The Economic Security of Small States: The Cases of Iceland, Latvia and Lithuania

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Submitted to

Central European University

Department of International Relations and European Studies

In partial fulfilment of the requirements for the degree of Master of Arts

Supervisor: Assistant Professor Thomas Fetzer

Word Count:
17090

Budapest, Hungary
2011

Abstract

The studies of small states have recently come back to one of the main questions for small states' existence – economic security. Since the only one framework, covering the analysis of vulnerabilities and resilience created and applied by Briguglio, Cordina, Farrugia and Vella indicated Iceland as the most resilient country in the world, the turmoil and dramatic setbacks in small states after the 2008 crisis should raise doubts about its further applicability. This thesis examines what the most important factors are for small states' economic security and especially resilience, and proceeds with new framework for analysis. By applying the framework to the analysis of the critical Iceland, Latvia and Lithuania's cases, I present the changes in economic security over time in small states and identifies the areas were improvements and special policy makers' attention is needed. By using the 2008 crisis as a catalyst, I show to what extent the constructed framework helps to evaluate economic security and what future studies of small states' economic security should dwell on in order to learn a lesson from the 2008 financial crisis. In contrast to previous studies, this thesis reveals that Lithuania is more vulnerable than Iceland, and, in terms of resilience, the analyzed countries are not doing very well. Proper regulation is still a great challenge for all three countries. Finally, the further analysis of the inclusion of financial regulation under resilience "umbrella" is suggested to improve the explanatory power of resilience framework and the presented model hereby in general.

Acknowledgements

First of all I would like to thank my supervisor Assistant Professor Thomas Fetzer for his guidance, observation and commentary on my research. I am also grateful to Professor László Csaba for his stimulation and valuable commentary on my project. My gratitude is extended to my former supervisor Associate Professor Mindaugas Jurkynas (Vilnius University) who spared no efforts for consultancy, comments and access to materials for my research. I also want to express my thankfulness for Professor Richard T. Griffiths (Leiden University) and Professor Lino Briguglio (University of Malta) who sparked my interest in economic aspects of small states. Last but not least, I give many thanks for my academic writing instructors Agnes Tóth, Robin Bellers and John Harbord for their sound comments and important insights during this and the last year. I do owe thanks to my fellows for their encouragement and finally I cannot omit acknowledgements to my family and friends for their support and comprehension.

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Introduction

The 2008 global crisis left many governments with a headache how to deal with recession, stagnation, rocketing unemployment, increasing public debts, and decreasing economic growth. According to Nouriel Roubini, financial crises should be called "white swans"[1], forcing governments to set the course for more sustainable standing, rather than be seen as, as Nassim Nicholas Taleb described, "black swans"[2], coming unexpectedly and bringing hardship. However, economic security in terms of the implementation of certain policies for sustainable footing of economy is a hard course even for authorities in developed countries. Small and weak states, struggling with predetermined smallness, weaknesses, vulnerabilities and inevitable dependencies[3], face much more difficulties in obtaining and maintaining economic security.

Numerous studies have already been addressing how countries with weaker capabilities combat the expenses of subordination. In the 1980s a wave of small states studies (SSS) emerged examining the possible outward and inward solutions in reducing the outcomes of structural constraints[4]. The concentration on economic interdependence and development problems[5], typically representing a state's survival issues in SSS, coincided with the increasing interests in economic security as a separate academic field of security studies (SS). The uprise of studies on economic security could be traced back to Barry Buzan's

[1] Nouriel Roubini and Stephen Mihm, *Crisis Economics: A Crash Course in the Future of Finance* (New York: The Penguin Press, 2010).
[2] Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).
[3] Iver B. Neumann and Sieglinde Gstöhl, "Lilliputians in Gulliver's World?", 11, in: Christine Ingebritsen, Iver B. Neumann, Sieglinde Gstöhl and Jessica Beyer, eds, *Small States in International Relations* (Seattle: University of Washington Press and Reykjavik: University of Iceland Press, 2006); Assad Bhuglah, "Small Economies and Competition Policy: A Background Paper" (Paper submitted for Global Forum on Competition on 10-11 February 2003, Organisation for Economic Cooperation and Development).
[4] Ingebritsen et al., 16.
[5] See Colin Clark and Tony Payne, *Politics, Security and Development in Small States* (London: Allen/Unwin, 1987); Michael Handel, *Weak States in the International System* (London: Frank Cass, 1981), 220-229; Håkan Wiberg, "The Security of Small Nations: Challenges and Defences". *Journal of Peace Research*, 24:4 (1987): 339-363; Peter J. Katzenstein, *Small States in World Markets: Industrial Policy in Europe* (Ithaca: Cornell University Press, 1985).

sectorization model[6] and to other works encompassing simultaneously the economic content of security[7].

Even though many analysts have recently turned to the economic issues of small states' security[8] thereby contributing to the conceptual development of the terms "economic security" and "small states", though, both concepts are still conceptually contested. Vast majority of the authors approached the components of economic security via the lens of economic growth theories rather than security concerns. This trend is well represented by the studies analyzing small states in the EU[9] and small states' studies in general, conducted by the Commonwealth Secretariat and the United Nations[10], while the scholars delving into SS can be seen more focused upon the studies of big powers such as the US or China[11]. Furthermore, any clear distinctions of the inner components of economic security can be found neither among SS scholars, nor between SSS representatives. For instance, wrong economic security

[6] Barry Buzan, *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War* (2nd ed.) (New York: Harvester Wheatsheaf, 1991).
[7] Charles L. Schultze, "The Economic Content of National Security Policy". *Foreign Affairs*, 51:3 (1973): 522-540; K. Knorr and F. N. Trager, eds, *Economic Issues and National Security* (Kansas: University Press of Kansas, 1977); Frans A. M. Alting von Geusau and Jacques Pelkmans, eds, *National Economic Security: Perceptions, Threats and Policies* (Tilburg: John F. Kennedy Institute, 1982); Giacomo Luciani, "The Economic Content of Security". *The Journal of Public Policy*, 8:2 (1988): 151-173.
[8] Isabella Bakker and Stephen Gill, eds, *Power, Production and Social Reproduction: Human In/Security in the Global Political Economy* (New York: Palgrave Macmillan, 2003); Shahrbanou Tadjbakhsh & Anuradha M. Chenoy, *Human Security: Concepts and Implications* (London & New York: Routledge, 2007); Lino Briguglio, Gordon Cordina, Nadia Farrugia and Stephanie Vella "Economic Vulnerability and Resilience: Concepts and Measurements". *Oxford Development Studies*, 37: 3 (2009): 229-247.
[9] Roderick Pace, "Malta and EU Membership: Overcoming 'Vulnerabilities', Strengthening 'Resilience'". *European Integration*, 28:1 (2006): 33-49; Richard T. Griffiths and G. Magnússon, eds., *Small States and European Economic Integration: Comparative Studies* (Reykjavik: Centre for Small State Studies, 2004).
[10] Commonwealth Advisory Group, *A Future for Small States: Overcoming Vulnerability* (London: Commonwealth Secretariat (CS), 1997); L. Briguglio and E. J. Kisanga, eds. *Economic Vulnerability and Resilience of Small States* (Malta: Islands and Small States Institute of the University of Malta (ISSIUM) & London: CS, 2004); UN Development Programme, *Human Development Report 1994* (New York: Oxford Development Press, 1994); UN Development Programme, *Human Development Report 2010* (New York: Palgrave Macmillan, 2010); L. Briguglio, G. Cordina, S. Vella and C. Vigilance, eds, *Small States and the Pillars of Economic Resilience* (London&Malta: CS&ISSIUM, 2008) and *Profiling Vulnerability and Resilience* (London&Malta: CS&ISSIUM: 2010).
[11] See with reference on China - Jiang Yong, "Economic Security: Redressing Imbalance". *China Security*, 3:2 (2007): 66-85; on the United States - C. R. Neu and Charles Wolf Jr., *The Economic Dimensions of National Security* (Santa Monica: RAND National Defense Research Division, 1994); Dick K. Nanto, "Economics and National Security: Issues and Implications for U.S. Policy". (Congressional Research Service Report for Congress, 2011).

policies inducing states higher exposure to external threats is still vulnerability for Buzan[12], for Pace – contingent vulnerability[13] and for Briguglio, Cordina, Farrugia and Vella – unattained resilience[14].

Although significant amount of research on states' economic security was conducted, there is no analytical framework accepted worldwide for evaluation of economic security. Neither SS representatives, as for instance Griffiths or Pace who have investigated the components of economic security of small states, neither they have not proceeded with universal analytical framework for the analysis. Briguglio *et al*. constructed framework for analysis, applicable to all countries and including both parts of economic security is the only one suggesting how to approach economic vulnerability and resilience.

Unfortunately, there are a number of reasons why Briguglio *et al.* suggested framework is weak. First, from the conceptual point of view, Briguglio *et al.*'s indices are constructed under economic growth theories in general and concentrate in resilience association with growing GDP, but economic growth not necessarily leads to economic security. This mismatch is nicely evidenced with notably economic growth before the 2008 crisis and one of the highest recessions after in the Baltic States. Second, the intention to universally apply economic vulnerability and economic resilience frameworks on as many countries as possible resulted in rather simplistic frameworks, which do not bring precise guiding for policy-makers[15]. Third, the discrepancy between conceptual and measuring parts of resilience index undermines the importance of an economy's capacity to recover quickly after having been negatively affected by external shocks. Finally, Briguglio *et al.*'s empirical findings of Iceland as the most resilient country in the world[16] and the mismatch with reality

[12] Buzan (1991), 112-145.
[13] Pace, 34.
[14] Briguglio et al. (2009), 229, 233.
[15] Comment: the policy makers can find only an average number of four main areas, between 0 and 1, which do not reveal precisely the shortages of particular government's policies and do not give guidance for reforms.
[16] Briguglio et al. (2009), 244.

after 2008, when it was the first hit and suffered a crackdown, impelled me to rethink economic security measurement from the scratch.

This study, from a methodological point of view, corresponds to both fields engaging in the discussion about economic security – SS and SSS - and tries to establish a middle ground between them in order to redefine and conceptually improve the term of 'economic security' and make it more applicable in academic analysis. My model of economic security hereby consists of three dimensions: vulnerability, resilience and threat. Vulnerability is understood as inherent weakness of a state and dependency on external agents, not subject to a particular state's policy and is relatively stable over time, while resilience refers to all policies and regulation affecting a state's capacity to respond to threats and overcome inherent vulnerabilities. A threat[17] is a very important litmus test here, because it examines how well economic vulnerability is matched with economic resilience. Also, an example of threat in this work is used as a testing for my constructed framework, helping to reveal possible conceptual and methodological shortcomings of the earlier constructed theory.

My constructed model and the suggested measurements are applied to 3 critical case studies corresponding to the different conditions. The first one is by default Iceland[18], identified by Briguglio *et al.* as the most resilient country in the world. Since Iceland[19], according to the same survey, was not called as the most vulnerable, there is no justification for the mismatch between the reality and the theory's prediction that the risk that Iceland will be adversely affected by external shock was negative[20]. Consequently, that is why the 2008 crisis is a good check-up to empirically establish whether the newly constructed framework does not follow the same incorrect trajectory.

[17] Comment: in this research a threat is not analyzed and measured. Since the problem of subjectivity was already expressed in the works of Buzan (1991), Frans A. M. Alting von Geusau or Jacques Pelkmans (1982) [especially W. Hager's piece there, "Perception of Economic Security"] and this is not elaborated more here.
[18] Comment: this comes from the shortcomings identified earlier of Briguglio *et al*.'s results.
[19] Comment: Iceland also satisfies all criteria, used for other two cases' selection.
[20] According to Briguglio et al., the risk is measured by subtracting the resilience value from vulnerability, and in this case it is 0,465-0,890= -0,425.

The other two chosen countries are Latvia and Lithuania. The choice was based on several grounds. First, the most important criterion was smallness and weakness, but satisfying the condition of possible measurement and reliable and available statistical data. This minor condition facilitated the selection only from Europe[21]. The possible countries, fitting to the small states category were revealed from Thorhallsson's research[22], which represents the empirical application of existing definitions of a small state. The choices were narrowed down by Crowards's cluster analysis[23], which showed that small states were Cyprus, Estonia, Iceland, Latvia, Lithuania and Slovenia. The second criterion was the 2008 crisis which left only Estonia, Latvia and Lithuania as critical cases, since Iceland was already chosen[24]. Third, Estonia was excluded from the analysis because of significant difference in outcomes of the shock and its greater performance in dealing with crisis[25]. Lithuania and Latvia were chosen because they have had a similar aftermath of the crisis, even though the circumstances were different. Accordingly, Lithuania is taken as a contrary to Iceland, while the Latvian case marks the middle ground between these two countries in terms of the effects of the crisis.

My argument is threefold. First, I argue that conceptually both capabilities to cope with external threats – shock-absorption and shock-counteraction – are equally important and as a result the measurement should also reflect this connection. Second, I show that resilience should be measured year by year and this characteristic of a country is changing over time.

[21] The other small and weak countries are usually from the Third World, which most of them do not have required characteristics to be called as states. For instance, Mohammed Ayoob, "The Security Problematic of the Third World". *World Politics*, 43:2 (1991): 257-283.
[22] Baldur Thorhallsson, "The Size of States in the European Union: Theoretical and Conceptual Perspectives". *European Integration*, 28:1 (2006), 7-31.
[23] Tom Crowards, "Defining the Category of 'Small States'". *Journal of International Development*, 14:2 (2002): 143-179.
[24] Vytautas Kuokštis and Ramūnas Vilpišauskas, "Economic Adjustment to the Crisis in the Baltic States in Comparative Perspective" (paper for 7th Pan-European International Relations Conference in Stockholm, 2010); Dorothee Bohle and Wade Jacoby, "Flexibility Revisited: International Markets and the Small States of East-Central Europe" (paper prepared for the ISA Convention, Montreal, Quebec, 2011); Roubini and Mihm, (2010), 115-134.
[25] Kuokštis and Vilpišauskas.

Third, I raise the importance of more extensive studies of financial/banking sector for small states' economic security, since the Iceland's case after the 2008 crisis could not be fully explained and forecasted by the framework constructed here. Although the model reveals shortcomings of Iceland's resilience, but the extent to which Iceland was affected by the crisis is still not addressed in a proper way.

In order to do that I begin with the conceptualization of economic security by engaging with political economy, SS, human security, as Buzan suggests, and finally SSS' findings. I then conceptualize 'economic security' and its components. Furthermore, I suggest an improved elaborated framework for the operationalisation of economic security, which involves the measurement of vulnerability and resilience. This is followed by the application of the framework to 3 critical cases. Then results and findings are confronted with the 2008 crisis and its effects on Iceland, Latvia and Lithuania. By looking at the observed countries' coping capacity, I draw what lessons can be learnt from this crisis in future.

From a methodological point of view, in the case of vulnerability, I provide the selection criteria for variables of vulnerability, since many ways how to measure it were proposed[26]. The main difference between vulnerability framework here and Briguglio *et al.'s* that imports are distinguished, which allows seeing how much each country is dependent on particular type of goods. Such an idea is grounded on evidence that some supplies are much more important for economic security than others. Here, special emphasis is made on dependency on fuels, since even developed countries historically were dramatically affected by energy prices.

Dealing with resilience evaluation is trickier, because there is only one proposed index for the measurement. I start with the same conceptualization as Briguglio, because I agree with him that resilience is two-sided coin of shock-absorption and shock-counteraction.

[26] Competent summary could be found in Gordon Cordina and Nadia Farrugia, "Measuring Vulnerability: A Methodological Review and a Refinement Based on Partner Country and Price Volatility Issues". *Occasional Papers on Islands and Small States (OPISS), No. 4* (Malta: ISSIUM, 2005): 1-8.

However, I proceed with equal emphasis on both resilience parts: shock-counteraction is represented by the analysis and evaluation of macroeconomic stability regulation allowing bouncing back quickly after a shock[27], whereas shock-absorption is investigated by dwelling on regulation, which affects a state's flexibility to withstand a sudden upset. My constructed resilience framework corresponds to preparedness and healthiness in the case of "spreading disease"[28] and its practical application to critical countries identifies the problematic areas – policies towards market of capital, labour and goods, good governance, social-human development and states' sustainability – which constrain the states' acquisition of higher economic security. Although the titles of the areas overlap with Briguglio *et al.* to some extent, there are only a few similarities with stability and good governance measurement, because even these two parts are improved by additional indicators. It also diagnoses terrains where special attention of policy-makers is needed inside the indicated areas[29] and shows the changes over time, what proves that regular "check-up" with the framework could help countries to prepare for being negatively affected by exogenous shocks. Thus, the analysis of data and literature on the countries' post-crisis experiences helps to demonstrate the importance of financial regulation and the banking system that should be more emphasized in the future evaluation of economic security. As a consequence, the implications for measuring economic security of the 2008 crisis are discussed.

Paradoxically, this research reveals that Lithuania is the most vulnerable country between case studies, helping to explain why Lithuania is also among the worst hit countries of the crisis, even though it did not have to rescue a bank. Besides, the yearly analysis of the Baltic States shows that countries in transition could have different trajectories of vulnerability, even though, SSS literature presumes that all small states should share the same

[27] Briguglio et al. (2009), 233.
[28] Roubini and Mihm, 121.
[29] Comment: I think that thin-slicing is crucial to diagnose problems which could hide under the other group's variables. For example, the significant switch towards unregulated banking sector in Iceland would have been undermined by the analysis of a group's variables.

characteristics. Hence, Lithuania as the biggest state according to aggregate variables contradicts the view that the smaller a country is, the more vulnerable it should be. Interestingly, resilience analysis does not show significant differences between the cases, although a reader, convinced by Briguglio's *et al.* research, would expect much deeper gap between resilience of Iceland and the Baltic States[30]. Of course, Iceland has very high scores in good governance and human development, increasing Iceland's flexibility in general, and a quite acceptable macroeconomic stability level. However, Iceland's footing of sustainability and microeconomic market efficiency indicates that all three small states share the same problems in overcoming structural constraints of a small state[31]. Last, the investigation of the crisis' effects signposts that either the variables, which are supposed to represent financial regulation do not deliver important information, or the importance of finances and a banking sector is undermined in general and should be revised.

Finally, the remaining paper is designed as follows. First, by drawing on existing literature the concept 'economic security' is clarified and conceptualized. The second chapter introduces the construction of the framework for small states' economic security evaluation. In brief, it explains how the economic security of small countries should be approached and suggests possible measurement. The following part brings in the practical application of the constructed framework on the cases of Latvia, Lithuania and Iceland. By the investigation of the statistical data obtained for the indices' variables, this section presents the chosen countries' exposure and capabilities to cope with the effects of external threat. Accordingly, the next part proceeds with the evaluation of economic security attained by the countries worked in the face of the 2008 crisis and what were ramifications of the "spreading disease". Finally I deliver the assessment of the appropriateness of the created framework to evaluate economic security and claim that the 2008 crisis indicated a gap in understanding economic

[30] Briguglio et al. (2009) resilience results: Iceland – No. 1, Latvia – No. 37, Lithuania – No. 46.
[31] See for instance Handel, 220-229, and Ingebritsen et al, 11.

security, which could have important implications for future research and conclude with presenting the main findings and drawing the guidelines for future research.

Chapter 1: Theoretical Context: Conceptualizing Economic Security

This chapter defining economic security consists of 2 parts. The first part presents a broader context of economic security and where this paper fits there. The second section delivers the suggested conceptual framework, explaining how to approach economic security via the concepts of vulnerability and resilience with a threat as a testing factor.

1.1. The Context of the Concept

The idea of economic security is probably one of the oldest and the controversial[32] among other parts of national security. Economic security as an economic content of national security and means for military state's security could be traced since from the end of the middle ages, when economic capabilities corresponded to power and a state's perception in the world arena. At that moment, the threats to economic security were wars, piracy and trade policies[33], while later, as Roubini and Mihm depict, capitalism, a functioning global financial system and its crises, starting from the speculation of the "tulips' mania" in the 1630s[34], commenced to affect the economic landscape.

Following the historical line, trade, and monetary and fiscal policies were the main reference point of economic content of national security up to the end of WWII. The Cold War era brought a supplementary association of economic well-being of a nation to economic security. Partially this happened because of the U.S. economic trauma after the 1973 Middle Eastern oil embargo[35], while the growing importance of economy worldwide forced SS to recognise economics as a key factor to national security. Economic security was understood as a protection of economy from being disrupted by increased prices or limited supplies[36], or

[32] Barry Buzan and Lene Hansen, *The Evolution of International Security Studies* (New York: Cambridge University Press, 2009), 2 and 39.
[33] See Buzan, 250.
[34] Roubini and Mihm, 7, 20.
[35] Schultze, 527-529, Joseph S. Jr. Nye, "Collective Economic Security". *International* Affairs, 50:4 (1974); Klaus Knorr and Frank N. Tragger; Buzan and Hansen, 85&216.
[36] Buzan and Hansen, 87.

as Buzan puts it, sustainability of acceptable levels of welfare and state power via access to necessary markets, resources and finance[37].

Nowadays the scholars addressing economic content of security in SS could be split into two groups. The first group sees economic security with a referent object as a state and proceeds with a top-down analysis. Debates in this stream start from a very narrow definition, referring to the medieval times' orientation to a very broad understanding, which includes various social, political, energy or environmental issues of security, influencing the economic powerhouse of a state[38]. The second group, represented by Marxists and Human Security proponents, refer to human problems and insecurities. The examples of this strand of economic security include a bottom-up investigation of individuals' socio-economic well-being and factors influencing employment, labour market, income or skills[39].

However, economic security cannot be associated only with an individual level, because, as numerous human security studies indicate, a state is a crucial factor for humans' security even in terms of socio-economic well-being, and, at the same time, a state could work as a threat. In Buzan's words, the right to a particular job or protection against falling incomes[40] seem almost impossible to control for a state. Consequently, a bottom-up analysis provides only a very narrow view of economic security[41] and undermines the most important forces, such as large firms or banks and international economic ties, which affect human-beings through a state. However, an individual level analysis provides only a narrow picture, leaving international economic ties and the impact of large firms or banks, which affect human beings through a state, untouched.

[37] Buzan, 19.
[38] Comment: usually, economic security is connected with military security in these works. See Buzan, 123-128, 241-2.
[39] International Labour Organization, *Economic Security For Better World* (Geneva: International Labour Office, 2004), and for instance, Jacob S. Hacker, Gregory A. Huber, Philipp Rehm, Mark Schlesingen, Rob Valleta, *The Economic Security Index: A New Measure of the Economic Security of American Workers and Their Families* (Rockefeller Foundation, 2010).
[40] Buzan, 237.
[41] Comment: someone, of course, could assume that a state is economically secure as well, if it consists of economically secure individuals.

In this work economic security varies between both strands, but individuals' well-being is included only to the extent which is important to a state's general economic security. The ideas of both streams are used to define the policy-oriented approach of economic security, which appears in the next section.

1.2. Defining Economic Security: The Concepts of Vulnerability, Resilience and Threat

Understood as a protection of economy of being disrupted and the sustainability of the acceptable welfare level[42], economic security in this policy-oriented conceptualization is amplified as

> "the maintenance of [those] conditions necessary to encourage sustained long-term relative improvements in labour and capital productivity and thus a high and rising standard of living for a nation's citizens, including the maintenance of a fair, secure and dynamic business environment conducive to innovation, domestic and foreign investment and sustainable economic growth"[43].

Since economic security is not only about survival, a state cannot remain separated from the whole world, and as Kennedy points out, even survival among other great powers is always about relative power and adaptation to changing environment[44]. In short, economic security's conditions are like a system, where vulnerability, resilience and threats operate.

Disagreeing with Buzan, that it is difficult to distinguish threats from vulnerabilities[45], I suggest seeing vulnerability as a permanent and inherent situation, referring to a state's resources or natural smallness A vulnerable state usually is weak in physical base and lacks area, population and resources[46].. This definition implies that vulnerability cannot change over time, unless after war additional physical characteristics are acquired. Furthermore, in the 21st century interdependence is inevitable and isolation cannot be seen as a possibility to eliminate

[42] Buzan and Hansen, 87.
[43] Canadian Security Intelligence Service, "Economic Security". *Backgrounder No. 6*, (February, 2004).
[44] Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Random House, 1987).
[45] Buzan, 115.
[46] Buzan, 113.

vulnerability, because as a consequence earlier defined essential conditions for development will not be available. Nowadays countries cannot be self-sustaining at the level important to maintain relative improvements and growing standards of living. Consequently, from the economic point of view, vulnerability stems from a state's economic interconnectedness – international trade and finances, which results in structural constraints, especially for small states.[47] Thus there is no country in the world which could be called as invulnerable, as the question is to what extent a state is vulnerable and the answer varies in the spectrum of low vulnerability to high vulnerability[48].

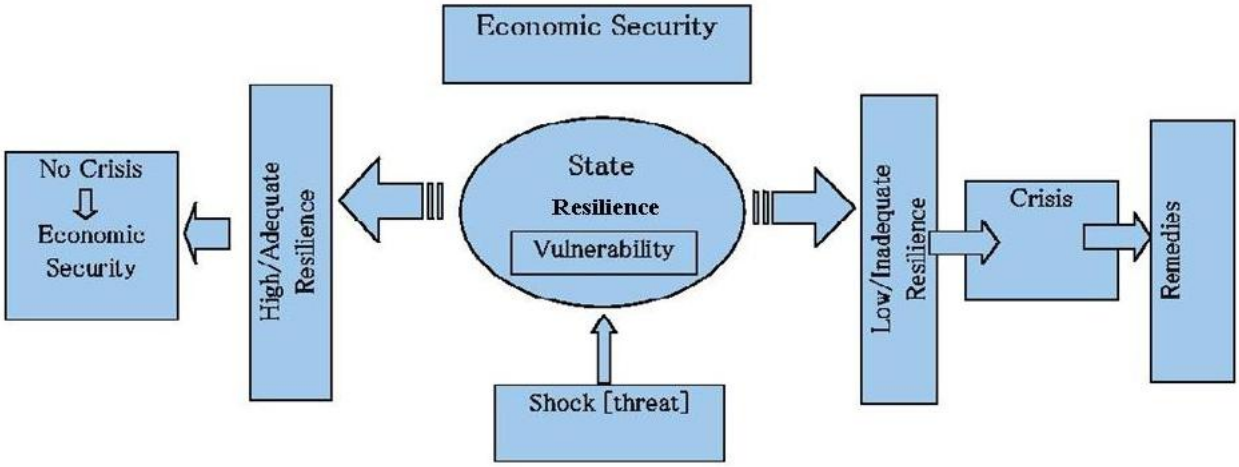

Figure 1 Economic Security Model[49]

Since economic threats are considered as "without doubt the trickiest and most difficult ones to handle"[50], a threat here is understood and used as a synonym of external shock. The perception of a threat as any kind of exogenous factor of force which negatively affects government capabilities to maintain crucial conditions for rising welfare, efficient economy and development is also based on Hager's study[51], which indicated that the discussion about securitization and existential threats is not always plausible and does not

[47] Neumann and Gstöhl, 10; Briguglio et al., 232.
[48] Thorhalsson, 15.
[49] All figures and tables are created by author.
[50] Buzan, 123.
[51] W. Hager, "Perceptions of Economic Security" in Alting von Geusau and Pelkmans, 19.

bring scientific guidance, especially in terms of economic content of a state's security. From this point of view, a threat does not influence economic vulnerability directly (see **Figure 1,** p. 13), which is a static variable, but rather contacts with a state's buffer – resilience. If countries did their "homework", the shock is overcome; otherwise a threat transforms into a crisis, which usually brings recession and disease to other sectors. As Roubini and Mihm explain, the 2008 crisis affected the countries which were not perfectly healthy economies[52]. It follows that an exogenous shock is not a cause of turmoil in a country, but rather a catalyst, indicating the problem in a particular state's resilience[53].

The coping ability, which allows a country not to be adversely affected by external shock,[54] is defined as resilience. Resilience represents how well governments' policies[55] correspond to vulnerabilities or how well a state is prepared for lessening the effects of threats or the prevention of them[56]. The term "resilience" also synchronizes with what Buzan defines as 'efficiency'[57], which means efficient governance in order to ensure the conditions for sustainable development. In addition, smart governance helps to overcome inherent vulnerabilities, and, as Pace puts it, allows fulfilling the shortage in a physical base[58].

Resilience consists of two coping strategies. On the one hand, it is "shock-counteraction", allowing rebound after affection of a threat. Such a flexibility to recover quickly most of the times is provided by a strong fiscal position. On the other hand, there is a "shock absorption" capacity, which means that the mechanisms, such as flexible labour force

[52] Roubini and Mihm, 124-5, "Crisis rarely cripple perfectly healthy economies; usually underlying vulnerabilities and weaknesses set the stage for a collapse", in116-7.
[53] The development of crisis and its effects are very well explained in Roubini and Mihm's book's chapter "Global Pandemics", 115-134.
[54] Briguglio et al., 232.
[55] As Briguglio noted, it is not only governments, but also other economic actors, who are building a state's resilience. However, here it is presumed that correct policies could influence and push economic actors for actions strengthening resilience.
[56] B. Sundelius, "Coping with Structural Security Threats", 298, in: Otmar Höll (ed), *Small States in Europe and Dependence* (Vienna: Braumüller, 1983).
[57] Buzan, 236.
[58] Pace, 34.

or ability to shift resources easily, are created to reduce or withstand the effects of shocks[59]. The spectrum of resilience is the same as of vulnerability from low to high. Low resilience also corresponds to wrong strategies and/or policy failures, which make a country more vulnerable and expose it more to threats. Despite the fact that usually bad governance is associated with *contingent* or self-inflicted vulnerability[60] or even threats, domestic policies – as the subject to policy – remain under the analysis of resilience.

To conclude, as **Figure 1** portrays, a threat is a catalyst, which identifies whether economic resilience meets the level of economic vulnerability, or in other words, whether government chosen policies match the inherent weakness and helps to overcome the effects of an external shock. In a perfect scenario of economic security (this is more applicable to bigger states, which have lower natural vulnerability[61]), via adequate policies a country obtains high level of adequate resilience which helps to overcome a threat. However, smaller states are usually highly vulnerable and their level of resilience is not appropriate. As a result, threat transformation into a crisis is a more typical problem for small states, which lack sufficient level of resilience. Furthermore, as Roubini and Mihm note[62], in the face of crisis governments' self-help packages (remedies in the **Figure 1**) not necessary result in higher resilience and real treatment of internal vulnerabilities,[63] that is why there is no relationship between remedies and appropriate resilience in the future. Finally, economic security is a dynamic feature in general of a country depending on the obtained level of resilience, which could change over time. The next chapter provides the framework for measuring economic security.

[59] Briguglio et al. 233.
[60] Pace, 34.
[61] Ágúst Einarsson, "Introduction", 2, in Griffiths and Magnússon.
[62] Roubini and Mihm, 133, ch. "Fault Lines" and "Conclussion".
[63] Roubini and Mihm, 132-134.

Chapter 2: The Framework of Analysis: Operationalizing Vulnerability, Resilience and Economic Security

This chapter presents the framework for the assessment of a state's economic security. Since the model includes economic vulnerability and resilience, this part of the paper is divided into four sections. The first and second sections have the same structure: I start from the operatonalization of a concept by dwelling on existing literature, explaining the problems of existing indices and justifying the new indices' construction, and proceed with a proposed computation of indicators. The third part presents how the whole model functions and, finally, the chapter is concluded with several notes on measurement and the model's application.

2.1. Operationalizing Economic Vulnerability

As was introduced in the first chapter, vulnerability is a feature of the state, indicating to what extent a state lacks physical base (natural, land, human or financial resources), which exposes a country to exogenous factors, not subject to its policy. Historically, this was associated with inherent weakness, smallness and dependency. The following paragraphs provide an overview of the causes of economic vulnerability nowadays.

In the 21st century, when interdependence is inevitable and countries can no longer be self-reliant, every state has to open itself. The more an economy is open, the more it is exposed to external shocks[64]. No state is self-reliant and self-sufficient, thus, each country has to expose itself to the international market in order to obtain essential materials for its internal development. Small states have always been forced to participate in trade relations, allowing outsiders to play a significant role in a state's survival and, at the same time, making themselves vulnerable, because since they are weaker and have smaller domestic markets, they have no control over the bigger powers' behaviour and actions, but they also cannot

[64] See Buzan, Briguglio et al. (2009), Ingebritsen et al.

normally develop without being open. In brief, economic vulnerability arises from the level of economic openness.

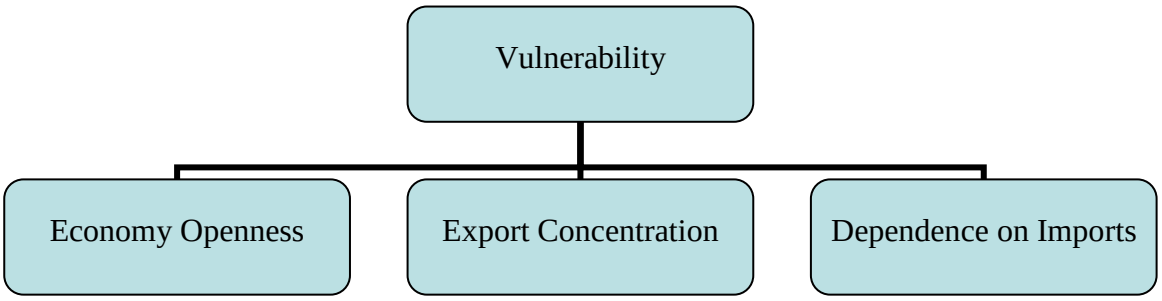

Figure 2 the Constituents of Economic Vulnerability

Another two factors which also indicate inherent vulnerability (see **Figure 2**) are two types of dependency. Dependency can be seen as a two sided coin, where unnecessarily is a relationship between the sides. From one side, the vulnerability of a country, especially a small one, arises from a dependency on imports. If strategically important materials such as food, industrial supplies or energy[65], playing a crucial role in a state's economic life, are not obtainable for a country by itself, a state's dependency on outsiders significantly influences its exposure in terms of goods' availability and price. On the other hand, a state could be dependent on exports. Such a dependency could be a result of high volumes of imports, but it could be also an effect of other structural economic factors forcing countries to set outward looking trade policies. In this case, small states have fewer capabilities to have diversified exports since they are constrained by their small economies on the one hand, and, on the other hand, they tend to have less varied their exports' recipient countries. This feature is called

[65] Dependence on strategic imports as a crucial factor of vulnerability was already indicated in J. Wells, "Composite Vulnerability Index: A Preliminary Report" (London: CS, 1996), L. Briguglio, "Alternative Economic Vulnerability Indices for Developing Countries" (Report prepared for the Expert Group on Vulnerability Index, 1997), T. Crowards, "An Economic Vulnerability Index for Developing Countries, with Special Reference to the Caribbean: Alternative Methodologies and Provisional Results" (Caribbean Development Bank, 1999) and L. Briguglio and W. Galea, "Updating and Augmenting the Economic Vulnerability Index". *OPISS, No. 4* (Malta: ISSIUM, 2003).

"export concentration"[66]. In brief, these two dependencies cannot be affected by governance and indicate a state's permanent vulnerability.

The framework of vulnerability represents the features of economic vulnerability found in the academic literature. Even L. Briguglio *et al*. in the latest edition of vulnerability index[67] argue that only these three features, identified earlier, should be analysed in order to have small number of variables' simple, easily comprehensible framework for comparison[68]. However, this model excludes various factors indicated in the past. The following passages indicate very briefly which factors were not included and why; or simply put, why previous frameworks are not suitable for measuring economic vulnerability.

Even though a significant number of authors from the 1990s suggested various operationalisations of the concept, two main problems could be identified. First, economic vulnerability mixed up very frequently is with a state's general vulnerability. For instance, the first investigation of exposure to foreign economic conditions[69] included population, land area or Gross Domestic Product (GDP), which refer to a state's general smallness rather than particularly weak economic capabilities resulting in economic vulnerability. Furthermore, it is questionable whether necessarily small population or GDP mean: first, an exposure to external factors and, second, are inherent and not subject to policy. The same logic could be applied to the inclusion of the risk of natural disasters[70] into the framework. This factor is problematic too: neither is it possible to measure precisely, nor is it exactly covering the issue of an economic exposure. The second problem is that other previously included variables,

[66] The importance of export concentration was already indicated in these works: Briguglio (1997); R. Chander, "Measurement of the Vulnerability of Small States" (Washington: Report prepared for the Commonwealth Secretariat, 1996 April); J. Wells, "Composite Vulnerability Index: A Revised Report" (London: CS, 1997); J. Atkins, S. Mazzi and C. Easter, "A Study on the Vulnerability of Developing and Island States: A Composite Index" (London: CS, 1998); Crowards.
[67] Briguglio et al. (2009).
[68] Lino Briguglio, "Preliminary Study on the Construction of an Index for Ranking Countries According to Their Economic Vulnerability" (UNCTAD/LDC/Misc 4: 1992).
[69] Lino Briguglio, "The Economic Vulnerabilities of Small Island Developing States" (The Study for Regional Technical Meeting for the Global Conference on the Sustainable Development of Small Island Development States, Port of Spain, Trinidad and Tobago, 1993).
[70] Briguglio (1993), Wells (1997), Atkins et al. (1998).

such as the level of price volatility[71], foreign sources of finance[72], share of agriculture[73], or dependence on tourism[74] are again, from the theoretical point of view, not suitable for evaluation of inherent economic weakness. These factors could change very substantially over time because of certain implemented policies by governments.

To conclude, for further investigation of economic vulnerability only variables, indicating the exposure to external factors, namely: economic openness, dependence on strategic imports and export concentration are included in the framework.

2.2. Operationalizing Economic Resilience

Economic resilience indicating a country's coping ability with external shocks represents the efficiency of governance. Smart policies allow countries to overcome vulnerabilities and at the same time better handle with external threats. However, this part of economic security, in comparison with studies on vulnerability, has been quite a neglected research area and started to attract an attention recently. Only a few studies dwelt particularly on economic resilience and the patterns of its evaluation. Furthermore, only the study of Briguglio *et al*. provides a systematic index for the measurement of resilience. Since there are several problems with their constructed framework already indicated in the introduction and elsewhere[75], it is important to come up with a more adequate framework for better evaluation of economic resilience.

Economic resilience, as was already indicated, consists of two parts: so called "shock-counteraction" and "shock absorption". Even though the terms were created by a Maltese group of scholars, the origins of such a division could be traced back to the dilemma indicated

[71] Cordina and Farrugia (2005).
[72] Chander, (1996), Briguglio (1997), Wells (1997), Crowards (1999), Cordina and Farrugia (2005).
[73] Atkins et al. (1998), UN, "Report of the Third Session of the Committee for Development Policy" (2001).
[74] Wells (1996).
[75] Monika Kokštaitė, "The Resilience Index Revisited: The Case of Small States" (Vilnius: Vilnius University, 2009), 29-34.

in Buzan's and other scholars' works. Disagreeing with Briguglio *et al.*[76] who argues that all four parts, namely: macroeconomic stability, microeconomic market efficiency, good governance and social development should be considered as equally important for measuring economic resilience[77], the dilemma is always between either to have very tight fiscal policies, or to invest in social, economic or human development, or in other words, between obtaining stability and flexibility, and not between macroeconomics, market efficiency, legal system and social development. Usually countries, especially small ones, have to choose between these two options, because they do not have sufficient resources and capabilities to have both requirements of economic resilience satisfied.

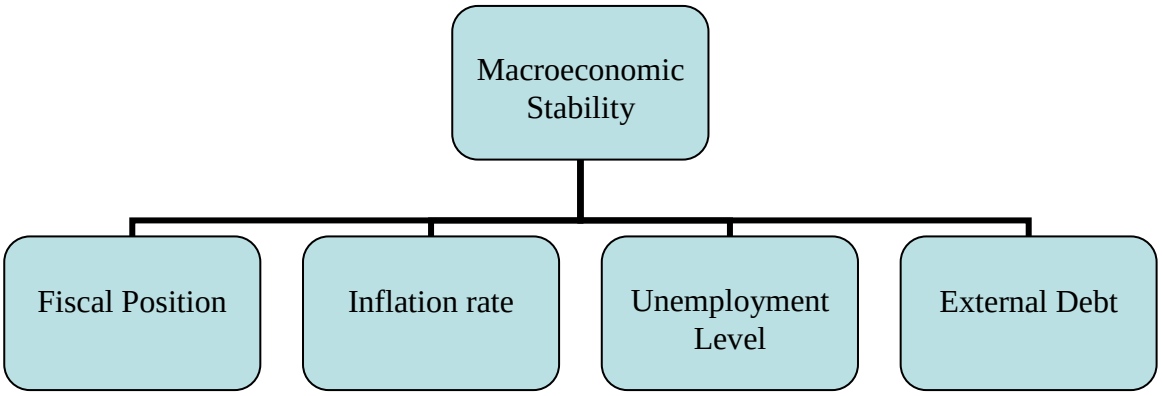

Figure 3 the Constituents of Macroeconomic Stability.

Macroeconomic stability (see **Figure 3**), referring to shock-counteraction, shows the healthiness of a state's economy. The stability materializes when there is an internal economic balance. Stability speaks of a balanced economy, where demand meets supply and vice versa, unemployment is near natural level, and ideally there is no price inflation. Furthermore, stability requires governments to keep low fiscal deficit and external debt, which also indicate the level of macroeconomic stability inside a country. Policies ensure the conditions allowing a country to have a physical base from where to recover in case an external shock threatens a

[76] Briguglio et al. (2009): 234-238.
[77] Such an argument also contradicts understanding that resilience means 2 capacities – absorb and counteract shocks. In this case, despite the fact that only macroeconomic stability refers to shock-absorption capabilities, and other three constitute shock-counteraction, logically, each of these two capabilities should be equally important.

state's economy. In short, the components of macroeconomic stability are fiscal position (represented by the level of government spending and budget position), the rate of inflation, the level of unemployment and external financial account.

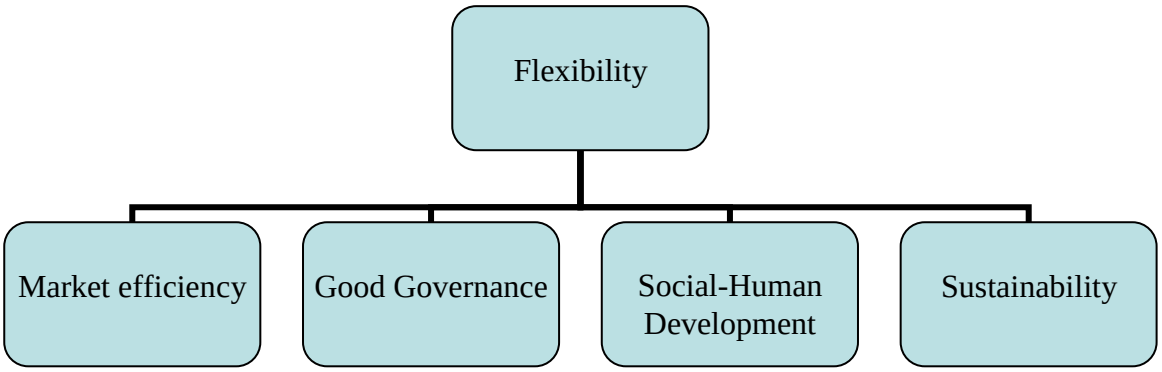

Figure 4 the Composition of Flexibility

The other part of resilience – flexibility – relates in general to other regulations (see **Figure 4**). Flexibility allows a country to absorb a shock by the preparation to adjust by developing regulatory mechanisms before an external shock threatens. These include policies strengthening market efficiency, legal base, improving flexibility of the labour force, and other developments[78], which together set a course for effective management, control and exploitation of a country's resources.

Accordingly, in vindication of the analysis of the flexibility as factors of these four groups, namely market efficiency, good governance, human (social) development[79] and sustainability, hereby a very short overview of each of them is provided. The factor of market efficiency shows how well a country's market could adjust and how well it is balanced in terms of supply and demand. It also refers to the governments' regulatory policies of capital, labour and goods, which are essential for successful (or, in the case of bad policies,

[78] Briguglio et al. (2009) provide the evidence for the importance of appropriate governance in some areas included here, but more detailed discussion of the factors could be found in the articles about "Europe 2020" strategy in section's "Forum" articles *Intereconomics: Review of European Economic Policy*, 45:3 (2010), 136-170.

[79] The terms are negotiable, but not to mix things very much I use for reference to governance and social efficiency Briguglio's et al. terms "good governance" and "social development" and they are used as synonyms. However, I have to mention that these terms refer more to the groups of mechanisms rather than the study by Briguglio et al. (2009).

constrained) market operation, and identifies the level of government control and interference in markets. The assumption here is that a perfectly functioning market in the face of shock adjusts by itself in order to reach a new equilibrium by the reallocation of resources.

The component of legal base or good governance (see **Figure 4** on page 22) indicates a general country's attractiveness to market entities and humans. This factor refers to a country's political, legal systems and the rule of law, concerning property rights. Despite the fact that these elements did not attract a lot of attention in the literature of economic security, they play a very important role in determining conditions important for foreign and domestic investors and a population as a whole. Lack of political stability or security of property rights are the main causes of contingent vulnerability or bad policies, strongly affecting markets and external players[80].

The third factor – human efficiency – reveals important information about the policies influencing labour force. The qualitative capabilities of labour allow the evaluation of capacity of a country's long-term economic resilience. Also, a significant amount of literature[81], especially dwelling on the after crises situations in the countries, indicates that social development and cohesion of a society in a state play an important role for a state's ability to withstand crises and neutralize the effects of external shocks.

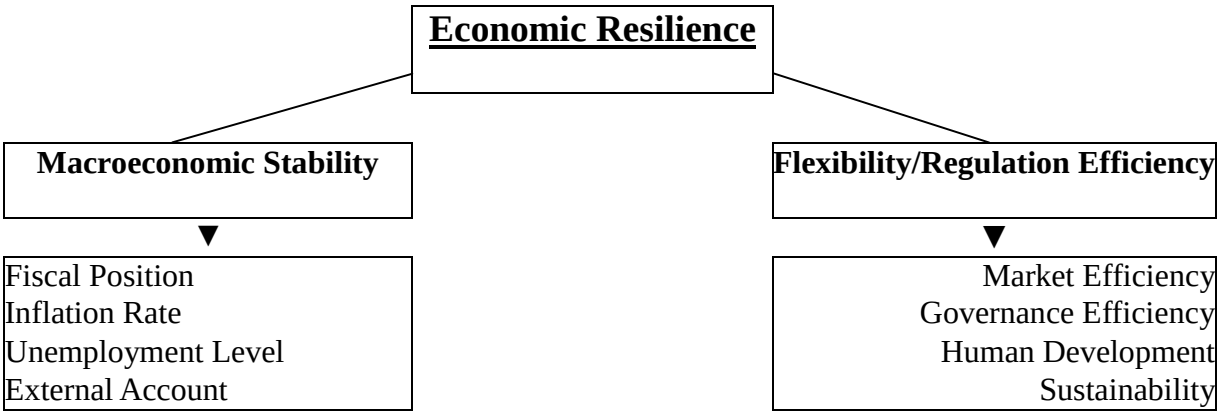

Figure 5 the Composition of Economic Resilience

[80] Liliana Curmi, "Governance and Small States". *OPISS, No. 4* (Malta: ISSIUM, 2009).
[81] Kuokštis and Vilpišauskas; Dorothee Bohle, "Countries in Distress: Transformation, Transnationalization, and Crisis in Hungary and Latvia". *Emecon 1* (2010), 1-3.

The last element, sustainability, sheds light on the policies, influencing long term preparation to overcome possible future shocks. It includes regulation, which directly affects the conditions important for long-term development and financial stability[82]. A country, which sets a suitable course for investment, research and development, life-long learning or diversification, strengthens its flexibility, prepares itself for overcoming the effects of external shocks.

To conclude, the economic resilience of a country should be analysed by looking at factors influencing macroeconomic stability, allowing a country to bounce back very quickly from a shock, and policies which affect a state's flexibility in order to neutralize or reduce the effects of external threats as visualized in **Figure 4** (on page 23).

2.3. Operationalizing Economic Security – The Procedure of Measurement

This section starts with the operationalisation of economic vulnerability (Subsection **2.3.1**) and economic resilience (Subsection **2.3.2**), where the variables are suggested for defined indicators of both concepts. Subsection **2.3.3** presents how the value of economic security should be counted and, finally, Subsection **2.3.4** concludes with few notes on the application of the model and indices in general.

2.3.1. The Measurement and Proposed Economic Vulnerability Indicators

Since many indices for the measurement of economic vulnerability were proposed, the framework here also follows the same lines and includes all three variables found in all previous studies: economic openness, dependence on strategic imports and export concentration as equally important. Thus, in the construction of the vulnerability index each part has the same weighting value and the final value of economic vulnerability index is a simple average of all three components.

[82] Kuokštis and Vilpišauskas provides the empirical example from post-crisis experience of the Baltic States.

Following general rules for a practical framework's applicability, resulting in an index construction, in this work each part of economic vulnerability (EV) is measured as follows[83].

- *Economic openness (EO)* is measured by the ratio (percentage) of international trade to GDP. This variable is the best indicator of the level to what extent the economy is open and could be affected by adverse shocks.
- *Export concentration (EC)* is measured by the export concentration ratio, which measures the degree of export concentration[84] in a market within a country. The indicator is computed by the Herfindahl-Hirschmann index and takes a value between 0 and 1, where: 1 means that only a single product is exported and higher values signal that exports are concentrated in fewer sectors[85].
- *Dependence on strategic imports (DI)* is measured by the percentages of imports of fuels, food, agricultural raw materials and manufactures, representing the strategically important imports.

To summarize, the value of the index, measured by the formula EV=(EO+DI+EC)/3, indicates the level of economic vulnerability[86] and helps assess its symptoms. Extensive information about statistics on economic vulnerability is provided in **App. 1**.

2.3.2. The Measurement and Proposed Economic Resilience Indicators

Economic resilience, in contrast to economic vulnerability, is redefined and re-operationalised from its previous predecessor created by Briguglio *et. al*. The problem with Briguglio *et al.*'s proposed resilience measurement was its association with economic growth and checking the variables of resilience with the impact for GDP. Since it was redefined in

[83] The detailed list of measurements, including explanations of data, data range and sources of data is available in **App. 1**. Anothert note: As in the construction of all indices, the data should be of the same range. Standardization, allowing having all values in the same range, is the solution for the inclusion of different values into an index, because sometimes a variable is measured by a percentage, but sometimes by an aggregate number.

[84] UNCTAD export concentration index measure only goods.

[85] The more detailed description of the concentration index: UNCTAD Handbook of Statistics.

[86] Depending on the chosen formula of standardization, the values could be in the range between 0-1, 0-100, etc, where 0 usually means the lowest score, and 1 or 100 the highest possible rating, and usually 0 value for economic vulnerability means that a state is invulnerable, and 1 – highly vulnerable.

Section **2.2**, it is important to draw the guidelines from the beginning on how it should be evaluated.

As was indicated, shock-counteraction and shock-absorption have the same weighting value in the resilience index. Shock-counteraction, representing macroeconomic stability, is suggested here to be measured by 5 criteria, which best indicate macroeconomic government regulation:

- *Government expenditure* is measured by the part of the "Index of Economic Freedom" named "government spending", showing the portion of GDP spent by governments. The component's range is from 0 to 100. Of course, as even authors of the index point out, the interpretation of this score depends on a chosen country, because there is no ideal level of government expenditure suitable for all countries worldwide[87].
- *Budget balance* – the percentage of budget deficit or surplus of the GDP reveals the efficiency of financial governance. Ideally, there should always be a surplus budget that in case of an external shock the government could quickly react by giving money injection into the affected area[88].
- *Inflation* – the rate of inflation of consumer prices shows the general health of economy and a low level of it points to a stable economy. This component could be positive or negative and generate values from zero to infinity.
- *Unemployment* – the level of unemployment provides essential information about the stability of the economy and a low level of it refers to the maximization of labour force and a state's capacity to overcome shocks. The ratio is between 0 and 100 in percentage.

[87] Comment: for instance developing countries could and even should acquire higher scores rather than developed countries. For more details, Terry Miller and Kim R. Holmes et al., *2011 Index of Economic Freedom* (Washington: The Heritage Foundation and New York: Dow Jones & Company, 2011), 451.
[88] Comment: not necessarily it means that governments have to save a bank as this happened in 2008-9 worldwide as a result of financial turmoil, but the surplus could help even in less serious and urgent cases, as in the case of Estonia.

- *External debt* – this variable indicates the total economic governance of a country. The lower percentage of external debt to GDP not only points to good general economic governance, but in the case of crisis allows an affected country to get support from international financial institutions with lower costs. The level of external debt could obtain values of zero to infinity.

The other part of resilience, referring to shock-absorption capabilities, – the so called flexibility or regulation – is much more complex. It consists of numerous variables, corresponding to four basic groups of regulation: market efficiency, governance efficiency, social human development and sustainability. Each of their measuring variables is indicated below.

Microeconomic market efficiency is divided into three sections: capital, labour and goods. First, capital section is measured by two components of the "Index of Economic Freedom": business freedom and financial freedom. The *business freedom* score shows the "overall burden of regulation as well as the efficiency of government in the regulatory process"[89]. Freer business environment allows a market to adjust after crisis and very strongly refers to market flexibility. *Financial freedom* indicates governments' control and interference in the country's financial system. The *Financial freedom* score also reflects financial competitiveness in the country and its attraction for foreign actors, allowing to predict to what extent foreign enterprises participate in a country[90]. As all components of the "Index of Economic Freedom", both indices account for values from 0 to 100.

Labour market is measured also by two indices from the "Index of Economic Freedom" - *fiscal freedom*[91] and *labor freedom*. The evaluation of tax burden on individuals and enterprises, represented by *fiscal freedom,* and *labor freedom*, providing the quantitative measurement of "various aspects of the legal and regulatory framework of a country's labor

[89] Miller and Holmes et al., 447.
[90] Miller and Holmes et al., 453.
[91] Miller and Holmes, 450.

market"[92], expose a country's labour market flexibility to overcome the effects of exogenous shocks.

Goods market regulation here is analysed via *trade freedom* and *monetary freedom*. *Trade freedom*[93] presents the evaluation of policies towards exports and imports, and at this case directly measures how countries, especially small ones, manage to overcome their inherent vulnerabilities by choosing necessary policies. The *monetary freedom* score adds information about governments' intervention in setting prices. Agreeing with the authors, "price stability without microeconomic intervention is the ideal state for the free market"[94].

Good governance or *governance efficiency* is analysed by looking at three important areas of governance: rule of law, the security of property rights and the level of corruption. The rule of law aggregate indicator, composed by D. Kaufmann[95] *et al*., is used for the measurement of the legal framework because it captures a full range of aspects important in measuring a country's good governance. Ideally a country's score for this indicator should be 2,5, and in the worst case -2,5.

The security of property rights is measured by the index of *property rights*[96] in the "Index of Economic Freedom". The score of it indicates to what extent the legal framework protects private property and how laws are enforced by a state. Ideally, in order for a country to be resilient, it should obtain a score as near as possible to 100.

The level of *corruption* shows the level of insecurity and uncertainty in a country. This component is based on Transparency International's Corruption Perceptions Index, but, in order to have more or less the similar range of data, the scores are obtained from the *freedom*

[92] Miller and Holmes, 456-7.
[93] Miller and Holmes, 448-9.
[94] Miller and Holmes, 451-2.
[95] D. Kaufmann, A. Kraay and M. Mastruzzi, "Governance Matters VIII: Aggregate and Individual Governance Indicators 1996-2008". *World Bank Research Working Paper No. 4978* (Washington: World Bank, 2009), 6.
[96] Miller and Holmes, 455.

from corruption index[97]. Meanwhile, the other data could be derived from D. Kaufmann *et al*. aggregate data, but the computed data by the Heritage Foundation covers a longer period and as a result helps to spot better the changes over time here.

Human and social efficiency is represented by a combination of four components, covering stability, cohesion[98] and health, excluding education. The education factor for measurement was not included, because the only one variable - the general expenditure on education of GDP – is not available at the moment for comparisons across countries and over time, while other variables, covering education are not powerful in explaining social-human development. As a result, social efficiency is calculated as a simple average of four indicators: accountability, human longevity, health and stability.

Accountability is measured by Kaufmann's *et al.* aggregate indicator[99], called *voice and accountability*, which shows the level of people's inclusion into the governance and also provides the evaluation of basic freedoms of expression and association and independent media. The higher the score of this index is (maximum 2,5), the better a country is governed. Another variable is *life expectancy*[100] that scores represents the wellness of population and general living conditions, important for evaluating the capacity of population. Furthermore, this variable is supplemented by the *perception of healthiness*[101] data, which reveals the percentage of healthy working labour force. The last variable of human development refers to social cohesion and is measured by *political stability and absence of violence*[102]. The maximum 2,5 score means that citizens are satisfied with their government and there is no

[97] Miller and Holmes, 456.
[98] The problem with measuring cohesion is that none of the aggregate data available is covering precisely this issue. The suggestion for cohesion index was the inclusion of variables relating to "ethnic fractionalisation, incidence of civil strife, prison population rate and suicide rates", unfortunately up to the values were not counted for countries every year. In L. Briguglio, G. Cordina, N. Farrugia and S. Vella, "Profiling Economic Vulnerability and Resilience in Small States: Conceptual Underpinnings". *Occasional Papers on Islands and Small States, No. 1* (Malta: ISSIUM, 2008), 13.
[99] Kaufmann et al., 6, 81.
[100] The data obtained from International Monetary Fund (IMF). The longer years lived, the more working force a country could have.
[101] Such a measurement is provided by EUROSTAT, namely, "self perceived as healthy".
[102] Kaufmann et al., 6, 84.

likelihood for violence or destabilization in a country.

The last component of flexibility – sustainability – is measured by four indicators. First, a very important factor for resilience is the security of stable capital inflows and outflows. This factor referring to a state's policies which influence investment's infrastructure and security is evaluated by *investment freedom*[103]. The *ratio of investments*[104] to the GDP of all entities in the country shows how well a government creates the infrastructure for investment, and also refers to the preparedness for future sustainability. Meanwhile, total *national savings*[105] in the ideal case help to withstand a shock and, equally importantly, *GERD*[106] (Gross domestic expenditure on R&D [research and experimental development]) reveals information about a country's capacity to sustainably develop in future.

In brief, the value of the index, measured by the formula ER=(MS+FE)/2, where MS (Macroeconomic Stability) is a simple average of standardized values of inflation, unemployment, budget and external debts and FE (Flexibility of Economy) – a simple average of sub-indices, estimating market efficiency, governance, humans development and sustainability, which influence market flexibility. The precise information about variables' measurement, including explanations of statistics, data range and sources of data is available in **App. 2**.

2.3.3. The Measurement of Economic Security

Economic security, according to previous conceptualisations and operationalisations, is the relationship between economic resilience and economic vulnerability. The formulas presented above show how to measure economic vulnerability and economic resilience.

[103] Miller and Holmes, 452-3.
[104] This data is obtained from IMF.
[105] Measured by IMF variable - the total national savings as a percentage of GDP.
[106] Measured by EUROSTAT GERD, the indicator comprises all expenditure on creative work on systematic basis. For more, see Frascati Manual, *Proposed Standard Practice For Surveys on Research and Experimental Development* (Paris: OECD, 2002).

As Cordina points out[107], vulnerability has to be countered by resilience. However, the resilience's deduction from vulnerability, as Briguglio *et al*. suggested, seems, is not exactly how it works; especially, having in mind that this formula cannot be applicable if standardization was not done with a large dataset. As a result, my suggestion is to see economic security as a relationship between resilience and vulnerability, where the level of resilience is divided according to the level of vulnerability, or better say, vulnerability should be matched adequately by resilience, as indicated in the formula:

$$ES=ER/EV$$

Where the values of ES means:

ES=1 – resilience meets the level of vulnerability, the country is less exposed to exogenous shocks;

ES<1 – policies do not meet the level of vulnerability, a country is highly vulnerable and exposed to external threats;

ES>1 – governments proceed with necessary policies and the country could overcome the ramifications of external crisis by itself.

2.3.4. Clarification about the Application of the Model and Indices

As was already indicated in the literature, security cannot be measured absolutely. Security of a country can be evaluated only in relation to other countries around or worldwide, because absolute data without context can provide only in the analysis of the longer period of time information about the changes over time. Of course, economic security is not an exception from SS and in the case of the evaluation of economic security of small states, it would be better to have a comparison within larger data sets' units. Even more, for exact evaluations of economic security the model should be applied to all states worldwide, because

[107] Gordon Cordina, "Economic Resilience and Market Efficiency in Small States". *OPISS, No. 1* (Malta: ISSIUM, 2007).

only in this case the standardization is the most precise[108]. Unfortunately, such standardization is impossible because of lack of data, especially, of the Third World countries.

Since this paper reveals small states' economic security and only three countries were chosen for the analysis because of the paper's scope limitations, the indices' components are used to observe and evaluate the change of economic security of Latvia, Lithuania and Iceland. As a result, the values of economic vulnerability and economic resilience's variables are used to draw the paths of each country to economic security and indicate transformations over time. Finally, the data is not standardized and indices' values are not counted, because small data sets' standardization would constrain rather than help to evaluate economic only of Iceland, Latvia and Lithuania, presented in the next chapter. It presents how this framework could be applied in practice in order to assess economic security of small states. By analyzing raw data, Subsection 3.2 dwells on the economic vulnerability of the states, whereas the Subsection 3.3 delivers the investigation of the economic resilience of Iceland, Latvia and Lithuania.

[108] Comment: the standard deviation in the analysis of counted averages should be taken into account. The lower it is, the better an average reflects all the components of a group.

Chapter 3: The Results of the Analysis of Economic Security

This chapter presents the analysis of economic vulnerability and resilience of three countries and assess their economic security in general. Consequently, it consists of three parts. First, there is a brief introduction to the case studies: Iceland Latvia and Lithuania. The second part provides the investigation of economic vulnerability in the mentioned states by analysing the collected data. Third, the chapter concludes with the survey of the states' economic resilience.

3.1. Introductory Note on Iceland, Latvia and Lithuania

In the case of Iceland, it became a republic in the evening of the end WWII. During the Cold War, it experienced economic growth as a result of country's industrialization and received Marshall Aid from the US[109]. Iceland is perceived as one of the most developed countries in the world[110], and can also be seen as well integrated into the global economic web with steady relations with other countries.

In contrast, Latvia and Lithuania are relatively newly emerged countries after the collapse of Soviet Union in 1990. The first years of their independence were full of reforms and transformations. As opposite to Iceland's case, the Baltic's independence was not peaceful and at the same time they have had to overcome the constraints of previous totalitarian and planned economy systems[111]. The Baltic States were early recognised by the EU and as a result, they soon applied for the membership in the EU. Accordingly, their development as states was influenced by the accession process and in 2004 the Baltic States became full EU members and experienced rather high growth rates, the same as Iceland at the beginning of its integration into the world economy.

[109] Jónas H. Haralz, "Iceland's Participation in International Trade and Finance Organizations"; 10-11, in: The Conference's "The Future of Iceland in the Community of Nations" Bulletin, Seminar III: The Economic Security of Small States, February 26, (Reykjavik, 2009).
[110] *Human Development Report 2010*.
[111] Comment: as can be seen in the next sections of this chapter some years from transition period are not analyzed fully. The reason is that either there is no available data, or that data is extreme in comparison with following years' variables, like for instance, inflation rate.

The successive sections deliver a more detailed analysis of the development of these countries' economic vulnerability and resilience from 1990 (when the data was available) up to 2009, in the period of which up-to-date data was also available. The next section provides an analysis of the collected data of economic openness, export concentration and dependency on imports of Iceland, Latvia and Lithuania's.

3.2. The States' Economic Vulnerability

Vulnerability has not significantly changed over time in general, as can be seen from all three case study countries and all data, presented in **Appendix 1** and **Figures**. Of course, the values of developments in the Baltic States show that there could be very different scenarios and a transition period could produce distinct results even for very similar countries from first glance. Furthermore, the impact of accession and membership in the EU should also be considered as an important factor, overlapping with transition process. As the case of Latvia displays (see **Figures 6, 7, 8**), vulnerability could not increase over time, even though it is supposed to be increasing year by year as a result of economic globalization. Latvia's vulnerability has not changed cardinally, especially in the last few years the tendencies for decrease could be seen in comparison with previous years.

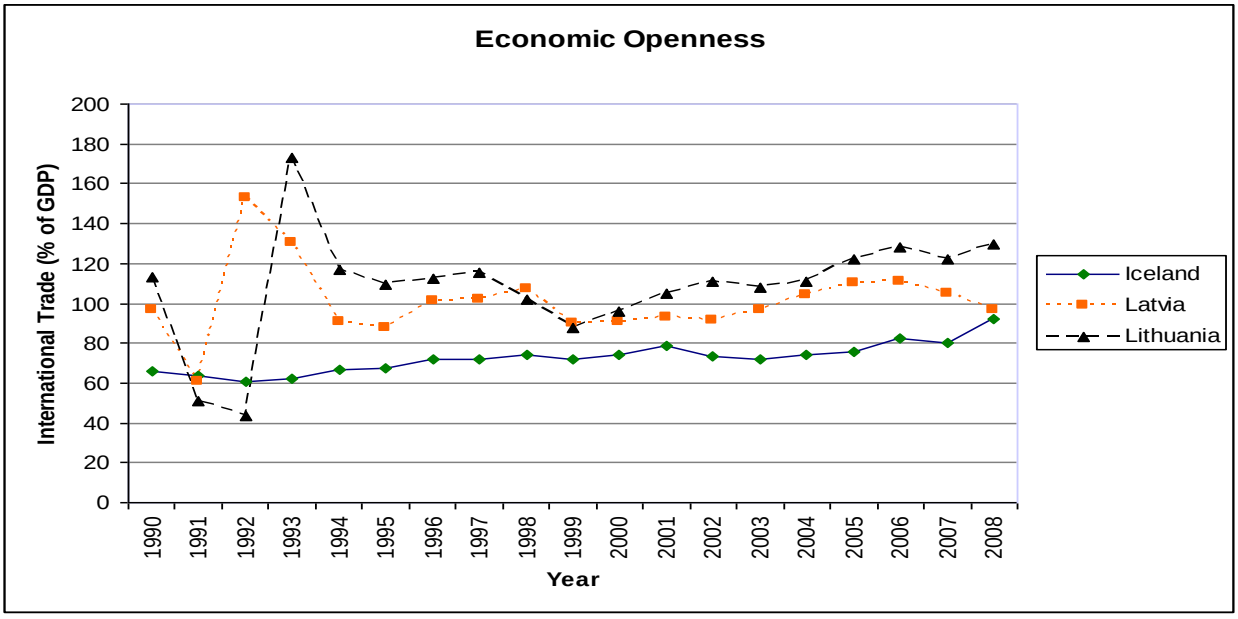

Figure 6 the Economic Openness of Iceland, Latvia and Lithuania 1990-2008

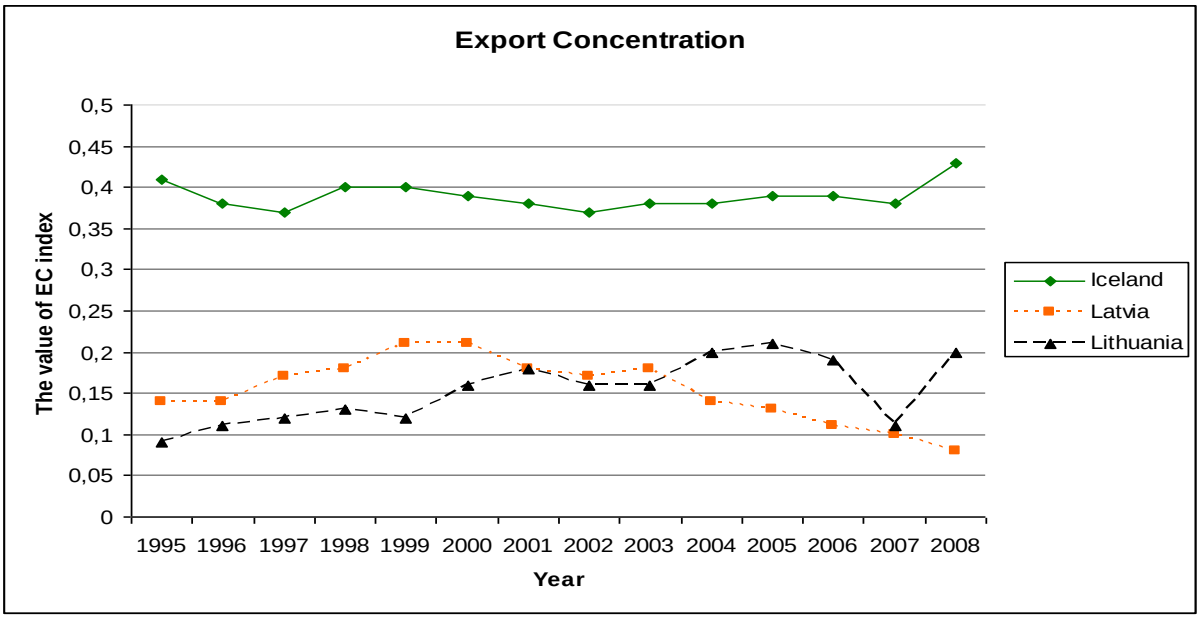

Figure 7 the Export Concentration of Iceland, Latvia and Lithuania 1995-2008

In contrast with Latvia, Lithuania's case presents more negative tendencies. First, as **Figure 6** shows, the growing openness of Lithuania's economy increased up to 130 percent of GDP, making the country very much dependent on international trade and simultaneously highly vulnerable. In 2008 Lithuania, according to UNCTAD, was ranked as the 33rd most open economy within 161 analyzed world countries[112]. The difference of economic openness from 1999 accounts for more than a 50 percent change up to nowadays. In the cases of Latvia and Iceland, their series of economic openness do not indicate such cardinal changes. Iceland obtained a slightly growing ratio of economic openness and Latvia's level of it shrank during the last few years. Accordingly, it would be interesting to have a look at the post-crisis period, but, unfortunately, such data was not available. Crisis has probably changed all three countries' levels of international trade, but changes should not be drastic ones since the measurement is relative and adjusted to states' economic powerhouse which also contracted after 2008.

[112] Available on Internet: http://www.nationsencyclopedia.com/WorldStats/WDI-shares-gdp-other-trade.html [accessed 2011-04-07]

Second, Lithuania's line of economic concentration (see **Figure 7**) expresses, that there could be different tendencies here too. From 1995, when Lithuania officially applied for the membership in the EU, its export concentration ratio doubled up to now. This means that the country has specialised in particular sectors and goods for export, but as a consequence has become more reliant on a very narrow range of commodities exported to other countries. Higher export concentration makes Lithuania more vulnerable in the case of disturbances in the external market. In contrast, Latvia's export concentration of export decreased by more than a half by 2008 in comparison with the 1999-2000 ratio. These different results could be explained by the level of investment in Latvia (see **Table 7** in **App. 2**), which accounted for much higher rates than in neighbouring Lithuania and allowed more diversification of its production and at the same time exports.

The third example of Iceland's export concentration (see **Figure 7**) shows that exports make a country vulnerable, because inherently Iceland is significantly less exposed in terms of economic openness and dependence on imports, especially in comparison with the mentioned Baltic States and their times of peak. Iceland's vulnerability in exports is almost doubled and reached 0,43[113] in 2008. This means that Iceland could be more affected by the international market and the actions of its exports' recipients.

By analyzing the third factor of economic vulnerability – dependence on strategic imports (see all tables in **App. 1**), the data of all three countries indicate the same phenomena. The imports, which are indicated as the most essential and important for small states, take almost the whole share of imports in all three investigated countries. However, there are several important occurrences catching an attention and worth highlighting.

[113] Comment: but ranked only as 59 between 174 countries in the world. Online [accessed 2011-04-08]: http://www.nationsencyclopedia.com/WorldStats/UNCTAD-export-import-concentration-index.html

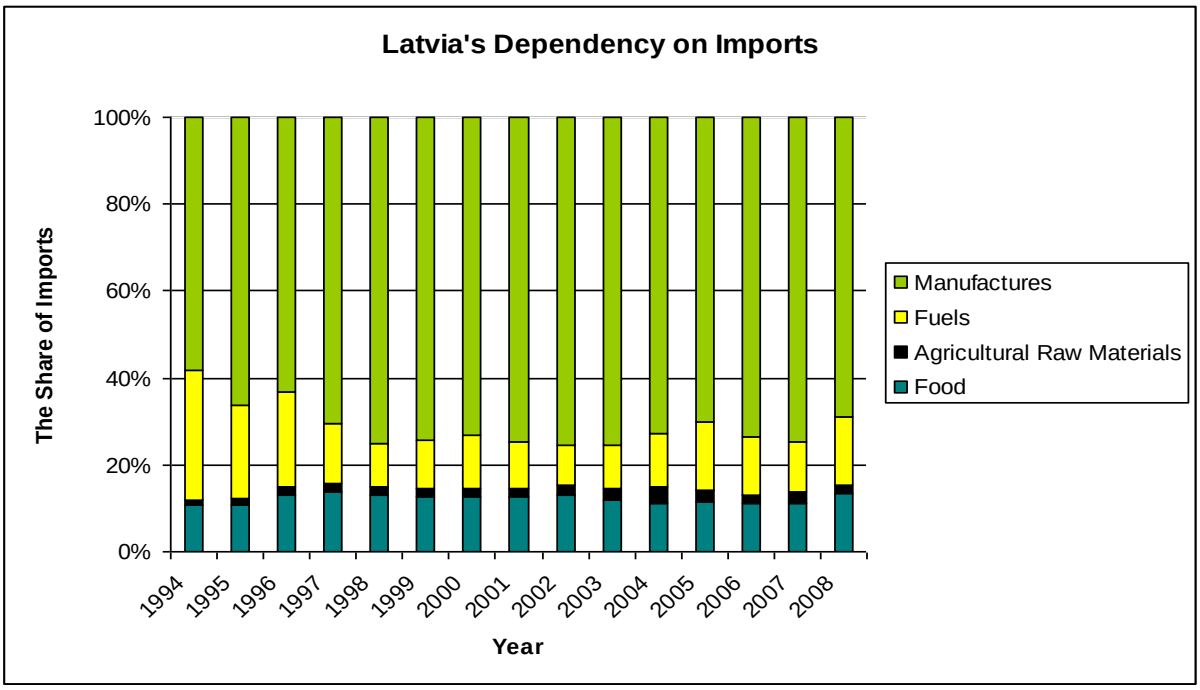

Figure 8 Latvia's Dependency on Strategic Imports 1994-2008

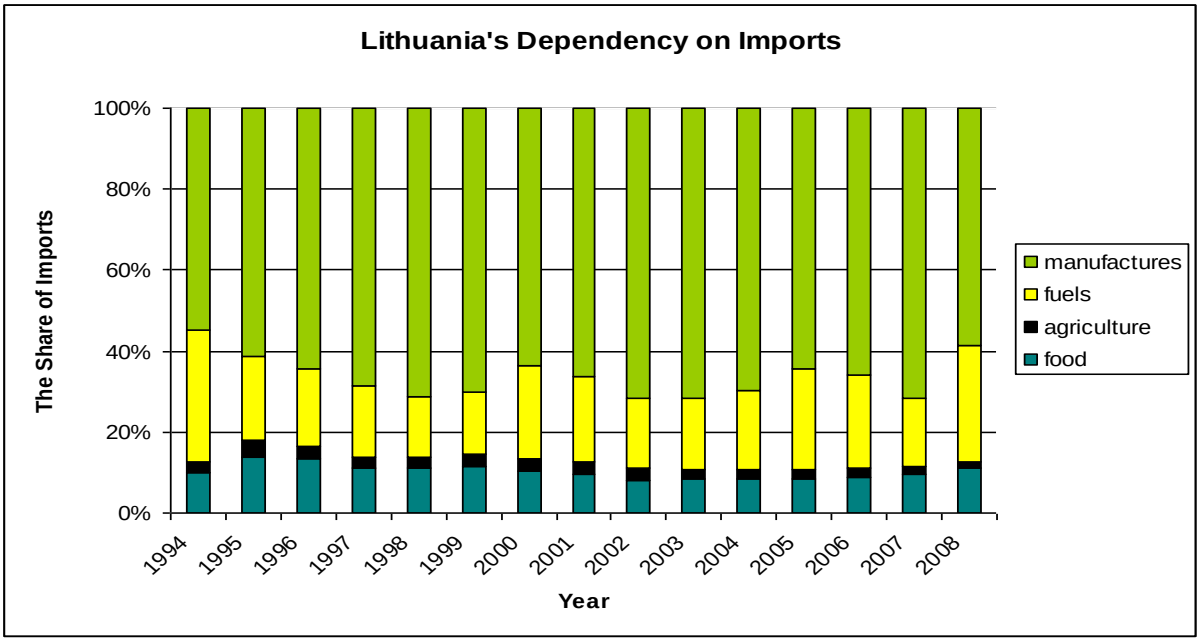

Figure 9 Lithuania's Dependency on Strategic Imports 1994-2008

First, Lithuania's dependency on fuel import (see **Figure 9**) has almost doubled over time, while Latvia (see **Figure 8**) and Iceland's (see **Figure 10**) levels remained quite constant[114]. Having in mind that the data provided covers only three types of fuels, it could be said that Lithuania faces very serious challenges in the future if its dependency on fuels grows

[114] Comment: only in Iceland's case a slight growth could be observed the last few years.

in the same way as in the period between 2002 and 2008. Two important notes should be made here. On the one hand, the sudden drop in 2007 is because Russia stopped exporting oil to Lithuania via the pipeline *Druzba*[115]. On the other hand, the data of later years should be even more worrying. At the moment Lithuania is very highly dependent on energy imports. After the close of Ignalina's power plant, Lithuania switched from the electricity producer satisfying its needs and exporting to its neighbours, to electricity importer in the region. To make matters worse, the problems with Russian gas transit via Belarus and insufficient development of sustainable energy from renewables do not allow forecasting optimistic scenarios for the country in the future.

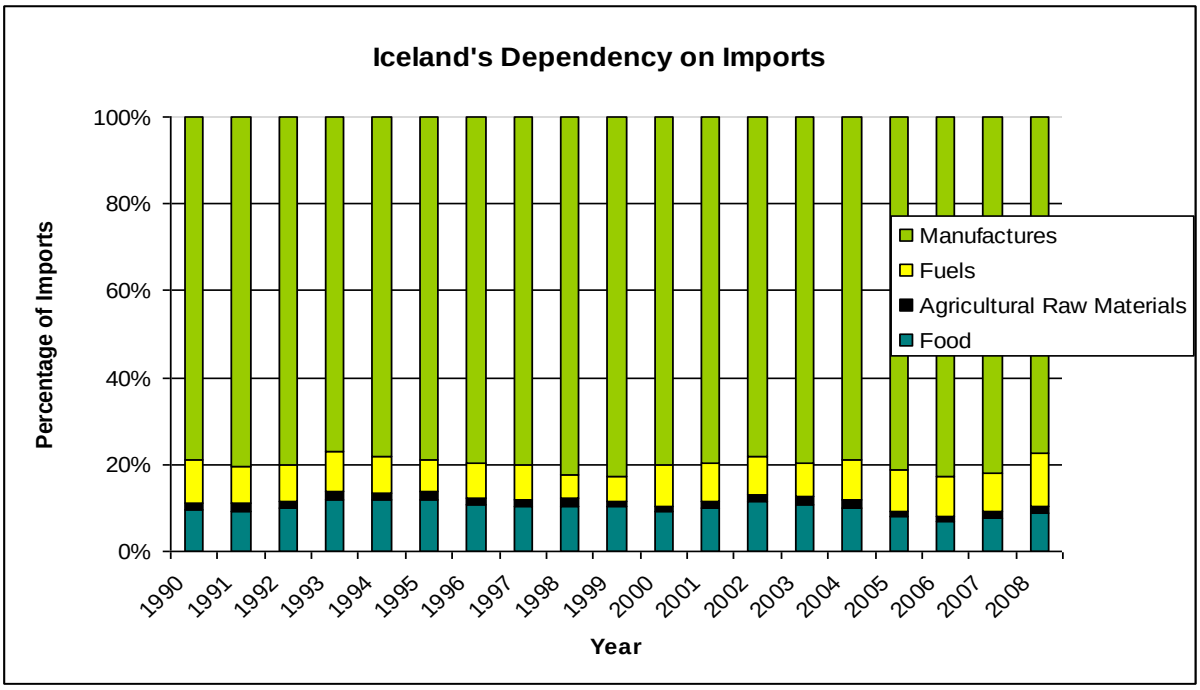

Figure 10 Iceland's Dependency on Strategic Imports 1990-2008

Second, the dependency on imports of raw agricultural materials in both Baltic countries has decreased by almost 50 percent, in comparison with Iceland's stable ratio. This

[115] Economic Consultancy and Research (ECR) Group, "Lietuvos Integracijos I ES Poveikio Lietuvos Ekonomikai 2002-2006 Metais (*Ex-Post*) Vertinimas"/ "The Ex-Post Evaluation of the Impact of the Lithuania's Integration into the EU for Lithuania's Economy in 2002-2006 Years"(2007 December 17, the document presented to the Chancellery of Ministers' Cabinet of the Lithuania's Republic), 68.

change could be associated with the Baltics' membership in the EU and consequently, CAP (Common Agricultural Policy) and direct subsidies for farmers in the EU's member states.

To conclude, this section provides two main implications: empirical and methodological. The first, empirical finding is that the conducted analysis revealed that Lithuania is one of the most vulnerable countries within the chosen variation. From the analysis it can be seen that it has a much more open economy than Latvia and Iceland in general, is two times more dependent on energy imports, which is a very crucial factor, and has a quite high export concentration value. This is an unexpected surprise, taking into consideration that islands are always perceived as more vulnerable than continental countries[116].

Another – methodological implication comes from an empirical conclusion. The fact that Lithuania is the most vulnerable in variation contradicts Briguglio *et al.*'s findings that Latvia and Iceland are one of the most vulnerable countries in the world[117]. The discrepancy could be explained by several changes made in this research. First, the year by year values show that the measurement of vulnerability during the transition period could differ significantly from the analysis of the same variables even 5 years later. This points to the fact that a general country's development should be taken into account and in such a case there should be a special note indicating that these countries' results are not final and could change over time, and, accordingly, should be revised afterwards. Second, despite the fact that the analysis on the yearly basis is rather complicated and time consuming, it seems that too many standardizations (which in this case were not necessary and not conducted) because of small number of the units of the analysis and calculations of averages without reference to the context, could hide critical details and information. Thus, substantial statistical analysis is needed for a more simplified version of the index and measurement.

[116] The best source for the literature is Commonwealth Secretariat published materials.
[117] As Briguglio et al.'s (2009) research presents standardized values for Latvia is 0,550, Iceland's – 0,465 and Lithuania's – 0,357, what means that Latvia is the most vulnerable and Lithuania – the least from this variation.

3.3. The States' Economic Resilience

The economic resilience of Iceland, Latvia and Lithuania in this section is analyzed via the constructed conceptual framework developed in the previous chapter. This section starts with the investigation of macroeconomic stability and ends in addressing the developments and changes in the states' flexibility.

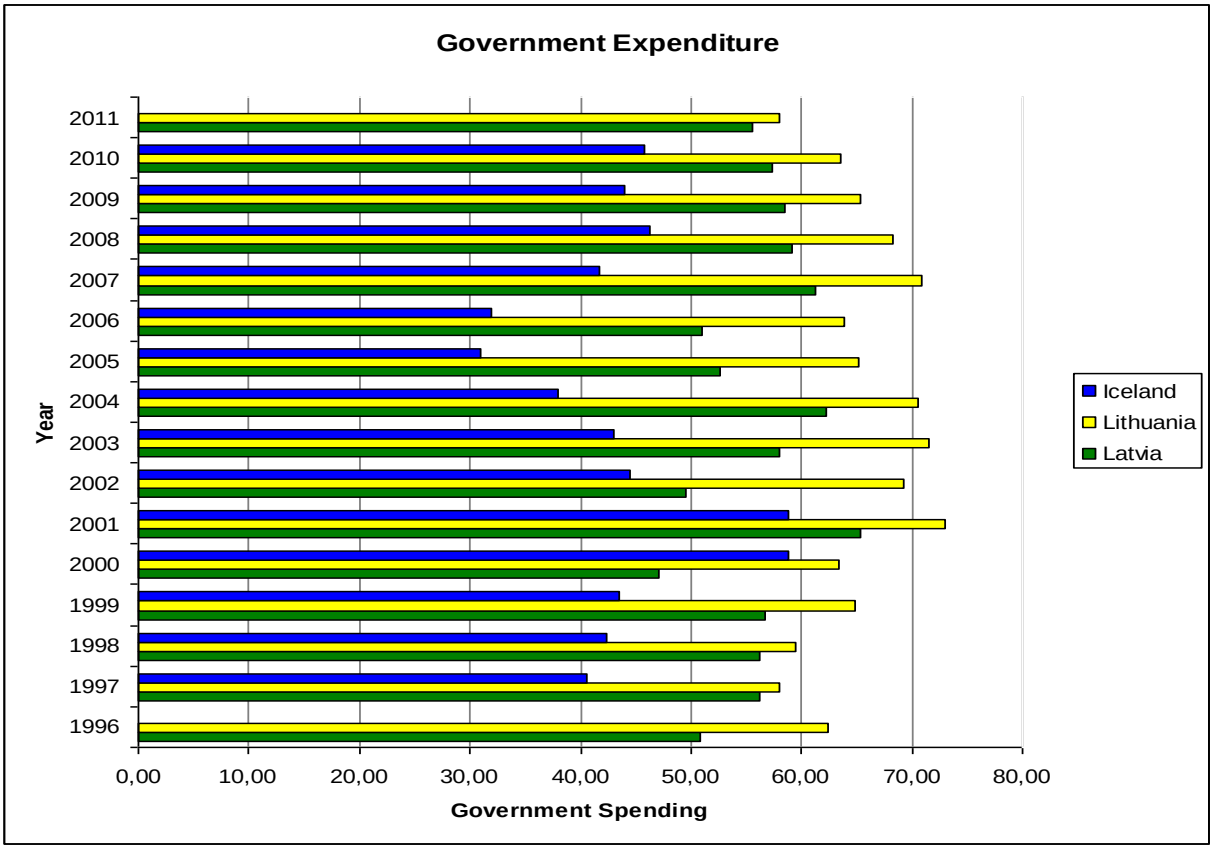

Figure 11 the Government Expenditure of Iceland, Latvia and Lithuania 1996-2011

As the data collected on states' resilience (see **Table 4** in **App. 2**) reveals, all three countries – Iceland, Latvia and Lithuania are highly exposed because of their insufficient macroeconomic stability over time. As **Figure 11** and **Figure 12** indicate, all three countries' governments were having difficulties with maintaining a balanced budget and keeping the level of expenditure low. Lithuania's government keeps the position of the most spenders among all three case studies during the whole study period, while Iceland could be identified as the least profligate. However, in terms of balancing budget, Lithuania has had the highest

budget deficit among the countries only three times during the period of study, leaving Latvia as the one of the riskiest sovereign borrowers. Usually having a fiscal deficit, Latvia over time did not manage to balance its budget, in contrast to Iceland, whose government even before the crisis managed to keep a healthy balance between the state's revenues and expenses. Its budget surplus was the highest between 2005 and 2007 of the whole study period.

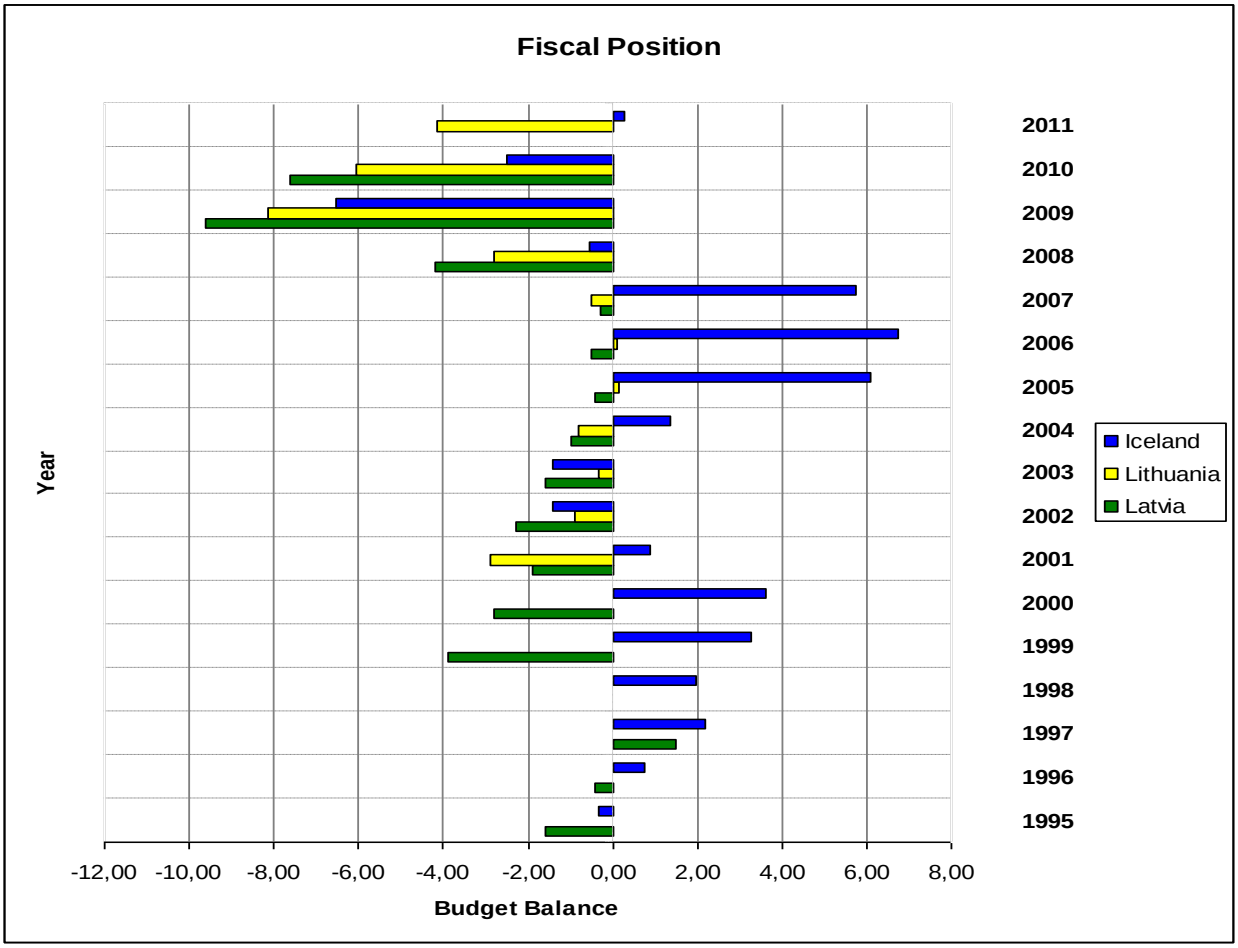

Figure 12 the Fiscal Position of Iceland, Lithuania and Latvia 1995-2011

The inflation rate of consumer prices well displays (see **Figure 13**) the "domestic illness", increasing countries' exposure. None of the analysed countries could boast about a stable and low inflation rate. A high inflation rate was one of the most serious problems in the Baltic States after the getting independence. Lithuania's staggering 410 percent inflation in 1993 and remaining hyperinflation afterwards demonstrate evidenced problems, which seemed to be solved. However, similarly to Latvia, Lithuania's government has not taken

considerable measures for maintaining a low level of inflation and has not stopped domestic bubbles from emerging.

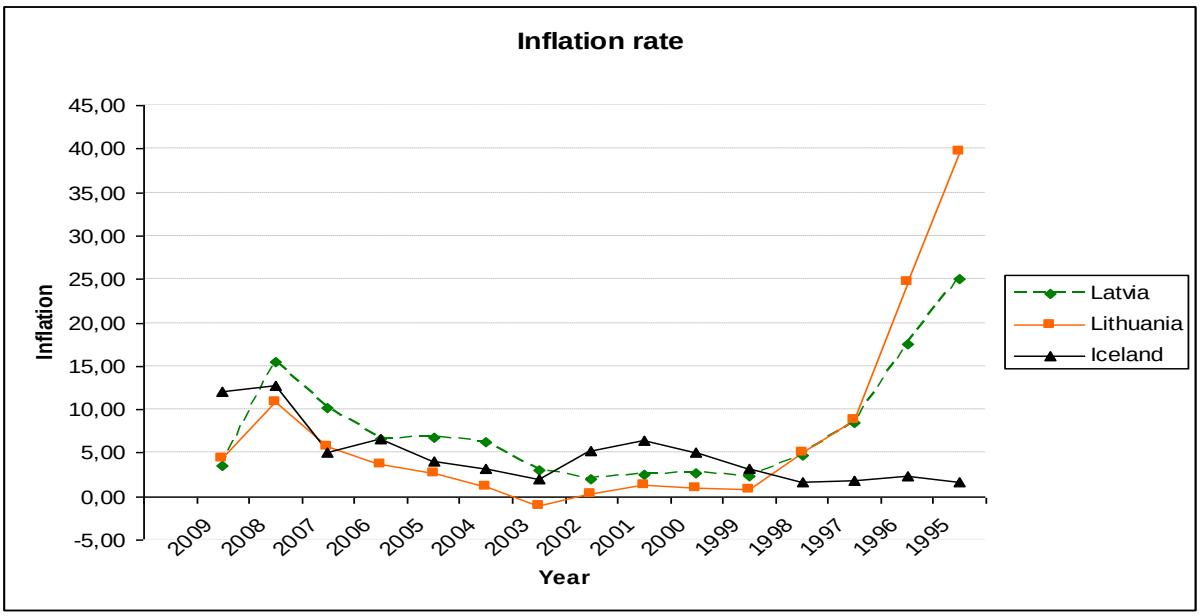

Figure 13 the Inflation Rate of the States 1995-2009

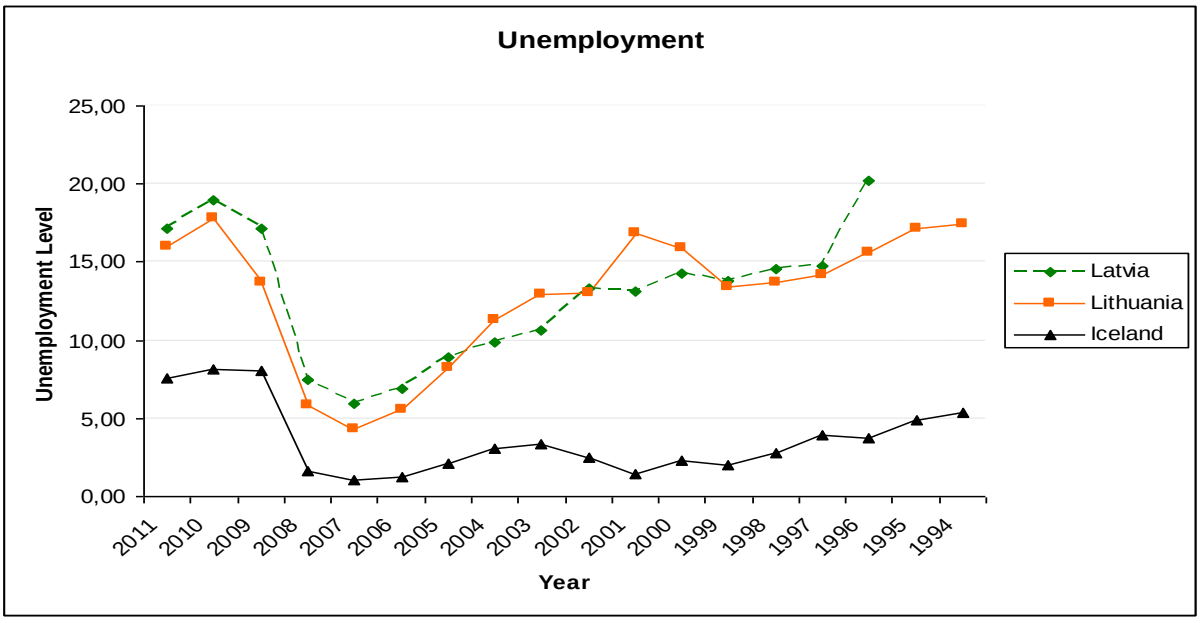

Figure 14 the Unemployment Level in Iceland, Latvia and Lithuania 1994-2011

The unemployment factor (see **Figure 14**) reveals another problem for the states macroeconomic stability. Of course, the ratio of unemployed people in Iceland is one of the lowest, but the cases of Latvia and Lithuania show that this factor was always a problem after

the getting independence and only after the accession to the EU significant improvements can be seen, unfortunately, more as a result of emigration[118] than structural economic changes.

The investigation of an external debt ratio (see **Figure 15**) concludes the analysis of the countries' macroeconomic stability. As is seen, Iceland as being much longer independent has a higher external debt ratio in comparison with Lithuania and Latvia. However, in Iceland's case there is an observable decrease in an external debt ratio as a percentage of GDP. In the case of the Baltic States, Latvia was borrowing less than Lithuania, but after the 2008 crisis and the bailing-out of a bank, Latvia's external debt is only slightly higher than Lithuania's, and, as is forecasted in 2011, Lithuania will take again its middle position between the studied countries in terms of external liabilities.

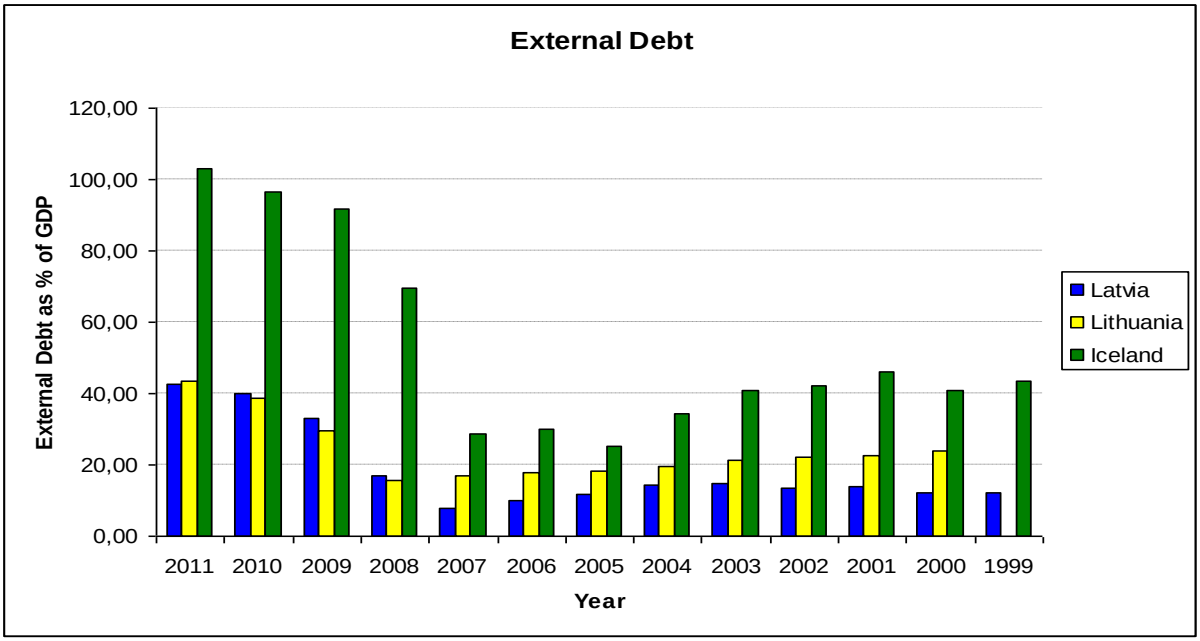

Figure 15 the External Debt of the States 1999-2011

To summarize the countries' macroeconomic stability, all five indicators portray problematic areas in small states' management. None of them has the capacity to counteract external shock; therefore, there is a high risk that after a hit of an exogenous shock the states would have to rely on their flexibility capabilities in order to overcome a crisis. Furthermore,

[118] ECR Group, 71.

Latvia and Lithuania can be seen as comparatively more exposed countries because of the naturally high unemployment rate, inflation and undisciplined fiscal position.

From a flexibility point of view, Iceland is definitely a better performer and well governed in comparison to Latvia and Lithuania. Generally it obtains higher scores for microeconomic market efficiency, good governance, social-human development and sustainability. Iceland receives significantly higher rates in legal base, expressed via a fight against corruption, the protection of property rights and the implementation of rule of law. Iceland's good governance's indicators are almost double as the Baltic's ratios. Its governance efficiency without doubt influences human development, where it is possible to also observe higher ratios of accountability, life expectancy, healthiness and political stability rather than in other countries, and contributes to versatile universal resilience.

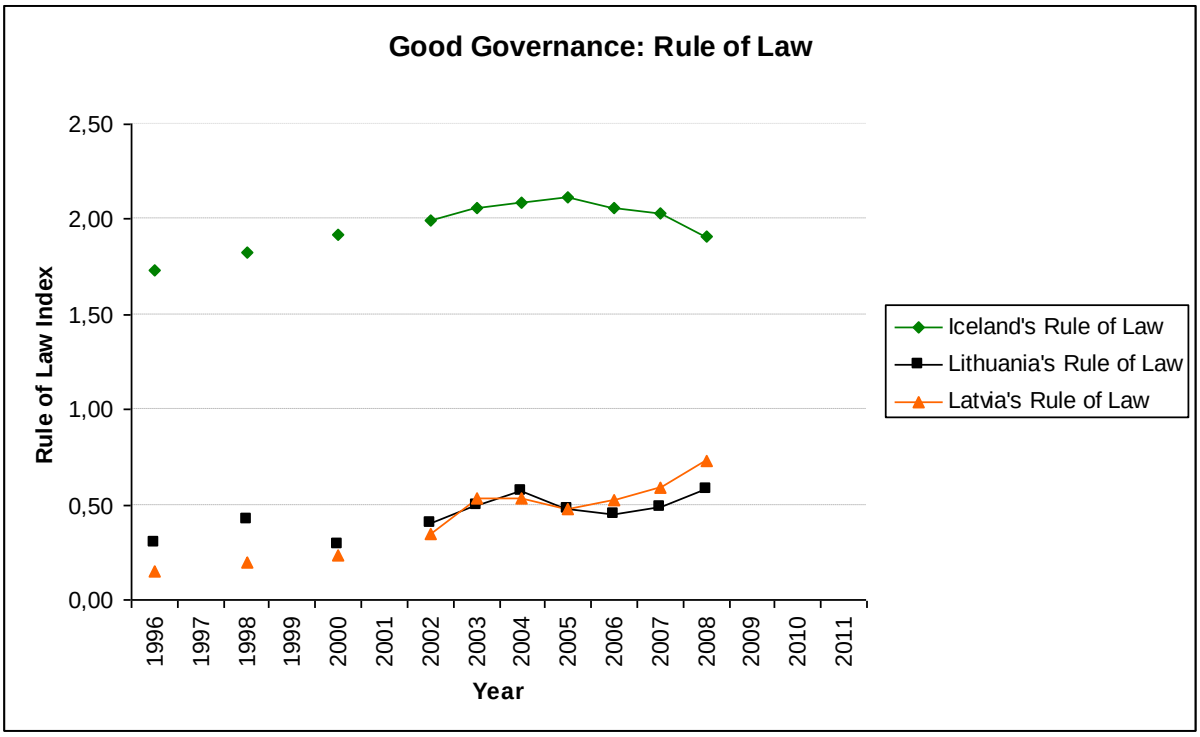

Figure 16 the Rule of Law Indicator from Good Governance 1996-2011

The Baltic countries are lagging behind Iceland, especially in terms of good governance and human development (see, for instance, "Rule of Law" graph in **Figure 16**), which very clearly shows the tendencies and differences between Iceland and the Baltic

States. Several interesting phenomena could be noted here. First, their low scores have not changed significantly over time. Paradoxically, even though Latvia's citizens were allowed to become more engaged in politics and the level of freedoms[119] were expanded, the political stability increased only for a short period of time and later ended falling to 0,4, indicating the possible high risk of destabilization and demonstrations in the country, while the opposite effect would have been expected.

Second, from the social-human development point of view, Lithuania and Latvia have a very small ratio of healthy labour force, accounting for 7,3 and 4,10 percent respectively, while Iceland's ratio is 9 and 11 times higher and shows that almost half of the population perceive themselves as healthy. Of course, some the Baltic States' improvements in life expectancy scores can be seen, but generally changes in social development are minor and remain at an insufficient level for the countries to withstand a crisis.

The same tendencies can be observed in sustainable development. However, here the difference between Baltic States and Iceland is low-key. For instance, in Latvia the level of investment and total savings were higher than in Lithuania or Iceland, where the indicators of total savings have decreased from 2002. As Friedman would say, this refers to one of the unlearned economic lessons, that "there is no such thing as a free lunch [in this world, and if you are not paying now for something, probably] then something is wrong and will have to yield"[120]. Of course, it is important to make a note here that the increased ratios of investment in 2007-8 in Latvia and Lithuania point to a boom-to-bust trajectory[121], in advance boosting the severity of the complications of the coming world-spread financial disease hitting in 2008.

Nevertheless, Iceland is the only country in variation which managed to keep its level of investments into research and experimental development at exactly ideal level - above 2

[119] Freedom of expression, association and free media.
[120] Andreas Antoniou, "The Global Financial Turmoil and Small States". *OPISS, No. 2* (Malta: ISSIUM, 2009), 13.
[121] Comment: a state does not necessarily gain economic security, while searching for competitiveness. Also, Roubini and Mihm, 129.

percent of GDP, while Lithuania and Latvia's investment into R&D is so minor that there should not be any expectations for some bettering in Lithuania's or Latvia's position in the future.

On top of this, one of the most important flexibility factors – microeconomic market efficiency – is not well developed in any of these countries, but positive improvements could be observed in Latvia and Lithuania over time, especially in the fiscal and monetary sectors. Unfortunately, the labour regulation gets the lowest scores, what indicates the minimal changes and regulation, what the same time can be seen as an obstacle to social development in the future. Moreover, the highest unregulated Lithuania's financial and banking sector among all three investigated countries should be an important signal to the governments of this country. In total, microeconomic market efficiency factors should be also important signals for Iceland, Latvia and Lithuania's governments in the future, where the most work needs to be done.

Finally, as the analysis of flexibility of the countries shows, there are numerous problems in obtaining resilience not only in shock-counteraction, but also from the shock-absorption's perspective. The improvements in Latvia and Lithuania are important for their resilience, but even in comparison to Iceland, they are minor and, as a result, governments should place a greater emphasis on the policies affecting states' resilience. In terms of good governance and social-human development, Iceland is a very good example for the Baltic States, showing that even a small state can obtain the needful means for shock-withstanding over time. Unfortunately, all three states lack proper microeconomic market efficiency and the necessary policies for sustainability in the future.

Chapter 4: Testing Economic Security of Iceland, Latvia and Lithuania: The 2008 Crisis and Its Implications

The end of 2008 was marked by an unprecedented economic and financial crisis after the Great Depression in the last century. As many economists admit, there is nothing new in the story of the 2008 crisis[122]. The signs of upcoming downturn, as many authors indicate[123], were already seen in the epicenter in 2007, but only the year after, did the financial disease with the collapse of Lehman Brothers and Washington Mutual, breakout and spread to other regions. The analysis of the ramifications of the financial disease rupture in the US to Iceland, Latvia and Lithuania after 2008 with the evaluation of the constructed framework's applicability starts this chapter, whereas the discussion of what implications this crisis draws for economic security measurement in the future concludes this part.

4.1. The Impact of the 2008 Crisis to Iceland, Latvia and Lithuania and Its Assessment

The dry-up of the global financial market provoked by US domestic problems affected Emerging Europe the hardest. As numerous studies emphasized[124], all countries in Emerging Europe suffered from the crisis' effects on their economies and financial systems. Accordingly, their governments were forced to react by pursuing adjustment policies to lessen the ramifications of the economic and financial meltdown[125]. However, these exit strategies of the crisis, even though they recently received a lot of attention from scholars[126], are less

[122] Roubini and Mihm; Carmen Reinhart and Rogoff Kenneth, *This Time is Different: Eight Centuries of Financial Folly* (Princeton: Princeton University Press, 2009).
[123] Erik Berglöf, Yevgeniya Korniyenko, Alexander Plekhanov, and Jeronim Zettelmeyer, "Understanding the Crisis in Emerging Europe". *Public Policy Review*, 6:6 (2010), 988; Roubini and Mihm, 124.
[124] Berglöf et al., 985-986; Bohle, 1-3.
[125] Ramūnas Vilpišauskas, "Crisis as an Opportunity for Reform: Only Some Windows Open". *Pinigų Studijos 2* (2009);Kuokštis and Vilpišauskas; Olafur G. Halldorsson and Gylfi Zoëga, "Iceland's Financial Crisis in an International Perspective" (Reykjavik: University of Iceland, August 2010), 28-31.
[126] Anders Åslund, *The Last Shall Be the First: The East European Financial Crisis* (Washington DC: Peterson Institute for International Economics, 2010); Halldorsson and Zoëga; Kuokštis and Vilpišauskas.

important for the analysis of the economic security of critical case studies hereby and are not covered in this paper. The reason for this is, as depicted in **Figure 1**, and as Roubini and Mihm[127] note, "exiting" strategies are not necessarily resilience, reflecting structural adjustments to states' vulnerabilities. The post-crisis strategies can also be the postponement of the problems for the future.

Correspondingly, this section addresses three main questions, important for testing economic security, which was analyzed via the constructed framework of Iceland, Latvia and Lithuania in **Chapter 3**. First, I analyze what effects the financial crisis has had on economic security and its counterparts of the investigated countries. Second, I examine why countries were affected by the 2008 crisis so heavily, or, in other words, through which channels they received the contagion of the disease. The reverse order of the historical events allows deconstructing the paths to the recession via the effects of the crisis in the countries, explored in the previous chapter. Finally, I dwell on the findings from the application of the constructed resilience framework and show to what extent it helps to diagnose countries' capabilities to cope with their vulnerabilities and external threats.

To start with, the outcomes of the crisis were rather similar in Iceland, Latvia and Lithuania. All three countries shared the same aftermath. As Berglöf *et al.* put it, "the ripple effects of the financial and real shocks began to be felt in the corporate, household and banking sectors"[128]. The most observed consequences include: a significant drop in economic growth[129], higher general governments' budget[130] and large current account deficits[131], greater external debt[132], lower interests rates[133], shrinking outputs and the decline in industrial

[127] Roubini and Mihm, 132-134.
[128] Berglöf et al., 991.
[129] Halldorsson and Zoëga, 33; Berglöf et al., 990.
[130] Eurostat, in Kuokštis and Vilpišauskas, 15.
[131] Tapani Paavonen, "A New World Economic Order: Overhauling the Global Economic Governance as a Result of the Financial Crisis 2008-2009". *Report No. 24* (Helsinki: The Finnish Institute of International Affairs, 2010), 74.
[132] Eurostat, in Kuokštis and Vilpišauskas 17; Halldorsson and Zoëga, 36-7; Organization for Economic Cooperation and Development, "Economic Survey of Iceland 2009" (OECD, policy brief, 2009), 5.

production[134], skyrocketing unemployment[135] and high inflation rate[136], shrunken export volumes[137], and growing migration[138].

Consequently, the repercussions in construction, investments and foreign trade[139] appeared as a result of the financial crisis, which, as Roubini and Mihm already explored[140], could be traced back from an unregulated banking sector in most of the countries. Not surprisingly, the best representative here is Iceland. Many authors point out that Iceland's banking system became too large, complex and unregulated[141]. As the head of the Central Bank of Iceland, Ingimundur Friðriksson, argues[142], such an expansion of the financial sector happened because the liberal European regulatory framework allowed it and advantageous conditions in the international market stimulated the towering share of Icelandic banks in the international financial system. Suddenly Iceland has become one of the largest banking systems in the world, whose three commercial banks' – "Kaupthing", "Landsbanki" and "Glitnir" – liabilities accounted almost 10 Icelandic GDPs[143]. When Lehman Brothers bankrupted, these banks have had to turn to the Icelandic Central Bank, as the spreading crisis of confidence afterwards left the money market out of capital. However, when these banks turned for funding to the Icelandic Central Bank, the back-up was impossible "for the very simple reason that the Icelandic government would have been unable to borrow such a large amount"[144] of money, having in mind structural constraints on small states and the post-crisis situation in the global financial market.

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[133] Halldorsson and Zoëga, 29.
[134] Eurostat in Kuokštis and Vilpišauskas, 2; Berglöf et al., 989.
[135] Eurostat, Berglöf et al., 991, Halldorsson and Zoëga, 3,15&23.
[136] Eurostat, Halldorsson and Zoëga, 23.
[137] Halldorsson and Zoëga, 34.
[138] Kuokštis and Vilpišauskas, 21; Paavonen, 77.
[139] Paavonen, 75.
[140] Roubini and Mihm, the example of the Baltic States, 130-132.
[141] Paavonen, 72-3; Ingimundur Friðriksson, "The Banking Crisis in Iceland in 2008" (paper prepared for a seminar at the Bank of Finland, 6 February 2009), 5.
[142] Friðriksson, 6.
[143] Paavonen, 73.
[144] Friðriksson, 6.

The same trajectory to the widespread recession can be observed in Latvia too. In contrast with Iceland, the Latvian government nationalized the "Parex" bank and took its financial responsibilities with IMF and the EU support later. Of course, as a result, a sudden increase of Latvia's indebtedness affected the country's competitiveness and macroeconomic stability. However, the rescue of the bank presents only a part of the whole picture of post-crisis Latvia. Similarly to Lithuania, Latvia experienced a significant pre-crisis economic growth, which was grounded on foreign debt and the housing bubble. When the international money market dried-up, suddenly the credit-based economic growth of the Baltic States collapsed.

Again, as Iceland's story of the crisis, the bacilli of financial illness were already in the Baltic States before the crisis hit, but for different reasons. The reasons why these countries were hit so hard stem from global imbalances and pre-crisis domestic policies[145]. As was already stated, global imbalances, referring to inherent vulnerabilities of small states and their physical scarcity due to smallness/weakness, and being "deficit" countries, are inevitable. More importantly, the economic collapse of the countries, paraphrasing Halldorsson and Zoëga[146], results from wrong policies or ineffective supervision.

The worst case, Lithuania, which did not have to rescue financial institutions, which accounted ten times the state's GDP, or as in Latvia's case, to nationalize a bank, suffered directly from ineffective supervision. However, before the crisis hit, the Lithuanian government left borrowing and lending unrestricted, allowing the private and public sector to rely on foreign loans. When the crisis hit, cheap loans were no longer available and the "merry-go-round" stopped. Having in mind that Lithuania experienced one of the steepest recessions without bailing-out a bank only because the government turned a blind eye to macroeconomic stability and flexibility regulation, its case is the most problematic.

[145] Halldorsson and Zoëga, 4-5, 12.
[146] Halldorsson and Zoëga, 3.

As was indicated earlier, all three countries experienced problems in financial regulation, although they followed different paths. According to Rainer Kattel[147], the Baltic States used foreign direct investments for reconstruction of their economy, by following the Washington consensus policy framework. Unfortunately, the conditions, such as currency peg, low tax and administrative burdens, seen as promoting a country's competitiveness and attractiveness for foreign investors, are also "highly fertile grounds for short-term asset booms"[148], Lithuania and Latvia were not exceptions from receiving large amounts of foreign investment and high private borrowing, which was already revealed by the constructed resilience framework.

This phenomenon is indicated by the sustainability index variables in the constructed index, showing investments and savings. The analysis of all three countries in the previous chapter revealed that, while the savings level is very low, or even, as in Iceland's case, negative, very high levels of investments in the countries do not lead to sustainability, especially when investments are not matched by a general level of savings in a country.

Different strategies and logic lie behind the chosen policies and in this case, investment bubbles. The Baltic countries, preoccupied with their economies' reconstruction, could justify their chosen policies, but in the case of Iceland, significant constraints for the banking business were removed on purpose. The financial liberalization resulted from the idea of Iceland as a low-tax international financial centre[149], like Luxembourg or the Cayman Islands, in order to overcome high export concentration on fishing, aluminium and tourism. The idea was followed by the government's endeavours in 2005 to promote "to borrow and invest" as the main business in Iceland[150]. This cardinal change, the same as the mismatch

[147] Rainer Kattel, "Small States and Financial Fragility", 11-12; in The Conference's "The Future of Iceland in the Community of Nations" Bulletin, Seminar III: The Economic Security of Small States, February 26, (Reykjavik, 2009)
[148] Kattel, 12.
[149] Paavonen, 72.
[150] Halldorsson and Zoëga, 18.

between investments and savings, is observable in the framework data on Iceland as well. Financial freedom in Iceland almost doubled in 2005. Surprisingly, while after the crisis the countries, Iceland and Latvia, hit the most by banking crisis, have tightened financial regulation[151]; Lithuania, which also has had the same financial freedom as Iceland during this period, kept a very low regulation of financial sector even after the crisis. Of course, this could be explained, as Mihaljek states, by drawing on a rather acceptable functioning of foreign banks in Lithuania, where Scandinavian banks have the highest share of the banking sector, and the absence of the "reverse flows" levels (emerging market subsidiaries to advanced economy parent banks) as in the Czech Republic or Poland, did not sharpen the reduction in cross-border inflows[152].

Despite the problems with the regulation of the financial system[153], none of these countries have managed to keep the necessary macroeconomic stability. Tight government spending, significant reduction in external debt and budget surplus, as Kuokštis and Vilpišauskas demonstrated[154] with the Estonian example, would have helped the countries to cope better with the financial turmoil and the internal crisis. Besides, rather high pre-crisis unemployment rates in Lithuania and Latvia were also very important signals of the problems with market efficiency and labour flexibility, which spurred another migration wave after the crisis. To make things worse, the general absence of proper regulation (not only formal, but also informal, as covered by good governance and human-social development indicators[155]) resulted in a switch to a shadow economy, which influenced an unexpected loss of state

[151] Comment: the Latvian government after bailing-out "Parex" bank, cut financial freedom in a country by a half.
[152] Dubravko Mihaljek, "The Spread of the Financial Crisis to Central and Eastern Europe: Evidence from the BIS data" (Basel: Bank for International Settlements, 2009): 5-8.
[153] As Ingimundur Friðriksson argues, "the regulatory environment was by no means the sole factor allowing the banks to expand to the degree that they did", concluding that only proper regulation could help insure of the same scenario, as was in Iceland, in the future, in Friðriksson, 1.
[154] Comment: Kuokštis and Vilpišauskas distinguish the Estonian case from Latvia and Lithuanian because of more factors, but their research shows how macroeconomic stability help to bounce back quickly after being adversely affected.
[155] Kuokštis and Vilpišauskas, 17-23.

revenues and general levels of output. Political and social instabilities, as seen from the framework application to Latvia and Lithuania, increased. However, these economic security lines have not received the necessary attention from policy makers, as the previous chapter's analyses indicated, and the countries met the crisis with a rather low level of resilience.

To conclude, there are several important lessons to be learnt after the 2008 crisis. First, this crisis was particularly a financial crisis, which affected the cross-border banking and financial institutions. The case of Iceland questions how a relatively resilient country[156] faced such effects after an external shock, and particularly demonstrates how the role of the financial sector in the conceptualization and measurement of economic security is undermined. Second, it is seen that the crisis does not necessarily directly hit a country via particular contagion – an external virus. As Lithuania's case shows, the effects of external imbalances to irresilient economy because of its bad domestic governance can be at the same level as of a country, which suffered from both problems – collapsed growth bubble and stopping economy, and falling down of a bank, as in Latvia's case the government has had to cope with. Third, most of the problems of the analyzed countries were indicated by the suggested framework of analysis in the previous chapter and their possible impact in the face of crisis. However, after the appearance of the 2008 crisis and its effects on particular countries, the importance of the finances in small states' economic security should be rethought. The next section provides a brief discussion and suggestions for possible ways of improvements in future studies evaluating economic security.

4.2. The Discussion of the Implications of the 2008 Crisis for Measuring Economic Security

As a testing factor, the 2008 crisis revealed that even after the reconstruction of the index, there can be doubts about its explanatory power pointing out Iceland's imperfection in

[156] Of course, the analysis and comparison here covers only three states, because the data for larger cross-country comparisons were not obtained because of scope limitations.

economic security, especially during the crisis' aftermath. Two questions, why Iceland still looked relatively economically secure, and what general implications of such a case are for measuring economic security are worth addressing. I suggest here several ideas, what is problematic in measuring economic security especially with reference to Iceland's case, and in what ways the model's deficiencies could be regularized.

To start with, the first major question which needs to be answered is whether, in the case of small states, capital inflows and outflows play the same role in a state's exposure as imports and exports in terms of vulnerability. Logically, it seems that economic openness, which results from smallness and weakness of a small state, either in goods, or in services, is equally important and inevitable. Following such a line of thought, the measurement of vulnerability of a small state should include both sides' measurement.

However, several questions and problems arise as a consequence. The first and the most important is the question whether finances really is so important that they expose a country to the same extent as international trade. Since vulnerability is a very well developed concept in the academic literature in comparison with resilience, some would doubt whether the weighting of a state's involvement into the international finances and trade really should be on the same level, especially, when none of the existing various frameworks for vulnerability evaluation have dwelt on this issue up to now. Maybe further analysis with large data set over time, as this research showed that Briguglio *et al.'s* idea for averages of few years' variables is not the best choice, by applying statistical methods could answer the question to what extent international finances play a role in small states' vulnerability and what weighting power they should get in the index. Nevertheless, such a suggestion leads to a conceptual problem and also Iceland's practical case.

As Iceland's case shows, the growth of the financial ties with international finances – financial exposure - was a result of policy-makers decision because of a wish to lower a

country's vulnerability in terms of export concentration. Since other variables of Iceland's vulnerability, as could be seen from figures in the third chapter, have not changed significantly over time, the significant change, reflecting to the government's decision to become a financial centre, of financial freedom in resilience points to the fact that Iceland made "shot itself in the foot", or, as Pace would argue[157], wrong policies led to contingent vulnerability rather than necessary resilience. Accordingly, such a type of "governance-made" exposure seems to be more a part of resilience, as subject to policy and not coming naturally, rather than vulnerability, but more research should be done to answer this question precisely.

Furthermore, since the resilience framework here dwelt on financial regulation, indicators showing possible financial bubbles and macroeconomic stability, it is important to address two issues here. First, maybe an existing measurement of financial regulation is not sufficient, as the Governor of the Central Bank of Iceland said; reports about the financial stability even at the beginning of May in 2008 were showing that "the system was considered broadly sound… [and] the banks were well prepared to face rising defaults and loan losses at that time"[158]. Thus, the problem is how well in general the measurement of a financial system could be captured by indicators. Of course, probably ***Basel II***[159] instead of *Financial freedom* or even together with *Financial freedom,* could have provided much more information about the banking sector. However, the problem of the pre-crisis ***Basel II*** framework was that, as Roubini and Mihm state, it "assumed that the world's financial system was more stable than it actually was"[160]. ***Basel II*** appeared in 2006[161] after the failure of ***Basel I*** guidelines and was supposed to present better "ways [how] to regulate and supervise banks and other financial

[157] Pace, 34-5.
[158] Friðriksson, 2.
[159] The framework by Basel Committee on Banking Supervision (Bank for International Settlements) to measure the resilience of the banking sector via analyzing liquidity risk measurement, standards and monitoring. http://www.bis.org/publ/bcbsca.htm [accessed 2011-05-10]
[160] Roubini and Mihm, 205.
[161] Actually, the low explanatory power of Basel II and accessibility of its data only from 2006 were the main reasons why this variable was not included into the measurement.

institutions"[162]. Almost 400 pages provided precise regulation in terms of capital requirements, supervision and discipline, but only on the recommendations level. Nevertheless, since the ***Basel II*** is being improved presently, future research maybe could fill the gap and reveal to what extent ***Basel II*** can contribute to the measurement of states' resilience.

Second, the another question is whether the banking sector resilience in a country plays the same role as macroeconomic stability and economic flexibility, in a state's general coping capabilities to withstand or recover quickly from external shocks. This is probably the most viable solution in the future measurement, because as Lithuania's case shows, the recession covered whole sectors of the economy, even though the banking sector was not infected as in Iceland or in Latvia, and the government has not had to save a bank. Maybe, the deconstructed index of a state's abilities to shock-counteract and shock-absorb with added additional banking sector resilience, would provide a better picture of countries to obtained economic resilience and economic security in the future research.

To conclude, the 2008 crisis brought a puzzle to previous framework of economic security, created by Briguglio *et al.,* but even hereby presented framework after significant improvements lacks capacity to identify such an extreme case as Iceland brought. This can be a reference point for future research; however, as I suggest hereby, financial regulation should be included under the investigation of resilience in order to maintain the conceptual distinction between vulnerability and resilience. As a result, the finding of a precise place for the financial regulation within resilience requires intensive analysis of large data set to proceed with universal frameworks for evaluation of resilience.

[162] Roubini and Mihm, 204.

Conclusion

This thesis started with the conceptual discussion about how economic security should be analyzed. The suggested analytical framework includes two main dimensions: a state's vulnerability and resilience. The third dimension – a threat or an external shock - is perceived as a catalyst, indicating whether and to what extent vulnerability is matched by resilience. Since vulnerability refers to inherent weakness and smallness resulting in high levels of economic openness, export concentration and dependency on strategic imports for small states, obtained resilience helps by overcoming vulnerabilities a country to absorb or counteract the effects of exogenous shocks or threats. Resilience, according to this analytical framework, consists of equally important macroeconomic stability and economic flexibility, which are subject to policy and correspond to governance and regulation.

The constructed conceptual model is followed by the operationalisation and measurement of internal parts of vulnerability and resilience. Hereby the small states for the analysis were Iceland, Latvia and Lithuania, as the best representatives of small states and different outcomes after the 2008 crisis. As the investigation revealed, in contrast to previous findings of a study conducted by Briguglio *et al.*, Lithuania is the most vulnerable country among the case studies. This conclusion helps to explain why Lithuania, even though it did not have to rescue a bank and turn to international financial organizations for support, was hit badly by the crisis and suffered one of the steepest recessions.

In terms of resilience, this thesis revealed that all three small states have sufficient levels of resilience. Although Iceland definitely is one of the best performers in good governance and social-human development, which influence its flexibility to withstand the effects of external shocks, all analyzed countries have difficulties in ensuring macroeconomic stability, microeconomic market efficiency and setting the drive for sustainable development in the future. Accordingly, as Roubini and Mihm already stated, healthy economies are

usually not affected by crises; therefore, the examples of Iceland, Latvia and Lithuania represent the self-induced higher exposure and unpreparedness to meet the crisis.

As the last part of the work presents, all three countries were among the worst hit by the spreading financial disease after the collapse of Lehman Brothers in 2008. By drawing their path to the crisis, this study shows how each of the countries ended up among the most affected by crisis and what role domestic regulation played in these cases. However, the 2008 crisis simultaneously emphasizes the importance of the financial and banking sector, which seems to have been undermined in previous studies. Even the reconstructed model, including variables dwelling on financial institutions regulation and general country's finances, cannot to a full extent explain such extreme cases as Iceland.

As a consequence, future economic security studies should reveal the exact importance of financial interdependence and regulation, by, first, clearing up whether financial interconnectedness is inherent and plays the same role as international trade in the case of small economies, or, second, if it is a part of resilience, subject to policy and regulation. In this case, since it seems from Iceland's case that financial exposure is not inherent, a substantial analysis is needed to find the exact influence of the financial and banking sector and where they fit within the reconstructed economic resilience framework – as an equally important coping ability of shock-absorption and shock-counteraction, or as one of the sub-factors of these categories. As can be seen, there is significant number of questions worth addressing in the future research on economic security, especially in the case of small states.

Appendix 1. Full Vulnerability Tables

Abbreviations and measurements (explanations) and sources:

EO – *Economic Openness* – The percentage of international trade to GDP (source: UNCTAD Book of Statistics) [data range 0 - ∞ in %];

ExC – *Export Concentration* – The index of export concentration (source: UNCTAD Book of Statistics) [data range 0 – 1];

DSI – *Dependence on Strategic Imports* – The percentages of strategic **O** – *Food* ; **A** – *Agricultural Raw Materials*; **F** – *Fuels*; **M** – *Manufactures imports*. (Source: UNCTAD Book of Statistics) [data range 0 – 100 in %];

The higher values are, the more vulnerable a country is.

LATVIA																							
		2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
EO		n/a	n/a	96,74	105	111	110	104	96,7	91,5	92,7	90,3	90	107	102	101	87,6	90,9	130	153	60,7	96,7
ExC		n/a	n/a	0,08	0,1	0,11	0,13	0,14	0,18	0,17	0,18	0,21	0,21	0,18	0,17	0,14	0,14	n/a	n/a	n/a	n/a	n/a
DSI	O	n/a	n/a	12,7	10,4	10,4	10,8	10,7	11,7	12,9	12,4	12,3	12,4	12,8	13,4	12,9	10,5	10,5	n/a	n/a	n/a	n/a
	A	n/a	n/a	1,5	2,75	2,07	2,67	3,48	2,75	2,07	1,8	2,02	2,02	1,95	1,84	1,73	1,74	0,96	n/a	n/a	n/a	n/a
	F	n/a	n/a	14,8	10,8	12,7	15,1	12	9,43	9,27	10,6	12,1	10,7	9,93	13,5	21,6	21,1	28,8	n/a	n/a	n/a	n/a
	M	n/a	n/a	64,5	70,4	69,9	66,5	69,6	74,1	73,9	73,5	71,5	73,3	73,7	69,3	62,5	65,6	56,1	n/a	n/a	n/a	n/a

Table 1 Latvia's Vulnerability

LITHUANIA																							
		2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
EO		n/a	n/a	129,7	122	128	122	111	108	111	105	95,8	87,7	102	115	112	109	117	173	43,3	50,7	113
ExC		n/a	n/a	0,2	0,11	0,19	0,21	0,2	0,16	0,16	0,18	0,16	0,12	0,13	0,12	0,11	0,09	n/a	n/a	n/a	n/a	n/a
DSI	food	n/a	n/a	10,6	9,37	8,78	8,01	8,12	8,02	7,9	9,22	9,67	10,8	10,6	10,7	12,8	13,1	9,72	n/a	n/a	n/a	n/a
	agri	n/a	n/a	1,42	1,95	1,94	2,27	2,45	2,46	2,68	2,86	2,99	3,06	2,65	2,61	2,81	3,91	2,64	n/a	n/a	n/a	n/a
	fuel	n/a	n/a	27,7	16,3	22,4	24,2	18,8	16,8	16,5	20,4	21,8	14,8	14,3	17	18,1	19,4	31,6	n/a	n/a	n/a	n/a
	man	n/a	n/a	56,2	69,5	64,5	62,4	67,9	69,3	68,9	64	60,6	66,8	68,8	66,3	61,1	57,8	53	n/a	n/a	n/a	n/a

Table 2 Lithuania's Vulnerability

ICELAND																							
		2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
EO		n/a	n/a	92,33	80	82,1	75,5	73,9	71,7	73,3	78,7	74,4	71,9	73,9	71,9	72	67,4	66,4	62,4	60,7	63,8	66
ExC		n/a	n/a	0,43	0,38	0,39	0,39	0,38	0,38	0,37	0,38	0,39	0,4	0,4	0,37	0,38	0,41	n/a	n/a	n/a	n/a	n/a
DSI	food	n/a	n/a	8,83	7,57	6,79	7,78	9,93	10,4	11,2	9,83	9,07	10,4	10,1	10,3	10,7	11,8	11,6	11,7	9,68	9,23	9,28
	agri	n/a	n/a	1,18	1,41	1,16	1,33	1,58	1,8	1,42	1,35	1,21	1,07	1,86	1,54	1,38	1,58	1,53	1,71	1,65	1,64	1,75
	fuel	n/a	n/a	12,2	8,93	8,87	9,39	9,18	7,79	8,59	8,97	9,43	5,45	5,22	7,64	7,9	7,28	8,34	9,25	8,37	8,39	9,88
	man	n/a	n/a	76,2	80,6	80,8	79,5	77,6	77,9	76,1	78,4	78,9	81,9	81,2	78,8	78,2	77,6	76,7	75,8	78,9	79,3	77,6

Table 3 Iceland's Vulnerability

Appendix 2. Full Resilience Tables

Abbreviations and measurements (explanations) and sources:

THE INDICATORS OF STABILITY:

Government expenditure – *The part "Government spending" from the "Index of Economic Freedom"* – indicates the level of governments' spending (source: The Heritage Foundation) [data range 0 – 100]

Budget Balance – *The percentage of General Government Balance of GDP* – shows the difference between a state's revenues and expenses (source: IMF, Central Statistical Bureau of Latvia, because there was no data for Latvia in IMF database) [data range 0 - ± ∞ in %];

Inflation Rate – *The rate of inflation of consumer prices* – the ratio indicate the rise or fall in the prices of goods and services over time (source: IMF) [data range 0 - ± ∞ in %];

Unemployment Level – *The ratio in percentage of working population from total labour force* – The index of export concentration (source: IMF) [data range 0 – 100 in %];

External Debt – *The General Government Gross Debt as a Percentage of GDP* – The percentage shows how much the country owes the creditors in other countries. (Source: IMF) [data range 0 - ± ∞ in %];

The higher values are, the more stable a country is.

Macroeconomic Stability																								
Iceland	Indicators \ Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
	Government expenditure	0,00	45,80	44,00	46,30	41,70	32,00	30,90	37,90	43,00	44,50	58,90	58,90	43,50	42,40	40,60	n/a	n/a	n/a	n/a	n/a	n/a
	Budget balance	0,29	-2,49	-6,52	-0,54	5,74	6,73	6,10	1,38	-1,40	-1,41	0,88	3,62	3,27	1,96	2,20	0,76	-0,32	-2,45	-2,40	-0,04	1,09
	Inflation rate	n/a	n/a	12,00	12,68	5,06	6,68	4,00	3,15	2,06	5,17	6,40	5,12	3,22	1,72	1,75	2,30	1,65	1,55	4,08	3,96	6,81
	Unemployment level	7,52	8,13	8,02	1,65	1,01	1,29	2,06	3,10	3,36	2,50	1,40	2,31	2,01	2,74	3,88	3,72	4,86	5,33	5,26	4,30	2,55
	External debt	103,21	96,60	91,69	69,72	28,62	30,13	25,39	34,45	40,83	42,07	45,89	41,04	43,41	47,86	53,08	56,30	58,94	55,66	53,14	46,24	38,39
Latvia	Indicators \ Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
	Government expenditure	55,50	57,40	58,50	59,20	61,30	51,00	52,70	62,20	58,00	49,60	65,30	47,10	56,70	56,20	56,20	50,80	n/a	n/a	n/a	n/a	n/a
	Budget balance	n/a	-7,60	-9,60	-4,20	-0,30	-0,50	-0,40	-1,00	-1,60	-2,30	-1,90	-2,80	-3,90	0,00	1,50	-0,40	-1,60	n/a	n/a	n/a	n/a
	Inflation rate	n/a	n/a	3,53	15,40	10,11	6,53	6,74	6,19	2,96	1,92	2,48	2,65	2,36	4,66	8,44	17,61	24,98	35.93	108,77	243,27	n/a
	Unemployment level	17,18	18,98	17,12	7,49	5,97	6,86	8,90	9,88	10,60	13,27	13,12	14,23	13,79	14,53	14,71	20,20	n/a	n/a	n/a	n/a	n/a
	External debt	42,48	39,89	32,83	17,09	7,76	9,86	11,77	14,42	14,61	13,47	13,99	12,27	12,22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lithuania	Indicators \ Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
	Government expenditure	58,00	63,50	65,30	68,30	70,80	63,90	65,10	70,60	71,50	69,30	73,00	63,30	64,90	59,40	58,00	62,40	n/a	n/a	n/a	n/a	n/a
	Budget balance	-4,13	-6,07	-8,15	-2,80	-0,52	0,12	0,14	-0,79	-0,35	-0,89	-2,90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Inflation rate	n/a	n/a	4,45	10,94	5,75	3,74	2,67	1,14	-1,13	0,28	1,36	0,99	0,75	5,07	8,88	24,62	39,66	72,15	410,24	n/a	n/a
	Unemployment level	16,00	17,81	13,71	5,82	4,30	5,60	8,28	11,35	12,90	13,04	16,84	15,94	13,39	13,69	14,13	15,58	17,10	17,40	n/a	n/a	n/a
	External debt	43,52	38,67	29,62	15,59	16,92	18,04	18,47	19,40	21,15	22,26	22,82	23,70	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 4 the States' Macroeconomic Stability

THE INDICATORS OF FLEXIBILITY:

Microeconomic Market Efficiency:

Capital efficiency – The part "Business freedom" from the "Index of Economic Freedom"– indicate the overall burden of regulation on business (source: The Heritage Foundation) [data range 0 – 100] & the part "Financial freedom" from the "Index of Economic Freedom"– indicate governments' control and interference in countries' financial system (source: The Heritage Foundation) [data range 0 – 100];

Labour efficiency – The part "Fiscal freedom" from the "Index of Economic Freedom"– indicate the overall tax burden on individuals and enterprises (source: The Heritage Foundation) [data range 0 – 100] & the part "Labour freedom" from the "Index of Economic Freedom"– indicate governments' regulation of labour market (source: The Heritage Foundation) [data range 0 – 100];

Product efficiency – The part "Trade freedom" from the "Index of Economic Freedom"– evaluates the policies towards imports and exports (source: The Heritage Foundation) [data range 0 – 100] & the part "Monetary freedom" from the "Index of Economic Freedom"– shows governments' intervention in setting prices (source: The Heritage Foundation) [data range 0 – 100];

Good Governance:

Corruption – The level of corruption in a country/ The part "Freedom from Corruption" from the "Index of Economic Freedom"– the scores are obtained from the "Freedom of Corruption Index" and indicate an insecurity and uncertainty in a country (source: The Heritage Foundation.) [data range 0 - 100];

Property Rights – The part "Property rights" from the "Index of Economic Freedom"– The protection of private property and law enforcement by states (source: The Heritage Foundation) [data range 0 – 100];

Rule of Law – The part "Rule of Law" from the "Governance Matters Indicators" – The ideal 2,5 show that there is high quality of contract enforcement, well functioning police and courts, little likelihood of crime and violence, etc.. (Source: Kaufmann et al.) [data range - ± 2,5];

Social-human development:

Accountability – The part "Voice and Accountability" from the "Governance Matters Indicators"– indicate country's citizens' ability to participate in governance, as well as freedom of expression, freedom from association, and a free media (source: Kaufmann et al.) [data range - ± 2,5];

Life Expectancy – Living years expected at birth – shows the longevity of population (source: IMF) [data range 0 – ∞];

Healthiness – The Percentage of self-perceived as healthy of total population– indicate the amount of healthy people in countries. (Source: Eurostat) [data range 0 - ± ∞ in %];

Political Stability – The part "Political Stability and Absence of Violence" from the "Governance Matters Indicators"– shows the likelihood of unconstitutional change of power and the possibility of violence and terrorism. (Source: Kaufmann et al.) [data range - ± 2,5]

Sustainability:

Investment Freedom – The part "Investment freedom" from the "Index of Economic Freedom"– refers to investment's infrastructure and security (source: The Heritage Foundation) [data range 0 - 100];

Investment – The ratio of investments in a country to GDP in percentage– indicate the level of investment in a country (source: IMF) [data range 0 - ∞ in %];

Total Savings – The total countries savings as a percentage of GDP– The percentage shows how much a country has savings. (Source: IMF) [data range 0 - ± ∞ in %];

Investment in R&D – The gross domestic expenditure on Research and Experimental development as a Percentage of GDP– The percentage shows how much the country is investing in its future development. (Source: Eurostat) [data range 0 - ∞ in %];

The **higher** values are, the more flexible a country's economy is. The exception is financial freedom scores [in this case vice versa].

Flexibility																								
Microeconomic Market Efficiency																								
Indicators		Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Iceland	Capital	Business	92,70	93,00	93,60	94,50	94,90	91,50	85,00	85,00	85,00	85,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a	n/a
		Financial	60,00	60,00	70,00	70,00	70,00	90,00	90,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a	n/a
	Labour	Fiscal	69,80	75,40	76,20	73,60	73,50	73,70	72,50	58,70	69,00	63,10	62,90	64,80	60,50	61,20	61,60	n/a	n/a	n/a	n/a	n/a	n/a
		Labour	60,70	60,80	59,90	67,90	66,20	65,40	64,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Product	Trade	88,20	87,90	88,00	85,00	84,00	78,20	78,20	78,20	77,80	82,20	82,40	82,40	81,80	81,20	80,80	n/a	n/a	n/a	n/a	n/a	n/a
		Monetary	68,60	69,90	75,30	74,80	82,90	88,80	88,60	85,20	84,70	81,70	84,60	86,60	86,40	85,80	81,30	n/a	n/a	n/a	n/a	n/a	n/a
Latvia	Capital	Business	72,80	72,90	73,80	74,80	74,50	75,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	85,00	70,00	n/a	n/a	n/a	n/a	n/a
		Financial	50,00	50,00	60,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
	Labour	Fiscal	82,50	82,70	82,30	83,40	83,90	83,50	83,60	82,20	78,30	76,80	75,50	76,80	77,10	77,50	78,00	78,00	n/a	n/a	n/a	n/a	n/a
		Labour	61,30	59,10	61,60	64,10	66,90	66,60	63,50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Product	Trade	87,60	87,50	85,80	86,00	86,60	82,40	80,00	79,80	78,60	80,00	80,00	81,00	81,00	81,00	65,00	55,00	n/a	n/a	n/a	n/a	n/a
		Monetary	73,50	67,00	71,10	73,80	74,20	80,80	84,80	85,80	84,90	84,40	83,20	78,50	72,90	66,00	57,40	41,10	n/a	n/a	n/a	n/a	n/a
Lithuania	Capital	Business	81,70	82,00	82,40	84,20	84,30	85,20	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a
		Financial	80,00	80,00	80,00	80,00	80,00	90,00	90,00	90,00	70,00	50,00	50,00	50,00	50,00	50,00	50,00	30,00	n/a	n/a	n/a	n/a	n/a
	Labour	Fiscal	86,10	84,60	87,60	86,30	86,50	82,90	82,80	82,80	78,80	74,10	71,00	70,50	72,40	70,70	75,60	76,60	n/a	n/a	n/a	n/a	n/a
		Labour	55,60	58,50	54,60	57,70	57,30	57,10	55,80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Product	Trade	87,60	87,50	85,80	86,00	86,60	82,40	84,00	80,20	80,40	82,80	82,80	81,00	81,00	81,00	79,00	65,00	n/a	n/a	n/a	n/a	n/a
		Monetary	74,50	70,80	75,80	78,50	81,10	90,40	90,10	90,10	88,10	87,70	84,80	72,30	65,10	53,90	33,00	12,90	n/a	n/a	n/a	n/a	n/a
Good Governance																								
Indicators		Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Iceland	Corruption		87,00	89,00	92,00	96,00	97,00	95,00	96,00	94,00	92,00	91,00	92,00	93,00	90,00	90,00	90,00	n/a	n/a	n/a	n/a	n/a	n/a
	Property rights		90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	n/a	n/a	n/a	n/a	n/a	n/a
	Rule of law		n/a	n/a	n/a	1,91	2,03	2,06	2,12	2,09	2,06	1,99	n/a	1,92	n/a	1,83	n/a	1,73	n/a	n/a	n/a	n/a	n/a
Latvia	Corruption		45,00	50,00	48,00	47,00	42,00	40,00	38,00	37,00	34,00	34,00	34,00	27,00	30,00	30,00	30,00	50,00	n/a	n/a	n/a	n/a	n/a
	Property rights		50,00	55,00	55,00	55,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a
	Rule of law		n/a	n/a	n/a	0,73	0,59	0,52	0,48	0,53	0,53	0,35	n/a	0,23	n/a	0,20	n/a	0,15	n/a	n/a	n/a	n/a	n/a
Lithuania	Corruption		49,00	46,00	48,00	48,00	48,00	46,00	47,00	58,00	48,00	41,00	39,00	30,00	30,00	30,00	30,00	30,00	n/a	n/a	n/a	n/a	n/a
	Property rights		60,00	55,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a
	Rule of law		n/a	n/a	n/a	0,58	0,49	0,45	0,48	0,57	0,50	0,40	n/a	0,29	n/a	0,42	n/a	0,30	n/a	n/a	n/a	n/a	n/a
Social-human Development																								
Indicators		Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Iceland	Accountability		n/a	n/a	n/a	1,45	1,47	1,53	1,61	1,64	1,55	1,49	n/a	1,54	n/a	1,47	n/a	1,33	n/a	n/a	n/a	n/a	n/a
	Life expectancy		n/a	n/a	81,00	81,00	81,00	81,00	81,00	81,00	81,00	80,00	80,00	79,00	79,00	78,00	78,00	78,00	77,00	77,00	77,00	77,00	77,00
	Healthiness		n/a	n/a	45,80	45,20	46,20	50,10	48,90	47,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Political stability		n/a	n/a	n/a	1,22	1,65	1,59	1,62	1,63	1,68	1,53	n/a	1,43	n/a	1,28	n/a	1,05	n/a	n/a	n/a	n/a	n/a
Latvia	Accountability		n/a	n/a	n/a	0,86	0,86	0,85	0,77	0,72	0,91	0,85	n/a	0,71	n/a	0,81	n/a	0,75	n/a	n/a	n/a	n/a	n/a
	Life expectancy		n/a	n/a	73,00	72,00	71,00	71,00	71,00	71,00	71,00	71,00	71,00	70,00	70,00	69,00	69,00	69,00	66,00	66,00	67,00	68,00	69,00
	Healthiness		n/a	n/a	4,10	4,70	3,40	3,30	2,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Political stability		n/a	n/a	n/a	0,40	0,63	0,76	0,76	0,78	1,01	0,81	n/a	0,45	n/a	-0,01	n/a	0,22	n/a	n/a	n/a	n/a	n/a
Lithuania	Accountability		n/a	n/a	n/a	0,85	0,89	0,91	0,91	0,90	1,03	0,92	n/a	0,85	n/a	0,89	n/a	0,93	n/a	n/a	n/a	n/a	n/a
	Life expectancy		n/a	n/a	73,00	72,00	71,00	71,00	71,00	72,00	72,00	72,00	72,00	72,00	72,00	71,00	71,00	70,00	69,00	69,00	69,00	70,00	70,00
	Healthiness		n/a	n/a	7,30	6,70	6,70	6,30	7,00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Political stability		n/a	n/a	n/a	0,73	0,74	0,80	0,79	0,82	1,04	0,86	n/a	0,44	n/a	0,31	n/a	0,17	n/a	n/a	n/a	n/a	n/a
Sustainability																								
Indicators		Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Iceland	Investment freedom		65,00	65,00	70,00	60,00	60,00	50,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a	n/a
	Investment %		14,63	12,70	14,15	24,76	29,01	35,18	28,30	23,42	19,78	18,20	21,27	23,24	21,80	24,14	19,69	18,95	16,34	16,00	16,91	18,10	20,03
	Total savings		15,70	4,71	3,73	-4,02	12,70	9,32	12,15	13,48	14,93	19,65	16,83	12,98	14,96	17,33	17,86	17,14	17,06	17,92	17,59	15,70	16,02
	Investment in R&D		n/a	n/a	n/a	2,65	2,70	2,99	2,77	n/a	2,82	2,95	2,95	2,67	2,30	2,00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Latvia	Investment freedom		80,00	80,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
	Investment %		21,42	20,67	20,28	31,17	40,39	36,69	34,39	33,03	28,75	26,68	26,61	23,71	23,43	24,85	20,65	18,10	15,01	16,58	9,75	23,54	n/a
	Total savings		24,02	24,25	28,90	18,11	18,06	17,20	21,89	20,12	20,60	20,08	19,05	18,85	12,53	14,82	14,56	11,16	13,79	18,11	17,49	19,86	n/a
	Investment in R&D		n/a	n/a	n/a	0,61	0,59	0,70	0,56	0,42	0,38	0,42	0,41	0,44	0,36	0,40	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lithuania	Investment freedom		80,00	75,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
	Investment %		19,62	16,83	10,64	26,77	30,87	26,34	23,90	22,70	21,88	20,69	19,29	18,89	21,30	24,27	24,54	20,95	22,64	n/a	n/a	n/a	n/a
	Total savings		18,71	18,67	15,11	13,70	15,80	15,96	16,81	15,20	15,11	15,56	14,57	12,99	10,42	12,74	14,85	12,38	13,52	n/a	n/a	n/a	n/a
	Investment in R&D		n/a	n/a	n/a	0,80	0,81	0,79	0,75	0,75	0,67	0,66	0,67	0,59	0,50	0,54	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 5 the States' Flexibility

Iceland																								
	Indicators		Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Stability	Government expenditure			0,00	45,80	44,00	46,30	41,70	32,00	30,90	37,90	43,00	44,50	58,90	58,90	43,50	42,40	40,60	n/a	n/a	n/a	n/a	n/a	n/a
	Budget balance			0,29	-2,49	-6,52	-0,54	5,74	6,73	6,10	1,38	-1,40	-1,41	0,88	3,62	3,27	1,96	2,20	0,76	-0,32	-2,45	-2,40	-0,04	1,09
	Inflation rate			n/a	n/a	12,00	12,68	5,06	6,68	4,00	3,15	2,06	5,17	6,40	5,12	3,22	1,72	1,75	2,30	1,65	1,55	4,08	3,96	6,81
	Unemployment level			7,52	8,13	8,02	1,65	1,01	1,29	2,06	3,10	3,36	2,50	1,40	2,31	2,01	2,74	3,88	3,72	4,86	5,33	5,26	4,30	2,55
	External debt			103,21	96,60	91,69	69,72	28,62	30,13	25,39	34,45	40,83	42,07	45,89	41,04	43,41	47,86	53,08	56,30	58,94	55,66	53,14	46,24	38,39
Flexibility	Market efficiency	Capital	Business	92,70	93,00	93,60	94,50	94,90	91,50	85,00	85,00	85,00	85,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a	n/a
			Financial	60,00	60,00	70,00	70,00	70,00	90,00	90,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a	n/a
		Labour	Fiscal	69,80	75,40	76,20	73,60	73,50	73,70	72,50	58,70	69,00	63,10	62,90	64,80	60,50	61,20	61,60	n/a	n/a	n/a	n/a	n/a	n/a
			Labour	60,70	60,80	59,90	67,90	66,20	65,40	64,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Product	Trade	88,20	87,90	88,00	85,00	84,00	78,20	78,20	78,20	77,80	82,20	82,40	82,40	81,80	81,20	80,80	n/a	n/a	n/a	n/a	n/a	n/a
			Monetary	68,60	69,90	75,30	74,80	82,90	88,80	88,60	85,20	84,70	81,70	84,60	86,60	86,40	85,80	81,30	n/a	n/a	n/a	n/a	n/a	n/a
	Governance		Corruption	87,00	89,00	92,00	96,00	97,00	95,00	96,00	94,00	92,00	91,00	92,00	93,00	90,00	90,00	90,00	n/a	n/a	n/a	n/a	n/a	n/a
			Property rights	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	90,00	n/a	n/a	n/a	n/a	n/a	n/a
			Rule of law	n/a	n/a	n/a	1,91	2,03	2,06	2,12	2,09	2,06	1,99	n/a	1,92	n/a	1,83	n/a	1,73	n/a	n/a	n/a	n/a	n/a
	Social-human development		Accountability	n/a	n/a	n/a	1,45	1,47	1,53	1,61	1,64	1,55	1,49	n/a	1,54	n/a	1,47	n/a	1,33	n/a	n/a	n/a	n/a	n/a
			Life expectancy	n/a	n/a	81,00	81,00	81,00	81,00	81,00	81,00	81,00	80,00	80,00	79,00	79,00	78,00	78,00	78,00	77,00	77,00	77,00	77,00	
			Healthiness	n/a	n/a	45,80	45,20	46,20	50,10	48,90	47,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
			Political stability	n/a	n/a	n/a	1,22	1,65	1,59	1,62	1,63	1,68	1,53	n/a	1,43	n/a	1,28	n/a	1,05	n/a	n/a	n/a	n/a	n/a
	Sustainability		Investment freedom	65,00	65,00	70,00	60,00	60,00	50,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a	n/a
			Investment %	14,63	12,70	14,15	24,76	29,01	35,18	28,30	23,42	19,78	18,20	21,27	23,24	21,80	24,14	19,69	18,95	16,34	16,00	16,91	18,10	20,03
			Total savings	15,70	4,71	3,73	-4,02	12,70	9,32	12,15	13,48	14,93	19,65	16,83	12,98	14,96	17,33	17,86	17,14	17,06	17,92	17,59	15,70	16,02
			Investment in R&D	n/a	n/a	n/a	2,65	2,70	2,99	2,77	n/a	2,82	2,95	2,95	2,67	2,30	2,00	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 6 Iceland's Resilience

Latvia																									
	Indicators \ Year			2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Stability	Government expenditure			55,50	57,40	58,50	59,20	61,30	51,00	52,70	62,20	58,00	49,60	65,30	47,10	56,70	56,20	56,20	50,80	n/a	n/a	n/a	n/a	n/a
	Budget balance			n/a	-7,60	-9,60	-4,20	-0,30	-0,50	-0,40	-1,00	-1,60	-2,30	-1,90	-2,80	-3,90	0,00	1,50	-0,40	-1,60	n/a	n/a	n/a	n/a
	Inflation rate			n/a	n/a	3,53	15,40	10,11	6,53	6,74	6,19	2,96	1,92	2,48	2,65	2,36	4,66	8,44	17,61	24,98	35.93	108,77	243,27	n/a
	Unemployment level			17,18	18,98	17,12	7,49	5,97	6,86	8,90	9,88	10,60	13,27	13,12	14,23	13,79	14,53	14,71	20,20	n/a	n/a	n/a	n/a	n/a
	External debt			42,48	39,89	32,83	17,09	7,76	9,86	11,77	14,42	14,61	13,47	13,99	12,27	12,22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Flexibility	Market efficiency	Capital	Business	72,80	72,90	73,80	74,80	74,50	75,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	85,00	70,00	n/a	n/a	n/a	n/a	n/a
			Financial	50,00	50,00	60,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
		Labour	Fiscal	82,50	82,70	82,30	83,40	83,90	83,50	83,60	82,20	78,30	76,80	75,50	76,80	77,10	77,50	78,00	78,00	n/a	n/a	n/a	n/a	n/a
			Labour	61,30	59,10	61,60	64,10	66,90	66,60	63,50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Product	Trade	87,60	87,50	85,80	86,00	86,60	82,40	80,00	79,80	78,60	80,00	80,00	81,00	81,00	81,00	65,00	55,00	n/a	n/a	n/a	n/a	n/a
			Monetary	73,50	67,00	71,10	73,80	74,20	80,80	84,80	85,80	84,90	84,40	83,20	78,50	72,90	66,00	57,40	41,10	n/a	n/a	n/a	n/a	n/a
	Governance	Corruption		45,00	50,00	48,00	47,00	42,00	40,00	38,00	37,00	34,00	34,00	34,00	27,00	30,00	30,00	30,00	50,00	n/a	n/a	n/a	n/a	n/a
		Property rights		50,00	55,00	55,00	55,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a
		Rule of law		n/a	n/a	n/a	0,73	0,59	0,52	0,48	0,53	0,53	0,35	n/a	0,23	n/a	0,20	n/a	0,15	n/a	n/a	n/a	n/a	n/a
	Social-human development	Accountability		n/a	n/a	n/a	0,86	0,86	0,85	0,77	0,72	0,91	0,85	n/a	0,71	n/a	0,81	n/a	0,75	n/a	n/a	n/a	n/a	n/a
		Life expectancy		n/a	n/a	73,00	72,00	71,00	71,00	71,00	71,00	71,00	71,00	71,00	70,00	70,00	69,00	69,00	69,00	66,00	66,00	67,00	68,00	69,00
		Healthiness		n/a	n/a	4,10	4,70	3,40	3,30	2,60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Political stability		n/a	n/a	n/a	0,40	0,63	0,76	0,76	0,78	1,01	0,81	n/a	0,45	n/a	-0,01	n/a	0,22	n/a	n/a	n/a	n/a	n/a
	Sustainability	Investment freedom		80,00	80,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
		Investment %		21,42	20,67	20,28	31,17	40,39	36,69	34,39	33,03	28,75	26,68	26,61	23,71	23,43	24,85	20,65	18,10	15,01	16,58	9,75	23,54	n/a
		Total savings		24,02	24,25	28,90	18,11	18,06	17,20	21,89	20,12	20,60	20,08	19,05	18,85	12,53	14,82	14,56	11,16	13,79	18,11	17,49	19,86	n/a
		Investment in R&D		n/a	n/a	n/a	0,61	0,59	0,70	0,56	0,42	0,38	0,42	0,41	0,44	0,36	0,40	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 7 Latvia's Resilience

Lithuania																								
	Indicators \ Year			2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Stability	Government expenditure			58,00	63,50	65,30	68,30	70,80	63,90	65,10	70,60	71,50	69,30	73,00	63,30	64,90	59,40	58,00	62,40	n/a	n/a	n/a	n/a	n/a
	Budget balance			-4,13	-6,07	-8,15	-2,80	-0,52	0,12	0,14	-0,79	-0,35	-0,89	-2,90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Inflation rate			n/a	n/a	4,45	10,94	5,75	3,74	2,67	1,14	-1,13	0,28	1,36	0,99	0,75	5,07	8,88	24,62	39,66	72,15	410,24	n/a	n/a
	Unemployment level			16,00	17,81	13,71	5,82	4,30	5,60	8,28	11,35	12,90	13,04	16,84	15,94	13,39	13,69	14,13	15,58	17,10	17,40	n/a	n/a	n/a
	External debt			43,52	38,67	29,62	15,59	16,92	18,04	18,47	19,40	21,15	22,26	22,82	23,70	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Flexibility	Market efficiency	Capital	Business	81,70	82,00	82,40	84,20	84,30	85,20	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	n/a	n/a	n/a	n/a	n/a
			Financial	80,00	80,00	80,00	80,00	80,00	90,00	90,00	90,00	70,00	50,00	50,00	50,00	50,00	50,00	50,00	30,00	n/a	n/a	n/a	n/a	n/a
		Labour	Fiscal	86,10	84,60	87,60	86,30	86,50	82,90	82,80	82,80	78,80	74,10	71,00	70,50	72,40	70,70	75,60	76,60	n/a	n/a	n/a	n/a	n/a
			Labour	55,60	58,50	54,60	57,70	57,30	57,10	55,80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Product	Trade	87,60	87,50	85,80	86,00	86,60	82,40	84,00	80,20	80,40	82,80	82,80	81,00	81,00	81,00	79,00	65,00	n/a	n/a	n/a	n/a	n/a
			Monetary	74,50	70,80	75,80	78,50	81,10	90,40	90,10	90,10	88,10	87,70	84,80	72,30	65,10	53,90	33,00	12,90	n/a	n/a	n/a	n/a	n/a
	Governance	Corruption		49,00	46,00	48,00	48,00	48,00	46,00	47,00	58,00	48,00	41,00	39,00	30,00	30,00	30,00	30,00	30,00	n/a	n/a	n/a	n/a	n/a
		Property rights		60,00	55,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	n/a	n/a	n/a	n/a	n/a
		Rule of law		n/a	n/a	n/a	0,58	0,49	0,45	0,48	0,57	0,50	0,40	n/a	0,29	n/a	0,42	n/a	0,30	n/a	n/a	n/a	n/a	n/a
	Social-human development	Accountability		n/a	n/a	n/a	0,85	0,89	0,91	0,91	0,90	1,03	0,92	n/a	0,85	n/a	0,89	n/a	0,93	n/a	n/a	n/a	n/a	n/a
		Life expectancy		n/a	n/a	73,00	72,00	71,00	71,00	71,00	72,00	72,00	72,00	72,00	72,00	72,00	71,00	71,00	70,00	69,00	69,00	69,00	70,00	70,00
		Healthiness		n/a	n/a	7,30	6,70	6,70	6,30	7,00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Political stability		n/a	n/a	n/a	0,73	0,74	0,80	0,79	0,82	1,04	0,86	n/a	0,44	n/a	0,31	n/a	0,17	n/a	n/a	n/a	n/a	n/a
	Sustainability	Investment freedom		80,00	75,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	70,00	50,00	n/a	n/a	n/a	n/a	n/a
		Investment %		19,62	16,83	10,64	26,77	30,87	26,34	23,90	22,70	21,88	20,69	19,29	18,89	21,30	24,27	24,54	20,95	22,64	n/a	n/a	n/a	n/a
		Total savings		18,71	18,67	15,11	13,70	15,80	15,96	16,81	15,20	15,11	15,56	14,57	12,99	10,42	12,74	14,85	12,38	13,52	n/a	n/a	n/a	n/a
		Investment in R&D		n/a	n/a	n/a	0,80	0,81	0,79	0,75	0,75	0,67	0,66	0,67	0,59	0,50	0,54	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 8 Lithuania's Resilience

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