Liquidity have zero values. It is also proven that, while keeping other variables (asset growth and liquidity) unchanged, an increase in financial leverage would lead to a 0.107 rise in ROE. This statistic had a t-value of 4.795 with a P value of at .000 showing that the statistic is significant at 95% confidence level.

As seen from the table above significance of only the 2nd variable is less than 0.05, so I only considered this variable for further testing. The variable is ordinal, non – parametric, and also had more than 2 values, that is why I used Kruskal –Vallis test as further step in my research.

Kruskal Wallis test

Table 7: Kruskal Wallis test

	Profitability
Chi-Square	29.163
df	13
Asymp. Sig.	.006

- a. Kruskal Wallis Test
- b. Grouping Variable: Financial Leverage

Source: Results of the analysis of SPSS 16.0

As seen from the table above significance value is less than 0.05, so the main objective of my research paper of identification of effect of investment decisions on profitability of companies listed on New York Stock Exchange is confirmed.

Interpretation of findings

The results demonstrate a correlation between investment decisions, as indicated by asset growth, financial leverage, liquidity and business profitability. The inference is that a company becomes more profitable the more new investments it makes because of the new revenue sources and sources of income.

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However, the association is fairly weak which can be attributable to other underlying factors like the initial investment expenses and the amount of time it takes to really get a profit from new investments.

Alltogether, these findings imply that businesses with more development potential generates more profit and cash. Similar findings were reported by Stella (2011), who suggested that, if successful, all large corporations and emerging SMEs eventually require additional investments in order to grow or innovate more. As Bekaert, Harvey, Lundblad and Siegel (2007) and Wurgler (2008) said investment decisions, particularly business expansions matter for profitability.

The data analysis displayed statistical findings pertaining to financial leverage and profitability. Calculating financial ratios of which debt to equity ratio was examined in this study is the method the most frequently employed to gauge financial leverage. The gearing ratio shows how much financing is provided by internally (owner funds) compared to external funds. As seen from the econometric model applied above there is positive relationship between financial leverage as an indicator of investments made and profitability. Because every firm needs money when it decides to make any investment and firms have two choices to generate fund either internally or externally. In general, nowadays companies use external financing which increases gearing ratio in order for making new different types of investments so they can repay both interest and principal amounts taken from the banks by means of profits generated at the same time from new investments. So, increase in financial leverage is an indicator of increase in profitabilty as also seen from my research result.

CONCLUSION AND RECOMMENDATION

The research findings are summarized in this chapter. Furthermore, the conclusions' implications and potential areas for further study are discussed. According to the literature review, the study's findings are presented and contrasted with what other reserachers have claimed.

Summary and conclusion

The results show that the size of new investments has a big impact on how profitable a company is. So, more innovative businesses are more likely to achieve higher profitability compared to less innovative ones when it comes to the introduction of new goods, services, branches, and technologies. Due to decreased interest amounts, financial leverage may improve profit after taxes. Ultimately, increased earnings may lead to better earnings per share or dividend payout ratios, which may raise the profitability of the company. Even if the marginal revenues from reduced interest expenses and tax shileds are kept for the company's expansion, it may ultimately maximize the company's worth and lead to the accomplishment of the wealth maximization goal that the real owners invest in.

RESULTS AND RECOMMENDATIONS

The findings of this study have important policy implications for firms. First of all, the study discovered that performance improved with higher investment decision, and financial leverage. In order to maximize profitability, the study advises corporate managers to allow for new opportunities in order to be more innovative, which will lead to new investments, financial leverage - in particular, their debt-to-equity ratio and liquidity ratios and new investments. Secondly, in order to boost performance as indicated by return on equity, management of NYSE listed companies should pursue a conservative financing strategy. As a result, the management of the companies listed on the NYSE should focus on financing assets more frequently with long-term liabilities. This is because the study shows that, in contrast to the use of short-term financing, the use of greater long-term financing increases return on equity.

Limitations of the study

Many difficulties were encountered over the course of the study. The study only covered a 3-year span, from 2020 to 2022, hence its conclusions are only valid for those three years. As a result, they may not be generalizable to other periods of time. It may not be possible to accurately depict the situation in the nation at all times based solely on the three years examined because changes over time are possible. The relationships in the study's model are further indicated as being merely from the perspectives of three variables; however, other attributes that can affect profitability have not been taken into account.

Recommendations for further study

There is need to conduct a similar study over a longer time span. This is on the assumption that data collected over a longer period of time will yield outcomes that are superior to those of the results given in this study. The potential for greater objectivity that emerges from the sample period may be resolved over a longer length of time. It is also advised to conduct a causality analysis in order to identify the root reasons of the associations' observable between independent and dependent variables.

REFERENCES

- Achmad and Amanah. (2014). "The Influence of Investment Decisions, Funding Decisions, Dividend Policy and Financial Performance on Value of Company". *Journal of Accounting Science & Research* Vol.3 No.9
- Amarudin, Adam, M., Hamdan, U., and Hanafi, A. (2019). Effect Of Growth Opportunity, Corporate Tax, And Profitability Toward Value of Firm Through Capital Structure (Listed Manufacturing Companies of Indonesia). *Finance: Theory and Practice*, 23(5), 18–29.

Nazrin Mammadova: The Effect of Investment Decisions on Firms' Profitability (Empirical Study on Listed Companies)

- Alghifari, Erik Syawal, Ardi Gunardi, Jaja Suteja, Indah Khoerun Nisa, and Zalfa Amarananda. (2022). "Investment Decisions of Energy Sector Companies on the Indonesia Stock Exchange: Theory and Evidence". *International Journal of Energy Economics and Policy*, p. 73–79
- Bajo Emanuele, Maroc Bigelli, and Sandro Sandri. (1998). "The Stock Market Reaction to Investment Decisions: Evidence from Italy". *Journal of Management and Governance*, p. 1–16.
- Brio, Esther Del, Alberto De Miguel, and Julio Pindado. (2003). "Investment and Firm Value: An Analysis Using Panel Data". *Applied Financial Economics*, p. 913-923
- G. Bekaert, C.R. Harvey, C. Lundblad and S. Siegel. (2007). "Global growth opportunities and market integration". *Journal of Finance*, 62, 1081-1137
- Cahyono H. S. and Sulistyawati A. I. (2017). "Investment Decisions, Funding Decisions and Dividend Policy as a Determinant of Firm Value. *Journal of Acquisition*, p. 39-53
- Dewi, A.S.M and Wirajaya, A. (2013). Effect of Capital Structure, Profitability and Company Size on Company Value. *E-Journal of Accounting*, Vol.4 (2), p.358-372.
- Efni and Yulia. (2017). "The Mediating Effect of Investment Decisions and Financing Decisions on the Effect of Corporate Risk and Dividend Policy against Corporate Value". *Investment Management and Financial Innovations*, p. 27–37
- Fama, and Eugene, F. (1978). The Effect of a Firm Investment and Financing Decision on the Welfare of its Security Holders. *American Economic Review*, 68, 271–282.
- Hidayat R. (2010). Investment Decisions and Financial Constraints: Empirical Study on Indonesian Stock Exchange, *Bulletin of Monetary, Economics and Banking*, April 2010, p. 425-45
- Jiang C., Chen H. and Huang Y. (2006). Capital Expenditures and Corporate Earnings Evidence from the Taiwan Stock Exchange. *Managerial Finance* 32(11), 853–861.
- Kim S. (2001). The Near-Term Financial Performance of Capital Expenditures: A Managerial Perspective. *Managerial Finance* 27(8), 48–62.
- Kumar P. and Li D. (2013). Capital investment, Option Generation, and Stock Returns. Working paper, University of California, San Diego, 1-43.
- Lin, Lihua, and Nalin Kulatilaka. (2007). "Strategic Options and Firm Value". *Managerial Finance*, p. 893–903

- Maulana M.R. (2016). Influence of Investment Decisions against Financing and Dividend Policy and the Company Value: Indonesian Stock Exchange Year 2011 to 2015. *Journal of Management and Business*, p. 27-46
- Mahendra, A., Artini, L.G.S and Suarjaya, A.A.G. (2012). Effect of financial performance on firm value on manufacturing companies on the Indonesia Stock Exchange. *Matrix: Journal of Management, Business Strategy and Entrepreneurship*. Vol.6(2).
- Muthen, L. K. and Muthen, B. O. (2007). *Mplus Users Guide*, 5th edition, Los Angeles
- Rafika M. and Santoso B.H. (2018). Influence Investment Decisions, Decisions Funding, And Dividend Policy against Corporate Values. *Journal of Management Studies & Research*, p. 11
- Santos, Brian L. Dos, Ken Peffer, and David C. Mauer. (1993). The Impact of Information Technology Investment Announcements on the Market Value of the Firm. *Information Systems Research*, p. 1–23
- Sitti Murniati and others. (2019). Effect of Investment Decisions, Financing Decisions and Dividend Policy on Profitability and Value of The Firm. *International Journal of Accounting & Finance in Asia Pasific (IJAFAP)* Vol. 2 No. 1 and *Financial Innovations*, 14(2), 27–37
- Soumaya and Hechmi. (2015). Investment Decision and Value Creation. *Corporate Ownership and Control*, p. 303-307
- Stella, K. (2011). *Consultative Forum on The Proposed Market for SMEs*. p. 2
- Sudana. (2015). *Corporate Financial Management (Ed.2)*. Jakarta: Erlangga.
- Susanti, Neneng, Azhar Affandi, and Aldrin Herwany. (2019). Implications of Ownership Structure on Firm Value with Financial Decision as Intervening Variable (State-Owned Enterprise Sector of Indonesia Stock Exchange). *International Journal of Innovation, Creativity and Change*, p. 347-363
- Sun, Lin, and Shou Chen. (2017). Optimal strategy adjustment decision and firm value based on regime switching. *System Engineering Theory and Practice*, p. 1219–1228
- Sunariyah. (2003). *Introduction to Capital Market Knowledge*. UPP AMP YKPN.
- Wijaya, B. I., and Sedana, I. B. P. (2015). The Effect of Profitability on Firm Value (Dividend Policy and Investment Opportunities as Mediation Variables). *Journal of Management*, 12 (4477–4500).
- Wurgler, J. (2008). Financial markets and the allocation of capital. *Journal of Financial Economics*, 58, 187-214

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Books: Kenen, P.B. (1989), *The International Economy*, Englewood Cliffs, N.J.: Prentice-Hall, Inc.

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Articles in edited books: Krugman, P. (1995), "The Move Toward Free Trade Zones", in P. King (ed.), *International Economics and International Economic Policy: A Reader*, New York: McGraw-Hill, Inc., 163-82.

Other sources: Central Bank of the Republic of Baku (2012), *Statistical Bulletin 4/2012*
<http://www.cbar.az/assets/2246/BULLETEN_04-2012_eng.pdf>

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