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ACCOUNTING ANALYSIS ON EURASIAN COUNTRIES BY APPLYING THE EDGEWORTH'S BOX

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Abstract

Accounting systems record transactions of goods, services, and products exchanged between units of activities in an economy. The exchanges made are also exchanges of valuations between the accounts as parts and counterparts of their accounting record. The national accounts systems report the activity carried out by a nation in a period, and the financial statements are a synthesis of the decision-making adopted. The paper analyzes the Eurasian economies by showing their accounting equilibria in an Edgeworth box. The measurement of their positions explains the level of risk adopted in a period, which can be transmitted visually to those who participate in the development of a common project. The analysis justifies that the financing of an economy must maintain a productive capacity to obtain a monetary saving greater than the economic result of the period. This criterion indicates whether the activity carried out is a position of growth, risk, or migration. According to the explanatory level of the economic and financial behavior of analyzed economies, the Edgeworth box has become the laboratory of the research developed in the paper, and accounting is considered a positive science of the social sciences.

Keywords: Accounting Methodology, Edgeworth's Box, Eurasian Economy, Abstraction-Reality

JEL Classifications: A12, B40, E01

1. Introduction

The paper aims to analyze the economy of the Eurasian countries considering the development of the OECD Eurasia Competitiveness Program since its creation in 2008 (OECD, 2021) and Programme de financement direct hors PME of Banque Européenne pour la Reconstruction et le Développement (BERD, 2021) by applying the accounting methodology of Edgeworth's box (Pérez, 2019a, 2019b, 2020). The OECD's Eurasia activities involve 13 countries extending from the borders of the European Union to the Far East. The statistical information for the accounting analysis is obtained from Databank of the World Bank including in the period 2000 to 2019. Having downloaded the statistical information in 2021, the corresponding information has not been obtained for Tajikistan, Turkmenistan, and Uzbekistan. The limitation for applying this methodology is the quality of accounting information according to the framework of System of National Accounts (SNA) 2008. Excluding 2013, their positions favor the reduction of unemployment according to the positive value of the accounting methodology indicators and

Ukraine maintains the best positions among them. The results obtained justify the development policies of the OECD in the Eurasian countries.

The accounting methodology explains the economic and financial behavior of the Eurasian countries through two indicators, which measure the positions of their economies in an Edgeworth box. The behavior of the economies is limited by four axes of the Edgeworth box, which are transformed values of the accounting equations variables so that indeterminate and infinite values of the indicators will always have an economic and financial meaning. The Edgeworth box is a laboratory for researchers and shows the results of economic activity for those who participate in a common project, so the research follows criteria of perception of the meaning of images to explain them. This strategy is as used in previous literature. For instance, Aust and Pons (2020) demonstrate in a visual analysis that defect detectability is highly dependent on specific views of the aircraft engine blade, whereas Kummer and Mendling (2021) assessed operational risk management and internal controls (RIC) using visual representations to support tasks such as risk assessment and definition of control activities, and Sensier and Devine (2020) use the scorecard to measure economic recovery in U.K. regions before, during, and after the global financial crisis of 2007/8. Decision-making by users, who perceive the risk situations represented in an Edgeworth box, are linked to behavioral factors such as those indicated in contributions of previous research. Summerfield *et al.* (2015) explain the inconsistency and intransibility of economic decisions based on the local context where they are made, while Mobbs *et al.* (2020) analyze different Spatio-temporal scales according to decision-making with an effect on the neural circuits, and Mormann and Russo (2021) investigate the attention factor in decision-making, which can increase the perceived value of decision alternatives. Further, Westbrook *et al.* (2021) analyze the benefits versus costs of cognitive effort between controlled and overbearing actions, and Yu *et al.* (2021) review the psychological and neural mechanisms of learning to delineate how people gather and transfer information between different contexts.

The paper analyzes the results of the decisions taken from an accounting perspective, according to previous works of Pérez-Benedito (2019a, 2019b, 2020). The accounting equations are accounting identities obtained from deficit/surplus for an economy according to the framework of Systems of National Accounts or SNA 2008 (United Nations [UN], 2009). This alternative way to explain the behavior of an economy does not entry conflict with previous approaches of León Walras, Simon Slutzky, Irvin Fisher, Richard Stone, and John Hicks for explaining the behavior of national economies by Schumpeter's history of economic analysis (1995), and this follows the trend of explaining the evolution of the economy through other indicators just as Chardeau (1992) measures non-market household production, van den Bergh (2007, 2009) evaluates the reasons for denial of the relevance of GDP as a social welfare and progress indicator, Kira (2013) considers problems such as increase in oil prices, power shortages, and political instabilities as a distinctive source of GDP sinking in developing countries, Claessens *et al.* (2012) emphasize the importance of financial market developments for the real economy, Stiglitz *et al.* (2018) are responsible for changing the focus of OECD statistics from measuring the size of economic output, which is what GDP is all about, to measuring what shapes the well-being of people today and that of future generations, the report of Jacobs (2020) suggests for establishing a new set of goals and measures for economic and social progress, new frameworks for economic analysis, and new types of policies, where the ultimate goal is for economic decision makers and policy makers to better understand the economies in which we live today and provide them with more effective tools to achieve their goals, and World Bank [WB] (2020) reports on Covid-19 recession results applying several methodology. In addition, the methodology visually explains the risk levels of the decisions made in relation to four variables at the same time. The paper contrasts the evolution of the indicators with the evolution of unemployment to avoid refuting the methodology adopted in the research. That is, the analysis of the cause-effect relationship is established between accounting and non-accounting variables.

This paper develops the content of the introduction in the following sections. However, the explanatory capacity of the dynamic activity of the economies depends on the quality of the information obtained and is limited by the criterion of timeliness of the accounting information provided. Finally, considering that accounting is an economic science, the researcher can apply prediction models but must avoid conceptually accounting heteroscedasticity and autocorrelation. Bustos *et al.* (2020) and Bibas *et al.* (2021) allow the application of an alternative form by using the elasticity of substitution of the variables in the equilibrium accounting equation.

2. Accounting methodology

The principle of double-entry explains the economic and financial behavior of units of activity in an economy. Economic and financial demands have relations on respective financial and economic offers. The economic demand-offer are parts of accounting records as well as their respective financial offer-demand are counterparts in the same accounting transaction as described in Figure 1.

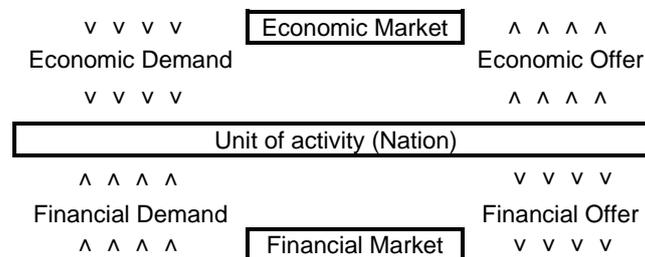


Figure 1. Principle of double entry

Accounting transactions relate to acquisitions (demands) and supplies (offers) of goods, products, and services exchanged in the decision-making processes of a nation or unit of activity. Thus, the economic demands are parts of accounting transactions, and the financial offers are their counterparts. Further, the economic offers are parts of their respective financial demands or accounting counterparts. The values of the accounting transactions have assigned accounts, according to the nature of the goods, products, and services exchanged, to report on the decisions adopted in the accounting financial statements.

The SNA 2008 records transactions of four institutional sectors: corporations, non-profit institutions serving (NPIs), government units, and households because their economic objectives, functions, and behavior are different. The nature of the exchange of goods, products, and services can be economic, financial, and monetary. The 2008 SNA reports information according to the accumulated account value in various financial statements, and corporate institutional sectors are separated by their financial and non-financial activity as shown in Table 1.

Table 1. Nature of transactions

Institutional sectors		Value of accounts	Accounting transactions
The non-financial corporations' sector	>>>>>>		
The financial corporations' sector	>>>>>>	Economic	Non-financial
The general government sector;	>>>>>>	Financial	Financial
The non-profit institutions serving households sector	>>>>>>	Monetary	Financial
The household sector	>>>>>>		

Source: SNA 2008

The result of decision-making process in an annual period is an accounting balance because the accounting compensation between parts and counterparts will be the same, that is the net lending (+) / net borrowing (-). This difference is obtained as in Equation 1.

$$Economic\ Demand - Economic\ Offer = Financial\ Offer - Financial\ Demand \quad (1)$$

This general expression is an equilibrium of national activity, and related accounts are an accounting identity. The accounting compensations of economic parts are gross national saving less variations of economic assets, and accounting compensations of financial counterparts are found by subtracting broad money from variations of financial positions. The variations of economic assets are demanded goods, which do not return to economics markets with added value. The broad money is monetary savings that have not been loaned to markets.

$$\text{Gross National Saving} - \text{Variation Assets} = \text{Variation Financial Position} - \text{Broad Money} \quad (2)$$

The transposition of variables is an accounting equation to be represented in Edgeworth's box is illustrated in Table 2.

Table 2. Accounting equilibrium of economy		
Accounting Balance		
Asset	=	Liability
(VA) Variation assets		(BM) Broad money
(VFP) Variation financial positions		(GS) Gross saving
Total assets	=	Total liabilities

The balance of Table 2 is the equilibrium of nation activity, and their variables are compensation of financial and non-financial transaction of SNA 2008. The accounting variables obtained can be negative and their inclusion on an Edgeworth's box requires their transformations into positive value. The second transformation is their inclusion into the Edgeworth's box. This second step considers that axes of Edgeworth's box have limits, which are total assets and liability of balance but measured in percentage (100%). This measurement criterion is the representation on each axis of the relative weight of each variable with relation to the total assets and liabilities of each annual balance (Table 2). The general expression to include them in an Edgeworth's box is as in Equation 3.

$$AV_i = \frac{AVB_i + X_o}{TAL} \quad (3)$$

The variables of Equation 3 are as follows. AV_i is the transformed accounting value of balance variables, AVB_i is the accounting value of balance variables, X_o is the change of origin and the maxim of minus value of balance variables multiplied by two, and TAL is the change of unit, the annual total assets, and liabilities.

The dynamic activity of an economy can be analyzed by measuring the level of concentration of the values transferred to the four variables of an accounting balance. The positions in Edgeworth's box have four measures, which are relative importance in percentage of accounting magnitudes on respective axes of an Edgeworth's box. The positions can be analyzed by L and G indicators for explaining the financial-economic behavior of a nation.

$$L = \frac{VFP}{GS} - \frac{VA}{BM} \quad (4)$$

$$G = \frac{VA}{GS} - \frac{VFP}{BM} \quad (5)$$

Indicators L (Equation 4) and G (Equation 5) measure financial and economic positions of accounting equilibrium (balance). The L indicator measures how many times the credit borrowed from the market (VFP) is generated by economic cash flow or gross saving (GS), which is compensated by accounting hedge of assets (VA) in respect to monetary cash flow generated or broad money (BM). The G indicator measures the materialization on economic assets (VA) of the economic cash flow (GS) compensated by the level of credit borrowed to economies in respect to monetary cash flow generated (BM). The best position is when L and G are positive and L is

greater than G , because the credit borrowed in an economy finances the economic growth. The obtained value judgment turns the Edgeworth box into a laboratory for the social sciences.

3. Applying the accounting methodology

3.1. Previous consideration on World Bank Open Data and methodology

The accounting information of the economies in the World Bank Open Data can be managed in two ways, either by country or by variables. This paper selects second alternative, to available information, and Table 3 shows variables that are managed to obtain the accounting balance equation for Eurasian countries.

Table 3. Distribution of classification criterion in Database OECE

Country Name (2)	Country Code (1)	Indicator Name (2)	Indicator Code (3)
Nation	ISO 3166-1 alpha 3	GDP (current US\$)	NY.GDP.MKTP.CD
Nation	ISO 3166-1 alpha 3	Broad money (% of GDP)	FM.LBL.BMNY.GD.ZS
Nation	ISO 3166-1 alpha 3	Gross savings (% of GDP)	NY.GNS.ICTR.ZS
Nation	ISO 3166-1 alpha 3	Net lending (+)/net borrowing (-) (% of GDP)	GC.NLD.TOTL.GD.ZS

Source: World Development Indicators and World Data

The first step is the quantification of the variables by applying their respective percentages on the value of the gross domestic product (GDP). The second step is to obtain the equilibrium in Equation 2 according to the macroeconomic variables listed in the 2008 SNA. The variation in assets and financial positions is obtained as in Equations 6 and 7.

$$\text{Variation assets} = \text{Gross saving} - \text{Net lending (+) / net borrowing (-)} \quad (6)$$

$$\text{Variation financial position} = \text{Net lending (+)/Net borrowing (-)} + \text{Broad money} \quad (7)$$

These variables of Equation 7 are the accounting balance sheet as shown in Table 2, and their representation in an Edgeworth's box requires two transformations as indicated in previous equations. Equation 3 is the result of two transformations applied on four accounting variables. An example of transformations carried out is developed for the Ukrainian economy in 2019 as in Table 4.

The column "value" of Table 4 is 2019 values for financial and non-financial transactions of the Ukrainian economy. Applying the respective percentages of gross savings (GS) and broad money (BM) on GDP, their values have been obtained. The nominal value of "variation assets" and "variation financial situation" are the result of applying Equations 6 and 7.

Table 4. Measures Ukraine in Edgeworth's box (2019)

Ukraine (2019)	T%	Value	1st TR.	2nd TR
Country (GDP)	100%	153,781,069,118		
Net lending (+)/Net borrowing (-)	-1.721%	-2,645,738,540		
Gross savings	12.06%	18,545,330,691	30,412,412,617	31.06%
Broad money	36.19%	55,650,125,510	67,517,207,437	68.94%
Sum liabilities		74,195,456,201	97,929,620,054	100.00%
Variation assets		21,191,069,230	33,058,151,157	33.76%
Variation financial positions		53,004,386,970	64,871,468,897	66.24%
Sum assets		74,195,456,201	97,929,620,054	100.00%
Measures of positions				
Change of origin (Xo)		11,867,081,927		
L = VFP / GS - VA / BM				1.64343
G = VA / GS - VFP / BM				0.12618

Source: World Development Indicators

The variables GS and BM are the liabilities of the Ukrainian accounting equation, and VA and VP are the assets deducted from the former. Their values must be adjusted to include them in the Edgeworth's box. The first transformation is the addition of a general value to transform all negative value from the period 2000 to 2019 into a positive value. The change of origin is \$11,867,081,927, which is the maximum negative value of number series multiply by less two (-2). This distribution of values does not change their respective relative positions and avoid zero on maximum negative value. This first transformation on 2019 values is in column "1st TR". The second transformation is done by obtaining the relative position of balance variables on axes of Edgeworth's box. The result of this transformation is found in the column "2nd TR" by dividing each value by respective total assets or liabilities of the Ukrainian economy in 2019.

3.2. Analysis of Eurasian economies

The management of the variables of the Eurasian database has been carried out through independent Excel sheets. The control of the result has been conducted before the first and second transformation through the respective accounting balances in each of the Eurasian economies. The last control is the contrasting the positions in Edgeworth's box with their representations on cartesian axes. The visual positions in the Edgeworth box are found in Figure 2, and those corresponding to the Cartesian axes in Figure 3. The risk levels are measured using the criteria in Table 5 and Table 6, which present the number of times that a country occupies a limited area in the Edgeworth box.

The measuring of risk levels of Eurasian dynamic activity has their representation on zones of Edgeworth's box in Figure 2. These zones are named on the bottom of triangle formed by dashed and continued lines and each one axes of Edgeworth's box. The *L* and *G* indicators measure risk levels according to criterion of Table 5, where zones of risk are associated to limits on axes of Edgeworth's box. The function of the indicators *L* and *G* is also to allow their representation in Cartesian axes (Figure 3).

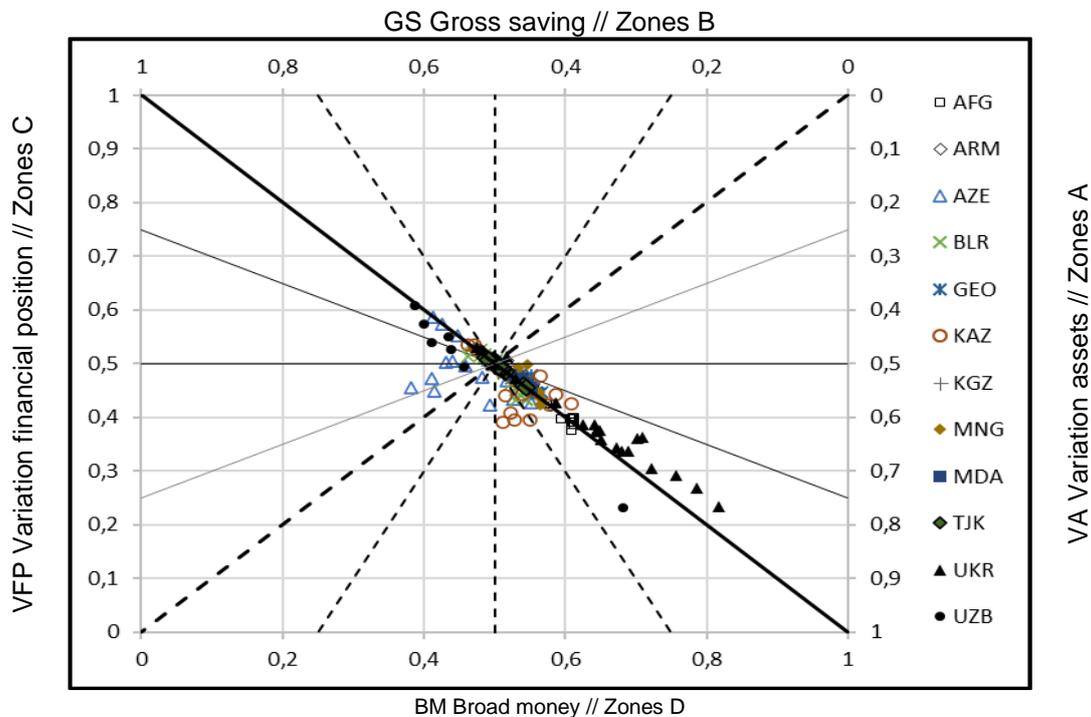


Figure 2. Accounting balance in Edgeworth's box

The representation of Eurasian positions on Cartesian axes allows the qualitative measurement of their economic and financial behavior, and this representation visually confirms the validity of the measurement of accounting positions in Edgeworth's box. Table 5 shows the risk criteria both graphically and visually. The Cartesian positions of the dynamic activity are a rotation of those found in the Edgeworth box.

Table 5. Level risks on dynamic activity

Edgeworth axes limits	0% to 25%	25% to 50 %	50% to 75 %	75% to 100%
Edgeworth zones	AA.aa	AA.ab	AA.bb	AB.bb
Cartesian zones	$L > 0; G > 0; L > G$	$L > 0; G > 0; L > G$	$L > 0; G > 0; L > G$	$L > 0; G > 0; L > G$
Cartesians limit zones	$0 < G/L < 2/4$	$2/4 < G/L < 4/4$	$4/4 < G/L < 6/4$	$6/4 < G/L$
Edgeworth zones	BB.bb	BB.bc	BB.cc	BC.cc
Cartesian zones	$L < 0; G > 0; L < G$	$L < 0; G > 0; L < G$	$L < 0; G > 0; L < G$	$L < 0; G > 0; L < G$
Cartesian limit zones	$-6/4 > G/L$	$-4/4 > G/L > -6/4$	$-2/4 > G/L > -4/4$	$0 > G/L > -2/4$
Edgeworth zones	CC.cc	CC.cd	CC.dd	CD.dd
Cartesian zones	$L < 0; G < 0; L < G$	$L < 0; G < 0; L > G$	$L < 0; G < 0; L > G$	$L < 0; G < 0; L > G$
Cartesians limit zones	$0 < G/L < 2/4$	$2/4 < G/L < 4/4$	$4/4 < G/L < 6/4$	$6/4 < G/L$
Edgeworth zones	DD.dd	DD.da	DD.aa	DA.aa
Cartesian zones	$L > 0; G < 0; L < G$	$L > 0; G < 0; L < G$	$L > 0; G < 0; L < G$	$L > 0; G < 0; L < G$
Cartesians limit zones	$-6/4 > G/L$	$-4/4 > G/L > -6/4$	$-2/4 > G/L > -4/4$	$0 > G/L > -2/4$

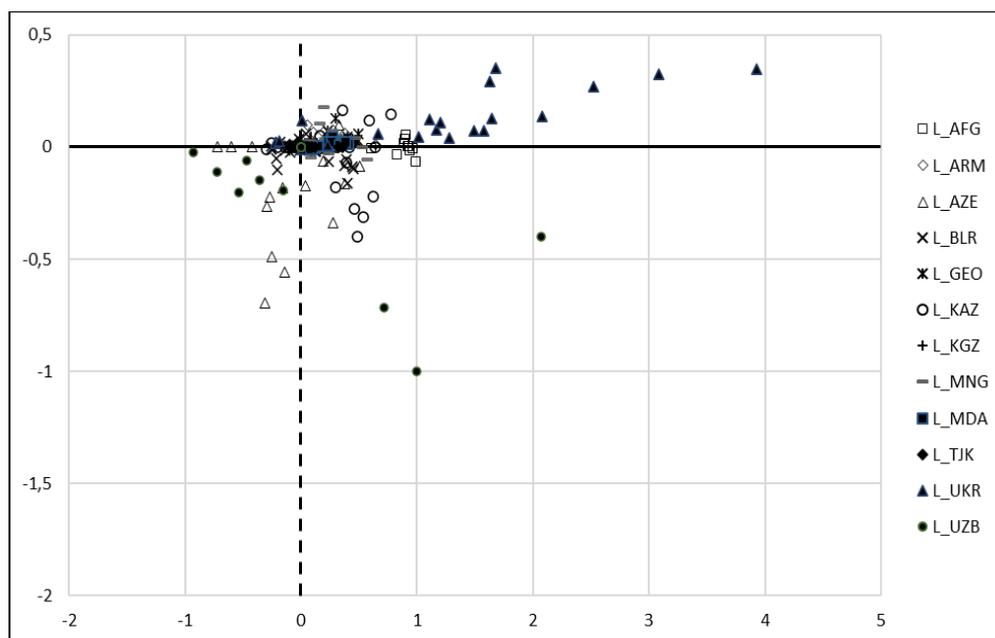


Figure 3. Cartesian accounting positions of Eurasian economy

The positions on Axxx zones have low level of management risk, Bxxx and Dxxx zones have middle risk, and Cxxx are zones with high level of management risk. The positions on the first quadrant of the Cartesian axes are in the Axxx zones of the Edgeworth's box and, when they are located far from them, their risk levels are the lowest. Cxxx zones have the highest levels of risk (third quadrant), and to avoid them, nations must go to Dxxx zones (fourth quadrant) to reach Axxx zones. Nations place themselves in the Bxxx zone (second quadrant) to begin their path to higher levels of risk.

Table 6. Participation of Eurasian countries in regional activities

Countries	A1	A2	A3	A4	CISO	Sum	Axxx	Bxxx	Cxxx	Dxxx
Afghanistan	ND	X	ND	ND	AFG	12	7	0	0	5
Armenia	X	ND	X	X	ARM	16	11	5	0	0
Azerbaijan	X	ND	X	X	AZE	12	1	0	6	5
Belarus	X	ND	X	ND	BLR	20	1	4	7	8
Georgia	X	ND	X	X	GEO	20	12	3	3	2
Kazakhstan	X	X	ND	ND	KAZ	15	4	1	3	7
Kyrgyzstan	X	X	ND	ND	KGZ	6	5	0	0	1
Mongolia	X	X	ND	ND	MNG	17	11	0	1	5
Republic Moldova	X	ND	X	X	MDA	19	14	0	0	5
Tajikistan	X	X	ND	ND	TJK	4	2	2	0	0
Turkmenistan	X	X	ND	ND	TKM	0	0	0	0	0
Ukraine	X	ND	ND	X	UKR	20	17	2	0	1
Uzbekistan	X	X	X	ND	UZB	2	0	0	1	1
Sum						163	85	17	21	40

Notes: A1 represent the Anti-Corruption Network for Eastern Europe and Central Asia (CNE); A2 represent the GREEN Action Program in Eastern Europe, the Caucasus, and Central Asia (EaP GREEN); A3 is the OECD Eurasia Competitiveness Program (ECP), A4 represents the SIGMA (Support for Improvement in Governance and Management), and CISO represent the Code ISO.

Source: OECD

OECD's Eurasia activities involve 13 countries listed on Table 6, and their activity engagements are CNE, EaP.GREEN, ECP, and SIGMA. The Azerbaijan and Belarus economies are worse in the management of their activities, but Ukraine gets the best management with 17 positions in AAaa zones of Edgeworth's box (▲ triangle in Figure 2). The countries located in AAaa zones have relation with performance action CNE (A1) and SIGMA (A4). The performance of OECD has generated economic growth in Eurasian region because accounting positions in Edgeworth's box are in zones A (Table 6) for the period 2000-2019. The general results of Table 6 are number of positions annualized that are based on the sample of WB database, because there have been limitations related to the number of observations due to the lack of statistical information throughout the analyzed period in the accounting analysis as can be deduced from the results provided in Table 6. The accounting analysis was taken as a reference for the mentioned period when the information is more continuous.

The behavior of nations can be qualitative and quantitative. The qualitative analysis generated a p-value of Chi-squared through obtaining annual contingency matrices by number of times that Eurasian economies takes position in zones defined in Table 6 for the period 2010-2019. The quantitative analysis takes value from 2000 to 2019, whose effect has visual representation in Edgeworth's box. Nevertheless, according to annual period of qualitative analysis, economic and financial evaluation have been carried out in limited period, and both qualitative and quantitative results are shown in Figure 4 and Figure 5.

To objectively contrast the validity of the economic-financial meaning of the accounting indicators *L* and *G*, the level of unemployment is chosen to be utilized because it is a consequence of macroeconomic making decisions. The WB database measures the level of unemployment by the ratio of total labor force. The evolution of unemployment and the indicators to assess the activity of the Eurasian countries are illustrated in Figures 4 and 5, and their values in Table 7.

Table 7. Management indicators.

Time	P_Chi2	Mean L	Mean G	Mean Unp	Var. Mean	Ac.mean
2010	0.48465	0.30706	-0.02057	8.90214	0.00571	-0.91357
2011	0.80301	0.41445	-0.10702	8.46143	-0.44071	-1.35429
2012	0.80301	0.45787	-0.08421	8.12571	-0.33571	-1.69000
2013	0.31415	0.69559	-0.03454	7.91857	-0.20714	-1.89714
2014	0.99880	0.42914	-0.00365	7.90357	-0.01500	-1.91214
2015	0.99880	0.36926	0.02197	7.79143	-0.11214	-2.02429
2016	0.99880	0.37906	0.02045	7.89429	0.10286	-1.92143
2017	0.99880	0.34269	0.01452	7.67786	-0.21643	-2.13786
2018	0.99760	0.37168	-0.04180	7.44429	-0.23357	-2.37143
2019	0.99514	0.40526	-0.00173	7.33786	-0.10643	-2.47786
2020	n.a.	n.a.	n.a.	7.98714	0.64929	-1.82857

Note: P_Chi2 denotes the probable value of the chi-square distribution, whereas mean is the average of variables. While Var.Mean denotes the difference mean of unemployment, Ac.mean denotes the accumulated Var.Mean. Finally, n.a. informs the unavailability of the data.

The evolution of the variables in Table 7 is represented in the Figures 4 and 5 with continuous lines when they are referenced on the y-primary axis and with dashed lines when they are referenced on the y-secondary axis. Considering the evolution of variables in Figure 4, the dashed line of P_Chi2 increases when there are no disturbances in the markets and the economies have an associated behavior. On the contrary, when market shocks occur, economies act independently and the P_Chi2 indicator takes values close to the null value. The unemployment has a negative variation in 2010 and 2011 but has a smaller decrease in 2013 when P_Chi2 decreases. The accumulated value of the variations in unemployment (Ac.mean) indicates its continuous evolution and decreases less in 2013. The decrease in unemployment continues until 2019 when P_Chi2 takes values close to unity value.

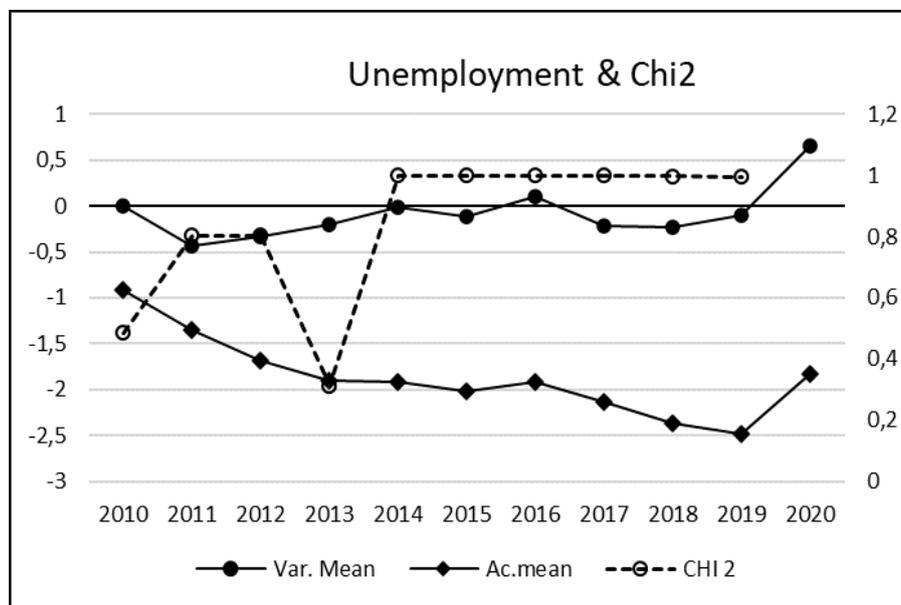


Figure 4. Evolution of indicators to qualitative analysis

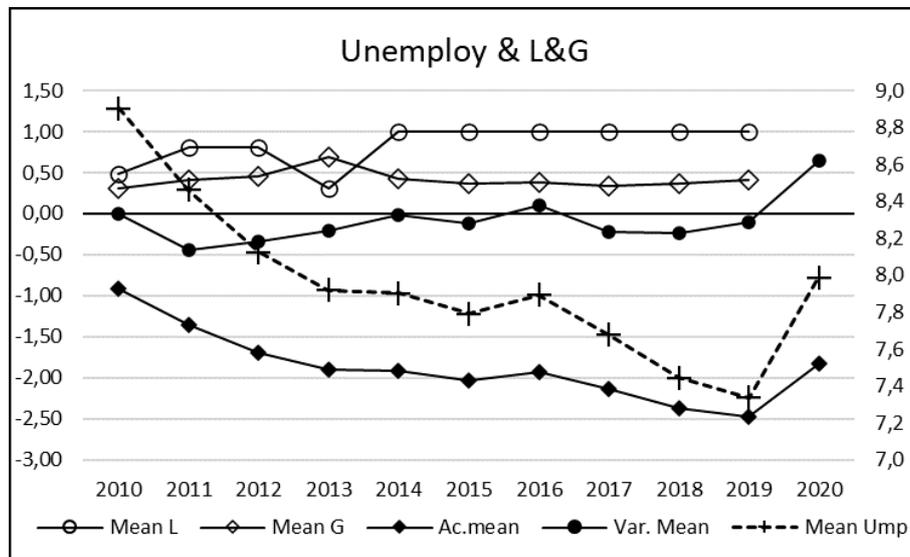


Figure 5. Evolution of indicators to quantitative analysis

The quantitative analysis reaches the same conclusions as the quantitative analysis according to the evolution of the L (\circ bread) and G (\diamond fish) indicators in Figure 5. According to the economic and financial significance of the L and G indicators given in the previous sections, the level of unemployment ($+$ cross) decreases when economic growth ($G > 0$) is positively financed by the market ($L > 0$). This behavior is found in the A_{xxx} zones and is much better when $L > G$. The Figure 5 includes the evolution of unemployment from the WB database, which is referred to the y-secondary axis. The evolution of the L and G indicators from 2010 to 2013 shows annual increases in unemployment when the L and G indicators approach. Unemployment increases when G is greater than L in 2013 and when the economic activity is independent of financial support from the markets. From 2014 to 2019, economic activity (G) is supported by the financial market activity (L), and unemployment is continuously decreasing.

4. Conclusion

The paper justifies the evolution of unemployment by applying an alternative accounting methodology on Eurasian economies. The deduced indicators measure the positions of the economies in an Edgeworth's box, whose axes are four macroeconomic variables that form an accounting equation applying the double entry principle. Therefore, the methodology explains the behavior of the economies, turns the Edgeworth's box into a research laboratory where abstraction and deduction are the same reality, and the situation of the economies is visually explained for the people who participate in a common project. The abstraction methods have allowed obtaining framework of NSA and accounting is associated to economy more than other science. Additionally, if the value of accounting transactions is considered the main variable in an accounting record, the account is the factor that determines its economic, financial, or monetary nature, so the values are assigned in a financial statement of the annual accounts. Thus, a new axiomatic formulation is possible.

The further research direction of this manuscript is the analysis of the accounting symmetries of the Eurasian economies, contrasting them with respect to their level of risk. Knowing to what extent the exchanges between the economies of countries with different cultures occur would guide the macroeconomic policies that should be developed around matter of interest analyzed in the manuscript. The accounting methodology developed in this paper allows the analysis of both financial and non-financial companies. In this way, the subsequent analysis can be more dedicated to singular sectors of the Eurasian economy. However, the quality of the recording of accounting transactions is relevant to reach irrefutable conclusions, as well as the information in the financial statements must meet the quality criteria contained in the conceptual framework of the 2008 SNA.

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