

# National Security at a Crossroad

Marek Šusta, Stanislav Simbartl

**Abstract:** *In this short paper the authors describe their evaluation of a national security strategy published by the government of a small Central European country, in terms of its viability, using computer based policy simulation. The computer model was built in a form of management flight simulation to be used for testing various strategic scenarios across all security system components under various funding schemes. Respective strategy scenario success is measured primarily by the so-called Social Distress dynamics that should remain at acceptable levels to maintain in-country order and citizen's safety, keeping the risk of insurgency low. The secondary purpose of the model is to test the country's international counterinsurgency commitments fulfillment.*

**Key words:** National Security Strategy · Computer Modeling · Systems Thinking · System Dynamics

**JEL Classification:** C60

## 1 Introduction

The Czech Republic has gone through more than two decades of transformation from an authoritarian communist state to a democratic country fully integrated into the European Union and NATO. Not only did it have to adapt its security policy to the changes in the security environment after the end of the Cold War, it also had to set up the entire legislative, conceptual, and policy framework for its own security, build new institutions and radically reform the existing ones, create its own security culture, and develop its own approach – political, diplomatic, legal, organizational, and technical – to both international and internal security issues.

Political disputes (as everywhere) complicate the management of national security, and strategic documents reflect the security environment instead of anticipating it. All available documents do not address policy, and provide no guidelines for decision-making (Government of the Czech Republic, 2011, 2015). A related hypothesis is that some good results might still be achieved, even without a clear and stable policy framework. What is needed is a culture of debate and consensus at the professional expert level within the country's security sector, in order to bypass the ideological rivalries and short-term interests of party politics facing today's European security situation influenced by massive immigration from culturally different countries, increase in Russian activity and possible changes in the US approach to NATO. There is also a discussion on European joint foreign and security policy.

The viability of any strategy depends on adequate economic backing. However, during the 1990s, defence and security sectors were increasingly marginalized and budget transfers often served to expand funding for other priorities. Decisions about earmarking funds for security were not governed by the content of strategic documents. Instead, things were done the other way around with documents formulated based on funds the government was willing to provide. This practice of budgetary “activism” together with gradual reductions in the defence budget, plus a series of scandals over large acquisitions for the army, proved a poisonous cocktail for Czech security. (Institute of Health Information and Statistics of the Czech Republic, 2000-2015; Ministry of Defence, 1993-2012; Ministry of Interior, 2001-2012).

None of the Czech Republic strategies have ever been modeled or simulated. No dynamic scenarios were ever published. The reason why, is rather simple; simulation outcome might look depressive. Due to the global economic crisis, current trends in the public finances remain unfavorable for the security sector budget. Honoring international commitments to participation in expeditionary missions remains a priority, therefore spending cuts affects modernization and personnel costs. The modernization of the security forces has slowed down and in some areas has actually stopped.

On the other hand, there is a strategy that generally says “Czechs are going to cooperate with all allies and every single part of the security system will be supported to deliver the required outcome” (Government of the Czech Republic, 2011).

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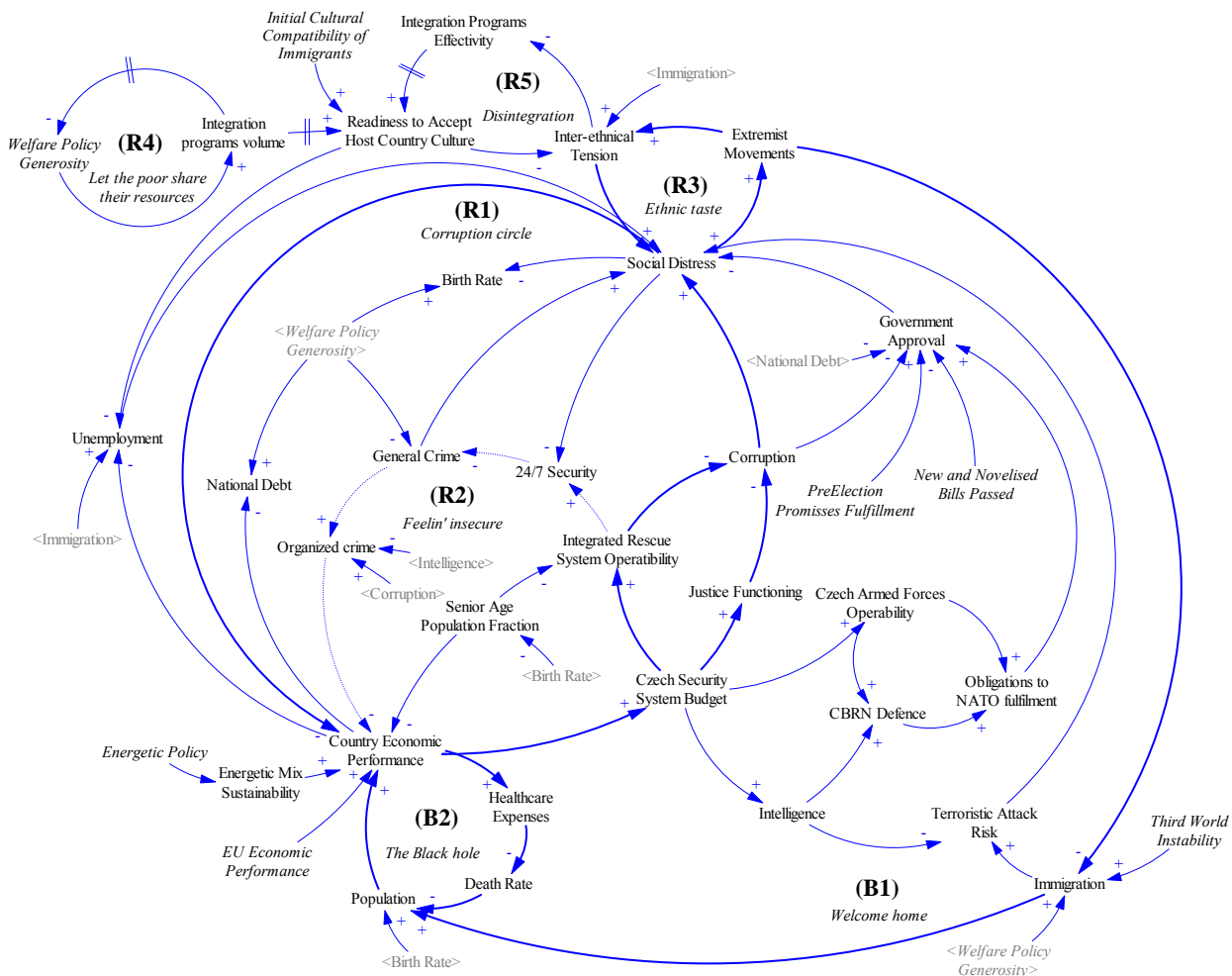
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## 2 Methods

Due to lack of systems based evaluation of the national security strategy and policies, the System dynamics approach had been chosen. The security environment and fundamental parameter relations are depicted in Figure 1. The figure takes form of systems thinking causal loop diagram (Susta, 2015) and covers even the last factors with high importance to national security like immigration.

**Figure 1** Causal Loop Diagram of the national security



Source: authors

The Causal Loop Diagram (Figure 1) covers areas related directly or indirectly to national and personal security. Due to the closed loops nature of the diagram, the term cornerstone might not be appropriate, but as the analysis showed, both the armed forces and the integrated rescue system (police force, fire and medical emergency squads) are strongly budget dependent and Czech security budget value is crucial for security system component development or decay (Balaban M. & Stejskal L., 2010). The Security Budget derived from the Country Economic Performance (gross domestic product) in such a small and open economy as the Czech Republic is related to the European Union's economic performance. In this study, modeled system boundaries copy Czech Republic borders; EU economic performance is therefore treated as exogenous. The country's economic performance absolute value is also related to the political party in power. Conservative parties tend to push decreases, while liberals seem to increase government spending. The idea of state assured welfare is historically strong in Europe, most government spending goes to pensions and support of all kinds, including generous support for so called maladjusted citizens. Therefore, governmental social support (Welfare Policy Generosity) causes a decrease of General Crime. Practically no one is left unsupported and crime is a chosen path, not a way necessary for survival. Even citizens that never worked are generously supported, and this policy increases Inter-Ethnic Tension because this lifestyle is typical for certain minorities. A change in welfare directly affects the Birth Rate and because current levels of social support go well beyond the country's economic performance, the National Debt also is increasing (Czech Statistical Office, 2000-2012). But having a security budget high enough is certainly not an ultimate goal of any security strategy.

The most important parameter of Social Distress must remain reasonable in order to maintain acceptable in-country order and safety of all citizens. With the exception of The Black hole (B2) all loops meet in Social Distress and its value therefore strongly affects overall behavior of the model. Social Distress is connected to the Political System Stability. A frequent change in political representation often means 180 degrees public policy reversal, causing immediate uncertainty for businesses and employed citizens. Inter-Ethnic Tension has a long history in Central Europe. Especially after the Velvet revolution (1989) the Czech government welfare policy evoked massive immigration and population explosion in certain ethnic groups that are now totally social-transfer dependent. These groups also contribute greatly to the crime rate (Ministry of Interior, 2008). Extremist counter-movements ensued in reaction to higher crime rate, elevates inter-ethnic tension even more, forming a positive feedback loop Ethnic taste (R3). Social Distress together with the welfare policy correlates with the birth rate (Czech Statistical Office, 2011), affects parliamentary Election Frequency (Masters change-R4 loop) and extremist activities (Ethnic taste-R3 loop). Extremist movements hinder Immigration and boost Inter-ethnic Tension (Ministry of Interior, 2008). The welfare policy range is a function of the political party in power as well as the Third World Instability. Immigration, which is affected by Third World Instability, and Terrorist Attack Risk are treated exogenously in Welcome home (B1) loop. Terrorist Attack Risk is another factor that affects Social Distress. Increase in Immigration combined with possible religious disputes between newcomers and traditional culture might substantially change Social Distress level.

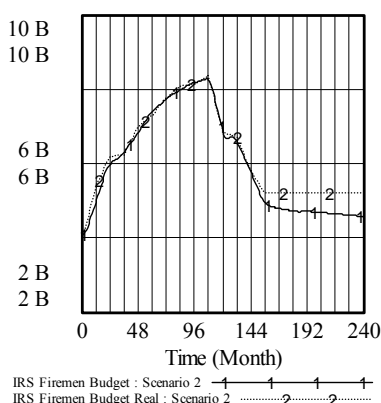
### 3 Research results

World The model uses real data from respective sources. Some parts of the model involving the armed forces and intelligence covers areas where real data values are classified. To make the simulation possible required sub-models that helped to track relationships between budget and capabilities in the armed forces (Susta M., 2011). Budget resources are divided into three areas, covering army human resources, operations and materiel. Performance in these three areas forms overall parameter called Czech Armed Forces Operability. Scale between 0-100 was chosen as a referential for all security system components in terms of operability. The simulation starting date was set at 2001 and past data was gathered for the whole period of 2001-2016. The simulation runs for 240 months and the obtained patterns allows running a reality check on the model behavior.

One of the scenarios modeled and simulated is based on following description of possible future development. In some cases the figure is a result of comparison with so called base scenario, where no special policy takes action and the system is left to itself to exhibit its natural behavior.

The security system of the Czech Republic started developing in the late 1990s, mainly in response to the country's accession to NATO (1999) and the subsequent accession to the European Union (2004). Another important impulse for the building of a fully operational security system was provided by two devastating natural disasters – the floods of 1997 and 2002. Even in 2012 it could still be said, in line with the Security Strategy of 2011, that “the security system serves not only as an instrument for the effective management of both military and non-military crises, but also ensures prevention of, and preparation for, potential crisis situations, as well as their timely identification and warning”.

**Figure 2** Fire Rescue System Budget (bil. CZK)



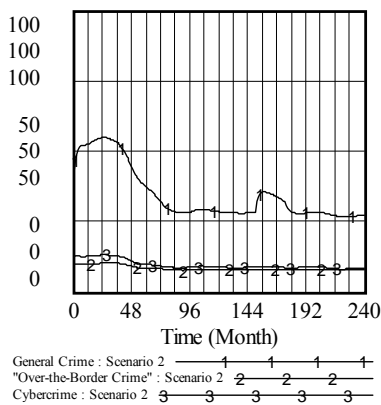
Source: authors

However, during the rest of the second decade, the security system gradually sank deep into financial problems, which was due partly to the economic crisis and also to some extent incompetent management by the government or the key ministries (especially Interior, but also Defense) that were forced to compete for resources. The crisis hit all the key

components of the system: the Fire Rescue Service (FRS), the Police Force of the Czech Republic and the Army of the Czech Republic (ACR). Figure 2 shows Fire Rescue System budget with the increased budget policy applied.

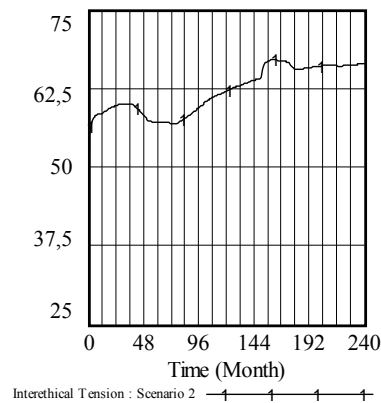
Uncontrolled, disorganized implementation of budgetary austerity was under way in all parts of the security system. In 2017 the FRS (with a budget “trimmed” by CZK 306 million) found itself on a budgetary trajectory that resulted in layoffs of firemen, a lowering of fire protection standards, and a decline of the Integrated Rescue System which resulted in a crisis management in the whole of the Czech Republic. Under pressure of the austerity measures, the Police Force of the Czech Republic had to lower its standards of security provision (the number and operational readiness of police stations fell, response time to crime calls increased). In 2019, the Police Force found itself in a state of a staffing collapse, with only 30,000 policemen doing work that, according to expert estimates, required at least 40,000. The drastic reduction of police numbers was one of the key factors contributing to the sharp rise in crime and the fact that the police effectively lost control over certain parts of the country, especially those communities with a high concentration suffering from social exclusion (Figures 3, 4).

**Figure 3** Crime (Dimensionless)



Source: authors

**Figure 4** Inter-ethical tension (Dimensionless)



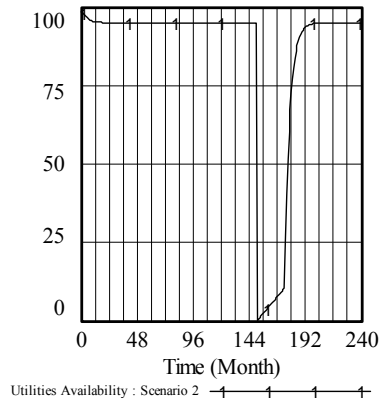
Source: authors

The Army of the Czech Republic also found itself in a budgetary impasse which led to a blanket salary reduction, a reduction or abolition of certain benefits and also further layoffs of both military and civilian personnel. Moreover, throughout the first half of the 2010s the internal debt of the army kept increasing, reaching CZK 100 billion.

From 2017 to 2020, the security system already showed signs of strain, fulfilling its primary functions only to a limited extent. After 2020, however, the deficiencies in its operation became painfully evident. In the exceptionally hot July of 2023, an extreme grid overload caused a full three-day blackout followed by 20 months of more or less unavailable electricity, not only in the Czech Republic, but also in neighboring Germany. The blackout event (Figure 5) is described in detail in the guidelines published by the government (Government of the Czech Republic, 2010). It was necessary to ensure emergency distribution of water, food and drugs to maintain public order, but the Fire Rescue Service, the Police Force of the Czech Republic and the Army of the Czech Republic, troubled by both personnel and

technology deficits, proved inadequate for the task. Moreover, in areas with high unemployment, crime rate and ethnic tensions (northern Bohemia, northern Moravia) the blackout led to organized looting and destruction of private property. The security system failed to bring these issues under control, although it was the first time in post-1989 history that the army was used to quell internal unrest. The strong frustration caused by the great loss of lives and damage to property led to the fall of the government and boosted the popularity of extremist groups.

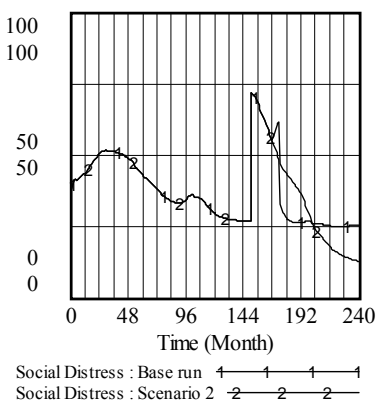
**Figure 5** Utilities availability (Dimensionless)



Source: authors

After the early parliamentary elections in spring 2022, the new government was forced to adopt radical measures to stabilize and further develop the security system. Apart from increasing the budget of its key components (this increase, however, only averted their full-scale collapse), it began to prepare a draft Concept of Security System Development. The aim was to knit the security system more closely together economically, technologically, and structurally. It would operate with maximum efficiency and draw part of its funding from private-sector sources (e.g. through an “insurance tax” paid by the insurance companies of the Fire Rescue Service). The drafting and implementation process was so complex, however, that the Concept could only be fully implemented in the late 2010s. This dynamics follows “worse before better” pattern, described by Sterman (Sterman J., 2000). When the budget increase, accompanied with security system components optimization, it causes social distress to last longer (Figure 6), but ending up in lower values than base run.

**Figure 6** Social Distress - Base run and Scenario comparison (Dimensionless)



Source: authors

Similar dynamics is observed in all simulated areas. Two policies are available for model users in the Optimization scenario – Real Optimization and Cuts only. The second one creates better before worse patterns, as expected. Table 1 shows KPI’s for the simulated scenario. Simulation outcomes show the best results, but this scenario requires large intra and intersystem changes. The question of cybercrime existence when there is not enough electricity available is left unsolved. Lack of electricity might result in inadequacy of anti-cybercrime measures. Parameters that met requirements are typed in bold.

**Table 1** Strategic KPI's, base scenario

|                                      | Required | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--------------------------------------|----------|------|------|------|------|------|------|------|------|------|------|------|
| General Crime                        | 16       | 17   | 17   | 18   | 18   | 19   | 19   | 19   | 19   | 20   | 20   | 20   |
| Over-the-border Crime                | 12       | 12   | 12   | 12   | 13   | 13   | 13   | 14   | 14   | 14   | 14   | 14   |
| Cybercrime                           | 8        | 13   | 13   | 14   | 15   | 15   | 16   | 16   | 16   | 17   | 17   | 17   |
| Corruption                           | 23       | 49   | 41   | 38   | 37   | 39   | 41   | 42   | 42   | 42   | 43   | 44   |
| Terrorist Attack Risk                | 10       | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    |
| Extremist Movements                  | 15       | 39   | 40   | 40   | 40   | 41   | 41   | 42   | 42   | 43   | 43   | 43   |
| 24/7 security                        | 76       | 75   | 77   | 78   | 78   | 77   | 76   | 76   | 75   | 75   | 74   | 73   |
| Obligations to NATO Fulfillment      | 100      | 45   | 45   | 44   | 43   | 42   | 42   | 42   | 42   | 41   | 41   | 41   |
| Social Distress                      | 24       | 33   | 29   | 28   | 28   | 29   | 31   | 31   | 31   | 31   | 32   | 32   |
| Armed Forces Operability             | 37       | 34   | 33   | 33   | 32   | 31   | 31   | 31   | 31   | 30   | 30   | 30   |
| Police Operability                   | 65       | 66   | 66   | 65   | 64   | 63   | 63   | 62   | 62   | 62   | 62   | 62   |
| IRS - Firemen Operability            | 100      | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 96   | 92   | 89   | 86   |
| IRS - Emergency Medicine Operability | 100      | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |

Source: authors

Almost all parameters dropping, the immigration is kept at very low numbers, the only well-functioning services is the Integrated Rescue System. The only parameter in this scenario that actually meets requirements is the Terrorist Attack Risk.

#### 4 Conclusions

The scenario does not explicitly model impact of immigration, the number of immigrants is kept low but simulation results clearly show that without significant changes in approach to national security the level of sustainability and security will continue to drop. The model building and scenario simulation effort fills blind spots and comes with clear results, quantified parameters and a set of KIP's that can measure success or failure of strategic initiatives and government policies applied to the close future. Simulation outcomes indicate that the Czech Republic security system left untouched by insightful policy or policies will deteriorate, ending up in an unfavorable state as Table 1 shows. Having a security strategy is surely nice, but every strategy must be translated into a concrete set of coherent actions in order to succeed. The model was built in a form of management flight simulator using Sable environment and now is being used to test various strategies. As with every project that borders science and real life work, it is never perfect but in this case the answers were found.

#### Acknowledgement

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