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MASTER'S DISSERTATION

The impact of oil prices changes on the economic performance of Kazakhstan

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Abstract

A major property of both economic and financial time series data has been their highly skewed nature throughout various stages of the economic cycle. Oil price fluctuations are considered to be one of the key macroeconomic parameters that are used to predict the behavior of various phases of economic development. Currently, oil prices are extremely volatile, which leads to significant changes in the macroeconomic indicators of both oil-importing and oil-exporting countries, which subsequently determines the further vector of development of such countries. For this reason, this research paper examines the impact of oil price spikes on the economic condition of the Kazakhstan Republic.

In accordance with the existing models which describes an economic relationships, the main focus of this paper lies within eight macroeconomic indicators: real GDP, government expenditures, net export, investments, inflation rate, interest rate, unemployment rate and money supply. To examine the influence of oil price shocks on these variables, a vector autoregression model, with data from year 2000 to 2021 was used. The empirical results of the analysis demonstrate the significant positive correlation between oil prices, real GDP, government expenditures, net export, money aggregates M2 and some negative influence with unemployment rate. Variance decomposition function results of VAR model displays that change in oil prices explain the positive behavior of the indicators, especially real GDP. Finally, impulse response function results, numerically and graphically proves the positive impact of price shocks to economy of Kazakhstan, showing that in a short and medium term, an increase in oil prices leads to increase in GDP.

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I. Introduction

A. Overall oil market overview

In the modern society, energy production and processing are a fundamental factor in the development of industry and the economy as a whole. Thus, one of the most important strategic commodities is oil, which derivatives, passing through all sectors of the industry, are a vital irreplaceable element of our lives. Nevertheless, due to the emergence of new types of renewable energy, social perceptions of oil are contradictory. Some groups of people perceive oil as a critical issue for sustainable economic development and the environment. For instance, Heidarian and Green (1989), using the case of Algeria, revealed that a majority of economic sectors of the country are highly dependent on oil revenues, as well as the rapid expansion of the oil field has caused a substantial deceleration in the growth of other spheres. This goes in tandem with the "Dutch Disease" problem, due to which the economies of the oil-exporting countries, because of their high dependence on oil production, are extremely vulnerable to changes in oil prices (Charfeddine and Barkat, 2020). In confirmation of their finding it is possible to bring examples of the majority of various different countries such as Russia, Uzbekistan, Canada and others which have invested the most part of the received profit from oil in the same sphere. The only exceptions are the examples of Dubai and Norway, which, instead of investing in the oil industry, developed other economically important sectors. On top of that, Mariano and Rovere (2017) in their work outlined the negative effects of oil extraction and refining on the environment, such as pollution of the oceans, the release of solids into the atmosphere, and the subsequent intensification of the greenhouse effect, leading to global warming. All of these combined, besides the negative social effect, contributes to the enormous economic costs. In contrast to this, another people believe that oil production has a positive effect on the micro and macroeconomic development of the country. Lim and Sek (2017) using panel data for various countries, observed that, depending on the fluctuations in oil prices, both oil-exporting and oilimporting countries are economically growing by improving their macroeconomic performance.

In reality, regardless of all these disputes, and more importantly, despite the trendy hype around renewable and clean energy, I think that oil is strategically essential and one of the principal energy resources, products of which are used in numerous fields of the world economy. According to the Energy Information Administration (2021), the worldwide production of different types of energy in 2018 was 600.020 quad Btu, where oil represents 193.336 quad Btu, which is 32.2% of all energy produced. Meanwhile, global energy consumption in 2018 was 599.459 quad Btu, of which oil worked out 198.317 quad Btu.

Based on the statistics above, it is obvious that oil remains by far the most produced and the most used energy in the world. This in turn indicates the strong economic impact of oil production on the economies of various countries, one of the main problems of which is the volatility of oil prices. Historically, oil prices play a major role for either oil-importing and oilexporting countries. Therefore, in the realities of a market economy, oil price shocks have a significant impact on the economic development of many countries. The correlation between crude oil price fluctuations and economic performance has become the subject of interest of many scholars worldwide. One of the first researchers who took an interest in the relationship between changes in oil prices and economic performance was Hamilton (1983), who, using the example of the United States, observed that an increase in oil prices has a positive effect on the economic growth of the country. Gonzalez and Sherzod (2009) compared such an economic giant in oil production and consumption as the United States to a country with low oil production and imports, namely Sweden, and found no correlation between growth in real GDP and changes in the price of oil in Sweden. Moreover, they discovered a positive trend between the increase in oil prices and U.S. economic expansion, concluding that the economies of oildependent countries are very sensitive to changes in oil prices (Gonzalez and Sherzod, 2009).

B. Reason for undertaking research (Aim, Research Questions)

As noted above, the strong volatility in the price of oil affects different economic factors in different ways. Hence the relevance of the problem in finding one or another effect of oil price shocks on the country's economy. In order to describe this problem I have chosen Kazakhstan as an example

Today Kazakhstan Republic is one of the leading exporters of the oil. The development of the oil sector in Kazakhstan began back in 1993, which to this day is still profitable and plays a crucial role in the economy of Kazakhstan. According to Deloitte CIS Research Centre (2019), the oil and gas sector accounted for 7.372 billion tenge in GDP in 2018. Also, oil production is in the top three export categories category of the country and accounts for 70% of all exports (Deloitte CIS Research Centre, 2019). Moreover according to Petrick, Raitzer and Burkitbayeva (2018) the portion of oil-and-gas exports rose from 8% to 63% during 1994–2018 and the percent of oil-and-gas profit to total government revenue increased from 17% in 1999 to 54% in 2014. However, apart from all these advantages in the form of increased GDP and economic growth, there is one big drawback, namely, a huge dependence of oil production on its price, changes in which have a very strong impact on the final profit. Therefore, based on the above facts, the main purpose of this research work is to study the impact of oil price fluctuations on the economy of Kazakhstan, namely the impact on such macroeconomic indicators as real GDP, inflation, foreign exchange rate, money supply, net exports, government spending and international investment.

In order to achieve the core purpose of this research paper, the following key questions must be answered:

- 1. Is there a correlation between oil prices and economic performance in Kazakhstan?
- 2. If there is a correlation, is it positive or negative?
- 3. What is the real effect of falling or rising oil prices on the above economic indicators?

II. Literature Review

A. Oil prices distribution channels for development of the country economy

Looking at the oil market, as well as previous research papers, it is obvious that oil prices have a very strong influence on various economic indicators as well as for oil prices distribution channels. Charfeddine and Barkat (2020) in their work identified 4 main channels of oil price transmission and how they affect the economic activity of countries.

The first channel is related to the fiscal policies of oil-exporting countries. Thus, changes in oil prices greatly affect the net balance of the country's budget, which then determines the amount of government spending, which is part of the economic equation (Y = C+I+G+NX) for calculating the level of GDP (Charfeddine and Barkat, 2020). Calculating the effect of higher oil prices on the country's trade budget using Iran as an example, Emami and Adibpour (2012) concluded that high oil prices have a positive effect on the country's final fiscal balance, allowing government spending to increase, which stimulates the economy to rise. In addition to this by constructing and analyzing a fiscal policy equation that relates government expenditures not only to oil price fluctuations, but also to oil price fickleness and skewed oil price movements, EI Anshasy and Bradley (2012) found out a strong positive correlation between increases in oil prices and government spending in the long run, resulting in increases in GDP. In the short term, however, the correlation is no longer as strong and government spending is growing less than in proportion to oil revenues (EI Anshasy and Bradley, 2012).

On the contrary, a decline in oil prices negatively affects the trade balance of oil-exporting countries, causing budget cuts, resulting in reduced government spending (Charfeddine and Barkat, 2020). This in turn triggers a series of events such as an increase in interest rates, a decrease in investment, an increase in imports, which together cause economic instability and a decline in GDP. Anshasy (2008) noted that a sharp drop in oil prices has very negative consequences for the fiscal policy of the state, which entails a decrease in government spending and GDP.

The second channel is the exchange rate markets, which relates to the depreciation of national currencies after oil prices rise (Charfeddine and Barkat, 2020). As noted earlier, an increase in oil prices has a positive impact on the budget of oil-exporting countries. Moreover, the inflow of foreign capital in the form of multinational currency leads to an appreciation of the national currency, which in turn increases the purchasing power of the population and reduces the price of imported foreign goods. By making an analysis of the effect of oil prices on the exchange rate of Kazakhstan and Azerbaijan Dikkaya (2017) came to the conclusion that an increase in oil prices has a positive effect on the level of real interest rates, resulting in lower inflation and appreciation of the national currency. In comparison to this, Yildirim and Arifli (2021) found out that negative oil prices shocks entails a decrease in the real effective exchange rate, which in turn causes devaluation of the national currency, increased inflation and may cause a potential currency crisis.

The third is "Dutch disease" channel (Charfeddine and Barkat, 2020). According to this "Dutch disease" theory the increase in oil prices increase the revenues of oil-exporting countries, but also forces these countries to concentrate more and more on the oil market alone. This leads to an increase in the percentage ratio of oil sales to GDP, which in turn causes a strong dependence of the overall level of the economy on oil sales and also leads to increased sensitivity to changes in oil prices. (Ali and Wyzan, 2005). In general, this "Dutch disease" effect, together with the increase in oil prices, negatively affects the state and development of the economy.

The fourth channel is the resource dependence channel, which relates to the fact that resource-dependent countries tend to have poorer economic indicators than non-resource economies. (Charfeddine and Barkat, 2020). This is primarily due to the fact that in the long term, energy prices are very volatile and depend on the overall level of the global economy (Frankel cited in Charfeddine and Barkat, 2020). Secondly, this volatility in oil prices entails unstable productivity of the economy, which negatively affects external investments in the

country of oil exporters, increasing their riskiness. Last but not least, dependence on the oil market in the country prevents not only the development of other sectors but also completely destroys the development of some industries (Frankel cited in Charfeddine and Barkat, 2020).

Overall, it is clearly seen that all these studies observed some correlation between oil prices and certain macroeconomic indicators. However, they do not discuss the dependence of oil prices and the overall supply and demand of the oil in the market and how this affects the economic development of countries.

B. Correlation between oil prices and the level of oil supply and demand and its effect on economic development

Today, oil and its derivatives are one of the earth's most consumed energy resources. Moreover, historically, not all countries have oil reserves, so the world economy has a concept of oil exporting and importing countries with their own level of supply and demand. In fact, the level of supply and demand for oil depends on various indicators, but this does not negate the fact that oil supply and demand shocks greatly affect the level of oil prices and its end products. For instance, Difiglio (2014) described the significant effects of non-elastic supply and demand changes on oil prices. He concluded that because of the low-price elasticity, a significant increase in supply or decrease in demand requires a very large shift in the level of oil prices. It follows that a small disruption in the supply of oil can lead to a spike in oil prices. In addition, due to high revenue elasticity of oil demand, rapidly growing global economic growth increases the demand for oil, which in turn increases the price. Further Difiglio (2014) notes that oil prices are also regulated by OECD countries, as they account for more than twothirds of the world's oil reserves. He argues that these countries regulate most of the oil supply, which in turn leads to oil price uncertainty. Another study conducted by Cashin et al. (2014) also shows that changes in supply and demand influence the economic growth of oilexporting and oil-importing countries. By analyzing a VAR model calculated for 38 different oil exporting and importing countries for the period from 1979-2013, which takes into account the

impact of the price elasticity of oil supply and demand on oil prices, Cashin *et al.* (2014) conclude that oil importers usually experience a long-term decline in their economic performance in response to supply-induced oil price spikes, whereas oil exporters show stable economic growth.

In addition to the above, looking at the oil price market from 2008 to 2016, Kim (2018) concluded that the sharp fall in oil prices in 2007-2008, mainly related to the global financial crisis, which in turn led to a complete recession of the world economy, especially affecting oil producing and selling countries. Moreover, Kim (2018) noted that the fall in oil prices in 2014-2016 was associated with the shale revolution in USA, however he did not deny the fact of the impact of reduced demand and increased supply from the OPEC countries on these price changes. Compared to the Kim findings, Prest (2018) disputes that the U.S. oil revolution has played a major role in the drop in crude oil prices. On the contrary, he argues that the decreasing oil demand played a greater role in lowering oil prices in 2014, leading to simultaneous declines in key economic indicators such as commodity prices, Treasury bond yields, and the U.S. dollar exchange rate.

C. The impact of oil prices on the economic performance of different countries

Observing the oil market, it is clear that changes in oil prices have different effects on different economies. In this connection, to make an accurate assessment of the effect of oil prices on the economy of Kazakhstan, we should consider the effect of changes in oil prices on economic indicators of other countries.

One of the first to try to assess the impact of changing oil prices on the country's economic performance was Hamilton. Analyzing the U.S. market and economy after World War II, Hamilton (1983) concluded that the U.S. recessions from 1942 to 1978 was not due to higher oil prices. On the contrary, he found a positive correlation between U.S. economic growth and oil prices.

Another researchers from Europe by analyzing the oil market in several European countries, found that in the short term, the dynamics of rising oil prices affects the increased inflation, while in the long-term increase in oil prices contribute to economic growth (Cuñado and Pérez de Gracia, 2003).

Choi *et al.* (2018) In their work, looking at the statistics of 72 countries concluded that higher oil prices lead to an increase in inflation.

Yildirim and Arifli (2021) phaving analyzed the economy of Azerbaijan concluded that a strong dependence on oil negatively affects the growth of the economy because it is very sensitive to changes in oil prices. Moreover, they found that in 2016-2019, due to the drop-in oil prices, Afghanistan's economy sagged, causing a crisis in the country.

By analyzing the major players in both oil-exporting and oil-importing countries, Taghizadeh-Hesary *et al.*(2019) clearly identified a positive correlation between higher oil prices and GDP growth for oil-exporting countries and an inverse negative correlation for oilimporting countries. Moreover, using the example of Russia, Iran and Dubai, they noted that the higher the percentage of oil supply, the higher the growth of GDP and the increase in oil prices.

D. Summary

Overall all these studies examine the clear correlation between oil prices fluctuations and economic performance of different countries. From the first part it is clearly seen how decrease or increase in crude oil prices can affect to some major economic figures such as: Real GDP, Exchange rate, Government expenditures and Net Export, which together determine the overall level of economic development of a country. Second part of Literature review summarize how changes in oil supply and demand affect to oil prices changes and on the economy of the country in general. The third but not the least part of the work, determines the significance of changes in oil prices on the economic evolution of different oil-exporting and oil-importing countries. All these aspects must be summarized all together in order to properly assess the economic activity of Kazakhstan and show the real effect of changes in oil prices on the development of the economy of Kazakhstan.

III. Methodology

A. Model

Today, vector autoregressive (VAR) models of the global oil sector become the standard instrument for interpreting the effect of the crude oil price fluctuations on the macroeconomy of different countries. Many researchers use this model to describe any economic relationships. The popularity of the model arises from its simple usage, as well as the ability to determine the interrelationships between different shocks in a country's economy using the variance decomposition function and receive an economic justification of the results. Thus, most of the above-mentioned works in the literature review also use different variations of the vector model to describe the impact of oil prices changes on the economy.

In this paper, in order to properly assess the effect of changes in oil prices on economic performance and to find out the correlation between macroeconomic variables and crude oil prices, the VAR model is used, which explained as follows:

Yt = β 1Yt-1+ β 2Xt-1+ ··· + β nXt-p + εt,

Where:

Yt: is the vector function of endogenous variable for country;

Xt-p: is the vector of exogenous variables in period t-1;

β: is the coefficients of exogenous variables;

 ϵ t: is the error term of vector function with normal distribution.

Furthermore, in order to properly construct the model and receive the appropriate economic evidence, it is essential to verify the collected data against the necessary assumptions of the VAR model. the gathered data for stationarity, elimination of autocorrelation, elimination of heteroscedasticity, and test for normality of residuals.

The first stage of data evaluation, is to examine all data for economic growth or decline to some degree, as well as to plot the correlation matrix to inspect the relationships among the variables. The second step of the analysis, is to find the optimal number of lags that fit best to construct a vector model. To find the best number of lags, the results of Akaike Information Criteria test is used. The next step is to check the data for stationarity, elimination of autocorrelation, elimination of heteroscedasticity, and test for normality of residuals. The following tests are used to conduct this verification: Augmented Dickey-Fuller unit root test is conducted for testing stationarity of the data; The Breusch-Godfrey test is used to test for autocorrelation; White test is conducted to test for heteroscedasticity; The Granger causality test is used to investigate whether lagged values of one variable can predict another variable. The last but not the least step is to construct impulse response function and variance decomposition to determine the effect of oil price shocks to macroeconomic indicators. To analyze and build the vector autoregression model The EViews12 software package was used.

B. Data

For empirical analysis and assessment of the impact of oil price variability on the economy of Kazakhstan, yearly dataset from 2000 to 2021 is used, because there are no monthly or quarterly statistics for some macroeconomic indicators.

Since the main objective of this research is to find the effect of oil price shocks on economic growth in Kazakhstan, the following macroeconomic indicators were used:

- **BRENT_OIL:** The annual percentage growth rate in the price of Brent crude oil, estimated on the basis of the average annual prices of Brent crude oil. Retrieved: US Energy Information Administration.
 - **GDP:** The annual percentage growth rate of the real GDP of the Kazakhstan, estimated on the basis of annual statistics of nominal GDP by production method in current prices and local currency, considering the GDP deflator.

Retrieved: «Taldau» information-analytical system Bureau of National Statistics of the Agency for Strategic of the Republic of Kazakhstan.

I: The annual foreign direct investment expressed as a percentage of GDP.

Retrieved: National Bank of the Kazakhstan Republic.

U: The annual percentage unemployment growth rate. calculated on the basis of the ratio of the number of unemployed people to the total population.

Retrieved: «Taldau» information-analytical system Bureau of National Statistics of the Agency for Strategic of the Republic of Kazakhstan.

G_EXP: The annual percentage growth rate of the public expenditures, calculated on the basis of the annual budget expenditures of the Republic of Kazakhstan local currency.

Retrieved: «Taldau» information-analytical system Bureau of National Statistics of the Agency for Strategic of the Republic of Kazakhstan.

NX: The annual percentage growth rate of the net export of goods and services, calculated on the basis of the difference in the balance of payments between export and import in local currency.

Retrieved: «Taldau» information-analytical system Bureau of National Statistics of the Agency for Strategic of the Republic of Kazakhstan.

M2: The annual percentage growth rate of the money supply, calculated on the basis of the annual money supply indicator, which includes cash, 1-year deposits and convertible money in the national currency.

Retrieved: National Bank of the Kazakhstan Republic.

INFL_CHANGE: The annual percentage growth rate of inflation calculated on the basis of the annual inflation rate and yearly CPI.

Retrieved: National Bank of the Kazakhstan Republic.

R_CHANGE: The annual percentage growth rate of base rate calculated on the basis of the annual base rate at which National Bank of the Kazakhstan Republic lends money to second tire banks and investors.

Retrieved: National Bank of the Kazakhstan Republic.

IV. Empirical Results

To accomplish the objectives of this dissertation, it is essential to build a VAR framework, which states that variables must satisfy several requirements. Collected data must be stationary, and meet terms of normality, omission of heteroscedasticity and autocorrelation. As well ass VAR must be built by using optimal level of lag length.

A. Sample analysis

By constructing the VAR model, oil price growth rate and some of the most relevant macroeconomic factors in a country, like Real GDP growth rate, Unemployment rate, Direct foreign investment rate, Government expenditure growth rate, Net Export growth rate, Money supply growth rate, Inflation growth rate, Base rate growth rate and Exchange rate were used. The values of these indicators can be viewed in Appendix 1. Furthermore, in order to provide more in-depth analytical insights, values of annual Real GDP, government expenditures, net exports, money supply, inflation rate, unemployment rate, refinancing rate and oil price have been added and can be seen in Appendix 2.

The analysis of the narrative dynamics of each variable represented in Table 1 and provides insight into the macroeconomic performance of the Kazakhstan Republic.

According to Table 1 and Figures 1 and 2 it is clearly seen that that Kazakhstan's Real GDP is increasing year by year, with mean GDP growth of 18,52%. The lowest GDP growth was recorded at 3.1 percent in 2016, while the highest growth was 33.31 percent in 2001. The inflation and refinancing rates behaved in a similar manner. Based on Figure.1 and Figure.2 it can be seen that there have been average fluctuations, but in general both indicators have decreased since 2000, amounting to 6.37% and 9.31% respectively. The average growth of inflation rate totaled 1.98%, whereas mean increase for base rate was 0,056%. In addition, with the increase in real GDP, there is a sharp increase in government spending, net export and the money supply in the country. The mean growth for these indicators amounted 19.22%, 32,27% and 29,49% respectively. The direct investment amounted 7.2% of the national GDP yearly. Table.1 and Figure.2 shows that the unemployment rate has declined annually from 11.5% to 4.9% since 2000. The average decrease rate accounted for 4.1%. Looking at oil prices, there was a dramatic rise in prices during the economic boom in oil demand from 2000 to 2007. In addition, there was negative dynamics during the recession of demand and the world economy as a whole in the period from 2007 to 2010 and 2014 to 2016.

-	BRENT_OIL	GDP	R_CHANGE	INFL_CHAN	G_EXP	NX	M2	L
Mean	0.082960	0.185283	0.005653	0.019857	0.192281	0.327598	0.294934	0.072318
Median	0.067862	0.179244	0.008000	0.000000	0.152634	0.266761	0.235731	0.068526
Maximum	0.688751	0.333177	0.588235	0.794430	0.848359	1.774990	0.973256	0.130129
Minimum	-0.471355	0.030559	-0.301587	-0.494939	-0.216919	-0.700612	-0.082257	0.000465
Std. Dev.	0.288118	0.088325	0.235412	0.323680	0.210423	0.611177	0.262445	0.040311
Skewness	-0.055499	0.076801	0.689760	0.542753	1.155027	0.857262	1.210961	0.091780
Kurtosis	2.525559	2.054391	2.958895	2.806712	5.856666	3.690054	3.923259	1.743494
Jarque-Bera Probability	0.217631 0.896896	0.841289 0.656624	1.746035 0.417689	1.114378 0.572817	12.37215 0.002058	3.131122 0.208971	6.158268 0.045999	1.478127 0.477561
Sum Sum Sq. Dev.	1.825115 1.743254	4.076222 0.163829	0.124370 1.163796	0.436865 2.200146	4.230177 0.929836	7.207151 7.844286	6.488543 1.446423	1.591005 0.034124
Observations	22	22	22	22	22	22	22	22

 Table 1. Statistics of variables

	U
Mean	-0.041027
Median	-0.036376
Maximum	0.020833
Minimum	-0.121212
Std. Dev.	0.040785
Skewness	-0.365753
Kurtosis	2.150959
Jarque-Bera	1.151307
Probability	0.562337
Sum	-0.902592
Sum Sq. Dev.	0.034932
Observations	22

Figure 1. Dynamics of macroeconomic variables



Figure 2. Dynamics of additional macroeconomic variables



Table 2 provides information on the correlation coefficients between all variables for Kazakhstan. The table above shows that the growth rate of oil prices is positively correlated with annual GDP growth, government spending growth, net exports growth, and money supply growth. The correlation coefficients for these indicators were 0.29, 0.23, 0.79 and 0.5, respectively. The coefficients obtained indicate an intermediate level of relationship between the variables. On the other hand, based on this table, we can see that changes in oil prices are negatively correlated with base rate growth, inflation rate growth, foreign direct investment rate and unemployment growth rate.

Table 2. Correlation

	BRENT	GDP	R_CH	INFL_	G_EXP	NX	M2		U	EXCH
BRENT	1.0000	0.2917	-0.0524	-0.1011	0.2356	0.7944	0.5010	-0.0624	-0.3055	-0.0422
GDP	0.2917	1.0000	-0.1131	-0.1336	0.4249	0.2975	0.0727	0.4070	-0.4316	-0.6168
R CHA	-0.0524	-0.1131	1.0000	0.5444	0.1280	-0.2000	-0.0753	-0.2299	0.1833	-0.0667
INFL_C	-0.1011	-0.1336	0.5444	1.0000	-0.0958	-0.2897	-0.0664	-0.4126	0.1884	-0.0789
G EXP	0.2356	0.4249	0.1280	-0.0958	1.0000	0.1958	-0.0365	0.1887	-0.1106	-0.1779
NX	0.7944	0.2975	-0.2000	-0.2897	0.1958	1.0000	0.3970	-0.0217	-0.2079	0.1430
M2	0.5010	0.0727	-0.0753	-0.0664	-0.0365	0.3970	1.0000	0.3663	-0.0403	0.1352
1	-0.0624	0.4070	-0.2299	-0.4126	0.1887	-0.0217	0.3663	1.0000	-0.4390	-0.4876
U	-0.3055	-0.4316	0.1833	0.1884	-0.1106	-0.2079	-0.0403	-0.4390	1.0000	0.6088
EXCHGR	-0.0422	-0.6168	-0.0667	-0.0789	-0.1779	0.1430	0.1352	-0.4876	0.6088	1.0000

By performing a basic analysis of the indicators, it can be concluded that there are some differences in macroeconomic variables behavior in Kazakhstan. Nevertheless, general tendencies such as the growth or decline of the indices over time and the correlation with oil prices can be observed.

B. Stationarity

As mentioned previously, in order to build a proper VAR model, it is necessary for all variables to meet several assumptions. One of the first required presumptions for any timeseries dataset is the stationarity of variables. Stationarity implies that the statistical characteristics of the time series process remain unchanged over time. Which means that the mean, variance and covariance of the data are constant over time. Therefore, to perform a further analysis, we first examine the stationarity of our data using Augmented Dickey-Fuller unit root test.

In statistics, the Augmented Dickey-Fuller Test is a unit root test in a time series sample, which looks as follows:

```
Yt = c + \beta t + \alpha Y - 1 + \phi 1 Y t - 1 + \phi 2 Y t - 2 + \dots + \phi n Y t - p + \varepsilon t,
```

Where: Yt: value of time series in time t;

Y(t-1): lag of time series data;

φ1Yt-1: the first difference in time series data;

 φ 2Yt-1: the second difference in time series data.

Based on the formula above the ADF test makes the null hypothesis that the coefficient of the first lag alpha = 1, indicating that the data are non-stationary. In order to obtain stationary data, it is necessary to reject the null hypothesis based on the results of the ADF test with different level of differences.

Т	abl	le	3.	ADF	results
-		-			

UNIT ROOT TEST RESULTS Null Hypothesis: the variable l	TABLE (AD	F)								
With Constant	<u>At Level</u> t-Statistic	BRENT_OIL -3.7357	GDP -2.8181	R_CHANGE -4.2832	INFL_CHA -3.8183	G_EXP -5.3353	NX -5.0001	M2 -2.7667	ا -2.9138	U -2.9843
	Prob.	0.0112	0.0727	0.0042	0.0094	0.0004	0.0008	0.0801	0.0606	0.0528 *
With Constant & Trend	t-Statistic	-3.5983	-4.5337	-3.9416	-3.7207	-5.8944	-4.7882	-1.1056	-4.6058	-5.1373
	Prob.	0.0545 *	0.0088	0.0319 **	0.0434 **	0.0006	0.0056	0.9025 n0	0.0076	0.0026
Without Constant & Trend	t-Statistic	-3.5060	-1.1590	-3.4482	-3.9121	-0.8903	-2.9809	-0.1903	-1.3359	-2.1180
	Prob.	0.0013	0.2165 n0	0.0016	0.0005	0.3175 n0	0.0049 ***	0.6051 n0	0.1625 n0	0.0360
	<u>At Fir</u>	st Difference								
With Constant	t-Statistic	d(BRENT_OIL) -4.9628	d(GDP) -7.1409	d(R_CHA -4.4258	d(INFL_C -4.1213	d(G_EXP) -7.7586	d(NX) -4.8236	d(M2) -7.0400	d(I) -6.5841	d(U) -6.0590
	Prob.	0.0009	0.0000	0.0027 ***	0.0058	0.0000	0.0014	0.0000	0.0000	0.0001
With Constant & Trend	t-Statistic	-4.6867	-6.8561	-4.3145	-3.9523	-7.5214	-4.6005	-6.9411	-4.0707	-5.8976
	Prob.	0.0074	0.0001 ***	0.0143 **	0.0313 **	0.0000 ***	0.0095 ***	0.0001	0.0266	0.0007 ***
Without Constant & Trend	t-Statistic	-5.1183	-7.2112	-4.5425	-4.2710	-7.9973	-5.0013	-7.1478	-6.7169	-5.7085
	Prob.	0.0000	0.0000	0.0001	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000

a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant

b: Lag Length based on SIC c: Probability based on MacKinnon (1996) one-sided p-values.

 $[\]alpha$ Y-: coefficient of the first lag;

Table 3 illustrates the results of the ADF test performed for all variables simultaneously at the initial level and at the first difference, considering the trends and the constant. From table 3 it is clear that some indices, namely BRENT_OIL, R_CHANGE, INFL_CHANGE, G_EXP and NX were stationary at the initial phase with a p-value below 0.05 and with a level of significance of at least 5%. But despite this, there were also indicators with a p-value greater than 0.05 and with a significance level of less than 10%, indicating that the data are not stationary.

In order to avoid this problem, as well as to achieve the stationarity of the data, the values of the first difference were used. Based on the ADF results for the values of the first difference, all variables are stationary, allowing the use this data to construct a var model.

C. Lag length

In order to select the best VAR model, it is necessary to identify the optimal number of lags. Because the selection of the optimal number of lags is essential for the evaluation of the VAR model, the following criteria will be used: LR statistic (LR); finite prediction error (FPE); Akaike information criterion (AIC); Schwartz information criterion information criterion (SC); Hannan-Quinn information criterion (HQ). Applying the lag length analysis, all these tests demonstrate the most appropriate number of lags for the model.

To obtain an optimal number of lags, the results of the Akaike information criterion test were used. From the Table 4, according to the AIC results, it is clear that the optimal number of lags for presented VAR model is lag 1.

Table 4. ADF results

Lag	LogL	LR	FPE	AIC	SC	HQ				
0	69.14307	NA	1.44e-14	-6.330849	-5.883484	-6.255137				
1	221.5235	144.3604*	2.26e-17*	-13.84458	-9.370923	-13.08746				
2	5576.349	0.000000	NA	-568.9841	-560.4842	-567.5456				
* indicates lag order selected by the criterion LR: sequential modified LR test statistic (each test at 5% level) FPE: Final prediction error AIC: Akaike information criterion SC: Schwarz information criterion HQ: Hannan-Quinn information criterion										

D. Normality test

We have already determined that 1 differences data are completely stationary. However, in order to build the VAR model, we must also check that these data correspond to a normal distribution by performing some tests of normality. In order to confirm whether our data meet the criteria of normality, the analysis of the histograms was carried out, as well as the Jarque Bera test.

From Figure 4 it is obvious that most of the coefficients correspond to a normal distribution, determined by the mean and standard deviation of the given data. However, the values of DR_change, DINFL_CHANGE and DGDP deviate slightly from the normal distribution.

Moreover, in order to more accurately verify compliance with the normality assumption of time-series data, the Jarque Bera test was also performed. In Table 5, the Jarque-Bera test indexes and its p-value are presented. Based on the results obtained, we can see that at the 1% significance level the p-values of each variable are greater than the p=0.05 value, allowing us not to reject the null hypothesis of distribution normality. In other words, based on the test performed, our data is fully consistent with the assumption of normality.

Table 5. Jarque Bera Test

	DBRENT_OIL	DR_CHANGE	DINFL_CHA	DG_EXP	DNX	DM2	DI	DU	DGDP
Jarque-Bera	1.578564	0.796161	2.291470	8.600999	3.314945	0.238409	0.510358	1.931541	1.232077
Probability	0.454171	0.671608	0.317990	0.013562	0.190620	0.887626	0.774778	0.380690	0.540080

E. Autocorrelation test

Other significant assumption that we have to test, that our time series data is free from autocorrelation. For checking the assumption of absence of autocorrelation in time series dataset Breusch-Godfrey test was used. In this method the residuals produced by the model considered in the analysis are taken and a t-stats are obtained on their basis using the optimal lag. The null hypothesis is the absence of serial correlation in the time series data, whereas the alternative hypothesis confirms serial correlation in a series of data. Table 6 presents the autocorrelation test results. By constructing a var model with the number of lags equal to 1, the data were analyzed for the absence of autocorrelation. Based on the results of the test, it is clear that our number p is much greater than the value of 0.05 and in this regard, we do not remove the null hypothesis. In turn, this tells us that there is no autocorrelation in our data series, allowing us to use it for further analysis.



Figure 3. Histograms of the differenced data

Table 6. Breusch – Godfrey test

Breusch-Godfrey Serial Correlation LM Test:							
F-statistic	0.512890	Prob. F(1,11)	0.4888				
Obs*R-squared	0.935534	Prob. Chi-Square(1)	0.3334				

F. Heteroscedasticity test

VAR-model evaluation involves examination of heteroscedasticity in data set. For this purpose, we use Heteroskedasticity Test: Breusch-Pagan-Godfrey, which is required in order to pass to hypothesis testing or prediction. In this test, the null hypothesis implies the absence of heteroscedasticity in the data, and the alternative hypothesis assumes the presence of heteroscedasticity in the outcomes.

Table 7 shows the results of the test, based on which it can be seen that the p value is 0.49, which is many times greater than the p value equal 0.05. This test result confirms the null hypothesis of the absence of homoscedasticity in the model.

 Table 7. Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey								
F-statistic	0.819911	Prob. F(8,13)	0.5992					
Obs*R-squared	7.377789	Prob. Chi-Square(8)	0.4965					
Scaled explained SS 1.263321 Prob. Chi-Square(8) 0.9960								

G. Granger Causality Test

Granger causality test is a process for verifying the cause-effect connection between time-series data. The concept of this test is how changes in one variable over time help to explain shifts in another variable. The null hypothesis of Granger Causality Test states that dependent variable cannot be explained by temporal changes in other values of times series data. The alternative hypothesis, on the contrary, suggests that one variable can describe some modifications in another variable

Table 8. Granger causality test

Dependent variable: DB	RENT_OIL		
Excluded	Chi-sq	df	Prob.
DGDP	0.743560	1	0.3885
DR CHANGE	2.155446	1	0.1421
DINFL CHANGE	2.718986	1	0.0992
DG EXP	0.430567	1	0.5117
DNX	0 592032	1	0 44 16
DM2	0 247584	i	0.6188
DI	2 386/25	1	0.1224
DU	1.008780	i	0.3152
All	7.218217	8	0.5133
Dependent variable: DG	DP		
Excluded	Chi-sq	df	Prob.
DRRENT OIL	2 260791	1	0.0710
DBREINT_OIL	0.440740	-	0.0710
DR_CHANGE	0.440749	1	0.3000
DINFL_CHANGE	0.116284	1	0.7331
DG_EXP	0.043267	1	0.8352
DNX	0.020825	1	0.8853
DM2	0.949110	1	0.3299
DI	0.429964	1	0.5120
DU	0.337853	1	0.5611
All	15.01563	8	0.0588
Dependent variable: DR	_CHANGE		
Excluded	Chi-sq	df	Prob.
DBRENT OIL	2.119576	1	0.1454
DGDP	0 705758	1	0 4009
DINEL CHANGE	0 152583	1	0.6961
DC EXP	1 407205	1	0.0301
DNIX	1 967271	1	0.1607
DNA	1.90/2/1	-	0.1007
DIVIZ	0.400401	1	0.5209
DI	0.006324	1	0.9366
DU	0.294813	1	0.5872
All	7.066790	8	0.5294
Dependent variable: DIN	IFL_CHANGE		
Excluded	Chi-sq	df	Prob.
DBRENT OF	0.099271	1	0 7527
DGDP	0.027880	1	0.8674
	1 065604	1	0.0074
DR_CHANGE	1.903604	1	0.1609
DG_EXP	0.430623	1	0.5117
DINA	0.022723	1	0.8802
DM2	0.155322	1	0.6935
DI	0.162544	1	0.6868
DU	0.051394	1	0.8207
All	2.876693	8	0.9419
Dependent variable: DG	_EXP		
Excluded	Chi-sq	df	Prob.
DBRENT OIL	19.10166	1	0.0000
DGDP	0 357588	1	0 5498
DR CHANGE	8.060322	1	0.0045
DINEL CHANGE	16 07794	1	0.0001
DNX	16 16447	1	0.0001
DM2	0.096972	1	0.7555
DI	6 261573	1	0.0123
	0.201013		0.0123

DU	18.02873	1	0.0000
All	101.9585	8	0.0000
Dependent variable: DNX			
Excluded	Chi-sq	df	Prob.
DBRENT OIL	0.000771	1	0.9778
DGDP	1.101319	1	0.2940
DR CHANGE	0.037344	1	0.8468
DINEL CHANGE	0 391400	1	0.5316
DG EXP	0 201053	1	0.6539
DM2	0 214962	1	0.6429
DI	1 591769	1	0.2071
	0.080945	1	0.7760
00	0.000343		0.7700
All	3.468664	8	0.9016
Dependent variable: DM2			
Excluded	Chi-sq	df	Prob.
DBRENT OIL	0.083870	1	0,7721
DGDP	0.895135	1	0.3441
DR CHANGE	0.033861	1	0.8540
DINEL CHANGE	1 207011	1	0.2548
	0.547882	1	0.4592
DG_EAP	0.04/002	1	0.4092
	2.045.05	1	0.9109
DI	3.04E-03		0.9956
DU	0.233734	1	0.6288
All	4.845837	8	0.7739
Dependent variable: DI			
Excluded	Chi-sq	df	Prob.
DBRENT OIL	0.544598	1	0,4605
DGDP	0.919295	1	0.3377
DR CHANGE	0.081312	1	0 7755
DINEL CHANCE	1 020301	1	0 3103
	1.029391	1	0.3103
	0.017214	1	0.2157
DINA	0.01/211		0.8956
DM2	0.150687	1	0.6979
DU	0.318630	1	0.5724
All	4.861980	8	0.7722
Dependent variable: DU			
Excluded	Chi-sq	df	Prob.
DBRENT_OIL	0.019599	1	0.8887
DGDP	0.467969	1	0.4939
DR CHANGE	0.285695	1	0.5930
DINFL CHANGE	0.005582	1	0.9404
DG EXP	2.747264	1	0.0974
DNX	0.076774	1	0.7817
DM2	0.426166	1	0.5139
DI	0.153319	1	0.6954
5.	0.100010		0.000-
All	8.625149	8	0.3749

H. VAR model

Once we were satisfied that all our inputs were fully consistent with the assumptions of the VAR model, a model itself was built using the first-difference data. The outputs of this model are can be seen in Appendix 3.

Nevertheless, the coefficients of the VAR model themselves do not explain the relationships between the variables. That is why the analysis of this VAR model was performed on the basis of impulse response function and variance decomposition function.

I. Variance decomposition function

It is very important to conduct variance decomposition of the VAR results, due to the fact that this analytical tool allows to find out to what degree a change in one variable promotes a change in another variable. This analysis also gives insight about the relative significance of every random disturbance in the effect on the variables in the VAR framework. The main benefit of this method for economical interpretation of the findings is that these contributions can be compared to each other.

All outputs of variance decomposition analysis presented in Appendix 3. Examining the first difference data, it can be stated that changes in oil prices during the time have a different effect on the macroeconomic indicators of Kazakhstan.

According to the variance decomposition results for GDP in a short-term period, which lasts 2-3 years, it is clearly seen that BRENT OIL price explain 60.28% and 56.37% of the GDP. This outcome means that changes in the price of oil impact to the changes in GDP. Moreover, it can be concluded that there is some correlation between these variables and that if oil prices increase, GDP will increase. Nevertheless, in the long run period, the impact of oil price changes slightly decreases.

Considering the results for NX in the short-term period, it is obvious that BRENT OIL price explains more that 80% of the net export in Kazakhstan. In comparison, the relationship between the variables is slightly decrease in the long run, but still remains strong. All this in turn, as in the case of GDP, indicates a strong interrelation of these variables, and shows that the amount of Kazakhstan's net exports depends on fluctuations in oil prices.

Regarding the results of variance decomposition of G EXP and M2, it can be concluded that in the short run, oil price changes justify more than 20% of the changes in both variables. For the long run period, this figure ranges from 25-33%.

The same general picture is observed among the indicators of the real interest rate, inflation and direct foreign investments. In the short term, changes in oil prices do not greatly explain changes in these indexes. However, with the lapse of time there is an increase of influence of changes in oil prices on changes in these parameters.

The results for U, both in the short and long run stay constant. Oil price changes explains 40-50% of the changes in the unemployment rate.

J. Impulse Response Function

The next step in the analysis of the obtained VAR model is to construct an impulse response function, which represents the reaction of the data series in response to some external shocks. A shock is defined as a momentary change in external variables that is equal to one standard deviation of their variances over the observable period.

Figure 5 shows the impulse response results for Kazakhstan economic indicators to oil price shocks. Starting from the DGDP, it is clearly seen that standard deviation shock on the Brent oil price, has a positive effect to GDP in first 3 periods. Then from period 3 to period 5 it is observable that shoks on the oil price, has some negative effect. From period 3 to period 8 again we see a positive effect.

For the DE_EXP indicator, oil price shocks had both positive and negative effects. As can be seen from the graph, during the whole period there were noticeable fluctuations in the index.

Considering the DNX indicator, we can see that in the first 3 periods oil shocks have a negative impact on net exports and lead to its reduction. In the next 4 years there is a positive relationship, with a gradual increase in the indicator to 0 %.

Regarding the DINFL, in the first 3 years the impact of oil price shocks on inflation is very small, although after the 4th period there is a positive dynamic between the variables, which gradually reduces to 0% by the end of the period.

For the DI indicator, there is a positive trend for 5 years when there is a shock to oil prices. After that a negative correlation is observed until the end of the period.

For the indicator DR there is a positive and negative dependence, which changes each following period, tending to 0% at the end of the period.

Looking at the DU indicator it is noticeable that in the first two years there is a positive trend with oil price shocks. However, after this period there is a negative relationship between the variables.

Generally, it is clear from the impulse response function analysis that the increase in the standard deviation shock on the Brent oil price differently affect to the give variables in VAR model. However, the general trends of increase or decrease in variables can be observed.

Figure 4. Impulse Response Function

Accumulated Response of DGDP to DBRENT_OIL



.0

-.2

-.4

1 2 3 4 5 6 7 8 9 10



Response of DI to DBRENT_OIL

V. Conclusion and Limitations.

In today's market economy, almost all economic indicators are interrelated and together show one or another trend in the country's development. Given the rapid economic growth of Kazakhstan in the early 2000s, as well as the huge amount of oil produced and its quantity in the export structure of the country, the main objective of this dissertation was finding the impact of changes in oil prices on the economic development of Kazakhstan. From a review of the various literature, it was clear that oil price shocks have different effects on the economic performance of oil-exporting and oil-importing countries. Since Kazakhstan is a country that exports a huge amount of oil, macroeconomic indicators increase with an increase in the price of oil.

By conducting an economic analysis and constructing a vector model of the dependence of such variables as oil prices, net exports, real GDP, inflation and unemployment, a positive relationship of the variables was found. Thus, using variance decompsoition fucntion a positive relationship was found between changes in the price of oil and one of the most important indicators of any economy – GDP. In addition, there is a positive trend between oil price shocks, net exports and government spending.

In the context of my findings, and based on recent oil market events and world economy changes, I consider that this question requires further study. For a more detailed and precise examination of this problem, I suggest to introduce other Macroeconomic drivers into the model. Another more important suggestion to get a deeper picture would be to offer a comparative analysis of Kazakhstan as an oil exporting country with an oil importing country.

VI. Appendix

	BRENT_OIL	GDP	R_CHANGE	INFL_CHANGE	G_EXP	NX	M2	I	U
2000	2.40%	16.60%	1.60%	12.60%	17.00%	15.00%	24.00	7.49%	-8.40%
2001	-14.65%	33.32%	-24.14%	-28.77%	25.73%	25.58%	16.29	12.72%	-9.57%
2002	2.17%	20.78%	-28.41%	-30.17%	9.49%	41.22%	47.37	10.51%	-10.58%
2003	15.45%	15.79%	-30.16%	28.55%	24.58%	34.39%	39.21	8.05%	-5.38%
2004	32.62%	22.46%	-11.36%	12.21%	29.56%	8.45%	69.53	13.01%	-4.55%
2005	42.63%	27.34%	38.46%	45.08%	47.01%	29.84%	28.96	4.46%	-3.57%
2006	19.41%	30.57%	31.48%	17.86%	10.50%	63.73%	85.66	9.40%	-3.70%
2007	11.17%	32.35%	7.04%	13.76%	10.59%	55.77%	26.26	11.42%	-6.41%
2008	33.82%	19.25%	13.16%	-49.49%	42.72%	92.23%	30.02	12.60%	-9.59%
2009	-36.31%	22.44%	-25.58%	-32.70%	10.39%	-23.68%	15.47	12.38%	0.00%
2010	28.94%	12.29%	-12.50%	24.92%	-21.69%	27.78%	23.15	5.04%	-12.12%
2011	39.76%	30.23%	5.36%	-6.78%	84.84%	78.74%	21.27	7.14%	-6.90%
2012	0.33%	24.59%	-20.34%	-18.44%	15.59%	0.99%	7.27	6.56%	-1.85%
2013	-2.75%	11.09%	8.51%	-19.14%	9.31%	-11.73%	1.53	4.23%	-1.89%
2014	-8.83%	14.07%	58.82%	53.88%	13.70%	9.07%	-8.23	3.30%	-3.85%
2015	-47.14%	6.99%	27.16%	79.44%	5.34%	-70.06%	7.96	3.57%	2.00%
2016	-16.59%	3.06%	9.71%	-38.73%	14.93%	-2.63%	46.16	12.54%	-1.96%
2017	24.04%	21.32%	-25.66%	-12.91%	32.35%	173.31%	7.54	2.83%	-2.00%
2018	31.79%	12.85%	-12.50%	-24.79%	-9.13%	67.20%	18.80	0.05%	0.00%
2019	-9.87%	14.15%	0.00%	0.00%	19.30%	-23.05%	19.19	2.05%	-2.04%
2020	-34.74%	4.92%	7.48%	17.31%	23.56%	-48.92%	24.12	4.33%	2.08%
2021	68.88%	11.19%	-5.70%	0.00%	7.34%	177.50%	97.33	5.43%	0.00%

Appendix 1. Values of indicators

Appendix 2. Values of additional indicators

	OIL	GOVERNME	INFL	MONEY_BANE	ET_EXPORT	REAL_GDP	UNEMPLOUM
2000	28.66	595.792	13.4500%	290.643	195.10	2214.566	11.500%
2001	24.46	749.092	9.5800%	337.980	245.00	2952.407	10.400%
2002	24.99	820.162	6.6900%	498.071	346.00	3565.911	9.300%
2003	28.85	1021.769	8.6000%	693.381	465.00	4128.917	8.800%
2004	38.26	1323.821	9.6500%	1175.491	504.30	5056.072	8.400%
2005	54.57	1946.128	14.0000%	1515.970	654.80	6438.168	8.100%
2006	65.16	2150.560	16.5000%	2814.551	1072.10	8406.337	7.800%
2007	72.44	2378.200	18.7700%	3553.643	1670.00	11125.37	7.300%
2008	96.94	3394.100	9.4800%	4620.329	3210.30	13266.86	6.600%
2009	61.74	3746.840	6.3800%	5335.204	2450.00	16244.13	6.600%
2010	79.61	2934.081	7.9700%	6570.099	3130.50	18240.38	5.800%
2011	111.26	5423.235	7.4300%	7967.502	5595.40	23753.66	5.400%
2012	111.63	6268.972	6.0600%	8546.937	5650.53	29594.66	5.300%
2013	108.56	6852.711	4.9000%	8677.614	4987.54	32875.80	5.200%
2014	98.97	7791.867	7.5400%	7963.822	5440.10	37500.76	5.000%
2015	52.32	8208.097	13.5300%	8597.832	1628.70	40121.79	5.100%
2016	43.64	9433.745	8.2900%	12566.465	1585.80	41347.89	5.000%
2017	54.13	12485.378	7.2200%	13513.732	4334.10	50165.04	4.900%
2018	71.34	11346.054	5.4300%	16054.341	7246.80	56611.26	4.900%
2019	64.30	13535.581	5.4300%	19134.928	5576.10	64621.38	4.800%
2020	41.96	16725.097	6.3700%	23750.269	2848.10	67801.34	4.900%
2021	70.86	17951.888	6.3700%	46865.360	7903.45	75388.87	4.900%

	RI
2000	14.50%
2001	11.00%
2002	7.88%
2003	5.50%
2004	4.88%
2005	6.75%
2006	8.88%
2007	9.50%
2008	10.75%
2009	8.00%
2010	7.00%
2011	7.38%
2012	5.88%
2013	6.38%
2014	10.13%
2015	12.88%
2016	14.13%
2017	10.50%
2018	9.19%
2019	9.19%
2020	9.88%
2021	9.31%

Appendix 3. Variance decomposition

Perioa	S.E.	DBRENI_U	DGDP	DK_CHAN	DINFL_CH	DG_EXP	DNX		וט	DO
1	0.398977	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.448812	79.02881	2.084162	12.13436	0.272849	0.099804	0.016604	2.143997	3.366581	0.852835
3	0.474888	72.35812	2.453766	11.20485	5.033950	0.734504	1.751648	2.426513	3.167667	0.868977
5	0.596709	62.29759	3.092820	14.50063	4.340926	4.625127	3.935659	3.206827	2.487738	1.512687
6	0.647968	65.80305	2.673011	13.07912	4.130600	4.081990	3.660060	2.854060	2.217620	1.500488
8	0.658576	63.74806	3.373795	13.46430	4.070303	4.222947	3.589818	3.472672	2.604970	1.453139
9	0.696284	63.43247	3.528580	14.20094	3.709903	3.968428	3.426386	3.637581	2.619893	1.475822
10	0.703282	63.09279	3.672135	14.00292	3.874625	4.270985	3.370348	3.660638	2.575699	1.479858
Variance D	ecomposition	of DGDP:								
Period	S.E.	DBRENT_O	DGDP	DR_CHAN	DINFL_CH	DG_EXP	DNX	DM2	DI	DU
1	0.073358	35.57020	64.42980	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.111862	60.28853	32.12017	0.054877	1.425126	1.927909	0.022436	3.643274	0.362233	0.155439
4	0.134171	50.60167	26.17432	1.239084	14.51253	1.783452	0.279606	2.947358	1.611827	0.850147
5	0.149406	50.32172	21.14365	4.204930	14.72383	1.868583	1.490856	4.176693	1.326637	0.743096
7	0.158019	51.19862	19.41468	5.228501	13.34493	3.349174	1.678461	3.783427	1.244146	0.820935
8	0.161549	51.35793	19.18119	5.335303	12.77482	3.372923	1.651308	4.016422	1.476280	0.833824
9	0.165093	52.43886 51.86815	18.36940	5.779599	12.23424	3.294395	1.581228	3.974488	1.494164	0.833633
	0.100044	01.00010	10.01002	0.014001	12.00000	0.200041	1.000000	4.124414	1.070010	0.040220
Variance D	ecomposition	OF DR CHANG	E:	DR CHAN	DINEL CH	DG EXP	DNX		Ы	DU
Feriou	3.E.	DBRENT_O	DGDP	DR_CHAN	DINFL_CH	DG_EAP	DINA	DIVIZ	Ы	DO
1	0.272240	3.136207	3.071601	93.79219	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
23	0.355941	3.525638	2.844194	74.59945	12.14190	3.170812	3.460606	1.063889	0.043875	0.243581
4	0.362599	16.58608	3.408712	57.45182	11.90840	4.445315	3.515015	1.403307	0.394514	0.886839
5	0.377461	22.31236	3.188951	53.02005 52 42224	11.47018	4.156684	3.318753	1.297477	0.364804	0.870731
7	0.386378	22.54567	3.581811	51.69436	11.46100	3.998912	3.442983	1.716542	0.705942	0.852782
8	0.396833	23.88823	3.505711	50.60295	10.87268	4.111385	3.455525	1.838144	0.765758	0.959616
10	0.406794	25.76182	3.568543	48.57762	10.62038	4.291177	3.470675	1.923683	0.782657	1.003440
Varian 5	000000000141-	of DINEL OUT	NGE							
Period	S.E.	DBRENT_O	DGDP	DR_CHAN	DINFL_CH	DG_EXP	DNX	DM2	DI	DU
1	0.516798	0.323083	10.41706	15.93652	73.32334	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.558539	0.370667	9.040176	16.65191	70.89201	2.246387	0.608950	0.000849	0.141976	0.047071
3	0.572350	0.577640	8.720972	16.67139	69.58784	2.210045	0.587882	1.306207	0.144998	0.193032
5	0.619967	9.978709	8.397653	16.12702	60.01077	2.264587	0.558677	2.152500	0.291658	0.218424
6	0.625315	10.23189	8.394484	16.14345	59.47663	2.326477	0.560546	2.128042	0.374629	0.363843
8	0.643974	13.09860	8.051492	15.93181	56.55207	2.500932	0.723592	2.376387	0.386695	0.378418
9	0.647488	13.55617	8.115464	15.90215	55.94021	2.484683	0.719123	2.414155	0.472771	0.395276
10	0.648853	13./10/0	8.136551	15.85693	55.71119	2.513160	0.716325	2.476094	0.480102	0.398952
Variance D	ecomposition	of DG EXP								
Period	S.E.	DBRENT_O	DGDP	DR_CHAN	DINFL_CH	DG_EXP	DNX	DM2	DI	DU
Period	S.E.	DBRENT_O	DGDP	DR_CHAN	DINFL_CH	DG_EXP	DNX	DM2	DI	DU
Period 1 2	S.E. 0.126050 0.279619	DBRENT_0 14.50120 8.307208	DGDP 3.714695 1.671475	DR_CHAN 4.671841 3.449425	DINFL_CH 19.74384 38.40223	DG_EXP 57.36843 13.07451	DNX 0.000000 23.21385	DM2 0.000000 7.329464	DI 0.000000 0.632449	DU 0.000000 3.919390
Period 1 2 3	S.E. 0.126050 0.279619 0.351212	DBRENT_O 14.50120 8.307208 20.85392	DGDP 3.714695 1.671475 2.540772	DR_CHAN 4.671841 3.449425 4.813845	DINFL_CH 19.74384 38.40223 24.64317	DG_EXP 57.36843 13.07451 13.11260	DNX 0.000000 23.21385 23.44041	DM2 0.000000 7.329464 5.287151	DI 0.000000 0.632449 0.404579	DU 0.000000 3.919390 4.903550
Period 1 2 3 4 5	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.292004	DNX 0.000000 23.21385 23.44041 17.11615 16.41647	DM2 0.000000 7.329464 5.287151 3.849179 2.423989	DI 0.000000 0.632449 0.404579 0.833768 0.911126	DU 0.000000 3.919390 4.903550 4.419313 3.570586
Period 1 2 3 4 5 6	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379
Period 1 2 3 4 5 6 7	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.264253
Period 1 2 3 4 5 6 7 8 9	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.55479	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.298833	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.82567	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.6592	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.99933	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840
Period 1 2 3 4 5 6 7 8 9 10	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.293833 2.316320	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.63692 28.54440	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010
Period 1 2 3 4 5 6 7 8 9 10	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 cf DNY:	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.349002 2.279827 2.316320	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698	DINFL_CH 19,74384 38,40223 24,64317 28,94387 33,52904 29,96881 28,84512 28,55172 28,63692 28,54440	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297	DU 0.000000 3.919390 4.903550 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.23185 25.16947 of DNX: DBRENT_O	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.349002 2.316320 DGDP	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.799698 DR_CHAN	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.63692 28.54440 DINFL_CH	DG_EXP 57.36843 13.07451 13.11260 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.929561 0.918074 0.990703 0.999393 1.002297 DI	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.523881 0.523870 0.523881 0.523870 0.52381 0.52381 0.52570 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.516947 of DNX: DBRENT_O 88.57631	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.293833 2.316320 DGDP 3.143398	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903094 9.666027 9.799698 DR_CHAN 0.670192	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.63692 28.54440 DINFL_CH 4.847523	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136	DNX 0.000000 23.21385 23.44041 17.11615 16.41847 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445	DM2 0.000000 7.329464 5.287151 3.849179 3.423889 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 DM2	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.829561 0.890703 0.999383 1.002297 DI 0.000000	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU DU
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.5479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.66027 9.799698 DR_CHAN 0.670192 1.649436	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.63692 28.55172 28.54440 DINFL_CH 4.847523 8.176560	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.5285866	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.497445	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038	DI 0.000000 0.632449 0.404579 0.833768 0.829561 0.918074 0.890703 0.999393 1.002297 DI DI 0.000000 2.088907	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU DU 0.000000 0.076113
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 4 5 6 7 8 9 9 10 Variance D Period	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.2185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598514	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.7996988 DR_CHAN 0.670192 1.649436 2.143989 5.564680	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.55172 28.554440 DINFL_CH 4.847523 8.176560 7.361977 6.6796513	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.68177 DG_EXP 0.265136 0.528586 0.528586 0.838770 0.961622	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.187325	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.999303 1.002297 DI 0.000000 2.088907 2.105674 2.329541	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.142817 0.607031
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.664680 5.825261	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.655172 28.655172 28.65692 28.55172 28.63692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.135889	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.239534 2.239515	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.819558
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D 9 1 6 7 8 9 10 Variance D 9 1 8 1 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.010734 1.078093 1.147178 1.208424 1.235129 1.331292 1.331292 1.331292	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.9767	DGDP 3.714695 1.671475 2.540772 2.540772 2.3418626 2.260877 2.349002 2.279827 2.293827 2.316320 DGDP 3.143398 3.533625 3.436024 4.525339 4.015921 4.615921	DR_CHAN 4.671841 3.449425 4.813845 9.8721845 9.87374 9.666021 9.673774 9.666021 9.673774 9.670192 1.649436 2.143989 5.564680 6.548830 6.5485400 6.548540000000000000000000000000000000000	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.63692 28.54140 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.00702	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.045655 3.045655 3.045655	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.00227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.135889 2.396050 0.654000	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.990703 1.002297 DI 0.000000 2.088907 2.105674 2.239534 2.239545 2.042108	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.142817 0.607031 0.819558 0.848492 0.84958 0.848492
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 6 7 8	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.5223881 0.525388 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.208424 1.325129 1.3349823 1.344094	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.52478 25.55479 25.55479 25.53185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647	DGDP 3.714695 1.671475 2.540772 2.341862 3.318626 2.713476 2.260877 2.293833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898	DR_CHAN 4.671841 3.449425 9.872119 8.019843 8.9030943 8.9030741 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.548830 6.548830 6.578842 6.454675	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.554440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.002892 6.673326	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.520460	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526	DM2 0.000000 7.329464 5.287151 3.849179 3.423889 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.551266	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.829561 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.230615 2.042108 2.02274 2.2021413	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.819558 0.848492 0.844972 0.877857
Period 1 2 3 4 5 6 7 7 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 9	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129 1.349823 1.34094 1.400644	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647 70.24756	DGDP 3.714695 1.671475 2.540772 3.31862 2.260877 2.349002 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.598516 4.525339 4.541226 4.345898	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.66027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.548630 5.825261 6.548630 5.825261 6.54867 5.7231736	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.55172 28.554440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.002892 6.671326 6.518362	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.520480 2.432487 2.376483	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.045655 3.088628 3.091719 2.940526 2.924879	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.396050 2.551266 2.459345 2.861407	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.899703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.329615 2.042108 2.02274 2.209413 2.328499	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.607031 0.819558 0.84492 0.840972 0.877857 0.880944
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129 1.331292 1.34094 1.421835	DBRENT_O 14.50120 8.307208 20.15342 22.12247 25.20888 24.27759 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647 70.32881	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.29827 2.29823 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698 DR_CHAN 0.670192 1.649438 2.143989 5.564680 5.825261 6.378842 6.454675 7.231736 7.357509	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.55172 28.55172 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.02892 6.571326 6.518362 6.518362 6.518362 6.518362	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528587 0.525757 0.525757 0.525757 0.525757 0.525757 0.525757 0.5257577 0.525757 0.525757 0.525757 0.5257577 0.5257577 0.5257577 0.5257577 0.52575777 0.5257777 0.52577777 0.52577777 0.52577777777777777777777777777777777777	DNX 0.00000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 16.39447 2.497445 2.411772 2.42839 3.167235 3.045655 3.088628 3.091719 2.940526 2.924879 2.838482	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.0003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.135889 2.396050 2.551266 2.459345 2.861407 2.777076	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.329615 2.042108 2.20274 2.209413 2.328499 2.267051	DU 0.00000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU DU 0.000000 0.076113 0.142817 0.607031 0.819558 0.848492 0.840972 0.840972 0.880944 0.906526
Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129 1.331292 1.34094 1.421835 ecomposition	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.55479 25.523185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647 70.32881 of DM2: DBRENT_C	DGDP 3.714695 1.671475 2.540772 3.31862 2.49002 2.279827 2.29823 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345888 4.630134 4.540406	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.6602767 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.525261 6.548630 5.825261 6.548675 7.231736 7.357509 DR_CHAN	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 29.96881 28.655172 28.55172 28.55172 28.55172 28.54440 DINFL_CH 4.847523 8.176560 7.361977 7.6679513 7.454565 7.149148 7.002892 6.573226 6.513362 6.513362 6.513262 6.515262 6.515262 6.515262 6.515262 6.51	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943553 2.520460 2.432487 2.376483 2.571475 DG_EXP	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526 2.924879 2.838482	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.000527 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.351266 2.459345 2.861407 2.777076	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.230615 2.042108 2.202274 2.209413 2.32849 2.267051	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.4142817 0.607031 0.607031 0.84958 0.84492 0.840972 0.877857 0.880944 0.906526
Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period Variance D Period Variance D Period	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129 1.331292 1.34094 1.421835 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.15342 22.12247 25.20888 24.27759 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647 70.32881 of DM2: DBRENT_O	DGDP 3.714695 1.671475 2.540772 3.31862 2.49002 2.279827 2.29823 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406 DGDP	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.525261 6.548680 5.825261 6.548675 7.357509 DR_CHAN	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 29.96881 29.96881 28.55172 28.55172 28.55172 28.55172 28.54440 DINFL_CH DINFL_CH DINFL_CH DINFL_CH	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943533 2.520460 2.432487 2.376483 2.571475 DG_EXP	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526 2.924879 2.838482 DNX	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.351266 2.459345 2.861407 2.777076 DM2	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.239615 2.042108 2.202274 2.209413 2.2287051 DI	DU 0.00000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.4142817 0.607031 0.819558 0.840972 0.840972 0.877857 0.880944 0.906526 DU
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period Variance D Period Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 9 10 Variance D Period Variance D Period	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.1208424 1.235129 1.331292 1.331292 1.344094 1.421835 ecomposition S.E. 0.304440 0.414945	DBRENT_O 14.50120 8.307208 20.05392 20.15424 22.12247 25.20888 24.27759 25.55479 25.2185 25.16947 of DNX: DBRENT_O 88.57631 79.9696 80.06870 74.13732 71.87520 71.87520 71.87527 70.24756 70.32881 of DM2: DBRENT_O 28.48352 29.31679 28.48352 29.31679	DGDP 3.714695 1.671475 2.540772 2.3418626 2.713476 2.260877 2.349002 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406 DGDP 0.013481 6.532922	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.7996988 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.578842 6.454675 7.231736 7.357509 DR_CHAN 22.61837 19.21959	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.55172 28.55172 28.55172 28.55172 28.55172 28.54440 DINFL_CH 4.847523 8.176560 7.361977 7.454565 7.149148 7.454565 7.149148 7.454565 7.149148 7.454565 7.149148 7.454565 7.149148 7.452651 DINFL_CH 4.972573 4.972573 1.46559	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526 2.92479 2.838482 DNX 0.211980 0.912345	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.135889 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 DM2 2.03811 17.90279	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.230615 2.042108 2.209413 2.328534 2.209413 2.228745 2.42745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 2.429413 2.228745 0.000000 0.000202 0.0000000 0.000202 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.000000 0.0000000 0.0000000 0.00000000	DU 0.000000 3.919390 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.819558 0.848492 0.840972 0.840972 0.80944 0.906526 DU DU 0.000000 0.134690
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 3 4 5 6 7 8 9 10 1 2 3 8 9 10 1 2 3 8 9 10 1 2 8 9 10 1 9 10 1 8 9 10 1 8 9 10 1 9 10 1 8 9 10 1 9 10 1 9 10 1 9 1 1 8 8 9 9 10 1 9 10 1 9 1 1 8 8 9 10 1 9 10 1 9 1 1 8 8 9 10 1 9 10 1 9 1 1 8 8 9 10 1 9 1 1 8 8 9 1 1 8 8 9 1 1 8 8 8 9 8 9	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.208424 1.208424 1.235129 1.331292 1.334094 1.400644 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.87520 71.96747 70.24756 70.24756 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.48352 30.31678 28.48733	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.349002 2.279827 2.293833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.7996988 DR_CHAN 0.670192 1.649436 2.143989 5.664680 5.825261 6.578842 6.454675 7.231736 7.357509 DR_CHAN 22.61837 19.21958 17.29633	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.655172 28.655172 28.63692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 8.176565 7.149148 7.052892 6.67326 6.518362 6.412661 DINFL_CH 4.972573 14.69558 16.64821	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP DG_EXP DG_EXP DG_EXP 16.66197 10.99232 9.988852	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526 2.924879 2.83482 DNX 0.211980 0.193315 0.529252	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 0.00551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.135889 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 2.77076	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.999333 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.2329534 2.232954 2.209413 2.26751 DI DI 0.000000 0.008223 0.235847	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.142817 0.607031 0.819558 0.848492 0.87457 0.880944 0.906526 DU 0.000000 0.134600 0.643691
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.208424 1.331292 1.3349823 1.3349823 1.334984 1.406444 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611 0.456693	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.96747 70.87035 71.96747 70.87035 71.96747 70.24756 0,32881 of DM2: DBRENT_O 28.48352 30.31678 28.74434 28.74434	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.260877 2.349002 2.279827 2.29333 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.545239 4.015921 4.541254 DGDP 0.013481 6.532828 9.175468 9.175468 9.062934 0.0234	DR_CHAN 4.671841 3.449425 9.872119 8.019843 8.9030974 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.54830 7.357509 DR_CHAN 22.61837 19.21958 17.29633 17.29555 18.37525	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.63622 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.002892 6.673326 6.518362 6.518362 6.518362 DINFL_CH 4.972573 14.69558 6.64821 17.98346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.99346 17.9934	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943553 2.520460 2.432487 2.376483 2.571475 DG_EXP 16.66197 10.99232 9.989852 9.989852 9.513266	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.045655 3.045655 3.045655 3.045655 2.924879 2.838482 DNX 0.211980 0.193315 0.52252 0.554173	DM2 0.000000 7.329464 5.287151 3.849179 3.423889 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 2.703811 17.90678 16.60802 16.58937	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.230615 2.042108 2.02274 2.202743 2.232439 2.267051 DI 0.000000 0.008223 0.235847 0.241822	DU 0.000000 3.919390 4.903550 4.419313 3.570596 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.42817 0.607031 0.42817 0.607031 0.819558 0.848492 0.840972 0.840972 0.880944 0.906526 DU 0.000000 0.134600 0.643691 0.635388
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 6 7 8 9 10	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.235129 1.334094 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611 0.430693 0.476122 0.484160	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.92696 80.06871 70.24756 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.7434 33.68145	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.260877 2.349002 2.279827 2.29383 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468 9.062934 8.269310	DR_CHAN 4.671841 3.449425 4.871841 3.691843 9.872119 8.019843 9.873774 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.54830 6.378842 6.454675 7.231736 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37525 15.28947 14.79425	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.55172 28.55172 28.55172 28.55172 28.63692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 7.454565 7.149148 7.002892 6.518362 6.5185858 6.51858 6.5185858 6.5185858 6.5185858 6.5185858 6	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.5720460 2.432487 2.376483 2.571475 DG_EXP 16.66197 10.99232 9.989852 9.513266 8.590949 8.531403	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.048628 3.091719 2.838482 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 0.98038 1.475214 2.396050 2.551266 2.459345 2.360650 2.551266 2.459345 2.361407 2.777076 DM2 27.038111 17.90678 16.688037 15.44396	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.999383 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.239615 2.042108 2.02274 2.20274 2.20274 DI 0.000000 0.008203 0.235847 0.2416842 0.355497	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.142817 0.607031 0.819558 0.844922 0.840972 0.877857 0.880944 0.906526 DU DU 0.000000 0.134600 0.643691 0.935388 0.841988 0.841988 0.841988
Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.47178 1.326129 1.331292 1.344094 1.420644 1.420644 1.421835 ecomposition S.E. 0.304440 0.437611 0.437611 0.437612 0.485802	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.24756 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.87333 28.7434 33.14274 33.68145 33.54964	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.249002 2.279827 2.29383 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.5445985 0.013481 6.532828 9.175468 9.062934 8.269310 8.50833 8.518043	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.548630 5.825261 6.548637 7.357509 DR_CHAN 22.61837 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37525 15.28947 14.79425 14.69561	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.55172 28.54440 DINFL_CH 4.847523 8.176560 7.361977 7.454565 7.149148 7.02892 6.57326 6.518362 1.49558 16.64821 17.98346 17.62506 17.72833 17.92895	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP DG_EXP DG_EXP 16.66197 16.66197 10.9232 9.9513266 8.590949 8.531493 8.487665	DNX 0.000000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.934526 3.088628 3.091719 2.934526 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 27.03811 17.90678 16.60802 15.44396 15.44396 14.93797 14.85701	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 0.088907 2.105674 2.329547 2.32847 2.209413 2.209413 2.2267051 DI 0.000000 0.008223 0.235847 0.241622 0.216842 0.3254907 0.424235	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.4142817 0.607031 0.840972 0.840972 0.840972 0.840972 0.840972 0.840972 0.840972 0.840972 0.840972 0.840944 0.906526 DU 0.000000 0.134600 0.43691 0.935388 0.841983 0.841983 0.843969
Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.1208424 1.235129 1.331292 1.344094 1.421835 ecomposition S.E. 0.304440 0.414945 0.4376112 0.484169 0.484802 0.488487	DBRENT_O 14.50120 8.307208 20.05392 20.15424 22.12247 25.20888 24.27759 25.55479 25.2185 25.16947 of DNX: DBRENT_O 88.57631 79.9696 80.06870 74.13732 71.87520 71.87520 71.87520 71.96747 70.24756 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.87333 28.74434 33.14274 33.681457 33.54964 33.5114274	DGDP 3.714695 1.671475 2.540772 2.3418626 2.713476 2.260877 2.349002 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.528539 4.015921 4.545839 4.630134 4.545839 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468 9.062934 8.269310 8.50833 8.518043 8.518043 8.415325 9.07545 1.67545 1	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.903091 9.673774 9.666021 9.827567 9.7996989 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.578842 6.454675 7.231736 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37525 5.28947 14.79425 5.528947 14.79425 1.649117 15.04117 15.04117	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.655172 28.55172 28.63692 28.55172 28.63692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 8.176560 6.518362 6.612661 DINFL_CH 4.972573 14.69558 16.64221 17.98346 17.62506 17.72833 14.69558 17.22695 17.71967	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528585 0.528586 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.528585 0.52855 0.52855 0.52855 0.52855 0.52855 0.52855 0.52855 0.531493 0.531493 0.531493 0.531493 0.531493 0.531493 0.54755 0.54755 0.54755 0.55855 0.55855 0.55955 0.55955 0.55955 0.51265 0.55955 0.51265 0.55955 0.51265 0.51255 0.51265 0.55955 0.51265 0.55955 0.51265 0.512555 0.512555 0.5125555 0.5125555 0.51255555 0.51255555 0.	DNX 0.00000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 2.497445 2.411772 2.426839 3.167235 3.045655 3.088628 3.091719 2.940526 3.091719 2.940526 3.091719 2.940526 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.706685 0.706685 0.706685 0.786619 0.78619 0.7861 0.786 0.7861 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.7	DM2 0.00000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 0.00000 1.598038 1.475214 1.954549 2.135889 2.396050 2.551266 2.459345 2.521266 2.459345 2.861407 2.777076 DM2 DM2 DM2 DM2 27.03811 17.90678 16.60802 16.58937 15.44396 14.93797 15.44396	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.230615 2.042108 2.209413 2.2267051 DI 0.000000 0.08223 0.235847 0.241822 0.235847 0.241822 0.235847 0.241822 0.235847 0.241822 0.354907 0.242182 0.354907 0.241822 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.242182 0.354907 0.24218 0.254907 0.24218 0.254907 0.24218 0.254907 0.24218 0.24548	DU 0.000000 3.919390 4.403550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.4142817 0.607031 0.819558 0.848492 0.840972 0
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Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 O	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.523881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.208424 1.321292 1.3349823 1.344094 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611 0.450693 0.476122 0.485802 0.485802 0.492047 0.492047 0.494007	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.53479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.87333 28.7434 33.14274 33.54964 33.5142 33.75688 33.95056	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.260877 2.349002 2.279827 2.293833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.630134 4.540406 DGDP 0.013481 6.532828 9.175488 9.162934 8.269310 8.505833 8.518043 8.415325 8.369831 8.376403	DR_CHAN 4.671841 3.449425 4.817845 9.872119 8.019843 8.0030974 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.54830 7.231736 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37525 15.28947 15.04451 15.04451 15.04451 15.04451 15.04855 15.048555 15.048555 15.0485	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.64512 28.65172 28.6362 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.02892 6.673226 6.513362 6.412661 DINFL_CH 4.972573 14.69558 16.64821 17.98346 17.72833 17.92695 17.1967 17.54892 17.42866	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.520460 2.432487 2.376483 2.571475 DG_EXP 16.66197 10.99232 9.513266 8.590949 8.531493 8.487865 8.414251 8.482274 8.482274 8.420142	DNX 0.00000 23.21385 23.44041 17.11615 16.41847 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.048628 3.091719 2.940526 2.924879 2.838482 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.786619 0.780448 0.826302	DM2 0.00000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.459345 2.360650 2.551266 2.459345 2.361407 2.777076 DM2 2.703811 17.90678 16.60802 16.58937 15.44396 14.93797 14.845701 14.84568	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999383 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.202274 2.209515 2.042108 2.02274 2.202741 2.20274 0.000000 0.008223 0.235847 0.241822 0.216842 0.3584907 0.424235 0.42855 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.4285	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 0.124010 0.000000 0.076113 0.42817 0.607031 0.42817 0.607031 0.819558 0.848492 0.840972 0.877857 0.880944 0.906526 DU 0.000000 0.144601 0.00526 DU 0.000000 0.144691 0.935388 0.841988 0.841988 0.841988 0.833969 0.833969 0.833969 0.834839 0.852264
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.512558 0.520382 0.52381 0.525702 ecomposition s.E. 1.010734 1.078093 1.417178 1.208424 1.3251292 1.349823 1.340944 1.40644 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611 0.456093 0.476122 0.485802 0.485802 0.4858047 0.494007 0.494007 0.494007	DBRENT_O 14.50120 8.307208 20.85392 20.15424 22.12247 25.20888 24.27759 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.87035 71.60647 70.24756 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.74434 33.14274 33.68145 33.54964 33.54964 33.51142 33.54964 33.54964 33.54964 33.54964 33.54964 33.54964 33.54964 33.54964 33.549706 DBRENT_O DBRENT_O	DGDP 3.714695 1.671475 2.540772 3.318626 2.713476 2.260877 2.293833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 3.533625 3.436024 4.598516 4.525339 4.015921 4.514226 4.345898 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468 9.062934 8.26931 8.376403 BGDP	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 8.093094 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.54830 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37525 15.28947 14.79425 14.69561 15.04134 DR_CHAN	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.655172 28.63692 28.55172 28.63692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.02892 6.6412661 DINFL_CH 4.972573 14.69558 17.62506 17.72833 17.92695 17.71967 17.54892 17.42866 DINFL_CH	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943553 2.520460 2.432487 2.376483 2.571475 DG_EXP 16.66197 10.99232 9.989852 9.513266 8.590949 8.531493 8.487865 8.414251 8.485274 8.420142 DG_EXP	DNX 0.00000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.045655 3.045655 3.045655 3.045655 3.045655 3.045655 3.045655 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.786619 0.780448 0.826302 DNX	DM2 0.00000 7.329464 5.287151 3.849179 3.423889 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 2.7.03811 17.90678 16.58937 15.44396 14.93797 14.845781 14.845781 14.69631 14.61135	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 2.20274 0.000000 0.008223 0.235847 0.241822 0.216842 0.354907 0.424235 0.43035 0.428555 0.450985	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 DU 0.000000 0.076113 0.42817 0.607031 0.819558 0.848492 0.840972 0.877857 0.880944 0.906526 DU 0.000000 0.134600 0.643691 0.935388 0.841988 0.841988 0.841988 0.841988 0.841988 0.841988 0.818703 0.833969 0.833969 0.831937 0.834839 0.852264 DU
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 Variance D Period 1	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502732 0.525881 0.525702 ecomposition S.E. 1.010734 1.078093 1.147178 1.208424 1.208424 1.235129 1.3349823 1.344094 1.421835 ecomposition S.E. 0.304440 0.414945 0.437611 0.458029 0.485802 0.485802 0.492047 0.494007 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.32881 0f DM2: DBRENT_O 28.48352 30.31678 28.87333 28.7434 33.14274 33.64145 33.54964 33.51142 33.75688 33.95056 of DI: DBRENT_O 10.27571	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.260877 2.349002 2.279827 2.293833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.630134 4.540406 DGDP 0.013481 6.532828 9.175488 9.162934 8.269310 8.505833 8.518043 8.376403 DGDP 6.684012	DR_CHAN 4.671841 3.449425 4.817845 9.872119 8.019843 8.093091 9.666027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564680 5.825261 6.54830 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.231736 7.252947 DR_CHAN 22.61837 19.21963 16.37529 15.08334 DR_CHAN 22.61837 15.09895 15.08334 DR_CHAN	DINFL_CH 19.74384 38.40223 24.64317 28.94387 23.52904 29.96881 28.6562 28.55172 28.6362 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.02892 6.673226 6.518362 6.412661 DINFL_CH 4.972573 14.69558 17.71967 17.54892 17.42866 DINFL_CH 4.82322	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 10.66177 10.92322 9.87872 DG_EXP 16.66197 10.99232 9.513266 8.590949 8.531493 8.487865 8.414251 8.482274 8.4820742 0.701376 0.701376	DNX 0.00000 23.21385 23.44041 17.11615 16.41847 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.048628 3.091719 2.940526 2.924879 2.838482 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.786619 0.780448 0.826302 DNX	DM2 0.00000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 1.954549 2.396050 2.551266 2.459345 2.861407 2.777076 DM2 2.777076 2.4593452.459345 2.459345 2.4593452.459345 2.459456 2.459456 2.459456 2.459456 2.459456 2.459456 2.459456 2.459456 2	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.202274 2.202274 2.202274 2.202274 2.20275 0.42305 0.42855 0.42855 0.42855 0.4255 0.425	DU 0.000000 3.919300 4.903550 4.419313 3.570596 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.412817 0.607031 0.412817 0.607031 0.819558 0.8480944 0.906526 DU 0.000000 0.643691 0.935388 0.841988 0.841988 0.841988 0.841988 0.841988 0.833699 0.833899 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833969 0.833899 0.832264 DU
Period 1 2 3 4 5 6 7 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 2	S.E. 0.129050 0.279619 0.351212 0.411651 0.457973 0.512558 0.520382 0.5223821 0.525702 ecomposition s.E. 1.010734 1.078093 1.417178 1.331292 1.334094 1.4208424 1.4205129 1.334094 1.400644 1.4208424 1.405120 0.304440 0.437611 0.436802 0.485802 0.485802 0.489487 0.494007 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.87637 70.87035 71.60647 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.87333 28.74434 33.14274 33.54964 33.55688 33.95056 of DI: DBRENT_O 10.27571 12.42270	DGDP 3.714695 1.671475 2.540772 3.31862 2.713476 2.349002 2.279827 2.29383 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015921 4.541226 4.345898 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468 9.062934 8.269310 8.505833 8.518043 8.415325 DGDP 0.6684012 10.82651	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 9.660027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 5.564683 7.231736 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.378525 15.28947 14.79425 15.04117 15.09855 15.08334 DR_CHAN 9.756493 8.588623	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.84512 28.55172 28.55172 28.55692 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.002892 6.513362 6.513362 6.513362 6.513362 6.51326 17.92895 17.72833 17.92695 17.71967 17.748922 17.42866 DINFL_CH 48.82322 50.70581	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.838770 0.961622 2.087917 1.943353 2.520460 2.432487 2.376483 2.571475 DG_EXP 16.66197 10.99232 9.989852 9.513266 8.590949 8.531493 8.487865 8.414251 8.48274 8.4820742 DG_EXP	DNX 0.00000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.167235 3.045655 3.048628 3.091719 2.940526 2.924879 2.838482 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.706685 0.786619 0.780648 0.826302 DNX 4.194260 2.711808	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.003227 2.930726 3.000551 2.987566 DM2 0.000000 1.598038 1.475214 0.000000 1.598038 1.475214 0.98050 2.551266 2.459345 2.386500 2.551266 2.459345 2.861407 2.777076 DM2 27.03811 17.90678 16.60802 16.58937 15.44396 14.93797 14.85701 14.84658 14.93797 14.85701 14.846531 14.61135 DM2	DI 0.000000 0.632449 0.404579 0.83268 0.911126 0.829561 0.999393 1.002297 DI 0.000000 2.088907 2.105674 2.329534 2.239615 2.042108 2.02274 2.209413 2.328499 2.267051 DI 0.000000 0.008223 0.235847 0.241822 0.216842 0.2555 0.428555 0.428555 0.428555 0.428555 0.428555 0.428555 0.450985 DI	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.42817 0.607031 0.87057 0.880944 0.906526 DU DU 0.000000 0.134600 0.643691 0.833969 0.833969 0.831937 0.843839 0.852264 DU DU
Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 4 5 6 7 8 9 10 Variance D Period 1 2 3 10	S.E. 0.126050 0.279619 0.351212 0.411651 0.457973 0.502382 0.520382 0.520382 0.523881 0.520382 0.523381 0.525702 ecomposition S.E. 1.010734 1.078093 1.47178 1.208424 1.235129 1.348094 1.400644 1.421835 ecomposition S.E. 0.304440 0.430693 0.4737612 0.485802 0.485802 0.485802 0.492047 0.494007 ecomposition S.E.	DBRENT_O 14.50120 8.307208 20.15424 22.12247 25.20888 24.27759 25.55479 25.55479 25.23185 25.16947 of DNX: DBRENT_O 88.57631 79.93696 80.06870 74.13732 71.87520 71.96747 70.2476 70.32881 of DM2: DBRENT_O 28.48352 30.31678 28.7434 33.14274 33.68145 33.54964 33.51142 33.55688 33.95056 of DI: DBRENT_O 10.27571 12.42270 13.61608	DGDP 3.714695 1.671475 2.540772 3.31862 2.70827 2.279827 2.29833 2.316320 DGDP 3.143398 3.533625 3.436024 4.598516 4.525339 4.015821 4.541226 4.545985 4.630134 4.540406 DGDP 0.013481 6.532828 9.175468 9.062934 8.269310 8.50833 8.415325 8.369831 8.376403 DGDP 6.684012 DGDP 6.684012 DGDP	DR_CHAN 4.671841 3.449425 4.813845 9.872119 8.019843 9.66027 9.799698 DR_CHAN 0.670192 1.649436 2.143989 DR_CHAN 22.61837 7.357509 DR_CHAN 22.61837 19.21958 17.29633 16.37842 6.454675 7.357509 DR_CHAN 22.61837 15.02917 15.02917 15.0987 15.08334 DR_CHAN 9.756493 8.584623 9.386623 9.386687 0.386	DINFL_CH 19.74384 38.40223 24.64317 28.94387 33.52904 29.96881 28.55172 28.55172 28.55172 28.55172 28.54440 DINFL_CH 4.847523 8.176560 7.361977 6.679513 7.454565 7.149148 7.02892 6.518362 6.518362 6.518362 6.412661 DINFL_CH 4.972573 14.69558 16.64821 17.98346 17.62506 17.72893 17.52506 17.72895 17.71967 17.54992 17.42866 DINFL_CH 48.82322 50.70561 4.67427	DG_EXP 57.36843 13.07451 13.11260 11.49273 9.293004 9.718383 11.05470 10.80175 10.68428 10.66177 DG_EXP 0.265136 0.528586 0.538170 0.961622 2.087917 1.943533 2.571475 DG_EXP 10.66197 10.99232 9.958252 9.513266 8.590949 8.531493 8.4878655 8.414251 0.701376 1.094019 1	DNX 0.00000 23.21385 23.44041 17.11615 16.41647 16.69626 16.61425 16.15410 16.19476 16.39447 DNX 2.497445 2.411772 2.426839 3.091719 2.94745 3.045655 3.088628 3.091719 2.944562 DNX 0.211980 0.193315 0.529252 0.554173 0.579690 0.647058 0.706685 0.786619 0.780448 0.826302	DM2 0.000000 7.329464 5.287151 3.849179 3.423989 3.121750 3.000551 2.987566 0.00000 1.598038 1.475214 0.000000 1.598038 1.475214 0.000000 2.551266 2.459345 2.386050 2.551266 2.459345 2.861407 2.777076 DM2 27.03811 17.90678 16.60802 16.58937 15.44396 14.93797 15.44396 14.93797 15.44396 14.93797 14.85701 14.84658 14.61135 DM2 13.86530 0.903156 8.710831	DI 0.000000 0.632449 0.404579 0.833768 0.911126 0.829561 0.918074 0.890703 0.999393 1.002297 DI 0.000000 0.088907 2.105674 2.32954 2.329615 2.042108 2.02274 2.209413 2.32849 2.267051 DI 0.000000 0.008223 0.235847 0.241622 0.216842 0.325847 0.424235 0.428555 0.428555 0.45985 0.45985 0.45	DU 0.000000 3.919390 4.903550 4.419313 3.570586 3.292379 3.264253 3.170357 3.130840 3.124010 0.000000 0.076113 0.142817 0.607031 0.819558 0.848492 0.840972 0.877857 0.880944 0.906526 DU 0.000000 0.134600 0.43691 0.8308944 0.906526 DU 0.000000 0.43691 0.83388 0.818703 0.833959 0.831937 0.833959 0.833959 0.831937 0.834839 0.833959 0.831937 0.834839 0.852264 DU
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1	0.039075	40.57644	15.41380	0.695559	0.017062	20.00072	10.48268	0.468495	0.781525	11.56371
2	0.049760	55.95039	9.508242	2.519838	0.055401	15.53305	6.620293	0.681161	0.881493	8.250135
3	0.055592	54.97250	7.854349	2.596585	5.867581	12.44555	7.639718	0.554514	1.459200	6.610004
4	0.058625	50.14310	7.066128	2.575125	8.268306	12.39561	11.17331	0.499007	1.707098	6.172318
5	0.060943	46.44897	6.622584	5.377549	7.651310	13.44957	12.19070	0.574468	1.584830	6.100023
6	0.062344	44.65847	6.328918	6.770013	8.868503	13.71164	11.65261	0.553474	1.528170	5.928200
7	0.063898	44.85044	6.032154	6.444775	10.08941	13.07292	11.81302	0.551056	1.472290	5.673938
8	0.064719	44.36130	5.898279	6.460363	10.13941	13.27536	12.21821	0.537724	1.498602	5.610747
9	0.065003	44.24790	5.848815	6.567414	10.06933	13.40782	12.24140	0.533070	1.507154	5.577097
10	0.065250	44.05762	5.829980	6.801729	10.20845	13.33695	12.15071	0.561518	1.513930	5.539110
Cholesk	<pre>ky Ordering: DBRE</pre>	NT_OIL DGD	P DR_CHANG	GE DINFL_CH	IANGE DG_E	KP DNX DM2	DIDU			

References

Anshasy, A. A. El (2008) OIL PRICES AND ECONOMIC GROWTH IN OIL-EXPORTING COUNTRIES. UAE.

El Anshasy, A. A. and Bradley, M. D. (2012) 'Oil prices and the fiscal policy response in oilexporting countries', *Journal of Policy Modeling*, 34(5), pp. 605–620. doi:

https://doi.org/10.1016/j.jpolmod.2011.08.021.

Cashin, P. *et al.* (2014) 'The differential effects of oil demand and supply shocks on the global economy', *Energy Economics*, 44, pp. 113–134. doi:

https://doi.org/10.1016/j.eneco.2014.03.014.

Charfeddine, L. and Barkat, K. (2020) 'Short- and long-run asymmetric effect of oil prices and oil and gas revenues on the real GDP and economic diversification in oil-dependent economy', *Energy Economics*, 86, p. 104680. doi: 10.1016/j.eneco.2020.104680.

Choi, S. *et al.* (2018) 'Oil prices and inflation dynamics: Evidence from advanced and developing economies', *Journal of International Money and Finance*, 82, pp. 71–96. doi: https://doi.org/10.1016/j.jimonfin.2017.12.004.

Cuñado, J. and Pérez de Gracia, F. (2003) 'Do oil price shocks matter? Evidence for some European countries', *Energy Economics*, 25(2), pp. 137–154. doi:

https://doi.org/10.1016/S0140-9883(02)00099-3.

Deloitte CIS Research Centre (2019) Business Outlook in Kazakhstan. Available at:

https://www2.deloitte.com/content/dam/Deloitte/ru/Documents/research-

center/Business_Outlook_Kazakhstan_2019_en.pdf.

Difiglio, C. (2014) 'Oil, economic growth and strategic petroleum stocks', *Energy Strategy Reviews*, 5, pp. 48–58. doi: https://doi.org/10.1016/j.esr.2014.10.004.

Dikkaya, M. (2017) 'Causality Among Oil Prices, GDP and Exchange Rate: Evidence from Azerbaijan and Kazakhstan', (83), pp. 79–98.

Emami, K. and Adibpour, M. (2012) 'Oil income shocks and economic growth in Iran',

Economic Modelling, 29(5), pp. 1774–1779. doi:

https://doi.org/10.1016/j.econmod.2012.05.035.

Energy Information Administration (2021). Available at:

https://www.eia.gov/international/data/world/total-energy/total-energy-production.

Gonzalez, A. and Sherzod, N. (2009) Oil price fluctuations and its effect on GDP growth.

Available at: http://www.diva-portal.org/smash/get/diva2:202051/FULLTEXT01.pdf.

Hamilton, J. D. (1983) 'Oil and the Macroeconomy since World War II', Journal of Political

Economy, 91(2), pp. 228–248. doi: 10.1086/261140.

Heidarian, J. and Green, R. D. (1989) 'The impact of oil-export dependency on a developing country: The case of Algeria', *Energy Economics*, 11(4), pp. 247–261. doi:

https://doi.org/10.1016/0140-9883(89)90041-8.

Kim, M. S. (2018) 'Impacts of supply and demand factors on declining oil prices', *Energy*, 155, pp. 1059–1065. doi: https://doi.org/10.1016/j.energy.2018.05.061.

Lim, K. B. and Sek, S. K. (2017) 'Examining the impacts of oil price changes on economic indicators: A panel approach', *AIP Conference Proceedings*, 1830(1), p. 80016. doi:

10.1063/1.4981000.

Mariano, J. B. and Rovere, E. R. La (2017) 'Environmental impacts of the oil industry',

Encyclopedia of Life Support Systems (EOLSS). Available at: https://www.eolss.net/Eolss-SampleAllChapter.aspx.

Petrick, M., Raitzer, D. and Burkitbayeva, S. (2018) *Kazakhstan: Accelerating Economic Diversification, Policies to Unlock Kazakhstan's Agricultural Potential.*

Prest, B. C. (2018) 'Explanations for the 2014 oil price decline: Supply or demand?', *Energy Economics*, 74, pp. 63–75. doi: https://doi.org/10.1016/j.eneco.2018.05.029.

Taghizadeh-Hesary, F. et al. (2019) 'Trade linkages and transmission of oil price fluctuations',

Energy Policy, 133, p. 110872. doi: https://doi.org/10.1016/j.enpol.2019.07.008.

Yildirim, Z. and Arifli, A. (2021) 'Oil price shocks, exchange rate and macroeconomic

fluctuations in a small oil-exporting economy', *Energy*, 219, p. 119527. doi:

https://doi.org/10.1016/j.energy.2020.119527

Kutan Ali M. and Michael L. Wyzan (2005). "Explaining the real exchange rate in Kazakhstan,

1996-2003: Is Kazakhstan vulnerable to the Dutch disease?". Economic Systems 29: 242-

255.