



SCHOOL OF
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Resilience to Shrinking and Social Capability

The case of Iceland, 1870-present

by

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This thesis assesses the role of social capabilities in the development of Iceland's economy in 1870-2019. Throughout the period, economic shrinking gradually decreased in the country. The paper argues that a lower frequency of shrinking resulted in better economic performance and that these changes are due to increased resilience to shrinking, provided by the build-up of social capability. By analysing four interrelated aspects of social capability; transformation, inclusion, autonomy, and accountability, the paper argues that each one saw significant advancements in the period. However, the paper is concerned with a long period and, as such, gives a general overview of the development, leaving ample room for research into specific periods that can further the understanding of each social capability process and their respective roles in Icelandic development. The findings are that a rapid structural transformation aided by strong inclusionary policies around the turn of the 20th century may have contributed to less shrinking. The indicators used to measure autonomy and accountability do not show meaningful improvements until post-WWII, highlighting that these processes can develop as an outcome of sustained growth.

Keywords: Iceland, shrinking, resilience, social capabilities, institutions

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1 Introduction

This thesis will analyse economic performance in Iceland from 1870 to the present day. In the past century, Iceland has achieved phenomenal economic growth and thereby managed to securely place itself among the world's highest GDP per capita countries. Iceland has not always been a rich country. In the year 1900, it had a GDP per capita of just under 1500 USD (1990 PPP), compared to the Western European average of around 2900 USD and had consistently been among the lowest GDP per capita countries in the region (Jonsson, 1999; 386-387). A lack of reliable and consistent data obstructs the analysis of Icelandic development before 1870, which is why the thesis is confined to the time frame mentioned above. The earliest years of the period were a pivotal time in the development of Iceland and its transition from an agrarian society to an independent and prosperous nation.

Iceland's economic growth rate during the period, while high, was very volatile. This volatility decreases towards the end of the century. Post-World War II, Iceland had economic growth rates significantly higher and more volatile than in other OECD member countries (The Central Bank of Iceland, 2008). This development, observable in figure 1, aligns with Broadberry and Wallis' (2017) findings for other Western-European states during their respective industrialisation periods. However, the growth and industrialisation period starts late in Iceland compared to other countries in the region.

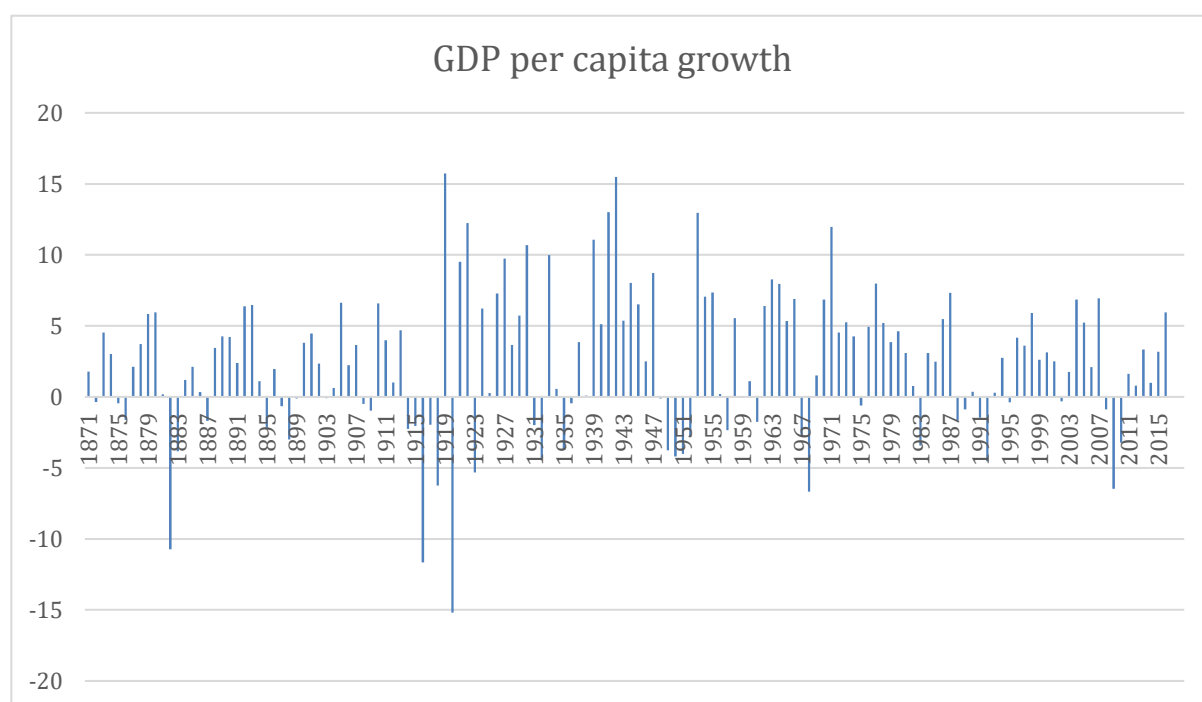


Figure 1: Annual percentage change of GDP per capita in Iceland 1870-2019

This trend of decreased volatility is the topic of this research. More specifically, factors leading to the declining frequency and magnitude of economic shrinking. The reduction in shrinking should then have contributed to the decrease in volatility mentioned before.

1.1 Research Problem

This thesis is the result of research into the economic development of Iceland from 1870 to the present day. These developments are analysed by focusing on the build-up of resilience to economic shrinking. The analysis is based on a social capability framework created by Andersson and Palacio (2017) through expanding Abramovitz's (1986) notion of taking advantage of the country's socially advanced status despite its seeming economic backwardness and his ideas about the role and nature of social capabilities. Therefore, the research question becomes: *How did key elements of social capabilities evolve in Iceland from 1870 to the present day?*

1.2 Aim and Scope

Few attempts have been made to analyse the dynamics, causes and effects of economic shrinking in Iceland. This thesis aims to shed light on the processes involved in the build-up of resilience to economic shrinking and their role in the recent development of the Icelandic economy. Therefore, this study will contribute to the literature on growth topology in Iceland and contribute to the growing literature on economic shrinking and social capabilities by providing yet another case study into these processes. The thesis uses quantitative data and qualitative sources on relevant developments within the framework's scope and the timeframe to understand how social capability increased during this period in Icelandic history. As the period 1870 to the present is rather long, this analysis will highlight only the most important developments, leaving ample room for further research in future of specific elements or events.

1.3 Outline of the Thesis

Following this introduction is a summary of previous research on shrinking and social capabilities. Next, the data used will be discussed along with its original sources, validity, reliability and general quality. That is followed up by laying out the framework used for this study based on Andersson (2018) and the different social capability processes of transformation, inclusion, social stability, autonomy and accountability. The subsequent empirical analysis is divided into subsections, accordingly, starting with assessing Icelandic economic performance before moving onto the processes mentioned earlier and analysing their

respective build-up periods before discussing the analysis results and moving on to the conclusion section, in which some further research is proposed.

2 Previous research

2.1 Shrinking

Research on economic development has hitherto focused on economic growth and been analysed through growth theory and the general dynamics of growth. Much needed research has tried to answer how modern economic growth, as defined by Kuznets (1973), can be achieved and sustained throughout the course of development. Economic shrinking has garnered significantly less attention and often treated as a simple lack of economic growth instead of being researched further as a distinct phenomenon worthy of its own theoretical framework and understanding. As this thesis will employ theories on economic shrinking to analyse the historical economic development of Iceland, reviewing the literature on economic shrinking is in order.

Easterly, Kremer, Pritchett and Summers (1993) found that economic growth is very volatile throughout the world, even after accounting for country characteristics and policies. These findings suggest that having a stable and healthy institutional environment and good policies does not lead to a guaranteed subscription to economic growth. Further, their results suggest that random shocks, especially in foreign trade, significantly impact a country's long-term growth. Pritchett (2000) furthered this research into unstable growth rates by highlighting different growth patterns between developing countries and other countries. His findings suggest that volatility in per capita GDP is much higher in developing countries.

In their research on the sources of growth spurts and collapses, Hausmann et al. (2005; 2006) found that economic reform and regime change are the strongest predictors of growth spurts, while collapses are instead associated with trade shocks, wars and political transitions. This approach of analysing rapid growth and collapses, as opposed to general volatility of growth, was also employed by Jones and Olken (2008), who found that growth collapses are, in line with Pritchett (2000), less frequent in high-income countries than in others. Further, both Jones and Olken (2008) and Hausmann et al. (2007; 2005) highlight that initiating growth spurts is quite a different task than the process of sustaining growth.

The work already covered here primarily treated economic shrinking as an absence of growth. As such, the focus ends up being the need to increase growth instead of assessing the possibilities of achieving long-term growth through reduced frequency or magnitude of shrinking. North, Wallis and Weingast (2009) were the first to emphasise this focus on "growth through less shrinking." Broadberry and Wallis (2017) furthered research focusing on resilience to shrinking, arguing that institutional changes contribute highly to increased resiliency. Their

discussion of shrinking and institutional changes is highly based on the framework created by North, Wallis and Weingast (2009), about transitions between social orders (i.e. from limited access orders to open access orders) with a focus on institutions that affect social relationships, mainly advocating for institutions that distribute the powers held by elites in a non-violent manner. Broadberry and Wallis's (2017) contributions are of particular significance for this thesis, as they consider historical data and find that today's developed countries saw drastic changes to the frequency and magnitude of their shrinking while their long-term growth rate declined through the course of their development.

2.2 Social Capabilities

Like much of the literature on shrinking, analysing economic development through social capabilities has its roots in the debate on convergence. However, until relatively recently, empirical evidence suggested that divergence was happening and that the catching-up process was not working according to this theory (e.g. Pritchett, 1997; Rodrik, 2011; Patel, Sandefur & Subramanian, 2021). Understanding this phenomenon and identifying the reasons for differing economic outcomes between countries, especially in the long term, has been a significant focus of economists for a long time. Focusing on social capabilities as an indicator for the actual ability of countries to catch up was first suggested by Ohkawa and Rosovsky (1973). Abramovitz (1986; 1995) further defined the approach by proposing government stability and efficiency, trust and honesty between the population, managerial and technical competence, and markets and institutions' ability to effectively allocate capital as the core components of social capability. These components have been interpreted collectively as describing the creation of incentive structures that lead to more innovation and investment, especially in the context of post-war Europe (Rhode & Toniolo, 2006). Furthermore, the concept of social capability has become accepted as a factor in understanding convergence despite the lack of a clear definition and accepted frameworks to analyse and measure social capability (Andersson & Palacio, 2017).

3 Data

Following other case studies employing the same framework (Andersson & Andersson, 2019; Andersson, Axelsson & Palacio, 2021), this thesis uses quantitative data and qualitative sources. This is necessary to provide context to the data due to the interconnectedness and multidimensionality of the social capability processes (Andersson & Palacio, 2017). Both the historical and modern-day data used in this thesis primarily comes from Statistics Iceland. Modern data was acquired from the institution's online database, while historical data comes from a compilation published in the book *Hagskinna* (Jonsson & Magnusson, 1997).

Much of the data presented here was initially compiled in censuses. They were performed relatively frequently during the period and are generally considered “fairly accurate and carefully conducted” (Jonsson & Magnusson, 1997 pp. 46). Therefore, the population data used in this thesis should be reasonably accurate but increasingly so the closer it gets to the modern-day, as more detailed information was collected on the Icelandic populace.

The censuses also collected data on employment, albeit with a highly unique methodology by modern-day standards. Therefore, Jonsson and Magnusson (1997) reworked much of the data to more closely resemble modern definitions and ideas about the labour market. Due to this rework, one must consider data for the period 1870-1959 as the current best estimates for employment, given the nature of and methodology used in the primary sources¹. Data on sectoral employment was extended with modelled ILO estimates from the World Bank development indicators for 2000, 2010, and 2019 (World Bank, n.d.).

Data on gross domestic product comes from two distinct sources. For the period 1945-2016, GDP is based on national accounts and compiled and published by Statistics Iceland. As no official national accounts exist before 1945, Jonsson (1999) collected much of the relevant data needed to estimate GDP for 1870-1945. These estimates have since become part of what Statistics Iceland publishes as part of its historical economic indicators.

¹ Further discussion on the rework is available on pages 207-208 in Jonsson and Magnússon (1997).

Inflation data is another area in which direct and consistent measurements do not exist for the entire period. Official price observations by Statistics Iceland started in 1914, and after 1939 the data is a reliable modern consumer price index less housing cost (Jonsson & Magnusson, 1997 pp. 637). Therefore, the most uncertainty is present in the period before 1914, where the price index was estimated by creating various price indices based on price changes in 27 domestic commodities. Therefore, while the methodology before 1939 is questionable by modern-day standards, price data is relatively reliable throughout the period. That being said, one should perhaps only look at trends in the data before 1939 and not assume that the inflation rate observed or estimated before that is an exact measure for each year.

4 Methods

Andersson (2018) proposes a framework intended to put social capability at the centre of the catching up debate. Although the measurements of social capability themselves have not been entirely pinned down yet, this is both a conceptual and measurement framework. To start assessing economic shrinking, one needs a measure of economic performance. The framework borrows this measure from Broadberry and Wallis (2017). Algebraically, economic performance is expressed:

$$EP = f(g) m(g) + f(s) m(s),$$

where EP denotes economic performance, which is equal to the product of the frequency of growth and magnitude of growth ($f(g)m(g)$) plus the same product for economic shrinking ($f(s)m(s)$). This equation forms the basis for analysis, as it shows whether or not shrinking has reduced in the period.

The framework splits social capabilities into four interrelated dimensions, namely, “transformation”, “inclusion”, “autonomy”, and “accountability”. These dimensions, their relation to social capability and resilience to shrinking and the indicators used to analyse each of them warrant individual discussion.

4.1 Transformation

The first process analysed in this social capability framework is structural transformation. Here, agricultural transformation is of primary interest, although the case at hand requires a look at the further structural change into a service-based economy. In theory, and according to various empirical research, the agricultural transformation is a critical force in creating a more diverse economy (Andersson & Palacio, 2017). This change coincides with higher productivity in agriculture, creating a process freeing up labour and capital to be used in other sectors, which create linkages across the sectors of the economy. This shift creates an economy that does not rely as much on agricultural outputs, so it is less vulnerable to changes in weather or demand, and as such, resilience to shrinking has increased. Similar arguments can be made for the latter transformations into an even more service-based economy, i.e., arguments of resilience through economic complexity.

In this thesis, the structural transformation will primarily be measured through data on the percentage of the workforce employed in various sectors of the economy to assess the degree and rate of structural transformation in the period. The data will be further contextualised through a short overview of relevant historical facts.

4.2 Inclusion

The inclusion process is primarily a measure of pro-poor growth, with the theory being that through that kind of growth, an economy becomes significantly more likely to sustain its growth (Andersson, 2018). Therefore, the inclusion process is a factor in the build-up of resilience to shrinking. More broadly, inclusion refers to the opportunities provided to the entirety of the population and each member's possibilities to provide and prosper within it. This should lead to less poverty in the long run.

In this thesis, inclusivity will be measured through educational attainment and by analysing the available data on inequality. This should give some indication for inclusivity, as a country following a growth path that is not characterised by pro-poor growth would most likely employ exclusionary policies within its education system and see a development in which income accrues excessively to the wealthy, which could be detrimental to growth (Bourgignon, 2003).

4.3 Social stability

Social stability refers to conflict resolution arrangements (Andersson, 2018). This process and its theoretical position within the framework is broadly based in an institutional setting, with strong roots to new institutional economics (See North et al., 2009; Rodrik 1999; Collier et al. 2003; Fukuyama, 2013 & Rutherford, 2001). The argument goes that states experiencing little social stability must employ some of their limited capacity on conflict resolution instead of furthering the country's development. Due to the nearly complete absence of severe social conflict, warfare, and general episodes of conflict that are interesting regarding this theoretical background in Iceland, social stability will not be part of the empirical analysis. However, it should be noted that this absence of conflicts in itself points to a high level of social stability throughout the period, which could be researched further in future.

4.4 Autonomy

According to Andersson (2018), autonomy is the state's ability to keep vested interests at bay. This does not mean that the state discounts or ignores the interests of powerful groups but merely that the state can provide opportunities to and bargain with both powerful groups and their possible competitors. A primary function of autonomy is the ability to extract taxes and enact policies that distribute resources in a way that promotes equality. This distribution promotes resilience to shrinking by furthering the interests of the economy as a whole instead of the state being inclined to aid the growth of specific sectors or powerful elites within the country. This means that autonomy here refers to the rule of law in a broad sense, as the rule of law is generally associated with good governance.

This thesis will analyse autonomy by looking at the management of inflation and monetary policy while also looking at the primary sources of tax revenue. Collecting taxes from personal incomes is expected to require a certain amount of autonomy and good governance.

4.5 Accountability

The accountability process concerns the quality of governance and how the provision of public goods is handled (Andersson, 2018). The point of interest is the government's legitimacy, i.e., that the government can be held accountable and is accountable for its actions by the taxed population. Social spending is thought to measure this, and as such, the historical data available on social spending will be analysed in this thesis. It should be noted that accountability, or having an accountable government, is generally thought to be an outcome of sustained growth rather than a precondition for sustained growth. This is also the case for the previous measure of autonomy (Andersson, 2018). Therefore, these last two processes could conceivably be built up alongside economic development and then increase resilience to shrinking through the experience gained from sustained growth, but they are not necessary to start the growth process in the first place.

5 Empirical Analysis

5.1 Economic performance

A close examination of Icelandic economic performance starts off the analysis. As previously mentioned and highlighted by figure 2, the history of economic growth in 1870-2016 in Iceland is a history of volatility and a history of relatively high growth, especially during and after the Second World War.

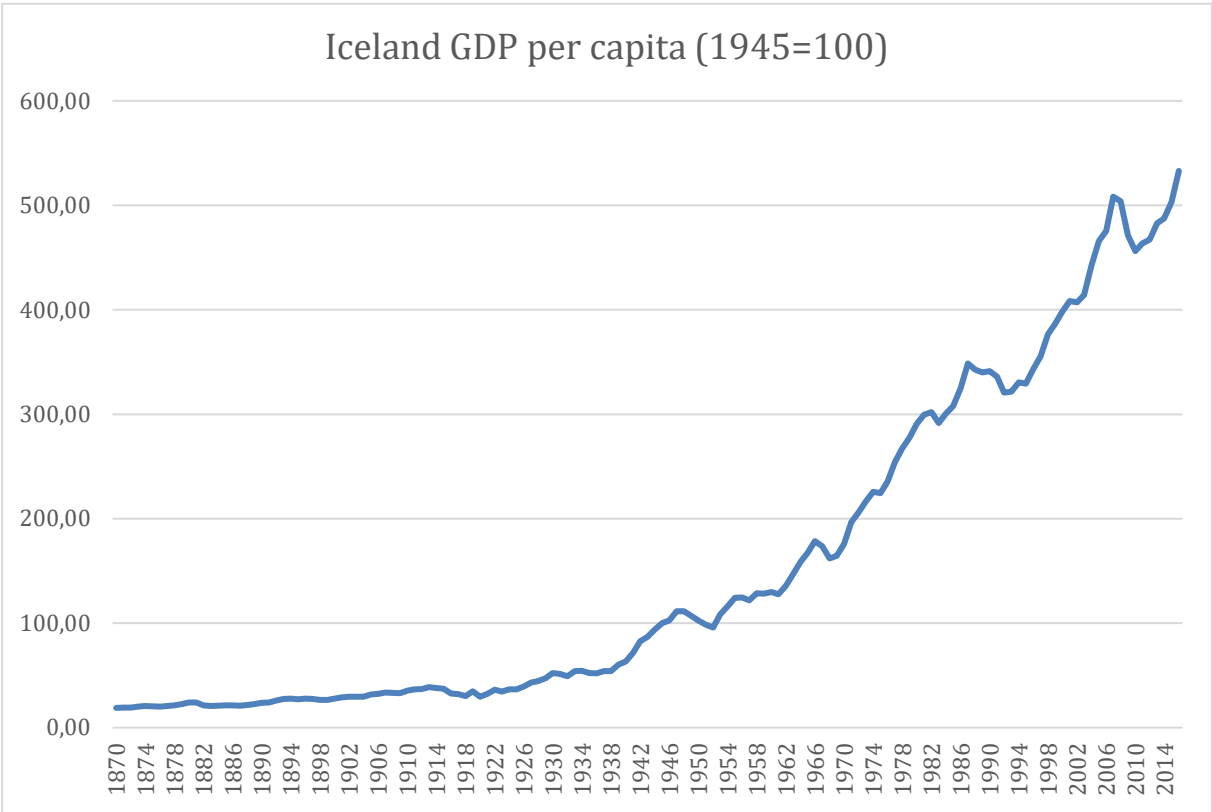


Figure 2: Icelandic GDP per capita (1945=100)

An analysis of economic performance over time using the method expanded upon earlier is shown in Table 1. The frequency shown in the table is calculated by the proportion of years in which shrinking or growing happened. The magnitude is the average growth rate during years of shrinking and growing, respectively. Economic performance is the sum of shrinking and growth contributions, while those contributions are the products referred to in the methods

section as $f(g)m(g)$ and $f(s)m(s)$. As the averages show, shrinking tended to be offset by very high magnitudes of growth. The time frame of each average is chosen somewhat arbitrarily to reflect the period pre-WWI, between the two World Wars, the post-war era and the modern era. The latter stages of the period saw a reduction in both magnitude and frequency of shrinking. These reductions have contributed to a rapidly growing economy. This consistent trend of decreased shrinking is very much in line with Broadberry and Wallis' (2017) findings and decreased volatility after the 1950s. Iceland in the period 1870 to the present day has a clear long-term trend of less frequent shrinking. Interestingly, the magnitude of shrinking does not follow, although that can plausibly be related to the very high magnitude of shrinking during the financial crisis in 2008, leading to a higher average when coupled with a decreased frequency of shrinking.

Table 1: Icelandic economic performance 1870-2019

	Shrinking years	Magnitude	Growth years	Magnitude	Shrinking contribution	Growth contribution	Economic performance
1870s	0,38	-0,81	0,63	3,30	-0,30	2,06	1,76
1880s	0,30	-5,42	0,70	2,50	-1,63	1,75	0,13
1890s	0,40	-1,48	0,60	3,76	-0,59	2,26	1,66
1900s	0,30	-0,51	0,70	3,39	-0,15	2,37	2,22
1910s	0,50	-4,84	0,50	6,40	-2,42	3,20	0,78
1920s	0,20	-10,26	0,80	6,83	-2,05	5,46	3,41
1930s	0,40	-2,61	0,60	6,04	-1,05	3,63	2,58
1940s	0,20	-1,94	0,80	8,09	-0,39	6,47	6,09
1950s	0,50	-2,67	0,50	5,70	-1,33	2,85	1,52
1960s	0,30	-3,74	0,70	5,36	-1,12	3,75	2,63
1970s	0,10	-0,60	0,90	6,10	-0,06	5,49	5,43
1980s	0,30	-1,98	0,70	3,83	-0,60	2,68	2,09
1990s	0,30	-2,13	0,70	2,81	-0,64	1,97	1,33
2000s	0,30	-2,56	0,70	4,07	-0,77	2,85	2,08
2010s	0,10	-3,23	0,90	2,21	-0,32	1,99	1,66
Averages							
1870 - 1919	0,38	-2,61	0,63	3,87	-1,02	2,33	1,31
1920 - 1939	0,30	-6,44	0,70	6,44	-1,55	4,54	3,00
1940 - 1979	0,28	-2,24	0,73	6,31	-0,73	4,64	3,91
1980 - 2019	0,25	-2,48	0,75	3,23	-0,58	2,37	1,79

Note: Shrinking and growth years (frequency) are calculated as a proportion of years in the decade in which the economy grew/shrunk. Magnitude shows the average growth/shrinking rate for the respective growth/shrinking years. Contributions are calculated by multiplying the frequency and magnitude. Economic performance is the sum of the two contributions.

This suggests that resilience to shrinking has indeed increased in Iceland. As such, the following sections will seek to assess the possible impact of the processes proposed by Andersson and Palacio (2017) on the development of this shrinking dynamic.

5.2 Transformation

Iceland has undergone significant structural change in the period. As figure 3² shows, a large majority of the workforce was engaged in agriculture at first, shifting towards services and fisheries around the turn of the 20th century. Increasing employment in industry followed, reaching a peak of around 35% of the employed population in the 1960s and 1970s. It should be noted that fish processing remained the largest source of industrial employment until the 1950s, peaking at 9,2% of the population in 1965. During that time, employment in services continued to increase, which is a development that has subsisted through the agricultural transformation to a more industrialised and diversified economy and then on to the modern knowledge economy that Iceland has built up in the latest stages of its development in the 21st century.

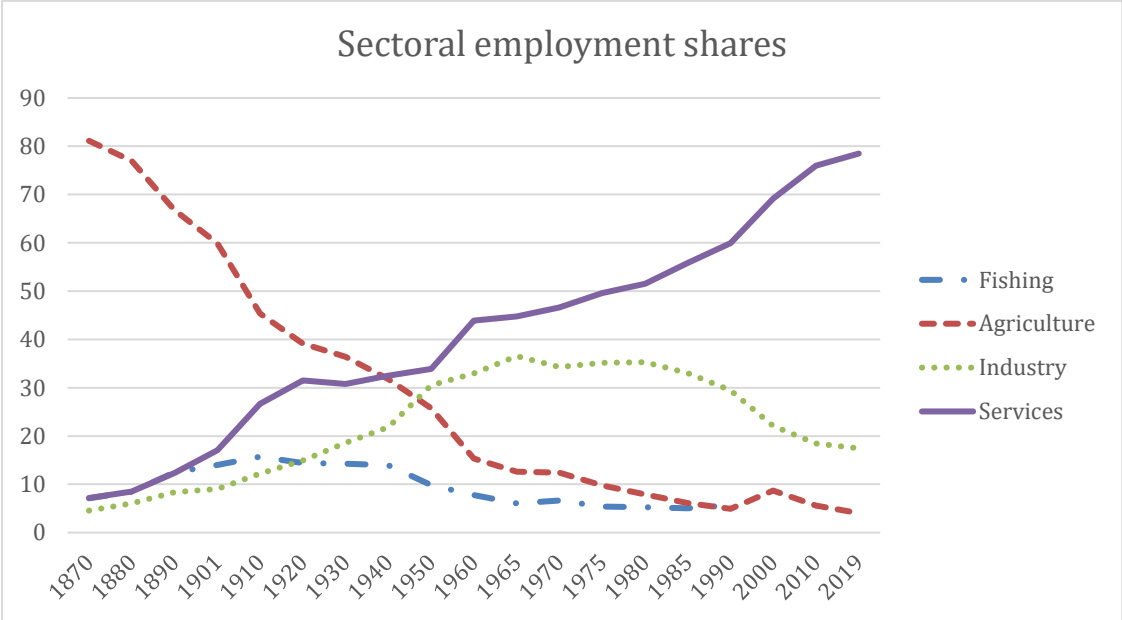


Figure 3: Sectoral employment shares in Iceland, 1870–2019

² Note that agriculture and fishing are combined for the year 2000, 2010 and 2019 as the World Bank data groups the two together, explaining the small peak observed in agriculture in 2000. Construction is included in industry for the whole period.

The initial transformation away from agriculture to services did not happen on its own. The impetus was the effective abolishment of labour bondage laws in 1894. These laws stipulated that unmarried adult people must be hired out as servants, making the Icelandic servant class unusually large at 35-40% of the economically active. When compared with England, which is thought to have had a large servant class at one-eighth of the population, the drastic effects this abolishment had can be understood (Jonsson, 1992). This laid the foundations for the formation of fishing dependent settlements able to sustain considerable numbers of inhabitants all year-round, although it must be noted that the laws had not been strictly enforced in some regions during much of the 19th century (Eggertsson, 1996). This, along with land reform leading to the sale of a large portion of the state- and church-owned farms, paired with the declining profitability of land leasing, contributed to growing support for owner-occupancy, eroding the social structure established around land tenancy and ownership that had existed for hundreds of years (Jonsson, 1992).

Technological change in primary industries (fishing and agriculture) was the primary driver of Iceland’s structural transformation and industrialisation. As such, industry itself was not at the forefront of the Icelandic industrial revolution. Jonsson (1999, pp. 19) states that industrialisation and its effects were felt very rapidly in Iceland due to the country’s economic underdevelopment preceding it. Further, he claims that urbanisation laid the groundwork for the dawn of capitalism within the country and, as such, it went hand in hand with industrialisation in Iceland, distinguishing the country from other European ones during their periods of industrialisation because they had prior experience of a market economy and its principles before industrialisation. This rapid urbanisation saw the proportion of the Icelandic population living in urban environments rise from 12,1% to 56,5% between 1890 and 1930 (figure 4). This change correlates well with the growth in services, shown in figure 5.

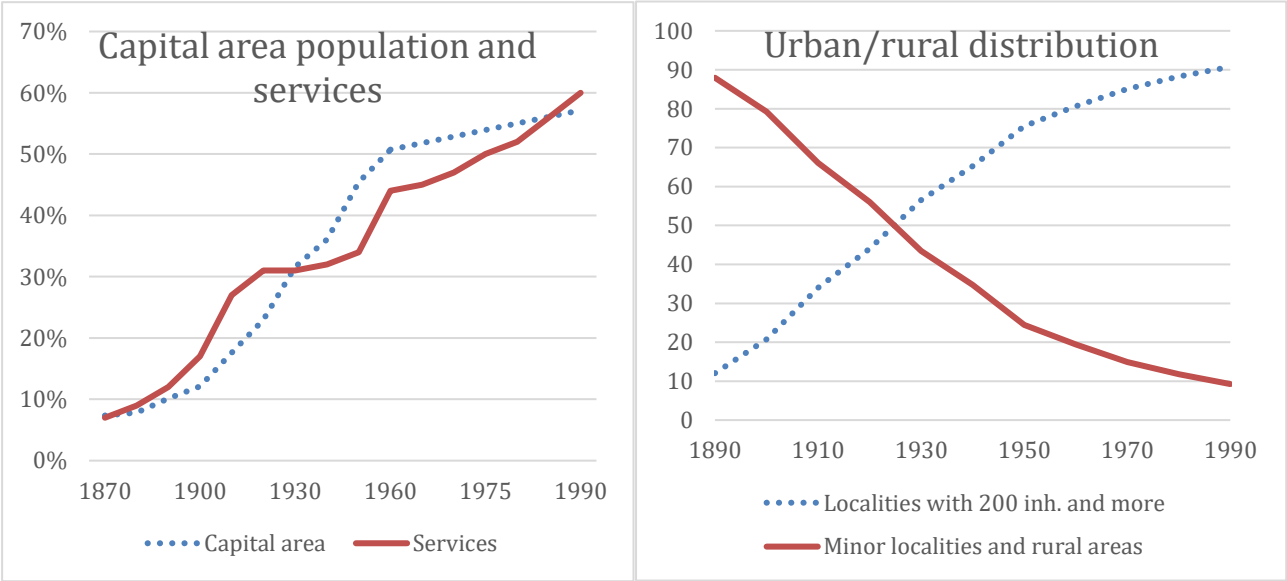


Figure 4: Population in the capital area and percentage employed in the service sector

Figure 5: Distribution of the population by urban/rural localities

Changes in sectoral employment shares stagnated following the Great Depression until the Second World War, progressing at much slower rates from the 1950s until around the 1990s. This was partly caused by various government-imposed restrictions that limited progress, e.g. trade restrictions, limitations on currency exchange, interest rate maximums and more, all while the state pursued a more active role in organising the economy (Jonsson, Kristjansdottir & Gunnarsson, 2018). Iceland, therefore, moved rather quickly from having a liberal free-trade economy in the first three decades of the 20th century towards becoming “entangled in a web of trade barriers, capital controls and a complex system of multiple exchange rates, which led to serious distortion of the price mechanism and misalignment of real exchange rates[.]” much like other countries after the Great Depression and the Second World War (The Central Bank of Iceland, 2008 pp. 17).

These trade barriers were lowered gradually in the 1960s at ever-increasing rates until Iceland caught up with other Western-European nations in terms of the regulatory framework in 1994 when it joined the European Economic Area. In the 1990s, the trend of neoliberal economic policy reached Iceland as a substantial effort was put into the liberalisation and privatisation in the Icelandic economy (Benediktsson, Danielsson & Zoega, 2011). This included the banking sector, which contributed to even more growth of service sector employment and, therefore, more service sector dependency. It is well known worldwide that the Icelandic banks did not sustain for long, and after the financial crisis, tourism became the torchbearer of service employment in the Icelandic economy. More specialisation demanded a better-educated workforce throughout this development, leading to the ongoing transition to a knowledge-based economy, which is a topic worthy of its own thesis to cover in detail.

To conclude, the structural transformation happened at very high rates at either end of the period researched here. The agricultural transformation happened very quickly, after which the interwar period saw some stagnation in structural changes, partly due to stringent regulations limiting economic progress. From the 1960s, changes start picking up again to a point where one can argue that a transition into a modern knowledge economy takes over in the 1990s.

5.3 Inclusion

The abolition of labour laws, as mentioned earlier, had effects reaching much further than just structural change and urbanisation. The change allowed greater participation in the economy for a large part of the population through the growth of fisheries and services associated with the change. This should, at least in theory, have led to the empowerment of servants and other labourers. An increase in union activity may have contributed to the erosion of ideas leftover from the pre-industrial time, namely that servants should prefer working for the same master for an extended period, instead of seeking the highest-paying work available and negotiating their salaries (The Icelandic Confederation of Labour, n.d.).

Education plays a pivotal role in social inclusion through its effects on human capital accumulation. Educating the masses is, therefore, a much-needed step towards furthering

inclusion processes in an economy. Primary education, therefore, was a key means for the Icelandic government to achieve more social inclusion. Formal primary education was virtually non-existent in Iceland until the latter decades of the 19th century. However, due to long-standing traditions, most of the population was literate (Jonsson, 2001). This may have delayed official efforts to establish formal institutions for youth education. Enrolment rates in elementary schools had reached a respectable level in 1903 (table 2), but the emphasis on education is visible in the rapid rise in the educational attainment of 7–9-year-olds from 1930 and onwards. Virtually all children in Iceland attended elementary schools by the 1950s. As education provision was mainly out of the state’s hands, within an informal system, very little reliable data exists for the years before 1903 (Jonsson, 2001). These high rates suggest that educational attainment was not limited to the well-off, and as such, these educational attainment measures for social inclusion suggest a pro-poor growth effort by the relevant authorities.

Table 2: Primary educational attainment, percentage of cohort each year

	7–9-year-olds	10–12-year-olds
1903	27,4	61,3
1914	9,5	88,2
1915	8,7	86,6
1920	8,5	79,8
1921	9,7	82,9
1930	31,9	90,2
1940	74,4	93,9
1950	90,3	98,5
1960	95,2	98,8
1970	99,3	
1980	99,7	
1985	101,3	
1990	99,6	

This trend of educational attainment carried over into secondary schools, as shown in figure 6. Graduation rates started to increase in the 1940s, which could be expected by observing the change in table 2. The rate of secondary educational attainment rapidly accelerated around the 1970s and has continued into the modern-day. This gradual increase in the graduation rate, measured by the number of graduated students as a proportion of the twenty-year-old cohort each year, suggests greater inclusivity through access to education and its opportunities. The students obtaining this secondary education eventually demanded tertiary education, and as such, a rise in the attainment of university education followed. The first university in Iceland was established in 1911 and, generally, institutions for tertiary education have been publicly funded and have had relatively low barriers to entry. Until the mid-20th century, however, Icelandic students primarily sought university education abroad, mainly in Scandinavia.

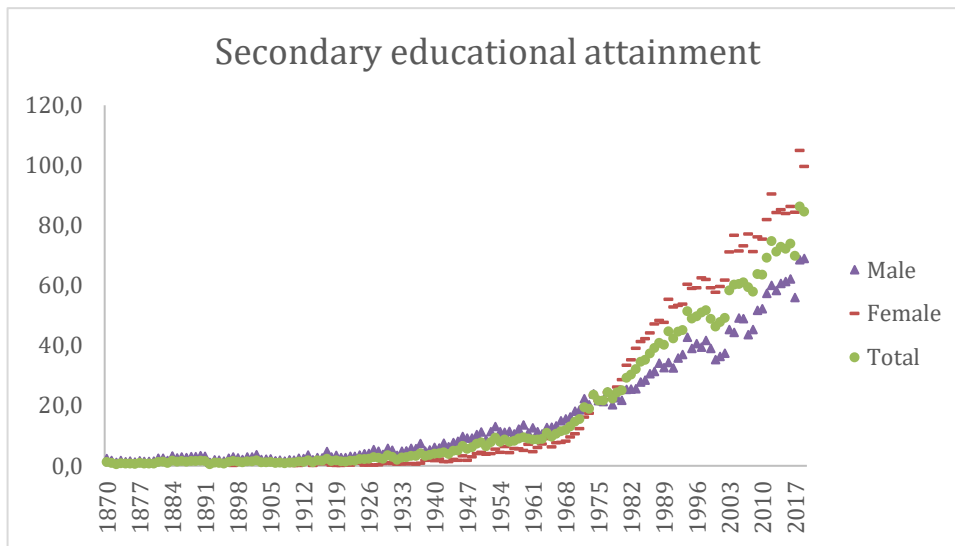


Figure 6: Secondary educational attainment, graduated students as a percentage of the twenty-year-old cohort 1870-2019

In terms of economic inclusion, inequality is the preferred measurement. Only very rudimentary data exists on income inequality in Iceland before 1992. Blondal (1942) and Geirsson (1977) studied income distribution for 1927-1937 and 1963-1974, respectively. These are the only periods in which reliable data on income inequality is available until 1992. Olafsson and Kristjansson (2017) compiled data from both authors mentioned above and tax authority data, finding that the income shares of the top 10% decreased from just over 40% in 1927 to around 25% in 1963-1975. Furthermore, The World Bank (n.d.) estimates that the Icelandic Gini coefficient for income inequality was 0,25-0,27 in 2010-2016, with no observable trends. According to the World Bank data, income inequality peaking in Iceland in 2008, at the height of the banking boom, when the coefficient was 0,318. Therefore, the data suggests that income inequality decreased from 1927-1975 and has stayed relatively low and stable in the 21st century.

5.4 Autonomy

Looking at the autonomy process in Iceland, through analysing the state's capability to keep vested interests at bay and credibly pursue the country's development (Andersson, Axelsson & Palacio, 2021), is relatively complex. Little consistent historical data is available on tax revenue, the efficiency of taxation, and government revenue sources which are measures commonly used to analyse the autonomy process. Furthermore, some of these indicators would be hard to use, as financial independence, home rule, sovereign statehood, and independence are all milestones in the Icelandic struggle for independence that fall within the period, and each of them brought new responsibilities for the local government, automatically leading to increased government revenues and expenditures (Blondal, 1969). Despite these factors, analysing the autonomy process is not impossible.

As noted in the discussion on structural transformation, a shift in the importance of fisheries happened at the beginning of the period in question, primarily after labour restrictions were lifted. The fact that Iceland is located in a very favourable place for fishing was not unknown to either local or Danish authorities at the time. That was relatively common knowledge, as highlighted by the following excerpt from a British consular report written in 1872:

The country itself produces but little; it has no forests, and but little fuel, contains neither mines nor coal, neither does it grow cereals, or, indeed, any other useful plants, so that the first necessities of life are imported. Its only wealth is its excellent wild pastures and its marvellously rich fisheries, the latter a source of prosperity which, if worked with intelligence and energy, might support a much larger population (Barff et al. 1872)

Foreign fishers were frequent visitors to the Icelandic shores, first the English in the 15th century and then German merchants from Hamburg around 1500, followed by very much trade in fisheries with Denmark and fishing by Danes themselves during the Danish monopoly trade in 1602–1787. These countries all had relatively advanced fishing fleets compared with those used in Iceland (Eggertsson, 1996). Therefore, it is peculiar that Iceland did not develop an organised and respectable fishing industry until the latter half of the 19th century. Eggertsson (1996) proposes that the leniency of the Danish Crown to give way to the Icelandic elite regarding changes to industrial organisation and economic development along with the fact that the Icelandic elite primarily consisted of well-off landowners who depended on the traditional tenancy system and their fear that more productive fisheries would raise labour costs too much (Eggertsson, 1996). Therefore, there is a solid case to be made that vested interests indeed crippled Iceland's development until around 1870, when a specialised fishing industry emerged in Iceland, with its remnants, the labour bondage, carrying on into the 1890s.

The following section will analyse the management of inflationary pressures during the period in Iceland, which could shed light on the level of autonomy. That analysis will then be tied back into the preceding discussion, along with a discussion on the limited available data referred to earlier to further contextualise the autonomy process in Iceland's social capability during the period.

5.4.1 Developing a modern monetary policy

Around 1870, the shift from a barter economy to a more cash-based economy, primarily due to foreign trade and economic activity of foreigners within Iceland, problems of money supply and other monetary factors that had plagued Iceland for a long time, became more important. The country had a very underdeveloped and primitive banking and monetary system, with the first bank, Landsbanki Islands, being founded in 1885 (Jonsson, 1992). This bank had limited rights to issue banknotes and operated as a state-owned commercial bank, whose banknotes were not backed by gold despite Iceland being part of the Scandinavian Monetary Union, which operated using a gold peg. A monopoly on issuing gold-backed Icelandic Krona was handed to the privately-owned Islandsbanki in 1904, which was registered in the Copenhagen stock exchange but had a majority of its board appointed by the Icelandic government (Jonsson, Kristjansdottir & Gunnarsson, 2017).

The First World War had numerous effects on the Icelandic economy, as it was heavily reliant on foreign trade. Adverse external shocks led to a significant loss in price stability, as money supply was heavily increased while the Scandinavian Monetary Union was effectively disbanded (Jonsson, Kristjansdottir, Gunnarsson, 2017; Einarsson et al., 2015). These external shocks heavily affected the Icelandic economy as imported foodstuff composed around half of the Icelandic food consumption in the period (Jonsson, 2004). As such, price fluctuations after WWI negatively affected the Icelandic economy, despite the return of peace and foreign trade in 1919 (Einarsson et al., 2015). This loss of price stability is visible in figure 7.

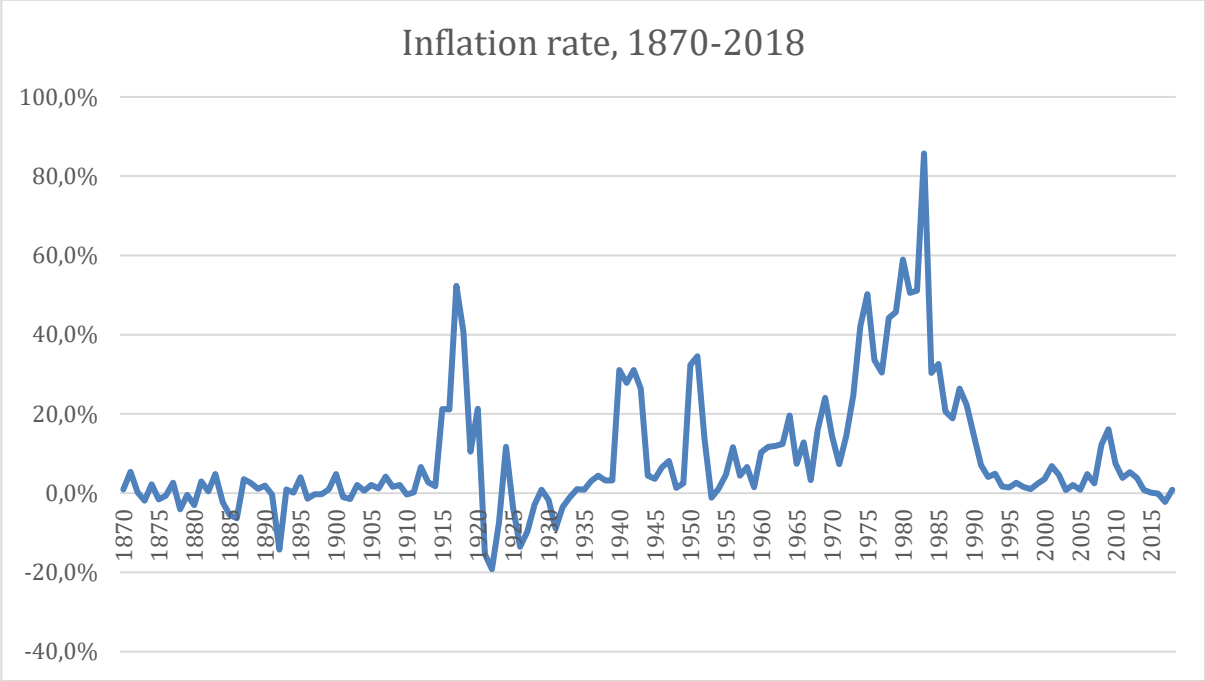


Figure 7: Inflation rate in Iceland, 1870–2018

There was little development in managing inflationary pressures and creating a stable framework around monetary policy in the period after WWI. From the 1920s to the 1950s, Iceland used various currency pegs to control the exchange rate while also joining the Bretton-Woods system. Meanwhile, similar crises due to negative external shocks took place in 1931-1932 and 1948-1951, the first of which due to effects from the Great Depression and the second due to demand shocks after WWII (Einarsson et al., 2015).

The Central Bank of Iceland was founded in 1961 and was, at that time, by no definition an independent institution. It was expected to cooperate and coordinate with the government and was legally obliged to support its economic and monetary policy. Therefore, the bank did not have direct control over monetary policy and its governors were appointed politically, almost always coming from the two largest political parties (Jonsson, Kristjansdottir & Gunnarsson, 2017).

What follows was a tumultuous period in terms of inflationary management in Iceland, as highlighted by figure 7. The Nixon shock uprooted Icelandic monetary policy within the Bretton-Woods system, leading to the adoption of a crawling peg, which has since been known as the "zero rule" (is. núllreglan) in Iceland (Jonsson, Kristjansdottir & Gunnarsson, 2017).

This effectively meant that the real exchange rate was managed at a level intended to keep long-term average profits in the fisheries sector close to 0. Therefore, if the fishing industry was doing well, the real exchange rate rose, which led to more purchasing power. However, if the industry was doing poorly, the nominal exchange rate was slashed to decrease the real exchange rate. This monetary policy framework coincided with numerous negative external shocks, namely, the oil price shocks in 1974–1975 and 1979–1980, along with a tremendous decrease in fish catches in 1982.

Further exacerbating inflationary pressures was that inflation indexation of salaries had become widespread in Iceland (Andersen & Gudmundsson, 1998). This created an environment of expected price increases that were factored into decision making by both firms and individuals. As shown in figure 7, inflation reached a high of 86% in 1983, before a period of dramatic disinflation.

These inflation peaks did not go entirely unaddressed by the government. In 1979, legislation was put in place on the mandatory inflation indexation of liquid assets, which mitigated the effects of these highest periods of inflation while also providing the impetus for all stakeholders to deal with the root causes of inflation. Real interest rates had, by that time, been negative for many years in Iceland, and the intent was to fix this, meaning that no one would directly profit from high inflation anymore. This led to increased efforts in dealing with inflationary pressures. Gradually, the monetary policy framework was reworked as wage indexation was stopped in 1983, interest rate maximums were removed in 1985, and in 1986 the Central Bank was no longer responsible for regulating market interest rates. Through these changes, inflation went down to a more manageable 20–30%. However, the last step came in 1989 and 1990 when the Krona was pegged to a bundle of foreign currencies, and new agreements between the government, labour organisations and business owners were struck that changed the wage-setting process and credibly ensured stable, predictable and fair wage changes between different sectors of the economy (Jonsson, Kristjansdottir & Gunnarsson, 2017).

These changes stabilised price levels in the Icelandic economy (figure 7). However, as noted earlier, the Central Bank was still not entirely independent from the government. This did not happen until 2001, alongside the abolition of a currency peg and the beginning of the current monetary policy regime in Iceland: inflation targeting. Since then, inflation has largely been contained in Iceland, excluding a relatively small spike in the immediate wake of the 2008 financial crisis.

5.4.2 Fiscal capacity and clientelism's effects on State autonomy

The state's fiscal capacity is closely related to its ability to collect taxes. Table 3 shows a distribution of the state's tax revenue by type of tax and shows that Iceland was heavily dependent on tariffs and other taxes imposed on foreign trade until the 1970s. Generally, taxing the population itself is a much more arduous task than taxing any imported (or exported) goods that arrive on an island. Therefore, the increase in direct taxes shown in table 3 suggests that the state indeed acquire more capacity to collect taxes from its population. The table also highlights the developments covered earlier, as the proportion of incomes from foreign trade increases between 1920 and 1960. Between those years, some of the highest import tariffs and

other restrictions on foreign trade were in place. However, one must note that the table does not show averages over periods but just single points in history.

Table 3: Percentage distribution of tax revenue by type of tax

	Direct taxes on income and wealth	Taxes on foreign trade	Other indirect taxes
1876	6%	66%	28%
1920	17%	54%	29%
1960	10%	69%	21%
1970	19%	30%	51%
1980	23%	23%	54%
2000	37%	10%	53%
2015	40%	8%	52%

Research into the Nordic countries has suggested a strong tradition of embedded autonomy (see Evans, 1995) in place within all of them (Mjoset, 2016). However, walking the fine line between having a solid connection to various special interest groups and corruption is challenging. As highlighted by various anecdotes and examples of corruption, sometimes the state failed to ensure that those with power do not use their status to promote individual vested interests instead of working on collective economic development (See Kristinsson, 2012; Karlsson & Matthiasson, 2015). What differentiates Iceland from the other Nordic countries, according to Mjoset (2016), is clientelism. This culture of clientelism, meaning that politicians and political parties had far-reaching powers of patronage (Kristinsson, 1996), may have decreased autonomy through its harmful effects, as it can circumvent the pathways established in the embedded autonomy structure. Should clientelism be the entryway into the power structure of embedded autonomy, the system's credibility is threatened. However, increased free trade and a better educated middle class in the 1960s and 1970s led to the weakening of clientelist structures within the Icelandic system of governance (Kristinsson, 2001).

To conclude, the analysis shows a history of increased autonomy. However, this does not coincide with structural transformation, increased inclusivity or the growth take-off. Instead, state autonomy shows some signs of improvement early on but did not increase significantly until after WWII and into the later decades of the 20th century. During this period, free trade was increased, monetary policy improved, clientelism decreased, and the overall fiscal capacity of the state increased, all of which are factors that had remained, at least partly, stagnant for almost a century by then. These findings, therefore, support the ideas laid out by Andersson

(2018), that autonomy is indeed a capability that is not a prerequisite for growth, but can, provided the environment to do so, be obtained through sustained growth periods.

5.5 Accountability

Analysis of the accountability process of social capability mainly concerns itself with the state's legitimacy among the taxed population. Therefore, the focus will be on the provision of public goods, such as education, welfare service, healthcare and other social services. The main pillars in the provision of public goods in Iceland are education and healthcare, and have been since the early 20th century. This was not the case in the 19th century, as the state did not concern itself with providing welfare services early on and left that primarily to local governments, charities and other non-governmental organisations and entities (Jonsson, 2001).

This absence of the state within welfare services, coupled with its relatively low fiscal capacity and expenditure in the 19th century, skews indicators for social spending. As shown in figure 8, social spending was nearly 50% of the state's total expenditure in 1876. However, most of that spending went to Church-related matters and, due to the Church's position and role in society at the time, should perhaps be classified as administrative expenditure rather than social spending (Jonsson, 1992). In the interest of consistency and continuity, religious spending was not removed from the data and is included in social spending for every year.

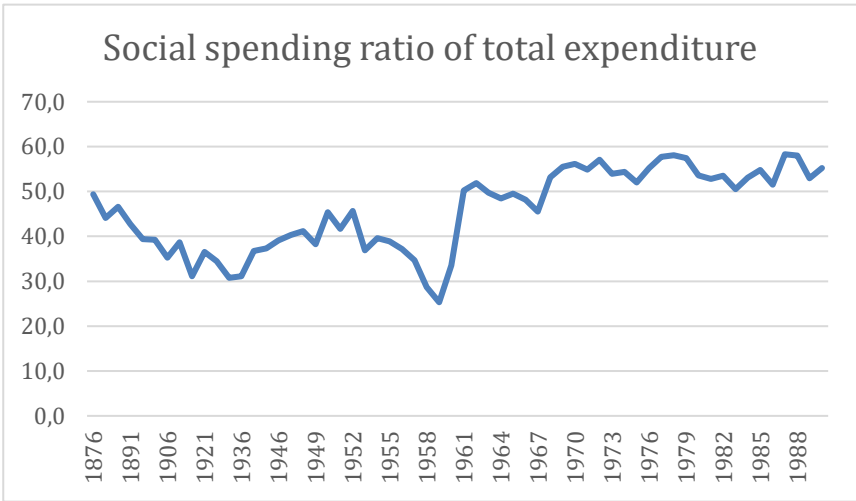


Figure 8: Social spending as a percentage of total central government expenditure

To dissect and contextualise social spending development in the historical context of rapidly increasing public expenditure, the analysis will focus on social spending as a percentage of total expenditure and show how social spending per capita developed. Therefore, figures 8 and 9 complement each other. Figure 9 shows that social spending per capita saw relatively gradual increases from 1876 until the Second World War, when the central government raced to spend its profits from the ongoing war (Karlsson & Matthiasson, 2015).

The turn of the 20th century saw a greater focus on education, with the first education act being passed in 1907, along with pensions being agreed upon in 1909 and more responsibility being

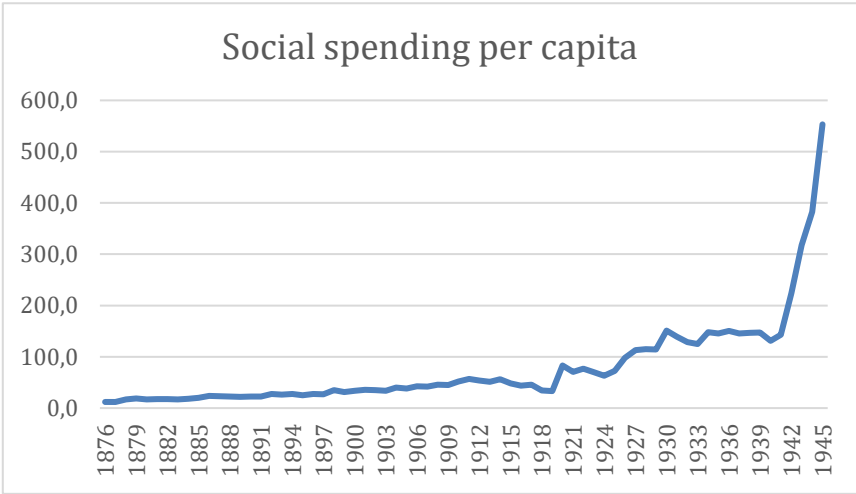


Figure 9: Per capita spending on social affairs by the central government, 1876-1945 at constant 1945 prices

assumed by the state for poor relief (Jonsson, 2001). This is the general story from 1890 to 1930, although expansion was relatively slow but gradual, as highlighted by figures 8 and 9.

The 1930s and 40s were an era of much reform to Icelandic social policy. Increased support for the Social Democrats led to a windfall of new and more comprehensive social policy surrounding the Poor Law, housing programmes, social insurance and public health care, culminating in the 1946 Social Security Act, that introduced a universal benefit system as Iceland, for a very brief period after the war, reached similar spending on social affairs as the other Nordic countries (Jonsson, 2001).

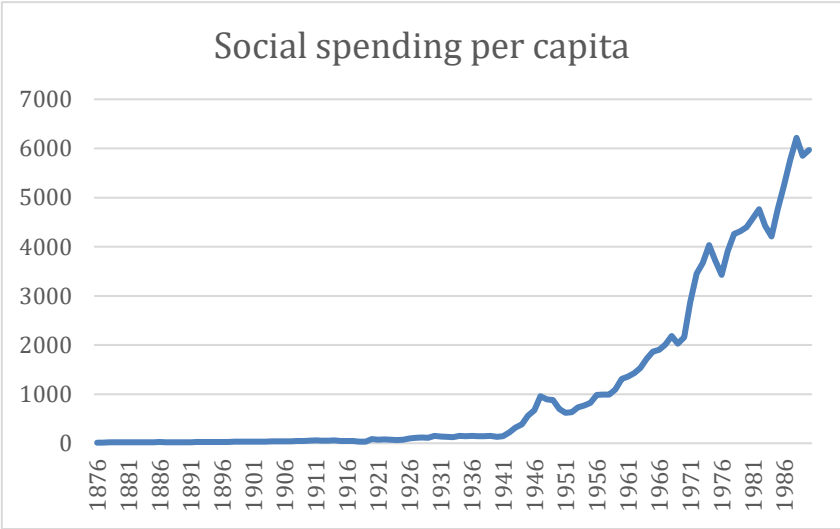


Figure 10: Per capita spending on social affairs by the central government, 1876-1990 at constant 1945 prices

The post-war period was the period of consolidation in the welfare system, with the state assuming further control of elderly care, housing assistance, childcare and promoting equality within its benefits system to strengthen the position of women and children (Jonsson, 2001). While welfare policy and social spending was, of course, developed further as the 20th century

went on, especially in the 1970s and 80s, Iceland had already reached the social spending levels it then maintained, between 50 and 60% of total expenditures, as shown in figure 8. While social spending did significantly increase during the period, it lagged far behind other Nordic countries. Jonsson (2001) proposes that this is due to the relative weakness of the Left in Icelandic politics, especially the Social Democrats, compared to the Nordic countries, along with a culture more reliant on self-help and work-ethic rather than the pro-welfare attitudes found in the Nordic countries. Therefore, the fact that social spending did not reach the same level as it did in Denmark and Sweden does not imply that, in terms of social spending as an indicator, Iceland lags behind in terms of accountability among the taxed population.

5.5.1 Budget management and tax evasion

As previously mentioned, accountability can be understood in terms of the relationship between the taxed population and the state as the tax collector. Therefore, this section will explore some aspects of this relationship, namely the fiscal accountability of the state, meaning the responsibility of public officials, Parliament and the government for public spending, and the extent of tax evasion, as low accountability could lead to high tax evasion as the taxed population does not accept the government's usage of tax revenues as appropriate. Therefore, the government's legitimacy among the public is reduced.

Before 1931, no laws or regulations were in place regarding government accounts in Iceland, and the entire accounts were not disclosed to the Parliament until two to four years later. Gradually, more formal frameworks, rules and regulations were put in place, especially after WWII in some part due to the effects from the Allied nations. However, standard accounting rules were not adopted for the central government until 1965 (Karlsson & Matthiasson, 2015). This lack of standard practices, openness and consistency, must have created an environment where the central government was partly free from responsibility regarding its use of taxes, especially as there will have been much less urgency and interest to investigate and discuss budget overshoots and financial mismanagement of public funds two to four years after it took place.

Karlsson and Matthiasson (2015) estimate tax evasion in Iceland from 1930-2008 by comparing GDP estimates calculated using the production approach, the expenditure approach and the income approach. These should, in theory, be identical, so they argue that a difference between estimated GDP using the income approach and estimates using the production approach points to tax evasion. These estimates are highly prone to error, and as such, the estimates they provide are not precise. However, their results show that tax evasion was at its highest in 1940-1950, 35-45% of total tax revenue, before gradually decreasing every decade to 10-15% of total tax revenue in 1980-2000, with the most drastic decrease being correlated with substantial changes to the Icelandic tax system in the 1970s following increased awareness of tax evasion. Further, their results point towards a much higher rate of tax evasion during the financial boom in Iceland in 2000-2008. However, these years may well be an outlier in this respect as they are in many other ways. Additionally, some of the measured tax evasion could be attributable to unintended tax evasion. The extent of this kind of tax evasion is unknown but is to be expected and could have decreased during the period due to less complexity in the tax system and the

advent of widespread computer technology as the century progressed (Alstadsaeter & Jacob, 2013).

In sum, the indicators for social spending, research results on tax evasion and the historical facts highlighted surrounding the handling of budgetary affairs by the government suggest the same story. That is the story of increasing accountability, although, much like with the autonomy process, this increase does not manifest itself concretely until relatively late in the development process. Again, that is in line with Andersson (2018), who proposes that both autonomy and accountability can be built up through having sustained growth and successful integration of the other processes of social capability to support said growth.

5.6 Discussion

In conclusion, it can be asserted that Iceland did exhibit a pattern of reduced shrinking, and the indicators studied here suggest that, perhaps, some of the resilience to shrinking built up in the development process can be attributed to increased social capability.

The results point to excellent progress in terms of inclusion early on in the period, which may have supported the quick structural transformation, ensuring that growth made before and around 1900 would not be lost to shrinking. Of course, productivity changes within agriculture will have led to the country sustaining a higher population than before but increasing access to education indicates a willingness to include the poor and less well-off in the growth process. Further, the build-up of a sound monetary policy along with less dependence on import taxes suggests that autonomy gradually increased during the 20th century. In line with Andersson (2018), this does not seem to be a good predictor or precondition of growth but rather an outcome of sustained growth during the earlier years of the century. A similar story can be said about the accountability process.

Interestingly, both of the latter two processes took quite some time to build up before one can safely say that the analysis shows a definite increase in capability. The specific indicators selected could, of course, be a factor in that, but this perhaps suggests that modern developing countries can reach high-income levels despite lacking progress in the short-term in terms of quality of governance, the rule of law and efficient usage of government funds, provided that they can, like Iceland, ensure social stability during their build-up of these capabilities. However, the external validity of the present research is debatable.

An exciting result from the analysis is that the framework used, despite being designed for application to modern developing countries, stands the test of time in that it also applies remarkably well to the economic development of Iceland, despite that taking place in a whole other context than the modern developing countries.

In sum, the results suggest that social capability may have played a role in increased resilience to shrinking in Iceland after 1870. Establishing direct causality has not been the mission of this research, and as such, the only claim that can be made is the correlation between the build-up of the processes of social capability and the reduced frequency of shrinking in the Icelandic

economy. Theoretically, increased social capability should have these effects, and the present findings have not challenged that theory in any meaningful way.

6 Conclusion

This thesis analyses resilience to shrinking in Iceland through a social capability approach developed by Andersson (2018). First and foremost, the results establish that there has been a steady decline in the frequency of shrinking, presumably due to increased resilience. Alongside this development, notable achievements were made in structural transformation and the increased prevalence of inclusionary policies already around the turn of the 20th century, especially in education. This should, theoretically, build social capabilities that increase resilience to shrinking.

Further, the analysis shows that the autonomy and accountability processes of social capability developed later on, after the middle of the 20th century. This suggests that autonomy and accountability indeed can be built up in the latter stages of economic development, indicating that the possibilities for sustained growth in today's developing countries perhaps should not be discounted due to lacking progress in those two processes.

Establishing more direct effects and connections between social capability and reduced shrinking in Iceland would require a more in-depth analysis of each process. The present research was concerned with an overview for an extended period. A more detailed discussion, especially in the earlier parts of the period studied here, would be beneficial to further the understanding of the role of social capability in the Icelandic economy. Similarly, research on the social stability process is needed to understand the lack of severe conflict and how conflict management has been handled in Iceland. However, perhaps the population's size, homogeneity and shared cultural and historical background are the most substantial reasons for the absence of social conflict.

Furthermore, the present thesis did not consider the effects of foreign powers and international relations in a meaningful way. Analysing especially the autonomy process and any cultural effects from association with foreign powers and international organisations could be beneficial to shed further light on the Icelandic development during the period. As Iceland is a small state, researching the build-up of the autonomy process through a focus on theories on small state international relations, such as shelter theory, could be beneficial to further knowledge on the autonomy process within small states worldwide, as small states may not benefit from avoiding association with foreign powers in the same way as other states.

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