

A NEW APPROACH OF THE BUDGET DEFICIT: AN EMPIRICAL ANALYSIS

By Ioan Talpoș, Bogdan Dima, Mihai Mutașcu and Cosmin Enache¹

Abstract

Economic policies and, particularly, fiscal policies are not designed and implemented in an “empty space”: the structural characteristics of the economic systems, the institutional architecture of societies, the cultural paradigm and the power relations between different social groups, define the borders of these policies.

This paper tries to deal with these borders, to describe their nature and the implications of their existence to the fiscal policies’ quality and impact at a theoretical level as well as at an empirical one.

The main results of the proposed analysis support the ideas that the mentioned variables matters both for the social mandate entrusted by the society to the state and thus to role and functions of the state and for the economic growth as a support of the resources collected at distributed by the public authorities.

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Key words: budget deficit, structural characteristics, economic freedom, institutions, cultural paradigm, political freedom

¹ West University from Timișoara (Romania), Faculty of Economics, Finance Department
address: 16 Pestalozzi Street, Timisoara, 300115, Romania
e-mail addresses: ioan.talpos@fse.uvt.ro, bogdan.dima@fse.uvt.ro, bogdandima2001@yahoo.com,
mihai.mutascu@fse.uvt.ro, mmutascu@yahoo.it, cosmin.enache@fse.uvt.ro

1. Introduction

Economic policies and, particularly, fiscal policies are not designed and implemented in an “empty space”: the structural characteristics of the economic systems, the institutional architecture of societies, the cultural paradigm and the *power relations* between different social groups, define the borders of these policies.

This paper tries to deal with these borders, to describe their nature and the implications of their existence to the fiscal policies’ quality and impact.

The main hypothesis of the proposed analysis could be summarized as follows:

H_1 : The public authorities are acting according to a *social mandate* entrusted by the society inside the “rules of the game”²;

H_2 : There are no differences between different social groups in the formulation of this mandate or, alternatively, the mandate is the result of a “perfect” social compromise;

H_3 : The public authorities are acting only in the limits of the *social mandate* so there is no a *hidden agenda* of this authorities and/or modification of their behaviour over an electoral cycle. In other words, the public bureaucracy and the society have the same objectives.

Within this general framework, the structural and institutional variables, the cultural paradigm and the *power relations* influence the level and the structure of the budget deficit as follow:

➤ In a *direct* manner, *via* the formulation and application of the *social mandate* which is entrusted to the public authorities;

➤ In an *indirect* manner, *via* the impact on the economic growth and thus on the level, frequencies and structure of public incomes and on the level and nature of public expenditures.

As OTTAVIANO, PINELLI and MAIGNAN [2003; p. 30] noted: “Classical writers in economics, such as David Hume (1848), Adam Smith (1776), John Stuart Mill (1847), realised and discussed about the importance of institutions, such as firms, families, contracts, markets, rules and regulations, and social norms to economic development. Weber (1905) identified the protestant ethics as one of the roots of the surge of capitalism”.

Important changes in the economic dynamic’s study occurred with ROMER’s [1986] and LUCAS’ [1988] contributions and especially with NORTH’s [1990] shift of attention to the institutions that shape the incentive structure, which drives the economic evolutions.

Actually, there is a growing body of both theoretical and empirical works that try to enlighten the connections between development and quality of institutions (in particular, the role of the property rights and the rule of law), political regimes, social infrastructures, cultural values, and others “imponderables”. For instance, RODRIK [2000] discusses the types of institutions that allow the markets to perform adequately; ALI and CRAIN [2002] investigate the relationship between economic growth and economic freedom; INGLEHART [1997] describes the “cultural learning process” and its impact on economic developments; RAUCH [1994] emphasizes the role of “bureaucracy” and of the institutional environment in the private economic decision.

Interesting contributions are provided by DE JONG and SEMENOV [2002; p.16]. Their point of view (“There are trade-offs between the various criteria, in particular, between solidarity, on the one hand, and efficiency, autonomy, promoting self-reliance and initiative, on the other. Thus, the society should decide on the relative importance of each of these values. This decision is crucially influenced by deeply rooted cultural values and has a crucial impact

² This mean that the present theoretical framework is based on the *mandat theory* . But one should notice that there is nothing special supposed about the *mandatory powers* of the society so that a „standard” model of a democratic society could be, for the sake of the convenience, applied.

on the character of social welfare systems”) is largely similar to our own position exposed here etc.

The aim of this paper is to build a conceptual framework able to describe, in a holistic approach, the connections between the quality of market institutions, economic structures and mechanisms, socio-cultural models (“paradigms”) and political freedom on the one side, and the attributions assumed by the state on the other side. The proposed analysis is based on the thesis that the classical tools of economic policy are inefficient in a market characterized by “empty” institutions, wrong mechanisms of resources allocation, lack of autonomy for the civil society and counter-productive cultural *values*.

Section 2 tries to set up the taxonomy of the “structural” characteristics of the economic systems and to analyze in this theoretical framework the impact of the shocks associated with the “ignition” of economic growth and, correlative, the state involvement in the economy like a “compensatory power”.

Section 3 lists the institutions that can constitute a support for a sustainable economic dynamic and tries to explain why these institutions are important for the quality of the public actions and for their impact.

Section 4 deals with the socio-cultural paradigm and, more exactly, with the *mental infrastructures* of the economic processes. These *infrastructures* are classified in terms of social *openness* (i.e. the social capacity to react to changes induced by a turbulent economic environment).

In Section 5 some empirical results are reported, which could be used like a small proof for the theoretical output.

Finally, we present a set of critical aspects, which are able, in our vision, to endanger the consistency and coherence of the proposed analysis.

2. Structural characteristics of the economic systems: how growth could be initiated

The intrinsic structural features of the economic systems represent a critical determinant for the “amalgamation” of the resources and mechanisms (responsible for the economic growth) in the subsequent economic processes.

We propose taxonomy of the economic systems using three - sectorial model in three meta - types (“A”, “B” and “C”) in order to create a real image of the way the structural features influence the *de facto* configuration of the growth process, and especially gives it a durable character. The main elements of the economic systems took into account in this classification may be synthesized as follows:

I. For the real sector:

- the amount of real existing capital (physic and informational) and also its return;
- the volume, structure and allocation mechanisms of the available resources (material and informational resources);
- the characteristics of the labour (availability and effectiveness of labour offer, mobility, organizational structures, mechanism of nominal wage determination)
- the relations between different component sectors and segments, public and private sector, internal and external economic subjects;
- real assets and markets classification;
- investments opportunities ;
- the structure of the economic subjects incomes ;

- informational asymmetry ;
- the relations between microeconomic decision centres (managerial bureaucracy³ and the capital owners).

II. For the public authority:

- the relations between fiscal authority and monetary authority ;
- the status of public bureaucracy (due to its ability in blocking/influencing public decision);
- the fiscal system, its efficiency, the public resources main destinations (dependent on the role the fiscal authority assumes in the economic system) and also the dimension of the fiscal and quasi- fiscal deficit.

III. For the monetary sector:

- the classification of the financial intermediaries ;
- the main elements which characterize the banking sector :
 - the number of components;
 - the level of competitive concentration;
 - the proportion of the resources which are held in the banking system from the total available resources in economy, or in other words, the intensity of banking sector participation in the financial intermediation process;
 - the ratio between the bank credits offer and the potential demand for them – the degree of the credit availability;
 - the mechanisms of interest rate formation;
 - the relations between banking system and non banking economic subjects;
 - the banks position opposite to the monetary authority (taking into consideration its ruling and supervising capacity over the commercial banks activities,
 - the right to intervene in those activities, and also the importance of re-financing from the monetary authority ;
 - the relations between the banking sector and the capital market (banks may act just as an intermediary or may also buy and sell financial assets on their own behalf);
 - the competition: banks operators versus capital market operators (trying to attract as many temporary available resources as they can);
 - the position of the banks with public owners in the banking system;
 - the types of banks, classified using the nature and the specialization degree of their activities;
 - the system of laws which rules the banking sector activity and its imperfections which can affect the “optimality” of this sector;
 - the types of financial monetary assets created by the monetary authority and by the commercial banks together with the non banking economic subjects
- the main elements which define the capital market:
 - the number of operators;
 - the intensity of the capital market participation in the financial intermediation process;
 - the concentration of the financial resources offer level on this market;
 - the main financial assets traded;
 - the complexity of the intermediation process;
 - the financial assets return and the stability of its dynamics, determined by the fundamental factors of the economic evolution;

³ We preferred the use of this term instead of the term “techno – structure”, but without associate it with some connotation of value; the simple term of “management” does not reflect strong enough the existence of a managerial hierarchy and the decisional consequences which are derived from it, in a firm.

- the investment risk on this market;
- trading mechanisms characterized by their technical elements and efficiency;
- the characteristics of the system of laws which rules the capital market;
- the operators position in the process of intermediation, offering or demanding resources.

Table 1: The characteristics of the economic systems

	<i>“A” Economy</i>	<i>“B” Economy</i>	<i>“C” Economy</i>
I. Real sector			
1. Real capital			
<i>a. Volume</i>	Low	Medium	High
<i>b. The level of technical infrastructure development</i>	Low	Medium	High
<i>c. The dynamics of technical progress</i>	Low	Medium	High
2. Real capital return	Low	Medium	High
3. Resources			
<i>a. Volume</i>	Low	Medium	High
<i>b. Structure</i>	Inadequate	Medium degree of adequacy	High degree of adequacy
<i>c. Allocation mechanisms</i>	Inefficient	Presents some deficiencies	Efficient
4. Labour			
<i>a. Volume</i>	Indeterminate	Indeterminate	Indeterminate
<i>b. Professional skills</i>	Low	Medium	High
<i>c. Mobility</i>			
<i>c.1. Intra – sectorial mobility</i>	Low or medium	Medium or high	High
<i>c.2.. Inter - sectorial mobility</i>	Low	Medium or high	High
<i>c.3. Geographic mobility</i>	Low	Medium or high	High
<i>d. Labour offer</i>	Exogenous opposite with the nominal wage level	Partial exogenous opposite with the nominal wage level	Endogen opposite with the nominal wage level
<i>e. Nominal wage determination</i>	Using centralized negotiation mechanisms	Using partial centralized negotiation mechanisms	Using decentralized negotiation mechanisms
<i>f. Organizational labour structures</i>	“Rigid” behaviour and a strict hierarchy; the objective function includes the nominal wage level and job keeping	Some behavioural flexibility and a certain functional decentralization degree; the objective function includes also other variables	Pronounced behavioural flexibility and a strong functional decentralization degree; the objective function valorising the organization ensemble objectives where labour is involved
5. The real sector structure			
<i>a. Dominant sectors</i>	Hard industry and/or agriculture; frequently monopole.	Textile, food industry and services; possible monopole or “cooperative” oligopoly	Services and informational sub sectors; “perfect” competition or “competitive” oligopoly
<i>b. Inter-sectorial relations</i>	Rigid and with high hierarchies	Some certain flexibility and a medium degree of hierarchies	Extremely flexible
<i>c. “Progress poles” position</i>	Marginal	In affirmation	Dominant
6. Extern opening degree	Low	Medium	High
7. Real assets classification	Simple	Medium level of complexity	Complex
8. Real assets markets nature	Producers markets	Undetermined	Consumers markets
9. The relations between public sub- sector and private sub - sector			
<i>a. The participation in resources allocation</i>	Marginal for the private sector	In equilibrium	Marginal for the public sector
<i>b. The position on different component markets</i>	Dominance of the public sector	In equilibrium	Dominance of the private sector
10. Informational asymmetry	Pronounced	Medium	Absent
11. Investments opportunities	Reduced	Diverse	Highly diversified
12. The main incomes of the economic subjects	Wages	Wages and capital incomes	Wages and capital incomes
13. The decisional relations between managerial bureaucracy and the capital owners	The decisions are taken by the managerial bureaucracy; even in strategic matters the decisional power of the capital owners is dissipated or lower than the other	There is a certain control exercised by the capital owners over the managerial activity; the main decisions adopted by the managerial bureaucracy are tactical and operational decisions	There is a certain control exercised by the capital owners over the managerial activity; the main decisions adopted by the managerial bureaucracy are tactical and operational decisions
II. The public authority			
1. The bureaucratic machinery	Developed	Medium level of development	Low level
2. The fiscal system			

<i>a. The fiscal incomes classification</i>	Primitive	Medium level of complexity	Developed
<i>b. The prevalent destination of public expenditures</i>	Economic	Economic and social	Social
<i>c. Efficient</i>	Low	Medium	High
<i>D. The fiscal budgetary deficit</i>	Pronounced	Medium	Low
<i>e. The quasi-fiscal budgetary deficit</i>	Pronounced	Medium	Low
3. The relations between executive authority and central bank	Subordination of the central bank to the executive authority	Possibilities of executive authorities interference in the central bank's activities	Central bank's independence
III. The monetary sector			
1. The classification of financial intermediaries	Mostly bank financial intermediaries	Bank and no bank financial intermediaries	High role of no bank financial intermediaries
2. Banking sector			
<i>a. Number of components</i>	Undetermined	Undetermined	Undetermined
<i>b. The level of bank activity concentration.</i>	High	Medium	Low
<i>c. The proportion of financial resources attracted</i>	High	Medium	Competitively dependent of the resources attracted by the capital market
<i>d. The ratios between effective credits supply and potential credits demand</i>	The demand is durable higher than the supply	A temporary exceeding demand is possible	An equilibrium situation
<i>e. Interest rate formation</i>	Mostly administrative	Formation mechanism with important competitive elements	Competitive mechanism
<i>f. The relations with economic no bank subjects</i>	Domination or cooperation (mostly in the relations between banks and non banking subjects with public owners)	In equilibrium	Orientated to the non banking subjects needs
<i>g. The position opposite the monetary authority</i>	Dependence ("the banks are in the Bank")	Increased autonomy of the commercial banks	High degree of commercial banks autonomy
<i>h. The position opposite the capital market</i>	Dominance over the capital market	Competitive	Competitive
<i>i. The position of public owned banks</i>	Dominant	Elements of competition with private banks	Competition with private banks
<i>j. The risk level</i>	High	Medium	Low
<i>K. Bank services classification</i>	Simple	Medium level of complexity	Complex
<i>l. Banks</i>	Universal	Universal and specialized	Universal and specialized
<i>m. Bank regulations</i>	Unstable and inefficient regulations system	Regulations stable on ensemble elements	Stable and efficient regulation system
<i>n. The monetary financial assets types</i>	Simple	Medium level of complexity	Complex
3. Capital market			
<i>a. Number of participants</i>	Low	Medium	High
<i>b. The proportion of attracted financial resources</i>	Low	Medium	Competitively dependent of the resources attracted by the monetary market
<i>c. The level of financial resources supply concentration</i>	High	Medium	Low
<i>d. The traded financial assets</i>	Simple	Medium level of complexity	Complex
<i>e. The complexity of the intermediation process</i>	Low	Medium	High
<i>f. The ratios between effective capital and potential capital demand</i>	The demand is durable higher than the supply	A temporary exceeding demand is possible	An equilibrium situation
<i>g. The financial assets return</i>	Low and fluctuating	Medium with possible fluctuations	High and stabile
<i>h. The liquidity of financial no bank assets</i>	Low	Medium	High
<i>i. Investments</i>	Pronounced	Medium	Low
<i>j. Trading mechanisms</i>	Simple, with numerous imperfections, with low efficiency	Medium level of complexity and efficiency	Complex and efficient
<i>k. Regulations on capital market</i>	Unstable and inefficient regulations system	Regulations stable on ensemble elements	Stable and efficient regulation system
<i>l. The position of public owned operators</i>	Dominant	Elements of competition with private operators	Competition with private operators

The three economic systems do not correspond to an analytical description of some real systems (from this point of view the proposed analysis represents maybe more a “naïve” exercise than a theoretical auto consistent approach).

But even if we take into consideration this aspect, and presume a direct and strong correlation between the intensity of the structural blockings which affect an economic system functioning and its development level, than we could associate, more or less conventional, three situations of economic systems based on the “unplanned” markets functioning, for each one of the three situations (we must notice that in the economic real systems a rigorous delimitation of the different structural imperfections does not exist and that some of them can be found in all contemporary economies). This taxonomy could allow us to analyze the effects induced by the different types of real and/or nominal shocks, shocks associated with the economic growth process or with the increase in the economic evolution dynamics.

An “A” economy dynamics is confronted with important and persistent inflationist pressures, with an inefficient resources allocation, an unfavourable output evolution and a low level of labour occupation.

The financial resources insufficiency and the inefficient allocation mechanisms represents a cause for a frequently manifestation of moral *hazard and adverse selection situations*. On the other hand, due to the reduced producing performances, even if the resources could be sufficient, their use in production is limited, incomplete and less efficient.

The manifestation of certain real or nominal shocks which act as a determinant for a decrease in economic activities results make different economic subjects to try to substitute different types of assets. Due to the incipient development level of the financial market, low liquidity of the non-monetary financial assets and their high risk, these kinds of assets are not considered a direct substitute for a monetary asset. On the other hand, the assets and liabilities structure is far away from optimum because the level of the effective holds by some certain financial and real assets is lower than the desired one (this means that an exceeding demand not necessary manifested exists)

Concluding, there is no non-monetary asset, which could be seen as a “perfect” money substitute, and the liquidity spectrum has numerous discontinuity points (the substitution elasticity is non homogenous between different financial and real assets types due to the functional imperfections and to the positional differences of this assets markets). Economic subjects will try, as a result, to compensate the decrease in their financial resources through transforming a part of their real or financial assets (which have an exceeding level and low transformation costs).

The aggregation of individual substitution solutions will cause a modification in the level of the demand and supply for different types of assets⁴. The critical aspect is represented by the fact that this demand and supply adjustments does not involve all the times adjustments of the relatives assets prices. Because of the imperfection associated with these markets and of the frequency of monopoly situations, numerous prices are rigid (more precisely “down” inelastic) so the supply does not react through price, at the new demand level. Even more a certitude of a supply reaction through quantities does not exist. On the one hand the exceeding demand was not absorbed for all the complementary and substitutable assets and on the other hand the temporary character of the exceeding demand makes the suppliers consider the current demand fluctuation as a transitory one.

Another problem is the inertial character of current consumes goods (the demand for goods which is not considered away to preserve the value), which leads to a reduced elasticity in front of the available current income changes.

⁴ Real or financial assets which already exist.

As a consequence, a decrease in available nominal and real incomes (current and expected ones) causes a reduction in the real effective realized level of the economy, which drops below the desired level. The main way of creating economies is investing the temporary available resources in the banking system because the financial market is not sufficiently developed, the financial assets are not diversified enough, the associated risk is extremely high. Under these circumstances, the reduction in the economy level combined with the modifications generated as a result of transformation processes from real or financial assets into money, due to the decrease in current income level, will determine a reduction of the financial resources attracted by the banking system.

If this situation is accompanied by some modification in the general credits conditions (other than the one concerning the interest rate) we will perceive a decrease in the credits supply. Concluding, we can say that, at a low economy and credits' abundance' level, the effective realized investments level will be situated below the estimated one (we must notice that here we speak only about the new investments, from the current period of time, so we do not understand through this conclusion the existence of a disinvestments phenomenon; we are dealing only with the dropping off some new investments projects). As a result, we will be confronted with a decrease in capital goods demand, without a modification of their price, like it could be seen in the final consume goods situation. The final point is represented by a reduction in the real output level, compared with its expected level (not necessarily with its level from the last period). Due to the organizational rigidities of the labour market and to the centralized negotiation of the nominal wage, this decrease is not accompanied by a readjustment in the nominal wage level (similar with the other relative prices, the nominal wage is "down" rigid)

We can also notice a stability in capital goods supply characteristics including here the psychical and informational capital real return. This happens because the decrease in capital goods demand which is not accompanied by a qualitative supply modification, on the one hand due to the low level of technical infrastructure development and on the other hand due to the absence of a competitive pressure in capital goods field.

In the same time the mentioned decrease in the resources available for banking system will cause a modification in the interest rates level (both active and passive interest rates). But the formation of the interest rates is not free, so the commercial banks are not allowed to increase as they wish its level which leads to a lower level of the interest rate than the desired one. Under these circumstances the reduction in the credit supply could be a durable one, similar with the investments level decline.

Parallel with the impact exercised on the relative prices, investments and outputs volume, the real and nominal shock affects the financial resources demand:

- through the effects exercised on the current and expected incomes, and also on the real trading volume realized by the economic subjects;
- through the de - correlations between the in and out expenses and incomes flows and through the potential estimation modification concerning the frequency of a exceeding expenses level comparing with the incomes level;
- through the reformulation of the wealth structure optimization problem.

The modification appeared in the relative prices structure as a result of the reformulation of the wealth structure optimization problem, the "perverse" modification of some relative prices due to the transfer of the budgetary "hard" restriction from producers to final consumers, the impact of the contra-cyclic economic politics or "preventive inflation" determined by the economic subjects which benefits of the informational advantages, can transform the diverse shocks which affect the "A" systems functioning in veritable "rocks" against the economic growth. Their absorption implies important social costs.

In a **“B” economy** the effect of real and nominal shocks is much more diffuse. The typology of real and financial assets and their return are significant higher than in the **“A”** economy case. Also their risk is lower and some financial asset could be perceived as a direct substitute for money.

If the level of liquid resources is lower than the planned one, the economic subjects will try to compensate it also through a decrease of that type of asset which is perceived having similar characteristic as money has, not only considering undifferentiated the imperfect liquid assets.

But the asset and liabilities structure is not optimal because the effective level of some real and financial assets is not the desired one (the amplitude of the structural disequilibria is lower than in the first case). Reformulating their optimization structure problems, the economic subjects will take into account not only these structural disequilibria but also the necessity of an arbitrage between the return and the risk of different assets.

The re-adjustments appeared in the different assets supply and demand causes modifications of their relative prices (even if on some of the markets, the individual prices continue to remain “down” rigid) and of the supplied quantities (with the same observation about the rigid nature of the supply for some assets)

Because the current consume of goods has in a **“B”** economy a more pronounced elasticity in front of the modifications in the current available income level, comparing with a **“A”** economy, a decrease in the available income level (or, more precisely its positioning at a lower level than the expected one) can cause a reduction of the current consume (without a uniform character of this decrease for all kinds of current consume goods)

As a consequence, the decrease of the available nominal incomes (more exactly, principally of the nominal ones, because the stability of some relative prices can cause a lower reduction of the general prices level than the reduction of the nominal income level; in this way the nominal reduction is accompanied by a real one) causes a compression of the effective economy. Its level is inferior in rapport with the desired one; taking into account the fact that the decreases in level of consume is lower than the decrease in the income level.

In this case the economies are created not only using the banking system (mostly by the economic subjects with a low or medium level of incomes and a high risk aversion) but also using financial markets. This fact will provoke in the same time a diminishing of the resources attracted by the banking sector and a decrease of the financial assets demand, which will determine a prices decrease and an interest rate increase.

Because of the presence of a numerous competitive element in the mechanism of interest rate formation, the decrease in the resources attracted by the banking system will be followed by an increase of the active interest rate and/or a decrease of the passive interest rate (even if, due to the persistence of some administrative elements in interest rate formation, some types of interest rates will remain unchanged, which leads to a medium level of the interest rate lower than the desired one; the measure of this difference is much more less significant than in an **“A”** case economy and anyway superior to the one from the former period)

The interest rates increases combined with a diminution of the available financing resources will provoke a decrease of the credits demand and supply, decrease that could be amplified by the general credit condition modifications. In this context, at a lower economy volume, an inferior credit “abundance” index and a superior interest rate index, the effective investments volume will be situated below the planned one (we speak here about the new investments but also about a disinvesting process). The decrease in the current investments volume will be accompanied by a diminution of the capital goods demand (similar with the final consume goods) without a modification in the same degree of their prices (in fact it is possible that some of this prices to be “down” inelastic). On this causal chain we will also find a real output decrease compared with the planned one (not necessary compared to the former one). Because of the decentralized components present in the wages mechanisms, the labour

demand has a higher level of elasticity comparing with the nominal wage level. The intra and inter- sectorial mobility of the labour demand, the more pronounced character of the geographic mobility, make possible the apparition of some re-adjustments of the labour market along with the decrease in output level, even if this re-adjustments will continue to have a partial character. Also, the decrease of the capital goods demand could be accompanied by a qualitative modification of the supply, due to the manifestation of some competitive pressures in the sector.

In this way the capital goods supply characteristics (including the real return of the informational and physic capital) will suffer transformations, but these ones will not have sufficient strength to determine modifications able to compensate the impact, which the decrease in investments available resources causes on their volume.

The impact of the real and/or nominal shocks in a “**B**” economy is similar with the one in an “**A**” economy (through the effects exercised on the current and expected incomes, and also on the real trading volume realized by the economic subjects; through the de - correlations between the in and out expenses and incomes flows and through the potential estimation modification concerning the frequency of a exceeding expenses level comparing with the incomes level; through the reformulation of the wealth structure optimization problem). The only things which are different are the intensity of these effects, lower as amplitude but with a less contradictory character and manifestation of the interest rate level modifications. But globally, the nature of these effects will remain undetermined. More than that, due to the remaining informational asymmetry between different categories of economic subjects and to a positional asymmetry, their reaction opposite to the exogenous decrease of the money supply induced by the economic system is still no-homogenous, but phenomena as the transfer effect or the “preventive inflation” will have a lower amplitude than in an “**A**” economy.

“**C**” economies are characterized by a lack of structural rigidity. The different imperfections which affect the market functionality have a minimal intensity; the financial market is “mature” and the competitive pressure, the efficient resources allocation mechanisms, the rapid dynamics of technical progresses make the exceeding demand to be easily eliminated. The supply adaptation is dually realized on all markets, through price but also through quantity.

The liquidity spectrum is uniform (with a single discontinuity point) and the variety of the asset situated at “left” of this point is complex (in other words there are a numerous types of financial assets which are perceived as a direct money substitute due to their high liquidity level and their low risk). In this conditions, the exogenous decrease of the liquid available resources caused by the compression of generating economic activity will be compensated in the first place through a reduction of the financial assets with similar characteristics with money and just after, if this sort of assets are not sufficient enough, through the reduction of other assets (this substitution process is ruled by an arbitrage between risk and return)

The re-adjustments in the assets supply and demand determine relative prices modifications but also quantity supply modifications (but we must notice that the ratio between the movements dynamics is *ex-ante* undetermined; so, we will assume that the adjusting using quantities is realized before the adjustment through prices, without criticize this)

Because the goods current consume is “perfect” elastic comparing with the changes in current income level, the compression of this income generates a decrease of the current consume which is uniform for all goods types. It has lower amplitude than the income compression and leads to a decrease in the effective economy. In this way, real economy is inferior to the expected, desired one.

Taking into consideration the fact that in this case the economies are created not only using the banking system but also using financial markets, this will provoke in the same time a diminishing of the resources attracted by the banking sector and a decrease of the financial assets demand, which will determine a prices decrease and an interest rate increase.

Due to the freely and competitively interest rates formation, they will grow (even in the banking system) until they will reach the real level (which reflects the new ratio between the financial resources supply and demand).

The increases of the interest rates, the compression of the available financial resources (parallel with the modification of the general credit condition) could cause a reduction of the credit demand and supply. At a low economy and “abundance” index volume corroborated with a high interest rate level, the effective investments volume will be situated at a lower level than the planned one (we speak here about the new investments but also about a disinvesting process).

The decrease in current investments volume will be accompanied by a decrease of the capital goods demand and by adjustments of their prices and quantities. We will find also a real output decrease comparing with the planned one. Because of the decentralized components present in the wages mechanisms, the labour demand and supply are perfectly elastic opposite to the real wage level, which determine “complete” labour re-adjustments. The decrease of capital goods’ demand (because of the supply competition on the capital goods market) goes along with its qualitative modification. In this way the characteristics of the capital goods supply (including the informational and physic return) will be modified. In this case these changes are able to compensate the impact, which the reduction of the available investments resources causes over its volume. Anyway the investments volume has a relevant elasticity comparing with these parameters dynamics.

The real and nominal shocks cause a decrease of the money demand through the effects induced by the structural modification and through the interest rate (this one has not always the same amplitude with the decrease of money supply, due to the inertial character of the anticipation made by economic subjects). Because the informational and positional asymmetries are almost absent the level of the transfer effect or “preventive inflation” will be lowest.

Resuming:

S_{01} : The budget deficit decrease as the economic systems is closed to the model of “C” economies because:

S_{01} : The involvement of the state in the functioning of the economical systems decreases as these systems translate their structures from the characteristics of “A” economies to the ones specifically to “C” economies.

S_{02} : The ability of economic systems in absorbing real and/or nominal shocks induced by the economic growth processes increases as well as these systems pass structural modifications which transforms them from “A” economies to “C” economies.

3. Institutional characteristics of the economic systems: how the social mandate is exercised and how growth could be sustained

Any structural performances an economic system would have, given the way resources are created, distributed and redistributed using the global social utility function, could not result only from the intrinsic market mechanisms. Due to the specific preferences concerning the incomes volume and structure, their allocation, risk aversion and also because of the different capacities of the economic subjects, which are more or less able to participate at the economic processes, a set of “rules of the game” which allows social mediation is definitely needed. If we accept this need, the institutions could be considered “the rules of the game in a society”

(NORTH [1990; p.3]). They allow the human activities to be structured in social, political and economic mean. In the mean time, the institutional design of a society is a critical parameter for the nature and quality of the governance. As EVANS [1995; p.10-12] has noticed:” States are not generic. They vary dramatically in their *internal structure* and *relations to society*. Different kinds of state structures create different capacities for action. Structures define the range of roles that the state is capable of playing. Outcomes depend both on whether the role fit the context and on how well they are executed. [...] The trick is to establish a connection between developmental impact and the structural characteristics of states – *their internal organization and relation to society*.”

A critical distinction should be done between the *political institutions* and *civil institutions*. The institutions to the first category are the elements of the political systems and represent the ensemble of public (central and local) and “semi”-public (e.g. political parties) authorities. The institutions to the second category are generated by the civil society and represent “private” associative forms⁵.

The impact of each type of institutions on the budget deficit could be explained:

- By their influence on the state’s importance in the distributional processes;
- By their influence on the private *distributional coalitions*.

More exactly, if the influence of the *politic institutions* is strong and, correlative, the civil society’s institutions are weak structured (the social life is dominated by the public authorities and / or political organizations), the distributional processes are controlled by the state and the budget deficit are higher that the ones who occurs in situations in which the powers and the autonomy of the *civil institutions* are significant. From this point of view, the budget deficit is the prices of a higher relative importance of the *political life* in respect to the *private* one.

But how important is in fact this cleavage between the “public” / “private” institutions? Isn’t it clearer to say that *all* the institutions that are in fact *distributional coalitions* exercised an impact on budget deficit? In our opinion, these theses are not contradictory: the *distributional coalitions* tend to reduce the capacity of society to promote the structural and functional changes and the “operational speed” of the resources reallocation mechanisms and thus tend to reduce the economic growth. In the same time, this impact is asymmetric for the *political* and *civil* institutions: the importance of the public allocation of resources decreases as the importance of the “private” sphere involvement in the allocation processes increase.

Also, a distinction between the *formal* institutions (rules, norms, procedures) and the *informal* ones (unwritten conduit code which makes the formal rule understandable, supplements and sometimes even replaces them) is very useful. Both institutions are creating a framework in which there are inserted the economic systems, destined to support and to correct the way the systems work.

Using the analysis proposed by RODRIK [2000] we consider that this sort of support - institutions could be classified as follows:

- 1) institutions for property rights;
- 2) regulatory institutions;
- 3) institutions for macroeconomic stabilization;
- 4) institutions for social insurance;
- 5) institutions for conflicts management.

1. Property rights - an adequate property rights system represents an essential incentive for the economic innovation processes: the economic subjects are assuming the risks associated to those processes only if they have the control over the result.

⁵ These institutions covers a large spectrum of private interests but only a limited numbers of them, like syndicates, professional associations, lobby groups of producers and consumers etc., really matters for the present topics.

RODRIK [2000; p.5] said:” Note that the key word is „control” rather than „ownership”. Formal property rights do not count for much is they do not confer control rights. By the same token, sufficiently strong control rights may do the trick even in the absence of formal property rights”. The *de facto* use of the control right is much more diffuse than the use of the property right and depends not only of the formal regulations but also of the behavioural typology associated with the implementation and realization practices, practices which are considered social acceptable.

It should be noticed that the property rights can not be considered as “absolute”. There is a “frontier” which limits the action sphere of each individual economic subject and the societies are trying to impose different limits in “frontier areas” where this sphere is intersected with the one characteristic for other subjects. The societies limit the property rights by subordinating them to the “public interest”: the global social utility maximization is prevalent comparing with the maximization of the individual utilities. The “exact” definition of the “public interest” is different from society to society, from period to period.

2. Regulatory institutions - behind the ideal model of the “perfect market, the real markets are characterized by numerous types of imperfections. In practice the markets ”fail” due to the natural, technical or informational monopoly situations, to some trading costs, which stop the innovation and other non-monetary externalities internalization, and not in the last place due to the informational asymmetry, which generates *moral hazard and adverse selection* and to the systemic and non-systemic shocks which affect their normal functionality.

To compensate these market’s “failures”, a complex ensemble of institutions able to create a frame of rules and prudential supervision for the real and financial assets markets and to preserve the competitive character of these markets, is extremely necessary.

A critical aspect could be the interventions amplitude. More precisely a “balance” in their modulation is necessary:” too low” amplitude can induce the intervention inefficiency. *Per a contrario* ”too pronounced” amplitude can generate perturbations of the natural market mechanisms. Moreover the dimension of the interventions must suit with the structural specific characteristics and to maintain a minimal character if the structural configuration is good. If not, and we are in the presence of some profound structural deficiencies and /or in a process of accelerate economic growth, a public coordination of the private sector activity could appear as desirable (the example of some countries from South-East Asia, in ’60 and ’70 could be a proof that justify this assumption)

Finally we must also notice the importance of a correct schedule in time of this kind of interventions. The realized connection between public and private sphere, social efficient at the beginning, could become dysfunctional if initial conditions are changing.

Summarizing, we can affirm that, similar with the institution for property rights, the “optimum” institutional arrangements involved by ruling and prudential supervising of the markets is a variable of time and geographic areas.

3. Institutions for macroeconomic stabilization - the auto-stabilization market’s mechanisms do not have a “complete” efficiency: the de – correlations between real and financial asset flows can be a result of some external shocks but moreover a result of the way different system’s components, and the whole system, is functioning.

The exceeding demand and supply could become persistent; the financial infrastructure could have a limited capacity of absorbing the real and nominal shocks, the incomplete and asymmetrical information could lead to incorrect consume economy or investment decisions. For this reason, a fiscal and monetary authority able to conceive and implement anti-cyclical politics with stabilization purpose is a real necessity.

4. Institutions for social insurance - a continuous structural-functional transformation process characterizes the modern economic systems.

The environment where the daily economic processes are realized, the mechanism, the written and unwritten rules become profound instable. The labour, the technologies, the financial resources, the organizational structures, the ideas, the values and the inter-personal relationship transgress more and more rapidly the physical and mental borders. The impact of those transformations on the level of economic growth depends of the risk aversion of all the economic subjects involved. These risks cannot be managed in a traditional fashion, characteristic for more stable economic systems, where groups and collectivises with small dimensions and strong connections between members dominate the social life.

The modern risk management mechanisms have a combined nature. The public authority takes over and socially distributes a part of the risks, which the individuals must to face off. The individuals also develop alternative protection systems, independently or in a partnership with public social insurance systems. These actions have as a result a mix between the individual firm's practices and the practices specific for the public authorities that have a large area of extension.

One could notice that the public sector implication in the social risks management is extended behind the distribution of fiscal resources in the favour of different social categories. This involvement frequently includes a complex system of rules, norms and regulations meant for the high-risk activities. This system covers a variety of aspects starting from the lifetime employment practices and continuing with consumer protection and environment conservation.

The "safety mechanisms" contribute to the social disparity diminishing and, in the same time, stimulate the "economic programs" of the high-risk private subjects, which are capable to generate socio-economic innovation and relative social advantages. The "safety mechanisms" can also help diminishing the "resistance in front of the changes". This opposition is frequently manifested in the economic systems characterized by rapid structural transformations but using these insurance methods the social consensus in favour of this kind of transformations is obtained easier.

5. Institutions for conflict management - different cleavages types transgress the modern societies. The "demarcation lines" between the divers social groups and categories does not result just from the primary distribution and redistribution of the economic activities output, being also equally determined by the cultural, ethnic and political factors. Or, as RODRIK [2000; p.12] said: "Social conflict is harmful both because it diverts resources from economically productive activities and because it discourages such activities by the uncertainty it generates".

A pronounced asymmetry of economic activities results from the social coordination failure in obtaining and using those results. This asymmetry implies social breakings, which have a larger associated cost than the one involved by financing an ensemble of institutions able to manage social conflicts.

Some examples of institutions could be: a legal system which respects the social ethics, political institutions which allow the representation of all interest groups, independent professional structures, minority structures. .

One could notice that they have a "levelling" action. On the one hand, they limit the positive result of the "economic game" (through the social redistribution) and on the other hand contribute to the loss limitation (through multiple compensation forms). Consequently, the existence of this kind of institutions increases the probability of fairness and cooperation in the "economic game", which lead to a higher output than a non-cooperative one.

For a more accurate picture, it could be noticed that one should pay a special attention to all the types of institutions, which are acting like *distributional coalitions*⁶. The critical point is

⁶ It is almost useless to mention that, in this point, we have to pay a heavy tribute to Olson's masterpiece *The Rise and Decline of Nations*. In fact, the entire debate about the role of the institutions in the economic development process was "triggered out" for use after the lecture of this book.

that such institutions are able to influence the allocation and reallocation mechanism; the higher their power is, the lower the efficiency of these mechanisms is and higher the transactional costs are which occur in the current evolution of the economical systems. Also, any increase in the number of the *distributional coalitions* leads to an increase in the power and attributions of the public authorities and, more generally, exercises a substantial impact on the state architecture.

The institutions ensemble represents a markets complement and an “environment” for the public actions. These institutions are, in the last instance corrections mechanism of the intrinsic dysfunctions, which assures the social coordination of the economic processes, at the minimal level.

As a consequence:

I_o : ***The higher the quality of private institutions is, the lower is the budget deficit because:***

I_{01} : *The higher the quality and importance of the formal and informal social-cultural institutions of the civil society is, the lower profile is the role of the state and thus the budget deficit;*

I_{02} : *The higher the quality of the complementary market institutions is, the more durable the character of the economic growth is and lower the social costs are.*

3. The socio-cultural *paradigm*: how the social mandate is formulated and what values are assigned to the economic growth

By paradigm we understand *the dominant mental collective model, which makes the distinction between a society and the other*. This paradigm represents a societal integration factor that supplies commune values and purposes for society members. Also, it represents the subject of some learning and transferring inter-generation processes, modifying itself lent, in “long cycles”. The paradigm is the generator factor of the institutional frame, which characterizes the society configuration. The paradigm and the institution generated by it, significantly influence the economic activity dynamics. It is sufficient to notice that the economic subjects guide their decisions using a set of characteristic values; that the economic politics are influenced by this values in the interventions realized through the processes of distribution and redistribution of the economic activities resources and results (the predominant position of the equality/inequality couple significantly influences the public authorities involvement in the redistribution process)

In the same time, the economic development influences the institutions and also the paradigm. For example the significantly bureaucratized institutions that characterize the industrial society, has known a large decline in the post industrial society, characterized by a highly specialized labour market, an important level of mobility and a evolution to the “qualitative” aspect, due to the increase in the per capita income level and its relatively equilibrate distributions.

The dissolution of the “real” socialist system had also happened, *inter alia* in a point of maximum bureaucracy inefficiency in the planed economy management.

It is absolutely necessary to notice that the way economic dynamics influence the paradigm and its institution’s dynamics (if we take into account the different level of inertia that characterizes the socio-cultural / economic dynamics) is not clear enough. So, as we already have said before the paradigm presents “by definition” an accentuated inertial character more pronounced than the one that characterizes economic dynamics. Despite all these, due to the

assimilation of the cultural values by a “learning process”, the existence of some modifications (most probably, in “normal conditions” initiated first at the institution’s level and after at the paradigms’) in the same generation as a result of economic context changes between the social start of one generation and the social “maturity” of the other, is perfectly possible. More precisely if we admit the *scarcity hypothesis*: the highest subjective utility is attributed to the good with a manifested exceeding demand, than *the* satisfying of “A” good demand (“A” good has a deficient supply at the beginning of the cultural” learning process”) and the apparition of a exceeding demand for “B” good during this process, could cause a movement from the values associated to the “A” goods to the values associated to the “B” goods (for example from” material goods” to “spare time”) (in the terminology used by INGLEHART[1997] this process is equivalent with a transformation from *materialism to post-materialism*)

An important consequence of this approach consist in the fact that it could be postulated the thesis that *any shift in the paradigm will induce a significant and durable change in the “parameters” of the global social utility function. Thus, the changes in paradigm will affect the role and functions of the state not only in an indirect manner, via the economic growth, but also direct, via the (re) formulation of the mandate, which is entrusted to the state by the society.*

In this case, if we taking into account the $H_1 - H_3$ hypothesis, we can postulate a direct connexion between the configurations of the mental architecture of a society and the state’s role.

Summarizing:

Figure 1: Relations between paradigm, institutions, economic dynamic and the role of state

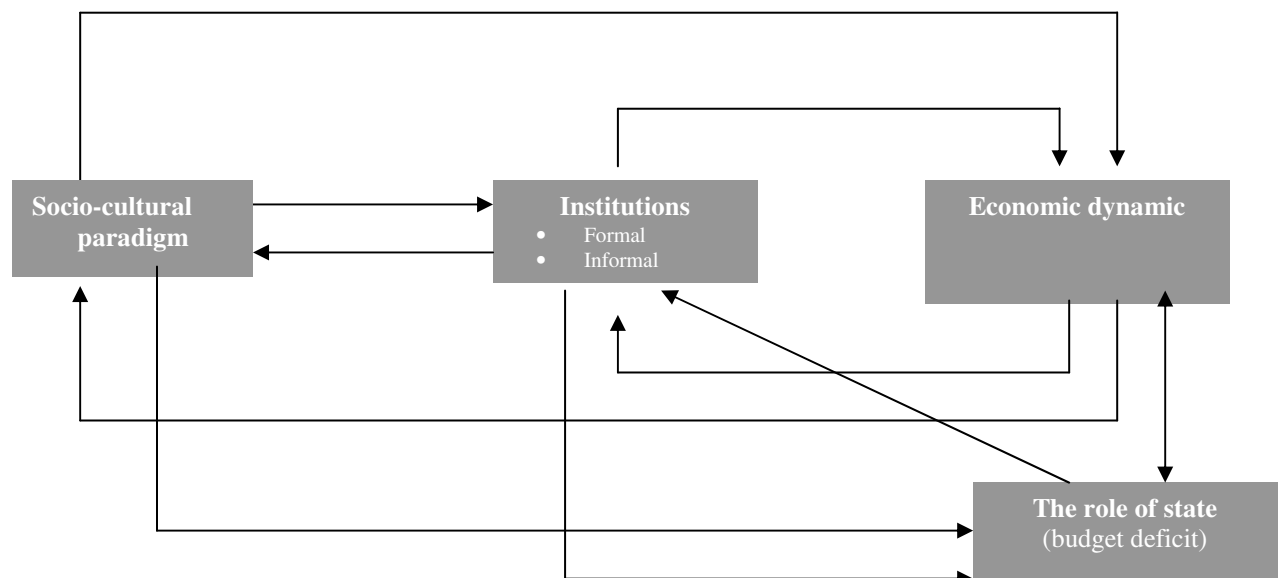


Figure 1 reflects the relations between paradigm, institutions, economic dynamic and the role of state and is highly similar with the one presented by JONG [2001; p.41]. Despite of this fact, there are two fundamental distinctions: (i) the use of “paradigm” term instead of the “cultural values” term (justified in our opinion by the “stronger” sense of “mental model” incorporated in the first one comparing with the second one that suggest more “shared attitudes”⁷; (ii) the consideration of a feed – back relation between institutions and paradigm (if

⁷ An interesting definition for the culture as „shared values” is, for instance, the definition given in KROEBER and KLUCKHOHN [1952] (cited by ADLER [1986]). According to this definition, culture consists of patterns, explicit and implicit of and for behaviours acquired and transmitted by symbols, constituting the distinctive achievement of

an institutional system is exogenous constitute it *could* influence in the end the receptor-paradigm; the pro and contra arguments could be synthesized using the approaches specific to one recurrent theme in dominant paradigm in Romania, the one of “forms without fond”: the initial creation of some “forms” maintained functional and “efficient” ends by influencing the “fond” which did not generated them, just received them).

It is interesting to remark the possibility of creating equivalence between the paradigm components and the factors used by HOFSTEDE [1980]⁸ to explain the cultural differences (using some limitation in their sphere and content). These factors are⁹ :

- *Power Distance (PD)*;
- *Individualism (I)*;
- *Masculinity (M)*;
- *Uncertainty Avoidance (UAI)*.

PD deals with the degree of acceptance of the non-equal power distribution in society. In the societies with a higher level of *PD*, this distribution will have a more pronounced character, with a positive correlation between this factor and the concentration of the political power (HOFSTEDE [1980; p.97-98,106])¹⁰.

In societies characterized by a high UAI level, the refuse of decisional incertitude will generate an increased recurs to the public authorities for its dispersion and orientation to a minimum level; as a consequence, the power and competences sphere of these authorities will be larger and more precisely established than in those societies with a low UAI level, which will accentuate the individual competences of the economic subjects and the limitation of the public role to a small set of public utilities supply.

M does not imply the discrimination of the cultural values on sexes, trying to reflect some fundamental values shared by all society members. More precisely, it is considered that the “masculine” societies are those where the dominant values are connected with the social affirmation, the material results and the decisional freedom. In this conditions the performance is measured using the terms of reaching and maintaining a reference social status and the material achievements are considered more important that the spiritual ones. In opposition, the “feminine” societies have as dominant values: the equality, the solidarity and the consensus, the social tension avoidance, the centralization of the social-economic trades and the conservation or the spiritual values, tided to the “quality of life” and to the inter-human relationships.

human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of future action.

Culture is:

- Something that is shared by all or almost all members of some social group;
- Something that the older members of the group try to pass on to the younger members; and
- Something (as in the case of morals, laws and customs) that shapes behavior, or structures one's perception of the world.

Our vision is much closer to HOFSTEDE [1991] who defines culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another”. Like him, we emphasizes that that culture is learned, not inherited.

⁸ Realized in 1968-1973 starting from approximately 66 non-socialist countries, this study collected information from more than 117000 forms, completed by the IBM employees in this countries

⁹ For this analyzes purposes, the main advantage in using these factors is the quantification of the relevant elements, which could be used, in an empirical approach of the mentioned thesis. The factors interpretation realized here is larger that the one strictly derived from this study.

¹⁰ *DIP* is formal definite as follows: “ the distance between a superior B and a subordinate S in a hierarchies represent the difference between the measure B can determine S behavior and the measure S can determinate B behavior (HOFSTEDE[1980; p.22]).

Finally, I deal with the acceptance/rejections of the individual responsibilities in front of the social reference group (family, social category, nation)

Discussion of the relevance and the limits of these concepts exceed this paper framework. We consider that taking them into consideration and using them to characterize three types of paradigm, characteristic for three types of societies, could be useful:

- “X” society (*closed society*);
- “Y” society (*semi-opened society*);
- “Z” society (*opened society*).

More precisely:

Table 2: The characteristic of the different paradigms

	“X”	“Y”	“Z”
<i>PD</i>	Reduced	Medium	Pronounced
<i>I</i>	Reduced	Medium	Pronounced
<i>M</i>	Reduced	Medium	Pronounced
<i>UAI</i>	Pronounced	Medium	Reduced

Closed societies are characterized by the tendency (at least formal shown) of attenuation at the unequal power distribution level, by a pronounced collectivism, by promoting the “feminine” values (searching for consensus and not for competition) and by a pronounced incertitude and risk aversion.

In *semi-opened societies* all these parameters have medium values; the *opened societies* valorise more the acceptance of the unequal power distribution, as “natural” status, the individualism and the social affirmation, the performance and the material result, the incertitude acceptance as a status, which could generate action opportunities.

It is interesting to remark that, from a dynamic perspective, the different possible combinations between the mentioned economies and paradigm place the socio-economic systems in three relatively distinct zones opposite to a certain “equilibrium” status (we understand by this the absence of any social changes, in other words the tendency of actual configuration perpetuation, in the economic structures area and also in the institutions one; we do not attribute a “positive” value to a status like this which represents just a socio-economic “frozen” dynamics situation and/or the absence of a motivation to realize major change of the economic structures and institutions) (table 3):

- Area I (*near the equilibrium*);
- Area II (*the intermediary area*);
- Area III (*far away from the equilibrium*).

Table 3: The socio-economic systems positioning under the paradigm-structure couple impact

Economy type	Society type	“X”	“Y”	“Z”
	“A”		Area I	Area II
“B”		Area II	Area II	Area II
“C”		Area III	Area II	Area I

Because of its characteristics, an “A” economy can serve as a structural-functional base for a *closed society*. The supports for a performance increase through a superior risks and social inequality acceptance, which is normally generated in the first stages of the economic growth, is situated at a reduced level. As a consequence, the motivation for the institutional modification able to generate a superior economic performance will be insufficient for starting some social innovation processes; the accent is pointed on the *status quo* and social certitude maintaining, sacrificing the economic system efficiency.

In contrast a “C” economy needs some social conditions specific for the *opened societies*; if an institutional gap exists it will cause an intense adjustment process, meant to assure the concordance between the constitutive values of the specific paradigm and the way economic mechanism and structure function.

The crucial implication for our debate consists in the fact that in the each type of the socio-economic systems there is assigned a different *role* of state and thus the type and the magnitude of its activities is different. Synthetically, it could be formulated the thesis that *more far from equilibrium* is a society, a more larger role is attributed to the state and more important is the implication of the public authorities in the “normal” distribution and also in the redistributive process.

In consequence, it could be presumed that:

C_{1PD} : **The budget deficit is larger in the countries with a higher PD because:**

C_{0PL} : *The budget deficit is more important in the countries were PD is more pronounced due to the fact that the public authorities tend to act more frequently in an authoritarian manner and to involve in a larger spectrum of social and economic issues;*

C_{11PD} : *The economic dynamic is less accelerated and auto-sustained in those countries where PD is more pronounced as a result of an “inefficient” institutional infrastructure;*

C_{2UAI} : **The budget deficit is larger in the countries with a higher UAI because:**

C_{02UAI} : *The budget deficit is more important in the countries were UAI is more pronounced due to the fact that the appeal to the state intervention in the management of the economic and social risks is more frequently;*

C_{12UAI} : *The economic dynamic is less accelerated and insufficient auto-sustained in the countries with pronounced UAI due to the tendency to select economic programs with low associated risk but also with a lower yield;*

C_{3M} : **The budget deficit may be (even if this is not obligatory) larger in the countries with a higher M as a result of two different sets of effects:**

C_{03M} : *The budget deficit is more pronounced in the countries with a higher M due to the fact that the claims for the establishment’s proof of “efficiency” (especially in some particular domains) are more frequently;*

C_{13M} : *By the economic cleavages accentuation, the economic dynamic may be (even if this is not obligatory) less auto-sustained in countries with a less pronounced M;*

C_{4I} : **The budget deficit may be (even if this is not obligatory) lower in the countries with a higher I as a result of two complementary sets of effects:**

C_{04I} : In the countries with an more important I, the autonomy of the civil society in the respect of the state is more pronounced and thus the state role and, consequently, the budget deficit is more reduce;

C_{14I} : In the countries with a high level of I , the economic dynamic **may be** (even if this is not obligatory) more accelerated.

5. Benchmarks results

5.1. Data and Descriptive Statistics

The structural and institutional aspects are, at least partially, captured by using the *Economic Freedom of the World (EFW)* index. This index measures the degree of economic freedom present in five major areas:

- Size of Government: Expenditures, Taxes and Enterprises;
- Legal Structure and Security of Property Rights;
- Access to Sound Money;
- Freedom to Exchange with Foreigners;
- Regulation of Credit, Labour, and Business.

The components of Area 1 indicate the extent of country's reliance on the freedom of individual economic subjects' choices and power of deregulated markets, by measuring the intensity of the *substitution effect* between the private resources allocation and the public expenditures, the extent of using private rather than public enterprises to produce goods and services and the level of taxes on economic resources in the redistribution process.

Area 2 deals with the key ingredients of the legal system which is compatible with the economic freedom such as rule of law," security" of property rights, an independent judiciary, and an impartial court system.

The Area 3 treats the subject of the financial stability. The components of this Area are correlated with the consistency of monetary policy (and of monetary authorities) with long-term price stability. They also measure the easy use degree of other currencies *via* domestic and foreign banks.

The elements of Area 4 are designed to reflect a wide variety of restraints that affect international exchanges. These include tariffs, quotas, hidden administrative restrains, exchange rate and capital controls. In order to get a high rating in this area, a country must have low tariffs, a large external trade sector, efficient customs administration, a freely convertible currency, and few controls on capital.

The Area 5 reflects the conditions of the domestic credit market (the banks ownership, the commercial banks sector competition, the credit extension, the avoidance of interest rate controls and regulations), the characteristics of the labour markets (minimum wages, dismissal regulations, centralized wage setting, extensions of union contracts to non-participating parties, unemployment benefits, and conscription), and the regulation of business activities (price controls, administrative conditions for new businesses, government bureaucracy, import and export permits, business licenses, tax assessments etc.).

These areas cover some of the elements listed in table 1 (especially large parts from I.4, I.6, I.9, II.1, II.2, III.1, III.2) and describe the property rights and the architecture of the regulatory institutions. Thus, the index could be used as an acceptable *proxy* for the structural and institutional design of the considered economies. In table it is shown the descriptive statistics of the index. These statistics suggest that there are not major breakdowns over the time

in the sample, and also reflects the important differences in the degree of economic freedom between the countries¹¹.

The data for the paradigm's components are from HOFSTEDE [1980] and they cover a smaller sub-sample of countries (27) (S.II) for the same period. Table describes the corresponding statistics of the four factors considered¹². Despite the limited observations, all the three type of societies are included in this sub-sample.

The role and importance of the civil society institutions is indirectly estimated by using the *Freedom in the World* data, which measures freedom by assessing two broad categories: 1) political rights and 2) civil liberties. As is defined by FREEDOM HOUSE [2003]: "Political rights enable people to participate freely in the political process. This includes the right to vote and compete for public office and to elect representatives who have a decisive vote on public policies". Also: "Civil liberties include the freedom to develop opinions, institutions, and personal autonomy without interference from the state".

The *Political Rights (PR)* index consists in a "checklist" of various aspects from areas like¹³:

- Electoral Process;
- Political Pluralism and Participation;
- Functioning of Government.

The *Civil Liberties (CL)* index deals with:

- Freedom of Expression and Belief;
- Associational and Organizational Rights;
- Rule of Law;
- Personal Autonomy and Individual Rights.

We just simply suppose that if the *Political Rights* are less or equally defined and exercised that the *Civil Liberties* then the *civil* institutions are more or equally important that the *political* ones.

5.2. Results

The first step of the empirical test represents an attempt to estimate the following equation:

$$bd_{it} = \beta_t + \alpha EFW_{it} + \varepsilon_{it} \quad (1)$$

where bd_{it} is the weight of budget deficit in GDP for country i and EFW_{it} is the level of *Economic Freedom of the World* index.

The core equation (1) encapsulates S_0 and I_0 both, and cannot distinguish between the individual contributions of the structural and institutional determinants of the dynamic output. Thus, its relevance is limited by an analytical weakness, so the results can count only for the *global* impact of these determinants.

Before we discuss the results, it is useful to look at a simple bi-variable relationship between budget deficit and economic freedom.

¹¹ It should be noticed that the countries are ranked by the **EFW** as follow: *free* (score: 1-1.99), *mostly free* (score: 2-2.99), *mostly unfree* (score: 3-3.99) and *repressed* (score: 4-5).

¹² The implicit hypothesis is: there are no paradigm's changes from the period of HOFSTEDE analysis to the reference period for this paper. In our opinion, this could be considered as a reasonable hypothesis, taking into account the "long term" inertia of the socio-cultural evolutions.

¹³ Each pair of political rights and civil liberties ratings is averaged to determine an overall status of "Free," "Partly Free," or "Not Free." Those whose ratings average 1-2.5 are considered Free, 3-5.5 Partly Free, and 5.5-7 Not Free.

Figure 2 shows the scatter plot for the sample **S.I.** countries and suggests that there is a consistent positive correlation between economic dynamic and the degree of economic freedom. This positive correlation is confirmed by the simple **OLS** regression of equation (1) reported in Table 9. The sign of *EFW* is as expected and statistically significant: countries with a larger economic freedom (with less structural deficiencies and a better quality of institutions) are likely to benefit from a positive dynamic of output. The descriptive statistics of ordinary residuals are shown in Table 10 and suggest that these residuals are “close” to zero but are not entirely normally distributed.

Of course, for a number of reasons (reverse causality, omitted variables bias etc.) the above relationship cannot be considered as an accurate one. But it could be seen as a first proof for the thesis of the existence of a connection between the economic freedom and budget deficit.

In order to complete the analysis for the institutional factors, **the second step** consists in a check for the impact of the political freedom on the budget deficit embedded in the next equation:

$$bd_{it} = \beta_t + \alpha PR_{it} + \lambda CL_{it} + \varepsilon_{it} \quad (2)$$

where *PR* stands for the “political rights” and *CL* for the “civil liberties”.

The results are shown in Table 11. There are some peculiar aspects of these results. For instance, the absolute level of the parameters suggests that the “civil liberties” are more important for the budget deficit than the “political rights”. In the same time, it is interesting to note the signs of the parameters: an increase of the “political rights” (a decrease of the level of *PR*) leads to an augmentation of the budget deficit. In other words, if the political structures are more diversified and stronger and the different public and “semi”-public authorities have more balanced powers, their capacities to influence the dimensions and structures of the reallocation processes are much significant. Also, an increase of the civil society autonomy in respect to the public / political sphere (a decrease of the level of *CL*) will induce a decrease of the budget deficit as a consequence of the complementary reduction of state’ involvement in the “current social affairs”.

The third step of our empirical approach consists in the estimation for the countries in S.II of the next equation:

$$gdp_{it} = \beta_t + \alpha_1 PD_i + \alpha_2 I_i + \alpha_3 M_i + \alpha_4 UAI_i + \varepsilon_{it} \quad (3)$$

where *PD_i* represents the HOFSTEDE score of country *i* for *Power Distance*, and *I_i*, *M_i*, *UAI_i* are, respectively, the scores for *Individualism*, *Masculinity*, and *Uncertainty Avoidance*.

The results are reported in Table 13. All the coefficients are statistically significant and their signs are in accord to *C₀* hypothesis. The absolute level of the coefficients suggests that all the cultural factors have almost the same importance in explaining the evolution of the budget deficit, with the interesting exception of *PD* which has a smaller impact.

Due to the dimensions of S.II, these results are only a “flash” for a more extensive analyze. However, it should be mentioned the fact that when *EFW* is also used like an explanatory variable in Equation (3), appears a diminished statistical significance for all the coefficients, situation which is probably a reflection of multi - co - linearity. This could suggest that the cultural factors act not only direct on budget deficit, influencing the behaviours of public authorities and economic subjects, but also indirect, *via* the quality of institutions.

Looking at the global picture, which occurs from the proposed analysis, we can say that the theoretical framework employed and the empirical results obtained leads to the conclusions

that *structural and institutional aspect of the economic systems, as well as the components of the socio-cultural paradigms and the political and civil liberties matters for size and evolution of budget deficit.*

But there are a lot of *caveats* and one can argue that this output is vague and almost a truism.

A) Theoretical limitations

1) Unclear definition of “structural” characteristics of economic systems

The elements listed in Table 1 are a “mix” of some components of the economic architecture and “quasi”-institutional aspects amalgamated in an unclear picture. Dropping - down one or other of this does not improve this picture because there is not a coherent effort to clarify what is “structural” and what is “functional” and, more, what are the outputs derived from the intrinsic configuration of the economies themselves and what are the outputs coming from “policies”. In fact, Table 1 is not a “definition”, but rather an intuitive appeal to an ambiguous concept.

2) Too “elastic” borders between the three types of economic systems

Despite the “description” of the three types of economies, it is difficult to distinguish between them, especially because there is not a set of operational criteria able to allow a reasonable identification. Again, there is no a set of “definitions” attached to this taxonomy, and so there is not a coherent framework to place the entire analyses of the growth shocks¹⁴.

3) Ambiguous presumptions about the state involvement in structural modification

The involvement of the state in the structural adjustment of the economical systems is just presumed without any explanation about the nature, the amplitude and the consequences of such involvement. In others words, there is nothing about “how” and “at what price”. And, more important, “why”: it is not argue that such implication of the state in the re-building process of a “A” or “B” type of economy is necessary and also it is not explained the reasons of the states to initiate and implement the necessary policies. One should note that our position is, more or less, a *positive* approach: we are trying to seek for an impact of the state’s involving on markets functioning, without enquires whether the state is able to improve these markets, or whether the outcomes are socially desirables.

4) “Blank” connections supposed between institutions and growth

The proposed analyses of the institutional impact do not much clarify about how this impact is exercised. To illustrate this, it is enough to look at the description of the property rights institutions. The paper indicates that when economic subjects believe their property rights are protected, they adopt a set of decisions (in terms of investments, consumptions, savings etc.), which finally bust up the economy. But nothing is implied about the *content* of this property rights, about their configuration, and more important, about how there are in practice exercised¹⁵. Also, the paper insists on the importance of *control* but it not operates any distinctions between different control mechanisms and it not provides any explanations for how these mechanisms could operate.

5) “Institutions” and “policies”: not any words about last ones?

The “policies” are the expression of the “institutional” actions. This means that the “policies” represents the “dynamic” aspect of the “institutional” behaviours and also that the actual configuration of the “institutions” is an output of the past “policies”. If this thesis stands up, the current observed impact of “institutions” on economic growth incorporate in fact the results of current and past “policies” and could be not distinguish from them. So, is not clearly how much the emphasized importance of “institutions” for the economic dynamic could be assigned to the quality of these and how much this is in fact an outcome of “policies” quality.

¹⁴ There is nothing about the nature or causes of these shocks.

¹⁵ See, for instance, an excellent discussion in RODRIK et al [2002]

6) Asymmetric impact of *political* and *civil* institutions: why and how?

The asymmetric impact of the *political* and *civil* institutions in the redistribution processes is just simply stated but there is no explanation attached to this presumption and also there is not any description of its precise nature: if both act as *distributional coalitions*, why there should be differences between them, others that are generated by the unequal dimensions and powers?

7) The “long”-run of the paradigm?

We insist in several places that, on “short”-term, the paradigm is exogenous in respect of social and economic variables (which means that the “bottom” arrow in Figure 1 could occur only on “long” run).

But the “culture” is not a genetic product; it is a social one. The human person does not inherit the culture like genes. There is an assimilation of *values* process in a social environment and we do not provide any arguments for the fact that this process should *ex ante* treated as a “long”-term one¹⁶. Much more, there is no argumentation for these supposed long-run relationships between economic growth and paradigm. In fact, does economic development end up by changing the paradigm? And, if this is happened, how could be the influences exercised explained?

Supplementary, if we are viewing the culture only like a *learning process*, we should respond to a most complex approach like the one formulated by the BLACK, GREGERSEN, MENDENHAL and STROH [1999]: they treat the culture as a “tree” with its *visible* parts “above” the surface (tangible aspects of a culture or artefacts) and with its *invisible* parts “below” the surface (the values and assumptions). Thus, culture is the set of artefacts, values and assumptions shared by people (*explicit* aspects) as well as the set of assumptions and values that influence and guide people's behaviour and that is passed on from older to younger generations (*implicit* aspects). We honestly recognize that we are not prepared here to respond to such a position. We only mention that the definition of culture which is utilized is simply a “working” one, utile for the purposes of the present analysis.

8) The insufficient number of cultural dimensions and their relevance

The concept of “paradigm” is a complex one and obviously it could not contain only some aspects like “individualism”, “power distance”, “masculinity” or “uncertainty avoidance”. Even if we are picking up only these, we do not supply any reasons to consider them the most relevant for the topic of economic growth or, at least, we do not present any discrimination mechanism in respect of other *values*.

9) Culture and institutions: what kind of distinction?

We mention that we are taking into account in this paper the *formal* and the *informal* institutions. But, first of all, we list only the *formal ones* with out any references to the second category (which could not be treated as simple as “unwritten set of social rules”). Second, it could be noticed that the institutional *values* cover a large part of the paradigm (or, in other words, a large part of the paradigm is constituted *via* the institutional interactions between the individual members of a society). Institutions act as “pool” of cultural models concentration. Par consequence, there is not a clearly distinction between “paradigm” and institutions and also there is not a clearly description of the reciprocal relationships¹⁷.

10) Structures, institutions and economic freedom: are these the same thing?

¹⁶ There are some mentions about the changing of the paradigm in a “generation life” but it is obviously that this is still a “long”-term.

¹⁷ For instance, there is no argumentation for the thesis that an exogenous established institutional system could end up by influencing the paradigm.

The use of **EFW** is designed to capture, “at least partially”, the structural and institutional aspects of economic development. We do not discuss a definition of “economic freedom”¹⁸ and also the quality of **EFW** like a *proxy* for it. But we should point out the conceptual ambiguity which distort this part of analyze: by simply observing the fact that in an measure of economic freedom are elements from the areas of “structure” and “institutions” we do not legitimate the employment of this measure like a way to describe these. The appeal to **EFW** should be seen as a simple “shortcut”, without a strong theoretical foundation.

11) The core hypothesis: how critical is their restrictive nature?

The $H_1 - H_3$ hypotheses are the “foundation” of the entire proposed analysis; it could easily be observe the fact that they have a restrictive, almost “heroic”, nature. One could rise the question if the limitations induce by this nature does not completely distortion our results. We do not want to defend these postulates because we are conscious about their weakness. We just want to specify the fact that these are necessary to be taking into account in order to place the analysis in the context of the *mandate approach*, in an as simple is possible manner: the state is acting on the base of a *social mandate* and respond, in a way or other, for its actions to the society. And this general framework is, in our opinion, consistent: only the “details” proposed by the $H_1 - H_3$ hypotheses could be, from our point of view, the object of critical enquires.

B) Empirical analysis weakness

There are a lot of limitations for the proposed empirical analysis. Some of them are linked with:

- The stability of the models and the quality of the results (for instance, in terms of properties of the residuals variables);
- The possible existence of non-linear interactions between the variables and the effects of such interactions;
- The insufficient number of observation and the absence of an explanation for the composition of the samples etc.

C) The difficulties to operate with these results

Our results dos not provide an efficient guidance in the implementation of the specifically policies for the sustaining of fiscal stability. The major reason for this consists in the absence of any suggestion about how the structural changes could be initiated, institutional designs projected and “right” *values* and *mental models* promoted. So, based on these results it is not possible to draw a map of desirable policies and to control the effects of the current public choices.

Despite all these *caveats*, we argue that the paper could be seen as a small breakdown into an usual yet manner to deal with the fiscal stability problems like they are isolated for their structural, institutional and cultural aspects.

The relation between the State and the Mother Society is almost always a “love and hate” story. But it should be remembered that the State is a reflection of the “qualities” and “deficiencies” of the Society. Not always an accurate one, this reflection accompanies all the public actions and designs their frontiers.

¹⁸ But we tend to see it like the capacity of the individuals to take decisions relevant into an economic perspective without any inferences from the public authorities.

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The S.I Sample

Algeria	Mauritius
Argentina	Moldova
Bahrain	Mongolia
Belarus	Nepal
Bolivia	New Zealand
Bulgaria	Nicaragua
Canada	Oman
Chile	Pakistan
Congo, Dem. Rep.	Paraguay
Congo, Rep.	Perú
Costa Rica	Philippines
Cote d'Ivoire	Poland
Croatia	Romania
Czech Republic	Russian Federation
El Salvador	Senegal
Estonia	Singapore
Georgia	Slovak Republic
Hungary	Slovenia
India	South Africa
Indonesia	Sri Lanka
Israel	Tajikistan
Jamaica	Thailand
Jordan	Turkey
Kazakhstan	Uganda
Kyrgyz Republic	Ukraine
Latvia	United States
Lithuania	Uruguay
Maldives	Venezuela

The S.II Sample

Argentina	Perú
Bahrain	Philippines
Canada	Senegal
Chile	Singapore
Costa Rica	Slovenia
Cote d'Ivoire	South Africa
Croatia	Thailand
El Salvador	Turkey
India	Uganda
Indonesia	United States
Israel	Uruguay
Jamaica	Venezuela
Jordan	New Zealand
Pakistan	

Table 4: Descriptive Statistics for budget deficit

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	2.80	1.91	3.75	-3.44	19.65
1999	2.80	2.19	3.24	-7.25	13.02
2000	1.68	1.64	3.55	-10.16	11.45
2001	1.87	1.39	3.78	-5.75	19.60

Table 5: Descriptive Statistics for *EFW*

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	3.10	3.00	0.69	1.54	4.71
1999	3.08	2.99	0.69	1.54	4.59
2000	3.07	3.01	0.69	1.59	4.60
2001	3.03	3.01	0.71	1.66	4.61

Table 6: Descriptive Statistics for *PR*

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	3.09	2.50	1.99	1.00	7.00
1999	3.11	2.50	2.02	1.00	7.00
2000	3.04	2.00	2.04	1.00	7.00
2001	2.96	2.00	1.96	1.00	6.00

Table 7: Descriptive Statistics for *CL*

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	3.41	3.00	1.42	1.00	6.00
1999	3.43	3.00	1.45	1.00	6.00
2000	3.38	3.00	1.46	1.00	6.00
2001	3.38	3.00	1.42	1.00	6.00

Table 8: Descriptive Statistics of the Cultural Factors

Factors	Mean	Median	Standard Deviation	Minimum	Maximum
Power Distance	62.14	64.00	19.12	13.00	94.00
Individualism	37.15	32.00	21.94	12.00	91.00
Masculinity	47.96	48.00	13.96	21.00	73.00
Uncertainty Avoidance	62.48	64.00	22.78	8.00	100.00

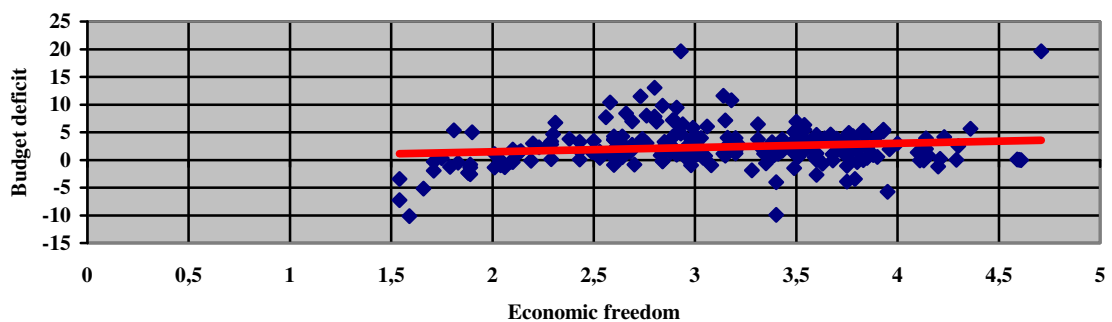
Figure 2: Economic freedom *versus* budget deficit

Table 9: The impact of economic freedom on budget deficitDependent variable: bd_{it} **Method:** Pooled EGLS (Cross-section weights)

Sample: 1998 2001

Included observations: 4

Cross-sections included: 56

Total pool (balanced) observations: 224

Linear estimation after one-step weighting matrix

White diagonal standard errors & covariance (degree of freedom corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.296105	0.644037	0.459764	0.6461
EFW_{it}	0.569155	0.206431	2.757120	0.0063
Fixed Effects (Period)				
1998--C	0.742608			
1999--C	0.753321			
2000--C	-0.360202			
2001--C	-0.146389			
Effects Specification				
Period fixed (dummy variables)				
Weighted Statistics				
R-squared	0.175356	Mean dependent variable	3.726304	
Adjusted R-squared	0.160294	S.D. dependent variable	3.872390	
S.E. of regression	3.548482	Sum squared residuals	2757.588	
F-statistic	11.64230	Durbin-Watson stat	0.989880	
Prob.(F-statistic)	0.000000			
Un-weighted Statistics				
R-squared	0.040161	Mean dependent variable	2.290491	
Sum squared residuals	2770.114	Durbin-Watson stat	0.562456	

Table 10: Descriptive Statistics of Residuals

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	0.00	-0.88	3.65	-5.76	15.93
1999	0.00	-0.73	3.19	-9.18	10.38
2000	0.00	-0.15	3.52	-11.78	9.96
2001	0.00	-0.18	3.80	-8.15	17.78

Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on MAIC: 0
Newey-West bandwidth selection using Quadratic Spectral kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Observation
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-25.5658	0.0000	55	165
Breitung t-stat	0.66697	0.7476	55	110
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.E+155	0.0000	55	165
ADF - Fisher Chi-square	179.791	0.0000	55	165
PP - Fisher Chi-square	213.736	0.0000	55	165
Null: No unit root (assumes common unit root process)				
Hadri Z-stat	10.6060	0.0000	55	220

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution.
All other tests assume asymptotic normality.

Table 11: The impact of political freedom on budget deficit

Dependent variable: bd_{it}

Method: Pooled EGLS (Cross-section weights)

Sample: 1998 2001

Included observations: 4

Cross-sections included: 56

Total pool (balanced) observations: 224

Linear estimation after one-step weighting matrix

White diagonal standard errors & covariance (degree of freedom corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.081434	0.359533	0.226500	0.8210
PR	-0.745873	0.143151	-5.210405	0.0000
CL	1.245818	0.213828	5.826270	0.0000
Fixed Effects (Period)				
1998--C	0.778474			
1999--C	0.767046			
2000--C	-0.340026			
2001--C	-0.202053			

Effects Specification

Period fixed (dummy variables)

Weighted Statistics

R-squared	0.268247	Mean dependent variable	3.776289
Adjusted R-squared	0.251463	S.D. dependent variable	4.061437
S.E. of regression	3.513874	Sum squared residuals	2691.714
F-statistic	15.98293	Durbin-Watson stat	1.056315
Prob.(F-statistic)	0.000000		

Un-weighted Statistics

R-squared	0.064867	Mean dependent variable	2.290491
Sum squared residuals	2698.813	Durbin-Watson stat	0.610524

Table 12: Descriptive Statistics of Residuals

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	0.00	-1.07	3.57	-6.80	16.54
1999	0.00	-0.72	3.14	-10.60	8.93
2000	0.00	0.18	3.57	-12.40	8.46
2001	0.00	-0.47	3.71	-8.63	16.48

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic selection of lags based on MAIC: 0

Newey-West bandwidth selection using Quadratic Spectral kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Observation
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-482.131	0.0000	55	165
Breitung t-stat	0.14050	0.5559	55	110
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.E+156	0.0000	55	165
ADF - Fisher Chi-square	190.409	0.0000	55	165
PP - Fisher Chi-square	214.013	0.0000	55	165
Null: No unit root (assumes common unit root process)				
Hadri Z-stat	10.7891	0.0000	55	220

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution.

All other tests assume asymptotic normality.

Table 13: The impact of cultural factors on budget deficitDependent variable: bd_{it} **Method:** Pooled EGLS (Cross-section weights)

Sample: 1998 2001

Included observations: 4

Cross-sections included: 27

Total pool (balanced) observations: 108

Linear estimation after one-step weighting matrix

White cross-section standard errors & covariance (degree of freedom corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.701896	1.027125	-5.551319	0.0000
Power Distance	0.012196	0.006224	1.959431	0.0528
Individualism	-0.035444	0.007381	-4.801806	0.0000
Masculinity	0.092432	0.013339	6.929515	0.0000
Uncertainty Avoidance	0.058056	0.010716	5.417802	0.0000
Fixed Effects (Period)				
1998--C	0.483584			
1999--C	0.698770			
2000--C	-0.092712			
2001--C	0.540251			
Effects Specification				
Period fixed (dummy variables)				
Weighted Statistics				
R-squared	0.345051	Mean dependent variable		3.380368
Adjusted R-squared	0.299204	S.D. dependent variable		3.947786
S.E. of regression	3.304832	Sum squared residuals		1092.192
F-statistic	7.526219	Durbin-Watson stat		1.156920
Prob.(F-statistic)	0.000000			
Un-weighted Statistics				
R-squared	0.173974	Mean dependent variable		2.207593
Sum squared residuals	1177.750	Durbin-Watson stat		0.512474

Table 14: Descriptive Statistics of Residuals

Year	Mean	Median	Standard Deviation	Minimum	Maximum
1998	0.00	-0.93	2.81	-3.74	6.23
1999	0.00	-0.68	3.44	-7.34	9.44
2000	0.00	-0.03	3.49	-9.46	8.66
2001	0.00	-0.80	3.66	-5.12	16.17

Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on MAIC: -1
Newey-West bandwidth selection using Quadratic Spectral kernel
Balanced observations for each test

Null: No unit root (assumes common unit root process)				
Hadri Z-stat	5.23347	0.0000	26	78

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution.
All other tests assume asymptotic normality.