REVISTIA

PUBLISHING AND RESEARCH

EUROPEAN JOURNAL OF ECONOMICS

AND BUSINESS STUDIES

September – December 2020

Volume 3, Issue 3

Typeset by Revistia

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ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

Short-Term Impact of the EU-Japan EPA: The Case of Wine Exports from France, Italy, and Spain to Japan

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Abstract

In February 2019, the Economic Partnership Agreement between the European Union and Japan was enforced, liberalising most of the bilateral trade. For example, Japan eliminated the duties on European products such as chemicals, textiles, clothing and wine immediately upon entry into force of the agreement. In this study, we attempt to quantify the short-term effect of the EPA on European wine exports to Japan. We fit a seasonal auto regressive integrated moving average (SARIMA) model to the monthly exports of wine from France, Italy, and Spain to Japan up to the month prior to the activation of the EU – Japan EPA. Subsequently, we use the estimated models to forecast twelve months ahead starting from February 2019, i.e., from the first month of implementation of the EU – Japan EPA. Finally, we compare the forecasts with the observed values for the same period. The results show that our forecasts do not outperform the observed values. Consequently, we conclude that the positive difference between the observed values and the forecast is due to the effect of the agreement.

Keywords: SARIMA, outliers, EU – Japan EPA, forecasts

1. Introduction

After the second world war, the General Agreement on Tariffs and Trade (GATT), a provisional agreement replacing the never-established International Trade Organization (ITO), came into force. It has proven to be an efficient forum for the contracting parties to negotiate reciprocal trade liberalization through tariff reduction. In the Uruguay Round, the World Trade Organization (WTO), a structured international organization, was established as an improved version of the GATT (Hartman, 2013, p. 412) to oversee the multilateral trading system.[1]

However, since the end of the XX century, WTO members have found more obstacles while pursuing trade liberalisation. The main difficulty in reaching an agreement under the WTO lies not so much in the number of its members (164 as of July 2016), as it does in the marked differentiation of interests that emerged among three groups of members: developed countries, emerging economies, and least developed countries. In fact, at the end of 1994, 128 countries were contracting parties to the GATT, while there were more than 80 during the 1980s. However, the GATT at that time was dominated by a few developed countries that could easily set the agenda. On the other hand, divergent interests among developed countries, emerging economies and least developed countries make it difficult to reach an agreement

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[1] Round is the name used for concerted, multilateral negotiations under the GATT/WTO system.

since all the items in a negotiation need to be agreed upon, or, in WTO's terminology, *nothing is agreed until everything is agreed* (single undertaking principle).

The GATT/WTO system is based on the principle of the most favoured nation (MFN), that is treating other WTO members equally. In other words, if a WTO member grants an advantage to a country, it has to provide the same advantage to all WTO members (Art. I GATT). However, there are two exceptions to this principle: 1) the Enabling Clause, i.e., developed members can accord preferential treatment unilaterally to goods imported from developing countries and least developed countries (LDCs) without having to extend such better treatment to other members; and 2) article XXIV GATT that states that a member may provide preferential treatment only to some countries within a free trade area or a customs union without having to extend such better treatment to all members. Therefore, article XXIV provides a legal basis under the GATT/WTO system for countries to further liberalise trade among themselves through the negotiation of bilateral or regional Free Trade Agreements (FTAs). The frozen talks at the Doha Round are recognized as a main reason behind the surge in the number of FTAs concluded in recent years.

The European Union (EU) and Japan have been among the most active countries in seeking trade partnerships. Even though the EU has always been a supporter of the multilateral trading system, the 2006 European Commission (EC) Working Document *Global Europe* paved the way for a strong commitment of the EU in FTA negotiations. The document identifies key economic criteria for an FTA partner such as market potential, the level of protection against EU export interests, and EU potential partners' negotiations with EU competitors (European Commission, 2006). Japan laid the foundation of its FTA strategy in 2002 when the Ministry of Foreign Affairs identified the economic and political advantages of promoting FTAs, such as the expansion of export markets and an increase in bargaining power in WTO negotiations

(Ministry of Foreign Affairs of Japan, 2002). In 2004, in the *Basic Policy toward Further Promotion of Economic Partnerships* Japan considered FTAs as a tool not only to contribute to the development of its economy but also to complement the multilateral trading system (Council of Ministers of Japan on the Promotion of Economic Partnership, 2004).[1] On March 25, 2013, the EU and Japan officially launched trade negotiations aimed at concluding a bilateral FTA that the EC defined as a strategic priority (European Commission, 2015, p. 31). On December 8, 2017, the negotiations were finalized, and the agreement entered into force on February 1, 2019.

The agreement achieved a high degree of trade liberalisation. The EU has liberalised 99% of tariff lines and 100% of imports, whereas Japan has liberalised 97% and 99%, respectively. Most of the duties were eliminated immediately upon the FTA's entry into force. However, for sensitive products, the parties agreed on a gradual reduction of tariff over a period that is

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[1] EPA stands for Economic Partnership Agreement. The Japanese government distinguishes between FTA and EPA. For example, the Japan External Trade Organization (JETRO) defines FTA as *an international treaty to eliminate tariffs imposed between countries or regions and to abolish regulation in the field of foreign investments in trade in services* whereas EPA is defined as *an international treaty to deregulate regulations for investments and for immigration control in addition to the contents of an FTA* (JETRO, 2008). In this view, EPAs are broader agreements that include the contents of FTAs. However, given that many of the FTAs that have been recently signed are comprehensive agreements more than simple tariff elimination agreements, the distinction between FTA and EPA is not neat. Therefore, in this paper we use the terms FTA and EPA interchangeably.

called the transition period. The transition period is usually agreed upon to allow domestic firms to reorganize to face stronger competition from the partner's firms. For example, EU tariffs on passenger cars from Japan will be gradually phased out over a period of seven years.

European products that enter duty-free in Japan upon implementation of the agreement include chemicals, textiles and clothing, metals, ceramics and glass, cosmetics, plastics, jewellery and precious stones, and wine. Elementary economics tells us that tariff removal on a product will increase its imports because it becomes cheaper for domestic consumers. In trade policy analysis, the gravity model of international trade is the empirical workhorse model to estimate the effect of FTAs. However, the gravity model of trade requires a considerable amount of data and number of years after the implementation of the policy to produce a significant estimation. In this study, we attempt to quantity the short-term effect of a zero-tariff on European exports to Japan, i.e., in the first twelve months after the entry into force of the agreement. We will limit our analysis to the effects of the EPA on wine exports from the largest wine exporters, i.e., France, Italy, and Spain. Japan immediately eliminated 15% tariff on wine imports from the EU after the EPA entered into force.

We will use the following approach: we will fit a seasonal auto regressive integrated moving average (SARIMA) model to the monthly exports of wine up to the month prior to the entry into force of the EU – Japan EPA. Subsequently, we will forecast twelve months ahead of the exports starting from February 2019, i.e., the first month of implementation of the EU – Japan EPA. Finally, we will compare the forecasts with the observed values for the same period.

The rest of the paper is organized as follows. Section 2 describes the data of wine exports from France, Italy, and Spain to Japan from January 2002 to January 2020. Section 3 describes the methodology applied. Section 4 comments on the results of our analysis. Finally, section 5 concludes.[1]

2. Data Description

Monthly time series data for wine exports (HS 2204) of France, Italy, and Spain to Japan from January 2002 to January 2020 were downloaded from Eurostat (DS-016894) on April 17, 2020 (last update March 18, 2020).

Figure 1a plots the wine exports from France to Japan. Wine exports from France to Japan range from a minimum of EUR 14.8 million in August 2004 to a maximum of EUR 74 million in October 2018, with an average value of EUR 35 million. Figure 1b shows the seasonal pattern in the data. Figure 1c plots wine exports from Italy to Japan.

Wine exports from Italy to Japan range from a minimum of EUR 4 million in January 2006 to a maximum of EUR 19 million in July 2019, with an average value of EUR 11 million. Figure 1d shows the seasonality in the data.

Finally, we conclude with the data for Spain. Before describing the data for the wine exports from Spain to Japan, it is necessary to explain an adjustment that has been made to the data. In March 2013, a value of EUR 36 million is reported. We investigated this value because it is

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[1] The following analysis has been implemented with R. The following packages have been used for the analysis: readxl (Wickham and Bryan, 2019) to import the data in Excel format; ggplot2 (Wickham, 2009), zoo (Zeileis and Grothendieck, 2005), ggpubr (Kassambara, 2019) for graphical analysis; tsoutliers (de Lacalle, 2019) for outliers analysis; tseries (Trapletti and Hornik, 2017) for statistical tests; forecast (Hyndman et al., 2019; Hyndman and Khandakar, 2008) for seasonal ARIMA model and forecasts.

extremely high compared to the rest of the observed data. First, we observed the value in euros and the respective quantity of wine exports from Spain to Japan for the months of February, March, and April 2013. In February 2013, Spain exported wine to Japan for EUR 5.6 million for a quantity in 100 kg equal to 26911. The value in euros in March is 36 million and the quantity in 100 kg is 27036. In April 2013, Spain exported wine to Japan for EUR 8 million for a quantity in 100 kg equal to 35479. The large difference in the value hardly allows to speculate that the value reported in March is due to an increase in value per kg exported. However, a second check was implemented by comparing the monthly data for March 2013 reported by Eurostat with the amount reported by COMTRADE. COMTRADE reports USD 7 million for March 2013, USD 7.4 million in February and USD 10.6 million in April. As a result, we conclude that EUR 36 million reported in March 2013 by Eurostat is suspicious, and we replaced it as follows:

$$VALUE\,MAR2013 = \frac{QUANTITY\,MAR2013 \times VALUE\,FEB2013}{QUANTITY\,FEB2013}$$

Figure 1e shows the adjusted data. We observe that another value stands out in November 2013. The value reported is EUR 14.5 million, which represents the largest amount exported by Spain in a month. We followed the above steps for verification of this value as well but it remains consistent in the cross-analysis. For example, COMTRADE reports USD 19.6 million, which is consistent given the exchange rate between euro and dollar. The minimum monthly value from January 2002 is EUR 1.1 million and is recorded in June 2003. The average value exported is EUR 4.8 million. Figure 1f shows the seasonal pattern in the data. Additionally, it is evident from figure 1f that we have an outlier in November 2013.

Figure 1 Wine exports from France, Italy, and Spain to Japan, January 2002 − January 2020 (EUR)
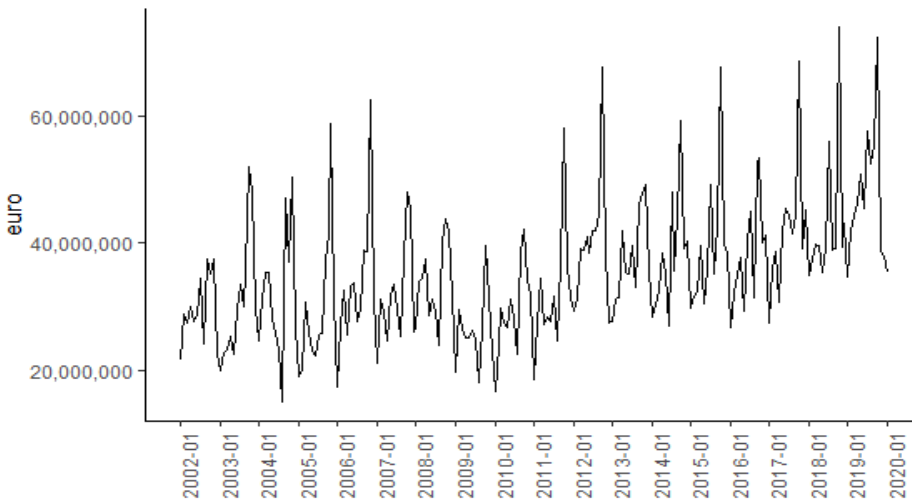
(a) France − Series
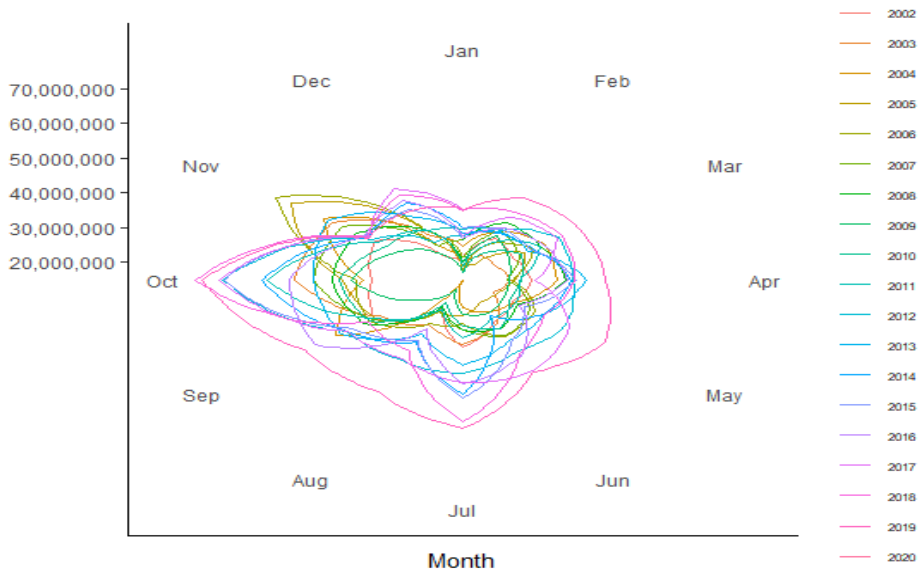
b) France – Seasonality
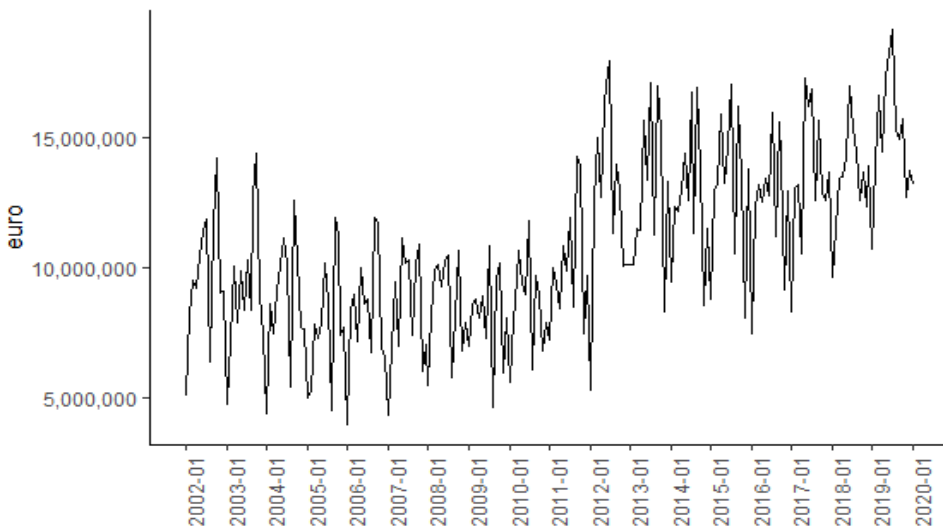
(c) Italy – Series
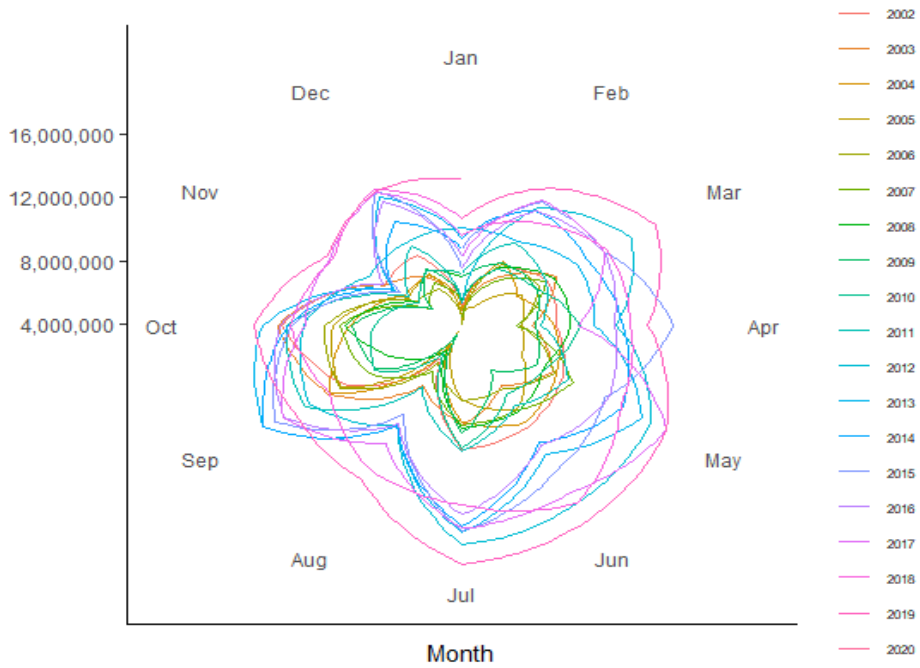
(d) Italy – Seasonality

(e) Spain – Series

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

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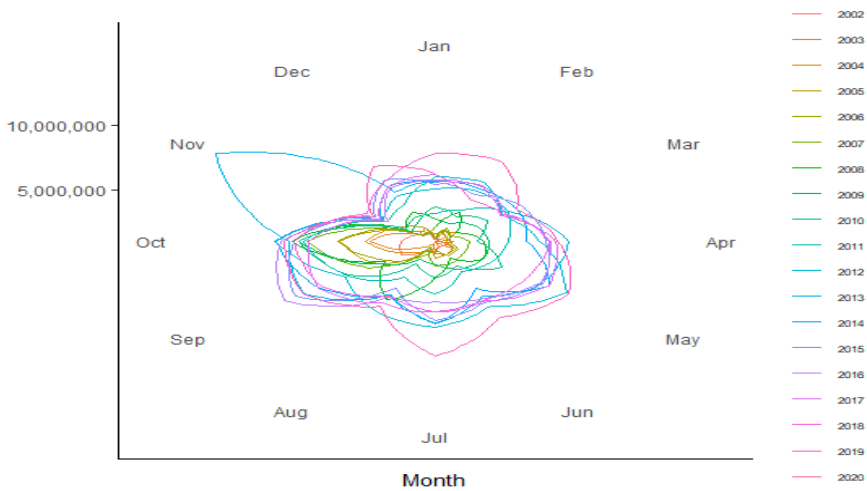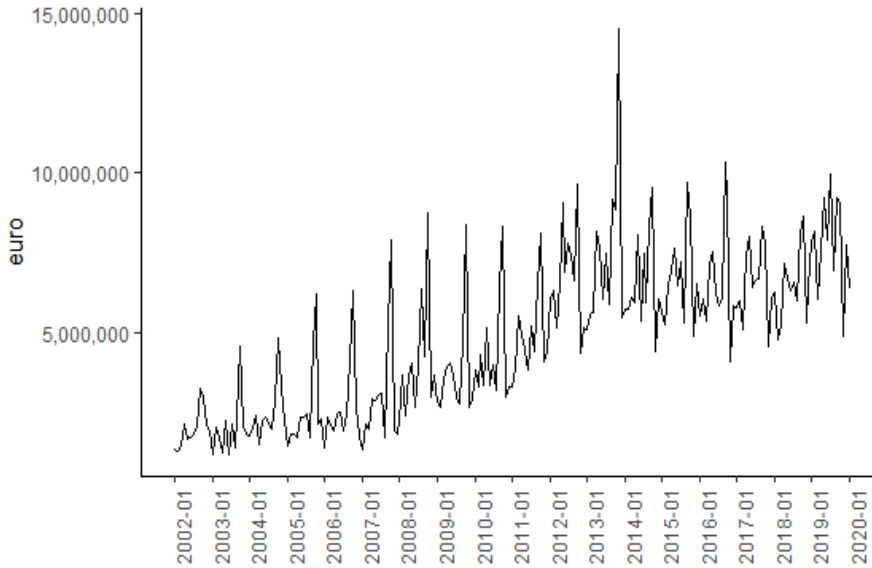
(f) Spain – Seasonality

3. Methodology

We model the wine exports from France, Italy, and Spain to Japan using a seasonal ARIMA process, or SARIMA. In $\mathbf{ARIMA}\,(p,d,q)(P,D,Q)_s$, where (p,d,q) represents the non-seasonal part of the model and (P,D,Q) represents the seasonal part of the model, p is the order of non-seasonal autoregressive terms, d is the order of non-seasonal differencing, q is the order of non-seasonal moving average terms, P is the order of seasonal autoregressive terms, D is the order of seasonal differencing, Q is the order of seasonal moving average terms, and s is the span of the seasonality. An $\mathbf{ARIMA}(p,d,q)(P,D,Q)_s$ has the following polynomial form:

$$\Phi_P(B^s)\phi_p(B)(1-B^s)^D(1-B)^d y_t = \Theta_Q(B^s)\theta_q(B)\,\varepsilon_t \qquad (1)$$

where B is the back-shift operator and ε_t is a white-noise process, and

$$\phi_p(B) = 1 - \phi_1 B - \cdots - \phi_p B^p$$

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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$$\Phi_P(B^s) = 1 - \Phi_1 B^s - \Phi_2 B^{2s} - \cdots - \Phi_P B^{Ps}$$

$$\theta_q(B) = 1 + \theta_1 B + \cdots + \theta_q B^q$$

$$\Theta_Q(B^s) = 1 + \Theta_1 B^s + \Theta_2 B^{2s} + \cdots + \Theta_Q B^{Qs}$$

Economic shocks, strikes, occurrence of natural disaster, and policy changes are some examples of non-repetitive events that can affect time series data by producing outlying observations. Outliers can lead to model misspecification, biased parameter estimation, and poor forecasts (Kaiser and Maravall, 1999, p. 7). Consequently, outlier detection is an important part of the analysis of time series. We investigate five types of outliers: additive outliers (AO), temporary changes (TC), innovative outliers (IO), level shifts (LS) (Chen and Liu, 1993) and seasonal level shifts (SLS) (Kaiser and Maravall, 1999). AO and TC are related to the irregular component of the time series, LS are related to the trend-cycle component, SLS are related to the seasonal component, and finally, IO are the result of an outlier that simultaneously affects the trend-cycle and the seasonal components. Let y_t^*

$$y_t^* = \sum_{j=1}^{k} \xi_j(B)\omega_j I_t^{\tau_j} + y_t \qquad (2)$$

be the observed series that contains k outliers, where yt follows an ARIMA process as in (1); ω_j denotes the initial impact of the outlier at time $t = \tau_j$; $I_t^{\tau_j}$ is an indicator variable such that it is 1 for $t = \tau_j$ and 0 otherwise; $\xi_j(B)$ determines the dynamics of the outlier occurring at $t = \tau_j$ as follows:

$$AO: \xi_j(B) = 1 \qquad (3)$$

$$TC: \xi_j(B) = \frac{1}{1 - \delta B}, \qquad 0 < \delta < 1 \qquad (4)$$

$$IO: \xi_j(B) = \frac{\overline{\theta}(B)}{\overline{\phi}(B)} \qquad (5)$$

$$LS: \xi_j(B) = \frac{1}{1 - B} \qquad (6)$$

$$SLS: \xi_j(B) = \frac{1}{1 - B^s} \qquad (7)$$

where $\overline{\theta} = \Theta_Q(B^s)\theta_q(B)$ and $\overline{\phi} = \Phi_P(B^s)\phi_p(B)(1 - B^s)^D(1 - B)^d$.

We take logarithms to stabilize the variance in the data observed for the exports of wine from France, Italy and, Spain to Japan. Consequently, we apply the outlier analysis to the series in logarithms. The series of France shows an AO recorded in August 2004 and an SLS from November 2007 (figure 2a). Figure 2b shows an LS from February 2002 in the series of Italy.

Finally, figure 2c shows two AO in August 2008 and in November 2013 (as expected from our previous data description) and an LS from January 2012 in the data of Spain.

Figure 2 Outliers in wine exports from France, Italy, and Spain to Japan, January 2002

(a) France

(b) Italy

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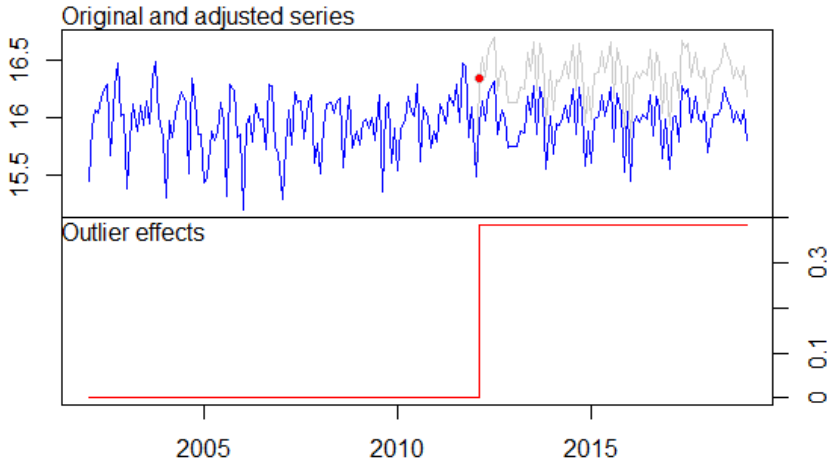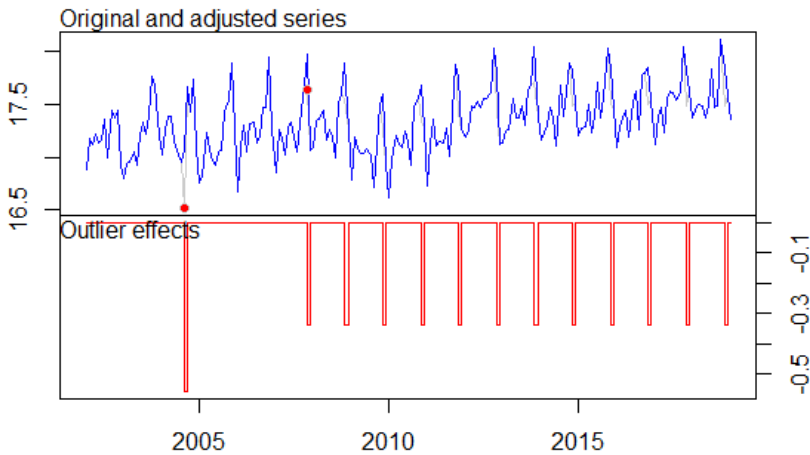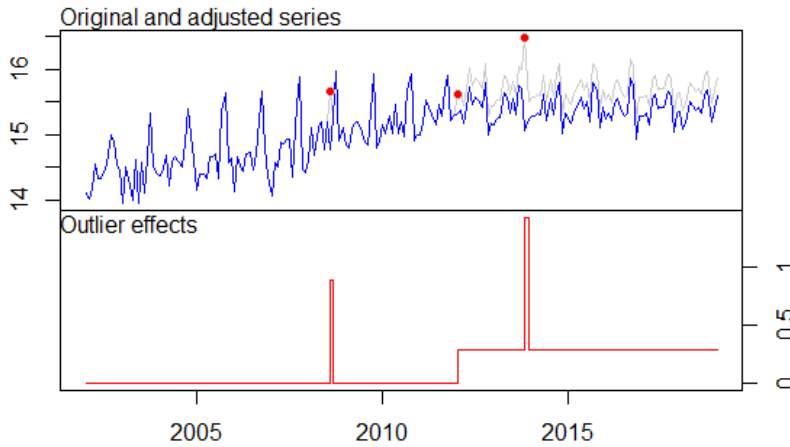
(c) Spain

Since the data analysis described in the previous section shows the presence of outliers, we control for them in the SARIMA model. A key role to select a model is played by the parsimony principle, i.e., by employing the smallest number of parameters for adequate representations (Box et al., 2008, p. 16). We consider models where $p + d + q + P + D + Q \leq 6$, with $0 < d + D \leq 2; D \neq 2$ for this analysis. Subsequently, we compare corrected Akaike's information criterion (AIC_c) of the selected models and choose the model with minimum AICc because it is considered more parsimonious

$$AIC_c = -2\log(Likelihood) + 2K + \frac{2K\,(K+1)}{T-K-1}$$

where K is the number of parameters in the model and T is the number of observations.

The model selected for wine exports of France is seasonal ARIMA(3,0,0)(0,1,1)[12] with drift and with an AO at $t = 32$ and an SLS from $t \geq 71$. The wine exports of Italy have been modelled as seasonal ARIMA(1,0,3)(0,1,1)[12], with an LS from $t \geq 122$. The wine exports of Spain have been modelled as seasonal ARIMA(0,1,1)(0,1,1)[12], with two AOs (at $t = 80$ and $t = 143$) and an LS from $t \geq 121$. Table 1 reports the results of the selected models.

Table 1 Seasonal arima modelling of wine exports from France, Italy, and Spain to Japan, January 2002 - January 2020

	France	Italy	Spain
ar1	0.174	-0.763	
	(0.067)	(0.108)	
ar2	0.141		
	(0.069)		
ar3	0.357		
	(0.068)		
ma1		0.923	-0.907
		(0.114)	(0.030)
ma2		0.320	
		(0.094)	

ISSN 2411-9571 (Print)
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ma3		0.311	
		(0.079)	
sma1	-0.696	-0.633	-0.610
	(0.075)	(0.071)	(0.065)
AO1	-0.559		0.887
	(0.122)		(0.167)
AO2			1.135
			(0.166)
LS		0.386	0.285
		(0.045)	(0.078)
SLS	-0.339		
	(0.094)		
drift	0.002		
	(0.000)		
Log Likelihood	103.45	102	43.38
σ^2	0.020	0.020	0.036
AIC_c	-190.1	-189.4	-74.31

AO: Additional outlier; LS: Level shift; SLS: Seasonal level shift. Refer to section 3 for details about the outliers.

We tested the residuals with the Ljung-Box test and the Jarque-Bera test. For the residuals of the SARIMA model of France, there is a significant spike in the ACF but the Ljung-Box test does not show lack of _t in our model (p-value is 0.09377) (figure 3a). For the residuals of the SARIMA model of Italy, all the spikes are within the significance limits and the Ljung-Box test shows that the residuals have no remaining autocorrelations (p-value is 0.3892) (figure 3b). Figure 3c shows the residuals analysis for the residuals of the SARIMA model of Spain. There are a few significant spikes in the ACF, and the model fails the Ljung-Box test (p-value is 0.03067). The model can still be used for forecasting, but the prediction intervals may not be accurate due to the correlated residuals (Hyndman and Athanasopoulos, 2018).

On the other hand, the p-values for the Jarque-Bera test are 0.2968, 0.6031, and 0.6982 for residuals of the SARIMA model of France, Italy, and Spain, respectively, confirming the normalization of the residuals.

Figure 3 Residuals analysis of the SARIMA model of wine exports from France, Italy, and Spain to Japan, January 2002 - January 2019- January 2019, (log series)

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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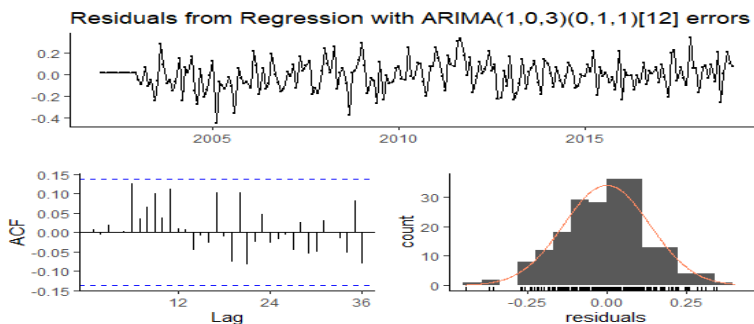
(a) France

Residuals from Regression with ARIMA(3,0,0)(0,1,1)[12] errors
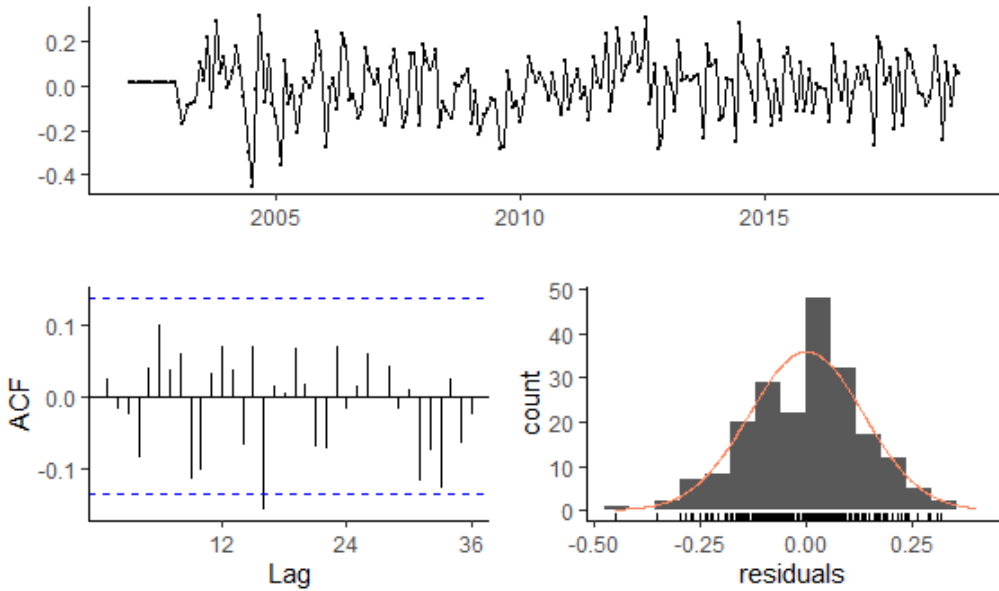
(b) Italy

Residuals from Regression with ARIMA(0,1,1)(0,1,1)[12] errors
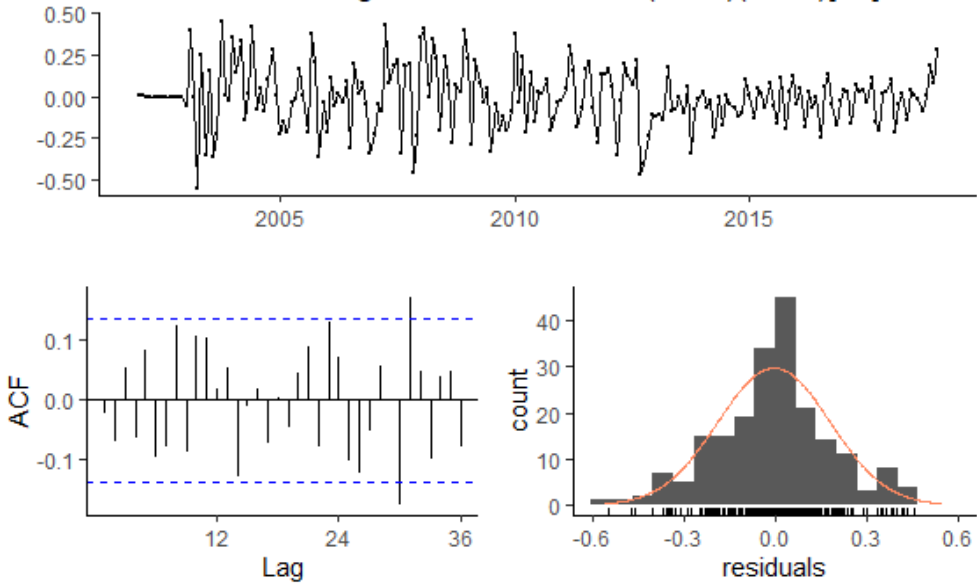
(c) Spain

4. Forecasts and Discussion

Using the estimated models, we forecast twelve months ahead starting from February 2019, i.e., from the first month of implementation of the EU – Japan EPA. Subsequently, we compare the forecasts with the observed values for the same period.

Before discussing the results of the forecasts, we should highlight a potential flaw of the following analysis, i.e., we cannot forecast under the assumption of no agreement between the EU and Japan. Since the implementation of the agreement was announced in advance, the EPA could have produced anticipatory effects. Table 2 compares the exports of wine from France, Italy, and Spain to Japan in the four months preceding the entry into force of the EU – Japan EPA with those in the same months in previous years. The data for Italy and Spain do not seem to significantly differ from the pattern of the previous years for the same months. In the case of France, we observe a larger decrease in December 2018 compared with the same month of the previous year. However, a decrease of the same magnitude has been observed between December 2014 and December 2015. Consequently, we decided to forecast without including any anticipatory effects of the EPA, but this aspect should be considered while analysing the results.

Table 2 Exports of wine in the four months preceding the entry into force of the EU – Japan EPA (EUR million)

	October	November	December	January
France				
2014/15	59.3	39.1	40.4	29.7
2015/16	67.8	39.9	38.3	26.7
2016/17	53.4	40.0	41.4	27.4
2017/18	68.8	39.1	45.2	35.0
2018/19	74.1	39.5	43.1	34.7
Italy				
2014/15	13.8	8.5	11.5	8.8
2015/16	13.5	8.0	13.8	7.4
2016/17	14.3	9.2	12.9	8.3
2017/18	12.8	12.5	13.6	9.6
2018/19	13.7	12.3	13.9	10.7
Spain				
2014/15	9.6	4.4	6.1	5.6
2015/16	8.6	4.9	6.5	5.5
2016/17	9.3	4.1	5.8	5.8
2017/18	7.8	4.5	6.1	6.2
2018/19	8.6	5.3	6.4	7.8

Figure 4a shows that the observed values for wine exports from France to Japan outperform the forecasts for all the months except November and December 2019. In details, we observe the largest differences between observed values and forecasts in May and August 2019 (EUR 13.3 million) and the smallest differences between those in October 2019 (EUR 2.9 million) and January 2020 (EUR 2.1 million). Overall, we quantify the positive effect of the tariff removal in the first 12 months of the implementation of the EPA for wine exports from France to Japan in EUR 55.8 million.

Our forecasts for wine exports from Italy to Japan never outperform the observed values (figure 4b). In September and December 2019, we record the smallest differences, EUR 330 thousand and EUR 450 thousand between observed values and forecasts, respectively. On the other hand, the largest differences are recorded in June 2019 (EUR 2.9 million) and January 2020 (EUR 3.7 million). Overall, the total positive effect due to the tariff removal can be quantified in EUR 25.6 million.

Finally, figure 4c shows the forecasts for wine exports of Spain. In February and July 2019, we record the largest differences between observed values and forecasts, EUR 2.5 million and EUR 3 million, respectively. The smallest differences are recorded in October and November, EUR 92 thousand and EUR 53 thousand, respectively. In addition, in November 2019 and January 2020, the forecasts outperform the observed values. In the case of wine exports of Spain, we quantify the positive effect of the tariff removal in EUR 11.5 million.

From figure 4, it also emerges that the largest effect of the tariff removal is recorded in the first two quarters of the year as our forecasts can better approximate the observed values in the third quarter of the year for all the three series of data.

Figure 4 Wine exports from France, Italy, and Spain to Japan: Forecast vs Observed values (EUR)
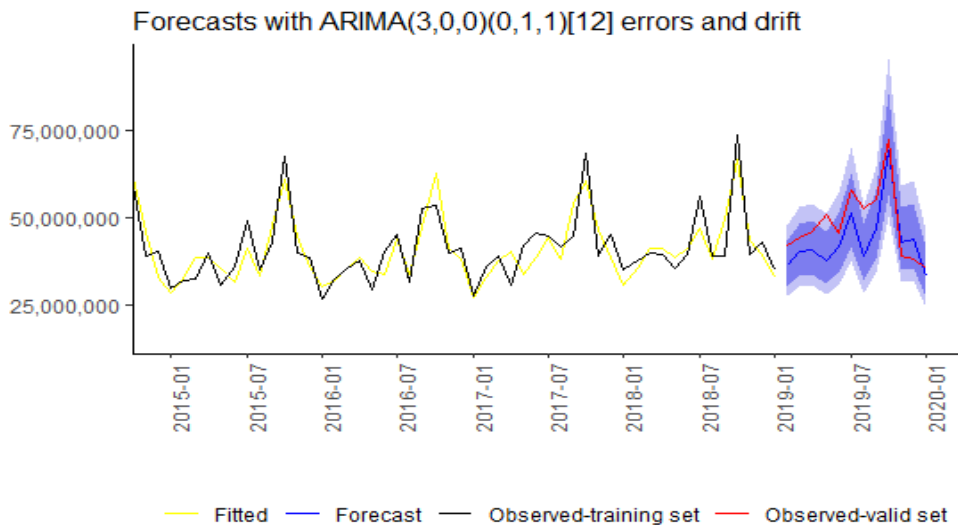
Forecasts with ARIMA(3,0,0)(0,1,1)[12] errors and drift

Fitted — Forecast — Observed-training set — Observed-valid set
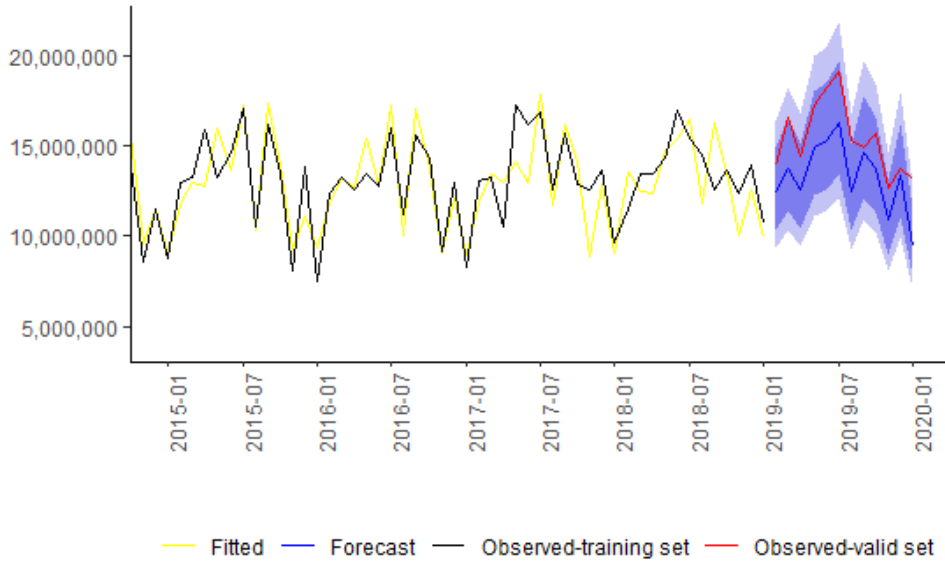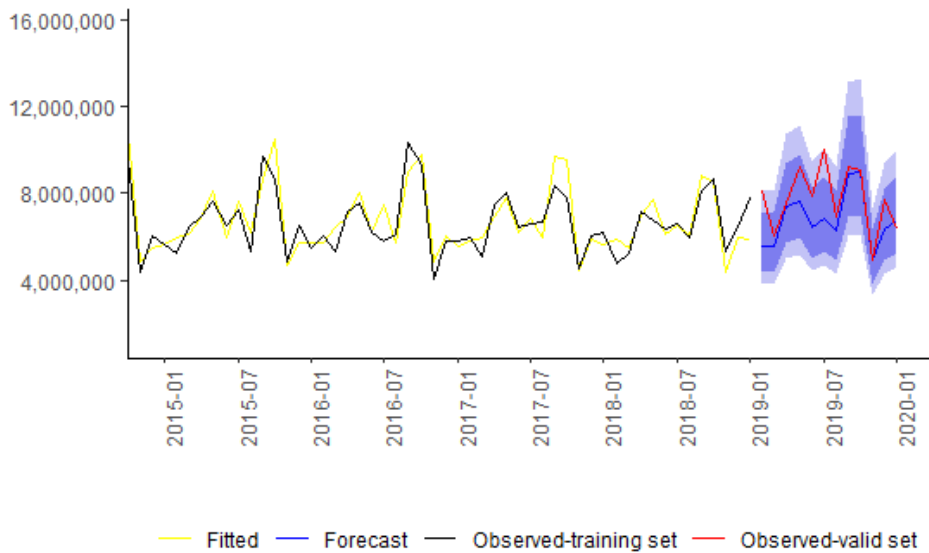
(a) France

(b) Italy

(c) Spain

5. Conclusion

In this paper, we fit a SARIMA model to the monthly exports of wine from France, Italy, and Spain to Japan from January 2002 to January 2019. Subsequently, we used the estimated models to forecast twelve months ahead from February 2019, the first month of implementation of the EU – Japan EPA. We conclude that the tariff removal upon entry into force of the agreement had a positive effect on wine exports from France, Italy, and Spain to Japan which we quantify in EUR 55.8 million, EUR 25.6 million and EUR 11.5 million, respectively. Finally, our results show that in the first twelve months after the implementation of the agreement, the effect of the tariff removal has been larger in the first two quarters of the year since we observed a larger difference between the observed values and our forecasts.

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Oligopoly Power, Cross-Market Effects and Demand Relatedness: An Empirical Analysis

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Abstract

The goal of the paper is to develop a conceptual framework that can be used to examine market competitiveness and assess cross-market effects in a multi-product oligopoly consisting of firms producing and selling various demand-related products. The econometric model which consists of two inverse demand functions and two price-margin equations is applied to the US catfish processing industry. Focusing on fresh catfish filet and whole fresh catfish, the empirical results rule out the existence of cross-market effects, but give support to the existence of some degree of market power. In that setting, the oligopoly power indices are, respectively, 18.2% and 13.3% for fresh catfish filet and whole fresh catfish thereby indicating that the price distortion is more pronounced in the market for fresh catfish filet than it is in the market for whole fresh catfish.

Keywords: Oligopoly power, Cross-market Effects, Multi-product firms.

JEL Classification: C51, D24, D40

1. Introduction

The aim of this paper is to empirically evaluate the degree of market power and assess cross-market effects in the US catfish processing industry. Towards this end, the paper uses and estimates a conjectural variation model that takes into account both the oligopoly power and cross-market effects.

The analysis of market power in the US catfish industry has been the focus of a large body of literature. For instance, Kinnucan and Sullivan (1986) applied Houck's method (1985) to analyze the degree of market power in the catfish industry in West Alabama. Using Appelbaum's model (1982), Kouka (1995) tested for market power and estimated the oligopoly power index in the US catfish processing industry. Bouras and Engle (2007) investigated the oligopoly and oligoposony power in the US catfish industry based on a statistic conjectural variation model. In a subsequent paper, Bouras et *al.*, (2010) examined the oligopsony power in the US catfish industry using a dynamic conjectural variation model. Recently, Bouras et *al.*, (2017b) used data from the US catfish industry to test the effectiveness of the New Empirical Industrial Organization (NEIO) technique in measuring the degree of

market power. These papers relied, however, on the assumption that catfish processors produce and sell a single product. In reality, catfish processors produce and sell a variety of processed catfish products. These include, among others, fillet, shank fillet, nuggets, and steaks. As such the US catfish processing industry should be treated as a multi-product oligopoly predominantly producing and selling demand-related products. It is, therefore, important to take into consideration not only multimarket contacts but also cross-market effects when addressing the issue of market power in multi-product oligopolies.

The existing papers concerning the analysis of market power in multi-product oligopolies are scant. For example, Gelland and Spiller (1987), while focusing on the markets for credit denominated in the local currency and foreign currency, analyzed the degree of market power and the effect of barriers to entry on the degree of competitiveness in the Uruguayan banking sector. In another example, Schroeter and Azzam (1990) tested for both the oligopoly power and oligopsony power in the US meat industry with a special focus on the markets for beef and pork.

With a four-firm concentration ratio oscillating between 60% and 70% (Dillard, 1995), the US catfish processing industry is among the moderately concentrated industries in the United States. Such a concentrated structure has led economists and policy-makers to voice concerns about the exercise of market power by catfish processors. In that setting, previous empirical papers either supported or ruled out the existence of some degree of market power in the US catfish processing industry. For the intended analysis, we focus utterly on fresh catfish fillet and whole fresh catfish. These two processed products account for over 75% of total fresh catfish processed (USDA, 2012).

The remainder of this paper proceeds as follows: the next section presents the theoretical model and the empirical application; the third section contains data, the empirical estimation of the econometric models and statistical tests; the fourth section provides the estimation of the Lerner indices; the last section concludes the paper.

2. Theoretical Model and Empirical Application

2.1. Theoretical Model

The starting point of our model is a multi-product firm producing and selling two demand-related products: q_1 and q_2. The multi-product firm purchases a material input in competitive markets. After converting the material input into different processed products, the multi-product firm sells its final products in non-completive markets. The profit maximization's problem for the jth multi-product firm can be formulated as

(1) $$\text{Max}_{q_1^j, q_2^j} \pi^j = \text{Max}_{q_1^j, q_2^j} \left[\sum_{i=1}^{2} \left[\left(P_i \left(Q_1, Q_2 \right) - k_i \times w \right) \times q_i^j - TPC_i \right] \right].$$

Where P_i is the price of the ith final product; Q_1 and Q_2 are the industry's total quantities sold of product 1 and product 2, respectively; k_i is the conversion factor associated with the ith final product;[1] TPC_i is the total cost of processing the material input into the ith final product; and

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[1] The conversion factor, k_i, refers to the amount of the material input needed to obtain one pound of the ith final product.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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w is the price of the material input. Differentiation of Equation 1 with respect to q_1^j and q_2^j yields the following first-order conditions

(2)

$$\frac{\partial \pi^j}{\partial q_1^j} = 0 \implies P_1 + q_1^j \frac{\partial P_1}{\partial Q_1} \frac{\partial Q_1}{\partial q_1^j} + q_1^j \frac{\partial P_1}{\partial Q_2} \frac{\partial Q_2}{\partial q_1^j} + q_2^j \frac{\partial P_2}{\partial Q_1} \frac{\partial Q_1}{\partial q_1^j} + q_2^j \frac{\partial P_2}{\partial Q_2} \frac{\partial Q_2}{\partial q_1^j} - k_1 w - mpc_1 = 0$$

,

(3)

$$\frac{\partial \pi^j}{\partial q_2^j} = 0 \implies P_2 + q_2^j \frac{\partial P_2}{\partial Q_2} \frac{\partial Q_2}{\partial q_2^j} + q_2^j \frac{\partial P_2}{\partial Q_1} \frac{\partial Q_1}{\partial q_2^j} + q_1^j \frac{\partial P_1}{\partial Q_2} \frac{\partial Q_2}{\partial q_2^j} + q_1^j \frac{\partial P_1}{\partial Q_1} \frac{\partial Q_1}{\partial q_2^j} - k_2 w - mpc_2 = 0$$

Where mpc_1 and mpc_2 are the marginal processing costs of converting the material input into product 1 and product 2, respectively. Equations (2) and (3) can be expressed in terms of elasticities as

(4) $\quad P_1 + P_1 \eta_{11} \theta_{11} + P_1 \eta_{12} \theta_{21} + P_2 \left[\dfrac{q_2^j}{q_1^j} \right] \eta_{21} \theta_{11} + P_2 \left[\dfrac{q_2^j}{q_1^j} \right] \eta_{22} \theta_{21} - k_1 w - mpc_1 = 0$

(5) $\quad P_2 + P_2 \eta_{22} \theta_{22} + P_2 \eta_{21} \theta_{12} + P_1 \left[\dfrac{q_1^j}{q_2^j} \right] \eta_{12} \theta_{22} + P_1 \left[\dfrac{q_1^j}{q_2^j} \right] \eta_{11} \theta_{12} - k_2 w - mpc_2 = 0$.

Where:

$\eta_{11} = \left[\dfrac{\partial P_1}{\partial Q_1} \dfrac{Q_1}{P_1} \right]$: own price elasticity of the inverse demand for product 1;

$\theta_{11} = \left[\dfrac{\partial Q_1}{\partial q_1^j} \dfrac{q_1^j}{Q_1} \right]$: own conjectural elasticity for product 1;

$\eta_{12} = \left[\dfrac{\partial P_1}{\partial Q_2} \dfrac{Q_2}{P_1} \right]$: cross price elasticity of the inverse demand for product 1 with respect to

   product 2;

$\theta_{21} = \left[\dfrac{\partial Q_2}{\partial q_1^j} \dfrac{q_1^j}{Q_2} \right]$: cross conjectural elasticity for product 2 with respect to product 1;

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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$\eta_{21} = \left[\dfrac{\partial P_2}{\partial Q_1} \dfrac{Q_1}{P_2} \right]$: cross price elasticity of the inverse demand for product 2 with respect to

product 1;

$\eta_{22} = \left[\dfrac{\partial P_2}{\partial Q_2} \dfrac{Q_2}{P_2} \right]$: own price elasticity of the inverse demand for product 2;

$\theta_{12} = \left[\dfrac{\partial Q_1}{\partial q_2^j} \dfrac{q_2^j}{Q_1} \right]$: cross conjectural elasticity for product 1 with respect to product 2;

$\theta_{22} = \left[\dfrac{\partial Q_2}{\partial q_2^j} \dfrac{q_2^j}{Q_2} \right]$: own conjectural elasticity for product 2.

In order to use aggregate data, multiply Equation (4) by q_1^j and Equation (5) by q_2^j, assume constant conjectural variations and constant marginal processing costs, and sum over catfish processing plants yields

(6) $P_1 Q_1 + P_1 \eta_{11} \theta_{11} Q_1 + P_1 \eta_{12} \theta_{21} Q_1 + P_2 \eta_{21} \theta_{11} Q_2 + P_2 \eta_{22} \theta_{21} Q_2 - k_1 w Q_1 - mpc_1 Q_1 = 0$

(7)

$P_2 Q_2 + P_2 \eta_{22} \theta_{22} Q_2 + P_2 \eta_{21} \theta_{12} Q_2 + P_1 \eta_{12} \theta_{22} Q_1 + P_1 \eta_{11} \theta_{12} Q_1 - k_2 w Q_2 - mpc_2 Q_2 = 0$.

After a few algebraic manipulations, Equations (6) and (7) become

(8) $M_1 = -\left(\eta_{11} \theta_{11} + \eta_{12} \theta_{21}\right) - \left(\eta_{21} \theta_{11} + \eta_{22} \theta_{21}\right)\left[\dfrac{P_2 Q_2}{P_1 Q_1} \right] + \dfrac{mpc_1}{P_1}$

(9) $M_2 = -\left(\eta_{22} \theta_{22} + \eta_{21} \theta_{12}\right) - \left(\eta_{12} \theta_{22} + \eta_{11} \theta_{12}\right)\left[\dfrac{P_1 Q_1}{P_2 Q_2} \right] + \dfrac{mpc_2}{P_2}$.

where $Q_1 = \displaystyle\sum_{j=1}^{N} q_1^j$ and $Q_2 = \displaystyle\sum_{j=1}^{N} q_2^j$ are the industry's total quantities sold of product 1 and

product 2, respectively; $M_1 = \left[\dfrac{P_1 - k_1 w}{P_1} \right]$ and $M_2 = \left[\dfrac{P_2 - k_2 w}{P_2} \right]$ are the price margins for

product 1 and product 2, respectively.

2.2. Empirical Application

The theoretical model presented in the previous section is used to assess the degree of oligopoly power and cross-market effects in the US catfish processing industry. The US catfish processing industry is comprised of multi-product processing plants producing and selling various demand-related products. Each catfish processing plant purchases live catfish in competitive markets. After converting live catfish into processed catfish, the catfish processing plant sells its final products in non-completive markets. For simplicity and application purposes, we focus exclusively on fresh catfish fillet, denoted by q_1, and whole fresh catfish, denoted by q_2. The basis for our econometric model, therefore, is the margin equations (8) and (9). To estimate the parameters of the econometric model and following prior literature (e.g., Bouras and Engle, 2007; Bouras *et al.*, 2017a), we assume that catfish processing plants use three inputs, namely, labor, capital and energy denoted respectively by *L*, *K* and *E*. Assuming linear marginal processing costs, the econometric model in its final form is given by:

(10)

$$M_1 = -\left(\eta_{11}\theta_{11} + \eta_{12}\theta_{21}\right) - \left(\eta_{21}\theta_{11} + \eta_{22}\theta_{21}\right)\left[\frac{P_2 Q_2}{P_1 Q_1}\right] + \delta_1\left(\frac{P_K}{P_1}\right) + \delta_2\left(\frac{P_E}{P_1}\right) + \delta_3\left(\frac{P_L}{P_1}\right) + \varepsilon_1$$

(11)

$$M_2 = -\left(\eta_{22}\theta_{22} + \eta_{21}\theta_{12}\right) - \left(\eta_{12}\theta_{22} + \eta_{11}\theta_{12}\right)\left[\frac{P_1 Q_1}{P_2 Q_2}\right] + \gamma_1\left(\frac{P_K}{P_2}\right) + \gamma_2\left(\frac{P_E}{P_2}\right) + \gamma_3\left(\frac{P_L}{P_2}\right) + \varepsilon_2$$

.

Where δ's and γ's are parameters to be estimated; P_K, P_E and P_L are the prices of capital, energy and labor, respectively; ε_1 and ε_2 are the error terms; and all the remaining variables and parameters are as previously defined. To overcome the identification problem, we use a two-step procedure. In the first step, we obtain the estimates for the own and cross price elasticities by estimating the inverse demand functions for fresh catfish fillet and whole fresh catfish. These estimates, in turn, are used in the second step to estimate the price margin equations. Towards this end, we estimate the following log-linear models

(12) $\quad \log(P_1) = \alpha_0 + \eta_{11}\log(Q_1) + \eta_{12}\log(Q_2) + \alpha_1\log(t) + u_1$

(13) $\quad \log(P_2) = \beta_0 + \eta_{22}\log(Q_2) + \eta_{21}\log(Q_1) + \beta_1\log(t) + u_2$.

Where P_1 and P_2 are the prices of fresh catfish fillet and whole fresh catfish, respectively; Q_1 and Q_2 are the industry's total quantities sold of fresh catfish fillet and whole fresh catfish, respectively; and *t* is a time trend variable.

3. Data and Empirical Estimation

3.1. Data

In order to evaluate the degree of market power and assess cross-market effects in the US catfish processing industry, we use monthly data ranging from 01/1991 to 12/2012. The data

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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were compiled from a variety of sources. The bank prime loan rate, which is used as a proxy for the price of capital, was taken from the Federal Reserve of St. Louis; live catfish, whole fresh catfish and fresh catfish fillet prices, quantity sold of whole fresh catfish, and quantity sold of fresh catfish fillet were collected from the US Department of Agriculture. The price of electricity, which is used as a proxy for the price of energy, was collected from the US Department of Energy; and hourly minimum wage, which is used as a proxy for the price of labor, was obtained from the US Department of Labor. The descriptive statistical analysis is provided in Table 1.

Table 1: Descriptive Statistical Analysis

Variable	Min	Max	Mean	Standard Deviation
Bank Prime Loan Rate (%)	3.3	9.5	6.3	2.1
Price of live catfish ($/Lb)	0.5	1.3	0.8	0.1
Price of whole fresh catfish ($/Lb)	1.2	2.7	1.6	0.2
Quantity sold of whole fresh catfish (1,000 Lbs)	1484.0	4928.0	3136.2	587.0
Price of fresh catfish fillet ($/Lb)	2.4	4.9	3.0	0.5
Quantity sold of fresh catfish fillet (1,000 Lbs)	1877.0	6815.0	4050.9	1073.0
Electricity price (¢/kilowatt hour)	4.2	7.7	5.4	0.9
Hourly minimum wage ($/Hour)	3.8	7.3	5.3	1.0

3.2. Empirical Estimation

The empirical assessment of the degree of market power and market-cross effects is carried out using a two-step procedure. In the first step, we estimate the inverse demand functions for fresh catfish fillet and whole fresh catfish. Table 2 contains own and cross price elasticities of the inverse demand along with other log-linear models' parameter estimates.

Table 2: Parameter Estimates for the inverse demand for fresh catfish fillet and whole fresh catfish.

Parameter	Estimate	Standard Error
Fresh Catfish Fillet		
α_0	4.709*	0.564
η_{11}	-0.314*	0.052
η_{12}	-0.173**	0.080
α_1	0.077*	0.019
R²	79.41%	
Log-Likelihood	336.14	
Akaike Info Criterion	-2.52	
F-Statistic	334.19*	
Whole Fresh Catfish		
β_0	4.151*	0.596
η_{22}	-0.280*	0.079
η_{21}	-0.191*	0.058

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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β_1	0.034**	0.014
R²	59.42%	
Log-Likelihood	268.51	
Akaike Info Criterion	-2.00	
F-Statistic	126.90*	

Note: * and ** represent 1%, and 5% significance level, respectively.

Having obtained the estimates for own and cross-price elasticities of the inverse demand functions, these estimates are used in the second step to estimate the margin equations for fresh catfish fillet and whole fresh catfish. The margin equations are estimated jointly using Three-Stage Least Squares method (3SLS) with correction for autocorrelation and heteroscedasticity using Newey and West's approach (1987). Table 3 provides parameter estimates for the margin equations for both fresh catfish fillet and whole fresh catfish.

Table 3: Parameter Estimates of the Margin Equations for fresh catfish fillet and Whole Fresh Catfish

Parameter	Estimate	Standard Error
Fresh Catfish Fillet		
θ_{11}	0.315	0.270
θ_{21}	0.204	0.277
δ_1	-0.007**	0.004
δ_2	-0.004	0.019
δ_3	0.143*	0.025
Whole Fresh Catfish		
θ_{22}	0.338***	0.182
θ_{12}	-0.105	0.108
γ_1	0.024*	0.003
γ_2	-0.022	0.014
γ_3	0.031***	0.017

Note: *, **, and *** represent 1%, 5%, and 10% significance level, respectively.

Of particular relevance are the own and cross conjectural elasticities: θ_{11}, θ_{22}, θ_{12} and θ_{21}. These parameters are used to test statistically the hypotheses of market power and cross-market effects. These statistical tests are summarized in Table 4. The first hypothesis is the inexistence of cross market effects. This test amounts to testing whether θ_{12} and θ_{21} are jointly equal to zero. With a Chi-square statistic of 1.66, the hypothesis of no cross-market effects cannot be rejected. The second hypothesis is the inexistence of market power. This test is equivalent to testing whether θ_{11}, θ_{22}, θ_{12} and θ_{21} are jointly equal to zero. With a Chi-

square statistic of 206.34, the hypothesis of the inexistence of marker power can be rejected at the 1% significance level.

Table 4: Chi-squared Statistical Tests

Null Hypothesis	Chi-square Statistic
No Cross Effects: $$H_0 : \theta_{12} = \theta_{21} = 0$$	1.66
No Market Power: $$H_0 : \theta_{11} = \theta_{22} = \theta_{12} = \theta_{21} = 0$$	206.34*

Note: * represents 1% significance level.

4. Lerner Indices

To further analyze the degree of market power in the US catfish processing industry we compute the Lerner indices, commonly known as the oligopoly power indices, at the industry level for both fresh catfish fillet and whole fresh catfish. Using Equations (8) and (9), the Lerner indices at the industry level for both fresh fillet and whole fresh catfish .are, respectively, given by

(14)
$$L_1 = \left(-\left(\eta_{11}\theta_{11} + \eta_{12}\theta_{21} \right) - \left(\eta_{21}\theta_{11} + \eta_{22}\theta_{21} \right) \left[\frac{P_2 Q_2}{P_1 Q_1} \right] \right)$$

(15)
$$L_2 = \left(-\left(\eta_{22}\theta_{22} + \eta_{21}\theta_{12} \right) - \left(\eta_{12}\theta_{22} + \eta_{11}\theta_{12} \right) \left[\frac{P_1 Q_1}{P_2 Q_2} \right] \right).$$

The estimates of the Lerner indices at the industry level for both fresh catfish fillet and whole fresh catfish for various years are reported in Table 5 and Figure 1. According to the results, the Lerner index for fresh catfish fillet ranges from nearly 17% to nearly 21% while that for whole fresh catfish ranges from over 11% to over 15%. Evaluated at the mean values of the variables, the estimates of the Lerner indices for fresh catfish fillet and whole fresh catfish are 18.2% and 13.3%, respectively. These estimates are statistically significant at the 1% level. As shown in Table 5, the Lerner index for fresh catfish fillet is higher than that for whole fresh catfish, implying that the price distortion is more pronounced in the market for fresh catfish fillet than it is in the market for whole fresh catfish. Although prior literature regarding the estimation of the oligopoly power index in the US catfish processing industry is scant, using aggregate data from 1977 to 1993, Kouka (1995) reported an average oligopoly power index of 44%.

Table 5: Lerner Indices for Fresh Catfish Fillet and Whole Fresh Catfish for Selected Years

	Lerner Index	
Year	Fresh Catfish Fillet	Whole Fresh Catfish
1992	0.2088	0.1125
1994	0.2035	0.1154
1996	0.1935	0.1221
1998	0.1843	0.1304
2000	0.1799	0.1354
2002	0.1725	0.1466
2004	0.1695	0.1528
2006	0.1722	0.1474
2008	0.1746	0.1434
2010	0.1772	0.1393
2012	0.1910	0.1242
Average	**0.1820***	**0.1330***

Note: * **represents 1% significance level.**
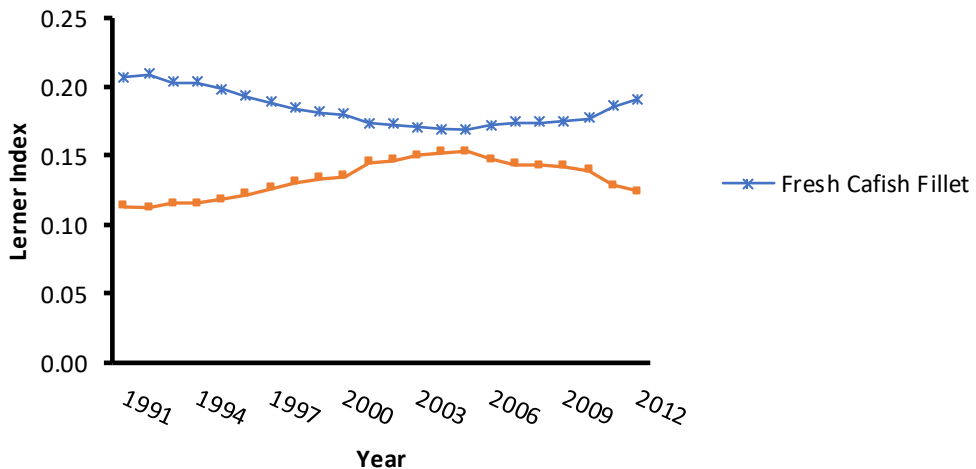
Figure 1: Yearly Lerner Indices for Fresh Catfish Fillet and Whole Fresh Catfish.

5. Concluding Remarks

The objective of this paper is to empirically evaluate the degree of market power and assess cross-market effects in the US catfish processing industry. To this end, the paper uses and estimates a conjectural variation model that takes into account both the oligopoly power and cross-market effects. Using monthly data from the US catfish processing industry while focusing exclusively on the market for whole fresh catfish and fresh catfish fillet, Chi-square statistical tests show that while the hypothesis of cross-market effects can be rejected, the existence of some degree of market power cannot be ruled out. In addition, the estimates of the oligopoly power index for fresh catfish fillet is higher than that for whole fresh catfish,

implying that the price distortion is more pronounced in the market for fresh catfish fillet than it is in the market for whole fresh catfish.

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Analysis on the Significance of the Relationships Between Pay Satisfaction Dimensions and Organizational Citizenship Behavior

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Abstract

The study looks into the relationships of the different dimensions of pay satisfaction with organizational citizenship behaviors (OCBs) directed towards both the individual and the organization. 500 white collar employees of different private sector companies participated in the study. With respect to the influence of the dimensions of pay satisfaction the results showed that there are significant relationships between pay level, pay raises and benefits with citizenship behavior directed at individuals. However, no such relationship exists between structure/administration and citizenship behavior directed at the organization. Limitations and future research directions conclude the study.

Keywords: Significance, Relationships Between Pay Satisfaction Dimensions, Organizational Citizenship Behavior

Introduction

Pay constitutes an essential aspect of doing business and a significant part of the success of any organization because it represents both, one of the largest organizational expenses, and one the most valued employee outcomes (Shaw et al., 1999). It rewards employees for their work and includes several forms of compensation such as "direct, cash payments (for example, salary); indirect, noncash payments (for example, benefits); the amount of pay raises and the process by which the compensation system is administered" (Williams et al., 2006, p. 392).

People work for many different reasons including assessment of one's self-worth and status (Blader & Tyler, 2009), and purpose and intrinsic rewards (Lopes, 2011). However, for most of them pay is the only source of income and as such they depend on it to fulfill their existential needs (Dulebohn & Werling, 2007). This makes pay the most important motivational factor (Locke, et. al, 1980), especially in relatively poorer countries with developing economies where many people struggle to fulfill these needs.

During the years, companies have surprisingly underestimated the importance of pay to their employees (SHRM, 2007), when it should have been their primary focus in order to best manage its significant impacts. First, as mentioned above pay is one of the largest organizational expenses and companies need to properly manage it in order to maximize the value of their investment. Second, because of its importance as a motivational factor, companies can use pay to enhance the contributions and the performance of their employees and to drive them closer to the organizational goals (Carraher, 2011; Singh & Loncar, 2010).

Third, companies use pay to recruit and retain the best employees (Galleta et al., 2011; Onn, 2012), which eventually ensures their success since companies are as good as their employees.

Organizations need to build the right pay structures in order to make sure that their employees are satisfied. The relationship between compensation and work outcomes is mediated by attitudinal reactions to pay (Dreher, Ash, and Bretz, 1988), such as pay satisfaction. A large body of research exits on pay satisfaction with most of it conducted on North American employees and, to a lesser degree on Western European ones. During recent years the focus of the research has shifted towards the outcomes of pay satisfaction (Vandenberghe and Tremblay, 2008).

The paper looks into the relationships of the different dimensions of pay satisfaction with organizational citizenship behaviors (OCBs) directed towards both the individual and the organization. Following the recent trends of the research on the subject, it uses a multidimensional instrument for measuring pay satisfaction, and it studies the relationship of pay satisfaction with an important outcome variable. More importantly the paper adds to the very small body of research on pay satisfaction in developing countries.

Pay Satisfaction

Pay satisfaction measures the gratifying sentiments of the employees towards their pay (Choudhury and Gupta, 2011; Miceli and Mulvey, 2000; Tekleab, Bartol, & Liu, 2005). It has always been an important construct to both employees and organizations (Williams, McDaniel, & Nhung, 2006; Singh & Loncar, 2010), because of its critical mediating role between pay policies and relevant outcomes (Blau, 1994; Sturman & Short, 2000).

The theoretical foundation of pay satisfaction is build upon the concepts of equity, discrepancy and administrative independence. Based on equity theory (Adams, 1963, 1965) the employee compares his pay situation with a referent other within the organization or outside of it and then reacts according to the difference. Discrepancy theory (Lawler, 1971, 1981) added important job characteristics to the comparison process and also valence, the importance one places on a certain outcome, to better explain the behaviors of the employees. The administrative independence concept (Heneman & Schwab, 1979) further expanded the theoretical development by introducing the idea that pay satisfaction is not a global construct but rather a multidimensional one.

The advancements in understanding pay satisfaction have led to the changing of the methodological approach over time. Initially, pay satisfaction was considered a global construct and unidimensional measures were used to asses it. Researchers employed either ad-hoc measures, contextually tailored, or the pay satisfaction sub-scales of previously established job satisfaction measures (Fong & Shaffer, 2003). During the following years, with the wide acceptance of the multidimensionality of pay satisfaction, several such measures were created (Heneman & Schwab, 1985; Miceli & Lane, 1991; Gerhart & Milkovich, 1992; Williams et al., 2008).

The more recent trends in the field have focused on the consequences of pay satisfaction on work outcomes (Vandenberghe & Tremblay, 2008). There is a growing body of research that explores the impact of pay satisfaction on different outcomes like individual (Khalid, 2020) and organizational (Currall et al., 2005) performance, organizational commitment (Meyer et

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

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al., 2002; Vandenberghe & Tremblay, 2008), turnover intentions (Judge, Cable, & Higgins, 2000; Williams et al., 2006).

Organizational citizenship behaviors

Organizational citizenship behaviors (OCBs) represent "individual behaviors that are discretionary, not directly or implicitly recognized by the formal reward system, and in the aggregate promote the efficient and effective functioning of the organization" (Organ, 1988, p 4). It is critical for the survival of the organizations that employees are willing to occasionally engage in OCB (Barnard, 1938; Katz, 1964; Katz and Kahn, 1978; Robinson and Morrison, 1995). As an informal behavior that does not get rewarded (Organ & Ryan, 1995), it exceeds any contractual agreement between the employee and the organization.

These behaviors can be categorized into two broad groups: those that focus on the organization (OCBOs) and those that focus on individual employees (OCBIs) that eventually benefit the organization (Williams & Anderson, 1991). OCBOs include such behaviors as attending work more than the other employees, protecting organizational property and adhering to informal rules while OCBIs refers to such behaviors as going out of the way to help new employees, helping others who have been absent and assisting the supervisor when not asked.

The reason why employees engage in OCBs as extra-role behaviors is based on the premises of social exchange (Moorman, 1991), reciprocity (Organ, 1988,1990) and equity within the larger framework of psychological contracts (Rousseau, 1989). The employees will engage in beneficial behaviors for the organization when they (1) consider their employment relationship not just economical but also social and (2) when they reciprocate for the reasonable treatment from the company. As such, the expectations are that pay satisfaction and its dimensions will positively relate to OCBI and OCBO which is also supported by prior research (Blau, 1994; Faulk II, 2002; Lee, 1995; Welbourne & Cable, 1995).

Methods and Procedures

It is generally accepted that Pay Satisfaction has four dimensions (Currall et al., 2005), namely pay level, benefits, pay raises and structure/administration. The first three dimensions refer to individual outcomes and the last one refers to organizational procedures and policies. As such, pay level, benefits and pay raises should relate with OCBI-s and structure/administration should relate with OCBO-s. Based on this argument I propose the following hypotheses:

Hypothesis 1a: Pay level will have a significant relationship with OCBI-s

Hypothesis 1b: Benefits will have a significant relationship with OCBI-s

Hypothesis 1c: Pay Raises will have a significant relationship with OCBI-s

Hypothesis 1d: Structure/Administration will have a significant relationship with OCBO-s

500 questionnaires were collected electronically via Google forms from white collar employees of different private sector companies. Female respondents were 59.4 % of the sample and the rest were males (40.6 %). Almost all of the employees sampled were under 45 years old (94.8 %), with those in the 35-45 years age group comprising 52.2%, followed by the 25-35 years group (23.4%), and the rest being under 25 years group (19.2%). More than half

of the respondents (51.8 %) had less than 8 years of work experience and more than three quarters of the sample (76.6 %) had been less than 5 years at their current position. 57.8% of the employees did not have a managerial position, with the rest being managers of all three levels.

The data were collected using an Albanian version of the survey scales. The questionnaire had 42 questions, divided in three sections, and was developed by utilizing previously used and very reliable measures. The first section with 10 questions was used to acquire information on the participants' demographics characteristics. The second section with 18 questions asked the participants to rate their pay satisfaction levels. The final section with the remaining 14 questions asked the employees about their organizational citizenship behavior. The levels of pay satisfaction were rated with a five point Likert Scale with 1 being "Very Dissatisfied" and 5 being "Very Satisfied" and the levels of organizational citizenship behavior were rated with a five point Likert scale with 1 being "Never" and 5 being "Always".

Heneman and Schwab's (1985) four dimensional Pay Satisfaction Questionnaire, the most popular multifaceted measure of the construct, (Carraher and Buckley, 1996), (Vandenberghe and Tremblay, 2008) was used to measure pay satisfaction. The four dimensions measure satisfaction with pay level, benefits, pay raise and pay structure/ administration. There were four questions on pay level (e.g. *How satisfied are you with your current salary? How satisfied are you with your take home pay?*); four questions on benefits (e.g. *How satisfied are you with the amount the company pays towards your benefits ? How satisfied are you with the value of your benefits?*); four questions on pay raise (e.g. *How satisfied are you with the raises you have typically received in the past? How satisfied are you with how your raises are determined?*); and six questions on pay structure/ administration (e.g. *How satisfied are you with the way the organization administers pay? How satisfied are you with the organization's pay structure?*). The Cronbach α estimates of internal consistency for Pay Level, Pay Raise, Benefits, and Pay Administration were .899, .899, .828, and .90, respectively, well above the generally accepted lower limit of .70(Hair, et. al, 2010) .

Organizational citizenship behavior was measured using Williams and Anderson's (1991) 14-item organizational citizenship behavior (OCB) scale. This scale is designed to measure two different types of OCBs; seven items (1-7) measure behaviors that target a specific individual (OCBI), and the remaining seven items (8-14) measure those behaviors that focus on the organization (OCBO). Sample items include "*Help others who have heavy workloads;*" "*Helps others who have been absent*"(OCBI) and "*Adhere to informal rules devised to maintain order;*" "*Conserve and protect organizational property*"(OCBO). The Cronbach α estimates of internal consistency for organizational citizenship behavior were .72.

Results

To analyze our hypotheses about the significance of the relationships between the dimensions of pay satisfaction with OCBIs and OCBOs we use the Chi Square Independence Test. In order to establish a relationship between the variables at a 95% confidence interval we need to have a Asymptotic Significance (2-sided) of the Pearson Chi Square coefficient at less than p = .05.

Table 1 shows the results of the test for pay level and OCBIs. The data shows that Asymptotic Significance (2-sided) has a value of 0.012 <0.05, which means that there is a significant relationship between pay level and OCBIs.

Table 1 Test of the Pay Level and OCBIs relationship.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.681[a]	8	.012
Likelihood Ratio	18.940	8	.015
Linear-by-Linear Association	6.739	1	.009
N of Valid Cases	500		

Table 2 refers to the test of the Benefits and OCBIs relationship. We expect a positive relationship between the two variables and the results support that. The value of p = 0.004 which is much less than 0.05 and confirms that benefits have a significant relationship with OCBIs.

Table 2 Test of the Benefits and OCBIs relationship.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.487[a]	8	0.004
Likelihood Ratio	21.393	8	0.006
Linear-by-Linear Association	6.310	1	0.012
N of Valid Cases	500		

The data of Table 3 shows the analysis of the Pay Raise and OCBIs relationship. We expect a positive relationship between the two variables and the results support that. The Asymptotic Significance (2-sided) of the Pearson coefficient is 0.004 <0.05 confirming the existence of a significant relationship between Pay Raises and OCBIs.

Table 3 Test of the Pay Raises and OCBIs relationship

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.487[a]	8	0.004
Likelihood Ratio	21.393	8	0.006
Linear-by-Linear Association	6.310	1	0.012
N of Valid Cases	500		

Looking at the results of the independence test, between Structure/Administration dimension and OCBOs, shown on table 4 we can see that the value of p = 0.985 which is greater than 0.05. This result shows that the variables are statistically independent at a significant level and so it rejects the hypothesis that Structure/Administration variable will have a significant relationship with OCBOs.

Table 4 Test of the Structure/Administration and OCBOs relationship

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.877[a]	8	0.985
Likelihood Ratio	1.653	8	0.990
Linear-by-Linear Association	0.187	1	0.666
N of Valid Cases	500		

Discussion and Conclusion

The study discovered somewhat mixed results. Pay level, pay raises and benefits have significant relationships with citizenship behavior directed at individuals while structure/administration does not have a significant relationship with citizenship behavior directed at the organization. Such lack of a relationship between structure/administration and OCBO-s may be explained by the social-cultural environment where the study was conducted. In small countries, like Albania, social connections and relationships gain importance for the individuals. Because, citizenship behavior is not formally recognized by companies, employees will direct their behavior toward individuals and receive social rewards in the form of appreciation from their colleagues and eventually better social relationships with them.

The study adds to the very scarce literature on the links between pay satisfaction and organizational citizenship behaviors in developing economies. It is limited in that it discovers only the existence of significant relationships between these two factors without further exploring its nature. Future research should focus on the effects of overall pay satisfaction and its dimensions on citizenship behaviors in order to provide a complete insight to academics and practitioners alike.

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Monetary Policy in Argentina from the Inflation of the 1970s to the Default of the New Millennium

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Abstract

Since the end of World War II, Argentina has been through an uninterrupted series of financial/fiscal and monetary crises that have gradually eroded the credibility of the economic institutions of the country. In the period from 1970 to 1990 alone, the Argentine economy experienced seven currency crises and three banking crises. The main objective of this contribution is to investigate the reasons for economic policy choices that, since the military dictatorship of Colonel Perón, have led the country to default, causing unemployment, the run on banks, popular uprising. [1]

Keywords: Monetary policy, Financial Crisis, Argentina.

JEL Classification: N16, N26, N46.

Introduction

Argentina is a geographically very varied country and it is rich in terms of natural resources. It is a presidential federal republic: its federal institutional framework is one of the major factors of its uncontrolled public spending, which is one of the structural problems of the Argentine economy. The history of Argentina is typical of South American countries, characterized by very fragile democracies alternating with periods of military dictatorship. Therefore, those who are interested in studying South American economic situation may want to investigate the issues related to the economic policies of its governments.

This paper, through the study of the literature sources produced on this topic, aims to investigate the reasons behind the political and economic decisions taken by Argentine governments in history, illustrating the different consequences and trying to highlight what kind of alternative strategies could have been adopted. In fact, these considerations could be useful for those who may want to study in deep the issues relating to economic crises in countries with unstable economies, such as Argentina.

The last regime that began in 1976 and ended with the Falklands War of 1982, was the most cruel and bloodthirsty: another key to understanding the Argentine crisis is the lack of a real

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[1] Even though the two authors share the article's setting, please note that paragraphs 1, 2 and 3 are by Valentina Sgro and paragraphs 4, 5 and the introduction are by Vittoria Ferrandino.

breaking point between the politicians of today and the military class. That fact, combined with the serious complicity of President Menem in indulging corrupt activity led to a moral crisis in the country, which caused the spread of widespread corruption.

The Nineties were the years of Menem and the Convertibility Plan. In Argentina a currency board was established, the financial system was restored, inflation dropped sharply, trade was encouraged, public companies were privatized. The humus of the economic crisis was exactly this. The federal budget was based on non-recurring revenue, while 50% of the outputs were dependent on the provinces (the first structural problem); moreover, Argentina, did not have an independent monetary policy and was necessarily affected by that of the US. The consequence of not being able to sustain its performance was the overvaluation of the real exchange rate (the second structural problem), that, in a rigid labor market like Argentina, pushed the unemployment rate to 22%. The third and last structural problem was the recurrence of repression-*loosening* cycles of the Argentine economy, which had occurred even in the case of the convertibility plan. After an unusually long consumption boom, the distortions created by the fixed exchange rate unleashed a destructive effect in proportion to the duration of the stabilization program.

Also important were the effects on the Argentine economy of the international crises such as the Mexican crisis and the Tequila effect, the Asian crisis, the Russian crisis and the Brazilian crisis.

The Mexican crisis allowed the restructuring of the Argentine financial system, and the strength of this system enabled the country to survive the international crises of the following years. After the second boom of 1996-1997, the Asian crisis and the Russian crisis were overcome brilliantly, with the performance of Argentine bonds much higher than that of other South American countries. This, however, constituted a wake-up call that was not understood by the Argentine authorities: the overvaluation of the real exchange rate, which in early 1999 also caused the collapse of the Brazilian real, was in fact undervalued and Argentina entered a long recession phase.

The administration of De la Rua did not have a united coalition behind it, indeed problems were exacerbated by the Peronists' opposition who constituted the majority of the provincial governors. However, thanks to the support of the International Monetary Fund and a solid and unchanged financial system with a wide consensus as regards the Convertibility Plan, the Government of Argentina overcame the crisis of late 2000. The following year, Domingo Cavallo returned but, however, he did not have the political courage to leave the regime which he had established in 1991. He passed a series of restrictive maneuvers of fiscal policy, which aggravated the recession leading to the «state of siege». Cavallo resigned, De la Rua escaped together with his family, the Peronists again returned to power. This marked the end of the Convertibility Plan, the parity 1: 1 with the dollar, and it led to the declaration of insolvency.

Was it possible to find a «softer» exit strategy, perhaps abandoning the currency board before 2002? Would it have been better if the Duhalde presidency, that followed in 2002, had chosen a different monetary policy, perhaps an official dollarization or a flexible exchange rate, instead of opting for the «peso» devaluation? These are the questions which one can try to answer, through a careful reconstruction of the main events of the Argentine economy.

The Argentine economy from Peronism to the Revolución Libertadora

After the conclusion of World War II, Argentina was in a flourishing economic situation. The supply of food to the warring countries had allowed the country to accumulate large reserves in foreign currency, an activity expected to grow thanks to the increased safety of sea transport and the consequent expansion of international trade.

In 1946, Colonel Juan Perón was elected President thanks to his sensitive policy regarding workers' living conditions. His popularity and influence grew with the support of his second wife Eva Duarte de Perón who created a system of national assistance and obtained substantial wage increases for the unions, getting their support.

Argentina took advantage of the special postwar situation and until 1948 enjoyed a period of great economic prosperity that allowed Perón to carry out a policy of economic reforms: nationalization of the Central Bank, repayment of debt, planning of the first five-year plan. However, the well-being provided by this program was short-lived and the regime began to be unable to respond effectively to the worsening economic situation, characterized by an export crisis and the beginning of the trade balance deficit.

In fact, the favorable external conjuncture in which the Peronist State took its first steps began to reverse towards 1949, when the huge exchange reserves accumulated during the war began to run out. After four consecutive years of surplus, the trade balance had a deficit of $160 million, mainly due to the return to normality in agricultural and meat prices, causing a deterioration in terms of trade of Argentine goods; also the development of light industry made the country increasingly dependent on raw materials and foreign semi-processed products, determining the rise of production costs and consumer prices of products. The inflation resurgence, from 13% in 1947 to 29% in 1949, and the increasing numbers of unemployed were the ultimate consequences of this process.

The economic situation of the period 1949-1955 can be divided into three phases: the first two years of transition (1949-1950), during which limitations on public expenditure were introduced and an attempt was made to control wage growth; a period of violent de-monetization, strong imbalances in accounts with foreigner countries and a deepening of the recession (1951-1952). Finally, a period of consolidation, first cautious and then more and more determined, with the introduction of measures to promote the availability of capital and hard currency in order to revive the economy.[1]

In January 1953 the government began its second five-years plan, this time focusing on increasing agricultural production. In the following months Argentina signed important trade and economic agreements with several countries (including UK, the Soviet Union and Chile), making the trade balance active again while the Argentine currency, however, continued to suffer a sharp devaluation.

On June 16th 1955 some dissidents of the Argentine Air Force started an anti-peronism revolt, which failed because the army decided to remain loyal to the government. The event happened again three months later, but this time the army involvement showed a wider base of support, so that, after three days of civil war (with the death of about 4,000 people), Perón was forced to resign and take refuge in exile first in Paraguay, then in Spain. Meanwhile, on September 20,

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[1] F. Silvestri, *L'Argentina da Perón a Cavallo (1945-2003). Storia economica dell'Argentina dal dopoguerra a oggi*, Bologna, 2004, pag. 21.

Major Eduardo Lonardi assumed the duties of interim president of Argentina, promising the prompt restoration of a democratic regime by starting the *Revolución Libertadora*. However, after a brief internal struggle, the vision of the more strongly anti-peronist group prevailed in the army and on November 13th of the same year, Lonardi was replaced by General Pedro Eugenio Aramburu, who was closer to liberal sectors.

Between the social forces driving the ongoing transformation, which however had not yet sufficiently clearly defined its objectives and resources, and those that were the basis of Peronism, organized and able to put up a strong resistance, the so-called *empate* was put in place which lasted until the Seventies, a kind of a break-even situation in which none of the social actors could prevail over the other, so as to direct the course of Argentine politics according to their own perception of the problems[1].

In order to rebalance the external accounts and help the primary sector exporters, Argentina proceeded with the devaluation of the Peso. The exchange rate for export was devalued in real terms by 100% (152% nominal), and that for importation by 75% (114% nominal)[2]. The measure, however, was adopted in a context of low market prices and, therefore, the final outcome on the expansion of exports resulted lower than expected. At the same time, trade liberalization implied a significant increase in demand for foreign goods and, during the same period, the rate of interchange of tradable products from Argentina recorded its lowest value since 1933. This conjuncture determined as its final consequences, between 1955 and 1958, the accumulation of an uninterrupted sequence of a balance of payments deficit, the steady erosion of foreign reserves and the increase of foreign debt.

In 1961 there was a considerable economic recovery and the GDP, driven by strong and diversified foreign investment, achieved a growth rate of 7%, which was then repeated a year later, and inflation on an annual basis went from 127% in June 1959 to 9.5% in April 1961. However, there were still violent but short and regular fluctuations which became a negative phenomenon typical of the Argentine economy. Furthermore, the level of domestic absorption driven by investment demand, machinery and technology stayed higher than GDP growth, leading to a further deterioration of the balance of payments.[3]

The period between the election of Frondizi (1958) to the fall of Illia (1966) was characterized by a very negative balance and, despite the efforts of successive governments, the Argentine economy was not able to solve its problems of cyclicality and dependence on foreign countries. Peronism was deeply rooted in the country, keeping its *sancta sanctorum* in the labor union, which was also characterized by a more and more corporative, top-down and anti-democratic drift.

Military dictatorship and its economic legacy

By the 1970s, many Argentines with warm memories of postwar prosperity were clamoring for the military to allow Peron to return home. The generals relented, and in 1973 Peron assumed the presidency once again hoping to revitalize the Argentine economy. But he was

[1] J.C. Portantiero, *Clases dominantes y crisis politica en la Argentina actual*, Buenos Aires, 2003.

[2] C. Diaz Alejandro, *Tipo de cambio y términos del intercambio en la Républica Argentina (1913-1976)*, Work Documents series N. 22, Centro de Estudios Macroeconómicos de Argentina, 1981.

[3] F. Silvestri, *L'Argentina da Perón a Cavallo (1945-2003). Storia economica dell'Argentina dal dopoguerra a oggi*, cit., pag. 38.

unable to heal either the economy or the increasingly violent fissures in Argentine society, and Peron died of heart failure just a year later. His wife, Isabel Martínez de Perón, succeeded him in power and had to face an administration mined with economic problems, conflicts within the party and a growing terrorism practiced by insurgents and paramilitary movements. Inflation became ever greater and the economy of the country was threatened by paralysis of investments, the suspension of meat exports to Europe and the beginning of a major worsening of public debt. A solution of a monetarist type was unsuccessfully attempted by the Minister Alfredo Gomez Morales, causing rather more a process of stagflation. The coexistence of urban guerrillas, an organized working class and a weak government with neither political nor economic goals, caused the Armed Forces and the upper classes to install, once again, their form of order in Argentina. The aim of the alliance was to subordinate and control the working class, to undermine its capacity to organize itself as a class and to express itself politically. This *disciplinamiento social* was achieved by both state terrorism and a structural economic reform[1]. Thus, on March 24th 1976, a new military coup rose to power led by General Jorge Rafael Videla who imposed martial law. Videla came to power with greater strength and freedom of maneuver than any of his military predecessors. With the collapse of Peronism, the disruption of the unions, and the population at large prostrated by strikes, lockouts, inflation and terror, only the guerrillas offered organized resistance[2]. Thousands of opponents of the regime were illegally imprisoned, tortured and executed. The so-called Dirty War reached its peak in those years and it was characterized by a massive violation of human and civil rights by using methods such as the deprivation of liberty without legal proceedings, detention in secret places controlled by the armed forces, torture, murders and disappearances; during this period, in addition to the thousands of people imprisoned, there were about 2.300 political killings and about 30.000 people disappeared (desaparecidos), 9.000 of them were subsequently officially recognized by the *Comisión Nacional sobre la Desaparición de Personas*.

For some five years after the coup economic management was entrusted to José A. Martínez de Hoz, a member of one of the great landed families and a prominent figure in banking. He immediately attacked hyperinflation and the steep balance-of-payments deficit with an onslaught on consumption and wages. With Martínez de Hoz a commitment came not only to restore order in the economy but also to change and reconstruct it. The minister and the leading members of his team, all extreme market economists, attacked the heavy concentration of economic power in the state and pushed for its dismantlement. They wanted a prolonged attack on inflation by monetary controls. In the event Martínez de Hoz's program was applied only in part, mainly to accomplish short-term recovery, by 1978 it was losing momentum and the 1978 crisis was the only one in which a fall in GDP was intentionally implemented by the government through a monetary contraction that was meant to stop inflation[3].

The results of Martínez de Hoz's economic policy were that between 1980 and 1981 the rate of the GDP went from 0.7 to - 6.2, per capita GDP from – 0.9 to – 7.7, and gross national income from 1.8 to – 7.0. These modifications were concentrated in one year as a result of the

[1] L. Tedesco, *Democracy in Argentina. Hope and disillusion.*, New York, 1999, pag. 23.

[2] D. Rock, *Argentina 1516 – 1987. From Spanish Colonization to Alfonsín*, Los Angeles, 1985, pag. 367.

[3] A. Sturzenegger – R.Moya, *Economic cycles*, in G. Della Paolera – A.M. Taylor (edited by), *A new economic history of Argentina, Cambridge*, 2003, pag. 95.

economic policy applied in the previous four years[1]. The implementation of Martínez de Hoz's economic policy weakened the already vulnerable Argentinian economy and the nation fell gradually into a state of anarchy, an economic and political turmoil that led, in September 1982, to the verge of bankruptcy, burdened by a public debt of almost 20% of GDP and an intractable dimension of foreign debt.

In 1982, the military launched an invasion of the Falkland Islands, a British colony claimed by Argentina and called the Malvinas by the South American country. Britain retaliated, and Argentina lost the ensuing brief, but bitter war. The army was accused of using the conflict to distract people from the economic woes fueling political discontent. The Malvinas-Falklands War marked the end of the military regime established seven years before and the return of governments that were elected in a democratic way: if such an event involved a partial attenuation of the drama of political relations, the same could not be said for the economic situation, which continued to be rather worrying; the teams that led the country the following years saw most of their efforts absorbed in an attempt to regain control of the macro-economic aggregates. Certainly the most problematic of these was the inflation rate, now firmly above 100% per annum.

Back to democracy and origin the of Menemism.

During the National Reorganization Process, from 1976 to 1983, a large debt was accumulated to finance several projects, such as the Falklands War and the state appropriation of private debt. At the end of the military government Argentine companies were severely affected and unemployment, calculated at 18% (even if the official bodies claimed at 5%) sharpened the economic difficulties.

In October 1983, in a situation of extreme economic crisis, the country held, for the first time in ten years, a democratic presidential election, electing the candidate of the Radical Party **Raúl Alfonsín.** However, beyond the enthusiasm for a return to democracy, Alfonsín had to face a dire economic situation, which was the result of mistakes of the past (such as the model of import substitution, which had created a production system unsuitable for competing internationally) but also of choices made by others, such as the Reagan monetary policy and its resulting relentless growth of international interest rates and the explosion of foreign debt in Latin American countries[2].

During its first year in office, the democratic government was not in a position to change the situation drastically. The new authorities were faced with two main issues: firstly, the need to look for an efficient and non-conflicting way to satisfy the demands of a population that had experienced a 15% decline in its per capita income over a five-years period; and, secondly, the need of reaching an agreement with foreign creditors to cope with arrears that had been accruing since 1982 as well as to meet future maturities that were closing in.

Tab. 1 – *Argentina's external debt (millions of US dollars)[a]*

Period	Public sector	Private sector	Total
1975	4.021	3.854	7.875
1976	5.189	3.091	8.280

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[1] L. Tedesco, *Democracy in Argentina. Hope and disillusion.*, cit., pag. 47.

[2] S. Gatto, *America Latina: il decennio cruciale (cronache d'estremo occidente)*, Venezia, 2004, pag. 65.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

1977	6.044	3.635	9.679
1978	8.357	4.139	12.496
1979	9.960	9.074	19.034
1980	14.459	12.703	27.162
1981	20.024	15.647	35.671
1982	28.616	15.018	43.634
1983	31.709	13.360	45.069
1984[b]	36.139	10.764	46.903
1985[b]	39.868	8.444	48.312
1986[b]	42.039	7.099	49.138

Source: Banco Central de la Républica Argentina in AA.VV., Inflation stabilization. The experience of Israel, Argentina, Brazil, Bolivia and Mexico, *Boston, 1988.*

Until 1978 the foreign public debt excluded terms shorter than 180 days.

For 1984 and 1985 and for January to September 1986 the stocks are estimates based on the debt flows involved in the balance of payments. Non-dollar denominated obligation are calculated at the exchange rates of December 31st, 1983.

Therefore, an appropriate incomes policy and adequate negotiations on the external front were of utmost priority. The first issue was tackled by setting the rate of adjustment of prices and wages in an attempt to engineer a gradual slowdown of inflation. Nevertheless, shortly after these measures had been implemented, an increase in foodstuff prices (particularly beef) triggered inflation above anticipated levels. The attempt to index salaries on a monthly basis to preserve their purchasing power (as promised by the government during its electoral campaign) pushed the inflationary rate to a new higher monthly level. The second issue was addressed through a negotiation strategy that sought new maturity agreements directly with creditor banks and the Paris Club rather than through the implementation of a new IMF standby agreement[1].

The project of the new government of Alfonsín included the stabilization of the Argentine economy and the creation of a new currency, the austral, the first currency in Argentina not to be called Peso. The introduction of the austral represented the origin of new loans and when the State became unable to pay interest on the debt, the confidence in the austral collapsed. Inflation, which had been maintained at monthly rates between 10 and 20%, became uncontrolled. In July 1989, Argentina's inflation reached a monthly rate of 200%, and a variation of 5.000% per year. It interested especially the middle class, plunging the country into shocking levels of relative poverty. During the presidency of Alfonsín, unemployment did not go up while real wages were halved and they reached their lowest level of the past 50 years. The popular uprisings of 1989 lead Alfonsín to resign five months before his mandate expired.

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[1] AA.VV., *Inflation stabilization. The experience of Israel, Argentina, Brazil, Bolivia and Mexico*, cit., pag. 119.

The new President Carlos Menem, a Peronist, adopted emergency economic measures. He began an economic austerity plan with several interventions of privatization of public companies, cuts in social spending, deregulation in different sectors and also focusing on the arrival of foreign capital. The aim of his policy was to privatize as much as possible in order to eliminate public spending and consequently to settle the foreign debt. He managed to bring inflation back to levels unimaginable a few years earlier but the reforms had also heavy social costs, leading to a sharp rise in unemployment and poverty and in the trade deficit and in 1990 the government shocked Argentines with the announcement that private savings accounts would be exchanged for government-issued ten-year bonds. The overall policy package caused a recession and it also led Argentina's hyperinflation to end[1].

Growth without industrialization[2]: Argentina from the Eighties to the Nineties

The belief that a country rich in natural resources (from the Pampas plains to mineral deposits) could grow relying only on the production of agricultural goods was the fundamental weakness of a model of economic development characterized by the volatility of commodity prices. Actually, from 1880 to 1983, Argentina had adopted three major models of development. The agro-exporter model (or granaderia), based on the export of meat and grain, that in a few decades had led the country into the international limelight, allowed the growth of the city-port and then of the commercial middle class. This model had started a modernization that was not linked to a process of industrialization alternative to land ownership, as had happened in Europe and the United States. The particular Argentine social stratification came from this model: the oligarchy of terratenientes, the professional and business urban middle class, the broad category of immigrants at the margins of the political system and, at the center, the army as the only national and technical body[3]. With the rise of colonel Perón, the Import substitution industrialization was consolidated, and it focused on the development of the internal market and industrialization mainly through the nationalization of companies and public services with foreign companies, as well as through redistributive measures aimed at transferring economic resources from the export sector to the industrial one. The following military dictatorship of General Videla (1976) was characterized, instead, by the adoption of a neoliberal economic model, proposed by Economy Minister Martínez de Hoz, which was based primarily on reducing the role of the state in the economy, the gradual opening up of the market and the elimination of public subsidies for internal consumption, as well as the liberalization of administrative controls on economic activities. Until 1978 there had been a recovery in production, especially of consumer durables and investment, but the attempt to reduce inflation with restrictive monetary policies had created an economic downturn, aggravated, in December of that year, by the decision to eliminate any customs protection, foretelling the currency devaluation and the liberalization of the capital market. The opening up of the internal market had exposed the Argentine enterprises to a strong international competitiveness, while internal growth in interest rates had generated high levels of debt. With the change of government of General Galtieri, in March

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[1] T. L. Edwards, *Argentina. A global studies handbook,* Santa Barbara, 2008, pag. 52.

[2] About this, Giorgio Alberti wrote about «original sin» of modern Argentina, namely a modernization without industrialization (G. Alberti, F.M. Castiglione, P. Munini (1985), *Politica Y ideologia en la industrializacion argentina,* in «Boletin Informativo Technit», n. 239, pp. 7-20).

[3] B. Kosacoff, *Corporate Strategies under structural adjustment in Argentina,* London, 2000, Macmillan Press, pag. 46.

1981, the State agreed to cover the debt of private companies, guaranteeing it with the international debt, returning to strict protectionist measures and to the nationalization of the economy, while inflation continued to grow[1]. The democratic elections of 1983 represented an event of extraordinary importance and the new president Alfonsín had to deal with the crisis of external debt and a fiscal crisis of the state, in the presence of an unprecedented hyperinflation. The economic policies undertaken in Argentina between 1983 and 1999 had to pursue, then, the twofold objective of fighting inflation and of implementing measures of fiscal and monetary policy that would allow the country to create a virtuous circle of economic development, enabling the reduction of the huge foreign debt and the revival of the entire economy. The two most important and significant stabilization programs implemented in this period were the Austral Plan (1985) and the Plan of convertibility (1991)[2], the latter developed by Economy Minister Domingo Felipe Cavallo. It was intended to get out of hyperinflation through the establishment of a currency board with the dollar, forcing the fixed parity 1 to 1 between peso and dollar. On the one hand, the Central Bank undertook to keep sufficient reserves and to protect the amount of circulating money. The monetary base should not have exceeded the reserves of the Central Bank, calculated at a rate of change of a peso for a dollar. The plan was that the monetary base could be increased only when the Central Bank had an adequate level of additional reserves and not when the public sector or the financial system required it. Stocks could be in the form of deposit or other debt instruments (Argentine government bonds or foreign governments bonds). On the other hand, the deficit could not be financed through loans from the Central Bank. The adopted convertibility regime functioned as a signal of stability for daily transactions and for the system of financial contracts, contributing to the stabilization of the financial market expectations[3].

90% of public enterprises identified for privatization in the period 1990-1998 were transferred to the private sector before the end of 1994. Among these were the National Company for oil exploitation (YPF), the national phone company (ENTEL), the Airline company Aerolinea Argentinas. As a result of these privatizations, the State cashed $ 11.3 billion, plus $ 14.8 billion taken away from their liabilities, leaving the foreign debt of the enterprise at the nominal value. At the same time, privatizations led to a reduction of public employees in state-owned enterprises from 347.240 units in 1989 to 66.731 in 1993, as a result of the redundancies [4].

At the end of 1992, privatization led to transfers of over $16 billion of asset value, only a small part of which consisting of actual revenue, because most of it resulted in transfer of debt of public enterprises to private. The total value of revenue came to 60 per cent for companies

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[1]F. Silvestri, *L'Argentina da Perón a Cavallo (1945-2003). Storia economica dell'Argentina dal dopoguerra a oggi*, cit., pp. 38 et seq.; cfr. G. O'Donnel, *El estrado burocratico autoritario*, Buenos Aires, 1982, Ed. Belgrano.

[2] Cf. P. Sylos Labini*, El Plan Austral y la politica argentina: algunas reflexiones*, Buenos Aires, Istituto Torcuato di Tella, Centro de Investigaciones Económicas; P. Bianchi, R. Sugden, J. R. Wilson, *The crisis in industrial structure in Argentina: lessons for development policy and practice,* 7th Annual EUNIP (European Network of Industrial Policy), September, 18-20, 2003, Porto, Portugal.

[3] M. Novaro, V. Palermo, *Politica y poder en el governo de Mennen*, Grupo editorial Norma Ensoyo. For more information about *currency board*, see also Hanke Steve H., Schule R K., *Currency board for developing countries*: A handbook, 2000.

[4] Cf. J.M. Ghio, S. Etchhemendy, *The policy of administrative reform in Menem's Argentina*, 1997, Universidad Torcuato di Tella.

and foreign banks and the remaining part from national economic groups. Foreign companies in the area of Argentina were also allowed to turn foreign debt into capitalization of the local firm for over $600 million[1]. Most of the invested capital came from the United States, Spain and Italy and focused more on the service sector than on that of productive enterprises [2].

In the meantime, the significant increase in liquidity in the system, due to massive inflows of foreign capital, and the stability provided by the convertibility plan favored the recovery of the intermediation function of the banking system. In particular small and medium-sized enterprises took advantage of it, while large companies relied on forms of financing, outside the domestic banking system, or on the capital market. The presence of foreign banks, characterized by larger dimensions than the national ones, and the Mexican crisis that broke out in 1994 led to a delicate and important process of restructuring of the whole banking system in Argentina, through the merger of provincial and local small banks, the substantial reduction of the public bank in the circuit of the banks on the national territory, the introduction of new prudential supervision rules that covered both the capital requirements and those relating to liquidity. From 1991 to 1999, the total number of banks operating in the country was reduced from 167 to 119[3].

Economic growth during the Menem second term (1995-1999) was different from that of the early nineties. The economic expansion of the beginning of the decade had been triggered mainly by the success of the Convertibility Plan and, above all, by the high level of foreign investment. However, between 1995 and 1998, the international context changed; the crisis that invested the entire global financial system (such as the Mexican crisis in late 1994, the financial instability in the Southeast Asia countries in 1997, the Russian crisis of 1998 and that of Brazil in 1999) slowed the inflow of foreign capital to Argentina; interest rates, both active and passive, began to grow. Therefore, the anchoring of the peso to the dollar went from an element of economic stability and growth into a narrow bond for the Argentine economy. Between 1991 and 1997, GDP had risen by an average of 5.5% per year, while inflation dropped from 170 to 1%. Likewise investment had increased, since the rate of fixed investment at constant prices had increased from 17.3% of the year 1982-90 to 25% in 1998, with an average of 21% in the period 1991-1998. However, among the following excellent results recorded by GDP and investments, other variables marked values contrasting the good economic recovery. The unemployment rate, for example, had more than doubled, rising from

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[1] B. Kosacoff, *El desafío de la competitividad. La industria argentina en trasformatcìon,* Buenos Aires, 1993, CEPAL/Alianza Editorial, pp. 260-269.

[2] Cfr. Economic Commission for Latin America and the Caribbean (Eclac), *Strategie per una migliore integrazione della politica globale*, Santiago, 1994. The foreign capital entering the country as a result of privatization was not all of «lawful nature» and often was not even reinvested in the system, so it did not turn into new productive investments, and was not held as deposits inside the national banking system. In fact, capital was directly transferred to bank accounts of foreign banks, thereby generating a continuous escape of capital and a climate of considerable corruption. Corruption and capital flight abroad were among the reasons that some observers have pointed out as the collapse of the Argentine economy in 2000 (A. Infranca, *Argentina, modello di neoliberismo*, in «Critica marxista», nuova serie, n. 3/4, may-august 2000; J. E. Stiglitz, *Etica, politica economica e paesi in via di sviluppo,* in L. Ornaghi, edited by, *Globalizzazione: nuove ricchezze e nuove povertà,* Milano, 2001, Vita e pensiero, pp. 123 et seq.).

[3] Banco Central de la Repubblica Argentina, *Bullettin of monetary and financial affaire*, publications from the first trimester 1997 vol III trimester 2003, data at 31st December of each year.

5.9% of the Eighties to 12,1% in the following ten years. In 1998, the unemployment value exceeded 15%[1]. The Nineties also marked the growth of the external debt level, which increased from 61 to 154 billion dollars in the period 1991-2000[2].

From the financial crisis to the defaults

The effects of the Mexican crisis, the so-called Tequila effect, were also felt in Argentina, causing a brief economic recession ending in the second trimester of 1996. In December 1994, Mexico was forced to devalue its currency against the US dollar, because of the intense pressure on the exchange rate, not thus succeeding in refinancing the massive level of external debt denominated in dollars (the so-called Tesobonos). The effect of the maneuver in Argentina was soon to be felt, especially because of the Argentine peso being overvalued against the dollar. In a few days the Argentine stock market lost 17% and the price of the bond fell by 12%. Between the end of 1994 and the first three months of 1995, deposits were reduced by 15% and banks were no longer able to grant new loans. The liquidity crisis caused a rise in interest rates, both active and passive, both in pesos and in dollars (loans in pesos increased from 7,46 to 8%, those in dollars from 13,98 to 20,11 %). The Central Bank defended the change, causing an outflow of about a quarter of reserves between December 1994 and March of the following year (the reserves went down from 17.938 to 13.303 million pesos). The deposits, instead, were reduced from 46.521 to 39.663 million pesos[3].

The real economy, because of the liquidity crisis and the increase in interest rates, entered a brief recession characterized by disinvestment, a fall in consumption and by the slowdown in economic activity, which had already ended by the second trimester of 1996, thanks to the restructuring of the banking system. The Monetary Authority of Argentina, in fact, succeeded in avoiding a financial crash, without leaving the fixed exchange rate regime. Through the actions taken, the compulsory reserves ratio on deposits in dollars and pesos was reduced in order to ease the pressure on banks; dollarization of deposits in pesos of commercial banks at the Central Bank was performed in order to restore confidence in the fixed parity between the peso and the dollar, thus reducing the incentive to devalue the monetary authority to reduce the real value of its debt; an emergency fund was established and it acquired a loans portfolio of banks in crisis; a deposit insurance fund was introduced. Furthermore in March 1995, the government obtained access to international credit for about $7 billion, including a line of credit of about $ 1 billion granted by the International Monetary Fund. The IMF was worried that a dangerous «domino effect» could be started in the global financial system. The entry of this foreign funding turned out vital to overcome the current crisis, because it represented for economic operators a strong signal of confidence in the good health of the Argentine economy. The Argentine financial system emerged strengthened from the Mexican crisis. In the period 1996-1997, the real economy grew overall by 13,6%, while the unemployment rate fell to 13,7% from 16,6% two years before[4].

The Asian crisis, which began with the devaluation of the Thai baht in July 1997, caused the increase of the yield spread of all emerging market stocks, dragging upward even the interest

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[1] www.mecon.gov.ar (Argentine Ministry of Economy); cf. G. Kaminsky, S. Lizondo, C. Reinhart, *Leading indicators of currency crisis*, International Monetary Fund Staff Papers, 1998, vol. 45, n. 1.

[2] *Il Sole 24 ore,* political, economic and financial daily newspaper founded in 1865*, December 27th 2001*.

[3] Banco Central de la Repubblica Argentina, *Bullettin of monetary and financial affaire*, cit.

[4] www.mecon.gov.ar (Argentine Ministry of Economy).

rates in Argentina. In Argentina, however, there was no rush to deposit money, but only a slight shift from deposits in peso to those in dollars. Therefore, the interest rates came back to a level which was slightly higher than the pre-crisis situation. Instead, the Russian crisis of 1998 and the Brazilian crisis one year later had devastating effects on the Argentine economy. For the first time since 1991, the value of Argentine exports was reduced by 12%, in particular in regard to wheat, fruits, oil and meat. While Brazil decided to undock its currency from the dollar and let it float freely[1], Argentina kept the fixed parity peso-dollar, causing a progressive loss of competitiveness of Argentine goods compared to those of its neighbor Brazil and a «substitution effect» with Brazilian products. The Brazilian crisis and the subsequent devaluation of 75% of the real accentuated the difficult economic situation in Argentina, causing a drastic reduction in GDP (-3.4%) in 1999[2]. The currency board, and then the anchoring to the American currency (always stronger in the currency markets), involved a continuous appreciation of the real exchange rate of the actual peso, which corresponded to a continuous loss of competitiveness. Of course the appreciation of the real effective exchange rate was determined also by the strong appreciation of the bilateral real exchange against the Brazilian real, which caused a very negative effect on the credibility of the currency board; in fact, Brazil was the main outlet market for Argentine exports (almost a quarter of exports). There was an unprecedented boom in imports and a sharp slowdown in exports of manufactured goods from Argentina. The expectation of a devaluation decided by the authorities of Buenos Aires caused further capital outflows, it pushed up interest rates and encouraged the further decline of bank deposits in pesos in favor of those in dollars. Between the second half of 1998 and the end of 2001 the share of households' bank deposits denominated in dollars went from 55 to 71%, continuing the process of dollarization of the Argentine financial system that had already been characterized by a strong increase of loans to enterprises denominated in dollars (from 41 to 58% of the total in only 5 years) in the early Nineties[3].

The slowdown in growth in the second half of the Nineties, the significant appreciation of the dollar and the devaluation of the Brazilian real made the peso overvaluation problem increasingly pressing. Given that the currency board regime imposed a fixed exchange rate between dollar and peso, the adjustment process operated through an internal deflation, however, turned out to be long and difficult because of price rigidity[4].

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[1] Both Mexico and Brazil had anchored their currencies to the dollar, giving them a too high value: four to one for the Mexican «peso» and two to one for the Brazilian real, which was introduced in 1994 to replace the old «cruzeiro» totally devalued. The exchange ratios were too high and could not be sustained for a long time (E. De Simone, *Storia economica dalla rivoluzione industriale alla rivoluzione informatica*, Milano 2014, Franco Angeli, pp. 319-320).

[2] Cf. M. Rapoport y collaboradores, *Historia econòmica, pòlitica y social de el Argentina* (1880-2000), 2000, Ediciones Macchi; F. Silvestri, *L'Argentina da Perón a Cavallo (1945-2003). Storia economica dell'Argentina dal dopoguerra a oggi*, cit., pp. 38 et seq.

[3] Banco Central de la Repubblica Argentina, *Bullettin of monetary and financial affaire*, cit.

[4] By the way, the adoption of the currency board did not prevent the spread among the rates on Argentine bonds (Brady Bonds) and the rate on Americans short-term deposits (Treasury Bond) was maintained at around 400 basis points, showing that the regime fixed exchange rate had a direct effect on the country risk. Both during the Mexican crisis and during the Brazilian one, in fact, the rate spread increased significantly, reflecting the fear that the contagion of these crises could put the Argentine economy in trouble. (BenassI L., Lossani M., Marullo Reedtz P., *Le crisi finanziarie internazionali: rischio*

Domestic demand could not take a leading role replacing the net foreign demand. Neither household consumption nor business investment could grow at a rate capable of overriding the penalizing outcomes on the aggregate income of the contraction of net foreign demand. In fact, the decline in wage bill, due to the rising unemployment, and the reduction of available income affected consumption. The investments were, instead, affected by the absence of serious prospectives of recovery: the investment rate, ie the ratio of gross fixed investment to GDP, fell from 18% to 16% between 1999 and 2001[1].

The new President Fernando De La Rua (1999-2001) received aids from the International Monetary Fund of more than $ 7 billion, to support a three-year economic program (2000-2003), in which he reaffirmed the basic principles of the convertibility plan, primarily keeping the dollarization of the national economy (98% of the debt was denominated in dollars, as well as 60% of bank deposits at the beginning of the millennium) but also recognizing the need for the country to regain credibility through enhanced fiscal restraint. In order to overcome the ongoing recession, the agenda of the program also included some structural reforms, including that of the labor market, with the aim of creating a more flexible economic environment and increasing the number of employees. The disagreements within the same government majority determined in October 2000 the resignation of the Republic Vice President, Carlos Alvares, as well as an overly restrictive fiscal policy, which involved the further reduction in aggregate demand, making the Argentinian situation unsustainable even for financial market participants and for foreign investors. The risk of abandoning equality became significant, despite the currency board, and interest rates kept rising because of the public deficit expansion. Argentina began to get into debt to pay the interest on the debt, triggering a dangerous spiral of indebtedness which led the ratio of external debt/GDP from 29% in 1994 to 53% in 2001[2].

The serious liquidity crisis of the government in the summer of 2001 had consequences on the availability of liquidity for the provinces. From August in various Argentine provinces new means of payment began to appear and, in many cases, the same provincial governments put these systems into circulation to pay salaries. The most famous were the patacones of the province of Buenos Aires, a yearly bond with a coupon of 7%, equivalent to the peso. From August 21 the patacones began to be distributed for payment of public wages higher than 740 pesos and, to facilitate their acceptance among people, the provincial government allowed their use for the payment of taxes. Other provinces, however, unable to find alternative methods to resolve the crisis, had to declare default. Formosa, one of the poorest provinces, 95% of whose revenue consisted of transfers from the federal government, on August 2 was one of them, forced to the declaration of insolvency on three bonds with a nominal value of

Paese ed effetti sule banche italiane, Associazione per lo sviluppo degli Studi di Banca e Borsa, Quaderno 194, pag. 30).

[1] F. Silvestri, *L'Argentina da Perón a Cavallo (1945-2003). Storia economica dell'Argentina dal dopoguerra a oggi*, cit., pp. 50 et seq.; cf. Pindea- Garcia S., *The Argentinian Crisis*, Los Andes University, Bogotà, 2002.

[2] «La metástasis financiera y especulativa de la deuda externa asciende a la suma global de 600.000 millones de dolares para America Latina y que para muchos de los países deudores los servicios de la deuda insumen más de la mitad de los saldos exportables. El pago de intereses ya ha superado con cresces lo que los países deudores recibieron en concepto de préstamos de capital» (M. D. Espenche Gil, Intervención, in P. Catalano, edited by, *Diritto alla vita e debito estero*, Napoli, 1997, Edizioni Scientifiche Italiane, p. 160).

just over one million dollars. The government, in order to avoid a possible domino effect, decided to advance the transfers and allowed repayment to investors, but the situation of Formosa was a clear sign of the deterioration of the national situation[1].

A temporary revival of confidence arrived on time, in August, through the new intervention of the IMF, with another loan of $ 8 billion, destined mainly to replenish international reserves of the Central Bank and, again in late August, the IMF paid over 1.2 billion dollars, from a previous credit line[2].

The attacks on the Twin Towers in the United States, on September 11th 2001, took the attention of the IMF and the international community away from the Argentine crisis, but, in fact, the crisis had become worse. The recession had resulted in depression. The rate of unemployment according to official statistics had increased to 18%, so that a serious social and institutional crisis was added to the economic and financial crisis. The explosive dynamics of the debt was interrupted in December 2001, when the Argentine government officially declared default, no longer able to face the interest payments. The official announcement came on Dec. 23rd 2001, heralded by a massive capital flight rather than by the rating agencies. The Argentine government declared a moratorium on the debt - $ 95 billion - by freezing interest payments and by suspending the repayment of maturing capital. The consequences were devastating. In Italy alone there were 450.000 savers in crisis owning the so-called tango-bonds amounting to 14.5 billion dollars [3].

Two days earlier, President De la Rua had resigned and was succeeded by the Peronist Adolfo Rodriguez Saà, replaced a week later by Eduardo Camano, President of the Chamber, who had assumed presidential powers ad interim until the election, in the early days of 2002, of the fifth president, the Peronist Eduardo Duhalde. In order to solve the problem of competitiveness, the currency board was abandoned in January 2002 and the peso was allowed to float freely. The sharp depreciation of the domestic currency determined, however, the collapse of the financial system, because of the pervasive dollarization of debts of the economy (in July 2001, the ratio of deposits in dollars and pesos had reached a value of 1.85, namely the dollar deposits were almost twice that of the deposits in pesos).

Argentina was going through one of the most acute phases of crisis in its history, with a deep recession, high unemployment and a banking sector with a high risk of failure. The peso came back to float on currency markets - after 10 years, on February 11th - recording a loss of about 15% against the US dollar, together with a sharp decline in the stock market (8.5%). Within a few weeks, however, the rate of depreciation became more consistent. In mid-March, the pesos exceeded the threshold of 3 units for a dollar. Simultaneously to the return of the pesos fluctuation a new plan for converting active and passive items of banks in pesos was introduced - due to different exchange rates - in order to curb social discontent. The dollar liabilities of banks (mainly represented by deposits) were converted into pesos at the exchange rate of 1,4 to 1 and then indexed to inflation. The dollar assets (loans granted in

[1] M. Tommasi, S. Saiegh, P. Sanguinetti, *Fiscal federalism in Argentina. Policies, politics and institutional reform,* in «Economia: Journal of the Latin American and Caribbean Economic Association», vol. 1, n. 2, 2001, Spring, pp. 157-211.

[2] V. Tanzi, M. Blejer, *Fiscal policy with high inflation and high debt*, in *Anales de la Asociación Argentina de Economìa Politica*, 1985, pp. 1423-1452; cf. V. Tanzi, *L'approccio del Fondo monetario internazionale alla riforma fiscale,* in «Quaderni di economia e finanza», I, n. 1, 1999.

[3] P. Zucca, *Argentina, dolori da concambio*, in «Il Sole 24 ore», November 1st 2008.

currency) were instead converted into domestic currency at the old convertibility rate of 1 to 1. The «pesification» was a measure that favored those who were indebted in dollars in Argentina and had subsequently transferred the funds abroad, but it strongly penalized banks, which already faced a large loss due to the lower value of the Argentine public debt bonds held in their portfolio, helping to increase the probability that the currency crisis would be accompanied by a true banking crisis[1].

With the election of President Néstor Kirchner, in 2003, the country was able to restructure the debt in default[2], although strong doubts about the stability of the national economy remained and were confirmed in the second default of 2014.

Thinking that the problems of Argentina were only due to the exchange rate or to the instability of international financial markets, according to some economists, is at least superficial. The blame for the failure of the country should fall only on the Argentine ruling class, its historic inability to produce a «social contract» that would ensure institutional stability and prudent and forward-looking economic policies. According to others, however, it was the strong defense of the convertibility plan by the government that has perpetuated the overvaluation of the real exchange rate and that prompted the Argentine economy into a deep recession. Finally, some economists have also blamed the IMF for supporting the economic policy of Argentina, by hoping that the crisis was only temporary and only by deciding in late 2001 to suspend the credit line and thus leading the country to a political and monetary regime change. The best time to quit the currency board would probably have been the period immediately following the devaluation of the Real. Argentina, in fact, had come out well from the Asian crisis and the Russian default, but some signs indicated that the stabilization program was running out of its positive effects. It was also the eve of the restrictive monetary policy of the Federal Reserve, so that the Argentine government could have taken the opportunity to untie from the dollar. Unfortunately, in 1999, Argentina was in the middle of an electoral campaign and Peronists could not afford any drastic maneuver. The international community was so prepared for the collapse that it did not have contagious effects on the financial markets, although it was the biggest default in history. Afterwards, Argentina could have officially renounced to the peso and only used the dollar as a means of payment, but it would have meant the country's entry into a monetary union with the United States: monetary

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[1] Ministry of Economy of the Republic of Argentina, *Informe Economico. 41, 2002,* cit. in D. A,. Lamanna Di Salvo, *Il mercato finanziario argentino: un'analisi macroeconomica della crisi finanziaria del 2002,* in «Rivista della Scuola superiore dell'economia e delle finanze», year VII, n. 2, april-september 2010.

[2] «State into bankruptcy but interventionist. Economic growth driven by exports and then by the weak peso. Increased public spending with revival of investment in infrastructure. Less emphasis on capital flows from abroad, on the relations with the international community and therefore also on the restructuring of foreign debt. The setting of the government program of the new Argentine President Néstor Kirchner looks like a long list of bad news for the 400,000 and more Italian investors waiting to renegotiate 14 billion euro of Bond. There is a willingness to repay debts, but also a lack of ability. It is not merely a matter of numbers. A political effort on an international scale is needed and without it Argentina will hardly get out of the tunnel alone» (I. Bufacchi, *Bond argentini, stallo su Kirchner*, in «Il sole 24 ore», 31 may 2003). In January 2003, the relations between the IMF and Argentina had been restarted, and in 2005 the country restructured its debt, causing a more than 70 percent net loss to its creditors. In Italy, there were almost 200,000 savers who did not accept the exchange with shares of different remuneration and currency. In 2006, Buenos Aires repaid $ 9.5 billion to the Fund (P. Zucca, *Argentina, dolori da concambio*, cit.).

policy would have been left to the Federal Reserve, meaning that any increase of money in circulation in the United States, would have had similar effects in Argentina through capital flows. According to some economists, the best choice would have been a flexible exchange rate regime, ensuring price stability through a strategy of inflation targeting and the choice of a credible, independent and conservative central banker.[1]

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[1] Cfr. N. Roubini, *Should Argentina Dollarize or float?* New York University, 2001, Stern School of Business, P. Krugman, *Notes on depreciation, the yen and the argentino*, in «Central Banking Journal», vol, XII, n. 3; Shuler Kurt, Hanke Steve, *How to dollarize in Argentina now*, Cato Institute, 2001.

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A Study of the Iranian Economic Growth by Using the Balance of Payments Constrained Growth Model

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Abstract

This study is conducted aimed at investigating the Iranian economic growth based on the balance of payments constrained growth (BPCG) model. In contrast to the view of classical models that consider the economic growth to be related to supply-side in the economy, this model holds that the economic growth is dependent on demand-side in the economy, stating that the demand growth is inhibited by balance of payments deficit, and thus, it constrains achieving a higher economic growth rate. To investigate the model mentioned, the data on Iran's non-oil export growth and non-oil GDP growth over the period 1980–2017 are analyzed using the Granger causality test and Auto Regressive Distributed Lag (ARDL) method. Results indicated that there was a long-run relationship between the non-oil economic growth and the non-oil export growth, and that the economic growth increased by 0.54% with a 1% increase in the non-oil exports. So, based on the above model, the need to pay attention to the non-oil exports to achieve a sustainable economic growth is confirmed.

Keywords: Balance of Payments Constrained Growth Model, Economic Growth, Thirlwall's Law.

JEL Classification: *O11; O41; C22.*

1. Introduction

In contrast to neoclassical approaches, which consider the supply of factors of production and technical progress among the main growth factors, Keynesian economics focuses on the aggregate demand in the process of economic growth. The Post-Keynesian growth model considers the use of factors of production as the result of production, and states that demand is the main determinant of economic growth. In this regard, Thirlwall (1979), by developing a model, suggested that the demand growth is inhibited by balance of payments deficit, and thus, it constrains achieving a higher economic growth rate. According to this model, known as the Thirlwall's law and the "balance of payments constrained growth (BPCG) model", if long-run balance of payments equilibrium on current account is a requirement, and the real exchange rate stays relatively constant, then the long-run growth of a country can be approximated by the ratio of the growth of exports to the income elasticity of demand for imports. In this model, the economic growth is sustainable only if the growing demand for imports is financed by export earnings. So the economic growth is constrained to the balance of payments.

Given the dependence of the Iranian economy on trade, numerous studies have focused on the impact of trade, especially exports on economic growth, on the basis of supply-side factors and

classical economic growth patterns, but no macroeconomic approach and demand-side economic research has been conducted. This paper is to investigate the economic growth of Iran from the demand side of the economy and to determine the effect of exports on economic growth based on the pattern of growth constrained by the balance of payments over the period 1980–2017. Understanding the extent of economic growth constraints by balancing payments provides an appropriate solution for economic planners and policymakers to achieve higher economic growth based on the demand-side components of the economy.

The remainder of this paper is organized as follows. Section 2 conceptualizes the theoretical foundations and hypotheses that support the study. Section 3 presents the literature review with an overview about different definitions and approaches for the subject matter. Section 4 discusses the model estimation and results, and finally, Section 5 concludes the paper, and gives some policy recommendations.

2. Theoretical Foundations

The BPCG model developed by Thirlwall (1979) is based on the Keynesian economics that emphasizes the role and importance of aggregate demand in the process of economic growth. In this model, exports are intended as one of the components of aggregate demand, and the income elasticity of demand for imports has an impact on the economic growth. In this way, the increase in the elasticity referred to reduces the effect of the increase in export coefficient. Therefore, assuming the export growth rate and the income elasticity of demand for imports, GDP growth is in consistent with the current balance of payments in the long-run. This model differs from supply-side growth models that consider the economic growth to be related to inputs such as savings, physical and human capital, population growth, and per capita GDP.

Thirlwall revived Harrod's balance of payments constrained model. The initial assessment of the model is based on dynamic Harrod foreign trade multiplier that determines the long-run economic growth. The basic model consists of three equations as follows:

$$X_t = \eta(p_{ft} + e_t - p_{dt}) + \varepsilon Z_t \ (1)$$

Equation 1 is an export demand function, where:

X_t: Growth rate of real exports

e_t: Nominal exchange rate

Z_t: Global real income growth rate

η: Price elasticity of demand for export

p_{ft}: Growth rate of import prices

p_{dt}: Growth rate of domestic prices

$(p_{ft} + e_t - p_{dt})$: Real relative price change rate (term of trade)

ε: Global income elasticity of demand for export

$$m_t = \psi(p_{dt} - p_{ft} - e_t) + \pi Y_t \ (2)$$

Equation 2 is an import demand function, where:

m_t : Real import growth rate

ψ : Price elasticity of demand for import

p_{ft} : Rate of growth of import prices

Y_t : Growth rate of real domestic income

π : Income elasticity of demand for import

p_{dt} : Growth rate of domestic prices

$$p_{dt} + X_t = p_{ft} + m_t + e_t \ (3)$$

Equation 3 indicates the balance of payments equilibrium condition. In addition, assuming the relative prices remain stationary in the long-run, i.e. $(p_{ft} + e_t - p_{dt}) = 0$, the role of prices in international competitiveness of the market is minimized. Given the above, and inserting Equations 1 and 2 into Equation 3, Equation 4 below is obtained:

$$Y_t = \frac{\varepsilon Z_t}{\pi} \Rightarrow Y_t = (\frac{1}{\pi})X_t \ (4)$$

In Equation 4, Y_t indicates the long-run real economic growth rate, which is directly related to the growth rate of real exports (X_t), and is inversely related to the income elasticity of demand for imports (π).

Equation 4 is known as dynamic Harrod foreign trade multiplier, which is the basis for estimating the empirical work. Thus by increasing exports, the aggregate demand would also increase, which would lead to the increased domestic production and employment.

3. Literature Review

The empirical validity of the Thirlwall's model has been tested in different countries over the last three decades, and it has been confirmed in most studies. The methods used for the estimation of this model can be classified into four groups: cross-sectional method, traditional time series method, new time series method (cointegration), and Kalman Filter forecasting method (KFFM). Among the first group, the study by Bairam (1988) on 18 European and North American countries and the study by Bairam and Dempster (1991) on 11 Asian countries can be mentioned. Among the second group are the study by Thirlwall and Hussain (1982) on 20 developing countries, the study by Atesoglu (1994) on the United States, the study by Leon-Ledesma (1999) on Spain, and the study by Elitok and Campbell (2008) on Turkey, in which the ordinary least squares (OLS) and two-stage least squares (TSLS) methods were used to investigate the law referred to. Regarding the third group, namely the different ways of applying cointegration that began in the 1990s, the study by Bairam (1993) on five European

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

countries, the study by Moreno-Brid (1999) on Mexico, the study by Joen (2009) on China, and the study by Gouvea and Lima (2010) on Latin American and South Asian countries can be noted. Concerning the fourth group, the use of the Kalman-Filter forecasting method, Alejandro and Fernandez (2008) on Cuba can be mentioned.

Using the Thirlwall's original balance of payments constrained growth (BPCG) model, Moreno-Brid and Caldenty (1999) analyzed Mexico's economic growth over the period 1950-1996. The long-run relationship between Mexico's real export growth and the real production in the above-mentioned period and the selected sub-periods was estimated using cointegration analysis. Results indicated that there is a positive significant cointegration between the two variables, and the BPCG model explains Mexico's long-run economic growth.

Razmi (2005) studied the Thirlwall's model in India by using the Johansen cointegration testing over the period 1950–1999. They predicted the average growth rates with various forms of the BPCG model hypothesis, and found that their values were close to the average real growth rate in the period, although they showed a significant deviation in some decades.

Elitok and Campbell (2008) studied the impact of the balance of the payments constraint on Turkey's long-run economic growth by using OLS method over the period 1960–2004. Findings verified the existence of the BPCG model in the period under study in Turkey.

Khasawaneh et al. (2012) studied the validity of the BPCG model for 16 Middle East and North African countries by using the cointegration technique. They tested the long-run relationship between the real economy growth rates and the real non-oil export rates with different starting points from 1950 and 1990 to 2010 for the countries under study. They stated that there was a long-run relationship between the real exports and the real economic growth in these countries (except Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates, which are oil producers, and their economic growth rates are obtained through other factors such as capital inflows). In addition, the empirical results divided the countries into two groups based on the difference between the real economic growth rate and the projected balance of payments constrained growth rate. In Saudi Arabia, Syria, Tunisia, and the United Arab Emirates, real economic growth rate was higher than the projected balance of payments constrained growth rate, which meant a high income elasticity of demand for imports. The equilibrium exchange rate in Tunisia and Syria had an unexpected negative sign. Furthermore, in Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, and Yemen, the real economic growth rate was lower than the projected balance of payments constrained growth rate. This negative difference could mean a slower growth rate of capital inflows than the export growth rates and the relative price effect. The results of this study confirmed the BPCG model.

Begnay et al. (2013) investigated the long-run relationship between the economic growth and current account equilibrium based on the BPCG model in Vietnam over the period 1985–2010. Results showed that Vietnam's economic growth was lower than the projected growth rates, and the neutral relative price effect made the value effects play a dominant role in determining the balance of payments constraint.

Kavand (2017) studied the BPCG model in Iran over the period 1978–2014. Using the ARDL method, he estimated the long-run income elasticity of demand for import. Then, he calculated the balance of payments constrained average growth rate, the average real growth rates, the average growth rates of real non-oil exports, and the average growth rates of real oil exports

over the ten-year periods that overlap. Results suggested that if the period was divided into two parts, in the first period, the average balance of payments constrained growth rates would be higher than the average real growth rates, which could be due to the higher average growth rates of the non-oil exports than the average growth rates of the real oil exports. In the second period, the average balance of payments constrained growth rates and the average real growth rates declined and became negative in some decades, which could be due to the lower average growth rates of the non-oil exports than the average growth rates of the real oil exports.

Capote Lellis et al. (2017) investigated the export and import demand functions in Brazil over the period 1995–2013, by using vector error correction model (VECM) and structural space-place model. Results indicated that the balance of payments was a constraint to economic growth in Brazil.

Igbinuba (2017) estimated Nigeria's economic growth components within the framework of the growth model by Thirlwall and Hussain (1982). For this purpose, the Johansen cointegration test on time series data was used to estimate the long-run relationship between GDP and the real exports. According to the results, the Thirlwall's balance of payments constrained growth (BPCG) model was an appropriate structure to explain long-run growth in Nigeria.

Conteras Aloras (2017) analyzed the economic growth in Mexico over the period 1993–2016, by using the BPCG model, the vector autocorrelation (VAR) method, and the cointegration test. Results indicated that there was a positive long-run relationship between exports and economic growth in Mexico.

Ehsani and Taheri Bazkhaneh (2018) first studied the long–run cointegration relationship of import and export demand functions in Iran during the period of 1984–2013, by using ARDL model. Then, regarding the importance of the elasticities of above functions on the results of the study and for considering the structural instability of the model coefficients, time–varying parameter (TVP), and Kalman–filter were used to estimate the elasticities. Finally, the validity of Thirlwall's law was not confirmed by applying Wald Test.

Fasania and Olayemi (2018) studied the balance of payments constrained growth in Nigeria and the application of the Thirlwall's hypothesis from 1980 to 2012 by using the autocorrelation distributed lag (ARDL) method. The above test indicated that there was a long-run relationship between the variables. The empirical findings indicated that imports were added to relative prices and incomes, and that the equilibrium growth rates were equal to the real growth rates. So, according to Thirlwall's law, the real growth rate was equal to the growth rate predicted by the current account balance.

4. Model Estimation

According to the model presented in Equation 4 described in Section 3 and Moreno–Brid (1999), Equation 5 is defined to estimate the Iranian economic growth based on the BPCG model:

$GGDPNO_t = a_0 + aGEXNOt + u_t$ (5)

Where:

$GGDPNO_t$: Non-oil GDP growth

GEXNO$_t$: Non-oil export growth

a=1/π: Reverse the income elasticity of demand for imports

The statistical data is of the base year 2004. To estimate Equation 5, the autoregressive distributed lag (ARDL) method is used with the help of Eviwes. Cointegration test is applied by using the ARDL bound testing approach to as proposed by Pesaran et al. (2001). Compared to other time series methods (i.e., Engel-Granger, 1987; Johansen and Julius, 1990; Philip and Hansen, 1990), this method is more efficient in small samples, where the number of explanatory variables is low. Banerjee and Inder (1993) suggested that the estimation bias in small samples may be significant.

Also the unrestricted ECM in ARDL bound test seems to take satisfactory lags that captures the data generating process in a general–to–specific framework of specification (Laurenceson and Chia, 2003). Traditional cointegration method may also suffer from the problems of endogeneity, while the ARDL method can distinguish between dependent and explanatory variables. Thus, estimates obtained from the ARDL method of cointegration analysis are unbiased and efficient, for they avoid the problems that may arise in the presence of serial correlation and endogeneity.

Cointegrarion analysis based on ARDL bound testing implies that unit root testing is not necessary. But ARDL approach becomes nonsignificant in the face of I(2) variables, and we should make sure that none of the cointegrated variables are order two, I(2). Therefore, there is need to test for presence of unit root (non stationary). The unit root test of variables was evaluated by using the augmented Dickey-Fuller (ADF). Results are presented in Table 1.

Table 1: Unit Root Test of Variables

Variable	ADF test statistic	Prob	Result
GEXNO	-9.631027	0.0000	stationarity
GGDPNO	-4.317019	0.0017	stationarity

Source: Research findings

As shown in Table 1, according to the ADF, the two variables of the non-oil export growth and the non-oil GDP are stationarity at level, and there is no unit root problem in the above time series.

At the next stage, the Granger causality test was applied to determine the direction of the relationship between the two variables of export growth and GDP growth. As can be seen in the first row of Table 2, at a confidence level of 98%, the non-oil export growth led to the non-oil GDP growth. However, the opposite was not confirmed, and the non-oil GDP growth was not a cause for non-oil export growth. Therefore, Equation 5, in which non-oil GDP growth was referred to as a dependent variable, was used to study the economic growth.

Table 2: Granger Causality Test

Null Hypothesis	F-Statistic	Prob	Result
GEXNO does not Granger Cause GGDPNO	5.92854	0.0207	Reject the null hypthesis
GGDPNO does not	0.00528	0.9425	Accept the null hypothesis

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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Granger Cause GEXNO			

Source: Research findings

At this stage, the study model is estimated by using the ARDL method. In this method, three criteria including Akaike information criterion (AIC), Schwarz's Bayesian criterion (SBC), and Hannan-Quinn criterion (HQC) are used to determine the optimal lags. In samples with a size less than 100, the SBC is used, which provides less lags than the other two ones, and loses less degrees of freedom. In this study, this criterion is also used to determine the optimal lags.

Results of the estimation of the short-run model are given in Table 3. In addition to the variables of Equation 5, the Dummy variable (DUM) of war, which is related to the years 1980–2017, is also included in the model.

Table 3: Estimation of Dynamic Short-Run Patterns with Autoregressive Distributed Lag

Variable	Coefficient	Std. Error	T-statistic	Prob
GGDPNO(-1)	-0.33	0.108	-3.06	0.00
GEXNO	-0.07	0.153	-0.44	0.67
GEXNO(-1)	0.78	0.153	5.11	0.00
DUM	-0.22	0.108	-2.02	0.05
C	0.12	0.079	1.51	0.14

Source: Research findings

As can be seen in Table 3, the non-oil export growth with one lag has a positive significant effect on the non-oil GDP growth, and 1% growth in the non-oil export lead to a 0.8% increase in the non-oil economic growth. Also as expected, the war had a negative significant effect on the economic growth.

Diagnostic tests are used to investigate the absence of autocorrelation and heteroscedasticity, the results of which are presented in Table 4. It can be seen in Table 4 that using the LM test, the probability obtained for the relevant coefficient is more than 0.05, and there is no autocorrelation. Additionally, since the probability obtained using the ARCH test is more than 0.05, it is concluded that there is no heteroscedasticity in the residuals.

Table 4: Residual Tests

Test statistics	LM Version	F Version
Autocorrelation	CHSQ=4.182831 Prob.0.1235	F(2,29)=1.906237 Prob.(0.1668)
Heteroscedasticity	CHSQ(1)=10.24588 Prob.(0.0686)	F(2,29)=2.468396 Prob.(0.0599)

Source: Research findings

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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F-bounds test is used to determine the long-run equilibrium relationship. In Table 5, the F-statistic value is 68.88. Since this value is above the upper and lower bound critical values in the test, the null hypothesis, the lack of long-rum relationship, is rejected, and there is a long-run equilibrium relationship at a confidence level of 99%.

Table 5: ARDL Bounds Test

F-statistic	Lower Bound (1%)	Upper Bound (1%)
68.87795	5.763	6.48

Source: Research findings

The long-run coefficients are presented in Table 6. The model error correction coefficient is presented in the last row is -1.3, which is statistically significant. Since the coefficient value is between -1 and -2, it could be seen that the gap between the short- and long-run models is sinusoidally eliminated. That is in each period, 1.3% of the gap is eliminated, and the short-run model is cointegrated to the long-run model.

Table 6: ARDL Long-Run Form and Error Correction Coefficient

Variable	Coefficient	Std. Error	T-statistic	Prob.
C	0.089968	0.059286	1.517535	0.1393
GEXNO	0.536527	0.216466	2.478569	0.0188
CointEq(-1)*	-1.330171	0.089687	-14.83122	0.0000

Source: Research findings

The long-run equilibrium relationship is as follows:

GGDPNO = 0.09 + 0.54*GEXNO (6)

Based on Equation 6, the non-oil export growth coefficient is 0.54. It indicates that the economic growth increase by 0.54%, with a 1% increase in the non-oil export growth. This coefficient is lower by studies based on classical economic growth models, which is about 0.2 (Shoraka and Safari, 1998). In other words, according to the present study, the large income elasticity of demand in the country do not reduce the impact of exports on the economic growth, and do not restrict it.

The cumulative sum of recursive residuals (CUSUM) test is used to investigate the stationarity of the parameters and the model variance (Brown et al., 1975).

As shown in Figure 1, the hypothesis of parameter stationarity is rejected at a confidence level of 95% as the path of recursive residuals do not fall out of the range of the two lines. So the long-run permanent stationarity is acceptable for the model parameters studied, and no structural failure is observed in the model.
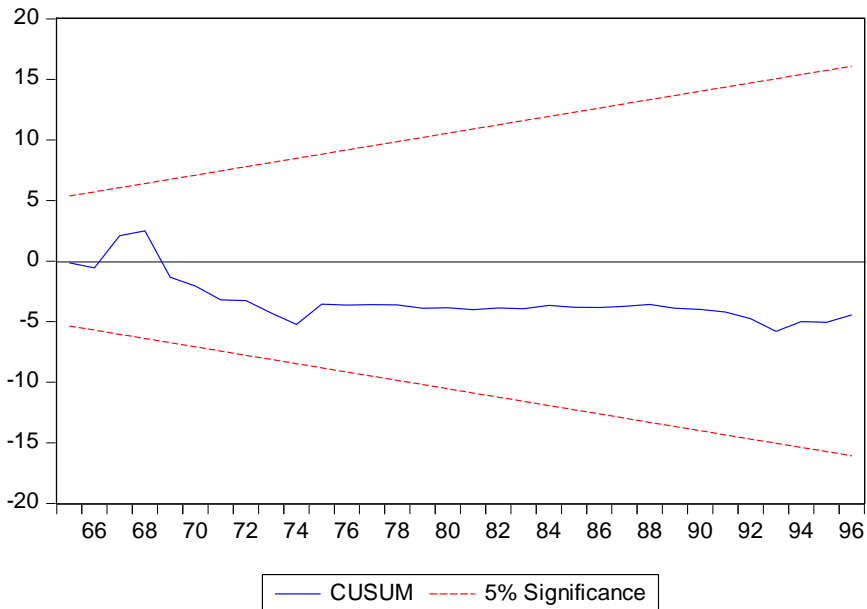
Fig. 1: Cumulative Sum of Recursive Residuals (CUSUM) Test

5. Conclusion and Recommendations

In order to study the Iranian economic growth based on the BPCG model, the relationship between the non-oil export growth and the non-oil GDP growth was first investigated by applying Granger causality test, and it was found that there was a unilateral relationship from the non-oil export growth to the economic growth. Then, using the autoregressive distributed lag (ARDL) method, a long-run relationship between the two variables over the period 1980–2017 is confirmed. According to the above relationship, the non-oil export growth coefficient is 0.54, indicating that economic growth increase by 0.54% with a 1% increase in the non-oil export growth.

It is also observed that the gap between the short- and long-run models was sinusoidally eliminated. In each period, 1.3% of the gap is eliminated and the short-run model cointegrated to the long-run model. So, the BPCG model explains the long-run economic growth of Iran. This may be because the Iranian economy relies heavily on foreign trade. A Sustainable growth can be achieved by creating competitive exports through the macroeconomic stability and reducing the problems of external sector, among other factors affecting growth.

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European Central Bank Efforts for Covid-19 Referring to the Previous Crises

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Abstract

Considering the reaction of Italian Government directed to European Central Bank, I intend to search if the ECB have the same reactions for the Covid-19 crises as the bank had for the previous crises of 2008-2010 financial crises and the Eurozone debt crises. The paper covers the factors of the crises by analyzing the causes and the results of each crises very briefly and mainly making a comparison for the respecting responses that the bank had for each of them. It is noticed that the efforts or the responses are not the same, and in fact as the profiles of the crises are different it is hard to find same responses but the conclusion I could find is that responses are equivalent to each other for the three analyzed crises. The only difference is the time applied of its policies (and the dimension of time in quasi –fiscal policy applied is crucial) and the details for the APP (Asset Purchasing Program) which are not already published and the rate on interests. Of course by this conclusions I find it somehow very objective the Italian government reactions to the European Central Bank and the European Union identified as Union with the core value of "solidarity". Of course the research need further studies to conclude if the responses of ECB itself are coherent with the macroeconomic situation of the whole world and if there is any connection between the policies taken by ECB.

Keywords: ECB, COVID-19 crises, APP, Bank policies, Quasi-Fiscal Policy

Introduction

Considering the breakdown of the covid-19, where many countries dealt with a real challenge not only psychologically but most of all economically. Business closed and people remaining without a job was kind of shock for the society. Of course different countries had different responses during pandemic time, some nations had to deal in a more savage way that the others. One of them of course was Italy, with e record number (in percentage) of people infected and dead during March-April 2020.

Mrs. Lagarde with her first press conference broke the hope on millions of Italians that were dealing with the psychological war with the idea of "the Governing Council decided to keep the **key ECB interest rates** unchanged" (Christine Lagarde, 12 March 2020). Of course maybe just from the banking system perspective it did not meant any mistake, but politically and considering the solidarization values that accompanied the EU from its beginning it was kind of "breaking the rule". Any nation within EU knows that EU came out because of two main

concepts: by solidarization of all nations' surpluses and deficits and because of the Marshall plan.

Of course many researches, policy makers, professors at time during pandemic were kind emotionally involved. From this point of view I made this modest research to see if the ECB had the same approach as the previous crises as to this crises too?

I will be describing the main factors of the 2008-2010 crises, Eurozone debt crises and Covid-19 crises. On the other hand I will describe and list of the main responses that the European Central Bank had for each of them, and at the end to find out if the CBE did not had the same approach for all this last crises.

Literature Review

2008-2009 Financial crises, causes and results

As we all know already in 2006, housing prices started to fall for the first time in decades. At first, realtors applauded. They thought the overheated real estate market would return to a more sustainable level. They didn't realize there were too many homeowners with questionable credit. In addition, banks had approved loans for 100% or more of the home's value.

The 2008-2009 financial crisis was the worst economic disaster since the Great Depression of 1929. It occurred despite the efforts of the Federal Reserve and U.S. Department of the Treasury. The crisis led to the Great Recession, where housing prices dropped more than the price plunge during the Great Depression. Two years after the recession ended, unemployment was still above 9%. That does not count those discouraged workers who had given up looking for a job. (Albulescu, C., & Goyeau, D., 2013).

Deregulation of financial derivatives was a key underlying cause of the financial crisis. The financial crisis was primarily caused by deregulation in the financial industry. That permitted banks to engage in hedge fund trading with derivatives. Banks[1] then demanded more mortgages to support the profitable sale of these derivatives. They created interest-only loans that became affordable to subprime borrowers. (Trichet, 2010).

One other area involved in this crises were securitization. First, hedge funds and others sold mortgage-backed securities, collateralized debt obligations, and other derivatives. A mortgage-backed security[2] is a financial product whose price is based on the value of the mortgages that are used for collateral. Once you get a mortgage from a bank, it sells it to a hedge fund on the secondary market. The hedge fund then bundles your mortgage with a lot of other similar mortgages. They used computer models to figure out what the bundle is worth based on several factors. These included the monthly payments, the total amount owed, the likelihood you will repay, and future home prices. The hedge fund then sells the mortgage-backed security to investors. Since the bank sold your mortgage, it can make new loans with

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[1] Note: Only big banks had the resources to become sophisticated at the use of these complicated derivatives. The banks with the most complicated financial products made the most money. That enabled them to buy out smaller, safer banks. By 2008, many of these major banks became too big to fail.

[2] Note: Banks offered subprime mortgages because they made so much money from the derivatives, rather than the loans themselves.

the money it received. It may still collect your payments, but it sends them along to the hedge fund, who sends it to their investors. Of course, everyone takes a cut along the way, which is one reason they were so popular. It was basically risk-free for the bank and the hedge fund.

The investors took all the risk of default, but they didn't worry about the risk because they had insurance, called credit default swaps. These were sold by solid insurance companies like the American International Group. Thanks to this insurance, investors snapped up the derivatives. In time, everyone owned them, including pension funds, large banks, hedge funds, and even individual investors. Some of the biggest owners were Bear Stearns, Citibank, and Lehman Brothers.

A derivative backed by the combination of both real estate and insurance was very profitable. As the demand for these derivatives grew, so did the banks' demand for more and more mortgages to back the securities. To meet this demand, banks and mortgage brokers offered home loans to just about anyone. (Albulescu, C., & Goyeau, D., 2013).

In 2005, homebuilders finally caught up with demand. When supply outpaced demand, housing prices started to fall. New home prices fell 22% from their peak of $262,600 in March 2007 to $204,200 in October 2010. Falling home prices meant mortgage-holders could not sell their homes for enough to cover their outstanding loan. The Fed's rate increase couldn't have come at a worse time for these new homeowners. They couldn't afford the rising mortgage payments. The housing market bubble turned to a bust. That created the banking crisis in 2007, which spread to Wall Street in 2008. (Trichet, 2010)
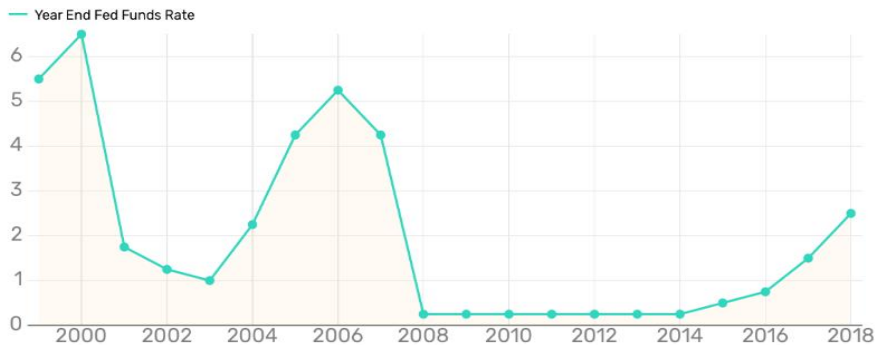
Source: Federal Reserve Report

European sovereign debt crisis

The origin and propagation of the European sovereign debt crisis can not only be attributed to the increasing fiscal deficits and rising public debt through the global crisis, but also due to some other macroeconomic and structural factors. As stated by Wolf (M., 2012), in its origin the Eurozone crisis is not a fiscal crisis, although fiscal deficits and massive debt stocks caused the sovereign debt crisis in the Eurozone. Prior to the outbreak of the global financial crisis, the debt stocks of the crisis countries were actually quite low, with the exception of Greece and Italy. Liquidity provisions and the nationalization of private banks during the period 2007-2009 resulted in an increasing debt burden in these countries. There are some other preexisting conditions that lead to the outbreak of European sovereign debt crisis.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
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First, as affirmed by many economists, the Economic and Monetary Union (EMU) is a monetary union without a fiscal union. Nonetheless, this design, permitting the free riding of fiscal policies within a framework of common monetary policy, led to differences in inflation rates within the Eurozone member countries. Even before the euro (the single currency adopted by 17 of the European Union member states), individual countries had unique monetary policies.

The Northern countries generally sought low inflation, while the Southern countries, in contrast, at times used inflation to pay off debt and/or to devalue the external cost of their exports to jumpstart the economy after sluggish periods. In the publication from Harvard University "The European Financial Crisis, Analysis and a Novel Intervention", it is clearly stated that uniting the region under a common monetary policy under the ECB and focusing on keeping inflation low rather than unifying the nations under a common economic and fiscal policy fueled unstable trade balances.

In an effort to spur economic growth, low interest rates set by the ECB were used to finance debt to pay for vacations, homes, cars, and other "stimulus" purchases. This debt was largely an investment vehicle for wealthy countries in the north, with a large amount of spending being done by the smaller economies in the south. Inflation differences in turn led to a decrease in the trade competitiveness of high-inflation countries, i.e., Greece, Spain. As the option of improving the competitiveness of the economy through exchange rate depreciation was not available, because of the common currency, trade deficits rose steadily in the Southern peripheral countries. (Ari, 2014)

Moreover, the continuing structural differences between member countries impacted on the effectiveness of the common monetary policy implemented by the European Central Bank (ECB), which, over time, created macroeconomic imbalances within the Union. The main structural differences between member states were reflected in aggregate productivity and price and wage competitiveness, which in turn directly affected external balances (Darvas, 2020).

Furthermore, with the transition to monetary union, capital inflows increased towards peripheral countries. Easy access to low-interest rates led to a systemic focus on short-term boosts to GDP through spending, rather than long-term investments that would materially improve economic competitiveness, causing external deficits and an increase in private debt stock. This occurred in many European countries but has had the most disastrous effects on those that entered the crisis with less competitive economies to begin with. In the post-colonial globalized economy, Northern European economies are generally based in specialized manufacturing, finance, product design, and other capital-based and knowledge-based activities, which make them less vulnerable to economic downturns. Southern European economies, on the other hand, are generally based more on agriculture, low-skilled manufacturing, and tourism, a group of industries less capable of withstanding an economic crisis.

One may also affirm that while the Maastricht criteria and the Stability and Growth Pact (SGP) had put in place some strict fiscal rules to be respected. First, the Stability and Growth Pact set limits on the size of annual budget deficits at 3 percent of GDP and the stock of public debt of 60 percent of GDP. Second, the rules included a "no bailout" clause, with the implication that a sovereign default would occur if a national government failed to meet its debt obligations. However, these rules were violated several times, even by France and

Germany. Debt had become so widespread that by 2011, total debt as a percentage of annual economic output had risen above 300% for France, Italy, and Spain and above 250% for Greece. Even in fiscally conservative Germany, total debt as a percentage of annual economic output was approximately 240%. (Esposito, 2020).

Most economist agree that the euro created a common market with a single currency without exchange rate fluctuations, creating wealth and prosperity for all country members and strengthened the role of Europe as an economic power until the crisis of subprime "borrowers being approved for loans they could not afford", which upsets in international finance since 2008, starting as a debt crisis in Greece in 2010 and as the crisis of public debt in Ireland, have firstly led to a financial crisis and then to sovereign debt crisis in the Euro-zone and the whole European Union. (Akala, 2020).

COVID-19: Risks of adverse macro-financial

The European and world economies are currently experiencing an extraordinary and severe shock, as public health measures to contain the spread of the coronavirus have halted many economic activities across the globe. In the first quarter of this year, according to preliminary flash estimates, the euro area economy declined by 3.8 percent quarter on quarter: this marks the first quarterly reversal in growth in seven years. Assessing the most likely future path for the economy is even more difficult than usual on account of the exceptional nature of the shock, which has few precedents in modern economic history. The scale and duration of the pandemic macroeconomic shock depends on how long the lockdown measures remain in place, their impact across sectors and the speed at which economic activity normalizes.

The contraction will be much more pronounced in the second quarter, since lockdown measures were in full force by April across the euro area and in many other countries. There has been a profound deterioration in labor market conditions, with a sudden and extreme decline in total hours worked, which is reflected in rising unemployment and lower labor market participation, together with extensive employment subsidy schemes in many countries in order to maintain worker-firm relationships where feasible. Furthermore, the sharp falls in consumer and business sentiment indicators in April are leading indicators of protracted adverse demand in the coming months. In addition to the negative outlook for aggregate demand, macroeconomic prospects also turn on the extent of the short-term and long-term damage to the productive capacity of the euro area economy.

A deep recession is envisaged, amounting to a contraction in real GDP of 5 percent this year. In the severe scenario, real GDP would fall by 12 percent in 2020. At the same time, these scenarios foresee some initial rebound in economic activity in the second half of 2020 as the containment measures are gradually lifted, even if the speed and scale of the recovery over the medium term are highly uncertain. For instance, in the severe scenario developed by ECB staff, real GDP remains below the level observed at the end of 2019 throughout 2022. The current environment is also marked by substantial uncertainty concerning the outlook for inflation. Oil prices, which plunged following the COVID-19 outbreak, have strongly pushed down headline inflation. The reaction of underlying inflation to the downturn is projected to remain relatively muted in the short term. However, in the coming months, downward price pressures will be generated by weaker economic activity and lower aggregate demand. The overall net impact on medium-term inflation dynamics will depend on the balance between

rising slack and lower aggregate demand on the one side and the possible long-term adverse impact of the virus shock on aggregate supply capacity on the other side. (Lane, 2020)

Methodology

The procedure and technique that I have used to identify, select, process, and analyze information of this topic is comparison. This will give any reader the opportunity to easily evaluate the study's overall validity, reliability and better understand how the ECB policies for three different crises are intersected. The study is primarily conceived as a theoretical approach, supported by the analysis of relevant statistical indicators on public finance. As statistical data sources I used databases and reports of ECB, Eurostat, and national central banks, as well as some published studies relevant for this research.

As I had made a kind of summary of the previous crises (last three) of their causes I will describe now the responses that ECB had for each of them and comparing them. This paper is focused mainly on the conventional monetary policy of ECB like interest rates, reserve requirements, etc. that seem to have changed during the crises. In addition, this research aims to explain some short and medium-term nonconventional monetary policy and quasi-fiscal policy like SSM that were taken by the ECB.

The 2008-2009 financial crisis

While trying to maintain price stability the ECB between October 2008 and May 2009 cut its main refinancing rate by 325 basis points, down to 1%. In August 2007, the ECB took swift and decisive action to provide liquidity in the interbank money market to alleviate the stresses and ensure, to the maximum extent possible, that liquidity problems would not turn into solvency problems, and that systemic risk would be effectively contained. (Tropeano, 2020).

ECB also aimed to enhance credit support. It adopted a number of credit enhancement measures to mitigate the impact of collapsing wholesale and interbank markets. Starting in October 2008, the main refinancing operations (MROs) and long term refinancing operations (LTROs) were granted on a full allotment and fixed rate basis, so that all demand for liquidity would be satisfied at a stable cost as long as adequate collateral was available.

Banks did not trust each other any longer, since nobody was sure just how risky it really was to lend to another bank. In terms of economic theory, one could say that information asymmetries had become too large, with the result of a market breakdown. And economic theory also tells us that a market breakdown is justification for public sector intervention. (Grant, W., & Wilson, G., 2012).

One other respond for this crises was applying fixed-rate full allotment' procedure in all open market operations. This gave banks as much central bank liquidity as they want at key policy interest rate, against an expanded list of eligible collateral.

One other response was the extension of maturity range from six to twelve months. And ECB represent the for the first time the "Covered Bond Purchase Programme) in order to revive a market normally representing a primary source of funding for European banks, which had dried up in terms both of liquidity and issuance; under the programme it purchased some €60 billion of securities. Collateral requirements were repeatedly eased by lowering the minimum acceptable rating and extending the list of eligible paper. The balance of the ECB shot-up to

over €2 trillion. Also ECB launched the Securities Markets Program, which allowed the bank to buy not only private securities but also public bonds. (Albulescu, C., & Goyeau, D., 2013)

European sovereign debt crisis

The responsibility to put an end to the sovereign debt crisis mainly goes to the national governments of the over indebted countries, forced to adopt harsh fiscal austerity policies, to cut budget deficits and reduce their public debt to sustainable levels. As we saw if the previous description many nations broke the rule of debt rate, like France, Spain, Italy, Greece and even the Germany. However, given the high risk of contagion to the financial and banking sector and the threats to financial and macroeconomic stability, these measures had to be completed and coordinated with similar monetary policy measures adopted by ECB. In the pre-crisis era, the ECB focused on the pursuit of price stability. During this crisis, the ECB became a key player by assuming the role of crisis manager (as a lender of last resort) and financial supervisor (through is designation as the Single Supervisory Mechanism).

A lender of last resort (LOLR) ensures the stability of the financial system by providing liquidity to a single financial institution or the financial system as a whole during times of crisis. During the crisis, the ECB eased liquidity not only through its standard monetary policy but also its nonconventional monetary policy and its provision of Emergency Liquidity Assistance (Chang, 2016).

The conventional ones consisted in decreasing the key policy interest rate from 1% in April 2010 unchanged since May 2009 to the historically low rate of 0.75% in July 2012 and reducing the minimum reserve requirements from 2% to 1 %, in December 2011.

Source: Eurostat, May,2020

Also the nonconventional monetary policy took place for the recovery of this crises like SMP, LTRO and OMT.

In May 2010 the ECB launched the Securities Market Program (SMP) in which it purchased the sovereign debt of peripheral economies like Greece, Ireland, Spain, Portugal and Italy on secondary markets. The ECB justified this this as necessary to "restore an appropriate monetary policy transmission mechanism, and thus the effective conduct of monetary policy oriented towards price stability in the medium term" (ECB 2010). It is important to highlight that the ECB was not purchasing sovereign bonds of all euro area members, it was purchasing those that experiencing trouble refinancing on financial markets due to their high public debt levels. This entails a certain amount of risk for the ECB in that it was purchasing the sovereign debt of countries with a questionable ability to service their debt. Between May 2010 and October 2010, about 65 billion euro of bonds were bought by the ECB; a further 125 billion

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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euro were committed during the market turmoil between August 2011 and November 2011 such that the cumulative bond holdings grew to over 200 billion euros which account for 2 percent of euro area GDP. (Lane, 2020)

In addition to SMP, the ECB launched several series of long-term refinancing operations (LTROs) in 2010 in which it allowed banks to borrow money at the main refinancing rate.

In July 2012 ECB President Mario's Draghi's famous "whatever it takes speech" vowed that the ECB would defend the euro. This was operationalized with the Outright Monetary Transactions (OMT). The OMT immediately relieved market pressure, and many believe that the ECB "made the right decision to become the lender of last resort". Finally, the OMT cemented Mario Draghi's reputation as the man who rescued the euro (Chang, 2020).

The European Commission chose the ECB to conduct banking supervision within a single supervisory mechanism (SSM). The ECB received the responsibility of monitoring missions for all the participating member states' credit institutions, regardless of their business model and their size. It will ensure the implementation of standards for the degree of leverage, of liquidity, of own funds and it may, in coordination with the national authorities, impose the constitution of capital buffer or the introduction of corrective measures as deemed necessary.

COVID-19 crise

Helping the economy absorb the shock of the current crisis

The €750 billion Pandemic Emergency Purchase Programme (PEPP) aims to lower borrowing costs and increase lending in the euro area. This in turn should help citizens, firms and governments get access to funds they may need to weather the crisis. This programme complements the Asset purchase programme, which will be more detailed in October 2020.

Keeping borrowing affordable

ECB has kept their interest rates at historically low levels so borrowing costs remain low. ECB rates impact how much it costs to take out a loan. Low rates make it easier for people and companies to borrow funds, and should support spending and investment. ECB hos not defined yet an interest rate for this crises.

Supporting access to credit for firms and households

ECB has increased the amount of money that banks can borrow and made it easier for them to borrow specifically to make loans to those hardest-hit by the spread of the virus, including small and medium-sized firms. Easer methods to determine the asset values.

Ensuring short-term concerns do not prevent lending

In times of great uncertainty, banks may find it harder to secure funds for short-term needs. ECB aims to help smooth over any temporary funding issues for solvent banks by offering immediate borrowing options at favorable rates. This support helps banks continue granting loans to citizens and firms in need.

Increasing banks' lending capacity

ECB is being temporarily less strict about the amount of funds, or "capital", that banks are required to hold as a buffer for difficult times. ECB is also giving banks more flexibility on supervisory timelines, deadlines and procedures. All of these measures help euro area banks

focus on playing their vital role as lenders during this extraordinary period. Banks are expected to use any freed-up funds to absorb losses and support the economy, and not to pay out dividends.

Preserving financial stability through international cooperation

Central banks around the world hold reserves of currencies that are not their own. This is because their domestic banks also do business in these currencies, and thus sometimes require foreign-currency loans in the course of daily business. In times of great uncertainty, customers' demand for foreign currency assets can increase. If banks do not have enough foreign currency reserves on hand to meet increased demand, markets can become unstable. So central banks have established so-called currency swap lines. These swap lines let central banks of one country exchange their national currency reserves for those of the central bank of another country – thus ensuring that central banks can meet increased demand. ECB has recently reactivated swap lines and enhanced existing swap lines with central banks across the globe in response to the current difficult situation. (ECB, 2020).

Comparison

The ECB role in the EU gradually started to change firstly when the 2008-2009 financial crisis and sovereign debt crisis happened. The EU understood that it was necessary to give the ECB more competences so that it could effectively put an end to the crises. ECB actions were guided by two overarching objectives. First, to restore the orderly functioning of euro area financial markets. And, second, to ensure that accommodative monetary policy continued to be transmitted to all parts of the single currency area, thereby supporting firms and households in shouldering the substantial economic and social costs that this crisis would imply. Due to the experience with unconventional policy measures was shared widely in the global central banking community, the global monetary policy response was much more synchronized during the debt euro zone crises.. During the 2008-2009 crisis, the European debt crisis and Covid-19 crises, the ECB has had an active involvement in solving these crises.

When comparing the policies that ECB took during the financial crisis, the Eurozone debt crisis and the ongoing Covid-19 pandemic crisis, we clearly see that there are some equivalent measures despite the different nature of these crises.

Firstly, the ECB tried to maintain price stability over the short and medium term during first two crises through low interest rates. Whereas at the Covid crises it is still not very clear on the rate interest. Even ECB will lower them, or at which rate will lower them. From one side the crises have demonstrated the importance of having an independent central bank credibly committed to price stability. But last crises show the need also for time action so acting in a more rapid way and also being more solidarized with the countries which were more damaged by crises.

In both the financial crisis of 2008-2009 and Eurozone debt crisis, the ECB focused on long-term refinancing operations (LTROs) which allowed banks to borrow money at the main refinancing rate. Whereas at the Covid-19 crises there was a lack of such perspective.

On financial crisis of 2008-09 and the pandemic crisis, ECB focused on enhancing credit support by increasing banks' lending capacity, encouraging them to maintain and expand their lending to clients, to ease funding conditions for banks and enterprises. Just like in 2008-2009

the ECB is giving banks more flexibility on supervisory timelines, deadlines and procedures during the pandemic.

On all three crises, ECB launched securities and bonds programs. During the financial crisis, ECB launched Covered Bond Purchase Programme (CBPP1) in order to revive the market which had dried up in terms of liquidity and issuance. Also, it launched Securities Market Programme, which allowed the bank to buy not only private securities but also public bonds.

Also ECB purchased sovereign bonds, but we should mention that in purchased in countries experiencing trouble refinancing on financial markets due to their high public debt levels. During the ongoing pandemic crisis, ECB launched the Pandemic Emergency Purchase Programme (PEPP). ECB buys several different kinds of assets in this programme. For example, when the ECB buys bonds directly from banks, the ECB makes more funds available that they can lend to households or businesses.

Conclusion

All in all, we can say the responses of ECB for three crises were not the same even the main role of ECB remains the price stability during all three crises. On the other hand also as the profile of the crises is not the same we cannot expect the ECB to have the same responses, but it can be seen from the paper that the responses are **equivalent** in respective to crises profiles.

Also it should be understood that from crises to crises the **competences of ECB** gets' more and more, and of course here *it is needed a future and more detailed study* in order to analyze the advantages or disadvantages of this situation.

Again it is important to underline as the "**time dimensions**" is very important for the quasi fiscal policies it is clearly seen that there was kind of time delay of ECB responses for the Covid-19 crises.

In the Covid-19 crises it is still not very clear on the **rate interest.** Even ECB will lower them, or at which rate will lower them.

Giving the bizarre circumstances, the ECB sometimes had to abandon its usual monetary policy and take "whatever it takes approach" in the short term and medium term so that it could cope with the crises. And this approach goes hand to hand with the solidarization approach of EU, in its own existence.

Since the covid-19 it is an ongoing issue, we cannot say for sure how effective the ECB policies will for the long run but we are clear enough for the short and medium run responses. Despite a general price recovery in late April, markets remain wary of the longer-term prospects in the banking sector. However ECB continues to act as a lender of last resort by providing liquidity in the market while dealing with the covid-19 crisis.

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Challenges in Decoding Consumer Behavior with Data Science

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Abstract

Decoding the ever-evolving consumer behavior is one of the biggest challenges faced by marketers around the world. The future of consumer behavior research is put into question by the advances in data science. Today, when consumers are all the time exposed to new technologies, trends such as facial recognition, artificial intelligence, and voice technology did not advance as rapidly as predicted, marketing intelligence gained a significant share of the spotlight. This paper gives an overview of possible ways to anticipate consumer data intelligence development from the perspectives of a robust data set and deep artificial intelligence expertise for better understanding, modeling, and predicting consumer behavior. Showing that marketing cannot happen in isolation in the era of digital overexposure, it requires a deeper understanding of consumer behavior. Data scientists, analysts, and marketers around the world have to work together to increase consumer loyalty, grow revenue, and improve the predictiveness of their models and effectiveness of their marketing spend. Efficiently integrating consumer behavior data into marketing strategies can help companies improve their approach towards attracting and winning the diverse and dynamic consumer segments and retaining them. This synthesis of current research will be helpful to both researchers and practitioners that work on the use of data science to understand and predict consumer behavior, as well as those making long-range planning marketing decisions.

Keywords: Data Science, Consumer Behaviour, Marketing Intelligence, Marketing Strategy, Consumer Data Intelligence

Introduction

Consumption continues to change with technological advancements and shifts in consumers' values and goals (Malter et al., 2020). The consumer is ultimately the key determinant of the success of an organization. The need for an in-depth and objective understanding of the consumers, therefore, in terms of what runs in their minds and hearts for the way they behave and act when they go about making complex purchase decisions cannot be over-emphasized (Moses & Clark., 2020; Sankaran, 2019). Increasing global digitalization brings huge and ever-growing amounts of data (Skiera, 2016). Decoding the ever-evolving consumer behavior is one of the biggest challenges faced by marketers around the world. The adoption of contemporary methods in consumer data analytics is slow and many businesses fail to understand their consumers as well as they want. The future of consumer behavior research is put into question by the advances in data science. This paper gives an overview of possible ways to anticipate consumer data intelligence development from the perspectives of a robust data set and deep

artificial intelligence expertise for better understanding, modeling, and predicting consumer behavior.

Background

In this section, an overview of Consumer Behavior Research and Data Science is given and definitions used for the analysis in this review are introduced.

Consumer Behavior Research (CBR)

In recent years, technological changes have significantly influenced the nature of consumption as the customer journey has transitioned to include more interaction on digital platforms that complements interaction in physical stores. Besides, this shift allows us to collect more data at different stages of the customer journey, which further allows us to analyze behavior in ways that were not previously available (Malter et al., 2020; Tong et al., 2020). Not only have technological advancements changed the nature of consumption but they have also significantly influenced the methods used in consumer research by adding both new sources of data and improved analytical tools (Ding et al., 2020; Ohme et al., 2020). The adoption of contemporary methods in consumer data analytics is slow and many businesses fail to understand their consumers as well as they want. The future of CBR is put into question by the advances in data science.

Data science

Data science (DS) combines multiple fields including statistics, scientific methods, and data analysis to extract value from data, being is an umbrella term used for multiple industries, such as data analytics, big data, marketing intelligence, data mining, machine learning and artificial intelligence, and predictive analytics, and is being increasingly adopted to analyze and predict consumer behavior (Cognetik, 2020; Sankaran, 2019).

Where:

Big Data. Big data is a collection of unstructured data that has very large volume, comes from variety of sources like web, business organizations etc. in different formats and comes to us with a great velocity which makes processing complex and tedious using traditional database management tools. The major demanding issues in big data processing include storage, search, distribution, transfer, analysis and visualization (Khade, 2016). In consumer behavior marketing, big data is used to analyze data points of a customer's journey from exploration to sale, powering marketers with tools and knowledge to make more informed decisions (Margalit, 2020; Saheb & Saheb, 2020).

Data Mining. Data mining and analytics have played an important role in knowledge discovery and decision making/supports in the process industry over the past several decades (Ge et al., 2017). Data mining is defined as a process used to extract usable data from a larger set of any raw data. It implies analyzing data patterns in large batches of data using one or more software.

Predictive Analytics (PA). The most widely used data set in consumer behavior, and the one we'll be referring mostly to in this article, is PA. Predictive behavior modeling can reveal many insights to support marketing strategy.

Machine Learning (ML). ML is used in DS to make predictions and also to discover patterns in the data, in situations where necessary the machine to learn from the big amounts of data, and then apply that knowledge to new pieces of data that streams into the system (Liu et al., 2018; Zolghadri & Couffin, 2018).

Artificial Intelligence (AI). Some researchers propose that AI is the field of study that describes the capability of ML just like humans and the ability and refers to programs, algorithms, systems and machines that demonstrate intelligence (Khanna et al., 2020; Shankar, 2018). This paper follows another way to describe AI, that depends not on its underlying technology but rather its marketing and business applications, such as automating business processes, gaining insights from data, or engaging consumers and employees (Davenport et al., 2020).

Marketing Intelligence. The term marketing intelligence refers to developing insights obtained from data for use in marketing decision-making (Eggert & Alberts, 2020). Data mining techniques can help to accomplish such a goal by extracting or detecting patterns or forecasting consumer behavior from large databases. Marketing intelligence has long been an implicit office standard, irrespective of specific big data solutions, systems or projects (Hu et al., 2019). It is already an implicit standard, because the term intelligence is often not even mentioned in science and practice, but impacts marketing practice as social engineering (Fan et al., 2015; Lies, 2019).

Methodology

To better understand challenges in decoding consumer behavior with DS, this paper presents a systematic literature review around the concepts, tools and techniques behind the increasing field of DS applied to CBR.

One way to achieve greater rigor and better levels of reliability in a literature review is to adopt a systematic approach, which allows the researcher to make a rigorous and reliable assessment of the research carried out within a specific topic (Brereton et al., 2007; Levy & Ellis, 2006). The result must be the "state of the art" and demonstrate that the research in question contributes something new to the existing body of knowledge, the methodological approach is mainly supported in three phases: input; processing, and output (Sampaio, 2007). The input phase begins with the definition and presentation of the main goal of this research: "Determine the most recent applications of DS techniques in CBR context".

After that, continues with the process of data source identification requiring the definition of rigorous string that suits the different bibliographic databases selected. Scientific articles (ar) or conference proceedings (cp) related to CBR and DS from six main academic databases were searched. These academic databases include Springer Link, Web of Science, Scopus, IEEE Explore, Google Scholar, and Science Direct. Concerning the goal of identify the publications related to research works around the application of DS in CBR, in the first, it is used the string: TITLE-ABS-KEY ("DS") AND TITLE-ABS-KEY ("CBR") AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar")). So, applying exclusion and inclusion criteria cited, the total document results are 1029. In this case, as all results are about recent articles, published between 2016 and 2020, in the English language.

All the publications titles and abstracts were read manually for relevance checking. This process resulted in 968 publications being excluded. Lastly, 61 eligible publications were

selected and added 3 more from the snowballing process. The analyzed publications were investigated based on the relevance to the research domain and availability.

Findings and Discussion

A business may experience thousands of digital interactions with a single user across display, search, social, and on the site or app (He et al., 2018). These interactions take place on multiple devices, such as mobile, desktop, tablet, or wearable devices. Companies can use diverse consumer-related data (Batistič & der Laken, 2019). However, with the rise of AI and ML algorithms, analyzing data points from multiple data sources to create a holistic view of users is now realistic and attainable (Bąska et al., 2019; Sá et al., 2018).

Impact of DS.

The impact of DS has been felt across a range of activities, by providing solutions for many industries that have been struggling for a long time. The most active data generators and consumers are the public sector, healthcare, manufacturing, and retail (Novikov, 2020).

Specifically, the big data and business analytics market was valued at USD 138.9 billion in 2020 and is forecasted to grow up to USD 229.4 billion by 2025, at a Compound Annual Growth Rate of 10.6% during the forecast period (Market Reports World, 2020).

The paths to transform digital information into value and to allow companies to become data-driven can be schematized into four major components, presented in Table 1 (Mikalef et al., 2018; Piccialli et al., 2020).

Table 1. Four major components.

N	Component	Scope
1	Descriptive Analytics	concern most of the companies that use analytics tools aimed at describing the current/past situation of business processes and/or functional areas
2	PA	made up of advanced tools for data analysis and predictive models, going further than analyzing the historical data, helps to make the most educated guesses on what will happen in the future
3	Prescriptive Analytics	made up of advanced tools that allow decision-makers to have operational and strategic solutions based on analyses.
4	Automated Analytics	tools that allow you to implement the actions that are the result of analysis activities with forms of automation.

Recent strides in computing capabilities, increases in data transparency and open data sources, growth in the Internet of Things, and smartphone device usage are some of the drivers helping bridge the worlds of data, people, and things (Gupta et al., 2018). For many industries, DS has emerged as a leverage to predict trends and make informed decisions (Tkaczynski et al., 2018).

The Connection Between DS and CBR

Understanding how consumers think, feel, and respond to a company's offerings has always been a tricky business (Hsu, 2017). Marketing research relies on individual-level estimates to understand the rich heterogeneity of consumers, firms, and products (Dew et al., 2020).

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

Accessibility to large datasets enables the application of complex DS algorithms and tools to process huge amounts of bytes of unstructured information, allowing relevant feature extraction and recognizing high-level abstractions with increasing generalizability. In this sense, DS tools, such as ML, have the potential to support several fields of research, including CBR, by the automation or resolution of complex tasks in time series prediction, classification, regression, diagnostics, monitoring, and so on (Exenberger & Bucko, 2020; Górriz et al., 2020).

Data is the new currency for the future and there are four main consumer data types (Table 2) to find out how companies in different industries can use them (Dew et al., 2020; Kolsarici et al., 2020; McKenny et al., 2018; Moulik, 2020; Raza et a., 2020; Skiera, 2016; Tong et al., 2020; Torrens, 2018; Wang et al., 2018).

Table 2. Four main consumer data types.

N	Data Type	Scope	Application
1	Transactional data	Transactional data relates to the transactions of the organization and includes data that is captured	In retail, purchase deepens a company's understanding of its customers' journeys
2	Data about service/product use	Service/product usage data tells you about the end-user, what they are doing while interacting with a product, when they use it, and for how long	Manufacturers can examine the data about product use to create a better customer experience, identify trends, gauge feature popularity, create product training tools, innovate etc.
3	Web behavior data	A company can analyze every move that their website visitors make: where they come from, which pages they open, how deep visitors' engagement is, etc.	Online stores apply this logic to track consumer behavior, identify consumer preferences, and make product recommendations with the help of PA
4	Data from consumer-created texts	Data generated by consumers in the form of text messages, reviews, tweets, emails, posts, and. blogs	Brands can study this content to better understand what their consumers think about their product or service by identifying trends, recognizing a positive or negative emotional tone of each piece of text, revealing complaints and problems to solve

The ability of DS to visualize consumer behavior has enabled to predict consumer likes and dislikes and has taken the capabilities beyond mere data collection and analysis. By incorporating the right tools and processes, businesses can now efficiently utilize the insights to influence the decisions of consumers through robust communication (Finoti et al., 2019).

3. Taking Consumer Behavior to the Next Level with DS

Behavioral research in information systems employing quantitative methods has traditionally relied on mainly survey-based approaches to gather subjective user data. With new advances in technology such as mobile computing, wearable devices, and social media, along with computational capabilities, organizations are in a position to leverage objective data in

addressing IT issues typically addressed in behavioral research (Ducange et al., 2018; Motiwalla et al., 2019). DS takes data analysis to the next level, allowing businesses to predict what users might do (Khade, 2016).

Consumer analytics play an essential role in organizations since businesses have access to vast consumer interaction data from multiple channels, including mobile, social media, stores, and e-commerce sites (Chung & Park, 2018). Intended to provide the answers to diverse consumer-related questions, consumer analytics can embrace different types of business analytics. Relying on DS and ML, these two types can provide forecasts and recommend actions that a business can take (Auder et al., 2018).

Key concepts (Table 3) of Consumer analytics (Ahmad et al., 2019; Dew et al., 2020; Immonen et al., 2018; Khade, 2016; Khatri & Samuel, 2019; Kulczycki & Franus, 2020) :

Table 3. Key concepts of Consumer analytics

N	Concept	Scope	Application
1	Venn Diagram	Discover Hidden Relationships. Combine multiple segments to discover connections, relationships, or differences	Explore consumers that have bought different categories of products and easily identify cross-selling opportunities
2	Data Profiling	Identify Consumer Attributes Select records from the data tree and generate consumer profiles that indicate common features and behaviors	Use consumer profiles to inform effective sales and marketing strategies
3	Time Series Analysis	Forecasting	Forecasting enables us to adapt to changes, trends, and seasonal patterns.
4	Mapping	Identify Geographical Zones Mapping uses color-coding to indicate consumer behavior as it changes across geographic regions	A map divided into polygons that represent geographic regions shows where potential churners are or where specific products better sell
5	Association Rules	Cause/ Effect Basket Analysis	This technique detects relationship or affinity patterns across data and generates a set of rules that are most useful to business insights
6	Decision Tree	Classify and Predict Behavior Decision trees are one of the most popular methods for classification in various data mining applications and assist the process of decision making	Classification helps you do things like select the right products to recommend to particular consumers and predict potential churn

Consumer Behavior Analysis makes it possible to provide business decision-making information that contributes to the achievement of business goals, with the primary benefit being profit (Exenberger & Bucko, 2020).

Table 4 shows four strategic focus areas where PA can help increase profit (Alvi et al., 2019; Canakoglu et al., 2018; Chagas et al., 2020; Chkoniya & Mateus, 2019; Davenport et al., 2020; Ernst & Dolnicar, 2018; Fainshtein & Serova, 2020; Gallino & Rooderkerk, 2020; Khanna et al.,

2020; Kuehn, 2020; Le & Liaw, 2017; Luu & Lim, 2018; Schmidt et al., 2020; Swain & Cao, 2019; Tarnowska & Ras, 2019; Voicu, 2020).

Table 4. Four strategic focus areas

N	Focus Area	Scope	Application
1	Personalized Marketing	By segmenting the market into specific subgroups based on similarities in behaviors, geographic location, or other demographics, marketers can better target groups	Generate customized recommendations based on a user's watch history, highlighting products consumer may be interested in
2	Demand Pricing	By evaluating the purchasing trends of consumers in each data set, marketers can better see what effect pricing decisions have on demand	More competitive pricing model over to surge pricing after noticeable changes in demand at various points throughout the year
3	Resource Allocation	With PA in place, a company can better forecast and segment where resources will need to be allocated to the most	Having properly allocated resources in place is vital to achieving your organization's objectives.
4	Forecasting	Arguably one of the most significant benefits of using data in consumer behavior analytics is forecasting	Creates intelligent and evidence-based estimates of sales goals based upon current and past sales performance reports.

Conclusion

In the future, AI is likely to substantially change both marketing strategies and consumer behaviors (Davenpor et al., 2020). The efficient implementation of DS will enable organizations to enhance the overall consumer experience by developing robust data analytics models (Fernández-Manzano & González-Vasco, 2018). In particular, marketers must incorporate analytics into their daily decisions around lead generation campaigns, advertising, events and the myriad other ways marketing investments are allocated to affect consumer satisfaction, brand awareness, trust, loyalty, consumer perceived value and consumer retention (Mosavi et al., 2018; Motiwalla et al., 2019).

This paper intended to give an overview of possible ways to anticipate consumer data intelligence development from the perspectives of a robust data set and deep AI expertise for better understanding, modeling, and predicting consumer behavior.

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Corruption and Economic Growth in the Balkan Countries

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Abstract

This paper examines the effect of corruption on public debt and economic growth. Empirical analysis verifies the channels that lead to an increase in the public debt, such as a rise in government spending, informal economy, infrastructure spending, always having a budget deficit financed through debt. The underlying hypothesis is that debt has a negative economic consequence in a country and austerity policies have more effect on countries with consolidated finances, while in developing countries such as Albania often bring an even higher growth of public debt. The final objective of this paper is the empirical verification of the idea that in developing countries, such as Albania and Balkan countries, public debt and corruption are inhibitors and deleterious for the economic growth.

Keywords: Corruption and Economic Growth in the Balkan Countries

1. Introduction

Expansion of corruption not only increases investments' costs and decreases their quality, but it also causes distortions in fiscal payments and a rise of the informal economy (Friedman et al., 2000). This creates a situation where investments are discouraged, FDIs are reduced (Abed & Davoodi 2002), the funds used for education and health are restrained (Mauro, 1998), income redistribution gets aggravated (Olken, 2006), productivity is limited Lambsdorff & Kyklos, 2003), economic growth is weakened, public spending increases and, consequently, a higher use of public debt is incentivized (Tanzi & Davoodi, 2002).

According to Kaufmann (2010), politicians tend to stimulate large investments in infrastructure. This is achieved with an increase in public spending and debt growth. He demonstrates that corruption brings an increase in debt stock and as a consequence increases the costs for debt repayment in the future. All of this can often lead to a vicious circle of corruption and public debt.

In recent years, there has been a significant increase in debt attributed to the reconstruction of city centers in Albania. This initiative has not had an impact on employment or economic growth, yet, according to policymakers, it has strongly affected the social welfare of citizens.

However, a clearer idea of the impact of public debt on the country's economic growth will be explained and the empirical verification of the impact of corruption and debt in the economic growth in the last chapter.

2. Literature Review

The literature gathers a common idea, which argues that a constant growth of public debt reduces the economic growth. (Reinhart & Rogoff, 2010; Panizza & Presbitero, 2014; Pattillo et al., 2002). Rubin et al., (2004) show that public debt does not only affect directly the economic downturn, but it also influences the investors by making them more cautious, because a state with a high public debt may not be able to repay debts to creditors. As a consequence, there will be an outflow of investors due to this debt, which will cause instability in the financial market.

Developing countries such as the Balkans must be cautious regarding the continued growth of the public debt, because not only will it not affect the economic growth, but it will also turn out to be inefficient for the development objectives (Chuhan & Thomas, 2007).

The risk is higher when public policies are used for major investments in infrastructure to stimulate growth. This encourages corrupt behavior, which widens easily as a group (Tirole, 1996). The expansive corruption has negative effects on the cost and quality of investments and supports distortions in fiscal payments and growth of an informal economy (Friedman et al., 2000; Kaufmann, 2010).

According to Skidmore (1996) one of the many forms corruption becomes present is nepotism in the state administration, which touches even public hospitals where directors choose their own people or friends.

Similarly, in Albania it is quite often to see the majority of the public administration overflown with unskilled people purely because they are paying, are militants or close relatives of policymakers.

Friedman et al. (2000) demonstrates that corruption is accompanied by a rise of informal activities and inefficiencies in tax collection, reducing thus, the fiscal revenues, due to fiscal evasion. It is usually the least corrupt governments the ones that tend to hold a high fiscal pressure.

Johnson et al. (1997) says that fiscal evasion reduces fiscal revenue which is accompanied by a lower government's capacity to provide public goods and services. Dreher & Schnëider (2010) reveal in their study that there is no established relationship between corruption and the informal economy. They confirm that corruption and the informal economy are somewhat verified in low-income countries, while in high-income countries no such relationship exists.

According to the abovementioned authors, the widening of the informal economy in developing countries positively contributes to the GDP growth.

In the study of Fiorino et. al. (2012) corruption can hinder competition and create delays in submitting documentations. As a result, it can lead to an increase of public service costs and notably reduce the investments and economic growth.

North (1990), speaks how an efficient judicial system which respects contracts can be an important factor in the economic performance. The security that comes for property rights, benefits and patents can significantly reduce incentives to invest, innovate and buy technology from abroad.

Mauro (1995) adds that corruption leads to the formation of layers that hinder the uniform development of the population by increasing inequality, eliminating the middle class of the population and reducing total growth; the rich become richer and the poor become poorer. This also brings about the reduction of economic growth in general.

Other studies have shown that the lower the perceived corruption (10-30), the higher the economic growth will be for developed countries (2%). Whereas for corruption that catches levels (60-70), the growth rate is zero or negative.

3. Findings

The Balkan countries we have taken into consideration for the empirical analysis are those part of EU such as Croatia, Romania, Bulgaria, Slovenia and countries aspiring to become members of EU such as Macedonia, Serbia. We have excluded Kosovo and Montenegro because of the lack of data as these are new countries that have only recently gained their independence. The first hypothesis is the one we raised in the analysis for Albania which says that good governance indicators are important for the economic growth of a country. This is based on the idea that these indicators are as important as corruption given that if they improve, corruption decreases as well.

The second one is that membership in the EU would positively help reducing corruption and increase the good governance indicators. This hypothesis takes place from the idea that Europe will impose strict rules so that politicians will no longer be able to misdirect public investments for corrupt motives, misuse public funds or choose unqualified people to work for the public administration. It is interesting how all of these countries demand the economic development to come from outside rather than internally.

If we look at the empirical models we have taken GDP growth as a dependent variable and Control of Corruption, Rule of Law and Government Effectiveness as explanatory variables. The software we have used continues to be Gretl.

The empirical model will be OLS and we will correct for heteroskedasticity. As a time series we have chosen the 15-year period from 2001-2016. We have not chosen a lot of years as all of our indicators are only estimates and as such the credibility of our paper would be low.

The number of observations is low, therefore we realize that our results are reliable but not 100%. Additionally, we specify that GDP is a complex indicator that can be influenced by a relatively high number of factors. Whereas, the other explanatory variables considered do not necessarily stimulate the growth, but they serve as as a way to not halt it and increase credibility and attractiveness towards foreign investors. Additionally, a high good governance indicator means that a country would be more able to repay its debts and therefore helps the country to have a relatively low borrowing rate.

The first country to be considered will be Croatia, followed by Slovenia, Romania and Bulgaria, and then Serbia, Bosnia & Herzegovina and Macedonia.

Croatia

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	0.142213	0.00943395	15.07	<0.0001	***
ControlofCorruptionEstimate	0.0537806	0.0141491	3.801	0.0025	***
GovernmentEffectivenessEstim	−0.170531	0.0290720	−5.866	<0.0001	***
RuleofLawEstimate	−0.118237	0.0388089	−3.047	0.0101	**

Statistics based on the weighted data:

Sum squared resid	21.72520	S.E. of regression	1.345524
R-squared	0.987058	Adjusted R-squared	0.983822
F(3, 12)	305.0711	P-value(F)	1.37e-11
Log-likelihood	−25.15009	Akaike criterion	58.30018
Schwarz criterion	61.39054	Hannan-Quinn	58.45843
rho	0.256162	Durbin-Watson	1.483183

Statistics based on the original data:

Mean dependent var	0.042482	S.D. dependent var	0.047784
Sum squared resid	0.011876	S.E. of regression	0.031459

When looking at Croatia, Control of Corruption has a positive effect although the coefficient is quite small. The results show that the Government Effectiveness and Rule of Law negative effect on the economic growth. The stricter the law, the lower are the chances of entrepreneurs to engage in new investments, especially in sectors that could hurt or pollute the environment. This effect is logical from an economic point of view.

As far as it regards the negative effect of Government Effectiveness, it is less intuitive. We could argue that sometimes abuses can stimulate growth in developing countries. Croatia has recently joined the EU, which has most probably affected the businesses adapting to the changes the public institutions have been going through to become part of EU. However, we could always say that these indicators are estimates and can not always be taken as accurate.

The next linear empirical OLS model is the one of Slovenia, which is one of the most developed countries of the Balkans.

Slovenia

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	0.605900	0.225691	2.685	0.0199	**
ControlofCorruptionEstimate	0.0530952	0.0587170	0.9043	0.3837	
GovernmentEffectivenessEstim	0.429602	0.173415	2.477	0.0291	**
RuleofLawEstimate	−0.187721	0.260965	−0.7193	0.4857	

Statistics based on the weighted data:

Sum squared resid	36.84597	S.E. of regression	1.752283
R-squared	0.744292	Adjusted R-squared	0.680365
F(3, 12)	11.64283	P-value(F)	0.000724
Log-likelihood	−29.37628	Akaike criterion	66.75255
Schwarz criterion	69.84291	Hannan-Quinn	66.91080
rho	0.176830	Durbin-Watson	1.531941

Statistics based on the original data:

Mean dependent var	0.049783	S.D. dependent var	0.050194
Sum squared resid	0.035681	S.E. of regression	0.054529

The model portrays a positive impact of the Government Effectiveness on the GDP growth. The coefficient is relatively high, the standard error quite low and the R^2 is high as well.

Surprisingly enough, Rule of Law and Control of Corruption are both not statistically significant although the sign is positive.

The following OLS model is the of Bulgaria.

Bulgaria

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0714058	0.0239675	2.979	0.0115	**

	Coefficient	Std. Error	t-ratio	p-value	
ControlofCorruptionEstimate	0.144103	0.0274557	5.249	0.0002	***
GovernmentEffectivenessEstim	−0.0424732	0.0471686	−0.9005	0.3856	
RuleofLawEstimate	0.0823236	0.179933	0.4575	0.6555	

Statistics based on the weighted data:

Sum squared resid	48.82860	S.E. of regression	2.017189
R-squared	0.720598	Adjusted R-squared	0.650748
F(3, 12)	10.31630	P-value(F)	0.001216
Log-likelihood	−31.62884	Akaike criterion	71.25767
Schwarz criterion	74.34803	Hannan-Quinn	71.41592
rho	0.229980	Durbin-Watson	1.536672

Statistics based on the original data:

Mean dependent var	0.035625	S.D. dependent var	0.032243
Sum squared resid	0.009718	S.E. of regression	0.028458

From the results, we can infer that the impact of corruption in the GDP growth is relatively high and significant. Again, we notice a slightly insignificant effect of the Government Effectiveness and the Rule of Law. Additionally, the R^2 is relatively high approximately 0.721.

We then look at the empirical model for Romania.

Romania

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	0.142206	0.0263069	5.406	0.0002	***
ControlofCorruptionEstimate	0.289465	0.102178	2.833	0.0151	**
GovernmentEffectivenessEstim	0.202798	0.0662357	3.062	0.0099	***
RuleofLawEstimate	−0.339183	0.0620520	−5.466	0.0001	***

Statistics based on the weighted data:

Sum squared resid	80.13110	S.E. of regression	2.584104
R-squared	0.750003	Adjusted R-squared	0.687504
F(3, 12)	12.00019	P-value(F)	0.000634
Log-likelihood	−35.59162	Akaike criterion	79.18324
Schwarz criterion	82.27359	Hannan-Quinn	79.34149
rho	−0.186414	Durbin-Watson	1.847101

Statistics based on the original data:

Mean dependent var	0.038750	S.D. dependent var	0.039306
Sum squared resid	0.013642	S.E. of regression	0.033717

We can notice that there is a high positive impact that Control of Corruption and Government Effectiveness have on the GDP growth with coefficients of 0.2895 and 0.2028 respectively. The standard error is relatively low and R^2 quite high.

Surprisingly, the impact of Rule of Law is negative. Law enforcement having a negative effect on the GDP growth is not intuitive, but it does have some grounds in the neo-liberalists theories, which support a free economy that has few interventions from the state. according to them if a country implements excessive controls and strict regulation it can substantially hurt the economy.

The rest of the analysis will be based upon the countries of the Western Balkans that are still aspiring to become part of the EU and are considered to have the highest level of corruption amongst Europe.

Serbia

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	−0.0325579	0.0377950	−0.8614	0.4059	
ControlofCorruptionEstimate	−0.369614	0.105781	−3.494	0.0044	***
GovernmentEffectivenessEstim	−0.330819	0.158057	−2.093	0.0583	*
RuleofLawEstimate	0.0258497	0.0878633	0.2942	0.7736	

Statistics based on the weighted data:

Sum squared resid	21.92302	S.E. of regression	1.351635
R-squared	0.983113	Adjusted R-squared	0.978891
F(3, 12)	232.8714	P-value(F)	6.75e-11
Log-likelihood	−25.22260	Akaike criterion	58.44521
Schwarz criterion	61.53556	Hannan-Quinn	58.60346
rho	−0.172962	Durbin-Watson	1.700248

Statistics based on the original data:

Mean dependent var	0.172717	S.D. dependent var	0.229112
Sum squared resid	0.176602	S.E. of regression	0.121313

This model portrays that a significant negative impact Control of Corruption has on the GDP growth. Surprisingly, it means that a growth in the corruption of a country can potentially lead to an increase in the GDP. Developing countries such as Serbia see this happen, because there are cases where foreign investors are incentivized to go to a country purely because there is corruption.

Imagine if there was the possibility to built a factory that has inefficient cheap filters and consequently pollutes the environment. This can only be achieved through the use of corruption. However, it leads to the creation of more jobs, decreases unemployment and leads to a growth of the economy regardless of the negative effect on the environment and long term economic growth. The impact of Government Effectiveness is also negative, based on the abovementioned reasoning.

Macedonia

Heteroskedasticity-corrected, using observations 2001-2016 (T = 16)

Dependent variable: gdpgrowth

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0245551	0.0136831	1.795	0.0979	*
ControlofCorruptionEstimate	−0.0826753	0.0358710	−2.305	0.0399	**
GovernmentEffectivenessEstim	0.109751	0.0689977	1.591	0.1377	
RuleofLawEstimate	0.0157324	0.0812009	0.1937	0.8496	

Statistics based on the weighted data:

Sum squared resid	68.21795	S.E. of regression	2.384288
R-squared	0.528167	Adjusted R-squared	0.410209
F(3, 12)	4.477581	P-value(F)	0.024943
Log-likelihood	−34.30397	Akaike criterion	76.60794
Schwarz criterion	79.69829	Hannan-Quinn	76.76619
rho	0.369682	Durbin-Watson	1.177828

Statistics based on the original data:

Mean dependent var	0.027500	S.D. dependent var	0.024083
Sum squared resid	0.005966	S.E. of regression	0.022296

The empirical model for Macedonia show a relatively smaller negative impact of Control of Corruption in the GDP growth. Given that Macedonia is a developing country, we believe the reasoning is the same as the one we mentioned for Serbia. The coefficients for Government Effectiveness and Rule of Law are positive, yet statistically insignificant. However, the relatively high R^2 shows the model is statistically significant.

Conclusion

The analysis showed the negative correlation that exists between corruption and economic growth. If we look closely at a country's economic performance, public debt, corrupton index and indeces of the governance indicators we can infer that all of these developing countries's politicians have pushed towards investments financed by debt in sectors where the possibility for corruption has been higher. Hence, they would need a good management of the public debt so that the public finances are not hurt. Most of these countries have all the resourses needed for a developed country, they have had high economic margins throughout the years, therefore a decrease in corruption and improvement of the government performance would be enough to generate rapid and high economic growth.

In conclusion, we can indicate that the economic growth and convergence of a country aspiring to reach the average level of the EU countries is directly related to the reduction of Control of Corruption, improvement of Government Effectiveness, the Rule of Law and Political Stability.

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Public Debt and Economic Growth in the Balkan Countries

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Abstract

In order to empirically verify the impact of public debt on economic growth we have chosen an empirical model that is based on a conditional convergence equation that relates the GDP per capita growth rate to the level of income per capita and the savings as a percentage of the GDP. We are checking the non-linear impact of government debt on the economic growth of a country. We have chosen a sample of 9 Western Balkan countries, namely, Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, Slovenia. We find that public debt has a negative effect on the economic growth, yet, this effect is dependent on the cost of debt. If the debt is used to create jobs that will eventually stimulate consumption, then the capital repayment and the interest costs will most probably not jeopardize the economic situation or increase the taxes to repay the debt. Additionally, if the growth of the real interest rate of debt is higher than the real GDP growth, this will lead to the increase of the debt/GDP ratio.

Keywords: public, debt, economic, growth, Balkan

Introduction

Public debt is one of the most important macroeconomic indicators due to its impact on the economy of each country. Literature suggests that the effect varies in each country depending on the level of economic development and situation. Public debt will have a direct impact on a country's economic growth, but there are contrasting opinions amongst economists regarding the use of public debt, particularly in situations of distress and in developing countries. The two main lines of thought are: the theory of debt neutrality and conventional theory, which will be explained in detail in the following chapters.

Stiglitz (2007) argues that it is crucial for developing countries such as the Balkans to recognize that besides posing a huge burden on the economy, public debt can cause an economic downturn leading up to the bankruptcy of a country (case of Moldova and Argentina).

However, according to him, this situation is attributed to not only the economic conditions, but also to the irresponsible lenders that fail to accurately analyze a country's solvency and the quality of the investments for which the debt has been used. It is sometimes the lenders themselves who encourage the policy makers to borrow more than what they can handle. Consequently, there is more room for the policymakers to undertake corrupt activities by abusing the borrowed funds. Typical cases are the use of debt for road infrastructure or other major works. Generally, the sizeable funds that support the policies stimulating the economic development encourage corrupt behaviour of public officials (Acconcia & Cantabene, 2008).

2. **Literature Review**

The economic literature that addresses the macroeconomic effects of government debt is divided into two main lines of thinking: the theory of debt neutrality and the conventional theory (Elmendorf & Mankiw, 1999).

The theory of debt neutrality is based on the Ricardian equivalence according to which, public debt has no long-term effect on aggregate demand (Modigliani, 1961). The idea that debt is seen as a shifting of tax burden to future generations is also supported by Barro (1979), which excludes the effects in the long run.

On the other hand, the conventional theory of government debt recognizes the existence of a correlation between public debt and economic growth through the accumulation of capital. Correlation between debt and economic growth is often used as an argument favoring a restrictive fiscal policy. The correlation in question does not explicitly state that public debt stimulates growth. Moreover, it is unknown whether high public debt limits economic growth or not.

Reinhart and Rogoff (2010) show that there is a negative correlation between public debt and economic growth, but this negative correlation is not evident, not until the public debt does exceeds 90% of GDP. The authors in question have been very cautious, saying that correlation can be a causal relationship between high debt and low economic growth.

Herndon, Ash and Pollin (2013) uncovered and highlighted some errors in the calculation of average economic growth by Reinhart and Rogoff, raising many questions about the results of Harvard economists, especially for the maximum debt limit of 90%. According to the latter although there were some errors in the excel worksheet they used in their studies, their method for calculating the average economic growth is correct.

Panizza and Prebsbitero (2013) in their study of the debt-growth relationship in the developed economies concluded that there exists causality (not verifiable in all cases) and heterogeneity. According to them, this correlation is in the values: an increase with 30 percentage points of debt being associated with a decrease of 0.5 percentage points of economic growth.

In the 2014 Panizza Presbitero study, the public debt has negative causal effects on economic growth, and these effects are the same for a country like Greece, as well as for a country like Japan. Most empirical studies confirm the negative correlation of public debt growth, but the idea of a certain limit of public debt presented by Reinhard and Rogoff has not been supported.

In order to study the relation public debt – economic growth, Minea and Parent (2012) used a statistical technique that allows gradual change in the relation. By working with models that use exogenous boundaries, they came to the conclusion that it is very complex to identify, the amount of the maximum level of sustainability of public debt.

Findings

In order to empirically verify the impact of public debt on economic growth we have chosen an empirical model that is based on a conditional convergence equation that relates the GDP per capita growth rate to the level of income per capita and the savings as a percentage of the GDP. The model has been augmented to include the level of gross public debt as a percentage of the GDP. Given that using debt in linear form would not yield significant results, we have

used a quadratic equation in debt. Thus, we are checking the non-linear impact of government debt on the economic growth of a country.

We have chosen a sample of 9 Western Balkan countries, namely, Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, Slovenia. However, some data is missing for certain countries, which is why the number of observations is 117.

Our basic estimation equation is as follows:

$g_{it} = \alpha + \beta \ln(\text{GDP} / \text{cap})_{it} + \gamma_1 \text{debt}^2_{it} + \gamma_2 \text{debt}_{it} + \delta \text{ saving rate}_{it} + \text{pop.growth}_{it} + \varepsilon_{it}$

where

g_{it} = the growth rate of GDP per capita

$\ln(\text{GDP/cap})_{it}$ = natural logarithm of the level of GDP per capita

debt_{it} = gross public debt as a percentage of GDP

savings rate_{it} = savings as a percentage of GDP

We are going to use a fixed-effects model with panel data corrected for heteroskedasticity on the gretl program.

In order to address the potential problem of endogeneity of the debt variable, particularly reverse causation, we are going to use 2 instrumental variable estimation techniques: 1) by using lagged values of the debt-to-GDP ratio (Cecchetti, Mohanty and Zampolli, 2011); 2) by instrumenting the debt-to-GDP ratio with the average debt of the other countries in the sample (Checherita-Westphal and Rother, 2012)

Model 1: Fixed effects model, using 117 observations

Number of groups included: 9

Number of time series: min 11, max 16

Dependent variable: **GDP_cap**

	Coefficient	Std.error	t-stat	p-value	
const	-11,6760	4,19705	-2,782	0,0064	***
SavingsasofGDP	0,0974268	0,136478	0,7139	0,4769	
DebtGDP_1	0,164518	0,0967441	1,701	0,0920	*
DebtGDP_5	0,162194	0,0721700	2,247	0,0267	**
DebtGDPkatror	-0,225173	0,102048	-2,207	0,0296	**
Ln(GDP_cap)	7,28021e-06	2,43053e-05	0,2995	0,7651	

Mean dependent var	0,040957	S.D. dependent var	0,096518
Sum squared resid	0,847210	S.E. of regression	0,090694

LSDV R-squared	0,216001	Adjusted R-squared	0,106476
LSDV F(13, 101)	2,182904	P-value(F)	0,015201
Log-likelihood	122,2711	Akaike criterion	-216,5421
Schwarz criterion	-177,8717	Hannan-Quinn	-200,8424
rho	0,350712	Durbin-Watson	1,277691

Common test on the regressors -

Test statistic: $F_{(6, 103)} = 2,04564$

With p-value = $P(F_{(6, 103)} > 2,04564) = 0,0661655$

Test of difference of constant of groups -

Zero hypothesis: Groups have a common constant

Test statistic: $F_{(7, 103)} = 2,81981$

With p-value= $P(F_{(7, 103)} > 2,81981) = 0,00995335$

The model with 117 observations would be more robust if the times series were longer, but for the aforementioned lack of data this is all we could find. Checcherita and Rother (2010) used a similar model for the developed countries in EU, whereas we are considering the Balkans, which include both developed and developing countries.

The usage of lagged terms of regressors as instruments to address endogeneity has been a common practice with macroeconomic data, but in our case it is more problematic because of the high persistency of the debt stock variable. (Checcherita and Rother, 2010)

Therefore, for every country and year we have also calculated the average government debt/GDP of all the other countries in the sample and have used this variable as an instrument. Assuming that there are no strong spillover effects between debt levels in the Balkan countries and per-capita GDP growth rate in one specific country, this instrumental variable will have the advantage of not having direct causation effect on the growth rate. Additionally, the problem of endogeneity is mitigated by the fact that the debt variable is lagged to the 1st and 5th year.

Model 2: Fixed effects model, using 115 observations

Number of groups included: 9

Number of time series: min 11, max 16

Dependent variable: **GDP_cap**

	Coefficient	Std.error	t-stat	p-value
const	-0,359012	0,280399	-1,280	0,2033
SavingsasofGDP	-0,0578424	0,147605	-0,3919	0,6960

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

DebtGDP_1	0,0835690	0,119936	0,6968	0,4875	
DebtGDP_5	0,0918057	0,0667846	1,375	0,1723	
DebtGDP_sq	-0,206153	0,117471	-1,755	0,0823	*
Ln(GDP_cap)	3,03891e-05	2,92898e-05	1,038	0,3020	
Averageforeveryother country	0,244601	0,104141	2,349	0,0208	**

Mean dependent var	0,040904	S.D. dependent var	0,097353
Sum squared resid	0,860039	S.E. of regression	0,092278
LSDV R-squared	0,203997	Adjusted R-squared	0,091973
LSDV F(13, 101)	1,991068	P-vaue(F)	0,028824
Log-likelihood	118,3254	Akaike criterion	-208,6508
Schwarz criterion	-170,2218	Hannan-Quinn	-193,0526
rho	0,386370	Durbin-Watson	1,189857

Common test on the regressors -

Test statistic: $F_{(6, 101)} = 1,70504$

With p-value = $P(F_{(6, 101)} > 1,70504) = 0,127424$

Test of difference of constant of groups -

Zero hypothesis: Groups have a common constant

Test statistic: $F_{(7, 101)} = 2,25075$

With p-value= $P(F_{(7, 101)} > 2,25075) = 0,0360467$

Across both models we can see a highly statistically significant non-linear relationship between the public debt ratio and the per-capita GDP growth rate for the 9 Balkan countries we have taken into consideration, starting from 1996 to 2016.

In conclusion, public debt has a negative effect on the economic growth, yet, this effect is dependent on the cost of debt. If the debt is used to create jobs that will eventually stimulate consumption, then the capital repayment and the interest costs will most probably not jeopardize the economic situation or increase the taxes to repay the debt (Greiner and Fincke, 2009). Additionally, if the growth of the real interest rate of debt is higher than the real GDP growth, this will lead to the increase of the debt/GDP ratio.

Conclusion

After observing the literature and the results to our empirical analysis, we can say with certainty that there exists a highly statistically significant non-linear relationship between

public debt and the economic growth and that corruption is strongly correlated with the economic growth of a country.

Additionally, our analysis has shown us that on one hand public debt can be detrimental to the economic growth given its costs. On the other hand, if the debt was used to increase the productivity of a country, pay the previous debt with the proceeds, the debt could positively affect the economy.

Recently in developing countries, everytime policymakers have increased taxes to decrease the debt they have failed miserably by increasing the deficit even more. This can be infered by taking into account the economic growth, fiscal revenues and public debt. Therefore, these developing countries are not in need of failing austerity policies, instead they are in need of those policies that can improve the way debt is managed and reduce the misuse of public finances.

Albania is a country that would be in need of a decrease of the debt/GDP ratio. This can be done through a stimulation of the economy rather than a decrease of the public debt.

The empirical analysis showed that the increase on real public debt can negatively influence the GDP, yet, we did not observe a specific level above which the effects worsened. Instead, we noticed that whenever the public debt was increasing, the cost of debt would sometimes decrease because the governments would substitute the debt borrowed from second tier banks with debt borrowed from the IMF.

Investing in sectors such as agriculture, which would set the country for more competitive products during a time when the neighbouring countries have already lost some of their competitive advantages because of the current economic crisis. Therefore, if the government were to borrow with the goal to invest in the technology in agriculture or training to increase human capital productivity, this debt would definitely increase the overall productivity of a country, wages, and later on would positively affect the consumption and economic growth.

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The Agro Exports of Organic Native Products and Environmental Security in Peru

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Abstract

The study objective is to analyze agro-exports of organic products and environmental security (certification) in Peru. Agro-exports are the second generator of foreign currency for Peru. The descriptive, comparative-graphical method and the polynomial curve are used. In 2019 traditional agro-exports and non-traditional agro-exports contributed 11% and 89% of total agro-exports respectively, the main markets were the United States (35%) and the Netherlands (15%). Peru is the world's leading exporter of native functional products (called superfoods) quinoa and maca. Quinoa is the most demanded native agro-export product internationally. It was found that during the period 2000-2019 the main Peruvian agro-exports of non-traditional products with a vertiginous growth are fruits and vegetables. For the year 2019, fruit agro-exports in terms of FOB value in millions of US $ contribute 56% to the total of non-traditional agro-exports. The increase in fresh grapes, fresh blueberries and fresh avocados is remarkable. Environmental security in terms of the area for organic production affects 51% of agro-exports. Peru promotes organic production from the producer to the final consumer and the certification of organic products in the production, transformation and marketing processes.

Keywords: Agro exports, organic products, certification, environmental security

1. Introduction

In recent decades, the Peruvian agro-export sector is the second economic activity with the highest profitability after mining, with earnings from non-traditional exports multiplying almost eight times (Larrea, *et al.* 2018).

The first efforts to diversify exports of traditional products such as coffee, cacao, sugar and cotton began in the mid-1980s with the successful promotion of asparagus exports, in the 1990s it was accompanied by diversification across a wide range of other high-value products for export (World Bank Group, 2017).

Agro-exports are the second generator of foreign currency for Peru. Since the year 2000, its export figures have experienced an exponential increase of US$ 700 million to US$ 7 billion (trillion). Peru is known worldwide for its biodiversity, climatic zones allows in produce variety of high quality products, increasingly recognized by international markets, Europe is the second destination market for exports of fruit and vegetables, accounting for 37% of the total exported in 2019 (Blueberries Magazine, 2020).

The producers of quinoa the Puno region use local inputs and have limited access to providers of financial and technical assistance, in the region of Junin farmers enjoy greater access to these providers and answers more quickly to market changes / price (Mercado and Ubillus, 2017).

About 65% of national agriculture depends on native genetic resources, such as potatoes, corn, sweet potatoes, Andean grains (quinoa, kiwicha and kañiwa, tarwi or lupine), fruits (avocado, papaya, prickly pear, camu-camu, custard apple, custard, cocoon, cherry, sweet cucumber, etc.), roots (arracacha, yacón, maca), Andean tubers (oca, mashua, olluco), cacao, legumes (pallar, beans, pashullo) and various other crops (Lakkala *et al.*, 2019).

Peru is ready to implement plans to promote its range of superfoods with plans to increase exports of its ethnic and other agricultural products to the Middle East region in line with growing demand.

Peru has unique products in the world, from agricultural and artisan products to its gastronomy.

The range of Peruvian superfoods is classified into fruits and vegetables (aguaymanto, blueberries, artichokes, camu camu, custard apple, asparagus, pomegranate, passion fruit, guanabana, lúcuma, mandarin, avocado and grapes), grains (cacao, chestnut, sweet potato), cañihua , chia, amaranth, maca, purple corn, quinoa, sacha inchi, yacón and yuca), and seafood (anchovy, eel, tuna, bonito, mackerel, squid, scallops, horse mackerel, shrimp, mahi-mahi, hake, paiche, cuttlefish and trout). At the Asia Fruit Logistics 2020 Fair to be held from September 16 to 18 in Singapore, through PROMPERÚ, various Peruvian companies negotiate organic products. In Biofach 2020, the main fair of organic products in the world, aguaymanto, cacao, coffee, camu camu, chestnut, ginger, kiwicha, quinoa, lúcuma, maca and sacha inchi were exhibited, promoted under the Super Foods Peru brand, highlighting the nutritional properties that benefit its consumers.

Literature review

Peru's rich biodiversity distinguishes it as a provider of superfoods, such as cacao and chia seeds, but also lesser-known native crops such as lucuma, a tropical fruit known as the "gold of the Incas", sacha inchi, also known as the "Inca peanuts", camu camu, a powerful source of vitamin C, and other Andean grains such as kiwicha and cañihua o kañiwa. Peru launched the Superfoods brand at the Fruit Logistica trade fair in Germany in February 2017 aimed at highlighting quality, variety and its benefits for consumers (Oxford Businnes Group, 2018).

According to Legal Team Peru (2019), Peru and Bolivia export quinoa, the health benefits of the superfood include high levels of protein and it contains all the essential amino acids.

The aguaymanto or Physalis peruviana (golden berries or Inca berries), are another superfood from Peru, the fruit is receiving worldwide attention for its high levels of antioxidants. In Peru, aguaymanto is produced in the Ancash, La Libertad, Cajamarca, Lambayeque, Ayacucho, Lima, Junín, Huánuco and Cusco regions and is exported to the European market and the United States, where demand is growing. Camu Camu or Myrciaria dubia, a fruit native to the Amazon rainforest located in Peru, is a promising super food in world markets, Peru is the largest exporter of camu camu, common export destinations include Japan, USA. USA, Italy and other European countries (Legal team Peru, 2019).

Higuchi and Dávalos (2016) identified two segments of consumers of organic products in Lima Metropolitana, central –level and midlevel who buy organic food because they are healthiers, for best flavor or cooler than the product standard is and the environmental safeguards, additionally the central level segment exhibits greater preferences for sensory, quality and learning of organic attributes; also evidence rum that educational attainment increases the probability of being an organic consumer midlevel .

In Peru, the boom in agricultural exports has changed from traditional crops (coffee and cotton) to agribusinesses non - traditional and has left room for small farmers to enter the sector traditional agro-industrial like the *Gossypium Barbadense* native cotton on the north coast of Peru, part of the pre-Inca Moche indigenous culture supported by Law No. 29224 of 2008, affirming native cotton as the country's genetic, ethnic and cultural heritage. Pisani *et al.*, (2015) argue that the revival of the Peruvian native cotton is an opportunity to generate income for the small farmers.

Today, Peru has a high biodiversity, to develop various crops native of interest in the international market (Correa *et al.*, 2017).

Compared to international competitors Peru has had the fastest evolution in agro-exports of fruit and vegetables from 2004 to 2016, surpassing China and India and in the region to Mexico and Chile have grown much less (Zegarra, 2019), also found that a higher educational level of farmers in agro-export zones increases export survival capacity, that greater access to credit has a negative (unexpected) effect in increasing the risk of stopping exporting , in addition, agro- exports of the coast they have greater survival capacity (climatic advantages, agriculture under irrigation, transportation) than the mountains and jungle.

The native species of bio-commerce are being valued with innovative techniques that will improve their production and are friendly to the environment, in itself, has fostered good agricultural practices and the conservation of species and ecosystems (De la Cruz, 2015).

In recent years, organic products, many of them called superfoods, have become very important in the global consumer's diet.

Before exporting to Portugal, it must be ensured that organic certification is harmonized with EU legislation, otherwise the product will not be recognized as organic in Europe (MINCETUR, 2013).

According to the International Trade Center (ITC, 2015), Peru has managed to become the world's leading provider of asparagus and quinoa, and the world's third largest provider of fresh cranberries and avocado.

Asmat-Campos et al. (2019) propose to increase the agro export of dehydrated lucuma that would be processed using an innovative technique (equipment) of solar dehydration that preserves the organoleptic properties of the fruit, while reducing production costs and additionally reducing CO2 emissions.

From a human or national security perspective, environmental security is a concept intended to give greater importance to environmental change issues that already apparent in the politicization of nature inherent in the emergence of political ecology from the 1990s (Hough, 2019).

The desire to increase productivity and yields of agriculture has led historically to environmental degradation, reduced biodiversity and limitations to ecosystem services, with the greatest impacts on the poor. Food security must be increased in a sustainable way and resilient to climate change, while also reducing greenhouse gas emissions, alleviating poverty and conserving biodiversity (Poppy et al., 2014).

Environmental security reflects the ability of a nation or a society to resist scarcity of environmental assets, environmental risks, or adverse changes related to the environment (Belluck et al., 2006).

According to Miner (2019) it is possible to preserve forests through trees reforestation, minimizing the consumption of meat and palm oil, choosing sustainable coffee and cacao cultivation. Mountain ecosystems may be strengthened by replanting native grass and trees. The negative impacts of climate change in South America can be prevented by increasing the sustainability of human land use practices.

Sustainable coffee certification has been a hallmark of Peruvian coffee production, including certified organic coffee since 1989 with OCIA and since 1994 with Fair Trade. A significant proportion of Peruvian cocoa is also certified for export. A 2013 Rainforest Alliance survey found that certified farmers reported better management and organization, increased access to education and training, and improvements in soil and biodiversity (International Trade Center, 2015).

Justification and importance:

The topic is justified because since 10,000 years ago the ancient Peruvians accumulated important knowledge about the uses and properties of native species, and today, the world market demands healthy and nutritious food.

It is important to generate more currency pair to Peru exporting native organic products in green markets that contribute to the welfare of consumers in the world and also promote sustainable use of the resources native Peruvians and the (security) environmental sustainability.

General objective

Analyze the relationship between agro-exports of native organic products and environmental security in Peru

Specific objectives

Find out which native products have the highest international demand

Determine the status of the agricultural exports of the super - food and environmental safety (certification)

Methodology

Non-experimental, descriptive and explanatory research.

Temporal and spatial scope:

The study includes the agro-export of organic Peruvian native products and security environment in Peru (2000-2019)

Universe: agro-exports of organic products, unit of analysis: native product

Materials:

Information sources: Specialized magazines and journals on agro-exports and environmental impact.

Statistics of the Ministry of Foreign Trade and Tourism -MINCETUR, PROMPERÚ, INEI.

Software: Excel

Data collection techniques: Secondary information, PROMPERÚ, BCRP, PRODUCE

Process:

First, the characteristics of the agro-exportations of native Peruvian products and environmental security have been reviewed.

Second, the relationship between agro-exports of native organic products and environmental security in Peru is studied.

Third, the contribution of organic products to non-traditional agro-exports is analyzed. The certification of organic products, environmental security and Peruvian economic development are also addressed.

The polynomial curve and agro-export approaches are used.

Results

In this section, the main products of Peruvian agro-exports are comparatively analyzed and then we review the progress in the certification of organic products as an environmental safety factor.

4.1. Comparative analysis of Peruvian agro-exports

In 2017, 94% of traditional Peruvian agro-exports were Coffee (86%) and Sugar (8%), and more than 50% of Non-Traditional agro-exports were mainly Grape (13%), Avocado (12%), Asparagus (11%), Blueberry (7%), Mango (5%) and Cacao (5%) (PromPerú, 2017).

The exports of functional products and of the biocommerce in the year 2017 represented the 5% of the participation of the whole of the agricultural exports non-traditional with growth of 16%, compared to the 2016 by increasing the exports of quinoa grain, sauces quinoa, maca powder, giant corn snacks, and roasted sacha inchi to the United States and South Korea.

Peru has been positioned in the exports of quinoa and maca (1st place at level worldwide) and nuts from Brazil without shell (2nd place at level worldwide). The main destinations of the products functional and of the biocommerce during the 2017 were the United States (33%), Korea of the South (14%), Spain (7%), Netherlands (5%) and Canada (5%); the which had one variation of -2%, + 1208%, + 18%, -16% and + 11%, respectively. At the highest increase in exports to South Korea stand out the nut of Brazil and the sacha inchi toasted (PromPeru, 2017).

For 2019 traditional agro-exports contributed 11% and non-traditional agro-exports 89% of total agro-exports (table 1), the main markets were the United States (35%), the Netherlands (15%), Spain (6%) and the United Kingdom (5%). They highlighted the increase in fresh blueberries, fresh grapes and fresh avocados. Of the functional products, quinoa in grains stands out (PromPerú, 2019).

Table 1. Agro-exports contribution of traditional and non-traditional products, Peru 2000-2019

Año	% traditional products agro-exports/Total Agro-exports	% non-traditional products agro-exports/Total Agro-exports
2000	38.7	61.3
2001	32.2	67.8
2002	28.2	71.8
2003	26.4	73.6
2004	28.9	71.1
2005	24.7	75.3
2006	32.0	68.0
2007	23.3	76.7
2008	26.4	73.6
2009	25.8	74.2
2010	30.7	69.3
2011	37.3	62.7
2012	26.2	73.8
2013	18.6	81.4
2014	16.7	83.3
2015	14.1	85.9
2016	15.7	84.3
2017	13.8	86.2
2018	11.4	88.6
2019	10.9	89.1

Source: BCRP, Prepared by the authors

According to International Monetary Fund (2020: 38) in the last two decades, Peru has experienced an agro-export boom, while the exports of mining, oil and gas still accounts for about 2/3 of total exports and 22 percent of GDP, the agricultural exports have expanded dramatically, reaching US $ 6 billion or 2.7 percent of GDP in 2019 from 0.4 percent in 2001.

Seasonal exports to the northern hemisphere of high-value fresh fruits and vegetables (mainly grapes, avocados, blueberries and asparagus) total $ 2.5 billion or 1.2 percent of GDP. Exports of other products (including citrus, bananas, cacao and pomegranates) are also increasing rapidly.

Traditional agriculture is labor-intensive characterized by low productivity, employing 4.5 million workers (25 percent of the workforce) mainly in non-salaried or informal jobs; whereas the agricultural sector agro-export provides 0.8 million formal agricultural employment, over 0.46 million in 2004, and indirectly supports 0.7 million in jobs, productivity and high incomes, while, poverty has fallen dramatically in rural areas (from 80 percent in 2004 to 36 percent in 2018), coastal poverty has fallen further (from 67 percent in 2004 to 19 percent in 2018) (International Monetary Fund 2020: 38).

Figure 1. Peruvian agro-exports of traditional and non-traditional products - FOB values (US$ million), 1970-2019
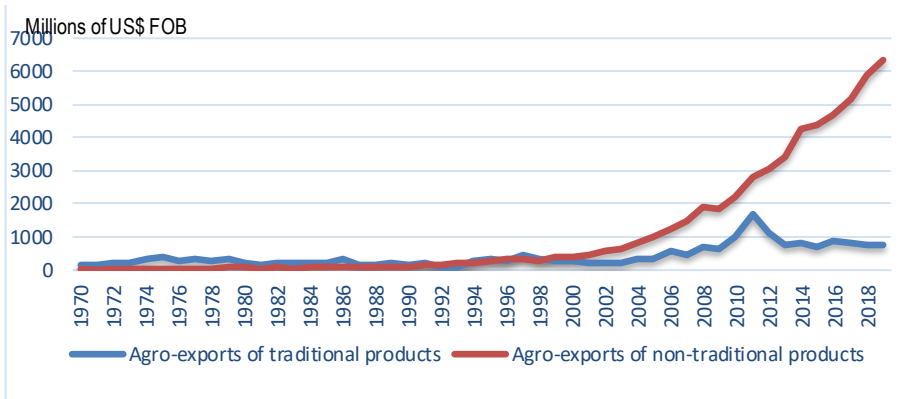
Source: BCRP. Prepared by the authors

Figure 2. Agro exports of non-traditional products - FOB values (US $ million), Peru, 2000-2019
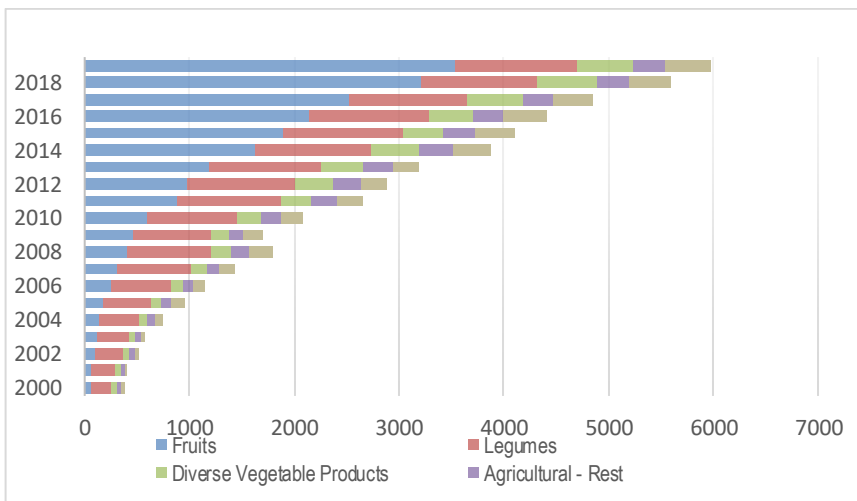
Source: BCRP. Prepared by the authors

In the study period 2000-2019, there was a boom in non-traditional agro-exports led by fruits and vegetables with 56% and 18% respectively (figures 1 -3).

Figure 3. Non-traditional agro exports (FOB values in millions of US$), Peru, 2019
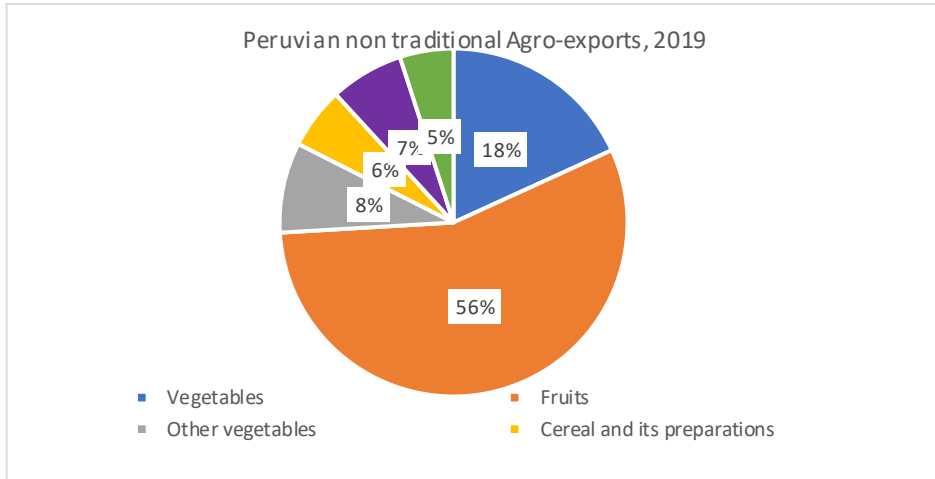
Source: BCRP, SUNAT.

The main fresh fruits and vegetables exported in 2019 were found to be grapes and blueberries (figure 4). Likewise, the main native functional product exported is quinoa (figure 5).

Figure 4. Non-traditional Agro exports: Main fresh fruits and vegetables - FOB value US$ million, Peru 2019
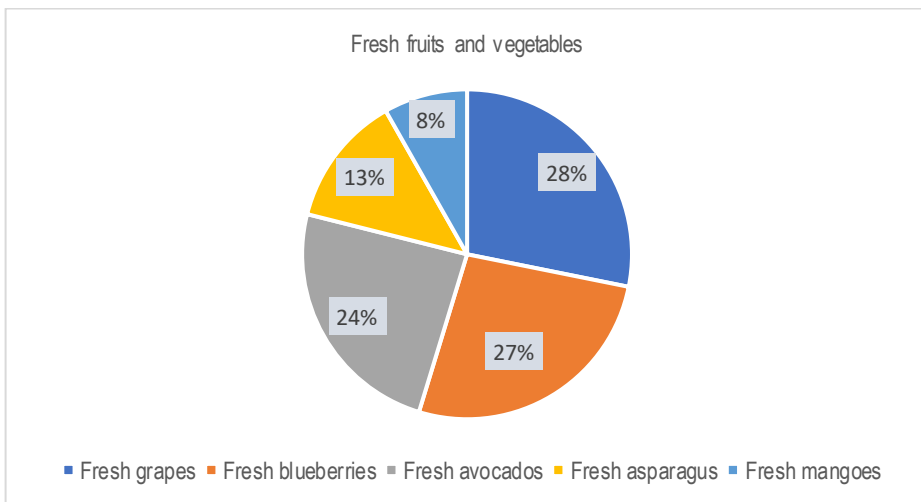
Source: PROMPERU

Figure 5. Non-traditional Agro exports: Main functional foods- FOB value US$ million, Peru 2019

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3
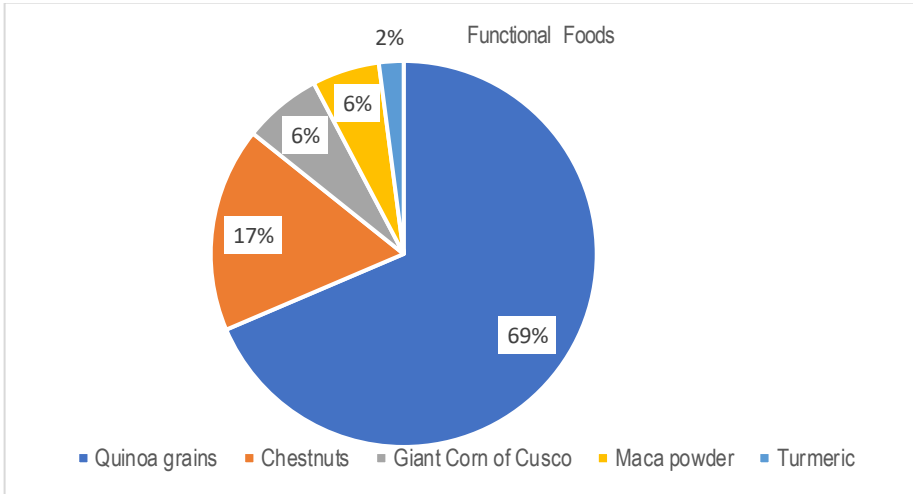
Source: PROMPERU

Figure 6. Main markets for non-traditional agro-exports - FOB US $, Peru 2018- 2019
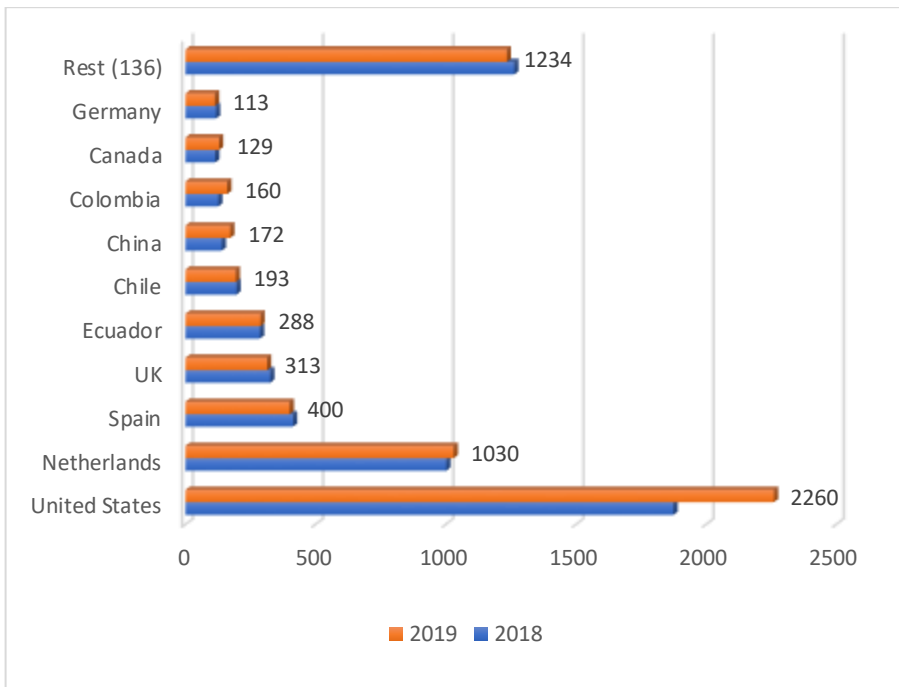
Source: PROMPERU

The main international buyers of Peruvian agro-exports are the United States and the Netherlands (figure 6).

In Peru, the area destined for organic production (INEI, 2019) is less than 2% of the total agricultural hectares (ha).

Table 2. National organic production statistics 2018

Region	Number of Operators (ha)	Number of Producers (2)	Area (ha) Transition	Organic Area	Total
Amazonas	28	7,337	4,784.23	12,626.96	17,411.19
Ancash	16	9	1.5	773.36	774.86
Apurímac	6	1,120	475.31	2,881.33	3,356.64
Arequipa	15	611	49.82	11,713.95	11,763.77
Ayacucho	28	3,910	6,221.44	9827.77	16,049.21
Cajamarca	89	20,013	14,252.27	35,294.65	49,546.92
Cusco	32	5,555	4,991.27	14,768.15	19,759.42
Huancavelica	2	3	0	0.76	0.76
Huánuco	13	2,553	2,195.31	6,413.12	8,608.43
Ica	21	118	225.86	928.57	1,154.43
Junín	144	15,246	23,019.87	43,625.70	66,645.57
La Libertad	27	2,801	1,352.26	1,750.62	3,102.88
Lambayeque	36	1,202	338.63	1,805.60	2,144.23
Lima	306	4,563	6,843.08	12,441.42	19,284.50
Loreto	1	22	30.5	46.54	77.04
Madre de Dios (3)	5	402	278.96	213,114.48	213,393.44
Moquegua (4)	0	0	0	0	0
Pasco	13	817	1,168.39	1,853.53	3,021.92
Piura	146	14,687	4,557.42	19,623.59	24,181.01
Puno	12	4,530	1,699.13	3,994.94	5,694.07
San Martin	68	16,187	17,399.73	30,379.05	47,778.78
Tacna	1	13	1.21	9.12	10.33
Tumbes	4	120	145.35	158.5	303.85
Ucayali	9	1,735	5,195.15	5,596.03	10,791.18
TOTAL	892 (1)	103,554	95,226.69	429,627.74	524,854.43

(1)   The number of operators is accounted for ignoring the operators that operate in 2 or more departments.

(2)   The data corresponds to the number of organic and transition producers.

(3)   Wild collection areas

(4)   In 2018, no information on organic production was recorded.

Source: SENASA

In Peru 2018, The Cajamarca region concentrates the largest number of organic producers with 20,013 ha. The regions of Madre de Dios, Junín and Cajamarca represent the largest certified organic areas with 213,114 ha, 43,626 ha and 35,295 ha respectively (table 2).

Table 3. Agro-exports and area for organic production, Peru 2006-2018

Año	Total Agro-exports FOB (US$ million)	Area destined for organic production (Thousands of Ha)
2006	1793.79	240.17
2007	1972.58	280.24
2008	2598.58	257.44
2009	2461.97	390.95
2010	3177.65	342.70
2011	4524.88	302.60
2012	4177.51	256.84
2013	4230.25	230.94
2014	5078.74	331.29
2015	5131.39	457.04
2016	5580.27	395.56
2017	5972.61	537.75
2018	6675.75	532.66

Source: BCRP; INEI. Perú: Anuario de estadísticas Ambientales 2019

Table 3 shows the accelerated increase in Peruvian agro-exports, we assume the area for organic production as an indicator of environmental security.

Figure 7. Relationship between Agro-exports and area for organic production, Peru 2006-2018
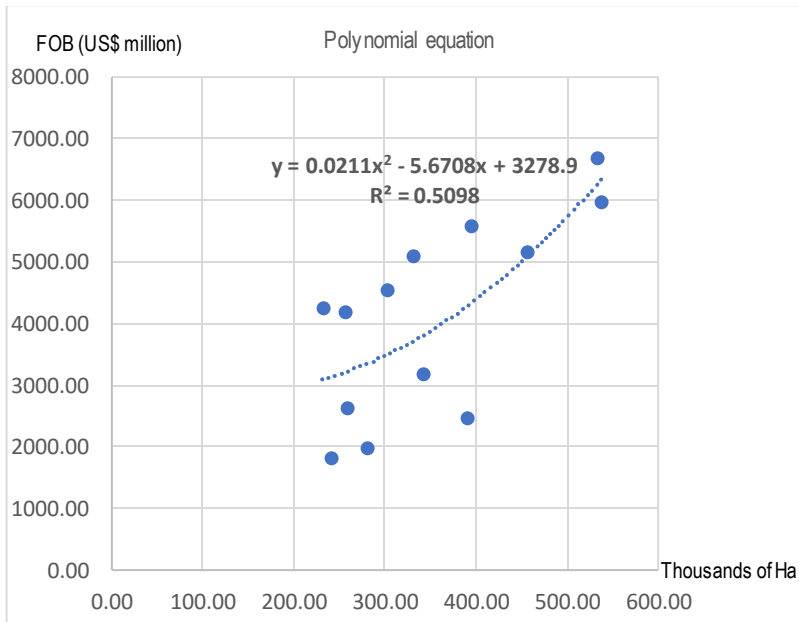
Source: The authors

The X axis measures the area destined for organic production in thousands of hectares, the Y axis (dependent variable) measures total Peruvian agro-exports (millions of US$). The polynomial curve fits the data better than a linear equation and Figure 7 shows that the area

destined for organic production (indicator of environmental security) has an impact of 51% on Peruvian agro-exports.

4.2 Advancement of quality certifications of Peruvian agro-exports of native organic products and environmental Security

According to Supreme Decree No. 002-2020-MINAGRI, the National Agrarian Health Service - SENASA is the competent national authority to authorize and supervise the certification entities, which operate in Peru; and promotes and supports the certification of organic products directly to producers in order to guarantee the organic condition of products called organic, biological or ecological in the internal and external market, helping to promote the sustainable and competitive development of organic production in Peru, from the producer to the final consumer. SENASA also authorizes and controls the use of the National Seal of organic products, in the production, transformation and marketing processes according to the national organic production standards.

In Peru, advances in quality certifications guarantee the quality of agricultural production, the export process, and environmental safety. SENASA registers organic production certifiers such as Bio Latina Perú, BCS Peru, Control Unión, IMO Control Latinoamérica Peru, OCIA international PERU, CERES PERU among other. Organic certification helps to differentiate the product, to have visibility in national and international markets, to have environmental benefits: healthy natural resources, soil conservation and species biodiversity.

Conclusions

In the period 2000-2019, the main Peruvian non-traditional agro-export products are fruits and vegetables, which increased from 53 and 192 million FOB dollars in 2000 to 3,544 and 1,153 million FOB dollars in 2019, respectively.

For the year 2019, fruit agro-exports in terms of FOB value in millions of US$ contribute 56% of total non-traditional agro-exports.

Quinoa known as functional food is the most demanded native agro-export product internationally.

Environmental security via the area destined for organic production has a 51% impact on total agro-exports.

Peru promotes organic production from the producer to the final consumer through SENASA, who authorizes and controls organic product certifiers and controls the use of the National Seal of organic products in production, transformation and marketing processes.

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State Owned Enterprises

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Abstract

According to OECD (2015), any corporate entity recognized by national law as an enterprise, and in which the state exercises ownership, should be considered as a State-Owned Enterprise (SOE). Although most industrialized economies are characterized by open and competitive markets firmly rooted in the rule of law, with private enterprises as the predominant economic actors yet governments continue to own and operate national commercial enterprises in key industries, making them important actors in the market, in the economy and in the society. The SOEs are an established reality world - wide but how well this reality performs is another question, that needs to be considered case by case. However, it may be concluded that when governed transparently and efficiently, SOEs can play a role in creating fairer, more competitive markets. Thus, in order to maximize their contribution to the economy and the society, SOEs should be productive and efficient.

Keywords*:* State-Owned Enterprise, privatization, public enterprise;

According to OECD (2015), any corporate entity recognized by national law as an enterprise, and in which the state exercises ownership, should be considered as a State-Owned Enterprise (SOE). This includes joint stock companies, limited liability companies and partnerships limited by shares. While SOEs were once principally engaged in providing basic infrastructure or other public services within their domestic markets, SOEs are increasingly becoming important actors outside their territories (OECD, 2015:12). Most industrialized economies are characterized by open and competitive markets firmly rooted in the rule of law, with private enterprises as the predominant economic actors (OECD, 2015: 11). Despite extensive privatization, governments continue to own and operate national commercial enterprises in key industries (IFC, 2018).

Any government, depending on the political forces that are in charge with the government of a given country, and with their political vision, define the size of the public sector (Llaci, 2012:301). There is no economy without such a sector while there are economies with different levels of the public sector[1] (Bundo et al., 1997: 51).

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[1] Quite often state owned enterprises, also called or referred to as government-owned corporations, are easily confused with public companies, or listed companies whose stock is partly owned by a government entity, due to the term public which make them associated with the notion of a "public good". However, the listed companies are owned and operated by private individuals.

In fact, the public sector has been at the center of debates of researchers and schools. Governments worldwide have long established SOEs with a variety of public policy goals such as providing utilities, controlling natural resources etc. The '30 and especially the years after the Second World War, marked an important milestone in the history of SOE-s: their number was increasing in many economies, both developed and emerging ones. The motives behind included a wide array of reasons: to reduce the massive unemployment, to boost economic growth, to ensure control over the economy etc. Such trend continued until the '70 and the '80. Corruption, inefficient management, excessive workforce in place, inflation and the increase of budged deficit, exposed the government mass failure (Llaci 2012:302). Evidence from the 1970s and 1980s from a number of countries shows that, on average, SOEs have performed poorly relative to private firms, partly because multiple policy goals proved difficult to reconcile (World Bank, 2014: 2).

The lifespan of SEO-s is quite a rollercoaster: the history provides evidence how once privatized sectors, even in countries like France, Greece or Great Britain, are made public again or vice versa. The pressure exerted by the EU on its Member States to privatize large parts of "classic" public enterprises in the postal, telecommunications, transport and energy sectors is well known (Dine, Bletcher, 2016: 238).

The call for privatization was especially a must in the former Easter block countries in the '90 in the light of the transformation of both the political and economic systems in place. While in western countries, privatization can be seen as a reform process, in eastern countries like and in our country, privatization is an essential process of a systemic transformation of society as a whole (Pano 2000:158).

As a matter of fact, even nowadays SEO-s are now a tangible reality whose roles seems increasing. They are present as important actors in many economies, often prevalent in strategic sectors such as energy, minerals, infrastructure, utilities etc. Their performance is important to broad segments of the population and to other parts of the business sector. Today they account for over a fifth of the world's largest enterprises as opposed to ten years ago where only one or two SOEs could be found at the top of the league table (OECD, 2018: 4). The World Bank notices that indeed, many SOEs now rank among the world's largest companies, the world's largest investors, and the world's largest capital market players. In many countries, SOEs in strategic industries are increasingly viewed as tools for accelerated development. However, practice has evidenced that the performance of this sector and especially of the state owned companies is weak and cannot be compared to other companies of the private sector (Llaci, 2012:304).

From the ownership point of view, the SOEs may be fully owned by the state[1], or the ownership may be mixed: that is to say, either the state during the privatization process, remained as a co- owner by holding the majority of the shares (which is quite rare), or kept a small portion

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[1] According to OECD (2018): Ownership model: Most of the surveyed countries have either adopted a centralised model for state ownership, have established a central holding company for an important portfolio of SOEs, or have established a central co-ordinating agency, often charged with monitoring performance or coordinating governance practices across the SOE sector. Some countries have a highly decentralised system, with the ownership of SOEs being exercised by a multitude of line ministries and no co-ordinating agency in place. (for more please see http://www.oecd.org/corporate/Ownership-and-Governance-of-State-Owned-Enterprises-A-Compendium-of-National-Practices.pdf

of the shares by giving out the majority. The state may act as an owner through ministries in charge, such as ministry in charge for finance or economy, the ministry in collaboration with line ministries, bodies of local or central government etc.

On the other hand, this means that this "owner", the state, the government, the body, (that is a legal entity) is fully entitled to nominate the management of the SOEs and define their objectives as well. The objectives of SOEs are also considered as their major drawback compared to the private companies. The SOEs are subject to many objectives and also obligations which are quite different from the shareholder value maximization point of view the commercial private companies have as a prime objective. The field SOEs operate in, especially when related to limited resources, foreign investments or with high impact on environment etc., unfortunately creates room for corruption and malpractices.

Evidence show that SEOs seems to be the "favored kid" in the family, due to the preferential treatment they may get in terms of subsidies (which is some cases amounts to a kind of "life support" from the state due to their performance), credits etc. From the activity point of view: in some cases, the SEO may hold the monopoly of the services/ products it provides (mainly in utilities areas), or they may lose the entitlement to monopoly once the market is liberalized such as in the case of the postal services (loss of entitlement to being sole universal postal operator), electronic communications etc. The latter cases exposed SEOs to a competitive market while in the same time being state owned companies that abide to different rules to the game, more bureaucracy, which in some cases may clearly become a disadvantage to them to be able to compete in the market. Such may hamper their activity and in the same time affect the quality of their services. But on the other hand, in order to ensure a fair and neutral market, the SOEs should be subject to similar or equal fiscal and regulatory treatment as private enterprises, without having any favorable treatment. In addition, the SOE sector should be transparent enough to provide competing enterprises with a fair overview of the prevailing market conditions (OECD, 2018:230).

The extent to which state-owned enterprises (SOEs) contribute to, or hamper, the competitiveness of an economy depends mostly on two factors: their efficiency and productivity (OECD, 2018:230). SOEs today are under strong pressure to improve their performance. These pressures come various sources, including the need to enhance their competitiveness and that of the economy as a whole, especially in countries where SOEs are major players (World Bank Group, 2014: xxi).

In South East Europe, the SOE performance varies substantially across economies, depending mostly on the quality of public-sector governance and territorial cohesion, as well as on whether or not a given economy has engaged in recent SOE-related reforms (OECD 2018:230).

The '90 as with many other SEE countries, were a milestone to Albania. While inheriting a centralized economy, one of the fastest and most successful steps taken by the Albanian governments in the 90s was the privatization of state-owned enterprises and the creation of conditions for private sector development (Ciko 1999:3). By then, the privatization is conceived not only as a change of ownership, but as a new alternative that will ensure the effective operation of actions of "market players", private or state, and guarantee legal competition between them (Pano 2000:156).

Through the privatization process, the government aim the transfer of state rights to private individuals in all its forms property rights, the right of use and the right to development as a pre- condition to the market economy.

The privatization process was initially regulated in 1991, with law no. 7512, dated 10.08.1991 "*On sanctioning and protection of private property, free initiative, private activities of independence and privatization*" and then further with law no. 8306, dated 14.3.1998, "*On the privatization of important sectors of special of the economy*". Other laws and bylaws followed afterwards, while almost all sectors of economy underwent the privatization procedure, including the households, banking, telecommunication, etc.

Further, Law No. 7926, dated 20.4.1995, "*On the transformation of state enterprises into commercial companies*" provided that all state-owned enterprises were to be transformed into joint stock companies or limited liability companies that would operate in accordance with the provisions of the law then in force no. 7638, dated 19.11.1992 "*On commercial companies*", unless otherwise provided in this law. With regard to governance, joint stock companies were subject to two tier governance systems only with a Supervisory Board. Law No. 7926, dated 20.4.1995, introduced that the SOEs as Limited liability companies would establish a supervisory board as well, which was a novelty not provided in the Law on Commercial Companies.

Today the state-owned company in itself in Albania in its core is subject to commercial law, i.e. Law 9901/2008. The Law in its Article 213 provides that a state-owned company is a commercial company, which conducts commercial activities, of general economic interest, whose shares are owned directly or indirectly by the central government, local government or by other companies, in which companies the local or central government act as founding major shareholder[1]. So, the establishment, organization and functioning of the SOEs in Albania is regulated by the commercial law. Specific provisions related to certain features of the SOEs may be found in their organic laws separately.

Based on the Law 9901/2008, public authorities can use any form of company to pursue their general economic interests (Article 213, point 1). Moreover, Article 213, (1), makes it possible that public authorities can not only establish companies wholly owned by them, but can also play the role of "mother company" [...] to keep a company under control in accordance with their general economic policies (Dine, Bletcher, 2016: 238). SOEs in the form of limited liability company or joint stock company are registered in the Commercial Register with the National Business Center[2].

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[1] The definition of public undertakings, according to Article 213, is in line with Article 2 of Directive 723/80 / EEC on the transparency of financial relations between Member States and public undertakings (Dine, Bletcher, 2016: 237).

[2] The official web site is https://qkb.gov.al/; the search for the companies having the state as a shareholder, (such as the ministry, the local powers may be performed here; https://qkb.gov.al/kerko/kerko-ne-regjistrin-tregtar/kerko-per-subjekt/

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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With regard to governance, although the Law 9901/2008 provides on the one and the two tier model, for the SOEs as joint stock companies it is provided the two tier model, with a supervisory board[1].

In Albania, the ownership function for the majority of SOEs is exercised jointly by the Ministry of Economy's Directorate General for State Property and the relevant line ministries (OECD 2018: 238). The composition, membership and reward of the members of the Supervisory Board are provided in the Decision of the Council of Ministers no. 570, dated 3.10.2018. In Albania, vice ministers, or officials from line ministries or owner – ministry, may and do serve on some SOE boards. The Albanian Government is the sole shareholder in SOEs operating in power and water supply[2], postal services, mines, etc. while it has shares in other companies operating in telecommunication etc.

Further, the Decision of the Council of Ministers no. 17, dated 16.01.2019, published in the Official Gazette no. 4, dated 18.01.2019 determines the companies that will be considered of 'public interest' due to the business nature, company size or number of employees, irrespective if private or public. This Decision follows the amendments introduced in 2016 to Law no. 10 091, dated 05.03.2009, "On statutory audit and organization of professions of registered accounting expert and the approved accountant". Both laws introduced the status of 'public interest entities' by specifying that these entities shall apply the International accounting and financial reporting standards (IAS/IFRS) and shall be subject to statutory audit on their financial statements.

The SOEs are an established reality world - wide but how well this reality performs is another question, that needs to be considered case by case. Anytime that the economy get worse, calls for protectionism become more frequent (Xhepa, Belortaja, 1997: 47), but this should not be the case for a desperate call. When governed transparently and efficiently, SOEs can correct market failures, improve public service delivery and play a role in creating fairer, more competitive markets. (OECD 2018:232). Different organizations are involved to improve the SOEs performance. The OECD Guidelines on Corporate Governance of State-Owned Enterprises give concrete advice to countries on how to manage more effectively their responsibilities as company owners, in order to make state-owned enterprises more competitive, efficient and transparent. As with any commercial company, even for SOEs creating a level playing field and company governance are of essence. In order to maximize their contribution to the economy and the society, SOEs should be productive and efficient. Defining prioritized clear and measurable objectives is a step to improve their performance together with a higher and efficient transparency and a less "political and burocratic approach" to them with independent management and direction.

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[1] The Decision of the Council of Ministers no. nr.271, dated 9.5.1998, as amended provided on the template bylaw of the SOEs as joint stock companies. The DCM rules that the governing bodies of the company are: Supervisory Board with a 4-year term and 2. The Directorate with one or several members. In 2007, the DCM was amended to provide a specific bylaw template for the water supplies companies.

[2] According to findings of the State Supreme Audit, the public companies of the energy and water sectors take loans to expand investments, using the state budget as a guarantor, but in most cases they fail to repay loans from their own funds (for more please see https://www.monitor.al/kompanite-shteterore-menaxhim-te-dobet-332-mln-euro-detyrime-buxhetit/

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[6] Decision of the Council of Ministers no. 17, dated 16.01.2019, published in the Official Gazette no. 4, dated 18.01.2019;

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Tax Avoidance in Albania

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Abstract

This paper was written in order of the reforming of the tax system's framework. Analysing phenomena such as tax evasion, tax avoidance, the use of legal loopholes to reduce tax liability in Albania was very challenged. In this paper is analysed also some other jurisdictions, which have served as a reference model for the reform of Albanian legislation, such as the Italian one and the legislation of the European Union. Recently, we were witnesses of a significant increase, in the quantitative and qualitative level, of tax evasion and tax avoidance. Often, the "battle" between the taxpayer and the contributor in bad faith is based on the probative power (burden of proof) of the elements of the transaction which must be verified by the tax administration. Even more often, this fight takes place over the basis of the correct interpretation of legal norms. Evasion is leaving more and more room for refined avoidance. Avoidance is no longer just the prerogative of big companies, corporations or powerful business groups, but it is turned into an ordinary management instrument for small and medium enterprises, even in special cases, even for natural persons. The paper analyses problems such as: basic and key aspects of tax evasion, by distinguishing with other concepts of tax law, such as tax planning and tax evasion, which are the forms of identifying tax evasion/avoidance, the meaning of the doctrine of abuse right. At the end of the paper, you can find a presentation on all findings and conclusions reached during the analysis of the above problems, and some recommendations for the improvement of the activity of the Tax Administration.

Keywords: tax system, tax evasion, avoidance, doctrine of abuse of law, re-characterization.

Introduction

The socio-political changes that took place in Albania during the '90s, were accompanied by changes in the economic aspect, among which are related to the change of the form of the economy from centralized (state economy), to an open, competitive market economy. This change and transition to a free market economy would inevitably be followed by its own problems regarding the collection and administration of budget revenues from taxes, levies and other tax revenues.

Taxes in all their forms have had and still have a key role in the development of the modern state, an integral part of society since the birth of the state institution. Time has shown that the tax systems have been subject to constant changes and adjustments to the state of public finances of the country and the main function of the tax system remains the generation of revenues in the budget.

With the modernization of the state and the adaptation of its policies for the benefit of economic growth and the well-being of the citizens, the ways used to avoid or reduce the payment of obligations have become more sophisticated. Problems encountered in the administration of taxes and their collection, would force the legislature to constantly intervene in tax legislation and further tighten criminal policy to reduce the impact of this problem. Tax evasion is one of the most difficult issues faced by tax authorities, legislatures, but also courts in many countries, especially in countries where it is harder to believe that the tax system is the main instrument to increase revenue which support public investments. Albania has generally faced difficulties in generating tax revenues and had consequently high budget deficits. Among the main factors that have caused the deterioration of this situation can be mentioned the relatively new experience of the Albanian tax administration, the lack of tax culture inherited from the planned economy system, the high level of informality and corruption, as well as the ongoing problems in tax administration. Under these conditions, tax reforms and administrative measures in most cases fail to generate more revenue in the budget and create a stable tax base.

Methodology

Every serious research requires, first of all, the definition of the methodology that will be used for its realization and for the drawing of conclusions. The method of study is closely related to the chosen field of study, as the method above all must be appropriate to the field of study and the results required to be achieved. The methodology used for all the key issues addressed in this paper is largely qualitative. This paper also includes comparative methods on specific aspects of the paper. The main methodological principle in legal comparison is that of functionality, namely "la in law the only things which are comparable are those which fulfill the same function" [1].

Based on the above analysis, the methodology used to carry out this paper is presented as follows.

Doctrinal research (collection and processing of the literature). This phase consists of reviewing the literature related to the object of study, which includes the identification, collection and systematization of books, monographs, schientific articles, papers of national and international conferences in the legal field. The selection of literature is spread over a relatively considerable number of foreign authors as well as some local authors.

Analysis of the legislation. In achieving certain objectives in this paper we have relied on the method of analysis and synthesis. This method consists in formulating legal problems through the analysis of legislation. In our legal system, legal norms are found in codes, laws and other acts. Since norms regulate general situations, the method of legal analysis serves to identify and solve problems of theory and practice, through the interpretation of these norms. Also, this method serves to clarify the ambiguity of norms, their placement in a logical and coherent order and to analyze their interaction other norms.

Comparative method. For a better understanding and interpretation of domestic legal norms, the realization of a comparative analysis between the domestic tax legislation and the legislation of those countries (Italian legislation), which has served as a model for Albanian legislation.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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The method of analysis of case law is also a very important method, which serves to see the way of interpretation and practical application that Albanian and foreign courts have made to tax evasion and the doctrine of abuse of law. The analysis of the practice of foreign courts serves to see the way of interpretation and practical application of tax evasion by these courts, in order to have a better understanding of tax evasion and the methods of its ascertainment by the Albanian courts.

Quantitative method. During the work were reflected statistical data of criminal offenses in the field of taxes published in the official Annual Reports of the GDT. These data show an increase, year after year, in the number of criminal offenses in the field of taxation in Albania. As no statistical study of tax evasion has been conducted in Albania, this is one of the limitations of this paper.

Tax avoidance phenomena

3.1 Tax Classification

Taxes do not derive directly from state property or property rights over it, but they derive from the wealth and economic strength of private persons. Based on the definition of these two concepts, the basic characteristics of taxes are: non-refundable or direct compensation and taxes as a rule are revenues[1] without predetermination, which means that the way of their use is not determined in advance.

In Albanian legislation [2], given the moment of income generation and the moment of spending this income, taxes are divided into direct and indirect. Thus, according to this criterion, taxes paid at the time of income generation represent the group of direct taxes, while those that are realized at the time of spending the secured income, are included in the group of indirect taxes.

The main principles [3] to which taxes are levied are:

- The principle of legality: Based on Article 155 of the Constitution of the Republic of Albania, it is sanctioned that taxes, levies and national and local financial obligations, relief or exclusion from them of certain categories of payers, as well as the manner of their collection are determined by law. In these cases, the law cannot be given retroactive effect. The principle of legality serves as a legal guarantee for all citizens who are in the role of taxpayer. According to this principle, taxes and duties, which are in force in a certain country, can not be collected by the tax administration without expressly provided by law[2].

- The annual principle, according to which the parliament must give the government the authority to collect taxes every year.

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[1]Referring to Article 157 of the Constitution of Albania: 1. The budget system consists of the state budget and local budgets. 2. The State Budget is created from the revenues collected from taxes, duties and other financial obligations, as well as from other legal revenues. It includes all state expenditures. 3. Local bodies determine and collect taxes and other obligations as defined by law. 4. Central and local government bodies are obliged to make public revenues and expenditures.

[2] Constitution of the Republic of Albania, Amended by law no. 9675, dated 13.1.2007; no.9904, dated 21.4.2008; no.88 / 2012, dated 18.9.2012, no.137 / 2015, dated 17.12.2015 and no.76 / 2016, dated 22.7.2016), QBZ, Tirana, article 155.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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- The principle of equality, according to which the joint contribution should also be distributed among citizens due to their opportunities.

- The principle of need.

As mentioned a little above [3], the most important division that is made to taxes is that in direct and indirect taxes. Direct taxes include those taxes that are calculated on the income, profits, real estate and public services of specific natural and legal persons and must be paid to the state budget by them. Direct taxes are imposed on income and wealth and their fiscal burden cannot be delegated.

The types of direct taxes are Income Tax (IT), Profit Tax, Property Tax, etc. Direct taxes and fees can be imposed proportionally (the same percentage for all contributors) or progressively (the percentage increases according to the amount taxed).

Indirect taxes are considered those taxes that are included in the size of the price of various products, goods and services and are paid as part of these prices by consumers and paid to the state budget by those entities that are mainly sellers of products, goods and services. Indirect taxes affect consumption and expenditures, while their fiscal burden is delegated to the final consumer. In indirect taxes we mention Value Added Tax (VAT), customs tax, excise, etc. Taxes and fees in each country are grouped into national (central) and local, starting from the authorities that set and collect them.

In the last decade, various fiscal authorities, or non-governmental organizations have studied the informal economy, tax evasion and the direct and indirect impact on the level of the tax gap, as a starting point for tax evasion and tax avoidance. In different countries, there are different definitions related to the clarification of the tax gap, but which contain essentially the same meaning. Determining the tax gap is considered in most publications as a measure of uncollected taxes and fees, as a result of non-compliance with laws and gaps in laws and poor tax administration.

The calculation of the tax gap does not take into account the fact of payment or not of taxes and fees. All revenues are included in recording the level of the tax gap, arising from non-registration, non-reporting, from the use of tax evasion schemes, errors in the calculation of liabilities, errors in self-calculation by the taxpayer, shortcomings and lack of attention of the administration in the implementation of its duties[1].

According to a study by ALTax Center, in the absence of a formal definition, the notion of tax gap is defined: Tax gap is the difference between taxes and fees, which should be considered payable to all citizens and businesses, and taxes and fees that declare and currently pay within a fiscal year all taxpayers and collected by the tax administration with its own resources.

The tax gap comes as a result of non-implementation of laws and lack of volunteerism in their implementation by taxpayers, creating a deficit in the collection of tax revenues. The size of the tax gap is in direct proportion to the size of tax evasion and tax avoidance. An interesting issue to resolve is whether the tax gap is the cause or the consequence of tax evasion?

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[1] Tax system and incentives for investment in Albania, 2016, Publications, ALTAX.

From the study of literature and various concepts treated by certain scholars or the interpretation made by the court, the concepts of avoidance and abuse of law, we deduce that the tax gap is a consequence of tax evasion, with non-payment of taxes by not implementing the legislation. Second, the tax gap is a consequence of avoidance of taxpayers, where taxpayers use the legal loopholes or irregularities of exemption schemes and fiscal facilities, which have another purpose (investment incentives, burden redistribution), but which serve their users to reduce the amount of real liability.

The tax gap is related to errors in the calculation of fiscal obligations by the administration, is a consequence of ethics and lack of qualified service of the tax administration, corruption in the administrative hierarchy and lack of comprehensive legal treatment.

We consider that the Tax Administration has all the instruments, in the framework of good administration to fill the so-called legal spaces, through technical instructions[1], which are made known to all taxpayers. Technical decisions can be drafted and proposed to the General Director of Taxes by each directorate as an integral part of the structure of the General Directorate of Taxes according to the functions, duties and responsibilities it has for tax administration, in accordance with the procedures it follows based on treatment of specific cases encountered during the work, or presented by taxpayers, or depending on the structure of the tax administration, according to the nature of the issues, such as: registration, deregistration, taxpayer service, assessment and control, risk analysis, debt collection, refund, completing declarations, declaration or tax system, tax agreements, tax payments, documentation, tax technical issues, etc.

Drafting tax laws and regulations in such a way as to be as simple as possible and as understandable and practical as possible is a task that the Tax Administration, the Ministry of Finance and Economy and the legislator must perform. Changes in tax policies and laws in recent years have made taxpayer work more costly and complex to enforce their obligations. Laws and regulations should be formulated in such a way that they will be easy to implement and regulations should have as little administrative burden as possible. Government authorities should actively involve the business community in formulating new regulations and designing reporting systems. The Tax Administration publishes on its website 6-month technical bulletins that present anonymous versions of interpretative decisions issued during the past 6 months. However, the objective and content of the available guidelines for the interpretation of tax law has shortcomings compared to good international practice. A survey

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[1] According to Article 10, paragraph 1 of the law, the Minister of Finance issues General Instruction no. 24, which includes any specific provisions determined by other provisions of this law, unless they are regulated by special provisions. Point 10.2.1 of the Instruction defines: Pursuant to Article 10 of the Law, the General Director of Taxation has the right, when he deems it necessary or at the request of taxable persons or structures of the tax administration, to issue decisions. expressing the official position of the tax administration, pursuant to tax legislation, for specific circumstances of the taxpayer. The decision has a binding effect on the tax administration, and the taxable person who has made the request and is published on the website of the General Directorate of Taxes within 5 calendar days of its issuance. Decisions of the General Director of Taxation are procedurally issued in accordance with the "Code of Administrative Procedure" and their publication is done in such a way as not to identify specific taxpayers, but to clearly state the case / event for which the technical decision was issued . The decision is applied equally by the structures of the central tax administration, for other similar cases.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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conducted by the Investment Council of Albania[1] has identified the clarity of tax interpretations as a continuing concern for businesses.

The GDT should be more proactive in this area, publishing regular practical statements and other technical bulletins, new laws and amendments, and unclear areas in existing laws - which aim to provide taxpayers with reasonable expectations of how they will be interpreted. Many tax administrations provide dedicated information services over the phone and publish special technical guidelines for tax experts because they interact and influence the compliance behavior of a large portion of taxpayers. From the organizational structure of the Albanian tax administration, it is evident that here too there is a call center, part of the Taxpayer Service Directorate.

3.2. The concept of avoidance. In what sense is tax avoidance illegal?

Tax avoidance involves arranging a transaction or series of transactions in such a way as to gain a tax advantage, distinguishing between tax planning, which is lawful, and tax evasion.

Increasing cases of avoidance must be addressed and urgent and concrete measures must be taken. This poses a serious challenge to the effectiveness of tax laws.

Throughout the multitude of books, articles or reports on this subject have been observed contradictions and different streams of opinion on the nature and causes of tax evasion, ways of responding to it or addressing it, mentioning the fact that for some authors tax evasion is a problem which requires an answer on the part of the legislature [4]. Exactly this is the role of the science of law, that of studying the balances between socio-economic developments and the law, as well as that of interpreting the law in function of these changes.

The divergences in these views of different groups of scholars, doctrine or jurisprudence come as a result of the legal traditions of states pertaining to the rights and obligations of the individual in tax law.

The problems faced by the Italian system and other tax systems of the OECD member states have been numerous. Sometimes legal changes have tended to reflect a pragmatic approach, which solved only a part or none of the problems of the tax system. The main issues and the most vulnerable areas which have been and continue to be problematic for Italy as well as for other countries, including the Albanian case, are:

- lack of a clear and coherent policy to address the structural choices provided by tax legislation;

- the fact that the tax system exists as an economic reality in the business world and as a real and substantial cost that affects the form of most transactions;

- the existence and application of many formal principles for characterizing transactions and creating differences, which are more formal than substantial;

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[1] Findings of the survey on some aspects of the business climate "- Secretariat of the Albanian Investment Council, October 2017 (the survey was conducted between July and September 2017), last seen at the link https: // www .investment.com.al / EP content / uploads / 2019/05 / AL_-Survey-Findings.pdf.

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- different tax for different businesses and the lack of a coherent income tax framework.

The ways that have been followed to ascertain tax evasion have been different. In Italy, the interpretation of an anti-evasion provision has been used mainly, as to whether or not this provision constitutes a general anti-evasion rule, which would facilitate the process of tax evasion by the tax administration.

Referring to the Italian legislation, in this paper it will be determined that the general anti-avoidance rules are essentially "unclear" in their scope and application. The approach to a legal interpretation, within the scope of the legislation serves as a guide to understand and apply tax evasion and to provide a more complete and effective solution to the problem of tax evasion. The tendency to avoid, although ethically reprehensible, is considered a natural human behavior. The human being is in fact an "economic entity", which as such tends to perform those actions which require a minimum of investment, to achieve maximum profit. Also, according to [5] each entity operates on the basis of a cost-benefit calculation and aims at the minimum use of capacity, in our case, property.

From the economic point of view, again this kind of behavior is natural, while from the legal point of view, tax avoidance is an inadmissible phenomenon, because it is contrary to the principles of tax law and cause obvious and substantial "distortions", as in the economic plan, as well as in the social one [6].

In fact, there is not yet a complete definition of tax avoidance and the impact of the concept of abuse of law has made the exact individualization of this definition even more complex. Not only the concept of abuse of law [7], as the most innovative in tax law, but also cases of similarity with tax evasion, simulation, tax planning make tax avoidance, difficult to identify and ascertain.

However, as we will see in the following, from a detailed treatment, tax evasion differs from the above cases, both in form and content [8].

By tax evasion, according to [8] we will understand the situation when income is declared, but transactions are structured in such a way, using the legal space, that the tax liability is reduced. This reduction has not been in the intention of the legislator nor in the spirit of the law [7].

During the century XX, many cases of tax avoidance in Italy have been ascertained only with the use of some specific measures in specific sectors, which seemed more vulnerable to abusive cases. Attempts to formulate a general anti-avoidance rule ran counter to the principle of contractual autonomy and legal certainty. The real concern was that, if the tax administration were to be given the right to assess the effective link between the form of the transaction, [8]the substance and the economic result obtained by the parties, the improvement could have been worse, than the problem itself. In fact, the tax administration is not an impartial third party and its "power" facilitates the regulation of this problem [9].

In tax law, it is often difficult to distinguish between tax evasion, tax avoidance and legal savings or, as it is otherwise called, tax planning. Avoidance is in an intermediate position between tax evasion (or open violation of the normative provisions of tax law) and legitimate austerity (as a lawful exercise of the contractual freedom and autonomy of the parties).

Thus, avoidance consists in using the rules in an instrumental way, formally perfect, but which is essentially contrary to the spirit of the provisions, aiming, exclusively or mainly, at reducing

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

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the tax burden normally payable. According to [8]The taxpayer, who under normal circumstances would be subject to a special tax regime, avoids the application of the latter, fulfilling one or more transactions, which otherwise would not performed, or acts artificially under the conditions required by law, in order to enjoy a more favorable position, contrary to the purposes set by the law itself [8].

In an attempt to further clarify these two concepts, legal doctrine has attempted to highlight the essential features of tax avoidance. There are always four elements present in a tax avoidance case, which are:

Anomalies of the transaction compared to the type of transaction that would normally have been performed, in the same or similar circumstances;

The tax advantage achieved through the unusual transaction, compared to what the taxpayer would normally benefit from;

Adjustment of the transaction in accordance with achieving the reduction or reimbursement of the tax liability;

The exclusive (or prevalent) goal, which leads the parties to deviate from the normative determination. For the first and last characteristic (objective and subjective elements, respectively), the tax administration will have to analyze case by case the real reasons they have caused the taxpayer to deviate from performing the ordinary transaction [10]. While for the other two to re-evaluate the amount of the obligation paid less.

3.3 Basis of alternative ways of evaluation

The phenomenon of tax avoidance can be extremely complex and difficult to identify. An effective response to it requires the need for in-depth expertise of the Tax Administration to deal directly with the most important cases and to provide auditors with guidance and support on issues related to evasion.

Today, audit inspectors (tax control) can only assess tax liabilities in cases where there is direct evidence of evasion by registrars or other documentation as information obtained from third parties. Courts have not been inclined to support assessments based on indirect evidence of undervaluation reporting[1]. The need for such a centralized approach is even more important since the recent introduction of GAAR.

Alternative methods of evaluation are not limited, but are based on:

a) direct data, found in tax returns or documents or other information provided by the taxpayer;

b) direct data, documents or information provided by third parties;

c) comparisons with a similar economic activity performed by other taxpayers;

ç) Indirect data, based on the market prices of similar goods and services, of the rental reference prices, determined by a decision of the Council of Ministers;

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[1] Annual Report 2019 of the General Directorate of Taxes is a public document which is uploaded on the official website, www.tatime.gov.al.

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d) Prices according to the data available at customs or retail reference prices available to the General Directorate of Taxation.

When assessing the tax liability arising from transactions between related parties, the alternative method used reflects taxable income that would have resulted from comparable transactions between unrelated parties.

Indirect audit methods used by the tax administration

Indirect audit methods currently used by the tax administration include[1]:

Method of source and application of funds: This method relates to the analysis of taxpayer cash inflows and compares all known expenses with all known bills for the period. Net increases and decreases in assets and liabilities are taken into account together with deductible expenses and non-taxable invoices. Excess expenditure beyond the amount of reported and non-taxable income constitutes unreported taxable income.

Method of Bank deposit and cash outlay: This method calculates income by showing what happened to the taxpayer's funds. This is based on the theory that if a taxpayer makes money, only two things can happen: they can either be deposited, or they can be spent.

Mark Mark-up method: This method reconstructs revenue based on the use of percentages or ratios considered typical of the business under consideration in order to perform the actual tax liability determination. This consists of an analysis of sales and / or cost of sales and the application of an appropriate percentage of price increase to reach the taxpayer gross billing level.

The Unit and volume method: In many cases gross invoicing can be determined or verified by applying the selling price to the volume of work performed by the taxpayer. The number of units or the volume of work performed by the taxpayer can be determined from the ledgers if the documentation under consideration can be adjusted to the cost of goods sold or expenses.

Net assets method: This method is based on the theory that the increase in net assets of the taxpayer during the taxable year, corrected for non-deductible expenses and non-taxable income, should come from non-taxable income. This method requires a complete reconstruction of the taxpayer's financial history, as the audit must account for all assets, liabilities, non - deductible expenses, and non - taxable sources of funds during the relevant period.

Indirect audit methods should be used only when the auditor has concluded that there is a reasonable likelihood of unreported revenue. This, for example, according to the article "Alternative ways of evaluation" of Tax Procedures law, includes cases when:

The taxpayer 's known business and personal expenses exceed the reported income, while no taxable sources of funds have been identified that would explain the difference.

There are irregularities in the taxpayer's account books as well as weak internal controls.

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[1] Annual Report 2019 (IMF recommendations) of the General Directorate of Taxes is a public document which is uploaded on the official website, www.tatime.gov.al.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

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Brut Gross profit rates vary considerably from year to year, or are outside of high or low rates for that market segment or industry;

The taxpayer's bank account has unexplained deposits;

The taxpayer does not make regular income deposits, but uses cash;

Review of taxpayer tax returns for the previous and subsequent year show a significant increase in net worth that is not supported by reported income;

There are no accounts and registers;

The taxpayer has not used the accounting method regularly or the method used does not clearly reflect income.

Conclusion

In terms of globalization and the transferability of factors of production, direct taxes constitute a tax area where countries develop competition among themselves to be more attractive to foreign investors. The harmonization of the Albanian tax legislation with that of the European Union is in an ongoing process. Considering the fact that at the moment when Albania receives the status of candidate country for membership in the European Union, indirect taxes go towards harmonization, Albania must remain competitive in the field of direct taxes.

In this paper was analyzed, reviewed and compared the concept of tax evasion in Italian legislation and in Albanian legislation. From the analysis of doctrine, normative predictions and jurisprudence some important conclusions were reached.

Starting with the Albanian tax legislation, it was concluded that there is a general anti-avoidance norm which needs changes, in order to increase the effectiveness of this rate, as a legal basis for addressing tax avoidance.

There are set out three criteria that must be met in order to determine the existence of a tax avoidance transaction:

(A) lack of valid business purpose;

(B) evasion of obligations or prohibitions;

(C) tax advantage (Benefit-reduction or refund of taxes).

From the analysis we performed, we can give a definition of the concept of tax avoidance. We are in the case of tax avoidance, when the taxpayer artificially creates the conditions for conducting a transaction which deviates from the normative determination by using the legal space, illegally, with the main or exclusive purpose - that of achieving a tax advantage.

Tax avoidance is in an intermediate position between tax evasion (open violation of normative provisions of tax law, failure to declare data and / or falsify them) and legitimate savings (tax planning as a lawful exercise of freedom and contractual autonomy of parties). The burden of the tax administration (as a third party), in these cases is to individualize the physiological transaction that the taxpayer should have performed and the effects (of the advantage gained) that he has received from performing the transaction without valid economic reasons. Once the administration identifies this type of transaction, it must reclassify it by imposing the highest tax resulting from this requalification [8].

Contesting abuse can be divided into three stages:

a) Individualization of the abusive transaction

b) Reclassification of the abusive transaction

c) Determining the tax effects of income (not recognizing the advantages achieved).

The legal order with its operators, on the one hand the tax administration and on the other hand the court, must not allow legal norms to be circumvented, or used in that form, in order to achieve illegal tax advantages.

As far as the Albanian case is concerned, as mentioned, efforts are still needed to develop a consolidated doctrine and jurisprudence, which will have a simpler path in the case of a general written community principle. Until 2019, in the Albanian legal reality, the only way to ascertain tax evasion is Article 71/dh of the law "On tax procedures", which provides for the right of the tax administration to re-evaluate the transaction or related transactions without essential economic substance". In 2019, the first general anti-avoidance norm was introduced, amending Article 71 of Law no. 9920/2008 "On tax procedures", as amended.

The implementation of indirect audit methods in Albania should be carefully managed. This approach is well accepted in international good practices, but for Albanian taxpayers and courts it will be a new experience. Auditors should be well trained in the application of indirect audit methods and given guidance detailed procedural. The first cases must undergo rigorous quality assurance reviews before a final assessment can be made.

Approximate estimates using indirect audit methods should be reasonable and non-arbitrary. The law should clearly authorize the use of indirect audit methods by the tax administration and reverse or reverse the burden of proof when the approximate tax assessment is based on indirect audit methods. The burden of proof is placed on the taxpayer specifically as to the adequacy of the recalculated tax base in such situations. Despite this, courts in many jurisdictions have ruled that the administration should make sincere efforts to determine the taxpayer's income, i.e. it simply cannot assign an abstract figure. A rough estimate of the taxpayer's income should be based on reasonable grounds and should also take into account the taxpayer's specific circumstances.

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The Importance of Leadership on Business Ethics at Organizations

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Abstract

The purpose of this paper is to board the issues dealing with the ethics code of behave, and the role of leadership on motivation of staff to lead up the effectiveness and quality work at organization. The paper presents ethic standards and their importance for the success and competitive priorities for organizations and institutions. The elaboration of paper is carried using normative and comparative method attended by secondary source of data in the form of papers, journals, books, web-pages and manuals of organizations. There are studied principles of the Code of Ethics in two organizations, *Bus Eirenann* of Ireland and *Kosovo Privatization Agency* of the Republic of Kosovo, handling the practical implementation of ethic codes in both cases. Next to written policies for ethics there exist failures and mistakes on the ethics at working place that is present in everyday life as a result of improper behave of someone. Ethic behaves have had the positive impact at organizations, while non-ethic behaves have serious impact on the development of staff and it keeps away incitement of tacit knowledge, obstructs innovations and creative work. Development and approval of ethic code and ethic practices at organization will not stop non-ethic behaves, but will give to people a kind of measurement versus which behave may be measured. Executive leaders at organizations and institutions should assess if the written or unwritten code is not respected so that the employees to feel safe for their integrity and appreciated.

Keywords: ethics, behave, integrity, faith, business ethics, leadership.

1. Introduction

This paper is concentrated on the study of ethics in generally as important part of organization's development and in particular business ethics at organizations or institutions as well as ethics practices. The paper contains the concept of leadership, the role of ethical leader and studies the components of business ethic code that are constituted by following factors: integrity, confidentiality, trust, respect, responsibility, impartiality and lawfulness. Examples of important companies that are committed to be sustainable in the market have paid particular attention to ethics. Multinational Corporation "Procter & Gamble", believes on fair competition, as expressed their CEO: *Our reputation is gained from our behave: what we say, but most important is what we do, our product, service, way of our behave and how we treat people*. Other example may be noticed at the Waterford Institute of Technology (WIT), that have established politics for maintenance of high standards of ethics for the researchers, in

order to protect research and results, as well as to continuously motivate researchers not only financially on different projects but also through making attractive environment for new ideas and innovations.

The main aim of this paper is to research the successful practices of business ethics implemented at an Irish company and institution in order to present a good model to follow.

The main research question is: What are the important points to be taken into consideration by supervisors related to respect of staff and ethics at organization in order the company to be successful and comparative?

In the paper are presented ethics standards and their importance to the reputation and success of the enterprise. There are analyzed the practices of ethics in one international organization, Business Ethic Code for Directors at 'Bus Eireann' (Ireland) and The Code of Ethics at Kosovo Privatization Agency (Kosovo), that is local institution.

2. Literature Review

Leadership is described as the process of social impact in which one person can get assistance and support of others, meaning having followers, in achievement of joint purpose. The leader is a person who influences a group of people and the desire to achieve a specific result (DeRue & Ashford, 2008). Good leaders possess the power of will and desire to achieve something they are determined to. The manner supervisors behave to the staff is certainly one among important factors related to motivation of staff towards their commitment and work effectiveness in achieving better results, as well as their inducement for creative work and innovations. Hence, executives will have to accept the fact that moral impact of their supervisory presence and behave cannot be neutral,

Ethics mean standards of behave that determine how we should behave considering firstly the principles of what is good and what is bad, what is right and what is wrong, what to do and what not to do. But something right again depends on the situation and cultural environment as well as on the situation the activity is undertaken. Ethical behave is something based on personal values and on fairness of somebody, that may have origins to inner spirit, education and general culture. Referring to Oxford Dictionary, ethics is "*moral principles that govern a person's behavior or the conducting of an activity*". By being moral, you are doing what is 'right'.

Ethical leadership means keeping the strong and respectful communication and open line between supervisors and their subordinates, respectively their staff. The ones who are supervised need to feel comfortable and free to flow up, to seek an advice, to talk about problems they may have in relation to work and their duties at working place. Meanwhile Simon Webley and Elise More (2003), in their five year study carried out in the period 1997-2001, have found that employees who were clearly committed to do business in the ethics manner have produced more profit and benefited a norm from 18% higher than the ones who have not had this commitment into consideration. American Psychological Association and the Society research (Dennis & Meola, 2001), points out that, personality as the most important factor on describing the individual differences between leaders, hereupon the accentuation is given to moral principles that are high standards of ethics and to the decisions based on ethical principles. Moreover, they consider that the decisions taken having in regard the ethics side, in most cases are the power that helps the ethical leader to make them clear

organization and obligatory norm. The research paper of ERC's National Business Ethics Survey (NBES) found that leaders have direct impact on ethics culture of the company and employees respond good to strong leadership. Another interesting study "*Strategic leadership of ethical behavior in business*" performed at six companies in different industries at the United States of America; found that employees are more concerned about the integrity than for the rules and sanctions. Executives with an ethic vision can move themselves and their organizations forward, step by important step (Thomas & Schermerhom & Dienhart, 2004:10). Stephen Brenner (1992), business ethics professor, wrote: *All organizations have ethics programs, but most do not know that they do. A corporate ethics program is made up of values, policies and activities which impact the propriety of organization behaviors*.

One of the attributes for the success is distinction between the best practices of business ethics and its qualities. This ethic practices implemented by the high levels of enterprise and institution becomes the spirit of enterprise's culture, meaning that success or failure, reputation or disrespect, summarized as its integrity. Furthermore they have direct impact on tacit knowledge that mostly brings innovations and creative minds leading to competitive advantages of one's business. Interesting research study entitled "Does Business Ethics Pay? (Webley & More, 2003), stresses the following social ethics standards to be important:

High standards of integrity,

Sincerity, trust and righteousness

Confidentiality

Community inclusion / staff inclusion

The level of created trust to community / staff

High responsibility

Respect to others.

Some organizations pay utmost importance to ethics behave and to rightful access to business activity or to work development. At Irish organization "Bus Eirreann", the politics of ethics have increased the reputation of organization and this enabled to be a stable and respected enterprise in the market. At the ERC Ethics Resource Center, the Fellows Program, *Ethical Leadershipand Executive Compensation: Rewarding Integrity in the C-Suite* (2010, pg.11), is highlighted that, when organizations have a strong ethical tone at the top, employees will collectively work to succeed through honest effort to deliver value to customers and help the company earn a profit - but always within the rules. Having experienced the hospitability and friendship of Irish people during my stay at the Republic of Ireland, it is intentionally used another sample of ethics. However it is widely known that Irish people pay utmost importance to ethics behave from their homes up to the institutions and organizations. Waterford Institute of Technology (WIT) is a very good example of it, which has established the policies for respect and maintenance of high ethics standards for researchers, for the protection of research work and protection of scientific results.

Big companies that are devoted to be sustainable in the market as the only manner to arrive this is on building up the values with partners by including in their work, economic, social, environment and culture ethic within their business strategy. A typical example of this is shown at the company Procter & Gamble, at *Our Values and Policies*, (pg.19) that believes on

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

fair competition, as expressed as follows: *We believe in competing fairly because we all benefit from fair, free and open markets. We compete strictly on the merits of our products and services and make no attempts to restrain or limit trade.* Chief Executive Officer of Procter & Gamble is convinced the reputation is gained from their behave, and he expresses as follows: *what we say, but most important what we do; the product we make, service we offer and the way we behave and treat others.*

Returning to the Code of Ethics of Kosovo Privatization Agency (PAK), in the very beginning is placed Aristotel's saying, in Politics 1294a3-6: "*And remember that this code does not solve all ethics problems. But, we should remind that if good laws are not executed, they do not establish good governance*". Further the 'Code of Ethics' regulates the rules of conduct and behave for the staff and management of the Agency, taking particular attention to confidentiality.

3. Practical Arguments

At all Ethics Codes of cases that were studied is pointed out that it is not possible to mention each situation that may occur in everyday life. If there is ambiguity or distinction regarding a certain case or situation, than it should be consulted the chairman or a competent organ. The interesting study of six companies of different industries at the United States of America,"*Strategic leadership of ethical behavior in business*" (Tomas, Schermerhom and Dienhart, 2004), where are shown two studies of ethics and behave of employees, one in a multinational company and another in a single company. According to findings, employees are more concerned about integrity of their working place rather than for the rules and sanctions. The employees of companies with the programs of integrity report lower incidence of non ethical behave and illegal works, bigger engagement at working place as well as planting of ethics in everyday decision making.

ERC's National Business Ethics Survey –NBES (2009), research found that leaders have direct impact on the culture of ethics at their company and the employees respond very good to strong leadership. Furthermore is believed that ethics behave and leadership must become the key written components of performance margins of each executive leader or director. Hereupon ethics is bind with financial reward of executive leaders (CEO) and the members of Leading Directors of the Board. However in our study for the Code of Ethics at "Bus Eireann" enterprise, managed by Board of Directors (BD), there are emphasized seven principles of the code of ethics. Following is the elaboration of these principles:

Integrity: Each director of 'Bus Eireann' during his/her work will respect the higher standards of integrity and sincerity, by being committed:

for an energetic but ethic competition;

to ensure that purchase of products / services is carried in accordance with best practices and procurement politics;

to avoid misinterpretation of position or of being unclear

not to use the sources of enterprise or time for personal benefits that are not linked with 'Bus Eireann', as well as to abuse with enterprise's means of transport

as director of Board cannot act in a way to decrease reputation of 'Bus Eireann'

to ensure that reports / accounts of 'Bus Eireann' reflect the business performance of businesses and they are not misused or designed to be misused and other principles.

Privacy of information: For any information required for the enterprise the request should be directed to the Secretariat. For staff and Board of Directors the enterprise has "Guideline for issuance of information's" that must be respected, while for the public 'Bus Eireann' publishes information related to company's activity and performance on the web-page, that is regularly updated with new data. Each director of Board is obliged to keep in confidence the secret information's, whereas the documents that are used during hearings and meetings must be returned to the secretariat of enterprise.

Lawfulness: Board of Directors is required to ensure that activities of ''Bus Eireann'' are in accordance with the applicable law of Ireland and EU. Thus Board of Directors ensures that regulations are in accordance with enactment, ethics and standards of transport; that 'Bus Eireann' to cooperate with regulative and supervising organs; to offer fair and effective competition; procurement procedures are clearly described and respected as well as other procedures are fairly written and are respected.

Faithfulness: From each director of the Board, is required to be responsible and trustful to 'Bus Eireann' and fully committed to company's activities having in mind the interest of shareholders. It is also a requirement to perform their work based on high ethics standards.

Impartiality: The directors of the Board are obliged to act in accordance with the employment policies and legislation related to gender equality.

Responsibility: This principle involves the responsibility of the members of BD to incorporate the politics of discovering interests which they should save safely accept and confirm the politics and ethics code of 'Bus Eireann'.

Presents: Board of Directors can take presents from suppliers or from contractors if the present does not exceed the amount of €130 during a calendar year. As a gift is considered, bottle of wine, a calendar or something similar. In other cases the presents must be returned.

Board of directors of the 'Bus Eireann' is eligible to engage an independent professional expert, with the purpose to carry out the duties and obligations in best possible manner, in accordance with Ethics Guideline.

The second analyze is the study of 'Code of Ethics' of Privatization Agency of Kosovo (PAK), an Agency established by the Parliament of Kosovo, engaged with privatization of Socially owned enterprises and liquidation of their assets. Privatization Agency of Kosovo is directed by the Board of Directors. Among other policies and regulations it is approved the 'Code of ethics' with the purpose to respect the standards and ethical practices of business for the leading staff and employees of PAK. Three main principles determined by PAK are: indisputable trust, high performance and total engagement. The principles of the ethics code at Privatization Agency of Kosovo are elaborated below:

Respect to employees: According to this principle at PAK, it is not allowed the discrimination on gender, age, nationality, and religion or color basis. There is no discrimination on gender and religion base, while it is present a dose of disrespect from some supervising staff to some staff and pressure that de-motivates certain employees.

Accordance with Laws and Regulations: The regulations of PAK and Code of Ethics are in accordance with Kosovo laws, offering needed resources in disposal at any time, and for violators are mentioned correcting actions and responsibility.

Confidentiality of information: this ethical principle is very important for PAK because of very sensitive information related to Socially Owned Enterprises, buyers, potential bidders and other stakeholders. This information cannot flow out neither to display to someone outside. The confidential information may be distributed outside the Agency only through written authorization, while its misuse leads to criminal follow-up, penalty and custody. The patents, licensees and trademarks are protected in cases of tender announcements for privatization and liquidation. The staff of Agency does not have unlimited access to information's, thus depending from the nature of their work they carry out, it is allowed specific access to information from Information technology head by written request of director who is supervisor of certain staff member. The information for the public is published at the web-page of PAK.

Conflict of interest is important standard because of the nature of work linked with property, business and activity of Socially Owned Enterprises as all of them are managed and privatized by PAK. It is not allowed to participate to a decision making process where the buyer or stakeholder is someone from family or relative.

Presents and compensations: there are not allowed the presents and compensations as well as other unauthorized favors. In any case if there is offered a small gift to a staff member, he or she should inform for that to the Department of Human Resources immediately.

Relations with outsiders: PAK have in disposal a wide specter of individuals, contractors, entrepreneurs and different companies, government and regulators, internationals and other stakeholders, therefore everyone at the Agency no matter from the position is obliged to offer quality and value of services. In order to maintain the relations created on trust and cooperation it is needed to everyday build the culture of trust according to clear and highest standards of integrity and objectivity, and ethical standards in generally.

At Privatization Agency of Kosovo (PAK, 2017), ethic standards are obligatory for everyone and each violation of code may result to disciplinary measures. It is also observed that until the selection of Managing Director, it was no disciplinary commission that could consider the violation or non violation of ethical standards. Except it recent years is appointed the Officer for Standards that is dealing with several issues linked with official standards.

Returning to our research question: What are the important points to be taken into consideration by supervisors related to respect of staff and ethics at organization in order the company to be successful and comparative? From the comparative study and other arguments of authors, the most important principles to be attained by supervisors are respect, integrity, lawfulness and impartiality.

4. Conclusions

In this paper is elaborated the business ethics and its importance at the organizations and their employees. Development and approval of code of ethics and ethical practices in organization will not stop unethical behaves, but, will give to people a kind of measure to assess behave. Ethical issues are in the focus of public and media. In Kosovo and wider we hear at TV and other media about the politicians of Kosovo that are accused for non-ethical

behave, for nepotism, for the way of collecting or declaring donations for electoral campaign and other issues. For some institutions like Ministry of Transport and Telecommunications', Ministry of Education, Science and Technology, Central Bank of Kosovo and so on, the attention was placed on unacceptable practices and doubts for misuse, investigation for corruption and taking of bribe (Ref. Reports on TV, media, Anti Corruption Agency). All this reflects violation and unethical behave meaning disrespect of integrity, legacy and responsibility, by which is blenched the image of institutions and reputation of our country.

Executive leaders at organizations and enterprises, firstly themselves should be a sample of respect of ethics code by respecting properly and treating their staff in professional manner as well as graciously without distinction of post, title or influence. At PAK is mainly felt toxic organization culture, where employees in some sectors are not feeling appreciation and appraised. The lack of communication and the view from above created an environment that is not open for new ideas. Instead of this would be good for executive leaders to be involved in coordination of activities by which to motivate employees and then employees would feel respected and appreciated. The PAK Code of Ethics' must be reviewed and amended. Alan K. Simpson said ... I*f you have integrity, nothing else matters. If you don't have integrity, nothing else matters*, hence besides legality this code needs to be completed with Integrity that is one of the main ethical standards. Meanwhile by analyzing the 'Code of Ethics' of 'Bus Eireann' (Ireland), is seen that the code is in compliance with objectives, business activities in the field does not contradict with the ethics and they are in the harmony with higher ethical standards including integrity, lawfulness, faithfulness and other standards. Even if this code is very completed and is referred strictly to each article and each section regulating this issues, it is foreseen that at least once in two years it should be reviewed and amended.

With numerous pages and articles of ethics code and policies, code of behave, organization values and laws, again there are profligacy and mistakes on the ethics at working place that are represented in everyday life that may come up from improper behave of somebody. Everyone at the working place should apply to the policies and procedures. Executive leaders at organizations should be more closer to employees, to organize sessions for prove search in order to see if the written of unwritten code of ethics is not respected. This work must be done in full confidence so that employees to feel safe for their integrity. The base for functioning of the code of ethics in organization is on the hands of executive leaders that must be firmly educated and supplied with personal culture and ethics. They will direct the implementation of ethics code because the reputation and integrity of organizations or institutions are too important to be left to the circumstance or chance, and this must Privatization Agency of Kosovo respect as well.

At this time of rashly technical-technological developments, where the competition is huge and globalization is spread all over, the ethics in business practices is becoming more and more important in professional education as well as in the academic education. A leader or an executive officer must bring the high standards of ethics in the working place every day, which is a culture contained by values, norms and respect.

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Adapting Herzberg's Motivation-Hygiene Theory to a VUCA World – A Repertory Grid Study

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Abstract

Employee motivation is a key driver of organizational performance and employee retention. An increasing shortage of skilled workers forces companies to think of ways to motivate and retain their employees. Herzberg's two-factor theory of motivation provides an insight which factors are relevant for motivating employees. The theory founded on research carried out in the 1960's. Since then, the practical and theoretical tenet of supervision and management has shifted to a different leadership approach. Additive the economic environment is found to be more volatile, unpredictable, complex and ambiguity. VUCA has made its way into organizational science resulting in a focus on agile working methodologies. To add up a generation of millennials demanding for feedback, open communication and team-based workplaces starts to integrate into labour market. Does Herzberg's theory persist in this new economic environment? Can it be adapted or is a completely new approach inevitable? This organizational psychology related study is aimed to test Herzberg's theory in a contemporary environment by applying the theory of personal constructs as an investigative method. 61 qualitative repertory grid structured interviews elicited n = 782 personal constructs to investigate the theory. The personal constructs are clustered and compared to the theory of Herzberg.

Keywords: Employee motivation theories, Two factor theory, repertory grid analysis, theory of personal constructs, organizational performance, organizational psychology, employee retention

Introduction

Human motivation has been a key interest in research for many centuries. Maslow and McCelland focused in their theories on the individual to explain differences in motivation. Herzberg approached the topic from an organizational perspective as he concentrated on the job itself and work activities, their influence on an employee's motivation and performance (Steers et al. 2004). Herzberg initially reviewed the existing research in that area to establish a survey of 200 accountants and engineers. From this research his initial framework about job design including his theory of motivation was founded (Herzberg et al. 1959). Since the motivation-hygiene theory had an influential impact to the scientific as well as practical notion. The factors described in his theory can be influenced by an organization to make jobs intrinsically challenging and provide opportunities for recognition (Steers et al. 2004). Herzberg explained motivation by dividing the topic into two different types of factors (Herzberg et al. 1959). He concluded that job satisfaction and dissatisfaction were two

distinguishable dimensions of work related values of growth needs and lower-order needs (Knoop 1994). Firstly, **hygiene factors** that do not increase motivation but lead to dissatisfaction if they are not prearranged in an organisation. The hygiene factors are *company policy, supervision, salary, relationship with peers, status* and *security* (Herzberg et al. 1959). The satisfaction characteristic of hygiene factors refers more to the gratification of needs and wants of an employee and have an extrinsic character (Knoop 1994). Several interconnected theories of job satisfaction try to analyse the process and the content of work values and satisfaction (Locke 1969). Even the motivator-hygiene theory was criticized repeatedly it still leads to a distinction between job satisfaction and work motivation in future research (Knoop 1994; Ewen et al. 1966). Further research found that the above-mentioned factors are likewise a key driver for employee retention which is inconsistent to the original hygiene-motivation theory by Herzberg (Tamosaitis und Schwenker 2002).

Secondly the **motivation factors** are of an intrinsic nature. They result in more motivation if put into practice by an organization. As motivational factors Herzberg listed *achievement, recognition, work itself* and *responsibility* (Herzberg 1966; Herzberg et al. 1959). Further research done by Lawler supported the theory as he found that satisfaction indicates an employee's motivation to come to work but only indirectly influences the motivation for doing the job effectively (Lawler 1969). Semerek and Peterson concluded in their study on the motivation-hygiene theory that only work itself acts in accordance to Herzberg's theory as they evaluated the impact on job satisfaction (Smerek und Peterson 2006). Thus, Herzberg determined that jobs should be designed to challenge workers with responsibility, while giving them opportunities for advancement. This would result in personal growth and is fostered by recognition (Hackman, J. R., & Oldham, G. R. 1976). They have extended the research as it relates to work design, motivation, and job performance. The consequences of Herzberg's framework for **leadership behaviour** were studied by Arnold et al. (2000) who identified eight essential leadership traits necessary in empowerment: Leading by example, Coaching (education of team members), encouraging, participative decision making, informing, showing concern for members well-being, interacting with the team and group management. This approach to leadership is different to the dominant concept of supervision and management when Herzberg wrote his theory. Already in 1979 Orpen found in his research evidence of Heckman-Oldham's theory on job design. Managers should not focus on giving employees tasks of similar challenge or responsibility (horizontal loading) but instead transfer tasks that loads them vertically with handing over more responsibility for example. This increases the role of a manager from motivating employees only by compensation, good working conditions and similar factors to real motivation of their workers. The outcome is an increase in motivation but not necessarily a greater productivity according to Orpen's (1979) research.

Controversial of Herzberg, Mausner and Snydermans initial research is that they left the interpretation open in their conclusion (King 1970). Consequently, different versions of the theory were identified while no version was supported by two or more methods of testing nor validating (King 1970; Gardner 1977, 1977). Another criticism arises from peoples' tendency to socially desirable answers which results in an attribution of external factors towards impacting dissatisfaction (Wall und Stephenson 1970). The intuitive approach used in repertory grid structured interviews based on Kelly's personal construct theory has proven to eliminate this effect (Hauser et al. 2011). Other studies that used a different method than the original research were contradictive to Herzberg's findings. A clear line between hygiene

and motivating factors was not given for example in the research of Brenner et al. or Maidani (Brenner et al. 1971; Maidani 1991). Nevertheless, Brenner also stated that the wording of the questions, the method of presenting the questions etc. have an impact on the results of a study (Brenner et al. 1971). This makes a completely new approach to testing the theory in today's work environment so worthwhile and was the reason for this study.

To a similar degree to which critical studies about Herzberg's theory are published it is possible to find research that supports the evidence provided by the hygiene-motivation theory. Sachau for example suggests a resurrecting of the motivation-hygiene theory as it has strong correlations to research on intrinsic motivation and positive psychology (Sachau 2007). Looking at the term itself in literature and similarly in practice the term responsibility has been broadened by the concept of empowerment. Chen et al. conceptualize this term by including impact, competence, meaningfulness and choice while distinguishing between individuals and teams (Chen et al. 2007). The effect of **team composition** has not been addressed by Herzberg's theory which would widen the approach. Especially as teamwork has increased in significance since his theory due to the change in values and norm of the generations after the baby boomers. Empirical research highlighted three traits of millennials in relation to their interactions and relationship at work. Firstly, they prefer a team-based workplace culture which compromises close contact and communication with supervisors (Stewart et al. 2017; Costanza et al. 2012). This should in return influence their motivation factors. In addition, frequent feedback is requested from a managerial perspective. Performance appraisal though is asked to be based on contributions to an organizational objective and strategic goals instead of specific traits of an employee (Myers und Sadaghiani 2010). Costanza et al. (2012) found in their meta-analysis both a difference in job satisfaction and job turnover between distinct generations. In terms of motivation Wong et al. (2008) highlighted that power and authority has decreased in importance as motivational driver from generation to generation.

An investigation of the relationship between work values and job satisfaction compiled by Knoop (1994) clustered Herzberg's two factor theory into five sets of values: intrinsic work-related, intrinsic work-outcome, extrinsic job-related, extrinsic job-outcome and extrinsic people related. His research aimed to identify the best predictors of job satisfaction for these five sets of values. Other studies have revealed that increased job satisfaction is important by most workers. A contrary picture can be drawn when workers are requested to rank the importance of increasing job satisfaction against other types of employment goals which are relevant to them (Caston, R. J., & Braito, R. 1985). This resulted in about 50% of employees rating job satisfaction in the bottom half of the scale ranks. Summarized Caston, R. J., & Braito, R. (1985) found empirical evidence relevant to the two-factory theory by Herzberg. Their theory suggests that intrinsic factors contribute to job satisfaction which is not the case for extrinsic factors. Caston and Braito (1985) added the variable of "workers-to-job fit" to the motivator-hygiene theory to explain differences in job satisfaction.

Based on the two-factor theory Locke and Latham (1990) construed a performance cycle as high motivation alone does not necessarily result in continuous high performance. In addition, moderating factors, namely goal commitment, feedback, ability, task complexity and situations constrains have an impact on the performance results (Locke und Latham 1990). This performance cycle started to integrate preferences of millennials into the motivation framework.

Finally, it remains open how the increased volatility, uncertainty, complexity and ambiguity (VUCA) of the economic environment which made agile and flexible management methods like Scrum, Kanban and lean indispensable (Baran und Woznyj 2020) effects Herzberg's framework. A review of search results on ScienceDirect by the Elsevier publishing house makes evident that agile working methods have increased in importance every year. While in the early 2000's the search term "agile organization" produces only 200 – 300 results this increased to 1,000 – 2,270 since 2014 to 2019. An adapted two-factor framework should certainly integrate this economic development. Questionable is whether it fits as a hygiene or motivation factor into the framework.

2. Hypotheses

From the literature review the following hypotheses were concluded. The first picks up the criticism that the questionnaire pointed the enquired people towards the results of Herzberg's theory by the design of the questionnaire. This, especially with the elements chosen in this investigation is equalled out by a repertory grid study as there is not direct link to motivator or hygiene factors. In case Herzberg's theory holds valid today, we would expect these factors to still be part of the elicited constructs of this study:

H_1: *The repertory grid approach still creates construct clusters referable to the factors stated in Herzberg's theory.*

Leadership has passed through several stages in the past decades. Whilst an autocratic leadership style with clear instructions on what and how work must be carried out was still accepted and considered a hygiene factor, this has changed considerably. According to contemporary research on leadership and motivation the role of leaders has changed into something like a coach with a cooperative leadership style. Hence, we would expect to find evidence in the data set that the "quality of supervision" or leadership has changed into a motivational factor instead of a hygiene factor.

H_2: *Leadership and quality of supervision has become a motivational factor.*

Not only the generation changes in workforce but also the economic environmental changes may have an impact on organizational culture. The VUCA world is an influential driver of organizational performance (Bennett und Lemoine 2014). Deductive it influences employee's motivation likewise. This leads to the hypothesis that as a response to the VUCA world agile working methods and an open-minded approach for new ideas by leaders is a necessity resulting in a hygiene factor.

H_3: *Agile working methods can by identified as a hygiene factor.*

The value and norms of millennials in the work environment have caused an integration of team-based workplace culture and feedback as a motivational.

H_4: *Teamwork and feedback can be identified as motivational factors.*

3. Materials and Methods

This qualitative research employs an inductive approach to study employee's hygiene and motivation factors in a work environment. A reunion of Herzberg's two factor theory with Kelly's (1955) personal construct psychology (PCP) supplied a theoretical method. Kelly (1955) indicated in his theory that people continuously attempt to make sense of their own

humankind and their place within the world surrounding them (Cassell et al. 2000). This is done by placing experiences and events in relation to each other in various circumstances (Fromm 2004). In this research the theory is employed to an organization surrounding an individual. Therefore, an originally psychological theory is exploited to evaluate how employees see their employer in this case focused on hygiene and motivational factors. This method makes the subjective and personal worlds of workers within an organization visible. The repertory grid technique used in this study is an unbiased qualitative and quantitative method (Robertson 2004) to evaluate the motivational status quo of an organization and if Herzberg's theory is reflected somehow. The methodology is not a psychometric test but repertory grid interviews are rather a structured consultation technique that grounds on PCP (Fromm 2004). It works on comparisons between in this context organizational elements. The interviewees expressions to differentiate these elements are logged in a data matrix (Scheer und Catina 1993). The findings correspond to the subjective reality of the interviewed person in an idiographic way (Bourne und Jankowicz 2018). As a basis for this research 61 repertory grid structured interviews (all 21 managers and 40 employees in proportion of the size of each department) were carried out within an organization. The research object is a wholesale company in the consumer industry with approximately 500 employees of which 21 staff members are in leadership roles. The software *rep:grid* (by sofistiq) was employed for collection and analysis of the data. The tool enables several interview settings. For this study, the comparison method *triad oppositional* was used. Consequently, probands were presented three different elements to elicit their constructs. The evaluation method was conducted in a *tetrapolar field.* The web based tool generates the results after completing the interview to enable consensual validity of the elicited results (Lohaus 1983). The main objective of this research is to analyse whether Herzberg's motivation-hygiene theory can be verified by appliance of Kelly's theory of personal constructs as a research model. Each computer supported face-to-face interview lasted 120 minutes and generated an average of 13 personal constructs per interview, in total 782.

The determination of elements must adhere to some basic guidelines to guarantee a complete coverage of the research issues. The main principles for selecting elements are that they are consistent in the meaning that they represent the same category. Additionally, elements should be representative to the subject explored and explicit to the interviewee (Easterby-Smith et al. 1996). Wright and Lam propose supplementary heterogeneous elements that indicate a profound interpretation of the researched topic (Wright und Lam 2002). The following 27 elements were employed to represent the company and are designed to elicit motivation related constructs:

All elements		
The organization & market	*Leadership & Motivation*	*Quality and internal processes*
The company as it used to be	*Myself today*	*HR*
The company today	*My direct manager*	*Logistics/Warehouse*
The company in 2.5 years	*The company without leadership*	*Sales Department*
The ideal company	*Ideal leadership*	*Product management / purchase*
A negative company	*Leadership culture*	*IT*

The companies brand	Myself as a manager	Marketing
The market in the future	CEO 1	Employee culture
An unpleasant competitor	CEO 2	Quality principle
A meaningful company	A highly motivated person	An efficient process

Table 1: All 27 applied elements

The 27 elements are grouped into 3 main area. Evidently that the second cluster of leadership and motivation includes the elements for this research. The element "A highly motivated person" is selected to explicitly trigger motivation related constructs without directly asking questions. This is one of criticized issues of Herzberg's original research (Brenner et al. 1971, 1971; Gardner 1977, 1977). The inductive approach of repertory grids still allows the interviewees to state motivation related constructs whilst not bringing up thoughts that they do not use in the context of judging the organization they are working for.

The *procedure* of repertory grid structured interviews can be divided into three phases:

Interviewees compare a triad of three elements of the set of 27 to elicit their personal constructs. While faced with three elements they are asked, "in what way are two of these elements similar to each other and different from the third one". As the elements are related to motivation contextual constructs are elicited.

Afterwards the probands state a contrary to their initially construed construct. The assessment method selected is "triad oppositional" (Easterby-Smith et al. 1996) meaning that a tetrapolar field is used for evaluating the elements. This enables a diverse set of possible assessments (Senior und Swailes 2004).

In phase three the interviewees rate all 27 elements in the tetrapolar field in dependence of their created construct poles. This process was reiterated until no additional constructs were produced.

Elements like "a highly motivated person" or "an efficient process" assist creative reasoning to ideally elicit a distinct quantity of qualitatively distinguishable images that define the corporate culture in close association with motivational factors.

The selection of these elements intended to translate Herzberg's theory into personal constructs that show how employees evaluate and judge the elements that are presented to them (Kelly 2002). Consequently, interviewees do not answer to questions and factors that they before did not have in mind, a main criticism of Herzberg's investigation methodology. As motivation is closely related to leadership several elements were chosen which provoke experiences and thoughts about this topic.

The collected data was evaluated with a specialized software that uses *Generalized Procrustes Analysis (GPA)* to define the unique coordinates of each construct and element. GPA enables to analysis and visualization of three-dimensional data matrices (Mak et al. 2013). The analysis reveals how constructs are grouped together and in which mathematical context they stand to each other (Grice und Assad 2009). The selection of the above-mentioned elements does not allow to predict any derived constructs, but the context determines that topic related constructs are created (Fransella 2004). The explanation of the matrix focuses on the creation of construct clusters with a similar meaning (Hauser et al. 2011). In addition, the location of

elements in combination with construct clusters allows comprehension of the perceived company culture of the interviewees. The GPA was carried out in three dimensions to ensure practicability and facilitate descriptive qualitative analysis with results presented in three-dimensional plots.

An analysis of the results requires a common understanding of the spatial representation demonstrated in three-dimensional graphics of this study. The distances between clusters of constructs and elements and their allocation in the grid are quantitative figures which allow in their interplay a qualitative analysis of the data set (Hauser et al. 2011). In case the coordinates of constructs and elements represent a small special distance, this means they are rated similar by probands. Elements and clusters each have a certain set of coordinates which enables to measure the distances as a percentage of 100. As an example, "The ideal company" and "Ideal Leadership" have a very close relationship of 99.1% which was anticipated beforehand. The contrary holds true in case two elements are assessed opposite on all constructs. A relative distance of 100% we be the result. The distance between a "a negative company" and "the ideal company" is 74.5, representing a degree of association of 25.5%. For testing hypothesis and to compile an overview which identified clusters coincide with Herzberg's theory the degree of association was separated into 3 categories:

Type of factor	Degree of association
Motivator	75 – 100 %
Hygiene	50 – 75 %
Dissatisfaction / Demotivation	25 – 50 %

Table 2: Categories of degree of association

Orientation is provided in this three-dimensional grid by the two element poles "A negative company" and "The ideal company". The distances (of a maximum of 100) to these two poles implies how good or adverse a subject is assessed. For the creation of clusters, the software *rep:grid* created a first proposal set of clusters in dependence of the closeness of constructs. This first set included all 782 constructs. The preview cluster set based on mathematical figures was examined semantically regarding their coherence with motivational theories. That way all constructs were semantically evaluated and assigned to one of the initial or a new cluster. This resulted in 34 clusters. The software rep:grip allocated the centric position of these cluster by GPA.

4. Results and Discussion

The personal constructs elicited in this research were semantically summarized into 34 clusters of which each contained between 13 and 34 constructs. These clusters in turn can be summed up into 5 main topics. 71 personal constructs are classified as unassigned as they did not fit into the below listed scheme.

ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

	Topic related clusters	N	in %	A highly motivated person	The ideal company	The company today	A negative company
					degree of correlation		
	Constructs						
Interpersonal	Self motivation through team spirit	27	3.5%	**0.881**	0.888	0.510	0.329
	Good relationsship with peers	19	2.4%	**0.905**	0.920	0.482	0.317
	Egocentricity, Silo-mentality	26	3.3%	0.311	0.303	0.590	0.921
	Impersonal togetherness / Blasphemy	30	3.8%	0.351	0.342	0.657	0.901
	Efficient and positive communication	16	2.0%	**0.875**	0.858	0.543	0.386
Recognition and feedback	Responsibility is not taken, no recognition	15	1.9%	0.328	0.316	0.683	0.916
	Performance orientation	16	2.0%	0.805	0.853	0.525	0.417
	Honest, critical feedback	15	1.9%	**0.906**	0.920	0.424	0.310
	Error prevention	23	2.9%	0.398	0.387	0.701	0.857
	Organizational Silence	15	1.9%	0.339	0.325	0.704	0.900
	Open error culture	21	2.7%	0.830	0.852	0.498	0.390
Job attitude	Employee development & growth	29	3.7%	0.854	0.850	0.531	0.405
	Intrinsic passion for the job	27	3.5%	**0.917**	0.866	0.510	0.330
	Work-to-rule	28	3.6%	0.361	0.359	0.579	0.841
	Stay in the comfort zone	18	2.3%	0.356	0.340	0.783	0.817
Leadership	Autocratic Leadership	15	1.9%	0.374	0.364	0.603	0.870
	Cooperative Leadership	19	2.4%	**0.910**	0.895	0.508	0.324
	Clearly defined strategy and goals	34	4.3%	**0.903**	0.891	0.470	0.349
	Controlling supervisors	14	1.8%	0.496	0.467	0.862	0.677
	Unclear instructions, missing strategy	30	3.8%	0.318	0.310	0.630	0.920
	Clear & distributed responsibilities	20	2.6%	**0.876**	0.883	0.495	0.371
	Involement is missing	21	2.7%	0.382	0.368	0.664	0.886
	Inclusion and involvement	15	1.9%	0.837	0.849	0.503	0.290
Working conditions	Exhaustion, overtime and demotivation	26	3.3%	0.368	0.357	0.675	0.890
	Wasteful processes	31	4.0%	0.338	0.327	0.661	0.913
	Agile working attitude / open-mindedness	23	2.9%	0.851	0.848	0.532	0.407
	Efficient working conditions	32	4.1%	**0.918**	0.879	0.511	0.345
	Sluggishness in change	19	2.4%	0.331	0.318	0.709	0.890
	Continuous optimization	21	2.7%	0.860	0.889	0.447	0.343
	Healthy working conditions	15	1.9%	0.739	0.754	0.562	0.475
	Innovative work environment	13	1.7%	0.871	0.853	0.544	0.393
	Salary and security	19	2.4%	0.752	0.745	0.669	0.480
	Pure profit orientation	19	2.4%	0.445	0.429	0.702	0.822
	(Unassigned)	71	9.1%	0.718	0.713	0.641	0.536
	Total	782					

Table 3: Construct clusters and their degree of correlation with elements

The central element for this research is "a highly motivated person". To test hypothesis one, the prevalence of Herzberg's two factor theory the construct clusters are equated to the motivation or hygiene factors. Accordingly, the first analysis determines which clusters have the highest correlation with the element a highly motivated person. The data set reveals that

intrinsic passion for the job and *efficient working conditions* (both 92%) or according to Herzberg's theory "the work itself" is the strongest motivator. This means that a challenging, stimulating, and well-organized working environment is a main driver to motivate employees in a VUCA environment. The clusters with the second highest degree of correlation are a *cooperative leadership* and *honest, critical feedback.* This does not fully match with Herzberg's two-factor theory as it associates most with "Quality of supervision". It seems the factor moved from hygiene to motivation which already confirms hypothesis two. A different approach to leadership is required and has a strong impact on motivation. Thirdly the data set highlights *good relationship with peers* (91%) as a main cluster for a highly motivated person. This may conclude that inter-personal relationships are still prevalent but evolved into a motivational factor. *Salary and security* correlates 75% with a highly motivated person and ideal company (75%) which highlights it still as a hygiene factor. Herzberg's hygiene factor company policy can be aligned to *healthy working conditions* (74%).
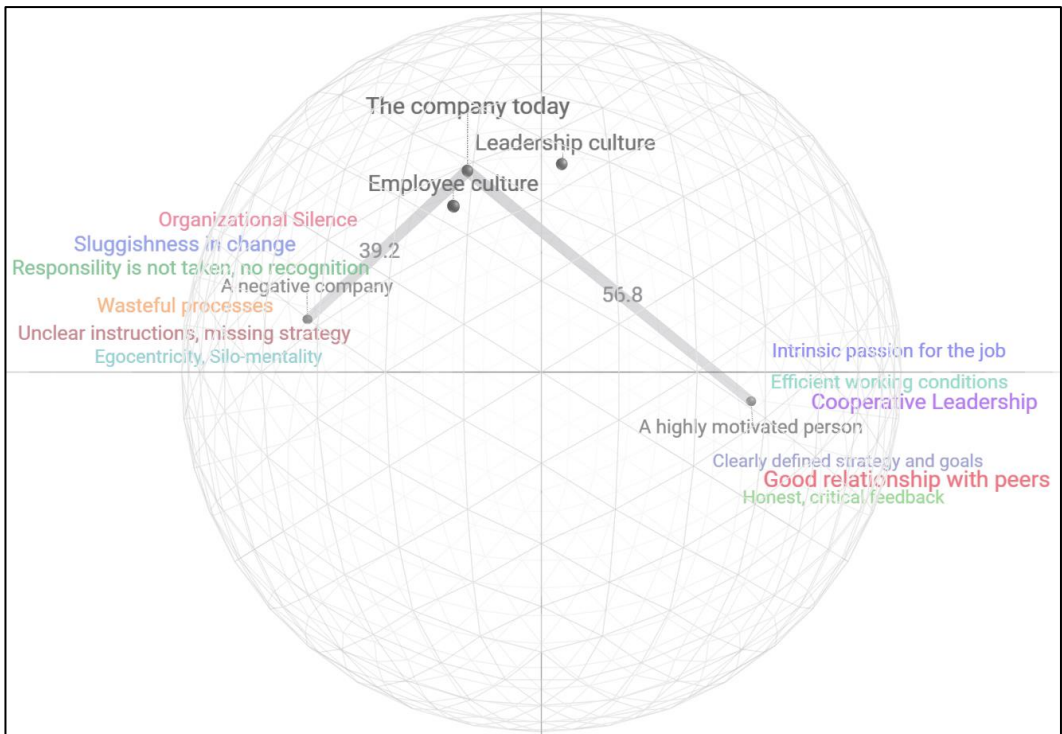

Figure 1: Visualization of construct clusters and their correlation with elements

In turn we need to investigate what has the least correlation with a highly motivated person so might rather be demotivating or dissatisfying (25 – 50%). Two clusters centre around the efficiency of the working conditions. *Egocentricity, Silo-mentality* (31%) and *Wasteful processes* (34%) are clusters that describe how employees and leaders can carry out their work. If efficiency is not given this may lead to demotivation. These two constructs are exactly the contrary to the motivating cluster *efficient working conditions.* Furthermore, if *responsibility is not taken, no recognition* (33%) is given this leads to demotivation or dissatisfaction according to the data set. Already Herzberg described responsibility and

recognition as a motivating factor in his theory, so this is confirmed by this study. The cluster can be identified as contrarian to *cooperative leadership. Organizational silence* (34%) stands for employees not giving critical feedback or withholding their ideas. Hence it can be paired to *Honest and critical feedback* which was identified on the other hand as being a motivator. If ideas and suggestions are withheld it indicates an interrelation with the cluster *Sluggishness in change* (33%) which is identified by this research as another cluster that is associated contrarious with a motivated person. Advancement and personal growth are the motivating factors Herzberg defined in his theory which is closest to the cluster names. Critical self-reflection and feedback are main drivers for personal growth. Finally, *unclear instructions, missing strategy* (32%) are another demotivating factor that confirms *clearly defined strategy and goals* as a motivating motive. Conclusive in today's working environment employees are motivated by a strategy that is defined and communicated. The following table summarizes the clusters that were identified in accordance with the classification defined in the chapter materials and methods:

Topic related clusters	Constructs		degree of correlation	Factors	
	N	in %	A highly motivated person	findings	Herzberg's theory
Self motivation through team spirit	**27**	**3.5%**	**0.881**	**motivator**	**hygiene**
Good relationship with peers	**19**	**2.4%**	**0.905**	**motivator**	**hygiene**
Efficient and positive communication	**16**	**2.0%**	**0.875**	**motivator**	**hygiene**
Performance orientation	16	2.0%	0.805	motivator	motivator
Honest, critical feedback	**15**	**1.9%**	**0.906**	**motivator**	**-**
Open error culture	**21**	**2.7%**	**0.830**	**motivator**	**-**
Employee development & growth	29	3.7%	0.854	motivator	motivator
Intrinsic passion for the job	27	3.5%	0.917	motivator	motivator
Cooperative Leadership	**19**	**2.4%**	**0.910**	**motivator**	**hygiene**
Clearly defined strategy and goals	34	4.3%	0.903	motivator	motivator
Controlling supervisors	14	1.8%	0.496	hygiene	hygiene
Clear & distributed responsibilities	20	2.6%	0.876	motivator	motivator
Inclusion and involvement	15	1.9%	0.837	motivator	motivator
Agile working attitude / open-mindedness	**23**	**2.9%**	**0.851**	**motivator**	**-**
Efficient working conditions	32	4.1%	0.918	motivator	motivator
Continuous optimization	21	2.7%	0.860	motivator	motivator
Healthy working conditions	15	1.9%	0.739	hygiene	hygiene
Innovative work environment	13	1.7%	0.871	motivator	motivator
Salary and security	19	2.4%	0.752	hygiene	hygiene

Table 4: Classification of construct clusters in motivation and hygiene factors

This classification table in combination with the defined categories facilitates a test of hypothesis three: H_3: *Agile working methods can by identified as a hygiene factor.* The cluster "*agile working attitude / open-mindedness*" is associated to a degree of 85% with the element "a highly motivated person". Conclusively agile working methods function as a motivator

rather than only being a hygiene factor in today's working environment. This can be explained by the changes that occurred with respect to the economic environment since Herzberg compiled his research. The effects on motivation through more agile working methods are scientifically proven as empowerment, flat hierarchies and interdisciplinary teams diversify jobs while promoting and efficient and proactive internal communication. Interesting is that being capable to manage a volatile, uncertain, and complex world serves even as a motivator for employees and leaders. Further research on this point could verify or falsify this finding. Summarizing though hypothesis three was not confirmed.

The following figure visualizes the clusters that were aligned to the factors identified by Herzberg. The closer they are to the element "a highly motived person" the more likely they are to be a motivational factor.
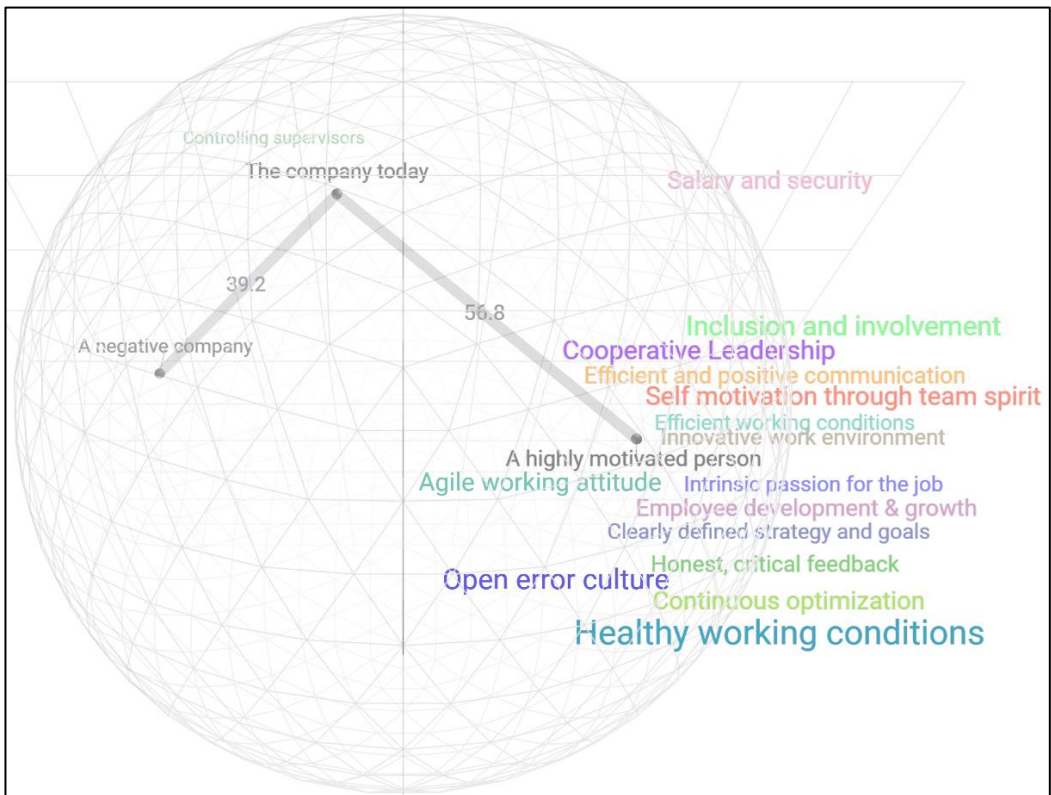

Figure 2: Construct clusters associated with a highly motivated person (element)

12 of 19 clusters confirm Herzberg's motivation-hygiene theory for today's working environment even the economic circumstances have changed considerably. Seven clusters revealed by this repertory grid study are either not part of Herzberg's theory or the findings of this study contradict to his theory. The first three clusters of table four relate to the interpersonal relationship of employees and leaders. According to Herzberg's theory these are hygiene factors, their association with motivation indicate them as motivational factors. As discussed by Myers und Sadaghiani (2010) this is due to the changed values and ethics of

generation Y. Work and relationship has become more important while salary and achievement are not as relevant anymore.

The second main finding is that *honest, critical feedback* and an *open error culture* serve as motivational factors. Our economy has become less predictable and changes are occurring faster than in the century Kelly wrote his theory. Therefore, an open-minded approach towards committing errors in combination with an honest and critical feedback is needed to cope with the challenges in a volatile and complex economic environment. These factors support advancement and personal growth but were not explicitly listed in Herzberg's theory. In the 1960's the leadership approach was minted more autocratic. Managers were the former employees with most knowledge capable to plan the future. Error prevention was a prime aim whilst committing and communicate mistakes was rather seen as a weakness. This leadership and error management approach changed into a mindset expectation towards *Cooperative leadership* (91% association with high motivation) and *open error culture* (83%). Herzberg named his hygiene factor "quality of supervision" which based on a contrary perception of supervision than today's cooperative leadership approach. Summarizing hypothesis four can be confirmed, teamwork and feedback were identified as motivational factors.

5. Conclusion

Despite the changes in leadership and management, the economic environment and the type of workforce, Herzberg's theory is still reproducible to a wide extend in contemporary work environment. The data set supports the assumption that *feedback and an open error culture* must be considered as motivational factors due to an economic surrounding described by the term VUCA (Bennett und Lemoine 2014). Additionally, this is supported by another motivator named *agile working methods*. Quality of supervision was included in the 2-factor theory as a hygiene factors, but this study suggests a renaming to *Cooperative Leadership* which conditions a shift to being a motivator. Finally, *teamwork, efficient communication and good interpersonal relationship* were identified as an additional motivator while Herzberg considered these as hygiene factors. The literature review did not indicate this shift nevertheless it is an interesting finding that would need testing in an embraced study. Auxiliary the research shows that repertory grid structured interviews based on Kelly's theory of personal constructs are a suitable way to investigate the two-factor theory. Further research based on this adapted hygiene-motivation theory is needed to test the theory on its withstanding in contemporary working environment. The limitation of the study is the data set as it only reflects one organization with 61 qualitative interviews as a combination of employees and all leaders. Nevertheless, it can create a first evidence on how Herzberg's theory could be adapted to today's economic environment and changed labour market. The author suggests further quantitative, specific research to be conducted based on the finding of this study. This would refine the current scientific status and could produce valuable practical advice on how organizations can cope with the current economic challenges while motivating, retain and satisfying their workforce.

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ISSN 2411-9571 (Print)
ISSN 2411-4073 (online)

European Journal of Economics
and Business Studies

September – December 2020
Volume 3, Issue 3

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Analysis of the Energy Efficiency of District Heat Suppliers in Hungary Through Network Losses

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Abstract

Nowadays in Hungary, district heating is provided by 89 companies in 93 settlements, which supply more than 1.6 million people with heat. The sector is considered to be of national economic importance and it is therefore vital that this service is implemented effectively. A measure of efficiency is network loss, which value is on average between 12-13% in the sector. The aim of this study is to investigate whether there is a significant difference between the efficiencies of district heat suppliers. The empirical basis of the study is made up of the individual technical data of district heat suppliers from the years 2012-2017. The analysis was carried out with statistical methods that are suitable for exploring the relationships between qualitative and quantitative indicators.[1]

Keywords: Energy Efficiency, District Heat Suppliers, Hungary, Network Losses