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Postojová nestabilita

Opinion instability

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Rád bych poděkoval svému vedoucím, Dr. Jiřímu Vinopalovi, za trpělivé a neocenitelné rady během psaní mé diplomové práce.

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V Praze, dne 15. července 2019

.....

Aleš Vomáčka

Abstrakt

Práce se zabývá tématem nestability postojů v čase a klade si tři základní otázky: Existuje postojová nestabilita? Jak běžný je výskyt postojové nestability? Co může být příčinou postojové nestability? Práce je kombinací rešerše předchozích studií, relevantních pro téma postojové nestability a sekundární analýzy několika data setů. Závěry práce jsou, že postojová nestabilita je reálně existující fenomén, spíše než artefakt měření. Dále, míra výskytu do značné míry závisí na operacionální definici postojové nestability, ale jedná se o relativně běžný jev. Determinanty postojové nestability jsou schopnosti a motivace jedince k tématu, stejně jako míra výskytu a konzistence prezentování tématu.

Klíčová slova: veřejné mínění, postoje, postojová nestabilita, Receive-Accept-Sample model, Black-and-white model, Elaboration likelihood model of persuasion

Abstract

This thesis is concerned with the topic of opinion instability and is centred on three questions: Does opinion instability exist? How prevalent opinion instability is? What may be the cause of opinion instability? The thesis combines previous studies relevant for the topic and secondary analysis of several datasets. The conclusions of the thesis are that opinion instability is a real phenomenon, rather than an artefact of measurement. Furthermore, the prevalence of opinion instability depends for a large part in its operationalization, although it can be considered relatively common. The determinants of opinion instability are the topic proficiency and motivation, as well as the prevalence of the topic and consistency of frames.

Key words: Public opinion, opinions, attitudes, opinion instability, Receive-Accept-Sample model, Black-and-white model, Elaboration likelihood model of persuasion

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1. Introduction

One of the most pressing contemporary questions is the participation of public in political process. Many political groups across Europe, including some in the Czech Republic, are increasingly advocating for the introduction of more direct means of public participation. A significant milestone in this effort was the politically binding British referendum about the leaving of the European Union. This referendum gives hope to those, who strive for a routine use of national referendums in the future. However, such degree of direct democracy is based on several implicit assumptions. Among others, it is assumed that individuals have stable, cohesive opinions about topics in question. However, this may not be the case. Previous research suggests that opinions are far from stable, as significant number of respondents possess a different opinion at one point in time than in previous, not so distant moment. In fact, it may be the case that most people do not hold a stable opinion about most topics they encounter. Unfortunately, research of opinion instability is currently underdeveloped. This thesis aims to at least partially remedy that. More specifically, this thesis will ask three questions: a) Does opinion instability exist? b) How prevalent opinion instability is? c) What are the causes of opinion instability?

The first question is answered in chapter 2 *Are opinions unstable?* Such question may seem strange at first. After all, this whole thesis is dedicated to the idea that opinion instability does exist. However, as we will see, the notion that opinions are unstable has been disputed for almost as long as the topic has been researched. The core of this dispute stems from the topic of opinion measurement. More specifically, there is a lack of consensus on how much of the change between measurements can be attributed to a real change of opinion and how much is merely a measurement error. As we will see, this question still lacks a conclusive answer. Despite this perhaps unfulfilling conclusion, we will see that opinions at the very least can be unstable. This will lead us to the second main question of this thesis, i.e. how prevalent opinion instability is. The topic of prevalence will be discussed in chapter 3, titled *Prevalence of opinion instability*, which summarize previous studies on the topic, as well as discusses various approaches to the operationalization of opinion instability and their effect on the its prevalence. Lastly, chapter 4 *Nature of opinion instability* moves into a more theoretical territory. In this chapter, we will discuss several prominent models of opinion formation and use them to uncover possible sources of opinion instability. We will discuss both internal and

external factors of opinion instability and answer the question of why some people's opinions are stable, while others are not.

Since there is little consensus on the topic of opinion instability, this thesis is exploratory in nature. Rather than testing specific model or theory, it aims at establishing basic facts about opinion instability, as well as presenting several related theories, which are able to explain its existence. In the end, this thesis will hopefully serve as a comprehensive introduction into the topic of opinion instability and the readers will get a better understanding of the practical impact opinion instability has on public life.

1.1. Data description

Throughout this thesis I will use several datasets to either demonstrate, illustrate or test claims and findings present by the previously conducted studies. By all accounts, it should be possible for the reader of this work to assess the quality of data I use to demonstrate my conclusion. However I find that the methodological description of the data tends to break the flow of the text. For this reason, and because I will use the datasets repeatedly through the entire thesis, I will provide the basic description of the data used here, in one place. This chapter will include information about sampling and the data collection strategy. The information about specific tests and techniques will be presented in the main body of the text, as needed.

The data sources used in this thesis are:

1) Post-election study parliamentary elections 2013 (CVVM, 2013)

This study was carried out in reaction to the Czech parliamentary elections and took place between October and November of 2013. The study was based on quota sampling with quotas for sex, education, age, region and size of the settlement. The source for the quota proportions was the Czech census of 2010. The data were collected in the form of face to face interviews and includes 1 653 respondents. The data is available at the Czech data archive for social sciences.

2) Agenda setting study (Sociologický ústav et al., 2014)

This panel study, including 12 waves, was conducted as a part of the project titled *Veřejná a mediální agenda: komparativní analýza tematizace veřejné sféry* and the data collection took place between October 2007 and February 2007. This study was based on multistage random sampling, with city districts and households serving as sampling units. Inside the households, respondents were selected through the method of the last birthday. The sample overrepresents women and underrepresents people with lower education. The data were gathered through face to face interviews and includes 658 respondents. The data is available at the Czech data archive for social sciences.

3) BBC EU referendum poll tracker

This is an aggregator of polls on the topic of British EU referendum, developed by BBC. The poll tracker shows the percentage of the British population in favour of leaving or remaining in the European Union from September 2015 to June 2016. The tracker includes 140 polls, 99 of which were conducted online and 41 conducted over telephone. The polls come from ten different polling agencies, including Yougov, Ipsos Mori and TNS. The data are available at the following address: <https://www.bbc.com/news/uk-politics-eu-referendum-36271589>.

2. Are opinions unstable?

Contemporary sociology relies, both in its academic and applied form, in a large part on data collected from surveys. These surveys in turn rely on assumptions that respondents hold reasonably cohesive opinions, which can be learned through properly constructed questionnaires. However, we can find a substantial amount of studies confronting the assumption of cohesive opinions held by the respondents. These studies show that a nontrivial number of respondents exhibits opinion instability that has to be taken into account during data analysis and interpretation.

The question of opinion (in)stability first raised into prominence during the 1960' through the work of Phillippe Converse (1964). Converse's main motivation was to challenge the assumption held by contemporary scholars of democratic theory, who widely worked under assumptions that political opinions and behaviour of citizens are for most parts determined by their respective ideological orientation. Through the analysis of survey data, Converse reached three main conclusions. First of them is that there is only a weak, if any, connection between political ideology held by respondents and their opinions on specific issues (Converse, 1964). If the given opinions were truly derived from the held ideological systems, then the exhibited opinions should be consistent across a range of issues. For example, an individual following liberal ideology should declare a liberal opinion to most questions. However, this was not the case. The average ranked correlation coefficients ranged between 0,11 and 0,23 for the mass public and between 0,25 and 0,53 for the elites (Converse, 1964, p. 32), where elites were defined as a sample of congress candidates of 1958. This was by Converse taken as an evidence of little cohesion among opinions on related topics, which were only weakly constrained by overarching political ideology. Therefore, even in one specific moment in time, measured opinions were unstable in the sense that they were incongruent with each other.

The second finding is concerned with temporal stability. If the respondent's opinions are truly products of a robust political ideology, we would expect them to change slowly, over a long period of time. This means there should be a strong correlation between opinions given during first and second measurements. According to Converse's data, this expectation was not confirmed. The temporal correlation coefficients were as low as 0.3 for the topics of federal

housing and foreign aid and reached their highest at about 0.5 for the topic of school desegregation. As we can see, people's opinion shifted dramatically between the measurements. However, it must be mentioned that the timeframe between the measurements was quite large, two years to be exact. It can then be reasonably argued that the low observed correlations are not products of opinion instability, but of substantial shift in people's attitudes and values. This potential explanation is however complicated by the fact that the measured temporal correlation of party identification reached the coefficient of 0.7. This means that while respondents significantly shifted their opinions on specific topics while their opinion about political parties remained more or less unchanged. In other words, policy preferences changed, while voting preferences did not. One would expect that if the source of policy preference changes was a deliberate shift in attitudes, this shift would also be reflected in choice of political party. This is however not the case and so Converse's interpretation hold some merit.

The last finding relates to temporal stability across more than two measurements. Converse measured opinions on a range of issues at three points in time with intervals of two years. The observed correlations between time 1 and time 2 are more or less the same as the correlations observed between time 1 and time 3. In other words, an opinion held four years ago is a good predictor of current opinion as is one measured two years ago. If the changes in opinions were deliberate, we would expect to see a specific pattern. The correlation between opinions measured closer to each other should be higher than the correlation measured during a larger time span. Since this is not the case, we don't have evidence of systematic opinion change, instigated by for example deliberate change of attitudes. Instead it seems like the observed data are a product of random fluctuations.

The three findings presented above (incoherence across topics, low temporal correlations and no systemic pattern of change) presented in Converse's work marked the beginning of interest in the topic of opinion instability. Following studies have similar results. These studies found evidence of opinion instability in topics concerning environment and pollution (Hill, 2001), genetic engineering (Urban & Pfenning, 2000), gay rights (Craig, Martinez, Kane, & Gainous, 2005), ideology, presidential approval, death penalty and consumer sentiment (Pacheco, 2014), abortions (Brickman & Peterson, 2006), social expenditure and army (Nicolet & Sciarini,

2006). These studies were concerned mainly with examining temporal instability and showing that a considerable number of individuals changes opinions in an erratic manner.

While there is no study dedicated to the topic of opinion instability, which would be based on data originating in the Czech Republic, we can at least attempt to illustrate the three findings reached by Converse on publicly available data from related studies.

First, we can look for an evidence of the ideological incoherence, i.e. the instability across topics. To this end, I use the post-election study from 2013, produced by the Czech Public Opinion Research Centre (Centrum pro výzkum veřejného mínění, 2013). The data were gathered following the parliamentary election and consist of a quota-based sample for the population over 18 years of age. For more technical details about the sample and the data gathering process, see the overview of the data used in this thesis available in chapter 1 - Data description.

The post-election survey asked its respondents their opinion on range of specific topics. More specifically, the respondents were given several pairs of statements and were asked which one they personally prefer. The pairs of statements can be seen in table 1, and the respondents chose between them on an eleven-point scale.

Table 1 - Statements on the topic of economy (Post-election study 2013)

STATEMENT 1	vs	STATEMENT 2
1) Substantial amount of the expenditure for healthcare, education, etc. should be paid for by the individuals.	vs	Substantial amount of the expenditure for healthcare, education, etc. should be paid for by the state.
2) All businesses owned by the state should be privatized	vs	The state should keep most of its businesses in its ownership.
3) The main priority of the government should be the fight against unemployment.	vs	The main priority of the government should be lowering the inflation and the budget deficit.
4) The people with higher income should pay higher taxes.	vs	The tax rate should be the same for everyone no matter their income.

Furthermore, respondents were asked to place themselves on the left-right scale, according to their political orientation. This scale also ranged between eleven points.

Based on the previous studies on opinion instability, and contrary to logic of traditional theories of democratic practice, we are expecting low correlations between the economic preferences of the respondents and their political orientation.

Table 2, showing Spearman ranked correlation coefficients, confirms our expectations. The highest measured correlation between opinions on individual topics is 0.44 for the opinions on social services expenditure and privatizations. These two (ranked) variables share circa 19 % of variance. A Correlation of this strength does show existence of a general trend. However, it also shows great variance in individual responses. Furthermore, the rest of the correlation coefficients is even lower, with opinion on Unemployment vs deficit being particularly weakly connected to the rest.

Table 2 – Rank correlations between opinions on economic topics and political orientation (Post-election study 2013)

	<i>Expenditure</i>	<i>Privatization</i>	<i>Unemployment vs deficit</i>	<i>Taxation</i>	<i>Political orientation</i>
<i>Expenditure</i>		0.44 (n = 1551)	-0.16 (n = 1581)	-0.37 (n = 1595)	-0.35 (n = 1413)
<i>Privatization</i>	0.44 (n = 1551)		-0.13 (n = 1525)	-0.29 (n = 1530)	-0.33 (n = 1373)
<i>Unemployment vs deficit</i>	-0.16 (n = 1581)	-0.13 (n = 1557)		0.31 (n = 1564)	0.23 (n = 1391)
<i>Taxation</i>	-0.37 (n = 1595)	-0.29 (n = 1530)	0.31 (n = 1564)		0.43 (n = 1397)
<i>Political orientation</i>	-0.35 (n = 1413)	-0.33 (n = 1373)	0.23 (n = 1391)	0.43 (n = 1397)	

If we look at the correlations related to the political orientation, we will not see a significant improvement. Again, the highest measured correlation is circa 0.44, for the relationship between political orientation and opinions on taxation. While the general nature of the relationships between political orientation and opinions on specific topics goes into the correct direction, i.e. people on the left tend to support left wing policies and vice versa, the opinions of respondents are not particularly constrained by their political ideology. I would therefore argue that Converse’s first finding was successfully replicated.

Next, we move towards the question of instability over time. If the respondents truly don’t hold coherent opinions, we would expect to find low correlations between measurements taken at different points in time. To check this, I will use data originally produced as a part of

research project focused on the Agenda setting theory (Škodová & Nečas, 2009). This panel survey was carried out between the year 2006 and 2007 and is comprised of twelve waves. As is the case with previously used datasets, you can find more details in chapter 1 - Data description.

For the purpose of this thesis, waves 2, 6 and 10 are of special interest to us. In these waves, the respondents were asked about their opinion considering an American military radar, which was supposed to be built on the Czech grounds. Specifically, they were told:

“The Czech government is planning, with the cooperation of the USA, to build a military radar base in our country. Some people say that building the radar will increase the security of the Czech Republic. Others say that building the radar will endanger the Czech Republic. To which of the opinions do you feel closer to?”

The respondents were asked to respond on a scale from 0 to 10, where 10 meant they absolutely believed that building the radar will endanger the Czech Republic.

If we assume, in accordance with the previous research, that the respondents will not hold stable opinions on this topic, we would expect a low correlation between measurements taken in wave 2 and wave 6 and similarly low correlations between measurements of waves 6 and 10.

As table 3 shows, this is not the case. Spearman rank correlations across air pairs, with the highest reaching value 0.89, which translates into 80 % shared variance of the ranked variables. Even the lowest measured correlation coefficient does not fall below 0.8. The respondents therefore expressed fairly stable opinions across time. However, it must be said that the timeframe of the Agenda setting study, from which the data originated, was much smaller than the timeframe of the study done by Converse. In the Czech data, each wave was separated by only several weeks and the whole study covered a period of one year. On the other hand, Converse’s measurements were separated by the period of two years. One possible explanation for this difference is that while opinions may be unstable in the long run, there is a shorter period through which they remain stable. Another explanation is that the respondents may have remembered their answers from the previous waves, especially since the topic was of a high importance at the time. In fact, studies with wider timeframe reported results similar to ones Converse presented in his study (Hill, 2001; Pacheco, 2014).

Nevertheless, our data doesn't support previous findings, even if the significantly different time period between waves makes direct comparison difficult.

Table 3 - Rank correlations across time on the topic of the USA radar (Agenda setting study 2007)

	Wave 2	Wave 6	Wave 10
Wave 2		0.83	0.82
Wave 6	0.83		0.89
Wave 10	0.82	0.89	

Lastly, there is the question of pattern of correlations across several measurements. Here, we may expect two possibilities. If the respondents changed their opinions in a systemic manner, i.e. encountered something that provoked genuine and a long-standing opinion change, we would expect the correlations to be stronger between measurements that are closer to each other over time. On the other hand, if the opinion change was driven randomly, we would expect all correlation coefficients to be about the same, i.e. the opinion held in the 10th wave could be predicted by the opinion held at the 6th as well as by the opinion held in the 2nd wave.

By looking at table 3, we can see that the latter options fit our data better. All the correlation coefficients are about the same, though all are quite high, which suggests that no systemic change of opinions took place.

This way, we managed to confront the findings of previous studies with the data set in the Czech context. This comparison is not ideal, as the data were split across multiple datasets and gathered across different timeframes. However, we have seen that while this data provides some support for the claims about opinion instability, some results were contradictory. Furthermore, even other studies, ones better fitted for the study of this phenomenon, brought mixed (J. Druckman & Leeper, 2012; Pacheco, 2014; Sciarini & Kriesi, 2003) or negative results (Ansolabehere, Rodden, & Snyder, 2008; J. N. Druckman, Fein, & Leeper, 2012). In fact there were several pressing methodological issues raised about the studies done by Converse and his followers (Achen, 1975; Brickman & Peterson, 2006; J. Druckman & Leeper, 2012).

2.1. Methodological critique

The crux of these concerns lies in the topic of measurement reliability, or rather in lack of thereof. Reliability in this context is defined as the “*correlation between two measured scores taken at different times when the true score are unchanged*” (Achen, 1975, p. 1223). This definition of reliability, based on classic test theory, assumes that if one concept is measured at two points in time, we can isolate the error variance caused by the measurement instrument. That is, as long as the conditions remain the same.

These authors also, quite rightly, assume that the measurement instrument used to measure opinions of the respondents is not without measurement error. This error can originate in several ways. Firstly, the questions may be formulated in a vague or confusing way. This can make the interpretation difficult, as the respondents are not sure what they are asked, resulting in less reliable measurement. Secondly, the response may not be precise enough to capture the state of respondent’s opinions. Suppose for example, that a person held a true opinion about the danger presented by an American radar building, which can be expressed on a scale from 0 to 10 as a number 8.5. However, most scales only offer integers as possible answers. Thus, the true opinion the respondent holds cannot be expressed. Instead, the respondent is forced between the values 8 and 9 and since the distance from their true opinion to either of the values is the same, the respondent will pick at random. On repeated measurements, the answers of the respondent will oscillate between said two values, with each having a 50 % probability of being selected. This leads to a situation, where even though the respondent holds a true stable opinion and understands the question perfectly, they will still exhibit signs of opinion instability. This instability however would entirely be a product of a measurement error.

Fortunately, the definition of reliability presented above offers a solution. If we assume that the opinions held by respondents are mostly stable over time and changing slowly in a predictable way, we can use the repeated measurements to compute the reliability of the instrument and through it, estimate the amount of variance produced by measurement error. Once we know what proportion of the variance can be attributed to measurement error, we can subtract it from the total variance and following that get an unbiased estimate of the relationship between measurements taken at different times. This is in fact exactly what Achen (1975) did for the data used by Converse in his first study (Converse, 1964).

This correction dramatically raised the correlations between measurements at different times, as can be seen in table 4. This table is a reduced version of the one presented in the original study. As we can see, correlation coefficients that previously ranged between 0.25 and 0.51 in most cases raised to the range between 0.71 and 0.99. The temporal correlations between measurements are estimated to be much higher than originally thought, suggesting that respondents held a stable opinion even over a long period of time. Furthermore, in most cases the correlations between the second and third measurement is higher than the measurement between the first and the third one, thus casting doubt at the third finding presented by Converse, as mentioned above.

Table 4 - Pearson Correlations (r) Between Attitudes in Converse's Panel Study, Time Periods 1, 2, 3 (Achen 1975)

	<i>Observed correlations</i>			<i>Corrected correlations</i>		
	1-2	2-3	1-3	1-2	2-3	1-3
<i>Federal assistance to Negroes</i>	0.51	0.51	0.49	0.95	0.98	0.93
<i>Scholl Integration</i>	0.45	0.55	0.42	0.80	0.96	0.76
<i>Isolationism</i>	0.37	0.46	0.35	0.79	0.96	0.71
<i>Foreign Aid</i>	0.32	0.44	0.31	0.72	0.99	0.71
<i>Maintain Army Overseas</i>	0.31	0.37	0.25	0.63	0.81	0.49

However, not all estimates benefited from the applied correction by the same magnitude. Notably, the corrected correlations concerning opinion on maintaining army overseas, while improved, remained relatively low. On average, the measurement shared 66 % of variance, after the correction was applied, whereas they only shared 16 % of variance before.

Similar objections were also raised for the estimates of opinion instability across topics. As Ansolabehere et al. (2008) show, using multiple measures of opinion on certain topics at one moment, i.e. using a battery of items instead of choosing to use single questions, can significantly raise the value of estimated correlation coefficients. This is explained as an effect of more reliable measurement. The measured correlations were increasing in a stable and predictable way as the number of items per scale increased. In fact, in the above mentioned study, correlations between scales made of five items were about three times as strong as correlations between single items.

As we have seen, the notion of an unreliable measurement tool can play a significant role in the research of opinion instability. We should therefore take these considerations into account. To this end, I applied the reliability correction, as described by Aschen, to the data

from the Agenda setting study. This correction is based on the assumption that no systemic opinion change took place, therefore all observed changes are erroneous. Ashen further postulates that the observed changes are due to the random error, i.e. due to the vagueness of questions or the fact that the questions measure a continuous concept on ordinal scale. The mean of the random error is assumed to zero. From these assumptions, the error portion variance can be estimated. From the error variance, reliability coefficient for each measurement can be computed and used to correct the observed correlations. The process is described in more detail in the Aschen's study. The results can be seen in table 5. As expected, the corrected correlation coefficients are higher than the observed. The magnitude of improvement is nowhere near as big as the one demonstrated on Converse's data. This is understandable as the observed correlations were much higher in the first place and the margin for improvement consequently lower. This can be explained in two ways. The first is the already mentioned effect of smaller timeframe and shorter gaps between measurements. The second possible explanation is that the measurement instrument used in the Agenda setting study is of higher quality than the one used by Converse. This is not an unrealistic proposition, considering that the two studies are separated by almost half a century of methodological advancement. The higher temporal correlations in the Agenda setting study compared to the previous studies on the topic of opinion instability could be therefore partly explained as a result of better answer scales (eleven points instead of five), clearer and more precise question wording, better trained interviewers, and so on.

Table 5 - Observed and Corrected Pearson Correlations on the topic of the USA radar (Agenda Setting study 2007)

	<i>Observed correlations</i>	<i>Corrected correlations</i>	<i>Additional share of variance explained</i>
<i>Wave 2 : Wave 6</i>	0.83	0.87	7 %
<i>Wave 6 : Wave 10</i>	0.90	1	19 %
<i>Wave 2 : Wave 10</i>	0.83	0.87	7 %

No matter the reason for specific difference, we have seen that applying reliability correction paints a significantly more optimistic picture of people's ability to hold stable opinions. However, just as the original studies had to deal with critique coming from the field of measurement theory, this critique has several weak points.

First, let's focus on proportion of shared and unique variance between correlated variables. As mentioned before the measurement in Converse's study shared on average 66 % of variance, after the Aschen's correction was applied. This consequently means, that there still were 34 % of variance unique to either variable. Normally, such thing could be easily explained as an error of measurement. However, in this case, the error of measurement has been explicitly corrected as this was the main object of the study. Yet some level of discrepancy between the opinions measured at different time points remains. Thus, while the prevalence of opinion instability may not be as big as Converse concluded, the data still suggests it is a real phenomenon, even when the reliability of measurement instruments is taken into account.

A second weak point of the reliability argument is connected to an assumption, upon which it is based. As mentioned, the estimation of reliability is based on the assumption that as long as the true score doesn't change, the differences between measurements can be attributed to the measurement error. However, this is not necessarily true. Remember the example of a respondent and their opinion on the USA military radar in the Czech Republic. The classic measurement theory assumes that this respondent has a true opinion, which can be expressed as a theoretical score on the answer scale. If this true score is unviable as an answer, for example because the true score 8.5 and the scale only includes integer, a measurement error occurs. In our example, a respondent with a true score of 8.5 will randomly oscillate between answer scores 8 and 9. This assumption allows for the estimation of the measurement error.

However, as pointed by Zaller (1992), there is another explanation of such behaviour. Zaller argues that people are to some extent ambivalent considering most topics and the opinions they express can be best understood as short time constructs made specifically for the moment, when an answers is required. The process of creation of these constructs is to an extent sensitive to the context in which the questioning takes place. This would mean that no true score, as understood by the classic measurement theory, exists. The opinion formation model proposed John Zaller will be discussed in more detail in Chapter 4. For now, let's go back to our hypothetical respondent and their opinion about the USA military radar. However, this time we will describe it through opinion ambivalence. This respondent doesn't hold an opinion about such topic in his mind at all time. When they are asked about it for the first

time, they make an opinion on the spot. This specific opinion will be influenced by the current context, such as what did the respondent see/watch on television last night, what was the last time they talked about this topic with others and so on. Based on this context, the respondent may decide that his opinion can be best expressed as the score of 8 at the answer scale. Now let's move to the second time of the second measurement. The respondent still doesn't hold a long-term opinion on the topic in his mind and must construct it anew. Even if the knowledge the respondent possesses about the topic is still the same, the context will be different. It may have been a longer period of time since they discussed the topic with other people, which may lead to remembering less information. They may have seen a differently framed story on the television the night before, leading them to remember different information. This new context will mean that the process of opinion formation will be different. This time, the respondent may decide that his opinion may be best expressed by the score of 9. This means that the respondent will oscillate between scores 8 and 9 across measurements. However, in this example, the cause of such oscillation is not the error of measurement. In fact, based on this model, no longstanding true score exists and so the reliability of the instrument cannot be estimated, at least not in the way Aschen proposed. The true score only exists for a short while necessary for the respondent to answer a given question.

Aschen and others treat all the oscillations as a measurement error and corrects them. However, this is only valid under the assumption that there is a long standing and unchanging true score representing the true opinion of the respondent. This is a sensible assumption when the measurements are taken very closely to each other but becomes problematic as the time gap between measurements grows. When the time between measurements spans weeks or even years, the idea that the respondents still hold the construct in their mind becomes problematic. When we apply the reliability correction on data with big time gaps between measurements, we may overestimate the stability of opinions held by the respondents and inadvertently "overcorrect" for error that does not exist, at least not in the extent we expect. In such case, the extent of opinion instability will be severally underestimated. Therefore, I would argue that the correlation coefficients corrected using the reliability correction indicate the minimal amount of opinion instability in the data, but not necessarily the actual one. Aschen's results in table 4 thus indicates that instability can be minimal, but it does not prove that it necessarily is.

At this point, we can see that the answer to the question “Are opinions (un)stable?” is not a straightforward one. There is an ample amount of research showing evidence for the existence of opinion instability. The true nature of this instability is however not readily apparent. The most straightforward explanation for the observed change between measurements is that the opinions held in respondents’ minds, i.e. their qualitative judgements of the topic, has changed. Some authors, such as Converse or Zaller, would however argue that the entire notion of opinions as long-lasting constructs stored inside one’s memory is misleading. Instead, opinions are constructed off the top of the head whenever needed. This construction process is heavily influenced by the context in which it takes place and it is therefore unsurprising that opinions constructed in different context are qualitatively different. No matter, which of these two explanations is more correct, the final result is the same: a significant number of respondents possess a different opinion at one point in time than in previous, not so distant moment. This conclusion must however be confronted with valid methodological concerns. Namely, the measurement of opinions through surveys is not flawless and researchers must take the notion of measurement error into account. This measurement error may potentially account for a considerable amount of the observed opinion change. On the other hand, even when these concerns, are taken into account, the data still show that certain amount of instability of opinions exist. Furthermore, the estimation of measurement error is by itself based on a set of assumptions, which can be disputed. Therefore, despite the methodological concerns about survey measurement, the general existence of opinion instability is well supported. However, not every person is affected by the opinion instability at every occasion. The next question therefore becomes, how prevalent the opinion instability is.

3. Prevalence of opinion instability

In the previous chapter, we established opinion instability as a real phenomenon, instead of an artefact of measurement. While this finding forms an important basis for further research, it is not overly in and by itself. Merely stating, some people changing their opinions in an erratic way is not enough. The naturally following question would be, how many people of that sort are there. Or to be more specific: How prevalent is opinion instability in the population?

3.1. Prevalence of opinion instability in previous studies

In search for an answer to this question, I looked for previously done studies concerned with opinion instability. In the previous chapter, we established that there are two kinds of opinion instability. Instability across topics, that is the incoherence of opinions across different related topics, and instability across time. I will focus on instability across time, as this seems the more under-researched of the two. Therefore, I focused on previous studies dealing with this type of instability. Because of the time aspect, it is not surprising that a vast majority of such studies is based on panel data. However, few of the studies are actually done on aggregated cross-sectional surveys. In such case, the unit of analysis is understandably not individuals but rather publics (e.g. the public of Switzerland, the publics of the US states). I also only included studies that in some way indicated the prevalence of opinion instability present. This meant the exclusion of studies, which were mainly concerned with causal mechanisms of opinion instability. Such studies were usually of experimental design and didn't make claims about the representativity of a wider population. Lastly, as we will soon see, there is no single accepted measure of opinion instability. Some studies carried out in the tradition set by the earliest works on the topic and utilized correlation coefficients as a comprehensive measure of congruence between opinions at different time. Other opted for the more easily comprehensible proportion of respondents who changed their opinion between measurements. Few studies used the difference between mean scale scores. . Lastly, note that the presented studies did not explicitly take measurement error into account. This means that the reliability correction was not applied to them. The results of the presented studies can therefore be conservatively interpreted as the maximal possible amount of opinion instability present. However, as was established in the previous chapter, the application of reliability correction does not explain all differences between measurements and also is best

understood as the minimal amount of opinion instability. The presented figures are therefore possibly somewhat overestimated.

The list of studies I have discovered can be seen in table 6. There are 13 separate studies, which reported the extent of opinion instability. Some of these involve measuring opinions on more than one topic. Overall, we have 44 estimates of opinion instability on topics ranging from presidential popularity to genetic engineering. Please note that despite my best effort and rather strict specification of which works to include, the methodology of presented studies varies wildly. The size of time gaps between measurements ranges from ten days to two years, although most studies used a time gap of several months. Furthermore, the sampling design and population of origin also differs, as the studies come from various countries, such as the USA or Switzerland. This makes a direct comparison of opinion instability prevalence difficult. Despite all this, I believe these results can bring at least a preliminary overview of the phenomenon, since no more detailed study exists.

As explained above, most of the studies expressed opinion instability in a form of correlation coefficients between measurements. In such cases, high correlation coefficients are favourable, i.e. the higher the coefficient, the lesser the amount of opinion instability. Other studies expressed opinion instability as a proportion of respondents who changed their opinion in between the measurements. In such cases, a smaller number is preferable, as they indicate that a smaller number of respondents exhibited opinion change. Note that some studies, mainly the one using correlation coefficients, included more than two measurements. In these cases, the expressed coefficient represented the average correlation between all pairs of measurements. In studies reporting the proportion of opinion change, the reported number represents the relative frequency of respondents, who changed their opinion at least once across all measurements.

Table 6 - Previous studies concerned with the prevalence of opinion instability

<i>Opinion instability expressed as correlation</i>				
<i>Study</i>	<i>Topic</i>	<i>Coefficient</i>	<i>Measurements</i>	<i>Time between measurements</i>
<i>Hill (2001)</i>	Speed limits	0,68	4	6 months
	Tax on CO2	0.58	4	6 months
	Gas Price increase	0.61	4	6 months
	Electric Vehicles	0.44	4	6 months
	Car-Free Zones	0.52	4	6 months
	Parking Restrictions	0.48	4	6 months
	Presidential popularity	0.70	3	4 months
<i>Pacheco (2014)</i>	State partisanship	0.46	Varies	Varies
	State ideology	0.59	Varies	Varies
	Education spending	0.90	Varies	Varies
	Welfare Spending	0.74	Varies	Varies
	Death Penalty	0.30	Varies	Varies
	Abortion	0.20	Varies	Varies
	Presidential approval	0.99	Varies	Varies
	Consumer sentiment	1.00	Varies	Varies
<i>Ansolabehere et al. (2008)</i>	Lower income assistance	0.67	2	2 years
	Moral regulation and rights	0.71	2	3 years
	Affirmative actions and desegregation	0.72	2	4 years
<i>Converse (1964)</i>	Federal assistance to negroes	0.50	2	2 years
	School integration	0.47	2	2 years
	Isolationism	0.39	2	2 years
	Foreign aid	0.36	2	2 years
	Maintain armies oversea	0.31	2	2 years
	Federal aid to education	0.45	2	2 years
	Guaranteed jobs	0.45	2	2 years
	Housing and electricity	0.37	2	2 years
	Party identification	0.83	2	2 years
	Church attendance	0.65	2	2 years
<i>Opinion instability expressed as proportion of change</i>				
<i>Urban & Pfenning (2000)</i>	Genetic engineering	48%	3	6 months
<i>Tedin (1986)</i>	Presidential popularity	33%	3	4 months
<i>Sciarini & Kriesi (2003)</i>	EU membership	23%	3	3 months
	Maternity insurance	25%	3	4 months
	Asylum	25%	3	5 months
	Bilateral treaties	28%	3	6 months
	Working time	29%	3	7 months
	Old age pension	37%	3	8 months
	Deficit reduction	41%	3	9 months
<i>Freeder, Lenz, & Turney (2018)</i>	Economic attitude scale	60%	2	4 years
<i>Fournier et al. (2004)</i>	Vote preference	58%	1	
<i>Nicolet & Sciarini (2006)</i>	Vote preference	73%	2	4 years
<i>Zaller (1992)</i>	Cooperation with Russia	46%	2	6 months
	Level of government service	45%	2	6 months
<i>Opinion instability expressed difference in means</i>				
<i>Rogowski & Tucker (2018)</i>	Gun control	3.9 (% points)	2	1 month
<i>Druckman & Leeper (2012)</i>	Support for the Patriot act	0.02 (on scale)	2	10 days

Most of the studies presented here are based on panel data. The study by Pacheco (2014) is based on aggregated data from opinion polls across several decades and the units of analysis are states in the USA. The second exception is the work of Fournier, Nadeau, Blais, Gidengil, & Nevitte (2004), which is based on a post-election study. The respondents were asked which party they preferred at the start of the election period and this information was compared with their reported vote. Because of this, the results of these two studies are expected to differ from the rest. Lastly, note that none of the studies presented here took into account the possibility of genuine opinion, i.e. all changes in opinions are treated as opinion instability. However, it is not unreasonable to expect that at least some of the changes are products of deliberate, long lasting opinion change. The results in table 6 are thus best understood as an indication of the maximal amount of opinion instability present.

Altogether, these studies show a great deal of variability. In studies based on correlations, the relationship between opinions across measurements range from almost non-existent ($r = 0.2$) to virtually perfect ($r = 1$). The first quartile has a value of 0.44 and the third quartile a value of 0.7, with standard deviation being 0.2. Similarly, the studies based on the proportion of change have a minimum of 23 % and a maximum of 73 %, indicating that individuals with unstable opinions can make up both, a minority and a majority of population, depending on the context. The interquartile range ranges between values 28 % and 48 %, with standard deviation being 0.14. Lastly, there were only two studies, which measured opinion instability as difference between means, making computing of any statistics superfluous. As we can see, the prevalence of opinion instability differs significantly across studies. We must therefore ask, why such considerable differences occur.

3.2. Aspects influencing the observed prevalence of opinion instability

Several explanations are possible. First may be the already mentioned effect of time in-between measurements. It is not unreasonable to assume that the extent of opinion instability will grow larger as the time between measurements increases, whether the reason for it is. The respondents may remember their previous answer, i.e. they still hold the constructed opinion in their head, or that more instances of genuine opinion change took place or other something altogether different. No matter the reason, the available studies support this

assumption. If we compute rank correlation between the number of months between measurements and the correlation between measurements, a relatively weak negative relationship is to be observed ($r = -0.2$). Furthermore, rank correlation between the number of months between measurements and the proportion of respondents who changed their opinion is rather large and positive ($r = 0.7$), as expected. This can be taken as evidence that the timeframe of studies does indeed play a role in the prevalence of opinion instability. Note however, that the sample of studies is rather small and two of the studies, specifically Pacheco (2014) and Fournier (2004) employed significantly different methodologies from the rest. The former one because it is based on a larger number of aggregate data and the time between measurements is not constant. The latter because, as mentioned above, the study actually involved only one measurement. The removal of these studies results in a loss of 9 estimates of opinion instability (eight for correlation coefficients, one for proportion of change).

Another possible factor may be the topic, to which were the measured opinions related. The opinions on presidential popularity are among the most stable ones, with the average correlation of 0.85 and only 33 % of proportion of change. Similarly, party identification is a topic of notable opinion stability. However, bear in mind that studies concerned with presidential approval and party identification are of American origin, where these concepts may be understood in a vastly different way than in Europe. For comparison, vote preference, when measured on the Swiss (Nicolet & Sciarini, 2006) and Canadian (Fournier et al., 2004) population, is among the topics with most prevalent opinion instability, with the average proportion of change of 66 %. Among other topics, on which the respondents exhibited a significant level of stability includes EU membership, asylum policy and consumer sentiment. On the other hand, the topics of support of electric vehicles, death penalty and genetic engineering were among the least stable ones. As we can see, the extent of opinion instability varies across topics, which will be discussed in more detail in chapter 4. Unfortunately, opinions on most topics were only measured once and across different populations, which prevents us from examining a specific pattern. Nevertheless, it is clear that just because the respondents exhibited a large amount of instability on one topic, it does not necessarily mean they cannot be trusted on others. We will discuss possible explanations for why the topic matters in later chapters, in regard to respondents' interests and abilities.

So far, we discussed mostly the self-evident explanations of differences in the extent of opinion instability. However, there is a possibility of other, more subtle factors. One of these factors is whether the researcher approaches the topic of opinion instability from micro or macro perspective (J. Druckman & Leeper, 2012). As we have discussed, there is no generally accepted approach to the measurement of instability over time. Some researchers opt for a macro perspective, i.e. aggregating results of several cross-sectional surveys and computing the level of differences between time points, such as a change in the number of people supporting some policy. This approach benefits from an immense number of data available for secondary analysis, enabling research across long time periods. Some of these studies, such as the works of Bélanger & Pétry (2005), Page & Shapiro (1992) or Pacheco (2014), map the development of public opinion across decades.

On the other hand, researchers may instead approach the problem from a micro perspective. The micro based studies are based on panel or experimental data and are mainly concerned with changes of opinions in individual respondents. The micro approach allows for more precise measurement of opinion change. Furthermore, micro based studies are often not only concerned with the prevalence of opinion instability, but also with its causes (e.g. Hill, 2001; Petty & Cacioppo, 1986; Zaller, 1992). This is especially true for the experimental studies, such as Chong & Druckman (2010). However, as pointed out by Druckman & Leeper (2012), the choice of approach can subtly influence the amount of opinion instability measured in the data. The choice of questions in the cross-sectional surveys is often lead by the demand from the media or the public. Because of this, the measured opinions are often about topics, which felt to be the most pressing or interesting at the time. We can reasonably expect that respondents will have more stable opinions on topics they are more invested in. On the other hand, topics, which are deemed unimportant or uninteresting, seldomly appear in most surveys. However, the situation is exactly opposite for the micro based studies. Because the goal of such studies is to try explain the mechanisms leading to opinion instability, they purposely choose less popular topics, where the opinion instability is more likely to appear (e.g. Chong & Druckman, 2010). This presents a problem, when trying to estimate the prevalence of opinion instability. Because macro based studies avoid less important topics, they tend to underestimate the general level of instability expressed by the respondents. On the other hand, the micro based studies often, for research purposes, include less pressing

topics, which in turn lead to the overestimation of the amount of opinion instability. Again, the effect of topic in question will be more deeply discussed in chapter 4.

However, the choice of topic may not be the only factor, which leads to systematically different results between macro and micro based studies. In macro based studies, it is very possible for opinion instability of individual respondents to cancel each other out, due to the very nature of the aggregation process. This is a possibility no matter if opinion instability leads to random or systemic changes. If opinion instability manifests as a random process, i.e. if respondents oscillates by the same amount between several answers, then the expected value of opinion change would be zero. In similar vein, we may imagine a hypothetical example, where, during the first measurement, half of the respondents accept introduction of some policy and the other half rejects it. Now imagine that at the time of the second measurement, the two groups switched sides. The people who previously accepted the policy now reject it and vice versa. In such case, we would end up with half of the population supporting the policy during both measurements, despite every person changing their opinion in a systemic way. As such, a small change of opinion in the macro based studies may indicate either high level of opinion stability or the fact that the opinions of present subpopulations changed by approximately the same amount in all directions. Thus, the macro based studies potentially underestimate the amount of opinion instability in another way.

3.3. Operationalization of opinion instability

As we have seen so far, the prevalence of opinion instability is hard to estimate because of various confounding factors, such as the topic in question, time between measurements and even the differences stemming from the macro and micro divide. There is one more, no less important, factor, which has a great impact on how severe opinion instability we will observe. This factor is the operationalization of opinion instability, i.e. how we define the instability in the data. This question, despite being central to the empirical research of our topic, has no clear answer. We have already seen some possible solutions, namely correlation coefficients and proportion of people, who changed their opinions. However, these approaches are but two of the myriad of others we can think of. I will demonstrate several potential possibilities of operationalization opinion instability. The purpose of this exercise is to discuss the strength and weaknesses of each approach and determine how much will the prevalence of opinion

instability change, based on the operationalization chosen. For suitable data, we will turn once again to the Agenda setting study, which we already encountered in the previous chapter.

The first option is to rely on correlation coefficients. This is a traditional approach, proposed by Phillippe Converse (1964) and, as can be seen from table 6, still the most popular. The advantage is clear. Correlation coefficients present a well-established way to determine strength of relationship between variables and are computationally simple. We should note that there are of course several types of correlation coefficients, which differ subtly in their definition of what a relationship is. The main difference is between “simple” (i.e. product-moment) and rank coefficients. While the simple coefficients, e.g. Pearson correlation coefficient, are computed from the measured values, the rank coefficients, as the name suggests, are computed from ranked observation. This may influence the estimated amount of opinion instability. Using simple correlation coefficient can be understood as a more strict approach, since it requires the opinion given at different times to be exactly equal for perfect opinion stability to occur. On the other hand, rank coefficients only demand the ranks to be the same. For example, if the concerns about the American radar among the most fearful respondents grew over time, simple correlation coefficients would grow smaller, while the rank coefficients would stay the same. Thus, if we were to understand the stability of opinions as respondents holding the same opinions over time, we would choose a simple correlation coefficient. If we were only interested in relative differences between respondents, i.e. those most concerned at time 1 should be also the most concerned at time 2, we would use a rank correlation coefficient. On the other hand, the results produced by different types of coefficients should be similar in most cases unless the relationship between opinions measured across time is severally non-linear.

While correlation coefficients are effective in their simplicity, they have two drawbacks in connection to opinion instability. First, they offer no information about the instability of individual respondents. Various differences on the individual level can produce coefficients of similar strength. It is therefore impossible to tell if measured correlation is the product of a large swing of opinions in a small subsample of respondents or if it was produced by smaller change affecting larger number of individuals. Second, and in my opinion more important, drawback of the correlation coefficients is their lack of substantive interpretation. While researchers adopted a set of rules to interpret correlation coefficients in some substantive

way, these rules are arbitrary in nature, varying across fields and subfields (Hemphill, 2003; Mukaka, 2012). Situation will also not improve by much when the coefficients are transformed into a proportion of shared variance. For example, consider the correlation between measurements in the Agenda setting study. These correlation coefficients refer to the opinions about building an American military radar in the Czech Republic. The resulting coefficients between all three waves of measurement range between 0.827 and 0.897. In the case of correlation between the first two measurements, the Pearson correlation coefficient has a value of 0.84, which can be translated as 70.5 % of shared variance. There is not much to say about opinion instability in such case besides guessing that *“it may not be so bad”*. However, the true extent of instability remains hidden.

While correlation coefficients remain the most used approach to assess opinion instability across measurements, partly perhaps because of tradition, they lack substantial interpretation. As such, they should be only used as a relative measurement of opinion instability. They will find their use when comparing the prevalence of opinion instability across groups or topics, provided that the methodology of measurement remained the same. Furthermore, Pearson correlation coefficient should be used, when possible, as it fits the classic, and stricter, definition of opinion instability.

Since correlation coefficients are not ideal candidates for expressing opinion instability, we turn to the second most used approach, the proportion of change. A simple proportion of change is computed as a relative frequency of respondents who changed their opinion between the measurements. Table 7 shows this value for the opinions on the topic of the American radar. As we can see, slightly less than a half of the respondents change their opinion between each wave. Furthermore, 60 % of respondents changed their opinion at least once during the whole timeframe of the study. Correspondently, this means that 40 % of respondents never changed their opinion on the topic of the American radar. Remember, that the correlation between the first and second measurement has the value of 0.84. This was despite the fact that 45 % of the respondents changed their opinion! This highlights the problem of comparing the prevalence of opinion instability across studies using different approaches. High values of correlation coefficient do not necessarily correspond with a low number of proportion of change.

Table 7 - Proportion of opinion change and correlations on the topic of the USA radar (Agenda setting study 2007)

	<i>Between 1st and 2nd measurement</i>	<i>Between 2nd and 3rd measurement</i>	<i>Total</i>
Proportion of change	45 %	41 %	60 %
Simple correlation	0.83	0.90	

The main strength of the proportion of change lies in the straightforward interpretation. While the correlation coefficients rely on arbitrary thresholds of strength, the proportion of change offers a readily available answer. Furthermore, the proportion of change can be used to assess opinion instability not only across pairs of measurement, but also across the entire timeframe of the study. This can be done by computing the total proportion of change (as can be seen in table 7). Correlations do not offer such possibility, except for computing the average of the coefficients.

Despite its simplicity, the proportion of change is not without weaknesses. As we have discussed in chapter 1, small differences can be interpreted in several ways. The simple proportion of change implicitly assumes that all changes in opinions are meaningful. However, concerns have been raised against this reasoning. It has been argued that small changes can be products of measurement error (Achen, 1975). We may wish to account for this in some capacity, when computing to the proportion of change.

One possibility is to only count changes of two points or higher as a real change of opinion. Consequently, if the answers given are the same or only differ by one point, compared to the previous measurement, we will treat it as if the opinion remained unchanged. As expected, this operation lowers the proportion of respondents who expressed a change of opinion, as can be seen in table 8.

Table 8 - Corrected proportion of opinion change on the topic of the USA radar (Agenda setting study 2007)

	<i>Between 1st and 2nd measurement</i>	<i>Between 2nd and 3rd measurement</i>	<i>Total</i>
Proportion of change (corrected)	23 %	19 %	33 %

We can see that the prevalence of opinion instability has dropped to about a half of the original value. However, the portion of respondents who changed their opinion still remains at one fifth for changes between individual measurements and one third across the whole study. This demonstrates the point made in chapter 1, where I argued that even if we take into account the concerns about the reliability of questionnaires, a significant amount of opinion instability remains presents. And again, this is under the assumption of the classic measurement theory, that there exists a true score, which can be stable over time. Of course, one may argue that the ± 1 interval we used to define stable opinions is still too strict and that we may want to widen it to ± 2 or even further. However, this argument is problematic, since there is no logical threshold indicating, where the expansion of the interval should stop. After all, if we allow the move of two points across the scale to be treated as no change of opinion, why not allow three? Furthermore, the range of scales used in most questionnaires limits such operation, for a logical reason. The opinions on the American radar were measured on an 11 point scale. By treating changes by one point as a no opinion change, we allow the respondents to move across approximately one fourth of the scale while still claiming to hold the same opinion as in the previous measurement. If we were to extend our tolerance to the movement by two points or less, the respondents would be able to cross almost half of the scale, while still being considered stable. This problem becomes more pressing as the range of the scale grows smaller. For a 7 point scale, it is advisable to not use more than 1 point version of the correction.

Despite the above-mentioned problems, the proportion of change presents a simple and straightforward way to operationalize the prevalence of opinion instability. Its main strength lies in an easy substantial interpretation, which may reveal the true extent of opinion instability, hidden if expressed through correlation coefficient. As is the case with the use of correlation coefficients, we may worry about small changes in answers being results of unreliable measurement, instead of true opinion change. In such case, we may only consider changes of some magnitude to be significant enough for us to notice. However, this approach may be problematic when shorter scales are used, since it allows the respondents to move across a significant portion of the scale and still claim a stability of opinion. It may therefore be best if both simple and corrected proportions of change are used. For example, when it comes to the worries about the construction of American radar, our data shows that between

33 % and 60 % of respondents expressed opinion instability. This puts our data into the range of results reached by the previous studies using the same approach, which ranged from high twenties to low seventies. Note however, that this measure also includes respondents, who went thru a genuine change of opinion, i.e. those, who changed their opinion once during the study and kept this opinion long after the study changed.

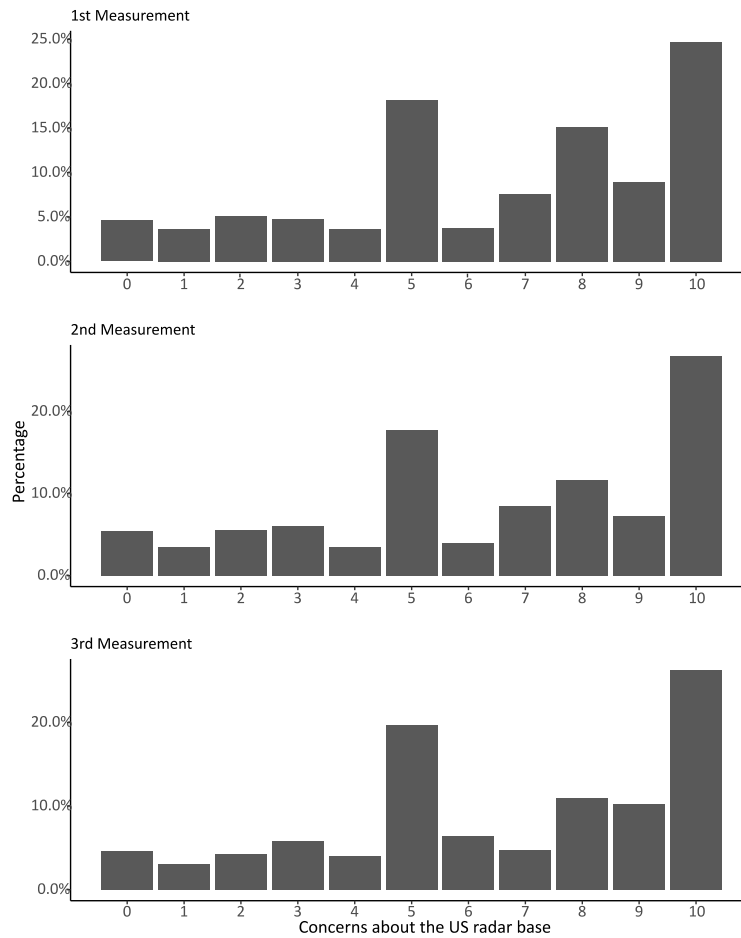
So far, the presented approaches took all opinion changes into account. This is of course a valid approach when researching the extent of opinion instability. However, in applied setting, not all changes of opinion are of equal importance. Based on the problem we are solving, we may only take into account some changes, the ones we deem important. For example, we may be concerned with the risk of public switching the majority vote during presidential elections. In such case, we would only be interested in voters switching between candidates, but not those, whose sympathies to one candidate varies but who would never vote for his competitor. To this end, we need to form a criterion, which will separate the changes of opinion into the substantial ones and the marginal ones. One possibility is to only consider an opinion change to be substantial, if the respondents cross the middle point of the scale. In our data, the scale ranged from 0 to 10. We are therefore only interested in respondents who responded with values smaller than 5 at the time of the first measurement, and a value of 5 or higher at the time of second measurement, or vice versa. Additionally, respondents, who moved from or to the middle value of 5, are also considered to undergo a substantial change of opinion. This is because these respondents moved from a neutral vantage point to an end of the scale or vice versa, thus taking a stance on the issue. Note that this is only necessary for scale with odd number of responses. Scale with even number of responses can be simply cut in half. Nevertheless, if we focus only on the respondents who crossed the middle point of the scale, we will see a sharp decrease in the prevalence of opinion instability, as can be seen in table 9.

Table 9 - Proportion of opinion change across scale centre on the topic of the USA radar (Agenda setting study 2007)

	<i>Between 1st and 2nd measurement</i>	<i>Between 2nd and 3rd measurement</i>	<i>Total</i>
Proportion of change (across the centre of the scale)	16 %	7 %	20 %

While as many as 60 % of respondents exhibited some amount of opinion instability, only about one fifth of them crossed the middle point of the scale during the duration of the study. This paints the respondents in a more positive light. While many of them were not sure about how exactly they feel about the construction of the American radar, they at least made their minds on whether it would endanger the Czech republic or not. However, one may question the choice of the middle of the scale as a valid threshold for substantial opinion scale. Firstly, using the centre of the scale as a threshold makes sense only for bipolar scales. Secondly, if the distribution of the answers were to be heavily skewed, respondents might keep changing their opinions without ever coming close to the centre of the scale. This may be because real distribution of opinions is skewed, but it also may be because the scale do not properly cover the entire opinion spectrum (e.g. because of improper anchors or using a unimodal scale for a bimodal concept). Looking at graph 1, we can see that this is to some extent true for the concerns about the American radar. The distribution of the opinions is notably skewed to the left. The only exception to the trend is the popularity of the value of 5, indicating perhaps the ambiguity of opinions held by the respondents on the topic. The mean value of responses across all waves of measurement is approximately 6.5. It is therefore clear that the centre of the scale does not represent the centre of the distribution of the opinions.

Graph 1 - Level of concern about the US radar (Agenda setting study 2007)



We may wish to account for this fact. We will repeat the same process of computing the substantial change, except we will not look for respondents who crossed the value of 5 between the measurements, but instead for those who crossed the value of 6.5. This way, we can take the skewness, and potentially improper scale continuum, of the distribution into account. The results can be seen in table 10.

Table 10 - Proportion of opinion change across distribution centre on the topic of the USA radar (Agenda setting study 2007)

	Between 1 st and 2 nd measurement	Between 2 nd and 3 rd measurement	Total
Proportion of change (across the centre of distribution)	13 %	10 %	19 %

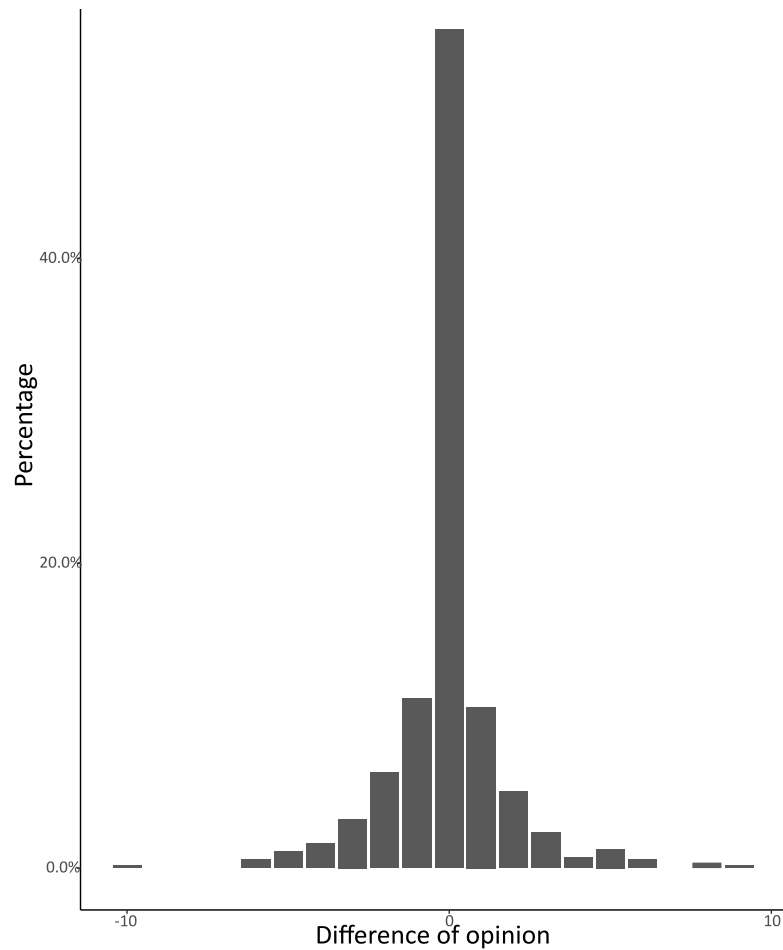
We may interpret this table as the number of people who once held concerns of above average strength, but then their concerns fell to be below the average, or vice versa. In

comparison with the proportion of change across the centre of the scale, we see that there is a little difference. The proportions of change across individual measurements are more or less identical. Of interest may be the fact that the total proportion of change is higher when we use the centre of the distribution as a threshold for substantial opinion change. This indicates that there were more respondents who only switched sides once, in the case of change across the centre of distribution.

As we have seen, if we were to not consider all changes of opinion as equal, but instead differentiated between substantial and marginal opinion change, we would get a much different result from our previous ones. The choice of threshold involves some ambiguity, e.g. what to do with odd numbered scales, and ideally should involve some domain knowledge, e.g. is the centre of the scale a good threshold? On the other hand, I would argue that the measurements of substantial change can be more useful in the applied research, coming back to our example from the beginning of this section, where we are concerned with the risk of public switching the majority vote during presidential elections, the research of such question should be based only on the presented definition of opinion change, because while the majority of citizens may exhibit opinion instability, most of them seem to be constrained into a specific set of responses.

So far, we have considered opinion instability to essentially be binary in nature, i.e. one's opinions either are unstable or not. However, these approaches have been reductive, in the sense that they do little to differentiate between various amounts of instability of inherent to the individuals. A more precise approach would be to compute the magnitude of opinion change for all respondents. Fortunately, panel data allows us to do this easily. We can simply compute this discrepancy as the difference between responses across different measurements. These differences are best expressed visually, as can be seen in graph 2. Note that the graph only shows the difference between the second and first measurement. However, the distribution of differences between the second and the third measurement does not differ in any significant way.

Graph 2 - Difference of opinion between 1st and 2nd measurement (Agenda setting study 2007)



In all three instances, slightly more than a half of the respondents gave the same response as during the previous measurement. This corresponds with the results we got when we computed the proportion of change. Furthermore, we can see that changes are more or less equally distributed around the centre. This is why the difference between the means may not be the approach to measure opinion instability, as it will hide these symmetrical changes. If we wished to summarize the amount of opinion instability expressed as the difference between measurements, we have several possibilities. The first is to simply compute the average absolute difference. The average absolute difference between the first and second measurement is circa equal to 1. The same goes for the difference between the third and the first measurement. Only the difference between the second and the third measurement is lower, with the average value of 0.75. We can therefore say that on average, respondents changed their responses on the American radar question by one point or less. This provides a simple interpretation, however analytically, we may be more interested in the respondents

whose opinions underwent a more radical change. This leads us to the second option for summarizing the differences between measurements and that is the average squared difference. In principle, similar to the concept of variance, the average squared difference gives a bigger weight to the respondents who exhibited a more radical change of opinion. The average squared difference may lack a straightforward interpretation, but it provides a better alternative for comparing the opinion change across groups or topics. Full results of this approach, measuring opinion instability, can be seen in table 11.

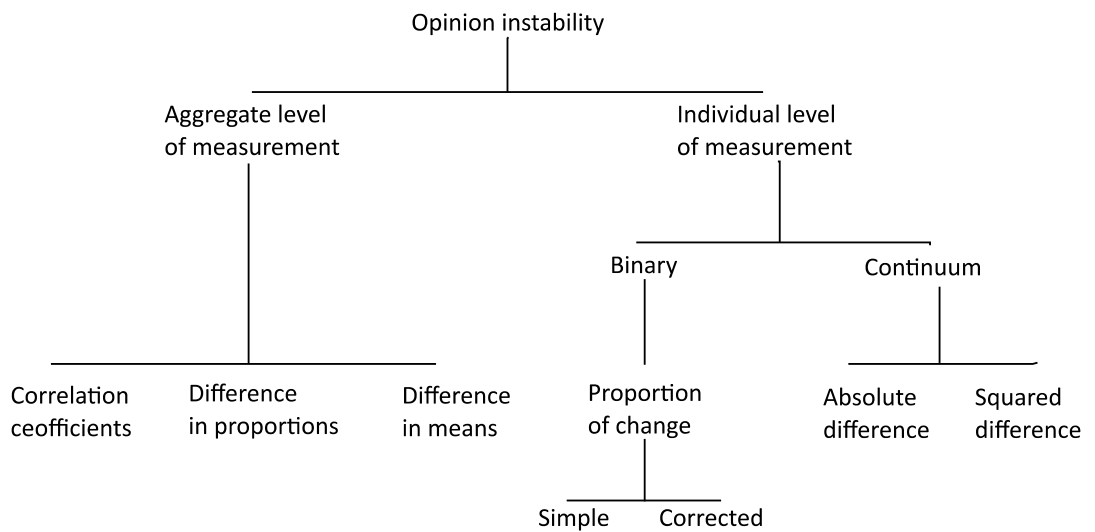
Table 11 - The difference between opinions about American radar (Agenda setting study 2007)

	<i>Between 1st and 2nd measurement</i>	<i>Between 2nd and 3rd measurement</i>	<i>Between 3rd and 1st measurement</i>
Avg. abs. difference	0.95	0.75	1
Avg. squared difference	3.1	2	3.2

Despite the possibility of expressing the differences using the summary statistics, I would argue against such practice. The main strength of expressing opinion instability as the difference between measurements is in its ability to estimate the extent of opinion instability for individual respondents. This is especially beneficial if we want to not only estimate the prevalence of opinion instability in the population but are also planning to follow this estimate with more detailed statistical modelling. This approach for measuring opinion instability is therefore best suited for studies interested in the factors affecting the presence of opinion instability.

By now, we have seen a number of possible approaches for operationalizing opinion instability. Many of these approaches are commonly used by the studies interested in the topic. We have also seen that the choice of operational definition of opinion instability has a drastic effect on the produced results. In fact, the differences in methodology probably account for more differences in results across studies than the choice of topic or the time gap between measurements. If our goal is to estimate the prevalence of opinion instability in the public, we must first establish a cohesive framework for its measurement, which would remain unchanged across studies.

Graph 2 - Opinion instability operationalization scheme



There are two basic approaches to operationalization of opinion instability. The first one measures instability in aggregate level, the second on the individual level. The aggregate level approaches are notable for their flexibility, as they don't necessarily rely on repeated measures of the same units and can be applied to cross-sectional data. On the other hand, due to the nature of aggregation, these approaches suffer from the inability to distinguish individual changes of opinions and may present the opinions of respondents as more stable than they actually are. This is especially true for the difference between means and the difference between proportions approaches. The correlation coefficients do not suffer from this problem. On the other hand, correlations lack a simple substantial interpretation. Remember from our examples, that high coefficients of correlation do not necessarily indicate a nonexistence of substantial group of respondents with unstable opinions.

The approaches based on individual level measurement offer a more precise way for estimating opinion instability. The drawback is the necessity of repeated measurement on the same respondents, i.e. use of the panel design. This drawback is however compensated by results that are both more accurate and easier to interpret. The proportion of change, both simple and corrected, represents the best approaches when we are interested in opinion instability in general. If we are interested in a more specific case, such risk of the public changing their collective opinion on some issue, the approaches based on crossing the centre

are more appropriate. Lastly, if the continuous approach is preferable for statistical modelling, as numeric variables are easier to handle.

Coming back to our overall results in table 12, we see varying results. Some, such as the correlation coefficients or average distances, indicate relatively small amount of instability. Other, such as the proportions of change, paint a more concerning picture. However, the numbers alone cannot tell us if the amount of opinion instability is high or low. Such evaluation requires a reference point, which can be gained only by knowing the context, in which the opinion was formed.

Graph 12 - Prevalence of opinion instability on the topic of the USA radar (Agenda setting study 2007)

	<i>Between 1st and 2nd measurement</i>	<i>Between 2nd and 3rd measurement</i>	<i>Between 3rd and 1st measurement</i>
Correlation	0.83	0.90	0.83
Corrected correlation	0,87	1	0.87
Simple proportion of change	45 %	41 %	
Corrected proportion of change	23 %	19 %	
Proportion of change across centre of the scale	16 %	7 %	
Proportion of change across centre of the distribution	13 %	10 %	
Avg. absolute difference	0.95	0.75	1
Avg. squared difference	3.1	2	3.2

3.4. Role of context in interpreting the prevalence of opinion instability

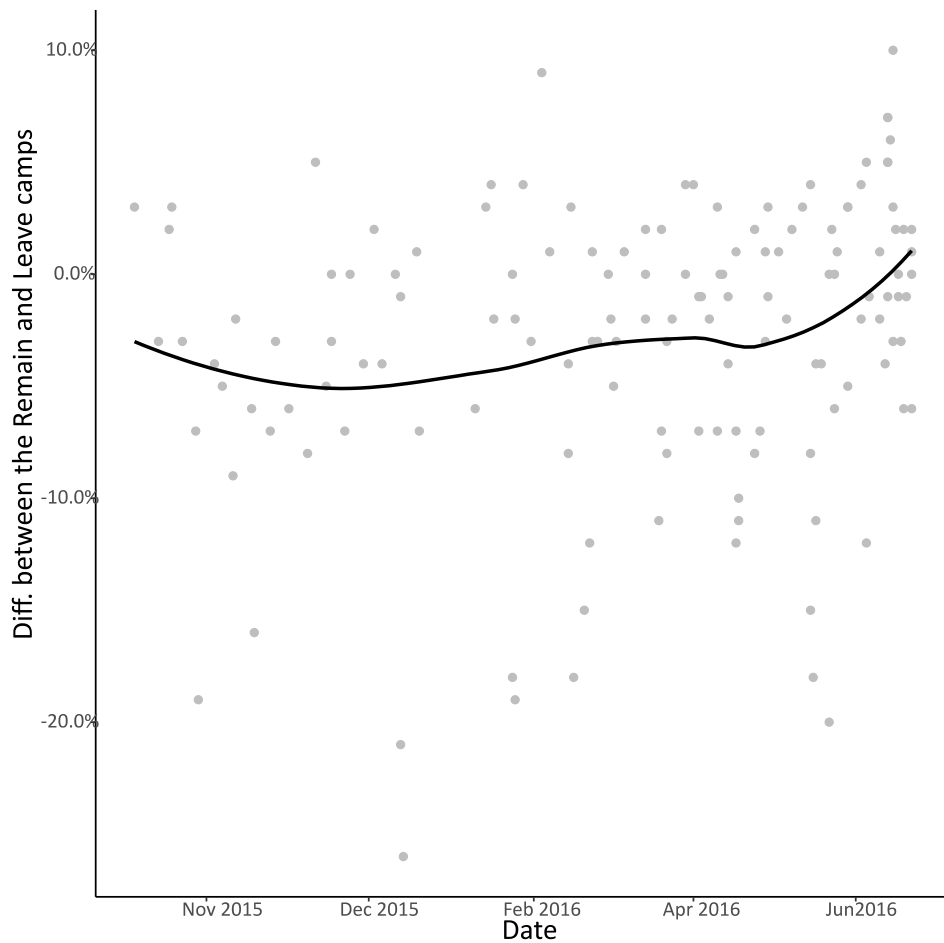
Is opinion instability a problem? In this and previous chapters, we have seen that most people do not dispute that opinion instability exists to at least some extent. The dispute is instead centred on the severity of the problem. In the data on the topic of the American radar, we have seen that about 10 % of respondents crossed either the centre of the scale or the centre of the distribution. Some may argue that the inability of tenth of the population to hold a stable opinion on such a high profile issue for more than a few months present a serious problem to the democratic practice. Others may respond that 10 % of population presents but a small minority, as it implies that 90 % of citizens stayed on the same side of the argument.

Both of these arguments can be correct, as the answers depend on the topic in question. To demonstrate that prevalence of instability as low 10 % can still be a problem, we may take a look at the United Kingdom European Union membership referendum.

The United Kingdom European Union membership referendum, commonly known as Brexit, took place on the 23rd of June 2016. It was then, when the citizens of United Kingdom decided to no longer be a part of the European Union. This referendum provides an ideal example for the demonstration of the potential impact of opinion instability. Referendums represent the purest form of the democratic practice, as the citizens can directly steer the future of their nation. This also means that all strengths and weaknesses of the public opinion will be present in the full force. Furthermore, Brexit is a high profile and controversial topic, which is of interest to all inhabitants of the UK and will influence lives of the future generations both in the UK and beyond.

As the reader may know, Brexit to some extent represents a black spot in the history of opinion polling. As most polls showed the remain camp to be in lead (BBC, 2016; Financial Times, 2016), the win of the Leave option surprised many. Because of this unforeseen development, pre-referendum polls are publicly considered to be failures (e.g. Barnes, 2016; Duncan, 2016; Saiidi, 2016). The reasons for this error are still under scrutiny, with unrepresentative telephone surveys (Clarke & Goodwin, 2016) and herding (Fry & Brint, 2017) being among the prime suspects. What the pollster did not get wrong was the closeness of the race. For majority of the time, the British public was almost evenly split between leaving and remaining in the EU. This can be seen in graph 4, which shows the difference between the number of people preferring to remain in the EU and those, who would prefer leaving (in percentage points). The data points represent individual polls, gathered by the BBC Brexit poll tracker. Details about the data can be seen in chapter 1. I also added a loess curve to better visualize the trend across time.

Graph 3 - Difference between the Remain and Leave supporters on Brexit (BBC Brexit poll tracker 2016)



As we can see, the difference between the Remain and the Leave camps was on average never more than ten percentage points. In fact, as the time of the referendum drew close, the gap in the size of the groups shrank. At the day of the referendum, the difference was less than five percentage points. Now, we may imagine that there were about 10 % of citizens, the same amount as on the topic of the America radar, whose opinion on the topic were unstable and changed erratically. It now becomes clear, that even if the pollsters were able to completely eradicate any and all measurement errors, there would still be a considerable amount of uncertainty about the results, due to the unstable nature of opinions. In fact, even if the citizens with unstable opinions represented only 5 % of population, they could still influence the results, if their opinion did not change randomly, but instead reacted in a systemic pattern, e.g. if these people got swayed by the latest news. In such situation, a swing of several percentage points would not be an unrealistic development.

We have now seen that the context matters greatly, when evaluating the extent of opinion instability. The case of the American radar presents a case, where the practical implication of the opinion instability is small. Not only was the distribution of the opinion heavily skewed, with most respondents being wary of the radar, but the public did not have a direct say in the matter. Since the public opinion here served only as a guide for the political actors, a small group of citizens with unstable opinion did not represent a big issue.

The situation with Brexit is however completely reversed. Not only the topic was highly controversial, with either group only ever leading by a very small margin, but the will of the people was also taken to be bounding in a political sense. This means that the opinions of the public, even of the small groups in the public, mattered greatly. In such case, even a group as small as one tenth of the population may have a considerable impact on the outcome. And if members of such group cannot hold a consistent opinion for a longer period of time, even on a high profile issue as Brexit, then the opinion instability presents a severe issue for political practice in modern democracies.

4. Nature of opinion instability

In previous chapters, we have covered the questions of existence and prevalence of opinion instability. Perhaps the most intriguing question is the nature of opinion instability. We have seen that the extent of opinion instability varies significantly across topics and populations. The question then becomes why. Such question may be approached from various angles. Some may consider characteristics of individuals, others the context, in which the opinions were formed. I will describe three models aiming at explaining opinion instability. These models have been developed and scrutinized for several decades and in all three of them, opinion instability is mainly rooted in characteristics of individuals. This will allow us to compare the models mentioned and look for both, similarities and differences. In the end, we will hopefully discover a clear pattern of the most important factors, determining opinion instability. The models presented here are the Black-and-white model (Converse, 1964), the Receive-Accept-Sample model (J. Zaller, 1994) and the Elaboration likelihood model of persuasion (Petty & Cacioppo, 1986).

Lastly, this chapter also takes a somewhat different form from the previous ones. In the preceding chapters, I strived to provide as much empirical examples of the presented topics as possible. However, an empirical test or even an illustration of the presented models would require rather fine data, gathered specifically for this purpose. Unfortunately, no such dataset is available for my purpose. This chapter and its conclusion will therefore be mostly theoretical.

4.1. Black-and-White model (BW model)

First of the reviewed models is the Black-and-White model (Converse, 1964). This was perhaps the first attempt to not just describe the instability of opinions but also discover its origin. We have already encountered Converse's work numerous times in this thesis, however up until now, we have only focused on his descriptive work. Now we may finally also examine how he and his followers explained the origins of opinion instability. Before we do this, we will look into how the BW model understands the instability of opinions.

In the understanding of opinion instability, the BW model went through two phases. The first phase, which is the original BW model as defined by Converse, opinion instability was understood in a strictly binary way. The original BW model argued that citizens can be divided

into parts. Those who hold substantial and meaningful opinions on a specific topic and those, who do not. The former group can thus express opinion consistency across both topics and time. Naturally, people without substantial opinions give essentially random answers, when asked for input. These random, false expressions of preference are called non-attitudes. The original BW model argued that most individuals hold non-attitudes on most issues. This understanding of the opinion formation process is rather strict, as it implicitly assumes that individuals who hold substantial opinions, store these opinions in their mind at all times and are invariant to context. However, this understanding of opinions and their instability has been criticized (Achen, 1975; Taylor, 1983). As a result, the BW model has been revised. Opinions are no longer understood as discrete phenomena, but instead as existing on a continuum (Brody, 1986; Hill, 2001). In practice this means that even the holders of substantial opinions may to a lesser extent exhibit opinion instability, as their expressed opinions change with the context of the questioning. Still, the concept of non-attitudes remains, as according to the BW model, many if not most people do not hold cohesive opinions.

What is then the main difference between those, who can hold substantial opinions and those, who cannot? There are two central concepts, through which the BW model explains opinion instability: constraints and belief systems. *"The belief systems are to be understood as a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence"* (Converse, 1964, p. 3). As for the constraint, the BW model offers two definitions: a static one and a dynamic one. In the static case, constraints are defined as *"the success we would have in predicting, given initial knowledge that an individual holds a specified attitude, that he holds certain further ideas and attitudes"* (Converse, 1964, p. 3). In less technical terms, static constraints are a system of opinion's valence on an interconnected topic. This interconnection allows us to infer individual's opinion on one topic from their opinion on another one. For example, if an individual holds a right-wing opinion on taxation, we should be able to infer their (right wing) opinion on social services. On the other hand, constraints in the dynamic sense refer to *"the probability that a change in the perceived status (truth, desirability, and so forth) of one idea-element would psychologically require, from the point of view of the actor, some compensating change(s) in the status of idea-elements elsewhere in the configuration"* (Converse, 1964, p. 3). This means that if one's opinion on taxation changes, so should in a congruent way all other related topics.

As we can see, the main function of constraints is to limit the range of opinions individuals can hold on any given issue. Individuals with tighter constraints will have more cohesive and predictable opinions, both across topics and across time. On the other hand, the opinion of people with looser constraints will be much freer to vary.

The strength of constraints are therefore the main determinant of opinion stability, or the lack of thereof. At the same time, the strength of constraints varies across individuals. The BW model recognizes three sources of constraints. The first source of these sources is logical. As it happens, some topics have an inner logic, which by itself should limit the range of possible opinions an individual can hold. Strictly speaking, it would be illogical for one to be both against market intervention by the state and in favour of the nationalization of private property. However, this strict logic is not necessarily true for all people (Campbell, Converse, Miller, & Stokes, 1980). In fact, in the Czech post-election study from 2013 the correlation between the opinions on the market intervention by the state and the opinion about privatization of state property has the value of 0.27. As we can see, while there is some level of constraint, the relatively low correlation coefficients reveal a great deal of variability in the answers. This fact can be more clearly seen in table 13, presenting collapsed answers to the two questions. The originally ten points scales were recoded so that the left side of the scale formed one category, the right side formed second and the middle of the scale formed third. Ideally, all responses should lie on the diagonal, indicating perfect congruence between opinions on privatization and state interventions. This is clearly not the case, as 57 % of respondents, who do not believe that state should intervene into the market, ale do not believe that state should get rid of its property and companies.

Table 13 – Congruence on economic issues, row percentages (Post-election study 2013)

	<i>Don't privatize state property</i>	<i>Neutral</i>	<i>Privatize state property</i>
State should intervene	77%	11%	12%
Neutral	59%	22%	19%
State shouldn't intervene	57%	14%	29%

This fact illustrates that the respondents do not seem to be particularly wary about the inner workings of these topics. However, the inner logic of the topics is not the only source of opinion constraints.

The second source of constraints is a psychological one. This source essentially represents stereotypes and other heuristic strategies used to form opinions. An example of such constraint would be to hold the same opinion about two politicians from the same party. Despite not knowing anything about the personalities or actions of those politicians, one may form a similar opinion about both simply from their party allegiance. The psychological sources of constraints do not need to follow strict logical rules, i.e. it is possible for an individual to hold contradicting information in their mind. These heuristics does not even have to be correct, as in they do not necessarily reflect reality. Despite this, they can still provide a constraining effect on the way individuals see the world.

Lastly, and for us most importantly, there are social sources of constraints. The social sources of constraints are twofold. First are what we can call ideologies, i.e. systems of opinions interconnected through a coherent and well-developed world view. These ideologies are unique in the sense that they provide a set of strong constraints shared between large amounts of people. As such, they provide both a helpful orientation point for common citizens and rallying points for political elites. From an analytical point of view, they also provide efficient predictors of political behaviour. Examples of such ideologies would be conservatism or left-wing political orientation. However, not all social sources of constraints take the form of deeply thought out ideologies. The second social source is what the BW model calls "*what goes with what*". This can be understood as the so-called common knowledge of relationship between concepts, held by the population. As opposite to the ideologies, this common knowledge does not provide an explanation of why certain topics or ideas are connected, but simply the information that such connection exists. Thus, individuals may know that the communist party is atheist, despite not understanding why. Nevertheless, such information may be used as a clue for the voters of said party, for example when forming opinions on topics of church reparations.

These were the sources of the opinion constraints. The actual strength of these constraints is determined primarily by two factors, the centrality of the topic and its level of abstraction.

The centrality refers to the relative importance of the topic to the individual, compared to all others. Opinions on more central topics are expected to be more stable. This intuitively seems to hold true. However, the BW model does not provide a theoretical explanation why the centrality should be associated with stability. Instead, it just provides a rather circular explanation that *“the element more likely to change is defined as less central to the belief system”* (Converse, 1964, p. 4). Despite this blind spot, the idea that people will hold stronger and more stable opinions on topics they are more invested in, seems intuitive enough. The second factor of constraint’s strength is the level of abstraction of the topics in question. While some topics are close and well-known to the individuals, such as local problems of their hometown, other topics are exceedingly abstract and remote, such as the case with international politics. While the abstract nature of some topics can hardly be blamed, it presents a significant challenge to the individual, especially those without expert knowledge of the topic. It is worth noting that political ideologies by themselves represent a rather abstract and distant construct, which makes their handling difficult. Consequently, while they can be used as a source of opinion constraints, they may not be available to some or even most individuals. This is unfortunate, as ideologies provide a cohesive and logically consistent worldview. People without the ability to make use of them, are instead forced to rely on less precise sources. Most of these sources are heuristic in nature. People who are unable to use political ideologies may use a wide range of surrogates, such as party affiliation of the group proposing a solution to the topic (Haider-Markel & Joslyn, 2001; Tedin, 1986), personal values (Craig et al., 2005; Urban & Pfennig, 2000) or even an emotion they feel considering the topic (Sobkowicz, 2012). Converse (1964) himself argued that the main orientation point are social groups. More specifically, when people need to form an opinion on a problem or its solution, they often tend to think about what social group would benefit from it. Depending on which groups come to their mind and how the individual feels about them, they will form a corresponding opinion. If a larger number of groups is involved, the individual may remember different ones each time they are asked for an opinion, leading to a difference in expressed opinion.

It is also important to note that the BW model does not consider formal education or political orientation. In fact, the model argues strictly against it (Brody, 1986; Converse, 1964). While political orientation may in some cases be used as an indicator of which topics are to be

considered central and thus be to some extent used as a predictor of opinion instability, formal education has no such connection. Converse (1964) argues the illusion of higher education being associated with higher opinion stability comes from the overrepresentation of university graduates among the political elites. These political elites tend to possess expert knowledge for relevant topics, thus making their opinion both more stable and cohesive. However, most university graduates lack this knowledge, which from the point of opinion stability makes them no different from the less educated groups.

Unfortunately, the Black-and-White model never undertook a significant theoretical development, as far as the causes of opinion instability go. Perhaps because of rather controversial implications of Converse's original work, most of the following studies were focused on replicating the results of the prevalence of opinion instability. Thus, the rather technical debate has been centred around different ways of operationalizing opinion change and the effect they have on the results. Meanwhile, the debate about the nature of opinion formation process and its implication for instability. Despite this, the Black-and-White model played a key role in the history of opinion instability research and served as an inspiration for other models, including the Receive-Accept-Sample model.

4.2. Receive-Accept-Sample model (RAS model)

As is the case with other theories presented within this thesis, the Receive-Accept-Sample model wasn't originally intended to solely explain opinion instability. In the first place, it is an attempt to provide explanation of how the responses to survey questions are formed and, by extension, how the public opinion is developed (J. R. Zaller, 1992).

Under the RAS model, people do not hold stable, cohesive opinions about issues in their minds all the time. Instead, they store considerations, which can be understood as *"any reason that might induce an individual to decide a political issue one way or the other"* (J. R. Zaller, 1992, p. 40). These considerations may be either cognitive or affective in nature and can take almost any form, including for example *"Membership in EU helps our economy"*, *"Immigration quotas are unfair"* or *"My father doesn't like the president"*.

Any individual may hold a vast number of potentially incongruent considerations in their memory without even thinking about their contradicting nature. Inevitably, individuals will encounter a situation demanding from them to provide a clear-cut opinion on a specific topic.

These situations may range from participating in an opinion poll to casting a ballot in parliament election. In situations like these, the individual will retrieve a set of considerations relevant to the topic from memory, sum them up and, based on this summation, express their opinion. As an example, the answer to the question whether the Czech Republic should leave or stay in the European Union depends on how many positive and negative considerations regarding EU can an individual retrieve from their memory. Note that under the RAS model, the process of opinion formation is probabilistic in nature. This means that the more consideration supporting specific opinion an individual retrieves from their mind, the more likely they are to accept the said opinion as their own. However, unless the entire consideration is in support of one opinion, a certain amount of instability remains. Consequently, even if the process of opinion formation and its context is the same, it may lead to two different outcomes.

However, not every relevant consideration is guaranteed to be extracted from memory when an opinion is needed. Furthermore, not all of them have an equal probability of being retrieved. Thus, when retrieving considerations from memory, only a sample of them will be used in the opinion formation process. To complicate the matter further, not every consideration an individual encounters in their life has a guaranteed chance to be stored in their memory. There are therefore two main bottlenecks in the opinion formation process: which considerations will be stored in the memory and which will be retrieved when called. The factors governing probability of each consideration being stored and retrieved were summed by Zaller (1992, p. 58) into four axioms:

- 1) Reception axiom: The greater the level of cognitive engagement with an issue, the more likely he or she is to be exposed to and comprehend – in a word, to receive – political messages concerning that issue.
- 2) Resistance axiom: People tend to resist arguments that are inconsistent with their political predispositions, but they do so only to the extent the contextual information necessary to perceive a relationship between the message and their predisposition.
- 3) Accessibility axiom: The more recently a consideration has been called to mind or thought about, the less time it takes to retrieve that consideration or related considerations from memory and bring them to the top of the head for use.

4) Response axiom: Individuals answer survey questions by answering across the considerations that are immediately salient or accessible to them.

We may summarize the axioms presented above into two general factors contributing to the probability of consideration being stored and retrieved: personal attributes of the individual and the context in which the opinion is created. The first factor is concerned mainly with the knowledge of topic the individual possesses, known in the terminology of the RAS model as cognitive engagement. The RAS model argues that people with better topic knowledge are not only able to recognize that a piece of information is connected to the topic of question, thus having bigger number of considerations stored, but also can understand whether this information is congruent with their political predispositions. As people tend to reject information clashing with their predisposition, more knowledgeable individuals tend to have their memory filled with considerations more homogenous in nature. This will in turn lead them to have more cohesive and stable opinions, even if the said opinion has to be reconstructed every time they are requested.

The second factor is concerned with the effect of context. By that, the RAS model understands the previous experience an individual had with the topic, such as the content of newspapers they read or the conversations with their friends about a certain topic the day before. If the content or the frame of the topic as presented by the media or other sources changes, individuals with a less homogenous set of considerations will also experience opinion change, as the probabilities of each consideration being retrieved start to differ. However, the second factor also includes a more immediate context of the opinion formation process. The process of retrieval of consideration can also be affected by the person asking for the opinion, the environment where the questioning takes place and, in case of opinion surveys, the order in which questions are asked. With so many variables, it is reasonable to assume that the exact context of situation is almost impossible to replicate and thus the opinion formation process will almost never be the same.

So far, we used the RAS model to describe the process of opinion formation. It can however also be used to explain the existence of instability of opinions. The core of opinion instability lies in the process of consideration sampling at the moment of opinion formation. Since people do not possess fixed opinions on any topic, the opinions are always required to be built

from scratch. However, as the sampling process is random in nature, it is very possible for the same individual to create two very different samples of consideration. These different samples will encourage the individual to take different stances on the issue. This is further exaggerated by the fact that the number of considerations, as well as the probability of each consideration being sampled, changes over time. With such number of changing variables playing role in the process, it is not surprising that one individual may express a contradicting opinion in a short amount of time. However, as we have seen in the previous chapters, the extent of opinion instability varies between individuals.

Based on the description of the RAS model above, we can see that the individuals with higher level of topic knowledge tend to reject considerations incongruent with their political predisposition. This leads to the content of their memory being more homogenous in nature, as it is not “contaminated” by consideration going against their political orientation. Said homogeneity in turn leads to the samples of considerations created across time to be more similar with each other. This similarity makes it more likely that the individual in question will keep the same opinion over a wider range of time. Thus, the knowledge of topics provides a safeguard against opinion instability.

Similarly to the Black-and-White model, the RAS model does not place a particular focus on formal education, instead it focuses on knowledge. According to the model, there is also no causal relationship between opinion stability and the interest in the topic in question. While we may assume that people interested in the topic may have a more stable opinion on it, previous studies show that merely being interested in the topic doesn’t directly raise the level of opinion stability (Saris & Sniderman, 2004; J. Zaller, 1994). While we may find a positive correlation between interest and stability of opinions, this is most likely a spurious relationship mediated by the knowledge of topic, i.e. people interested in a topic also tend to be more knowledgeable about it. Turning to the topic of context, the way topics are framed significantly influences the opinion of recipients (Baden, 2008; Haider-Markel & Joslyn, 2001; Hansen, 2007). This is because, as we have discussed before, the change of context will change the sampling probabilities of considerations carried by individuals. As long, as there is a single unchanging frame through which the topic is presented, the opinions of the people should remain mostly stable. On the other hand, in a situation, where there are several competing frames or several frames in quick succession, the prevalence of opinion instability will raise.

Interestingly, some previous research suggests that the effect of context may overcome the effect of individual characteristics (Dobrzynska & Blais, 2007, 2009), such as when the topic in question is of the highest importance.

As opposite to the BW model, which remained concerned mainly with measuring the prevalence of opinion instability, the RAS model provides a chance for deeper understanding. Unburdened by the debate on the reliability of measurement, the RAS model went through ample development (e.g. Friedman, 2016; Saris & Sniderman, 2004; J. Zaller, 2012; J. R. Zaller, 1998). However, most of this development was focused on the process of opinion formation and questions such as how and where the considerations are created. This is understandable, as this was the main purpose of the RAS model. On the other hand, it does mean that the topic of opinion instability remained on the side-lines.

4.3. Elaboration likelihood model of persuasion (ELM model)

Both previously presented models originate from the fields of sociology and political science. However, the topics of opinion formation and opinion change are also unsurprisingly prominent in the field of social psychology. One of the most well-known psychological models focusing on opinion change is the Elaboration likelihood model of persuasion (Petty & Cacioppo, 1986). This model is not only an attempt to explain the process of persuasion but can also be an inspiration for the study of opinion instability.

The core idea of the model is that there are two ways of processing information, which lead to opinion change. Note that in the ELM model, in congruence with psychological literature, opinions are called attitudes and defined as “*general evaluations people hold in regard to themselves, other people, objects, and issues*” (Petty & Cacioppo, 1986, p. 127). This definition does not place special focus on opinions existing on either discrete or continuous spectrum. In fact, such distinction is not relevant for the model. We may think of the opinion, or attitudes, as continuous in nature, to preserve the congruency with previous models. There is however one major difference between the ELM model and the previous models. The ELM model does not question the existence of opinions and the ability of individuals to store said opinions inside their minds. However, the ELM model still accepts that opinions may be unstable and changing rapidly. As we will see, even though the nature of opinions differs across the presented models, there exists a surprising congruence between them.

As mentioned, there are two routes, through which an individual may evaluate specific topic: the central route and the peripheral route. In the central route, the individual carefully scrutinizes information presented to him considering certain topics. The individual goes into great detail to evaluate all information and forms an opinion only after intense consideration. On the other hand, if the individual opts for the peripheral route, they do not base their opinion on the evaluation of the argument themselves, but instead base their opinion on contextual clues. For example, the topic may be evaluated based on the perceived trustworthiness or attractiveness of the source of arguments or on according to the previous experience with a similar situation. The opinions produced by these two routes are qualitatively different, since the ones produced by the central route are more elaborated in nature. The primary objective of the model is to estimate the likelihood that an individual will choose the central route of persuasion and produce an elaborated opinion, hence the name of the model. How exactly are they different and how an individual decides, which route to take, is described by the seven postulates of the ELM model (Petty & Cacioppo, 1986):

1. People are motivated to hold correct attitudes.
2. Although people want to hold correct attitudes, the amount and nature of issue-relevant elaboration in which people are willing or able to engage to evaluate a message vary with individual and situational factors.
3. Variables can affect the amount and direction of attitude change by: (A) serving as persuasive arguments, (B) serving as peripheral cues, and/or (C) affecting the extent or direction of issue and argument elaboration.
4. Affecting motivation and/or ability to process a message in a relatively objective manner can do so by either enhancing or reducing argument mutiny
5. As motivation and/or ability to process arguments is decreased, peripheral cues become relatively more important determinants of persuasion. Conversely, as argument scrutiny is increased, peripheral cues become relatively less important determinants of persuasion.
6. Variables affecting message processing in a relatively biased manner can produce either a positive (favourable) or negative (unfavourable) motivational and/or ability bias to the issue-relevant thoughts attempted.
7. Attitude changes that result mostly from processing issue-relevant arguments (central route) will show greater temporal persistence, greater prediction of behaviour, and greater resistance to counter-persuasion than attitude changes that result mostly from peripheral cues.

Since the postulates are numerous and their meaning may not be apparently obvious, we may benefit from taking a closer look. The starting premise of the ELM model is that people want to hold correct opinions. Obviously, the extent to which an opinion is considered to be correct or incorrect varies between individuals and is therefore highly subjective. Nevertheless, the point of the ELM model is that people want to hold opinions that they themselves consider correct. However, the proper evaluation of opinions, i.e. the central route of persuasion, demands a great deal of time and skill. Consequently, some individuals may not be willing or able to spend such significant amount of resources and instead try to approximate the correct opinion based on contextual cues, i.e. take the peripheral route of persuasion. The opinions produced by the central route are shown to be more stable and logically cohesive than the opinions produced by the peripheral route. Here lies the source of opinion instability as derived from the ELM model: opinions produced by careful deliberation of arguments are more stable than opinions produced by the heuristic process. This is supposedly because when going through the central route, the individual prepares arguments surrounding the topic. These arguments serve not only as the basis for the formation of an opinion in the first place but can be used later as a defence against counter-opinions, which would otherwise sway the individual and lead to opinion instability. Therefore, the main factor influencing whether an individual's exhibited opinion instability is the nature of the opinion process they undertook. The question then becomes, which factors influence the choice between the central and the peripheral route.

According to the ELM model, there are two main necessities for taking the central route of persuasion: the motivation to get invested in the topic and sufficient cognitive abilities to evaluate the presented arguments. The question of motivation is a relatively simple one. The more interested individuals are about a topic, the more likely they are to delve deep into the presented arguments. Furthermore, highly motivated individuals put more care into differentiating between strong and weak arguments, thus raising the probability of producing a stable opinion. Interest however is not the sole source of motivation. Perceived responsibility also raises motivation. Therefore, framing the topic as personal responsibility of the individual will increase their motivation to produce an elaborated opinion. However, motivation by itself is not sufficient. An individual may be highly motivated to go through the central route of persuasion yet be unable to do so because of their lack of ability to

comprehend the topic at hand. Topics naturally vary in their complexity and not all of them are accessible to everyone. In the case of highly complex and abstract topics, which are not uncommon in the fields of politics, it is very possible that most individuals will have to rely on contextual clues, thus exposing them to a greater danger of opinion instability. A major factor is the previous knowledge of topic an individual possesses. Those with more topic knowledge will be able to utilize in the process of argument consideration, thus allowing for more elaborate and stable opinion. Furthermore, once an opinion has been formed, the topic knowledge can be used to counter following persuasion attempts, thus raising the stability of opinions in question. Note that the held opinion may not necessarily be correct, since it may be a product of biased reasoning, but it will nevertheless be stable (Ross, Lepper, & Hubbard, 1975).

The elaboration, and consequently the stability, of opinion is not however determined only by individual attributes. Environmental factors may also be in play. One factor, which has already been mentioned, is the complexity of the topic. Since less complex topics require lesser amount of cognitive skills and time to evaluate, we may expect the opinions on them to be more stable on average, and vice versa. Furthermore, if arguments about specific topic solutions are framed as novel, unique or related to the values important to the individuals, they are more likely to have an impact (Petty & Briñol, 2010) and thus may lead to opinion instability. Lastly, there is the factor of repetition. Here the effect is not considered to be so straightforward. Under the ELM model, the effect of repetition of specific message exists in two phases. In the first phase, repeated encounters with the message provide the individual with more opportunities to process the message and understand its content. Therefore, even the individuals who lack sufficient cognitive skills to understand the information in one sitting will eventually be able to decipher its content, thus raising the elaboration and stability of the formed opinion. For example, if some topic received an intense and consistently framed coverage from the media, the prevalence of opinion instability on this topic would be lower. However, the effect of repetition may be negative in the second phase. If specific messages or arguments are repeated even after people had enough time to consider their content, the individuals may grow annoyed or bored by them and not provide them with any significant amount of attention, instead relying on contextual clues, as a quicker and easier way of opinion formation, consequently leading to on average less stable opinions.

The ELM model has become one of the most popular models of persuasion (Chaiken & Trope, 1999) and provides a significant insight into the nature of opinion instability. However, we must remember that its main focus is on the deliberate persuasion. Because of this, most of the previous research has been on the central route of persuasion, the elaborated opinions stemming from it and the ways they can be changed (e.g. Bhattacharjee & Sanford, 2006; Cho, 1999; Petty, Briñol, Priester, Briñol, & Priester, 2009). The peripheral route and the less stable opinions it produces were of lesser interest. Nevertheless, we may benefit from the insight the ELM model provides when combined with the information from the previously described models.

4.5. Synthesis of presented models

We have seen three models providing insight into the nature of opinion instability. While all of the presented models approach the subject differently, there is also a significant amount of overlaps and similarities between them. These similarities are of the utmost importance to us, since the fact that they arise despite different starting points of individual models serves as the proof of their validity. However, before we delve deeper into the common points of the models, let's examine their difference.

First of all, there is no consensus on the nature of opinions themselves. While the ELM model treats opinions as constructs held constantly in the minds of individuals, the BW model argues that the nature of opinions is not constant across all individuals. While there are some individuals, who hold stable and cohesive opinions, a potentially large part of the population does not hold any opinion on a significant number of topics. Instead, these individuals express the so-called non-attitudes. The RAS model takes this notion even further and argues that the concept of opinions as long-term constructs is entirely false and that opinions are best understood as an ambivalent set of considerations, given form only for as long as is needed to provide answer to a given question. None of the models provides better evidence for its claim than others, but it is possible that none of them is correct. The question of true nature of opinions is still open and it is unlikely to be solved in the near future.

Furthermore, the models do not even agree on the nature of opinion instability. For the ELM model, opinion instability is a product of the inability of individuals to resist persuasive messages they encounter. Individuals, who are more capable to resist persuasion attempts

are those, whose opinion are more stable. The implication also is that the origin of opinion instability is on the outside of individual's mind. If no persuasion took place, the opinions should be perfectly stable. Meanwhile, the RAS model sees opinion instability as a product of ambivalence individuals hold to the topics in question. The instability of opinions occurs when one's mind is filled with conflicting considerations, as well as when the sampling probabilities of these contradicting considerations change over time due to the change of context. Therefore, several ways opinion instability can be avoided. The first possibility is to avoid encountering any conflicting considerations. For example, if an individual lived in an extremely homogenous environment, i.e. everyone in their vicinity and all their sources of information would hold the same opinions, said individual would have no opportunity to accept conflicting considerations into their mind. This is obviously a very unlikely possibility. The second possibility is to not accept any conflicting consideration into one's mind. If the person in question would be capable of rejecting all considerations, which does not align with their political predispositions, their mind would not be contaminated with conflicting information. Consequently, all formed opinions would be the same, no matter the specific sample of considerations used in their creation. However, once conflicting considerations are stored in one's mind, opinion instability will always be a possibility. It therefore naturally follows, that the extent of opinion instability is the function of the ability to filter conflicting considerations. It also implies that the sources of opinion instability are both on the outside and in the inside of individual's mind, for the extent of opinion instability depends on the amount of conflicting considerations existing in the environment and the ability to filter through them. Lastly, the BW model assumes that in the theoretical natural state, individuals choose their opinions essentially at random. In practice however, there are constraints, which limit the range of opinions an individual can assume. The strength of these constraints then determines the extent of opinion instability, with stronger constraints leading to less opinion instability. The strength of the constraints also varies across population, as not everyone is able to utilize the sources of constraints to the same extent. For example, one of the best sources of constraints, political ideologies, are so abstract they may be inaccessible for the majority of the population. As we can see, the BW model also assumes that opinion instability originates inside one's mind, as a result of insufficient constraints one possesses.

As we can see, there is little consensus about the nature of opinion instability. This is unsurprising, as none of the presented models was developed with the goal of the explanation of opinion instability in mind. In fact, the nature of opinion instability remains an underdeveloped topic. However, while the presented models do not attempt to explain the nature of opinion instability, they do contribute to the understanding of factor influencing its prevalence. This is where we will see their shared similarities.

Generally, we can identify two groups of factors influencing the extent of opinion instability: internal and external ones. We will start with the internal factors.

The first of the internal factors is the affective attachment to the topic in question. This factor appears in some form in all three models. In the BW model, the level of constraints is partially based on the centrality of the topic. Remember that centrality refers to the relative importance of topic in relation to the rest. The more central a topic is, the more affect it will be by the constraints. Similarly, the ELM argues that interest raises the stability of opinions, since the individuals will be more likely to engage in deeper deliberation. Lastly, the RAS model also associates interest with higher stability of opinions. However, in this case, the effect is indirect, as interest in the topic does not have any effect by itself but tends to lead to the raise of topic knowledge, which in turn lowers the prevalence of opinion instability. The interest in topic should therefore have negative effect on the level of opinion instability. However, the affective attachment may include other factors aside from interest. As noted by the ELM model, responsibility is another factor negatively influencing opinion instability. In the future, it may be fruitful to see if there are other affective factors, such as the sense of duty or the fear of social sanctions.

Second of the internal factors is what we can call topic proficiency. By topic proficiency, we may understand the sum of knowledge on a specific topic an individual possesses and the skills necessary to utilize it. While both the BW model and the RAS model reject the role of general knowledge, all three models incorporate the role of domain/topic knowledge and skills. The BW model argues that the knowledge of political ideologies, or even just the superficial knowledge of relations between topics, can provide constraints necessary for stable opinions. However, to utilize them, the individual must not only know of a relevant political ideology to the topic at hand but must also possess enough skill to connect the ideology with the topic to

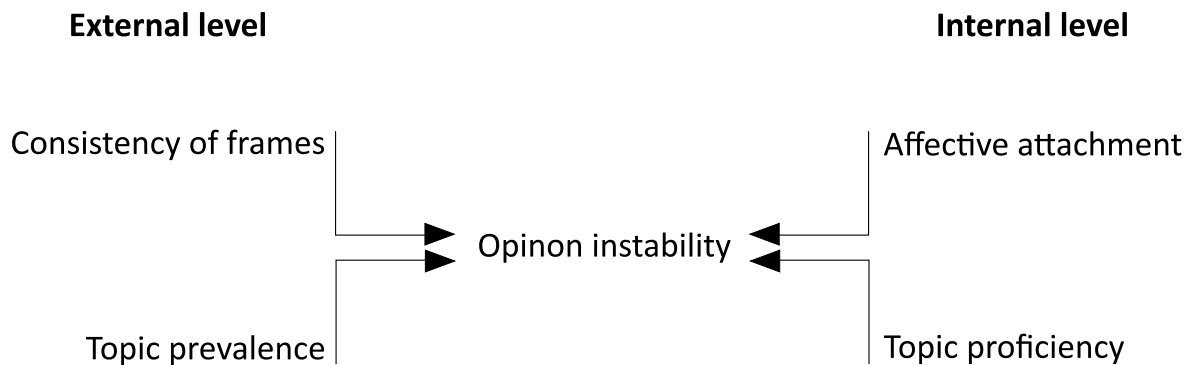
use it as a guide. The RAS model instead presents topic knowledge as a factor helping to keep one's mind clear of conflicting considerations. Remember that according to the RAS model, people tend to reject considerations incongruent with their political predispositions. To do so, they must however first recognize these considerations as incongruent. Implicitly, they must also possess and recognize their political predispositions. Again, we see that higher knowledge of the topic should be related to lower rate of opinion instability. Lastly, we look into the ELM model. In this model, the topic knowledge is accounted in two ways. Firstly, the higher amount of knowledge allows the individual to form arguments in favour of the held opinions, which can be used to counter future persuasion attempts. Topic knowledge therefore improves the ability to hold specific opinions during a longer period of time. Secondly, topic knowledge may be necessary to understand and evaluate arguments proposed for certain topics. The understanding and evaluation of the arguments are necessary to form an elaborate opinion. In turn, a failure to achieve them lead to the reliance on contextual clues, as explained above. From the description above, we can see that the topic proficiency can be divided in two parts, knowledge held on the topic and cognitive skills to utilize said knowledge. In the future, it may be of best interest to look into the relationship between the two parts. For example, is it possible for someone to possess a high level of topic knowledge but lack the skills to use it, i.e. have encyclopaedic knowledge but lack critical thinking? If yes, does it influence the prevalence of opinion instability in any way?

Now, let's turn our attention to the external factors, first of which is the consistency of frames. Both studies related to the RAS model and the ELM model show that the frame of the topic can significantly alter opinions individuals hold. Some studies even note that these external factors may even overshadow the internal ones. The consistence of frames refers to the extent to which the frames are homogenous across sources. To put it differently, if some topic is consistently presented in the same way, we expect the opinion considering this topic to be more stable. This conclusion fits the RAS model especially well, since the more homogenous is the presentation of the topic, the more homogenous are the considerations related to it. Furthermore, as noted by the ELM model, homogenous presentation means that in practice, there is only one presented solution to the topic in question. This in turn means that no counter-persuasion attempts are made and no opinion instability can be expressed. On the

other hand, once several frames emerge, individuals have to deal with competing solutions and the potential for the opinion instability raises.

Second of the external factors is the topic prevalence. Various topics differ by how much attention is given to them, both by the public and by the media. Topics, which enjoy more attention can be considered more prevalent. As with the consistency of frames, it can be argued that the prevalence of a topic has a negative effect on the prevalence of opinion instability. The more opportunities to encounter the topic the individuals have, the more likely it is they will understand the message and the argument related to it. Under the ELM model, this provides them with better opportunity to form an elaborated and more stable opinion. Furthermore, the individuals will have more opportunities to recognize, whether the consideration included in the messages are congruent with their political predispositions, as is described by the RAS model. We may also argue, in accordance with the agenda setting theory (McCombs, 2014), that high topic prevalence leads directly to high interest in the topic, as the public agenda tends to reflect the agenda of the media. Lastly, the ELM model provides interesting questions about the effect of topic prevalence. As mentioned before, the prevalence may not only have positive effect on the elaboration of opinions. If the topic is presented for too long, the public may get bored and employ various heuristic strategies to avoid spending too much energy on the topic. These elaborated strategies, relying on contextual clues, in turn lead to less stable opinions. In future it may be beneficial to further divide topic prevalence into topic intensity, i.e. how often is the topic referenced, and topic longevity, i.e. for how long has the topic been referenced. It may very well be possible that the topic intensity will be negatively associated with opinion instability, while the association between topic longevity and opinion instability will be positive.

Graph 4 – Synthesized model of opinion instability



Lastly, I would like to mention one similarity shared by the presented models and that is the complete lack of social factors. As we have seen, the models paid great attention to the attributes possessed by individual, such as interest or knowledge. They also paid attention to the attributes of the topics in question. Neither of the models however paid attention to the social environment of the individual. This is disappointing, since there are several possibilities how social environment may play a role. We already discussed how opinion homogeneity of the close social environment may influence opinion instability. The more homogenous the social environment is, the less unstable the opinions of individuals inside may be. This may be because there are less attempts at persuasion or because the set of present considerations are more homogenous. While the cause is debatable, it may be fruitful to examine the effect of social environment in more detail. Another possibility may be looking into the opinion competitiveness of the environment. Some environments are naturally more competitive than others, i.e. people are expected to argue and defend their opinion on certain topics more often. A possible example would be the political scene, where one not only repeatedly presents their opinions, but also defends them against the opinions of others. We may hypothesise that people in such an environment may be more stable in regard to their opinions than people, whose opinions do not face routine opposition. This may be because these people will have a better prepared set of arguments defending them against persuasion attempts or because such environments require to hold a cohesive world view, especially in

the field of politics, or because they express their opinion so often they may not have a possibility to forget and reiterate it. Whether the case, it may be interesting to see if groups of people more used to arguing their opinion also suffer less from opinion instability. Lastly, the social environment may be a source of spurious opinion instability. Here we can refer to the Spiral of silence theory (Noelle-Neumann, 1993), whose central claim in short is that, when people feel their opinion is in minority, they may cease to voice it or even start voicing what they feel is the opinion supported by the majority. It is easy to see how this can lead to a pattern easily prescribed to opinion instability. If a group of people for example prefers one outcome, but notices that they are a minority, its members may start to voice more ambivalent opinions in fear of social repercussion. Then, when their perception of what the majority favours changes, they will go back to their original opinions. In data, this would look like the popularity of the group's preferred outcome started relatively high, then lowers and then raises back to the original value. This may be interpreted as opinion instability, even though this conclusion is disputable, as the true opinions of the group remained the same. In conclusion, measuring opinion instability in situations, where one outcome is clearly in majority may be difficult, due to social factors. Of course, all social factors presented above are merely suggestions and there is no proof of their effect. On the other hand, there is also no proof of their unimportance, as the social aspect has been for a large part ignored by the previous research on opinion instability. The few exceptions include works of Crespi (1997) and Hoffman, Glynn, Huges, Sietman, & Thomson (2007), who focused on social environment as the means of transmitting information. In the future, a more thorough look only on the individuals, but also on their social surrounding, may be in question.

5. Conclusion

The goal of this thesis was to provide some insight into the topic of opinion instability. Specifically, we had three questions: Does opinion instability exist? If yes, how prevalent is it? And what are its causes? As we have seen in chapter 2, the idea that opinion instability may be unstable had to face severe methodological critique, as some dismissed it as a mere measurement error. Despite this, there are several arguments that it may indeed be a real phenomenon, namely the fact that even after applying measurement corrections, some amount of instability remained. Furthermore, the assumption that opinions are safely stored inside one's mind and most changes are due to the insufficient response scales is problematic by itself. While there is no definitive proof that the methodological critique is entirely wrong, the evidence suggests that opinion instability exists at least to some extent. The question then becomes, to what extent? As discussed in chapter 3, the prevalence of opinion instability varies wildly across studies, which are themselves few in numbers. This difference to some extent stems from the difference between the topics of studies in question, as well as from the difference of time gap between measurements. We could however conclude that time seems to play a role in the prevalence of opinion instability. More specifically, the wider the time gap between measurements, the higher the prevalence of opinion instability. However, the biggest factor determining the extent of opinion instability, overshadowing any other contributors, is the operationalization of the term opinion instability itself. As chapter 3 shows in greater detail, the proportion of individuals with unstable opinion in single dataset may range from 10 to 60 percent, depending on which route of operationalizing logic we follow. We discussed advantages and disadvantages of different operationalization schemes and concluded that the best way to estimate opinion instability is to use the corrected proportion of change or the difference between measurements. Above all, the main conclusion of the third chapter is that research of opinion instability would greatly benefit from more unified framework defining opinion instability. Lastly, we examined potential causes of opinion instability, through existing theories. Sadly, there are no developed models dedicated to the explanation of opinion instability, so we had to make do with models of opinion formation. We examined three models, the Black-and-White model, the Receive-Accept-Sample model and the Elaboration likelihood model of persuasion. Despite the fact that all of the models understood the nature of opinions and their potential instability in different ways, we found

great share of similarities between them. On the internal level, the factors contributing to the existence of opinion instability are affective attachment and topic proficiency. On the external level, the consistency of frames and the topic prevalence are the two factors referenced across several of the examined models. We also noted the lack of focus on social factors in all three models.

Lastly, I have to mention several limitations of this thesis. First of all, the reader may notice a suspicious lack of focus on genuine opinion change, i.e. a situation, where an individual makes a deliberate one-time change of opinion. The lack of focus on genuine opinion change is symptomatic for most studies of opinion instability. Some models, such as the ELM model, refers to a theoretical distinction between different types of opinion changes, however their focus seems to be lacking. Generally, studies tend to assume that an opinion should be highly stable and when this is not the case, it is either because of opinion instability or measurement error. There is a small number of studies, which try to differentiate between genuine and random changes, usually through a higher number of measurements. However, most studies are based on panel data with only two measurements or on aggregated cross sectional surveys, which severely limits the options to take genuine opinion change into account. Whether this is because of financial or other reasons, I cannot say. However, in future, focusing more on differentiation between genuine and random changes of opinions would definitely be an improvement.

Second limitation is in the theoretical scope of the thesis. While there are relatively little studies done on opinion instability, there is a comparatively enormous focus on opinion formation and these studies are spread across several fields. This thesis is built mainly on works of sociology and social psychology, as we have only brushed against the works of psychology and completely ignored fields such as neurology. This obviously limits the insight in the topic, however incorporating all relevant fields would be well beyond the scope of this thesis. Not only because their sheer number, but also because studies from other fields carry their own methodological pitfalls, which would demand our attention. For example, experimental studies are praised for their ability to examine causal relationships. On the other hand, experimental environment is heavily artificial and unlike anything that can be found outside of the laboratory walls. This can make any results gained from experimental studies ecologically invalid, i.e. just because an effect has been observed in a laboratory, it will not

necessarily be ever observed in everyday life. Such lack of ecological validity has been noted in connection with opinion instability by previous studies (J. Druckman & Leeper, 2012), which suggested that experimental studies may overestimate prevalence of opinion instability because of their artificial setting. For this and other reasons, I decide to limit my thesis to more familiar waters.

Lastly, there is a problem of empirical foundation of presented information. It was my goal to empirically test or illustrate as many information presented in my thesis as possible. However, because the research of opinion instability by its very nature demands repeated measurement and panel data, my options were limited. I also strived to use as much data from the Czech Republic as possible. This is mainly because I believe there are often forgotten sociocultural differences between countries, which threaten the ecological validity of presented findings. The prevalence of opinion instability may for example differ between countries, due to the complexity of political landscape or differences in the historical importance of topics. It is therefore best not to assume direct transferability of findings across more remote sociocultural groups. This of course led to some difficulties. Panel studies in the Czech Republic are rare, especially those, which would measure opinions on specific topics rather than general beliefs or behaviours. It was for this, why for example the Czech household panel was not used. Secondly, it is surprisingly hard to find a study, which would measure an opinion on a wider range of more specific topics. Again, it is much more common to measure general beliefs. This forced me to work with several unrelated datasets and make other allowance. For example, you may notice that in chapter 2, the cohesion of opinions across topics and the stability of opinions over time is illustrated on two different data sets. The situation is especially dismal in chapter 4, concerned with the causes of opinion instability. Because all of the presented models refer to rather specific factors, their testing would require specific data. Such data was not available and the chapter is therefore purely theoretical. In future, it would be undoubtedly beneficial to test the information presented here on data specifically gathered for that purpose.

Despite the limitation presented above, I believe my thesis can still provide insight into a less developed topic of opinion instability. It sums up the current knowledge of the topic and answers basic questions such as how is the opinion instability defined, how prevalent it is and what may be its causes. In this way, it answers some of the popular questions about the political participation of the public in modern democracies and serves as a building block for future work.

6. References

1. Achen, C. H. (1975). Mass Political Attitudes and the Survey Response. *American Political Science Review*, 69(4), 1218–1231. <https://doi.org/10.2307/1955282>
2. Ansolabehere, S., Rodden, J., & Snyder, J. M. (2008). The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting. *American Political Science Review*, 102(2), 215–232. <https://doi.org/10.1017/S0003055408080210>
3. Baden, C. (2008). *Semantic association and weighted consideration: How framing shifts people's information bases in opinion formation*. Prezentováno v ICA Annual Conference, Montreal, Canada. Získáno z <http://www.c-b.net/data/baden%20-%20semantic%20association%20and%20weighted%20consideration.pdf>
4. Barnes, P. (2016, 6). EU Referendum: Did the polls all get it wrong again? Získáno z BBC website: <https://www.bbc.com/news/uk-politics-eu-referendum-36648769>
5. BBC. (2016). EU referendum poll tracker. Získáno z BBC website: <https://www.bbc.com/news/uk-politics-eu-referendum-36271589>
6. Bélanger, É., & Pétry, F. (2005). The Rational Public? A Canadian Test of the Page and Shapiro Argument. *International Journal of Public Opinion Research*, 17(2), 190–212. <https://doi.org/10.1093/ijpor/edh050>
7. Bhattacharjee, A., & Sanford, C. (2006). Influence Processes for Information Technology Acceptance: An Elaboration Likelihood Model. *MIS Quarterly*, 30(4), 805–825. <https://doi.org/10.2307/25148755>
8. Brickman, D., & Peterson, D. A. M. (2006). PUBLIC OPINION REACTION TO REPEATED EVENTS: Citizen Response to Multiple Supreme Court Abortion Decisions. *Political Behavior*, 28(1), 87–112. <https://doi.org/10.1007/s11109-005-9003-0>
9. Brody, C. J. (1986). Things Are Rarely Black and White: Admitting Gray Into the Converse Model of Attitude Stability. *American Journal of Sociology*, 92(3), 657–677.
10. Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1980). *The American Voter: Unabridged Edition*. Chicago Ill.: University of Chicago Press.
11. Clarke, H. D., & Goodwin, M. (2016, červenec 5). Leave was always in the lead: Why the polls got the referendum result wrong. Získáno 13. červen 2019, z British Politics and Policy at LSE website: <https://blogs.lse.ac.uk/politicsandpolicy/eu-referendum-polls/>
12. Centrum pro výzkum veřejného mínění, Sociologický ústav AV ČR, v.v.i. (2013). *Povolební studie 2013, ver. 1.0*. Praha: Český sociálněvědní datový archiv
13. Converse, P. E. (1964). The nature of belief systems in mass publics. In *Ideology and Discontent*. New York: Free Press of Glencoe.
14. Craig, S. C., Martinez, M. D., Kane, J. G., & Gainous, J. (2005). Core Values, Value Conflict, and Citizens' Ambivalence about Gay Rights. *Political Research Quarterly*, 58(1), 5–17. <https://doi.org/10.2307/3595591>

15. Crespi, I. (1997). *The public opinion process: How the people speak*. Lawrence Erlbaum Assoc.
16. Dobrzynska, A., & Blais, A. (2007). Testing Zaller's Reception and Acceptance Model in an Intense Election Campaign. *Political Behavior*, 30(2), 259. <https://doi.org/10.1007/s11109-007-9049-2>
17. Dobrzynska, A., & Blais, A. (2009, květen 25). *The RAS Model: A Simple Test*. Prezentováno v Annual meeting of the American Association For Public Opinion Association, Florida.
18. Druckman, J., & Leeper, T. (2012). *Is Public Opinion Stable? Resolving the Micro-Macro Disconnect in Studies of Public Opinion (WP-12-06)*. Získáno z <https://www.ipr.northwestern.edu/publications/papers/2012/ipr-wp-12-06.html>
19. Druckman, J. N., Fein, J., & Leeper, T. J. (2012). A Source of Bias in Public Opinion Stability. *American Political Science Review*, 106(2), 430–454. <https://doi.org/10.1017/S0003055412000123>
20. Duncan, P. (2016, červen 24). How the pollsters got it wrong on the EU referendum. Získáno z The Guardian website: <https://www.theguardian.com/politics/2016/jun/24/how-eu-referendum-pollsters-wrong-opinion-predict-close>
21. Financial Times. (2016). Brexit Poll Tracker. Získáno z Financial Times website: <https://ig.ft.com/sites/brexit-polling/>
22. Fournier, P., Nadeau, R., Blais, A., Gidengil, E., & Nevitte, N. (2004). Time-of-voting decision and susceptibility to campaign effects. *Electoral Studies*, 23(4), 661–681. <https://doi.org/10.1016/j.electstud.2003.09.001>
23. Freeder, S., Lenz, G. S., & Turney, S. (2018). The Importance of Knowing “What Goes with What”: Reinterpreting the Evidence on Policy Attitude Stability. *The Journal of Politics*, 000–000. <https://doi.org/10.1086/700005>
24. Friedman, J. (2016). *The Nature and Origins of Mass Opinion Reconsidered: What Determines Public Opinion?* Routledge.
25. Fry, J., & Brint, A. (2017). Bubbles, Blind-Spots and Brexit. *Risks*, 5(3), 37. <https://doi.org/10.3390/risks5030037>
26. Haider-Markel, D. P., & Joslyn, M. R. (2001). Gun Policy, Opinion, Tragedy, and Blame Attribution: The Conditional Influence of Issue Frames. *Journal of Politics*, 63(2), 520–543. <https://doi.org/10.1111/0022-3816.00077>
27. Hansen, K. M. (2007). The Sophisticated Public: The Effect of Competing Frames on Public Opinion. *Scandinavian Political Studies*, 30(3), 377–396. <https://doi.org/10.1111/j.1467-9477.2007.00185.x>
28. Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *The American Psychologist*, 58(1), 78–79.
29. Hill, J. L. (2001). An Extension and Test of Converse's “Black-and-White” Model of Response Stability. *American Political Science Review*, 95(2), 397–413. <https://doi.org/10.1017/S0003055401002209>
30. Hoffman, L. H., Glynn, C. J., Huges, M. E., Sietman, R. B., & Thomson, T. (2007). The Role of Communication in Public Opinion Processes: Understanding the Impacts of Intrapersonal, Media, and

Social Filters. *International Journal of Public Opinion Research*, 19(3), 287–312.
<https://doi.org/10.1093/ijpor/edm014>

31. Chaiken, S., & Trope, Y. (Ed.). (1999). *Dual-Process Theories in Social Psychology* (1 edition). New York: The Guilford Press.
32. Cho, C.-H. (1999). How Advertising Works on the WWW: Modified Elaboration Likelihood Model. *Journal of Current Issues & Research in Advertising*, 21(1), 34–50.
<https://doi.org/10.1080/10641734.1999.10505087>
33. Chong, D., & Druckman, J. N. (2010). Dynamic Public Opinion: Communication Effects over Time. *American Political Science Review*, 104(4), 663–680. <https://doi.org/10.1017/S0003055410000493>
34. McCombs, M. E. (2014). *Setting the agenda: The mass media and public opinion* (2nd ed). Cambridge ; Malden: Polity Press.
35. Mukaka, M. M. (2012). Statistics corner: A guide to appropriate use of correlation coefficient in medical research. *Malawi Medical Journal: The Journal of Medical Association of Malawi*, 24(3), 69–71.
36. Nicolet, S., & Sciarini, P. (2006). When Do Issue Opinions Matter, and to Whom? The Determinants of Long-Term Stability and Change in Party Choice in the 2003 Swiss Elections. *Swiss Political Science Review*, 12(4), 159–190. <https://doi.org/10.1002/j.1662-6370.2006.tb00064.x>
37. Noelle-Neumann, E. (1993). *The spiral of silence: Public opinion - our social skin* (2nd ed). Chicago: University of Chicago Press.
38. Page, B. I., & Shapiro, R. Y. (1992). *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences* (1 edition). Chicago: University of Chicago Press.
39. Pacheco, J. (2014). Measuring and Evaluating Changes in State Opinion Across Eight Issues. *American Politics Research*, 42(6), 986–1009. <https://doi.org/10.1177/1532673X14524819>
40. Petty, R. E., & Briñol, P. (2010). Attitude change. In *Advanced social psychology: The state of the science* (s. 217–259). New York, NY, US: Oxford University Press.
41. Petty, R. E., Briñol, P., Priester, J. R., Briñol, P., & Priester, J. R. (2009, leden 13). MASS MEDIA ATTITUDE CHANGE: Implications of the Elaboration Likelihood Model of Persuasion.
<https://doi.org/10.4324/9780203877111-13>
42. Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of Persuasion. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Roč. 19, s. 123–205).
[https://doi.org/10.1016/S0065-2601\(08\)60214-2](https://doi.org/10.1016/S0065-2601(08)60214-2)
43. Rogowski, J. C., & Tucker, P. D. (2018). Critical Events and Attitude Change: Support for Gun Control After Mass Shootings. *Political Science Research and Methods*, 1–9.
<https://doi.org/10.1017/psrm.2018.21>
44. Ross, L., Lepper, M. R., & Hubbard, M. (1975). Perseverance in self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal of Personality and Social Psychology*, 32(5), 880–892.

45. Saiidi, U. (2016, červenec 4). Here's why the majority of Brexit polls were wrong. Získáno z CNBC website: <https://www.cnn.com/2016/07/04/why-the-majority-of-brexit-polls-were-wrong.html>
46. Saris, W. E., & Sniderman, P. M. (Ed.). (2004). *Studies in Public Opinion: Attitudes, Nonattitudes, Measurement Error, and Change*. Princeton, N.J: Princeton University Press.
47. Sciarini, P., & Kriesi, H. (2003). Opinion Stability and Change During an Electoral Campaign: Results from the 1999 Swiss Election Panel Study. *International Journal of Public Opinion Research*, 15(4), 431–453. <https://doi.org/10.1093/ijpor/15.4.431>
48. Sobkowicz, P. (2012). Discrete Model of Opinion Changes Using Knowledge and Emotions as Control Variables. *PLOS ONE*, 7(9), e44489. <https://doi.org/10.1371/journal.pone.0044489>
49. Sociologický ústav (Akademie věd ČR), Univerzita Karlova. Fakulta sociálních věd (2014). *Veřejná a mediální agenda: komparativní analýza tematizace veřejné sféry, ver. 1.0*. Praha: Český sociálněvědní datový archiv
50. Škodová, M., & Nečas, V. (Ed.). (2009). *Veřejná a mediální agenda: Komparativní analýza tematizace veřejné sféry* (1. vyd). Praha: Professional Publishing.
51. Taylor, M. C. (1983). The Black-and-White Model of Attitude Stability: A Latent Class Examination of Opinion and Nonopinion in the American Public. *American Journal of Sociology*, 89(2), 373–401.
52. Tedin, K. L. (1986). Change and Stability in Presidential Popularity at the Individual Level. *Public Opinion Quarterly*, 50(4), 555–562. <https://doi.org/10.1086/269003>
53. Urban, D., & Pfenning, U. (2000). Attitudes towards genetic engineering between change and stability: Results of a panel study. *New Genetics and Society*, 19(3), 251–268. <https://doi.org/10.1080/713687611>
54. Zaller, J. (1994). Positive Constructs of Public Opinion. *Critical Studies in Mass Communication*, 11(3), 276.
55. Zaller, J. (2012). What Nature and Origins Leaves Out. *Critical Review*, 24(4), 569–642. <https://doi.org/10.1080/08913811.2012.807648>
56. Zaller, J. R. (1992). *The Nature and Origins of Mass Opinion* (1st edition). Cambridge England ; New York, NY, USA: Cambridge University Press.
57. Zaller, J. R. (1998). Monica Lewinsky's Contribution to Political Science. *PS: Political Science and Politics*, 31(2), 182–189. <https://doi.org/10.2307/420248>