IARIW
DRESDEN
2016

Are Citizens and Businesses (Dis)satisfied with the Public Administration in Germany?

Daniel Kuehnhenrich and Susanne Michalik (Federal Statistical Office of Germany)

Are Citizens and Businesses (Dis)satisfied with the Public Administration in Germany?
– Survey Results 2015 –

Daniel Kuehnhenrich, Federal Statistical Office of Germany
Susanne Michalik, Federal Statistical Office of Germany

Paper submitted for session 4D "Well-being II" of the 34th IARIW conference

Abstract

Commissioned by the Federal Government, the Federal Statistical Office conducted surveys on satisfaction with government services in Germany. It complements the measurements of administrative burdens and compliance costs employing the Standard Cost Model. In 2015, 5,666 citizens and 1,572 companies rated public agencies in respectively 22 and 10 life events. Both groups were largely satisfied with the public administration. On a scale of –2 (very dissatisfied) to +2 (very satisfied), the aggregate rating is +1.06 and +0.94, respectively. Respondents judged the authorities on 16 factors of satisfaction. Both citizens and businesses were most satisfied with incorruptibility and non-discrimination, whereas the comprehensibility of forms and laws received low scores. The regression analyses reveal that the different life events were influential drivers of satisfaction. Older or less educated individuals tend to be more satisfied. For companies, the legal form is very influential. Aimed to improve interactions with the public administration, the results of the regression, factor, network and importance-performance analyses provide fruitful insights to identify potential for amelioration. The Federal Statistical Office evaluates the recent surveys to begin the second wave in 2017.

1. Introduction

In his seminal work *Economy and Society,* Weber (1978) considers bureaucratic administration "superior [...] in precision, in stability, in the stringency of its discipline, and in its reliability." (p. 223). Besides its efficiency, he argues that bureaucracy promotes equality and prevents arbitrariness. Hence, it is an essential requirement for modern democratic systems of government. However, cultural representations of bureaucracy often contrast Weber's positive and ideal model of bureaucratic administration. Kafka's *Trial* (2009) displays the potentially de-humanizing and eventually tragic consequences of a bureaucratic system, in which the protagonist feels lost and is completely powerless. The absurd and contradictory bureaucratic rules described in Heller's *Catch-22* (1999) underline abuse of power in the military. Furthermore, the animation film *The Twelve Tasks of Asterix* (1976) highlights inefficient public agencies portraying the (initial) helplessness of the two heroes to find permit A 38 in a public agency known as the "place that sends you mad". More controversially, the anthropologist Graeber (2015) considers bureaucracy as "dead zones of the imagination" (p. 45) impeding creativity, while backing structural violence in the form of social inequality. Weber is well aware of these negative sides of red tape and especially its possible oversimplifications of reality. Nevertheless, he considers bureaucracy essential and dilettantism the only alternative.

These different perspectives demonstrate the necessity of an efficient but also ethically-considerate bureaucracy and public administration to improve the well-being and welfare of the population. Therefore, it comes without surprise that the Commission on the Measurement of Economic Performance and Social Progress (CMEPSP) headed by Stiglitz, et al. (2009) recommends the development of indicators on political voice and governance including an effective and efficient delivery of legislative guarantees by administrative services. These guarantees come in the form of negative rights such as the prohibition of discrimination and positive rights like the provision of education, health or a minimum income. The authors assert:

> "Unfairly or inadequately implemented laws will not only fail to enhance people's QoL [Quality of life] but will undermine trust in the state both within the country and internationally. Effective implementation, by contrast, will benefit both actual well-being and the perception of well-being." (p. 178)

Furthermore, the CMEPSP argues that these aspects can promote economic growth and hence material welfare. They are also perquisites for citizens and companies to realise their capabilities.

However, the commission assesses that indicators on these influential factors are still lacking and that they do not form part of official national statistics. Thus, Stiglitz, et al.

recommend the inclusion of indicators on the perception of governance into the programme of national statistics.

The adoption of the Sustainable Development Goals (SDGs) by the United Nations General Assembly in 2015 underlines the necessity to develop indicators for the effectiveness and efficiency of institutions and public administration. Goal 16 aims to "build effective, accountable and inclusive institutions at all levels" (United Nations, 2015, p. 28). A major challenge of national statistical offices will be to measure the realisation of these goals and targets.

In Germany, the Federal Statistical Office has been compiling statistics on administrative services as part of the on-going Federal Government's programme for Bureaucracy Reduction and Better Regulation since 2006. With an unemployment rate of 11% that year, the government in concert with business associations considered the reduction of red tape a vital condition to improve the situation for investment and innovations thereby promoting economic growth and job creation. To this end, a quantitative and data-driven approach was chosen. It assumes that a lasting decrease in unnecessary administrative burdens is only possible when these burdens are systematically identified and monitored. Based on international experiences in the Netherlands and other European countries, the Standard Cost Model (SCM) was introduced in Germany and in a baseline measurement the Federal Statistical Office assessed the costs of 9,519 information obligations for businesses stemming from federal law. Information obligations include the filling of forms, labelling and documentation, i.e. classic paperwork (Federal Government, 2007; Federal Statistical Office, 2006). In 2011, the scope of analysis was broadened to include all compliance costs. Renda, et al. (2013) consider the German approach one of the best in Europe to assess regulatory costs.

Even though, the Federal Government (2013) introduced a large number of simplification measures and announced that "administrative costs of businesses have been reduced by 25% compared to 2006" (p. 6), many citizens and companies complain about a plethora of red tape. On the contrary, according to a non-representative business survey of 2016, virtually none of the responding companies had experienced a reduction in administrative burdens, while almost 80% argue that burdens had increased (PricewaterhouseCoopers, 2016). Almost 30% even stated that they had stopped at least one project due to insurmountable red tape (Sage Software GmbH, 2015).

Apparently, the measured development of bureaucracy and its subjective perception differ strongly. For that reason, the Federal Government (2015) wants to achieve a more tangible reduction of administrative burdens and has commissioned the Federal Statistical Office to conduct surveys of citizens and businesses on their perception of contacts with public agencies. These contacts are embedded in so-called life events such as the birth of a child for citizens or starting a business for companies. In 2015, the Federal Statistical Office ran the first surveys on satisfaction with public services. The results have been embedded in the German compilation of data for the SDGs indicators (Federal Statistical Office, 2016a).

This article presents and discusses the methodology of the life-events approach and the drivers of satisfaction with government services. It provides theoretical reasons for the

necessity of bureaucracy, but also the dangers of excess red tape. Then, detailed descriptions of the development and the methods of life-events approach follow. At the end, the results of its satisfaction surveys are presented using different statistical methods including regression and factor analyses.

2. Motivation for the measurement of satisfaction with government services

When in 1934 Kuznets proposed the concept of measuring national income, which later became the gross national income (GNI) and gross domestic product (GDP), he was already aware of its shortcomings and objected to its usage as indicator for welfare (Bureau of Foreign and Domestic Commerce, 1934). Nevertheless, GNI and later GDP became the standard measures of economic welfare after World War II. In the 1990s, the concept came under increasing criticism and alternative statistics and ideas were developed (Coyle, 2014). Stiglitz, et al. (2009) conclude that quality of life or subjective well-being stems from several dimensions including material wealth, health, environment, social connection, but also governance including the effective and accountable implementation of law by public authorities. This section provides a literature overview on the motives for the existence of bureaucracy and the benefits of measuring it. It also presents the methods employed in Germany.

2.1. The optimal quantity of bureaucracy

Smith (1836) famously stated that the invisible hand in the form of the market mechanism leads to the desirable social outcome. Later, this idea resulted in the First Theorem of Welfare Economics. It claims that under the assumptions of perfect competition market forces lead to a Pareto efficient allocation[1] of resources. Following this logic, no state intervention or regulation and hence no bureaucracy would be necessary.

However, in many cases the assumptions of perfect competitive markets do not hold. When under imperfect competition certain powerful consumers or producers are able to distort the market to their advantage, the socially optimal outcome is not attained. Monopolists tend to reduce the amount produced to increase the prices compared to the situation under perfect competition. For that reason, the German Energy Industry Law intervenes into the market for energy, which has the characteristics of a natural monopoly, and places changes to the network charge under the control of the Federal Network Agency. Externalities present another deviation from perfection competition and occur when "choices of one person or firm enters the utility or production function of another entity without that entity's permission or compensation" (Kolstad, 2011, p. 87). A classic example is air

---

[1] "An allocation of resources is Pareto efficient if it is not possible (through further reallocation) to make one person better-off without making someone else worse-off." (Snyder & Nicholson, 2007, p. 467)

pollution, whose negative consequences are usually not considered by the owner of production facilities resulting in a higher than desired level of pollution. Again, government bureaucracy in the form of the Federal Emission Control Act steps in and requires certain facilities to gain approval before commencing their operations and to implement particular specifications. Public goods are non-rival in consumption meaning that someone's consumption does not reduce the possible level consumable by someone else. Furthermore, they are non-excludable in the sense that it is prohibitively expensive to exclude someone from consumption once the good is produced. Examples include national defence and fundamental research usually provided and regulated by governments. The last reason for a deviation from perfect competition is imperfect or asymmetric information. This situation happens when one party possesses more relevant information than the other side. In Akerlof's (1970) famous example, the market for high-value, used cars collapses as buyers of cars do not trust sellers possessing more information and thus consider the risk to be fooled as too high. At the end, only the market for "lemons" – the American term for bad cars – remains even though both parties are willing and able to trade good cars – "peaches". In insurance markets, these conditions are quite common. In these situations, the government can intervene and increase transparency to achieve an equilibrium. The EU directive on the sale of consumer goods has extended guarantee periods for consumers, while the EU regulation on organic farming makes production requirements transparent by labelling obligations, which boosted the market for high-value, organic products (Snyder & Nicholson, 2007).

An efficient allocation of resources is not the only reason for the visible hand of the government to intervene into market forces, since "a society can be Pareto optimal and still be perfectly disgusting" (Sen, 1979, p. 22). The Second Theorem of Welfare Economics argues that every possible Pareto efficient distribution can be attained, when the initial endowments are changed in the form of lump sum transfers before the market transaction commences. Hence, the government can step in, when it considers a given distribution of wealth unjust, even though other political and ethical criteria are usually considered as well, when choosing the type of transfer. The modern welfare state with its different forms of redistributing income and wealth aims to reduce inequalities (Snyder & Nicholson, 2007).

Both theorems provide reasons for government interventions accomplished through the means of bureaucracy. The bureaucratic instruments should be implemented efficiently i.e. at the lowest costs possible for the given objective. However, Niskanen's (1968) budget-maximising model assumes that public agencies follow a different rationale. They aim to increase their salary, reputation and power or comfort. Since agencies possess a monopoly, "[b]ureaucrats maximize the total budget of their bureau" (Niskanen, 1968, p. 293) until its total costs *(TC)* in the form of the budget equals the total benefits *(TB)* produced as illustrated in figure 1. In this situation, the agency generates the quantity Q_0 and total net benefits of zero. The optimal allocation would occur when total net benefits, i.e. the difference between *TC* and *TB*, is at maximum, which corresponds with marginal costs *(MC)* being equal to

marginal benefits *(MB)* and Q^* being produced. Eventually, excess red tape *(= Q_o – Q^*)* reduces overall welfare.

Figure 1: Budget-maximising model
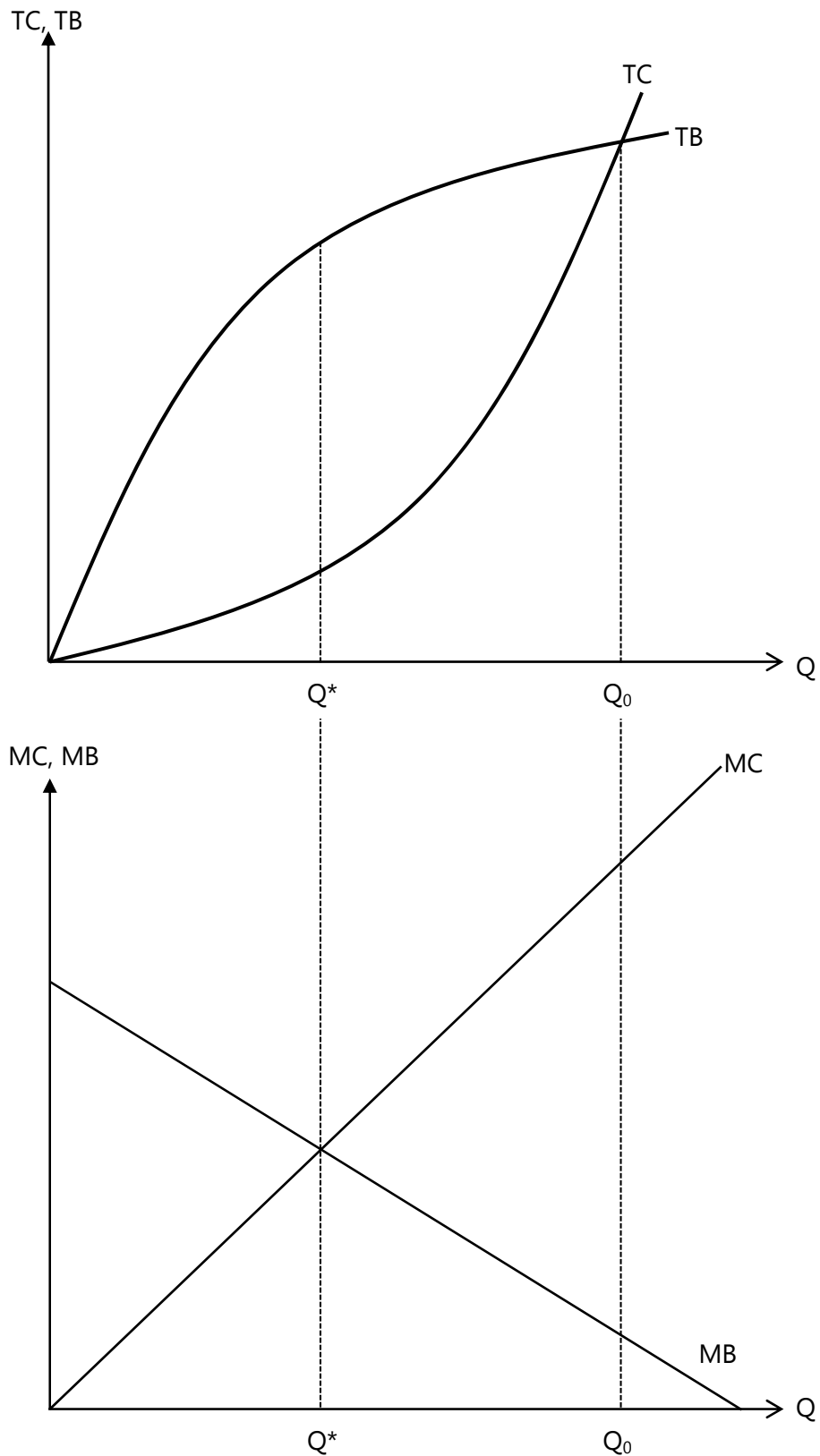

Based on Niskanen (1968)

Even though microeconomic theory shows that government interventions are essential to achieve the desirable social allocation and distribution, the budget-maximisation model highlights the danger of an overbearing public administration reducing welfare and well-being despite good intentions. Even though, it is virtually impossible to quantify the theoretical optimum Q^*, measuring existing bureaucracy is a vital exercise to assess the trends in administrative burdens and to discover possible excess red tape.

2.2. Measuring bureaucratic burdens: From standard costs to individual life events

As Europe was in recession after the burst of the dot-com bubble and the September 11 attacks, governments considered the reduction of unnecessary bureaucracy a free economic stimulus package. Starting in 2003, the Netherlands and other European countries initiated the SCM to measure administrative burden. Contrary to former short-lived initiatives, the governments installed the detection and reduction of excess red tape as a permanent political objective with units responsible for the subject at the government level. Under the impression of the highest level of unemployment since reunification between 2004 and 2006, Germany followed suit for the same reasons in 2006. The Federal Government introduced the SCM to reduce administrative burdens of businesses by 25%.

According to the Act on the Establishment of a National Regulatory Control Council (2011), administrative burdens occur due to information obligations, which are defined as „obligations existing on the basis of laws, ordinances, by-laws or administrative regulations to procure or keep available for, or transfer to, authorities or third parties data and other information." (section 2 (2)). They include the classic paperwork of reporting, documenting and labelling requirements, applications, registrations and inspections. The costs of these obligations are measured following the SCM, which was developed by the Dutch Interdepartementale Projectdirectie Administratieve Lasten (2003) and the SCM Network (n.d.). It assumes that the addressees of the norm observe a standard process to comply with each information obligation. This process is divided into standard activities such as procuring data, filling in forms, transmitting data, making payments and corrections. For each of these activities, the time needed is measured and multiplied with a tariff usually in the form of the wage leading to the cost per activity as illustrated in figure 2. The annual quantity is calculated by multiplying the number of affected citizens, companies or authorities with the frequency of how often the activity needs to be conducted. The product of costs per activity and the annual quantity equals the total costs per year. Summing up these costs for all standard activities and possible other costs such as shipping leads to the administrative costs for the information obligation. In 2011, the Federal Government has extended the scope of measurement from administrative burden to compliance costs, which include "the total measureable time expenditure and the costs […] in order to comply with federal legislation" (Act on the Establishment of a National Regulatory Control Council 2011, section 2 (1)).

**Figure 2: Calculation of administrative costs**
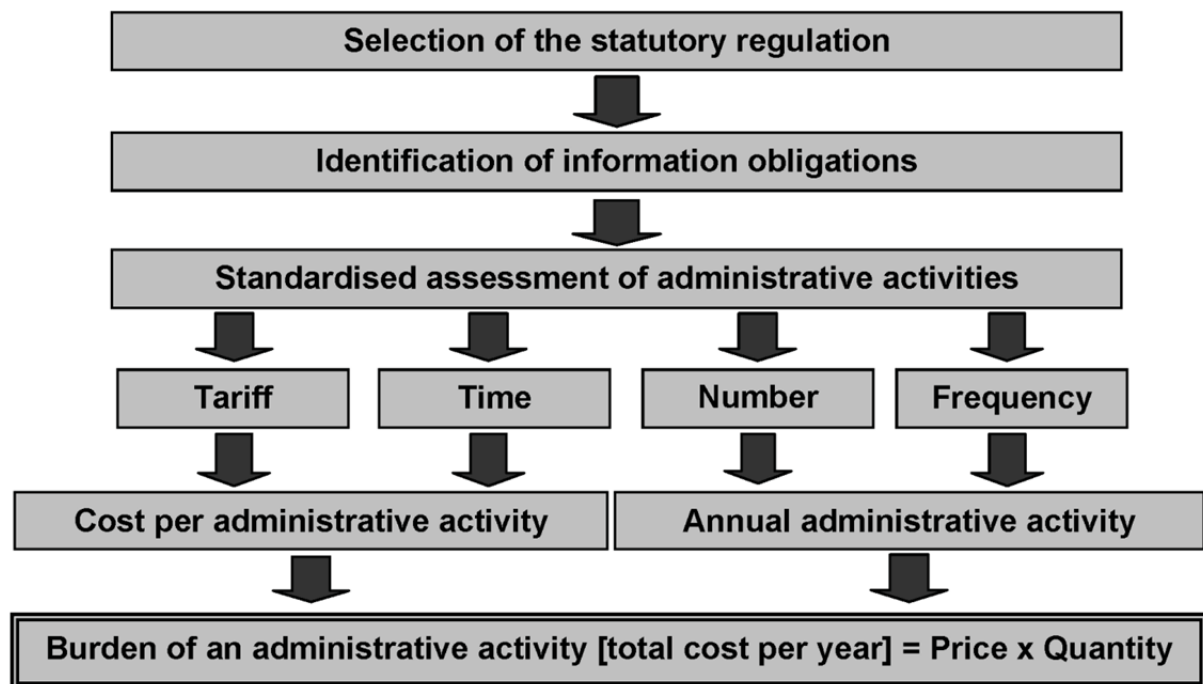
Source: Federal Statistical Office (2006, p. 23).

Between 2007 and 2008, the Federal Statistical Office conducted a baseline measurement of all 9,519 information obligations for businesses stemming from federal law. In total, they resulted in costs of 49.3 billion euros[2] or 2.1% of the national GDP. Since then, the Federal Statistical Office has monitored the development of administrative burdens and since 2011 that of compliance costs, while the National Regulatory Control Council oversees the correct methodological implementation in ex-ante assessments of new legislative proposals conducted by the responsible ministries (Statistisches Bundesamt, 2014).

In 2012, the Federal Government (2013) achieved the 25% target. Figure 3 illustrates the development of administrative burdens of companies from 2006 until today. Despite these efforts and successes, the perception of burden due to red tape has not changed in recent years. Non-representative, online surveys of industrial medium-sized companies show that in 2013 almost 90% of businesses thought that administrative burdens have increased in the previous five years, while in 2015, more than 80% had that impression. Only a small minority believe that these costs have remained constant. Virtually no one considers them to be lower than before (Bundesverband der deutschen Industrie, et al., 2013; PricewaterhouseCoopers, 2016). A survey of Sage Software GmbH (2015) supports this assessment with 92% of medium-sized companies complaining about high or very high administrative burdens. The authors conclude that the felt reality of companies deviates drastically from official statistics.

---

[2] The amount is based on labour costs of 2006.

Figure 3: Development of administrative burdens since 2006
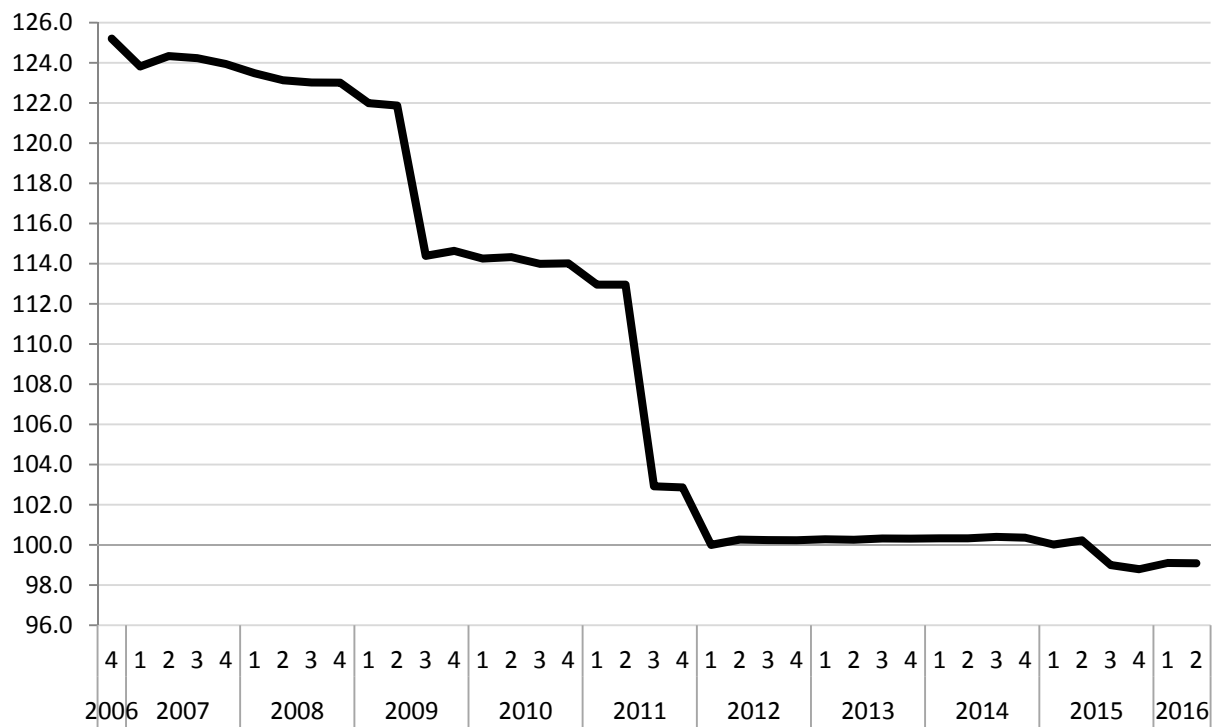
January 2012 = 100

Based on Statistisches Bundesamt (2013; 2016a)

The criticism of quantitative measurement of administrative burdens and compliance costs and the resulting differences from perceived red tape has two sources: an ecological fallacy when interpreting statistics and the definitions used in quantitative measures. Changes in administrative burdens and compliance costs are usually reported on the national and hence on the aggregated level. A large amount like the estimated 208 million euros annually in reduced compliance costs due to an act promoting e-government suggests remarkable changes (Deutscher Bundestag, 2012). However, the resulting 57 euros for each of the 3.6 million companies in Germany are hardly tangible on the individual level. Thus, large amounts can be deceiving and can lead to an ecological fallacy, since incorrect inferences from the macro to the micro level occur (Bryman, 2012).

On the methodological side, quantitative measurements using the SCM aim to identify standard activities and processes. However, the SCM's definitions do not include factors such as opening times, the helpfulness of the staff and the duration from application to allowance, because their evaluations differ individually and are not convertible into minutes and euros – the units of administrative burden and compliance costs. Nevertheless, they can be decisive for the citizens and firms. Furthermore, the SCM focuses on individual obligations that are associated with a particular piece of law. Yet, individual citizens and companies usually need to cope with a bundle of different laws in a particular situation,

which can result in additional burdens but also unclear situations, as laws might interfere with or even contradict each other.

For these reasons, the Federal Government decided to analyse the subjective factors more thoroughly and to change the perspective from laws to life events. It commissioned the Federal Statistical Office to conduct surveys on the satisfaction of citizens and businesses with government service to identify potential for a more noticeable reduction of red tape. Based on French experiences, the Federal Statistical Office developed the life-events approach for Germany, which complements the SCM (Schmidt, et al., 2015).

3. The life-events approach

3.1. Definition and selection of life events

In this context, a life event is a meaningful situation in a person's or an enterprise's life that requires interaction with public administration (Schmidt, et al., 2015). The Federal Statistical Office compiled a list of 33 life events for citizens and 22 situations for companies. For the citizen survey, it then selected the 22 life events depicted in table 1 based on an online survey with 1,000 interviews. The study excluded those life events only a small portion of respondents were affected by and this subgroup was also quite satisfied. For the business survey, the Federal Statistical Office presented and discussed the short-listed situations with representatives of trade associations, trade unions and federal ministries, who then ranked the life events according to their importance. The Federal Statistical Office chose the 10 situations shown in table 2 based on these evaluations.

Table 1: Citizen life events

Vocational training	Marriage/same-sex partnership	Poverty in old age
Higher education	Divorce/dissolution of same-sex	Patient decree
Beginning of career	partnership	Long-term sickness
Driving licence	Birth of a child	Disability
Vehicle registration	Government help with childcare	Care dependency
Unemployment	Moving house	Death of a family
Financial problems	Buying a property	member/close friend
Starting second job	Retirement	Voluntary work for a club or society

Table 2: Business life events

Business start-up	Construction of an establishment
Finance and taxes	Research & development, patent and
Appointment of employees	trademark protection
Vocational and continuing training	Participation in tendering process
Health and safety at work	Importing/exporting
	Discontinuation or transfer of business

The surveys focus on people's and businesses' subjective experiences when dealing with public administration. Therefore, it was vital to identify all public agencies that are relevant in a given life situation. For each event, the Federal Statistical Office collected information on the relevant agencies and the required documents to be submitted in expert panels. The resulting customer journeys were used to develop the questionnaires for both surveys and have been published online in the form of interactive graphics as illustrated in figure 4.

Figure 4: Costumer journey for exporting
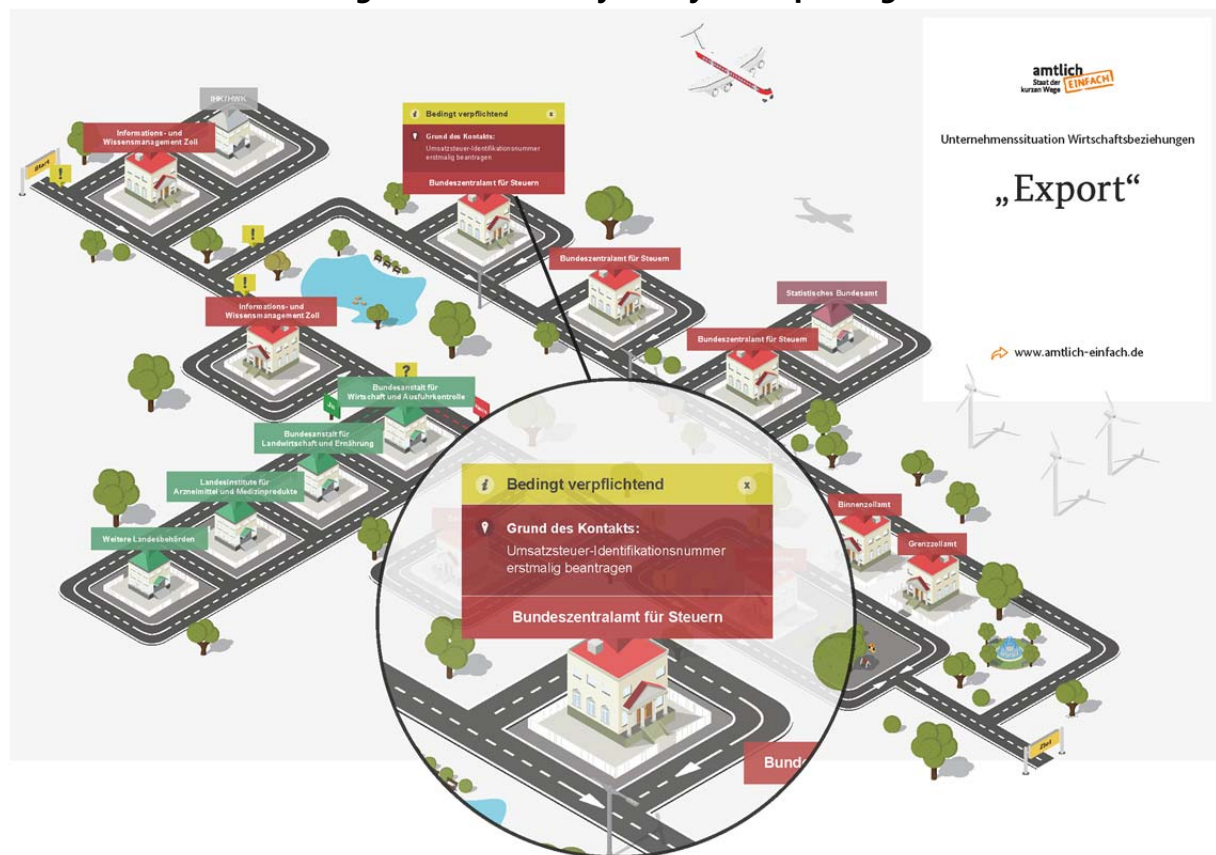
Source: (Statistisches Bundesamt, 2016c, p. 8)

In this example of exporting, a company begins its journey in the top, left corner and moves along the streets to the end in the bottom, right corner. During this voyage, it passes several houses representing public agencies such as the customs authority or the Federal Central Tax Office. At each junction, the following path depends on the type of business or issue at hand. In the online version, a click on a house gives additional information. Besides preparing the

satisfaction surveys, these diagrams provide useful advice for citizens and companies finding themselves in these life events (Schmidt, et al., 2015).

Even though these maps depict the path through a life event, it remains unclear which agencies are essential and which junctions are normally taken or – to remain in the image – which routes represent dirt tracks and which motorways. During the satisfaction surveys, citizens and enterprises provided not only information on their satisfaction with the public agencies, but also who they had contacted in the previous two years. Employing a network analysis, it is possible to identify the most important authorities in a life situation. Each network consists of nodes, representing the different public agencies in a life-event. A node's size is based on degree centrality, so that agencies with more links are represented with a larger node. Two nodes are connected by an edge if at least one respondent had contact with both agencies. The figures show weighted networks where the width of the edges is based on the number of respondents, who communicated with both agencies while experiencing the life event. The subsequent data flow between the various agencies is ignored however. As examples, figures 5 and 6 show the network of public agencies for the life events "appointment of employees" and "participation in tendering process".

Figure 5: Network of agencies for "appointment of employees"
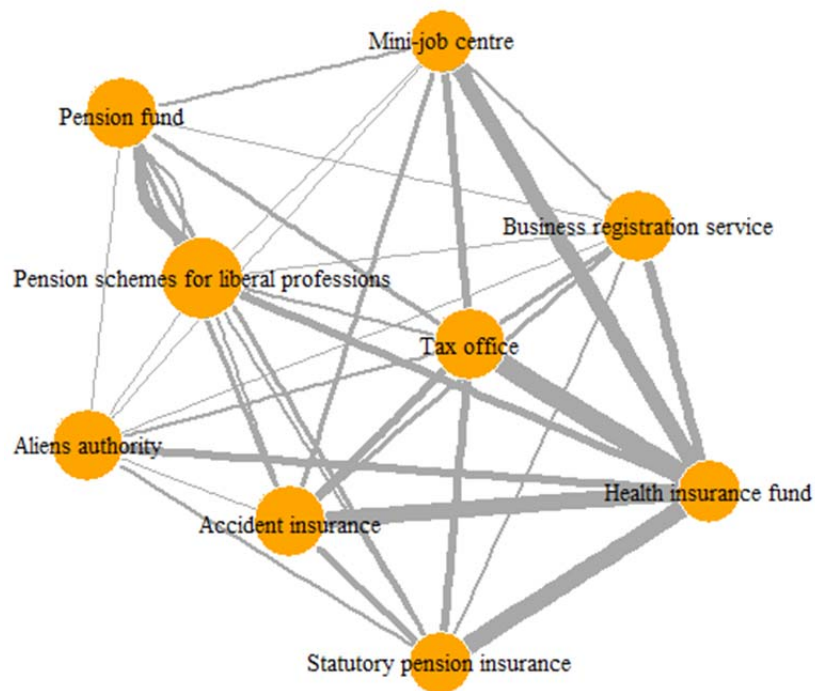
The life event "appointment of employees" involves all agencies of the social security system. Additionally, tax and aliens offices are of importance. The central agencies in this life event are the health insurance funds, since they receive the data of every employee and distribute it among the other relevant social insurance agencies such as the statutory pension insurance. Furthermore, the employer has to pay income tax to the tax office on behalf of the employees explaining the vital role of this agency. Even though, the statutory pension

insurance receives most of the relevant data from the health insurance funds, it regularly audits companies' social security contributions. The mini-job centre plays an important role as well, because it conducts all matters related to social insurance for employees in marginal employment earning less than 450 euros per month. Furthermore, in the case of an operational accident the accident insurance becomes active. All other agencies are involved in special situations such as liberal professions or registering a company for the first time at the business registration service.

Figure 6: Network of agencies for "participation in tendering process"
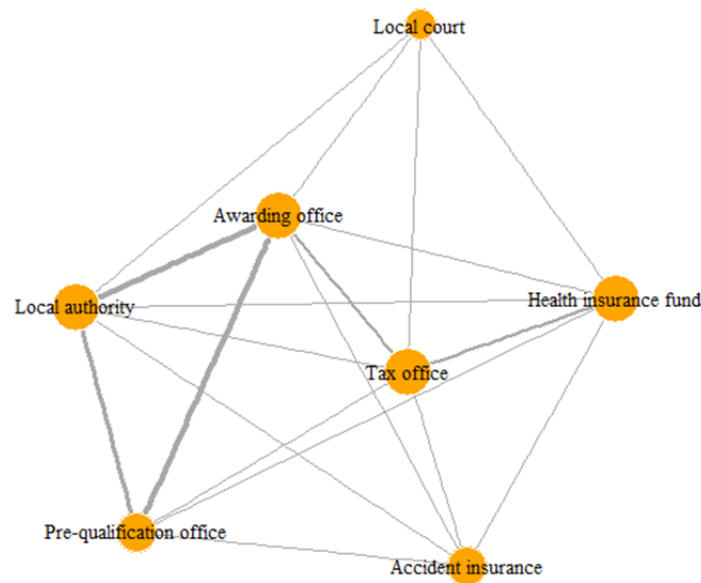
Compared to appointing an employee, the process of participating in a tendering process involves fewer agencies. The awarding office plays the key role, since it is the place where all information and documents run together and the decisions are made. Companies can apply for pre-qualification at the respective office, when they participate in several tenders. Thus, they do not need to provide certain documents for each bid. All other agencies of the life event need to be contacted to proof that taxes and social security contributions have been paid and that the company is not insolvent. However, not every case involves these authorities (Federal Statistical Office, 2016b; Statistisches Bundesamt, 2016b).

3.2. Survey design and sampling

Based on the list of life events and the associated customer journeys, the Federal Statistical Office designed two surveys to measure businesses' and people's satisfaction with administrative services. Between January and June 2015, the social research institute *TNS Infratest* questioned 1,572 businesses on 1,865 life events and 5,666 citizens on 7,250 life events. Respondents could indicate their level of satisfaction with a particular agency according to the 16 factors presented in table 3. In order to limit the duration of an interview,

each respondent could assess their contact with no more than three typical public agencies per life event. In addition, each interviewee could answer an "all-in-all" question on her satisfaction with another five agencies. User satisfaction was rated on an ordinal, five-point Likert scale ranging from "very satisfied" to "somewhat satisfied" to "neither satisfied or dissatisfied" to "somewhat dissatisfied" to "very dissatisfied".

Table 3: Factors of satisfaction

Information on the stages of the process	Access to the right office	Expertise of staff
Comprehensibility of the forms	Spatial accessibility	Overall duration of process
	Opening hours	Trustworthiness of the authority
Access to necessary forms	Waiting times	Non-discrimination
Option of e-government	Information on the further course of action	Incorruptibility
	Helpfulness of staff	Comprehensibility of the law

Respondents could also state the importance of each of the 16 factors. If citizens are not required to personally visit a public agency, opening hours and the possibility of e-government can be evaluated very differently. By combining these two dimensions of satisfaction and importance, it is easier to identify potentials for optimization by applying importance-performance analyses (Martilla & James, 1977).

The objective of these two surveys is to gather statements on administrative services in specific life events. They were conducted as computer assisted telephone interviews (CATI). In the citizen survey, the population consists of all persons living in a private household in Germany above the age of 15, who experienced at least one of the selected life events and were communicating with the public administration during the previous two years. The telephone survey applies a dual frame approach where both mobile (20%) and landline numbers (80%) are sampled using the German industry standard (Glemser, et al., 2014). Mobile phone numbers were selected through random sampling. In the landline number sample, there was a two staged selection process. Within each household, a target person was identified with the Kish selection grid (Kish, 1949). The selected person was then asked whether it experienced a life event in the past two years.

In the business survey, all enterprises situated in Germany are part of the universe of cases. *TNS Infratest* relied on a commercial business registry to sample enterprises. The interviewer then tried to be transferred to the manager or a person who could provide information on the different life events the enterprise experienced in the past two years. After that, the interviewer talked to those employees who had contact with the public administration in a given life event.

For both surveys, the Federal Statistical Office employed stratified random sampling. In the citizen survey, 97 strata and 29 public agencies were examined, while data on 31 strata with questions on 21 authorities was collected in the business survey. Companies were sampled proportionally to the 18 sections of economic activities following the definitions of Eurostat (2008). In order to ensure that the number of large businesses included in the

sample allows for separate analyses, such enterprises were over-sampled (Himmelsbach, et al., 2016).

3.3. Weighting and Aggregating the Sample

The sampling design deliberately introduced some biases into the sample that have to be remedied through design weighting. There are multiple forms of design bias so that several correction factors were applied.

While households in the citizen survey were selected with equal probability, the selection probability of an individual is influenced by the number of persons in a household. Thus, an individual's chances to be selected were lower in a large household and higher in small households. Therefore, the Federal Statistical Office calculated a weight proportional to the number of household members. Enterprises with a large number of employees were more likely to be sampled than was indicated by their occurrence in the population. Again, a correction factor was derived to give more weight to under-sampled enterprises and less weight to over-sampled enterprises.

The population size of each stratum was unknown. For instance, the life event "Finance and taxes" consisted of strata following three variables: legal form, turnover class and system of bookkeeping to determine taxable income. Beforehand, the percentage of enterprises with contact to a public agency could not be established. As a result, the stratification was disproportionate and enterprises in an under-sampled stratum were up-weighted and those in over-sampled stratum down-weighted. Information on the incidence of each stratum was taken from the screening part of the survey, where respondents were asked to indicate all life events and the stratum within each life event.

In order to calculate a satisfaction index indicating the overall satisfaction with public administration, calculations on different levels, by factor of satisfaction, by public agency, by stratum and finally by life event were necessary as illustrated in figure 7.

On the lowest level, the unweighted average $(\overline{Sa})$ for each factor *(f)* of individual *(i)* ratings of satisfaction *(Sa)* such as expertise of staff for a particular public agency *(a)* in a certain stratum *(st)* of a life event *(l)* was calculated as shown in equation 1.

$$\overline{Sa}_{f;a,st,l} = \frac{1}{n}\sum_{i=1}^{n} Sa_{i;f,a,st,l} \qquad (1)$$

Next, each of these 16 factors was weighted with the average importance *(Im)* of the respective factor[3] to derive the average level of satisfaction for the agency e.g. pension insurance (equation 2).

$$\overline{Sa}_{a;st,l} = \frac{1}{16}\frac{1}{\sum \overline{Im}_{f;a,st,l}}\sum_{f=1}^{16}\overline{Sa}_{f;a,st,l}\times\overline{Im}_{f;a,st,l} \qquad (2)$$

---

[3] The correlation between satisfaction and importance for each of the 16 factors never exceeds 0.1 in absolute values with an average correlation of $\tau = -0.001$. Hence, the two dimensions are independent of each other allowing the described weighting.

The values for the various authorities involved in the individual stratum, in this case early retirement, were then aggregated employing their respective incidences *(In)* in the sample according to equation 3.

$$\overline{Sa}_{st;l} = \frac{1}{A} \frac{1}{\sum In_{a;st,l}} \sum_{a=1}^{A} \overline{Sa}_{a;st,l} \times In_{a;st,l} \tag{3}$$

The average score for the life event such as retirement stemmed from the average values of the strata again weighted with their incidences (equation 4).

$$\overline{Sa}_l = \frac{1}{ST} \frac{1}{\sum In_{st;l}} \sum_{st=1}^{ST} \overline{Sa}_{st;l} \times In_{st;l} \tag{4}$$

On the highest level, the satisfaction index represents the unweighted average of the 22 scores for each life event as shown in equation 5 (Himmelsbach, et al., 2016).

$$\overline{Sa} = \frac{1}{22} \sum_{l=1}^{22} \overline{Sa}_l \tag{5}$$

Figure 7: Aggregation of overall satisfaction
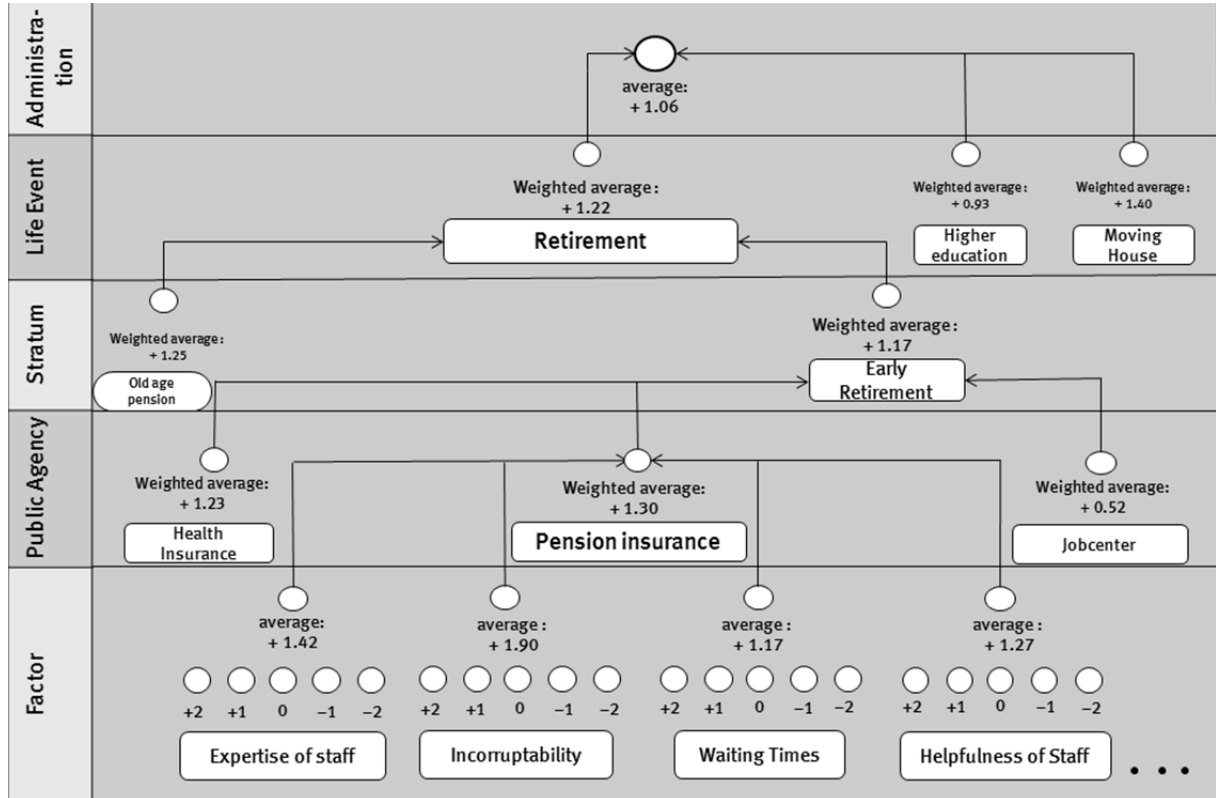
Based on Himmelsbach, et al. (2016)

3.4. Comparison of the French and German approaches

In 2008, the French government initiated its version of the life-events approach, which the General-Secretariat for Government Modernisation (SGMAP) presented to the Federal Government during a seminar on better regulation in September 2013. The French experiences especially the questionnaires and the survey design stood model for the Federal Statistical Office's developments, even though it undertook several methodological adaptations to the German situation.

Both concepts focused on examining the satisfaction with public authorities in selected life events. While the Federal Statistical Office analysed citizens and companies, the SGMAP took a more comprehensive perspective and additionally considered clubs and societies, and public agencies as users of other authorities' services. However, in Germany 5,666 citizens compared to 3,000 in France and 1,572 relative to 1000 companies were interviewed. Different ordinal scales where used to collect data on the level of satisfaction. As mentioned above, the Federal Statistical Office employed a five-point scale with a neutral mid-point based on Likert (1932) reporting results on a scale from −2 to +2. In contrast, the SGMAP operated with a ten-point Cantril self-anchoring striving scale (Cantril, 1965) and described the level of satisfaction as the percentage of satisfied respondents. The selected life events and their respective definition differed as well. On both sides of the Rhine, factors of satisfaction were used to assess the perception of public agencies. The 18 factors employed in France divided the administrative process in more steps, while in Germany interviewees also provided information on the meta-level concerning the trustworthiness, non-discrimination and incorruptibility of public authorities. Furthermore, the Federal Statistical Office analysed the importance of each of its 16 factors (Himmelsbach, et al., 2016; Secrétariat général pour la modernisation de l'action publique, 2013).

Due to the differences in the organisation of public authorities between the two countries, a direct comparison seems difficult. However, EU law governs many life events particularly for businesses. Therefore, possible variations in the levels of satisfaction with the administrative implementation of EU regulations might indicate potential for improvements.

4. Results

4.1. Results and drivers of satisfaction for citizens

Citizens in Germany are largely satisfied with public authorities. On a scale from −2 (very dissatisfied) to +2 (very satisfied), the aggregated rating by citizens was +1.06. However, there are large differences between the various life events.

Figure 8: Satisfaction of citizens with government services in selected situations

Scale of satisfaction from –2 to +2
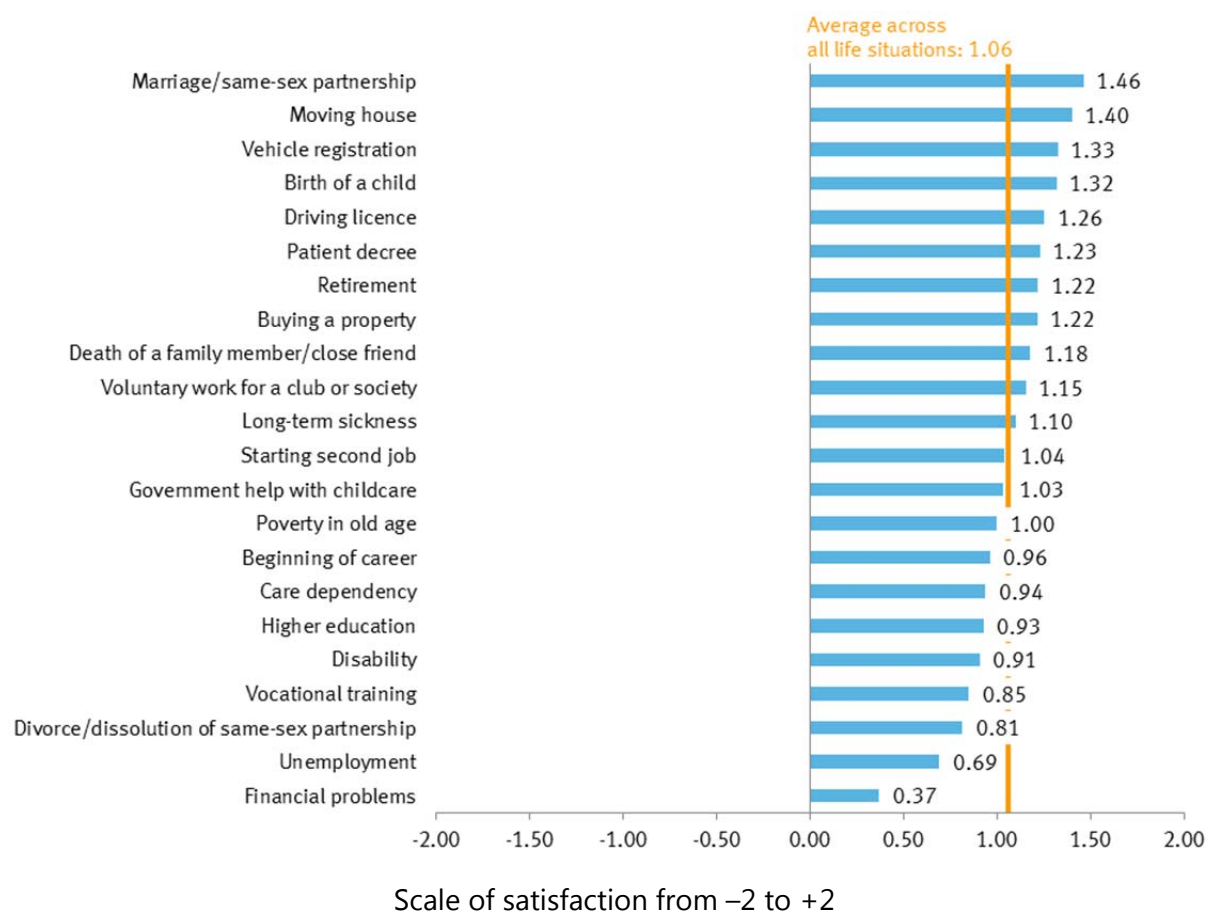
Source: Federal Statistical Office (2016c, p. 2).

As figure 8 shows, citizens are especially satisfied with events such as marriage and registering a same-sex partnership, moving house, vehicle registration and the birth of a child. On the other hand, public authorities involved in financial problems, unemployment, divorce and the dissolution of a same-sex partnership receive scores below average. This distribution might lead to the interpretation that events which are usually considered positively such as marriage or birth of a child result in values above average, while more negative events lead to ratings below average.

Figure 9 combines the level of satisfaction of the selected life situations with their incidence in the population. The first, top right quadrant describes situations occurring relatively often and receiving ratings of satisfaction above average, while the rarer events with lower levels of satisfaction occupy the third, bottom left quadrant. Most situations are located in these two quadrants implying that mass procedures which are usually highly standardised such as vehicle registration ensue higher satisfaction with public authorities. This also applies to negative events such as the death of a family member or close friend or long-term sickness. More infrequent situations involving case-by-case decisions such as a divorce or the dissolution of a same-sex partnership, which both require a trial, lead to higher dissatisfaction. Hence, the perceived positivity of an event can only partly explain the resulting levels of satisfaction.

Figure 9: General satisfaction and incidence of the life events
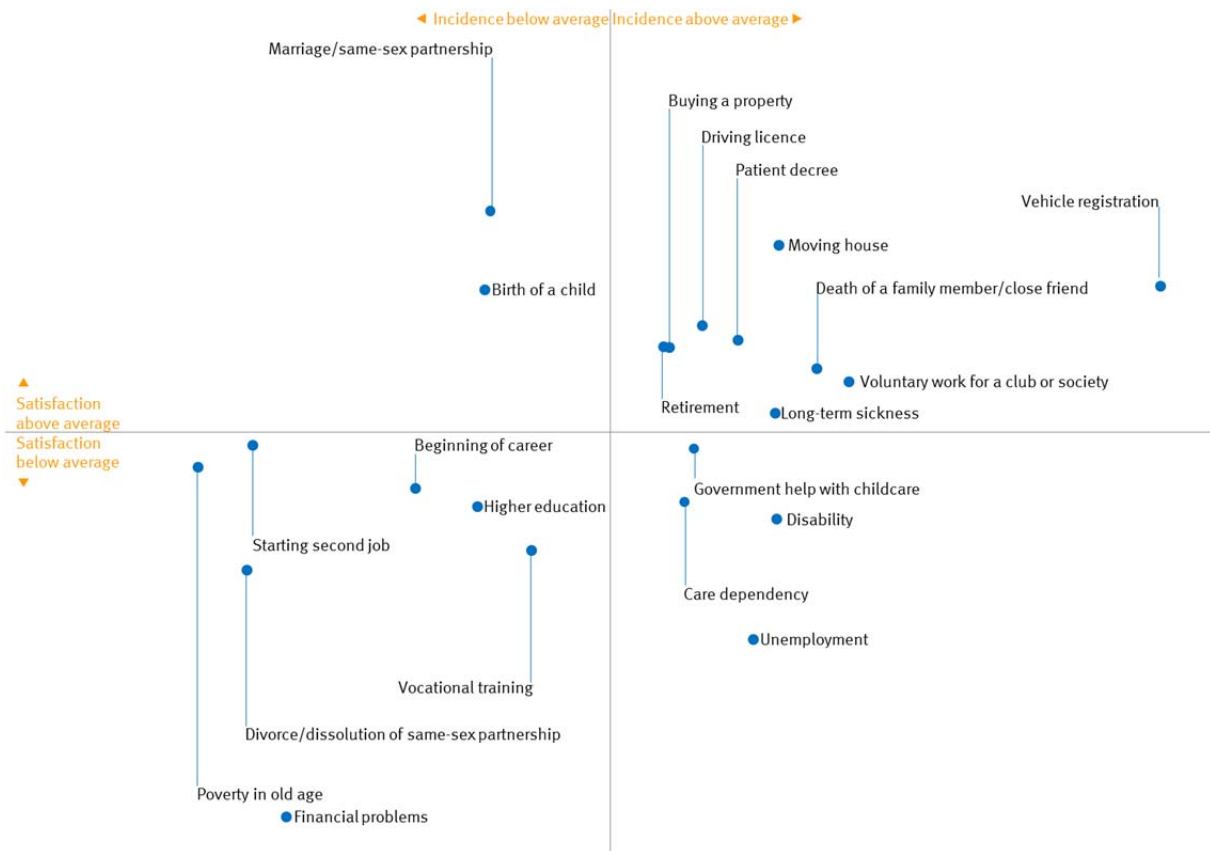
Based on Statistisches Bundesamt (2015, p. 12).

The various life events are powerful drivers of satisfaction. Besides, socio-economic and other individual aspects can have impacts on the level of satisfaction. Table 4 provides a descriptive overview of the selected variables.

With one exception, the selected variables do not lead to stark differences in the level of satisfaction. However, when a respondent indicated that she did not achieve the intended objective, the level of satisfaction dropped by 0.90 points. This group represents a minority of less than 6% of the sample.

Table 4: Descriptive overview of citizens' level of satisfaction

Variables		Satisfaction (−2 to +2)	No. of respondents	No. of agencies[1]
Gender	Female	+1.08	2898	6259
	Male	+1.05	2532	4986
Age in years	16–29	+0.90	909	2303
	30–49	+1.03	1975	4381
	50+	+1.07	2525	4529
School leaving certificate of... (years of schooling)[2]	*Hauptschule (9–10)*	+1.10	973	1971
	Realschule (10)	+1.07	1950	4006
	Gymnasium (12–13)	+1.04	2393	5056
Settlement structure[3]	Urban centres	+1.00	1317	2702
	Urbanised surrounding areas	+1.12	1376	2840
	Rural surrounding areas	+1.04	1373	2822
	Rural areas	+1.09	1366	2886
Intended objective achieved	Yes or partly[4]	+1.07	3688	7710
	No	+0.17	248	467

[1] Each respondent can have contacted and rated multiple agencies.

[2] Details on the German education system: OECD (2013).

[3] Definition of Bundesinstitut für Bau-, Stadt- und Raumforschung (2013).

[4] Includes on-going procedures.

A multiple regression analysis allows for estimating the relationship between a variable on the level of satisfaction, while controlling for other variables which simultaneously affect the outcome. The dependent variable, satisfaction, was measured on an ordinal scale, so the ordinary least squares (OLS) estimator cannot be assumed to provide the best linear unbiased estimates. Instead, an ordered logistic regression model is applied here (Wooldridge, 2010). The results are presented in proportional odds ratios. Values of less than 1 represent lower odds and values of more than 1 mean higher odds.

The unit of analysis is the individual. Citizens can interact with several public agencies and can experience more than one life event. Therefore an individual can enter the analysis more than once. Only the so-called typical agencies as defined in section 3.2 are included as more detailed information is available about the respondents' contact. Furthermore, the "all-in-all" question about the general satisfaction with the authorities is employed as dependent variable instead of the calculated average of the 16 factors of satisfaction.[4] The worst possible level of satisfaction "very dissatisfied" (−2) is used as reference. Table 5 shows the results.

---

[4] There is a high and statistically significant correlation between the stated, general satisfaction with a public agency and the calculated, average level of satisfaction indicating consistent response behaviour $(\rho = 0.828; p < 0.001)$.

Table 5: Ordered logistic regression analysis for citizens' level of satisfaction

Independent variable	Odds ratios			OLS
	Model 1	Model 2	Model 3	Model 4
Age in years	1.014***	1.013***	1.016***	0.007***
Dummy: female	1.072	1.076	1.116*	0.037
Dummy: german nationality	1.017	1.116	1.151	0.050
Dummy: migrant background	1.050	1.048	1.085	0.029
Dummy: single parent	0.838	0.824	0.907	–0.063
Dummy: at least one child	1.172**	1.216***	1.075	0.037
Dummy: urban or urbanised area	0.911*	0.953	0.938	–0.036
Dummy: full-time employee	0.955	0.944	0.887*	–0.072**
Effective education in years	0.972***	0.979**	0.965***	–0.012**
Logarithm of household income per person	1.185***	1.170***	1.008	0.009
Dummy: intended objective not achieved	–	0.095***	0.127***	–1.189***
Dummy: online communication with agency	–	0.691***	0.792***	–0.124***
No. of agencies contacted	–	0.976	0.919**	–0.046**
Dummy: vocational training	–	–	0.405***	–0.463***
Dummy: higher education	–	–	0.398***	–0.480***
Dummy: beginning of career	–	–	0.333***	–0.574***
Dummy: driving licence	–	–	0.865	–0.037
Dummy: unemployment	–	–	0.303***	0.618***
Dummy: financial problems	–	–	0.211***	–0.833***
Dummy: starting second job	–	–	0.772	–0.088
Dummy: marriage/same-sex partnership	–	–	2.525***	0.350***
Dummy: divorce/dissolution of same-sex partnership	–	–	0.303***	–0.648***
Dummy: birth of a child	–	–	0.862	–0.064
Dummy: government help with childcare	–	–	0.877	–0.064
Dummy: moving house	–	–	1.376**	0.126*
Dummy: buying a property	–	–	1.473*	0.096
Dummy: retirement	–	–	1.218	–0.022
Dummy: poverty in old age	–	–	0.441***	–0.372***
Dummy: patient decree	–	–	1.084	0.091
Dummy: long-term sickness	–	–	0.913	–0.090
Dummy: disability	–	–	0.380***	–0.517***
Dummy: care dependency	–	–	0.564***	–0.292***
Dummy: death of a family member/close friend	–	–	0.972	–0.005
Dummy: voluntary work for a club or society	–	–	0.735**	–0.126*
Nagelkerke's Pseudo R^2/Adjusted R^2	0.020	0.104	0.180	0.173
–2 Log Likelihood	19048.787	18446.149	17851.268	–
N (observations)	7292	7292	7292	7292

*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$

Model 1 uses citizens' socio-demographic variables. The second model also scrutinizes variables on the level of public agencies. In model 3, we include life event fixed effects to test if satisfaction with public services is influenced by the life event a person is experiencing. To check for consistency, we estimated model 3 also with an OLS estimator (model 4). According to the pseudo R² values, model 3 explains a larger portion of variance in the dependent variable than the other models. A comparison between the log likelihoods of the three models also suggests that model 3 has the best model fit. The test statistics of the

likelihood ratio tests indicate that the observed differences in model fit are statistically significant. For these reasons, model 3 has the highest explanatory capacity and we focus on it in the following.

Older respondents are more likely to be satisfied with government services than younger interviewees, with all other factors being equal. Ten additional years in life experience increase the odds of being more satisfied than the lowest level by 16%. For female respondents the odds for being very satisfied is 1.12 times greater than the odds for a lower response, *ceteris paribus*. Having a child has a statistically significant effect on satisfaction in model 1 and 2. In model 3 this is not the case, which suggests that the variable is only relevant in particular life events. By including life event dummy variables, the effect disappears. Nationality, having a migrant background, single parenthood, and living in an urban or urbanized area have no statistically significant influence on the level of satisfaction. For people who are fully employed, the odds of being very satisfied are 0.89 times lower than the odds for a lower response. Additional education also tends to reduce satisfaction. An additional year of effective education decreases chances of being more satisfied than the lowest level by 3% meaning that *Hauptschule* graduates are 21% less likely to be "very dissatisfied" than holders of a university degree. The influence of household income per person drops clearly and becomes statistically insignificant, once the life events are added as independent variables.

All variables that describe the actual exchange between a citizen and the public administration have an important influence on the level of satisfaction. In order to measure an individual's expectations concerning the outcome of her interaction with the public administration, we checked if a person achieved her intended objective. Of course, the idea is that unsuccessful citizens are more likely to be less satisfied. The data support this argument. When a respondent does not achieve the objectives intended, the odds of being more satisfied than the lowest level decrease by 87%. Surprisingly, users of online communication also tend to be more dissatisfied. Their odds of being "very dissatisfied" are 21% higher than those of using only analogue communication. Possibly, they have difficulties to fill out the forms or to find help online. The length of the customer journey in the form of number of agencies contacted also plays a role, once we control for the fact that customer journey length varies by life event. For people who communicated with an additional public agency, the odds of being very satisfied are 8% lower than for being less satisfied.

The life-events have a strong impact on the level of satisfaction. The reference category is vehicle registration. For instance, "financial problems" and "unemployment" decrease satisfaction levels, "marriage/same-sex partnership" and "moving house" increase the ratings. These results provide strong support for the life event approach, as satisfaction with public services is dependent on the particular life event a person is experiencing.

The interviewees rated public authorities on 16 factors. Citizens are very satisfied with agencies' performance regarding incorruptibility, non-discrimination, spatial accessibility but also the expertise of the agencies' staff. However, citizens and companies complained

about the comprehensibility of laws and forms. Figure 10 shows the score by citizens for the 16 factors.

Figure 10: Satisfaction with various factors affecting public services

Scale of satisfaction from −2 to +2
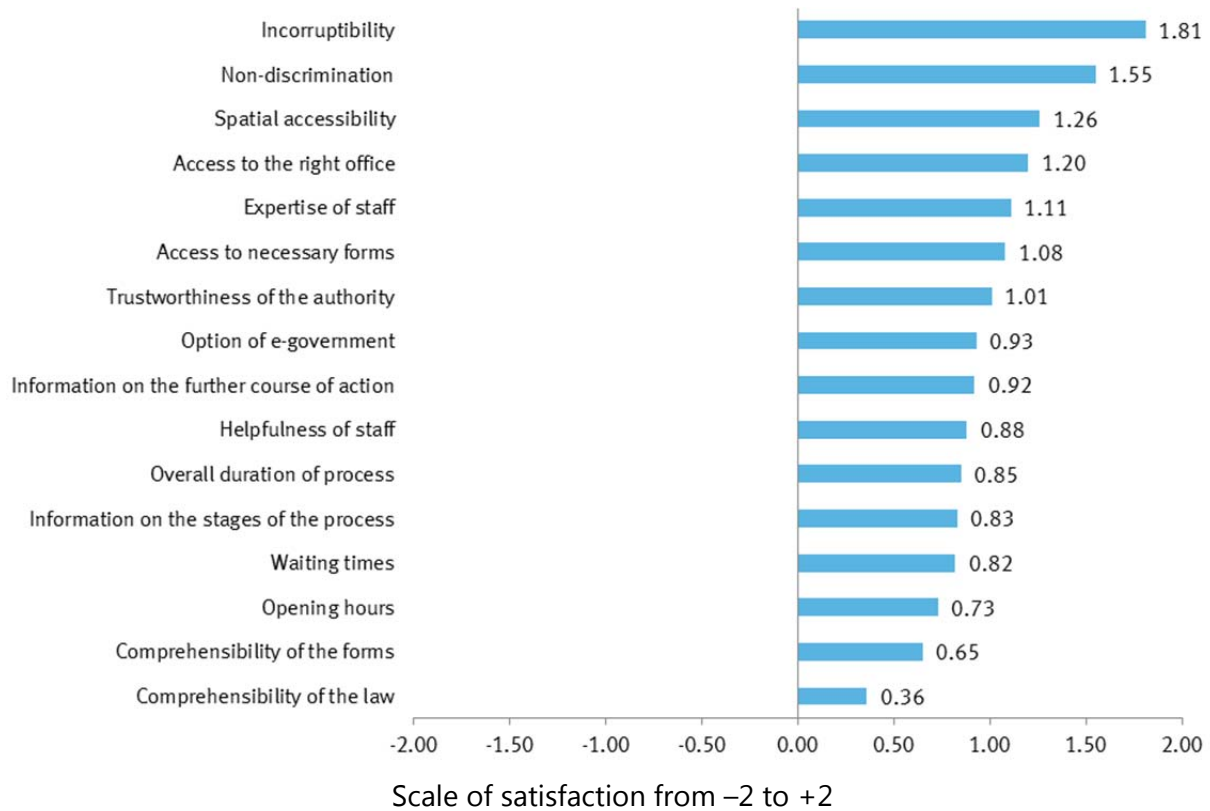
Based on Statistisches Bundesamt (2015, p. 10).

Employing a factor analysis allows summarising the 16 factors of satisfaction into smaller groups containing homogenous and connected variables. Commonly used measures of intercorrelation favour this type of analysis, as the Bartlett test of sphericity indicates highly significant correlations among certain variables $(\chi^2 = 29390.760, p < 0.001)$ and Kaiser's measure of sampling adequacy was 0.937, clearly exceeding the minimum value of 0.5. At first, a correlation matrix of the 16 factors based on Spearman's rank correlation coefficient was calculated. Then, a principal components analysis with varimax rotation followed. The latent root criterion prescribes that the generated factor should have eigenvalues greater than one, which would lead to three factors. However, the percentage of variance criterion supports more than three factors, since three factors only explain 55.8% of variance and four 61.5%. As the latent root criterion tends to extract too few factors, when the number of variables is lower than 20, the four factors depicted in table 6 were selected (Hair, et al., 2010).

Table 6: Rotated factor-loading matrix

Original factor of satisfaction	Generated factors				Commu-nality
	Service/ competence	Comprehen-sibility	Accessi-bility	Rule of law	
Information on the stages of the process	0.622	0.407			0.593
Comprehensibility of the forms		0.773			0.675
Access to necessary forms	0.335	0.477			0.443
Option of e-government		0.732			0.609
Access to the right office	0.561		0.488		0.603
Spatial accessibility			0.724		0.593
Opening hours	0.306		0.677		0.573
Waiting times	0.392		0.678		0.623
Information on the further course of action	0.802				0.740
Helpfulness of staff	0.788				0.705
Expertise of staff	0.790				0.708
Overall duration of process	0.648				0.541
Trustworthiness of the authority	0.680				0.603
Non-discrimination				0.778	0.670
Incorruptibility				0.836	0.720
Comprehensibility of the law		0.641			0.445

Factor loadings below 0.3 are suppressed. N = 4656.

The analysis reveals that the 16 original factors of satisfaction can be compressed to four groups. The first group involves the service quality and competences of public authorities. It incorporates factors about the provision of necessary information and forms, and the expertise, helpfulness and trustworthiness of the agencies. The original factors about comprehensibility of forms and law but also e-government possibilities form part of the second group called comprehensibility. The third group involves the spatial and temporal accessibility, while the fourth and last group consists of the categories dealing with the rule of law in the agencies. These different groups of factor provide valuable information for policy makers, since they reveal which factors are connected and need to be addressed in concert (Statistisches Bundesamt, 2015; Federal Statistical Office, 2016c).

4.2. Results and drivers of satisfaction for businesses

Businesses were also largely satisfied with life events and rated public agencies with +0.94 across all life events. Again, there are vital differences in satisfaction depending on the situation. While vocational and continuous training and health and safety at work received

high scores, construction of an establishment and the participation in a tendering process received achieved rating clearly below average (see figure 11).

Figure 11: Satisfaction of businesses with government services in selected situations

Scale of satisfaction from –2 to +2

Source: Federal Statistical Office (2016b, p. 2).

The individual characteristics of companies can also influence the level of satisfaction. Table 7 describes the overall results by these properties. Most of these characteristics do not lead to large differences in the level of satisfaction with achievement of an intended objective and companies in the agricultural sector being the exception. However, both dissatisfied groups represent only a small subset of the population.

Table 7: Descriptive overview of businesses' level of satisfaction

Variables		Satisfaction (–2 to +2)	No. of respondents	No. of agencies[1]
No. of employees	0–9	+0.93	726	1594
	10–49	+0.93	462	1081
	50–249	+0.96	264	626
	250+	+0.96	94	221
Legal form	Individual enterprises, liberal professions	+0.93	502	1164
	Private companies	+0.88	160	298
	Capital companies, hybrid forms, other legal forms	+0.95	154	346
Industrial sector[2]	Agriculture, forestry and fisheries	+0.72	38	85
	Production	+0.94	382	908
	Services	+0.93	1067	2392
Settlement structure[3]	Urban centres	+0.90	463	1034
	Urbanised surrounding areas	+0.92	570	1304
	Rural surrounding areas	+0.92	262	581
	Rural areas	+0.95	251	603
Intended objective achieved	Yes or partly[4]	+0.94	1108	1680
	No	+0.29	61	91

[1] Each firm can have contacted and rated multiple agencies.

[2] Definition of Eurostat (2008).

[3] Definition of Bundesinstitut für Bau-, Stadt- und Raumforschung (2013).

[4] Includes on-going procedures.

Again, a multiple, ordered logistic regression allows identifying drivers of satisfaction for businesses. It follows the same approach as for citizens and the results are depicted in table 8. As before, model 1 uses businesses' socio-demographic variables. The second model also scrutinizes variables on the level of public agencies. In model 3, we include life-event fixed effects to test if satisfaction with public services is influenced by the life event a business is experiencing. To check for consistency, we estimated model 3 also with an OLS estimator (model 4). According to the pseudo R^2 value, model 3 explains a larger portion of variance in the dependent variable than the other models. A comparison between the log likelihoods of the three models also suggests that model 3 has the best model fit. The test statistics of the likelihood ratio tests indicate that the observed differences in model fit are statistically significant. For these reasons, model 3 has the highest explanatory capacity and we focus on it in the following.

Table 8: Ordered logistic regression analysis for businesses' level of satisfaction

Independent variable	Odds ratios			OLS
	Model 1	Model 2	Model 3	Model 4
No. of employees	1.000	1.000	1.000	0.000
Dummy: individual enterprise, liberal profession	1.283*	1.301*	1.318**	0.129*
Dummy: service industry	0.890	0.906	0.923	−0.068
Dummy: agriculture, forestry, fisheries	0.324*	0.340*	0.481	−0.395
Dummy: urban or urbanised area	1.061	1.030	1.007	−0.005
Dummy: intended objective not achieved	–	0.181***	0.182***	−1.051***
Dummy: online communication with agency	–	1.004	0.997	0.005
No. of agencies contacted	–	0.912*	0.908	−0.033
Dummy: business start-up	–	–	0.965	−0.149
Dummy: finance and taxes	–	–	0.749	−0.242*
Dummy: appointment of employees	–	–	1.017	−0.040
Dummy: vocational and continuing training	–	–	1.537	0.147
Dummy: health and safety at work	–	–	1.929*	0.245
Dummy: construction of an establishment	–	–	0.207***	−1.022***
Dummy: participation in tendering process	–	–	1.117	0.039
Dummy: importing/exporting	–	–	1.483	0.150
Dummy: discontinuation or transfer of business	–	–	0.661	−0.294*
Nagelkerke's Pseudo R^2/Adjusted R^2	0.009	0.040	0.079	0.093
−2 Log Likelihood	3601.798	3553.027	3491.531	–
N (observations)	1718	1718	1718	1718

*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$

Surprisingly, the size of a company, measured by the number of employees, does not have an effect on the level of satisfaction with public services. The most important characteristic of a company for its level of satisfaction is the legal form. Individual enterprises and liberal professions tend to be more satisfied with public agencies, while controlling for other variables. The odds are 32% higher to be not "very dissatisfied" with a public agency. Results for the influence of the industrial sector are shown relative to the production sector. Even though agricultural companies are less satisfied according to model 1 and 2, the effect becomes statistically insignificant when we include life event dummies. Similar to the results of the citizen survey, not achieving the intended objectives leads to a drastic reduction in satisfaction. This independent variable has a powerful impact. Again, the individual life events which are added in model 3 have a profound effect. The reference category is research & development, patent and trademark protection. This is especially true for the construction of an establishment, whereas the life situation appointment of employees is not statistically significant.

While measuring the administrative burdens employing the SCM, the Federal Statistical Office has assessed the affected industrial sectors for each information obligation.[5] Hence, it is possible to compare this more objective measure with the subjective satisfaction in the different industries, which is presented in table 9.

Table 9: Average administrative burdens and level of satisfaction by industrial sector

| Industrial sector[1]	Average		Deviation from mean	
	Administrative burdens per company (1,000 euros)	Level of satisfaction	Administrative burdens per company (%)	Level of satisfaction (%)
Agriculture, forestry, fishing	8.44	0.72	−23.7	−23.4
Mining, quarrying	11.47	0.71	3.6	−24.5
Manufacturing	13.58	0.91	22.7	−3.2
Energy and water supply	18.22	1.01	64.5	7.4
Construction	8.68	0.94	−21.6	0.0
Trade, repair of vehicles	8.77	0.93	−20.8	−1.1
Transportation and storage	12.77	0.88	15.3	−6.4
Accommodation and food services	8.01	0.98	−27.7	4.3
Information and communication	7.82	1.03	−29.4	9.6
Finance, insurance	101.52	0.64	816.9	−31.9
Real estate activities	7.75	0.90	−30.0	−4.3
Professional, scientific, technical activities	8.35	0.95	−24.6	1.1
Administrative and support service activities	7.94	0.78	−28.3	−17.0
Education	9.82	1.28	−11.3	36.2
Human health and social work	15.99	0.87	44.5	−7.4
Arts, entertainment and recreation	7.63	0.76	−31.1	−19.1
Other service activities	7.64	0.90	−31.0	−4.3
Average	**11.07**	**0.94**	**40.5**	**−4.9**

[1] Definition of Eurostat (2008).

---

[5] When more than one sector applies, the administrative burden was distributed among the industries according to the total number of companies in each sector.

Companies in agriculture, forestry and fisheries, but also firms in arts, entertainment and recreation experience relatively low administrative burdens, yet they are comparably more dissatisfied than other industries. A similar relation but in the opposite direction occurs for enterprises in the energy and water supply. However, financial and insurance companies, manufacturers and businesses in health and social work show that increased administrative burden can result in higher dissatisfaction, while in the sectors of education, information and communication, and accommodation and food services lower administrative burdens correspond to a higher level of satisfaction. Hence, the comparison of the two measures shows no clear trend or relation (ρ = −0.087; p = 0.740). This outcome underlines the importance of examining the subjective perception of government service and bureaucracy, since it can severely differ from the results generated by the SCM.

Considering the 16 factors of satisfaction, the results of the businesses are similar to those of the citizens. Both groups are very satisfied with agencies performance regarding incorruptibility, non-discrimination, spatial accessibility but also the expertise of the agencies' staff. However, they complained about the comprehensibility of laws and forms. The factor analysis also generates the same distribution of factors for firms as for the citizens. The assignment of "access to the right office" is the only difference between citizens and companies. While citizens consider the factor as part of the generated factor "service and competences", firms regard it as part of "accessibility".

Besides their level of satisfaction for each factor, respondents were also asked how important they deem these factors. When considering the level of satisfaction as performance of the public authorities, the importance-performance analysis can be applied. By combining satisfaction and importance, figure 12 illustrates how priorities for meaningful action can be identified. Factors in the first, top right quadrant are considered important and in this case companies are satisfied. Here according the model, the public agencies should keep up their good work as it is highly valued. The fourth, bottom right quadrant shows the crucial challenges. Companies are relatively dissatisfied, but consider these factors important. Hence, agencies can improve companies' overall satisfaction by focusing on these aspects. Factors on the left side are not regarded as very important and should not be in the centre of attention. Nevertheless, these aspects should be monitored (Martilla & James, 1977). Furthermore, it is essential to examine these important-performance analyses for the individual offices, since the perceived satisfaction and importance vary strongly depending on the type of services demanded (Federal Statistical Office, 2016c; Statistisches Bundesamt, 2016b).

Figure 12: Satisfaction and the importance of the various factors for businesses in all situations
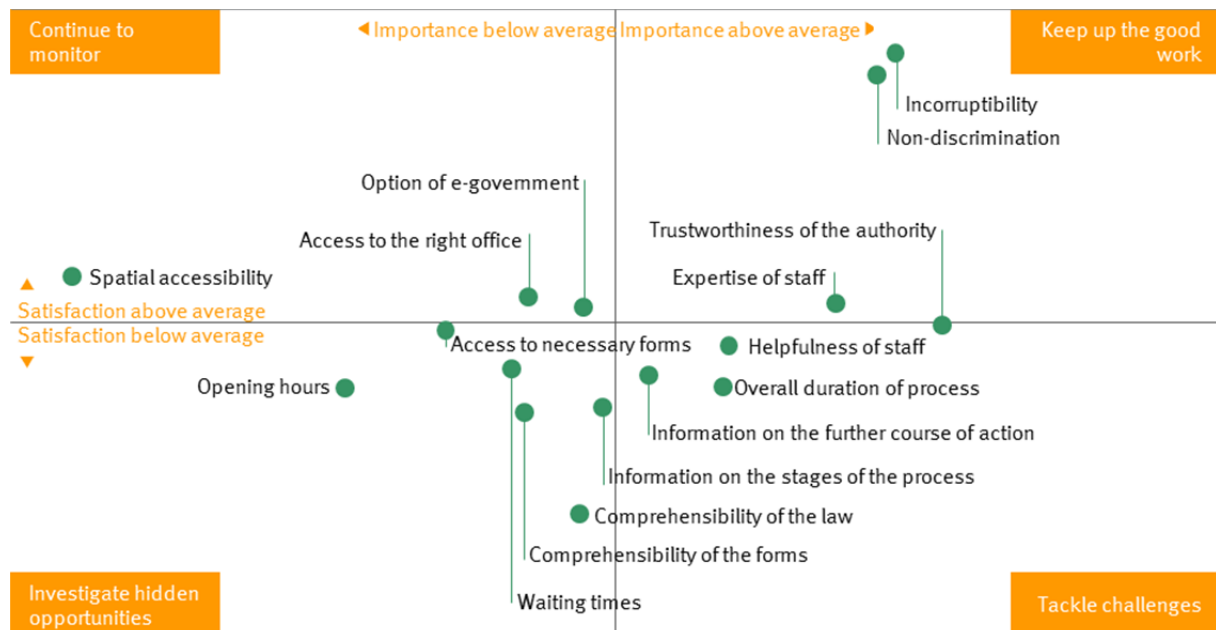
Source: Federal Statistical Office (2016b, p. 5).

5. Conclusion

The Federal Statistical Office conducted a comprehensive and thorough assessment of citizens' and businesses' perception of government services in Germany. Overall, citizens and businesses are largely satisfied with public administration. On the ordinal scale of –2 (very dissatisfied) to +2 (very satisfied), the aggregate rating is +1.06 and +0.94, respectively. Especially, factors of satisfaction related to the rule of law – incorruptibility and non-discrimination – received very good ratings, while the comprehensibility of laws and forms resulted in the worst scores. The regression analyses revealed that satisfaction depends strongly on the different life events. However, a powerful driver is whether respondent have achieved their intended objectives, even though, only a small subgroup does not conclude administrative affairs successfully. Younger or better educated citizens are less satisfied, while the legal form is vital for the satisfaction of companies with individual enterprises and liberal professions being relatively more satisfied. The factor analyses allow to identify connected factors of satisfaction and to place them in homogeneous groups. Together with the importance-performance analysis, which combines measures of satisfaction and importance, policy makers receive valuable advice for improving interactions with public administration. Furthermore, the network analysis illustrates the essential agencies in each life event and their relations to other authorities. Hence, the life-events approach is a crucial extension to the measurement of administrative burdens and bureaucracy in Germany complementing the SCM measures. A comparison with the baseline measurement of administrative burdens for companies shows no clear relation between the two methods.

This result emphasises the importance to continue with both approaches to gain a more comprehensive image of regulatory burden.

Together with the Federal Chancellery, the Federal Statistical Office has already presented more detailed results for life events below the average level of satisfaction to the responsible federal ministries in 14 information sessions. Other statistical methods such as cluster analyses for certain individual agencies could improve the understanding of their clientele and its characteristics. Additionally, comparing the German with the French results could help identifying possible ameliorations especially in areas regulated by EU law such as importing and exporting. Bringing together the results of the SCM and the satisfaction surveys on a more detailed level might facilitate explaining dissatisfaction in special areas.

The Federal Government has already commissioned the Federal Statistical Office to conduct a second wave of surveys beginning in 2017. For that reason, an evaluation of the pilot is indispensable. The regression analyses left much variance unexplained. Therefore, additional or other variables might provide a way to identify more drivers of satisfaction. Even though, the surveys shed light on the public agencies contacted, in many life situations it remains unclear what services respondents demanded. This is especially important for large, centralised institution such as the employment agency or the customs authority. Also, the survey could be improved by including more measures on a respondent's expectations towards a life event in general and a particular agency more specifically. For instance, a person's satisfaction could be influenced by the amount of pecuniary benefits she is applying for and eventually receiving. However, a telephone survey limits the amount of possible questions and thus a considerate decision about the inclusion and exclusion of certain questions is necessary.

With these first satisfaction surveys, the Federal Statistical Office did not only make an important step to help identifying potential for improving public administration, but also developed an effective method to measure the perception of bureaucracy.

References

Act on the Establishment of a National Regulatory Control Council, 2011. *Act on the Establishment of a National Regulatory Control Council of 14 August 2006 as amended by Article 1 of the Act of 16 March 2011.* Federal Law Gazette I: p. 420.

Akerlof, G. A., 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 84(3), p. 488–500.

Bryman, A., 2012. *Social Research Methods.* Fourth ed. Oxford: Oxford University Press.

Bundesinstitut für Bau-, Stadt- und Raumforschung, 2013. *Laufende Raumbeobachtung - Raumabgrenzung: Siedlungsstrukturelle Kreistypen.* [Online]
Available at:
http://www.bbsr.bund.de/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html?nn=443270
[Accessed 29 July 2016].

Bundesverband der deutschen Industrie, Ernst & Young GmbH & IKB Deutsche Industriebank AG, 2013. *BDI-Mittelstandspanel: Ergebnisse der Online-Mittelstandsbefragung Frühjahr 2013.* [Online]
Available at: http://bdi.eu/media/presse/publikationen/mittelstand-und-familienunternehmen/BDI_Mittelstandspanel.pdf
[Accessed 29 July 2016].

Bureau of Foreign and Domestic Commerce, 1934. *National Income, 1929–32: Letter from the Acting Secretary of Commerce Transmitting in Response to Senate Resolution No. 220 (72d Cong.) a Report on National Income, 1929–32.* [Online]
Available at:
https://fraser.stlouisfed.org/docs/publications/natincome_1934/19340104_nationalinc.pdf
[Accessed 29 July 2016].

Cantril, H., 1965. *The pattern of human concerns.* New Brunswick, NJ: Rutgers University Press.

Coyle, D., 2014. *GDP: A Brief But Affectionate History.* Princeton, Oxford: Princeton University Press.

Deutscher Bundestag, 2012. *Gesetzentwurf der Bundesregierung: Entwurf eines Gesetzes zur Förderung der elektronischen Verwaltung sowie zur Änderung weiterer Vorschriften (Drucksache 17/11473).* [Online]
Available at: http://dipbt.bundestag.de/dip21/btd/17/114/1711473.pdf
[Accessed 29 July 2016].

Eurostat, 2008. *NACE Rev. 2: Statistical classification of economic activities in the European Community.* [Online]
Available at: http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF
[Accessed 29 July 2016].

Federal Government, 2007. *Administrative Costs: The Effort to Identify, Measure and Reduce Them: The 2007 Federal Government Report on the Use of the Standard Cost Model.* [Online]

Available   at:
https://www.bundesregierung.de/Content/EN/Artikel/Buerokratieabbau_en/Anlagen_en/201
3-07-29-jb-2007_en.pdf?__blob=publicationFile&v=5

[Accessed 29 July 2016].

Federal Government, 2013. *Better Regulation 2012: Reducing Regulatory Burden Cutting Red Tape   Securing   Dynamic   Growth.*   [Online]
Available   at:
https://www.bundesregierung.de/Content/EN/Artikel/Buerokratieabbau_en/Anlagen_en/201
3-06-05-jahresbericht-2012_en.pdf?__blob=publicationFile&v=4

[Accessed 29 July 2016].

Federal Government, 2015. *Better Regulation 2014: Official – simple – tangible.* [Online]
Available   at:
https://www.bundesregierung.de/Content/EN/Artikel/Buerokratieabbau_en/Anlagen_en/201
5-07-20-jahresbericht-2014_en.pdf?__blob=publicationFile&v=5

[Accessed 29 July 2016].

Federal Statistical Office, 2006. *Introduction of the Standard Cost Model: Methodology Manual of the   Federal   Government.*   [Online]
Available   at:
https://www.destatis.de/EN/FactsFigures/Indicators/BureaucracyCosts/Download/SCMMan
ual.pdf?__blob=publicationFile

[Accessed 29 July 2016].

Federal Statistical Office, 2016a. *National Data for UN-SDGs: Available national indicators for Goal 16 of the UN-Agenda 2013 for Sustainable Development Goals.* [Online]
Available   at:
https://www.destatis.de/EN/FactsFigures/Indicators/SDG/SDG_16XLS.xlsx?__blob=publicati
onFile

[Accessed 29 July 2016].

Federal Statistical Office, 2016b. *Press conference: Businesses' perceptions of administrative burdens in Germany in selected situations.* [Online]
Available   at:
https://www.destatis.de/EN/FactsFigures/Indicators/BureaucracyCosts/Download/Statement
_Business.pdf?__blob=publicationFile

[Accessed 29 July 2016].

Federal Statistical Office, 2016c. *Press conference: Public satisfaction with government services in Germany – Selected results of the satisfaction survey 2015.* [Online]
Available   at:
https://www.destatis.de/EN/FactsFigures/Indicators/BureaucracyCosts/Download/Statement
_Citizens.pdf?__blob=publicationFile

[Accessed 29 July 2016].

Glemser, A., Meier, G. & Heckel, C., 2014. Dual-Frame: Stichprobendesign für CATI-Befragungenim mobilen Zeitalter. In: ADM Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute e. V., ed. *Stichproben-Verfahren in der Umfrageforschung: Eine Darstellung für die Praxis.* Second ed. Wiesbaden: Springer, p. 167–190.

Graeber, D., 2015. *The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy.* New York, London: Melville House.

Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E., 2010. *Multivariate Data Analysis: A Global Perspective.* Upper Saddle River, NJ: Pearson.

Heller, J., 1999. *Catch-22.* S&S Classic ed. New York: Simon & Schuster.

Himmelsbach, E., Hornbach, C., Michalik, S. & Kuehnhenrich, D., 2016. Methodische Grundlagen der Zufriedenheitsbefragungen zu behördlichen Dienstleistungen. *Wirtschaft und Statistik*, Volume 4 (forthcoming).

Interdepartementale Projectdirectie Administratieve Lasten, 2003. *Meten is weten: Handleiding voor het definiëren en meten van administratieve lasten voor het bedrijfsleven.* [Online] Available at: www.actal.nl/wp-content/uploads/metenisweten.pdf [Accessed 29 July 2016].

Kafka, F., 2009. *The Trial: A new translation by Mike Mitchell.* Oxford: Oxford University Press.

Kish, L., 1949. A Procedure for Objective Respondent Selection within the Household. *Journal of the American Statistical Association*, 44(247), p. 380–387.

Kolstad, C. D., 2011. *Intermediate Environmental Economics.* International Second Edition ed. New York: Oxford University Press.

Likert, R., 1932. A Technique for the Measurement of Attitudes. *Archives of Psychology*, 22(140), p. 5–55.

Martilla, J. A. & James, J. C., 1977. Importance-Performance Analysis. *Journal of Marketing*, 11(1), p. 77–79.

Niskanen, W. A., 1968. The Peculiar Economics of Bureaucracy. *The American Economic Review*, 58(2), p. 293–305.

OECD, 2013. *Germany: Diagram of the education system.* [Online] Available at: http://gpseducation.oecd.org/CountryProfile?primaryCountry=DEU [Accessed 29 July 2016].

PricewaterhouseCoopers, 2016. *BDI/PwC-Mittelstandspanel: Bürokratiebelastung und Fachkräftemangel: Die Stimmungslage des industriellen Mittelstands.* [Online] Available at: http://www.pwc.de/de/mittelstand/assets/studie-bdi-panel-2016.pdf [Accessed 29 July 2016].

Renda, A., Schrefler, L., Luchetta, G. & Zavatta, R., 2013. *Assessing the Costs and Benefits of Regulation: Study for the European Commission, Secretariat General.* [Online] Available at: http://ec.europa.eu/smart-regulation/impact/commission_guidelines/docs/131210_cba_study_sg_final.pdf [Accessed 29 July 2016].

Sage Software GmbH, 2015. *Bürokratie im deutschen Mittelstand.* [Online]
Available at:
http://landing.sage.de/buerokratiemonster/download/Sage_Studienband_Buerokratie.pdf
[Accessed 29 July 2016].

Schmidt, B., Kuehnhenrich, D., Zipse, C. & Vorgrimler, D., 2015. Entlastungen spürbarer
machen: Wie wird der Kontakt zur Verwaltung wahrgenommen?. *Wirtschaft und Statistik,*
Volume 2, p. 56–66.

SCM Network, n.d.. *International Standard Cost Model Manual.* [Online]
Available at: http://www.oecd.org/gov/regulatory-policy/34227698.pdf
[Accessed 29 July 2016].

Secrétariat général pour la modernisation de l'action publique, 2013. *Mapping the user's
journey to improve service to the public.* [Online]
Available at: http://www.modernisation.gouv.fr/sites/default/files/fichiers-attaches/sgmap-
usersjourney_1.pdf
[Accessed 29 July 2016].

Sen, A. K., 1979. *Collective choice and social welfare.* Second impression ed. Amsterdam:
Elsevier Science.

Smith, A., 1836. *An Inquiry into the Nature and Causes of the Wealth of Nations.* Third ed.
London: Charles Knight.

Snyder, C. & Nicholson, W., 2007. *Microeconomic Theory: Basic Principles and Extensions.* Tenth
ed. Mason, OH: Cengage Learning.

Statistisches Bundesamt, 2013. *WebSKM: Datenbank aller rechtlichen Vorgaben.* [Online]
Available at: https://www-skm.destatis.de/webskm/online
[Accessed 29 July 2016].

Statistisches Bundesamt, 2014. *Die Bestandsmessung der Bürokratiekosten der deutschen
Wirtschaft nach dem Standardkosten-Modell.* [Online]
Available at:
https://www.destatis.de/DE/Publikationen/StatistikWissenschaft/Band14_BestandsmessungB
uerokratiekosten1030814149004.pdf?__blob=publicationFile
[Accessed 29 July 2016].

Statistisches Bundesamt, 2015. *Zufriedenheit der Bürgerinnen und Bürger in Deutschland mit
behördlichen Dienstleistungen: Ausgewählte Ergebnisse der Zufriedenheitsbefragung 2015.* [Online]
Available at: https://www.amtlich-
einfach.de/SharedDocs/Downloads/Ergebnisse_Buerger.pdf?__blob=publicationFile&v=3
[Accessed 29 July 2016].

Statistisches Bundesamt, 2016a. *Bureaucracy Cost Index.* [Online]
Available at:
https://www.destatis.de/EN/FactsFigures/Indicators/BureaucracyCosts/Results/Bureaucracy
CostIndex/BureaucracyCostIndex.html
[Accessed 29 July 2016].

Statistisches Bundesamt, 2016b. *Lebenslagen Unternehmen.* [Online] Available at: https://www.amtlich-einfach.de/DE/Wirtschaft/Wirtschaft_node.html [Accessed 29 July 2016].

Statistisches Bundesamt, 2016c. *Wahrnehmung von bürokratischen Belastungen durch Unternehmen in ausgewählten Situationen in Deutschland: Ausgewählte Ergebnisse der Zufriedenheitsbefragung 2015.* [Online] Available at: https://www.amtlich-einfach.de/SharedDocs/Downloads/Ergebnisse_Wirtschaft.pdf?__blob=publicationFile&v=4 [Accessed 29 July 2016].

Stiglitz, J. E., Sen, A. & Fitoussi, J.-P., 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress.* [Online] Available at: http://www.insee.fr/fr/publications-et-services/dossiers_web/stiglitz/doc-commission/RAPPORT_anglais.pdf [Accessed 29 July 2016].

The Twelve Tasks of Asterix. 1976. [Film] Directed by René Goscinny, Henri Gruel, Albert Uderzo, Pierre Watrin. France, Belgium: Dargaud Films.

United Nations, 2015. *Transforming Our World: The 2030 Agenda for Sustainable Developemt A/RES/70/1.* [Online] Available at: https://sustainabledevelopment.un.org/content/documents/21252030_Agenda for Sustainable Development web.pdf [Accessed 29 July 2016].

Weber, M., 1978. *Economy and Society: An Outline of Interpretive Sociology.* Berkeley, Los Angeles, London: University of California Press.

Wooldridge, J. M., 2010. *Econometric analysis of cross section and panel data.* Second ed. Cambridge, MA, London: The MIT Press.