

Assessment of the need for judges in Georgia

Jesper Wittrup

Tea Machaidze

Elene Janelidze

Mariam Makishvili

2018-08-13

Contents

- Executive Summary** **3**

- 1 Introduction** **5**

- 2 Methodology** **6**

- 3 Data** **14**

- 4 Establishment of judicial workload indicators** **18**
 - 4.1 Criminal case workload 18
 - 4.2 Civil and commercial case workload 22
 - 4.3 Administrative case workload 25
 - 4.4 Factor analysis 27

- 5 Assessment of the need for judges in Georgia** **31**

- 6 Qualitative analysis: Comparison with six other countries** **41**

- 7 Discussion of backlog** **45**

- 8 Conclusion** **48**

- References** **51**

Executive Summary

Our study estimates that Georgia needs 410 judges, or in the range from 380 to 450 judges. Even with 410 judges, the Georgian courts will - given the current estimates for court workload - have a high ratio of workload to judges when compared to most other countries with well-functioning judicial systems. The estimated number (410) is considerably higher than the current (around 310 judges), but it is in line with the number of judges Georgia used to have before the major reforms in the mid-2000s.

Our estimate is based on an analysis of factors which predicts the demand for judicial services. We have documented how the number of cases (criminal, civil/commercial and administrative) per 100.000 inhabitants in the European countries correlates highly with these factors implicating judicial demand.

The judicial demand/workload-workload indicators provide a unique opportunity to assess the need for judges in any particular country. In contrast to more traditional approaches, these indicators do not depend upon the number of cases reported (to CEPEJ) by any particular country. Furthermore, these indicators do not naively assume that population size is the only variable that matters when assessing the number of judges. The approach recognizes that social, demographic, political and economic variables have a substantial impact on judicial workload, and thus the need for judges.

To benchmark the number of judges in Georgia against other countries from the identified indicators for judicial demand, we use Data Envelopment Analysis (DEA). Our benchmarking analysis aims to address some very important additional challenges. First, there are substantial differences regarding the structures of European judicial systems. One may therefore question our ability to compare quantitative data across nations. To address this issue, we have supplemented our quantitative analysis with a qualitative study.

Another challenge for our benchmarking efforts is that the countries in our study may not have a “proper” number of judges. They could have too few, leading to a bad-functioning court system, or they could have too many, leading to inefficient use of public resources.

To address the first concern (some other countries may have too few judges), we introduce various indicators of judicial quality. In some models, we restrict comparison to other countries with high scores on judicial quality indicators, suggesting our assessment of the proper number of judges in Georgia is only based on well-functioning judicial systems.

To address the second concern (some other countries may have too many judges) we have decided to require that Georgia remains “efficient” in comparison with the other countries. This implies that the proposed number of judges in Georgia should provide Georgian judges with an estimated workload which is not lower than in any of the other countries it is compared with. For this reason, we consider our estimate for the need to increase the number of judges with about 100 judges – compared to the current number – to be very conservative.

It is beyond the scope of this particular study to provide detailed recommendations for how and when such an increase in the number of judges should be implemented. Careful planning is obviously needed to ensure a successful implementation.

Phase Two of this project will - if carried out - be an assessment of the distribution of judges and staff among courts with the intent being to construct a smart version of a case weighting system (CWS) and analyzing the court workflow process. An effective case weighting system will be crucial for ensuring an

efficient allocation of new positions among courts. The analysis of workflow processes will also provide more knowledge about the potential for removing current barriers to optimal work performance in the Georgian courts.

Chapter 1

Introduction

The Promoting Rule of Law in Georgia Activity (PROLoG) aims to strengthen the justice system to ensure due process, judicial independence, and the protection of human rights. It is funded by the United States Agency for International Development (USAID) and implemented by the East-West Management Institute (EWMI).

To facilitate the efficient functioning of the court system and improve the quality of justice, PROLoG has offered the Georgian High Council of Justice (HCOJ) expert support in designing and conducting a needs assessment to identify the optimal number and distribution of courts, judges, and support staff throughout the country based on needs and workloads in courts throughout the country. As first step in the process, PROLoG's expert Jesper Wittrup conducted a feasibility study of current practices and availability of data necessary for a needs assessment.

Based on the feasibility study, PROLoG and the HCOJ have determined to move forward with conducting the full study, but in two phases. Phase One will be a relatively smallscale study to identify the proper overall number of judges in Georgia; Phase Two will be an assessment of the distribution of judges and staff among courts with the intent being to construct a smart version of a case weighting system (CWS) and analyzing the workflow process.

This report presents the phase One study on the proper overall judges in Georgia. The study has been conducted by PROLoG international expert Jesper Wittrup in cooperation with EU4Justice local expert Tea Machaidze, and Council of Europe local experts Eka Lomtadze, Elene Janelidze and Mariam Makishvili.

The overall methodology of the study has been developed by Jesper Wittrup. Tea Machaidze has been responsible for describing the characteristics of the Georgian judicial system, including the grouping of the system into a legal family, and the role of prosecutors. She has also been responsible for obtaining updated statistical data for the Georgian courts.

Elene Janelidze, Mariam Makishvili and Eka Lomtadze have been responsible for collecting information, including updated statistical data, about the judicial systems in a number of countries, selected because the results from the quantitative analysis are most sensitive to exactly these countries. They have furthermore been responsible for organizing and summing up focus group meetings with stakeholders.

Chapter 2 presents the methodology of the study. Chapter 3 discusses data. In chapter 4 indicators of judicial workload are established. Chapter 5 presents the quantitative assessment of the need for judges in Georgia. Chapter 6 summarizes the findings from the qualitative analysis. Chapter 7 looks at the backlog situation. Chapter 8 concludes the study.

Chapter 2

Methodology

To assess the proper number of judges in Georgia we rely on comparative analysis. We use data for the number of judges in other European countries to - in combination with a substantial number of relevant socio-economic and demographic variables - assess the number of judges we would expect is needed in Georgia.

There are some important limitations to the basic comparative approach, which we aim to address in our analysis. First, these other countries may not have a “proper” number of judges. They could have too few, leading to a bad-functioning court system, or they could have too many, leading to inefficient use of public resources.

To address the first concern (some other countries may have too few judges), we introduce various indicators of judicial quality. In some models, we restrict comparison to other countries with high scores on judicial quality indicators, suggesting our assessment of the proper number of judges in Georgia is only based on well-functioning judicial systems.

To address the second concern (some other countries may have too many judges) we have decided to require that Georgia remains “efficient” in comparison with the other countries. This implies that the proposed number of judges in Georgia should provide Georgian judges with an estimated workload which is not lower than in any of the other countries it is compared with.

Another important concern with a comparative assessment like this is the vast differences regarding the structures of European judicial systems. This is a huge challenge facing any comparative analysis of the number of judges. A good introductory discussion of these challenges, when relying upon data from CEPEJ, is provided by Marco Fabri (2017).¹

For the purpose of this study we have identified the following issues which may seriously impact the assessment of the proper number of judges:

- Differences in the way professional judges are defined and counted. This study relies partly on CEPEJ-data², but the different countries may not have a uniform approach for counting judges. For instance, some countries appear to have omitted reporting certain types of judges. Some countries have reported the number of judges according to the Full-time-equivalent-method, while others have not. Furthermore, since for the majority of countries only 2014-data for the number of judges were available for this study, the numbers may have changed substantially since then.
- Differences in the assistance judges receive. The amount of assistance judges receive, both in the form judicial assistants and clerks, and in the form case-management and ICT systems, may impact the “real” workload of judges.

¹In general, we adopt in this report the usual academic style for references, just mentioning the last name of the author

²In addition, country-specific surveys have been carried out as part of this study with the aim to obtain more updated data for a number of countries.

- Differences regarding the existence of autonomous or semi-autonomous bodies handling administrative or civil complaints (“quasi courts”), or alternative dispute resolution mechanisms which may in some countries handle cases, courts would otherwise handle.
- Differences regarding work performed by non-professional judges.
- Different barriers and incentives to initiating cases. Court fees, or requirements to be represented in court by a lawyer, or access to appeal may impact the number of cases reaching courts. Other incentives may impact litigation rates. As argued by Ramseyer and Rasmusen (2010), the degree of predictability of court decisions may have a large impact. The more predictable the outcome of a litigation process is, the more likely it is that the case can be settled without bothering the court system. Thus, the existence and publication of decisions guidelines may lower litigation rates. Furthermore, as shown by Bielen et al. (2018) severe backlogs could have a negative impact on litigation rates, since people will be less inclined to initiate litigation if they expect cases to drag on for a very long time.
- Differences regarding the types of non-litigious cases reaching courts. E.g. in some countries courts handle consensual divorces, or carry out notary functions, while not doing so in other countries.
- Differences regarding specialization. the requirement to decide cases in panels, and the number of court layers.
- Differences regarding backlogs. Seen from a long-term perspective only the workload associated with incoming cases matters. Present backlogs should not impact the number of judges needed long term. However, it may temporarily be necessary to have higher number of judges to reduce backlogs to a tolerable level. In addition, as argued above, severe backlogs could have a negative impact on litigation rates.

To address these issues, we have supplemented our quantitative analysis with a qualitative analysis. In order to supplement the findings from the quantitative analysis, the qualitative analysis seeks to establish whether judicial structure, judicial support, methods for counting, or other relevant issues may impact the need for judges in Georgia in ways that need to be taken into account when comparing Georgia to other countries. The local experts have been responsible for this part of the analysis. This involves:

- analyzing the characteristics of the Georgian judicial system.
- obtaining updated statistical data for the Georgian courts.
- collecting information, including updated statistical data, about the judicial systems in a number of countries, selected because the results from the quantitative analysis are most sensitive to exactly these countries.
- holding focus group meetings with stakeholders to obtain opinions on court workload and backlog.

Since it is not possible within the scope of this project to carry out a qualitative analysis of all European countries, a limited number have been selected. They are selected because the results from the quantitative analysis are most sensitive to exactly these countries.

Going back to the quantitative analysis, our aim is to establish reliable indicators for judicial demand, and thus expected court workload. A traditional approach would be to assume workload is only dependent upon population size. This is obviously insufficient as the countries we are considering are very different. We would expect the differences in economic development and demographics will have a substantial impact on court workload.

A more interesting approach, adopted by CEPEJ in their 2016-report, would be to look at the number of court cases (incoming and resolved) in proportion to population size. This is especially relevant if we look not just at the total number of cases, but break down the numbers into main categories: Criminal cases, severe criminal cases, litigious civil cases, administrative cases etc. According to CEPEJ “figures on the number of incoming and resolved cases per 100 inhabitants offer a clear picture of the workload and productivity of the different European judicial systems in general” (CEPEJ, 2016: 187).

One concern, however, would be that the composition of reported cases (cases which require much work vs. other cases) may differ a lot between countries. As argued by Ramseyer and Rasmusen (2010) “a case is not a case”: Analogous categories of disputes do not necessarily generate the same number of “countable”

cases in every country. We have learned from studies of court workload within the same country that it is important to have a fine-grained system for weighting different types of cases in order to compare the workload between courts (Gramckow, 2012). This should be an even greater concern when we are trying to compare different countries. The CEPEJ-data is presently not detailed enough to support real case weighting, and we cannot even be sure that the distinction between e.g. “severe”³ and other criminal cases is adopted in the same way in different countries.

Another concern is that CEPEJ reports data biannually with a two-year delay. So, at the time of writing, the most recent data from the 2016-report is from 2014⁴. The number of incoming cases may have changed much since then.

To counter these concerns, we treat in this study judicial workload as a latent (unknown and to be estimated) variable. We consider the number of reported cases (criminal, civil, administrative) per 100.000 inhabitants to be somewhat imperfect indicators for our latent variable (judicial workload). We expect there to be a fairly strong and positive correlation between the indicators and the judicial workload, but we do not trust these indicators enough to say they can be used to estimate the judicial workload in any particular country.

Our approach is inspired by work done over many years by economists to estimate the size of “shadow economies”. The shadow economy is defined to include all market-based legal production of goods and services that are deliberately concealed from public authorities (to avoid payment of taxes, to avoid having to meet legal labor market standards, or complying with certain administrative obligations. (Schneider, 2012). The size of the shadow economy is obviously a latent variable.

The most common approach to estimating the size of shadow economies is by use of so-called MIMIC models. The concept of the MIMIC model (Buehn & Schneider, 2016) is to examine the relationships between a latent variable “size of shadow economy” and observable variables in terms of the relationships among a number of observable variables by using their information of covariance. The observable variables are grouped into causes and indicators of the latent variable (see figure 2.1). The key advantages of the MIMIC approach are that it allows modeling of shadow economy activities as an unobservable (latent) variable.



Figure 2.1: The MIMIC model

The MIMIC model applied to shadow economies usually relies upon causal variables reflecting 1) Tax and social security contribution burdens (high burdens tend to increase the size of the shadow economy); 2) tax morale; and 3) the quality of public institutions (high quality tends to reduce the shadow economy) and 4) proportion of self-employed. A relevant indicator variable may include the amount of cash in circulation.

For a number of reasons, we have decided not to apply a full-blown MIMIC model to estimate judicial workload. First of all, the MIMIC approach to the study of shadow economies has been developed over decades and relies upon a substantial body of research into causal effects in this area. In contrast, we do not have much research on the causes of judicial workload.

Second, the MIMIC-model is usually applied to long time series of data, which is not available for our purpose.

³All offenses punishable by a deprivation of liberty (arrest and detention, imprisonment)

⁴But notice also that we have, as mentioned above, updated the data for a number of countries

Our study has a more explorative character in the sense that we aim to identify a number of causal (or indicator) variables which we then use to estimate our latent variable (judicial workload). With this in mind, we have searched the World Bank database with its more than 8.000 indicators, the database from the World Economic Forum, as well as various additional data sources.

We have identified our causal/indicator variables based on the following two main criteria. Both of them apply:

1. The variable should have a high statistical correlation with the number of cases (either criminal, civil or administrative) per capita, or other indicators which are obviously related to anticipated workload (e.g. homicides, number of prisoners). While we do not consider the number of cases per capita, by itself, to be a satisfactory indicator for court workload in any single country, we do expect the overall trend to be that the higher the number of cases per capita, the higher is court workload. Therefore, when a variable correlates highly with the number of criminal, civil or administrative cases per capita, we perceive this as a sign this variable may potentially be a useful tool in our attempt to establish more robust overall indicators.
2. It should be possible to provide a reasonable theoretical explanation for why this particular variable is correlated with court workload. When performing this sort of “data mining” we end up with a number of variables which may be highly correlated with e.g. the number of court cases per capita. But as long as we cannot come up with an intuitively appealing explanation for this correlation, we may suspect the correlation to be just random coincidence.

By this approach we end up with 14 variables which meet these two criteria, summarized in figure 2.2. We use factor analysis to determine whether our variables may capture different factors/dimensions. And in this way, we end up with 5 different workload indicators.

One advantage of our approach is that we can use the 2014-values for our indicator variables to establish the correlation with incoming cases per capita (case rates), but we can use (in general) more recent values to try to estimate current judicial workload.

The five workload indicators provide a unique opportunity to assess the need for judges in any particular country. In contrast to more traditional approaches, these indicators do not depend upon the number of cases reported (to CEPEJ) by any particular country. Furthermore, these indicators do not naively assume that population size is the only variable that matters when assessing the number of judges. The approach recognizes that social, demographic, political and economic variables have a substantial impact on judicial workload, and thus the need for judges.

To benchmark the number of judges in Georgia against other countries from the 5 workload indicators, we use Data Envelopment Analysis (DEA). One of the main advantages with the DEA method is that it can handle multiple inputs and outputs and weight them together. Furthermore, DEA assumes we want the Georgian judiciary to be efficient, implying that we want to be able to say that the workload of Georgian judges is not lower than in other European countries, cf. the discussion above.

The DEA-method weighs together - for each country - the five workload indicators. In the standard version the weights can vary freely. This is ideal if we have no assumptions about the relative importance of the individual workload indicators.

However, given that most countries have more civil/commercial and criminal cases than administrative it may be relevant to assume these indicators should have a certain minimum weight. In the applied model we have assumed that the civil/commercial indicator have a weight of minimum 20 pct. and maximum 60 pct., reflecting that civil/commercial cases take up between 20 pct. and 60 pct. of total judge worktime.

Similarly, we have assumed that the combined weight for the two criminal case indicators varies between 20 pct. and 60 pct. For administrative case workload we assume that the combined weight of the two indicators varies between 5 pct. and 30 pct.

As input to the model we consider the number of professional judges plus “rechtspfleger” in each country as reported in the latest CEPEJ-report.⁵

⁵As noted by Fabri (2017) we cannot necessarily assume that the different countries count judges in a similar way, so this is an important issue for the qualitative part of the analysis to address.

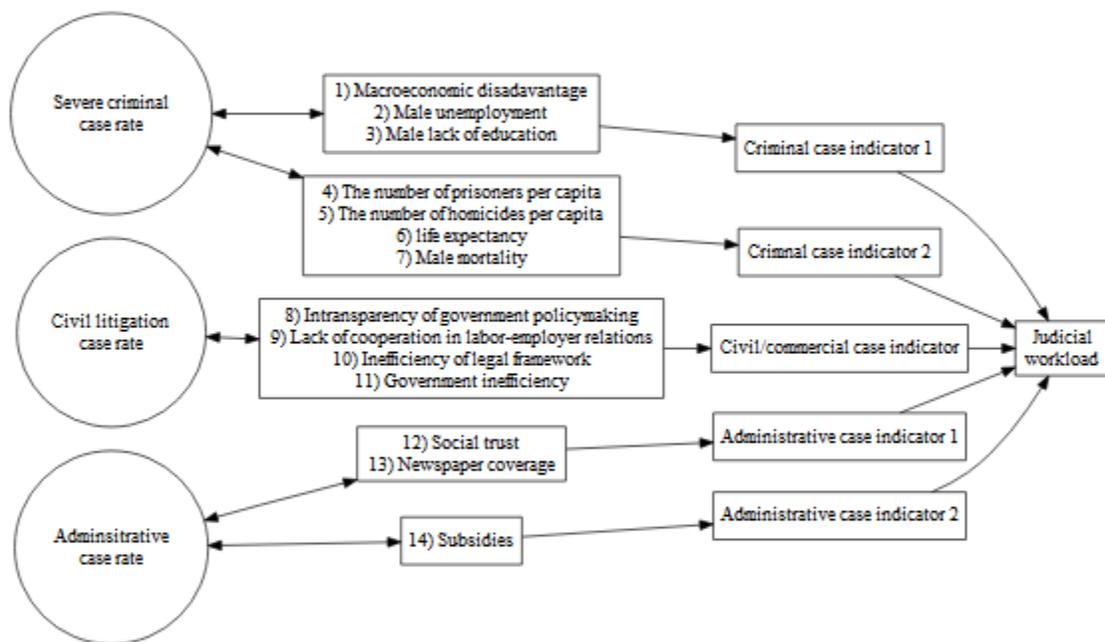


Figure 2.2: Model for assessment of judicial workload

It is also relevant to consider how much support each judge receives from non-judge court staff. For this reason, we have tested an alternative model with judges and nonjudge staff as separate inputs. In this model we make sure judges is assigned a weight of at least 60%.

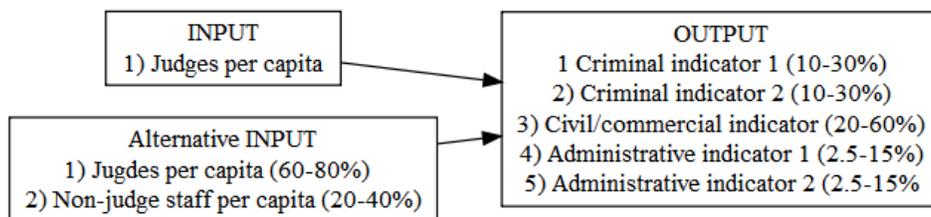


Figure 2.3: DEA models

As mentioned in the beginning of this chapter, we run a number of different models reflecting which other countries we wish to compare Georgia with. We restrict comparison in two ways. First, we restrict comparison to other countries with high scores on certain judicial quality indicators. In this way, we make sure Georgia is learning from countries with high judicial quality. As quality indicators we apply:

- The World Economic Forum indicator for judicial independence (average over the last 4 years:2015-2018).
- The corruption perception index (CPI) from Transparency International (2017).

In addition, we also restrict comparison to other countries based on the concept of “legal origin”. Legal origin is often used in the economic literature, see e.g. LaPorta et al (2008), to capture groups of similar legal families. The idea is that countries with similar legal origin have many similar legal characteristics and may therefore be easier to compare. Appendix B discusses the legal origin of Georgia.

To replicate/update this study, one would have to apply the following steps:

Step 1: Obtain the variables/data, listed in detail in chapter 3.

Step 2: Impute the (few) missing values by a random forest (or similar) approach (implying that missing variables are estimated from the other variables).

Step 3: Generate the judicial workload indicators, as stipulated in chapter 4: Either by taking the mean of the standardized values of the sub-indicators (method 1) or by applying factor analysis (method 2)

Step 4: Estimate the need for judges by applying a Data Envelopment (DEA) model with the calculated judicial workload indicators at output, and the number of judges as input, as described in chapter 4. Use different models, based on the mentioned criteria for selecting comparison countries (higher CPI-score, higher judicial independence).

Step 5: The results from the DEA-method in step 4 will be most sensitive to a limited number of countries. Identify these countries and use the approach outlined in chapter 6 (qualitative analysis) to assess whether differences in the judicial structure (not reflected in the quantitative data) may explain the differences in the number of judges between Georgia and these other countries.

Chapter 3

Data

Data for the number of court cases, judges and other court staff has been obtained from CEPEJ:¹ The latest available data at the time of this study refer to 2014. In addition, country-specific surveys have been carried out as part of this study with the aim to obtain more updated data for a number of countries. The updated data for Georgia has been provided by the Supreme Court and the High Council of Justice.

When considering judges, we have focus on professional judges. CEPEJ defines professional judges as judges who are recruited, trained and are remunerated to perform the function of a judge as a main occupation. Furthermore, in this study “judges” is understood as the sum of professional judges and *rechtspfleger*. Since the latter group (*rechtspfleger*) in most cases perform judge activities on a full-time basis, including them will offer a less distorted view of reality (CEPEJ, 2016: 92).

When searching for variables reflecting judicial demand, we have applied the World Bank database with its more than 8.000 indicators:² . We have also accessed data from the World Economic Forum.

Population data have also been obtained from the World Bank database. For Georgia we have subtracted an estimated 300.000 inhabitants in the regions of Abkhazia and South Ossetia/Tskhinvali. Similarly, an estimated number of 500.000 inhabitants has been subtracted from the population of Moldova, taking into account the part of the country which is not currently under government control.

Data for interpersonal trust has been obtained from the World Values Survey and the European Social Survey.

Data for the corruption perception index has been obtained from Transparency International:³

Data for legal origin has been obtained from the website of professor Andrei Shleifer:⁴

The table below shows the variables applied for the correlation analysis in chapter 4. Since we have analysed the correlation with case rates (cases per 100.000 inhabitants) in 2014, we have aimed to have the values for the other variables from 2014, or close to that year.⁵

Chapter 4 (correlation analysis)

Variable	Period	Source
Total population	2014	World Bank Database (but adjustments for Georgia, Moldova and the UK-regions)

¹<https://www.coe.int/en/web/cepej/dynamic-database-of-european-judicial-systems>

²<https://data.worldbank.org/>

³<https://www.transparency.org/research/cpi/overview>

⁴<https://scholar.harvard.edu/shleifer/home>

⁵For a few countries the variable may reflect a different year, if data for the listed year has not been available

Variable	Period	Source
Number of criminal cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Indicator for macroeconomic advantage	Average over 2012-14	World Economic Forum
Male unemployment (the proportion of males aged 15 or above who are unemployed)	2014	World Bank Database
Number of severe criminal cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Male educational attainment (Proportion of males (age 25+) with a completed post-secondary education)	2011	World Bank Database
Number of prisoners	2014	World Prison Brief
Intentional homicides per 100.000 inhabitants	2014	World Bank Database
Life expectancy (expected life time for a newborn)	2014	World Bank Database
Male adult mortality rate (probability of a 15-year old male dying before reaching age 60)	2014	World Bank Database
Number of civil and commercial litigation cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Indicator for transparency of government policymaking	Average over 2012-14	World Economic Forum
Indicator for cooperation in labor-employer relations	Average over 2012-14	World Economic Forum
Indicator for efficiency of legal framework	Average over 2012-14	World Economic Forum
Indicator for government efficiency	Average over 2012-14	World Economic Forum
Number of administrative cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Subsidies and transfers as % of expenses	2014	World Bank Database
Indicator for interpersonal trust	2014 and 2012 (ESS) and 2010-14 (WVS)	Derived from the World Values Survey and the European Social survey
Number of daily newspapers per 1000 inhabitants	2002	World Bank Database
Government expenditure on tertiary education as % of GDP	2013	World Bank Database

The table below depicts the variables used to generate the workload indicators (the factor analysis). With

this purpose we have sought to obtain the most recent values⁶. As can be seen, however, not all the variables are updated every year.

Chapter 4 (factor analysis)

Variable	Period	Source
Total population	2017	World Bank Database (but adjustments for Georgia, Moldova and the UK-regions)
Number of criminal cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Indicator for macroeconomic advantage	Average over 2015-18	World Economic Forum
Male unemployment (the proportion of males aged 15 or above who are unemployed)	2016	World Bank Database
Number of severe criminal cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Male educational attainment (Proportion of males (age 25+) with a completed post-secondary education)	2011	World Bank Database
Number of prisoners	2017-18	World Prison Brief
Intentional homicides per 100.000 inhabitants	2014	World Bank Database
Life expectancy (expected life time for a newborn)	2016	World Bank Database
Male adult mortality rate (probability of a 15-year old male dying before reaching age 60)	2015	World Bank Database
Number of civil and commercial litigation cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Indicator for transparency of government policymaking	Average over 2015-18	World Economic Forum
Indicator for cooperation in labor-employer relations	Average over 2015-18	World Economic Forum
Indicator for efficiency of legal framework	Average over 2015-18	World Economic Forum
Indicator for government efficiency	Average over 2015-18	World Economic Forum
Number of administrative cases (1st instance, 2nd instance and supreme court)	2014	CEPEJ
Subsidies and transfers as % of expenses	2016	World Bank Database
Indicator for interpersonal trust	2012-2016 (ESS) and 2010-14 (WVS)	Derived from the World Values Survey and the European Social survey

⁶For a few countries the variable may reflect a different year, if data for the listed year has not been available

Variable	Period	Source
Government expenditure on tertiary education as % of GDP	2013	World Bank Database

Chapter 4

Establishment of judicial workload indicators

Since neither the size of the population nor the number of court cases, in isolation, can be considered reliable indicators for court workload, we have to look for additional indicators. With this in mind, we have searched the World Bank database with its more than 8.000 indicators, the database from the World Economic Forum, as well as various additional data sources.

We have identified additional variables based on the following two main criteria. Both of them apply:

- a. The variable should have a high statistical correlation with the number of cases (either criminal, civil or administrative) per capita, or other indicators which are obviously related to anticipated workload (e.g. homicides, number of prisoners). While we do not consider the number of cases per capita, by itself, to be a satisfactory indicator for court workload in any single country, we do expect the overall trend to be that the higher the number of cases per capita, the higher is court workload. Therefore, when a variable correlates highly with the number of criminal, civil or administrative cases per capita, we perceive this as a sign this variable may potentially be a useful tool in our attempt to establish more robust overall indicators.
- b. It should be possible to provide a reasonable theoretical explanation for why this particular variable is correlated with court workload. When performing this sort of “data mining” we end up with a number of variables which may be highly correlated with e.g. the number of court cases per capita. But as long as we cannot come up with an intuitively appealing explanation for this correlation, we may suspect the correlation to be just random coincidence.

The following sections identify relevant variables for predicting judicial workload in criminal, civil/commercial and administrative cases.

4.1 Criminal case workload

The number of criminal cases per 100.000 inhabitants (the criminal case rate) correlates with various economic indicators. It has a negative correlation with the World Economic Forum indicator for macroeconomic environment. This indicator is measured by 5 components:

1. Government budget balance, % of GDP
2. Gross national savings, % of GDP
3. Inflation, annual % change

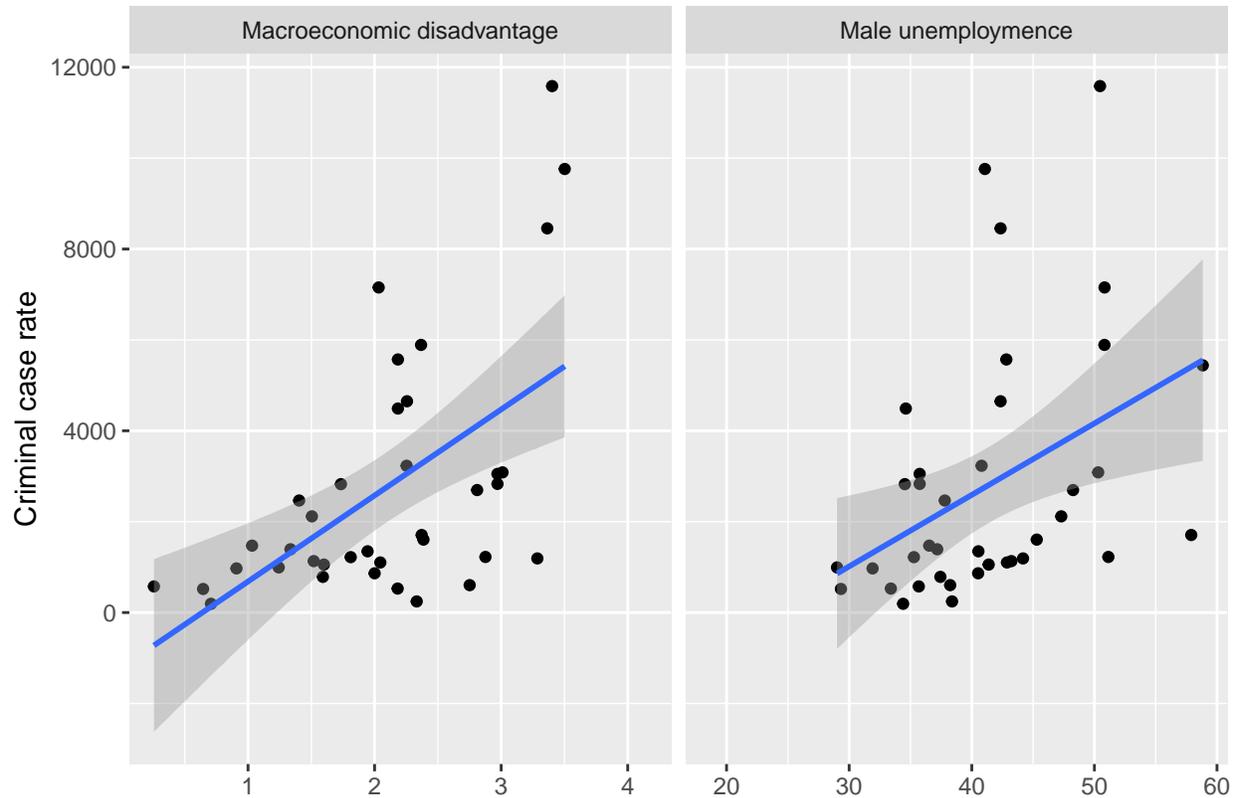


Figure 4.1: Correlation with the criminal case rate

4. Government debt ,% of GDP
5. Country credit rating

Since the number of cases is measured for 2014 we have calculated the indicator value as an average over the value in that year and the two previous years. The indicator is measured on a scale from 1 to 7, with 7 indicating the best possible macro environment. We have inversed the scale to reflect macroeconomic disadvantage.

In addition, the criminal case rate (number of criminal cases per 100.000 inhabitants) is correlated with male unemployment: The proportion of males aged 15 or above who are unemployed. It does appear to be a plausible hypothesis that a bad macroeconomic environment and high unemployment, and especially male unemployment, will be associated with a higher crime rate, and therefore a higher criminal case workload. Other studies have found this to be true as well (Altindag, 2012).

As theorized by Cantor and Land (1985), and documented in the empirical study of US countires by Phillips and Land (2012), there are likely two pathways through which economic activity – as indexed by the aggregate unemployment rate or macroeconomic disadvantage – could affect the rate of criminal activity. The first is by increasing levels of criminal motivation within the population as deteriorating economic conditions affect social strain and social control; the second is by influencing the availability and vulnerability of criminal targets and thus the number of criminal opportunities.

To differentiate between misdemeanor/minor offenses and serious offenses and ensure the consistency of the responses between different systems, the CEPEJ asks to classify as misdemeanour/minor offenses for which it is not possible to pronounce a sentence of deprivation of liberty. Other cases conversely, should be

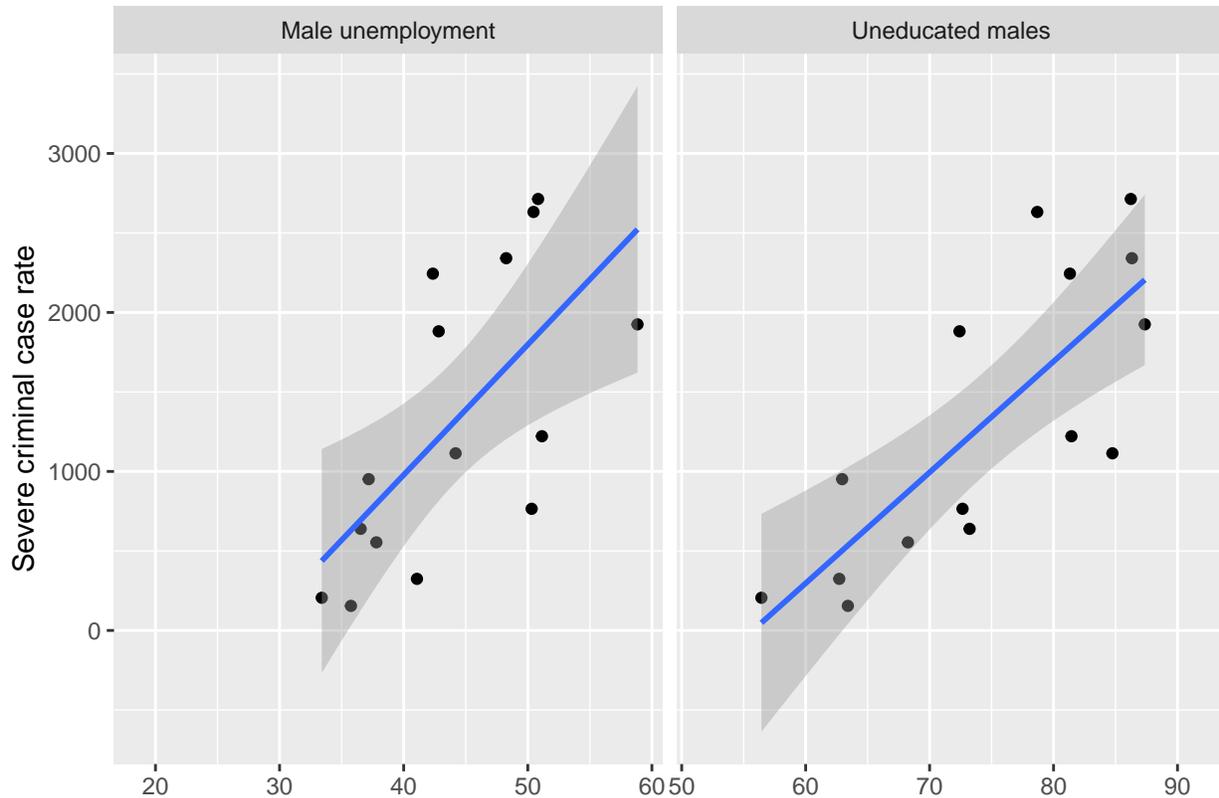


Figure 4.2: Correlation with the severe criminal case rate

classified as “severe criminal cases”: All offenses punishable by a deprivation of liberty (arrest and detention, imprisonment).

It appears reasonable to assume that more work is in general required to handle such “severe criminal cases”, compared to minor offenses. Therefore, it is interesting to see whether this variable correlates with other variables we may expect to influence the amount of crime. A disadvantage is that a substantial number of countries have not reported the number of severe criminal cases.

We have identified two such variables with a substantial statistical correlation with the number of severe criminal case rate, cf. figure 4.2. Like the general criminal case rate, the severe criminal case rate is also correlated with male unemployment. In addition, it correlates significantly with an indicator for male educational attainment. It is measured as the proportion of males (age 25+) with a completed post-secondary education. We have inverted this indicator to represent the proportion without post-secondary education.

Again, we consider it to be highly plausible that higher male unemployment and low educational attainment is associated with a higher crime rate. The effect of education is e.g. documented in the study by Machin et al. (2011) documenting how significant decreases in property crime in England and Wales resulted from reductions in the proportion of people with no educational qualifications.

Other variables may also more provide a more or less direct implication of the crime rate. The number of intentional homicides (murders) per 100.000 inhabitants is obviously an important indicator. In general, international crime statistics suffer from two main problems: 1) The same crime may be classified differently in some countries than in others; 2) Some types of crime are more likely to be reported in some countries than in others. The number of murders is probably a reasonably good indicator for overall crime, since it is more likely to be reported, and less likely to be categorized as something else (Kury and Wittrup, 2010)

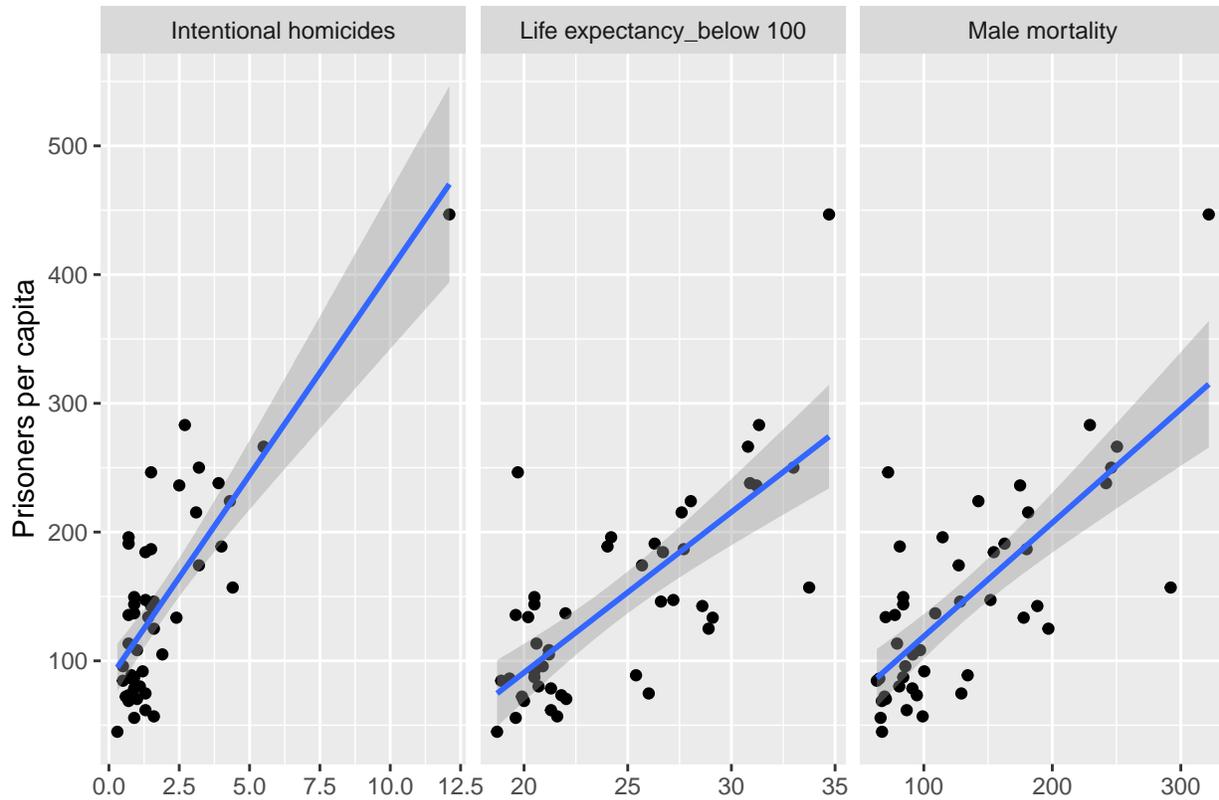


Figure 4.3: Correlation with the prisoner rate

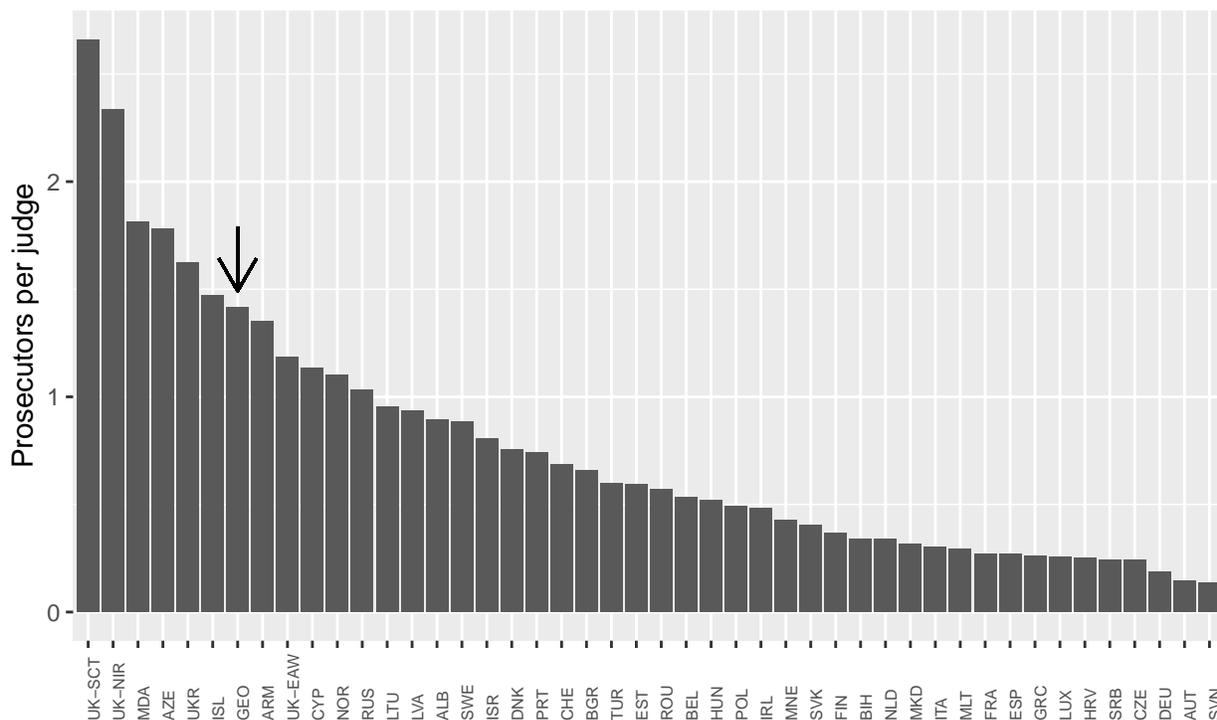
The number of prisoners per 100,000 inhabitants is another relevant indicator. If the number of murders and prisoners is high, we will expect a high number of criminal cases. These two variables are furthermore highly correlated with life expectancy and male mortality, as illustrated in the figure below. Adult mortality rate, male, is the probability of dying between the ages of 15 and 60—that is, the probability of a 15-year-old male dying before reaching age 60. It is measured as the expected number of males (out of 1000) who will die before reaching 60. Life expectancy is the expected life time for a newborn. We have inverted the scale to reflect the number of years below 100.

These two latter variables may be perceived as proxies for poverty. And just as with macro-economic disadvantage, poverty is likely to increase criminal motivation, and increase the number of vulnerable targets. Poor living conditions (as reflected by these variables) are associated with a higher crime rate. And since men commit the majority of crimes, their living conditions matter the most.

We have considered the number of prosecutors as a potential indicator for judicial workload and demand in criminal cases, but we have decided not to use it. The reasoning for using this indicator would be, that a high number of prosecutors could indicate a high crime level, but also that a high number of crimes are prosecuted and sent to court.

However, as outlined in detail in appendix C, a high ratio of judges to prosecutors, as it is found in Georgia, does not necessarily imply a higher workload for judges. Historically Georgia's justice system has been "prosecution driven", implying an inquisitorial procedural model, very high conviction rates, that most of the criminal cases were settled by the prosecutor's office through plea-bargain agreements, and that a substantial amount of cases would never reach the court.

In recent years the role of the prosecutor has been restricted somewhat, and an adversarial procedural model has been introduced. But as argued in appendix C this weakening of the position of prosecutors may actually



Data source: CEPEJ.

Figure 4.4: Prosecutors per judge

have increased the workload of courts.

Summing up, with the aim to establish a robust indicator for criminal case workload we find it- given the empirical evidence - justified to rely on the following indicators:

- 1) Macroeconomic disadvantage (World Economic Forum indicator)
- 2) The proportion of males aged 15 or above who are unemployed
- 3) the proportion of males (age 25+) without a completed post-secondary education
- 4) The number of prisoners per 100.000 inhabitants
- 5) The number of homicides per 100.000 inhabitants
- 6) life expectancy (number of years below 100)
- 7) Male mortality: the number of 15-year males (out of 1000) who will die before age 60.

4.2 Civil and commercial case workload

In a similar way we have analyzed variables having a high correlation with the number of civil and commercial litigations per 100.000 inhabitants (litigation rate). We recognize, of course, the existence of non-litigious civil cases. But we consider it fair to assume that litigations in general require a very substantial amount of work from judges.

It turns out that the number of civil and commercial litigations per capita has a strong negative correlation with various indicators measuring the quality of policymaking, governance and the legal framework. This

should come as no major surprise, since bad legislation and unclear laws could indeed cause more legal disputes. As noted by Palumbo et al. (2013) good-quality regulation and a timely and effective implementation of policies reduce the likelihood of conflicts both between private parties, and between the State and the private sector. By reducing the transparency and certainty of the business environment, the presence of corruption can have an opposite influence on the frequency of disputes.

Furthermore, a variable measuring the amount cooperation in labor-employer relations also has a strong negative correlation with the litigations rate. This also makes a lot of sense, in that lack of cooperation between workers and employers is most likely to lead to more litigation.

We have identified the four variables having a particular high correlation with the litigation rate. Three of the variables are formed directly from the questions from the World Economic Forum Executive Opinion Survey:

1. Transparency of government policymaking:

- In your country, how easy is it for companies to obtain information about changes in government policies and regulations affecting their activities? [1 = extremely difficult; 7 = extremely easy]

2. Cooperation in labor-employer relations

- In your country, how do you characterize labor-employer relations? [1 = generally confrontational; 7 = generally cooperative]

3. Efficiency of legal framework in settling disputes

- In your country, how efficient are the legal and judicial systems for companies in settling disputes? [1 = extremely inefficient; 7 = extremely efficient]

Furthermore, an indicator reflecting several sub-indicators relating to government efficiency is also correlated with litigations. This indicator includes the following sub-indicators:

- Wastefulness of government spending
- Burden of government regulation
- Efficiency of legal framework in challenging regulations

We have inversed all these indicators so that a high value (7) indicates bad performance. The correlations are shown below.

Summing up, with the aim to establish a robust indicator for civil and commercial case workload we find it - given the empirical evidence - justified to rely on the following indicators:

1. Intransparency of government policymaking:
2. Lack of cooperation in labor-employer relations
3. Inefficiency of legal framework in settling disputes
4. Government inefficiency

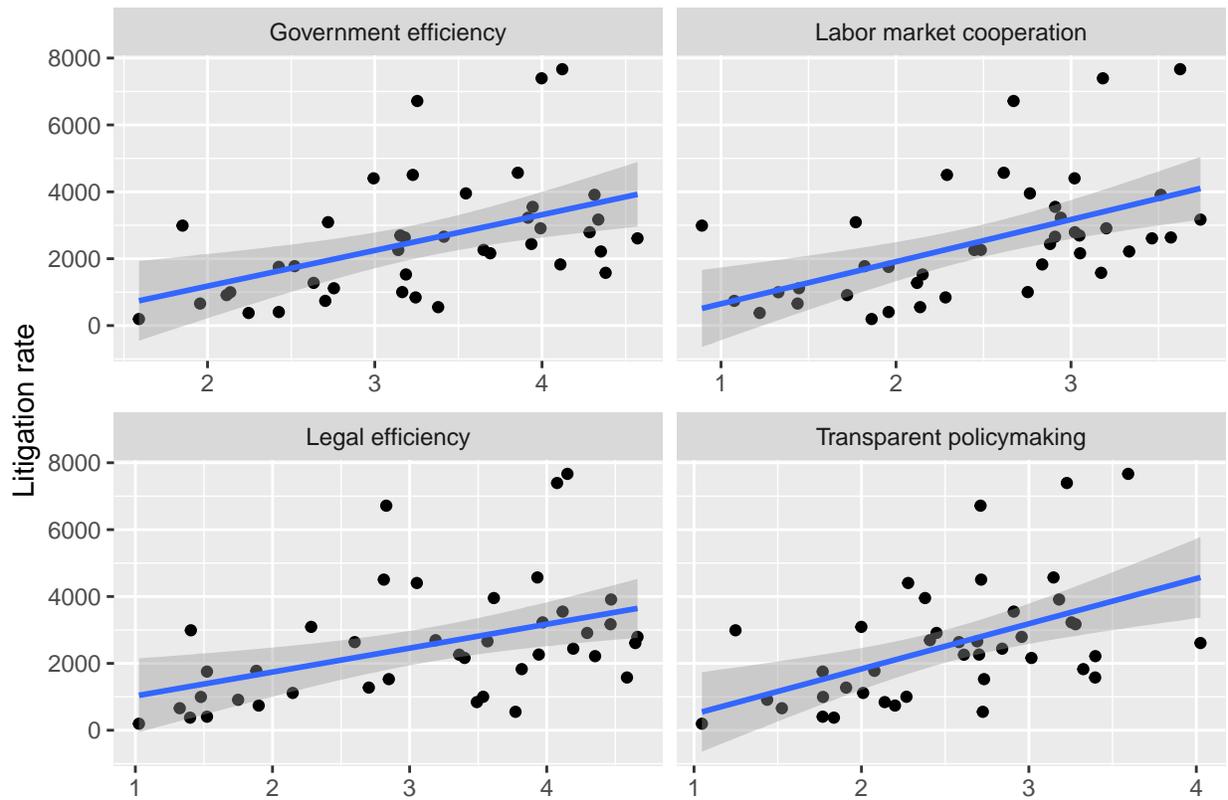


Figure 4.5: Correlation with the litigation rate

4.3 Administrative case workload

When analyzing the administrative case rate (number of administrative cases pr. 100.000 inhabitants) we have excluded Russia which turns out to be an extreme outlier with a huge number of reported administrative cases. Looking at the remaining countries in the sample we find that the administrative case rate is correlated with subsidies and other transfers (as % of expenses). This include all unrequited, nonrepayable transfers on current account to private and public enterprises (social security, social assistance benefits, and employer social benefits in cash and in kind).

It does indeed appear reasonable to assume that there is a positive correlation between the amount of public subsidies and transfers and the administrative case rate.

The administrative case rate is furthermore highly correlated with an indicator for social trust, and also with the number of daily newspapers per 1000 people, and government expenditure on tertiary education as % of GDP.

The indicator for social trust is derived from the European Social Survey. People have been asked the following: “generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can’t be too careful and 10 means that most people can be trusted.” For each country, we have calculated the average score on this scale. For countries not included in the European Social Survey, the indicator has been estimated from the similar question in the World Values Survey.

One possible interpretation of the positive correlation between social trust and the administrative case rate is that in order for a civilian to confront public authorities in a court case, there has to be some basic trust in the system. Furthermore, it may be hypothesized that a high newspaper coverage and a high level of investment in tertiary education increase the capacity for initiating administrative cases.

Since the indicator for the number of daily newspapers has not been updated recently, we do not use it for the subsequent analysis.

There is apparently almost no existing research on the possible causes of differences in administrative cases rates. Furthermore, it appears highly likely that structural differences, e.g. the existence administrative “quasi-courts” as discussed in chapter 6, may have a major impact on the number of administrative court cases. For these reasons, we may want to be careful not to assign too much weight to these indicators. In chapter 5 we discuss how we limit the weight the individual indicators will have on the overall estimate for the need for judges.

With this caveat, we find it reasonable to rely on the following indicators for administrative case workload:

1. Subsidies and transfers as % of expenses
2. Social trust
3. Expenditure on tertiary education

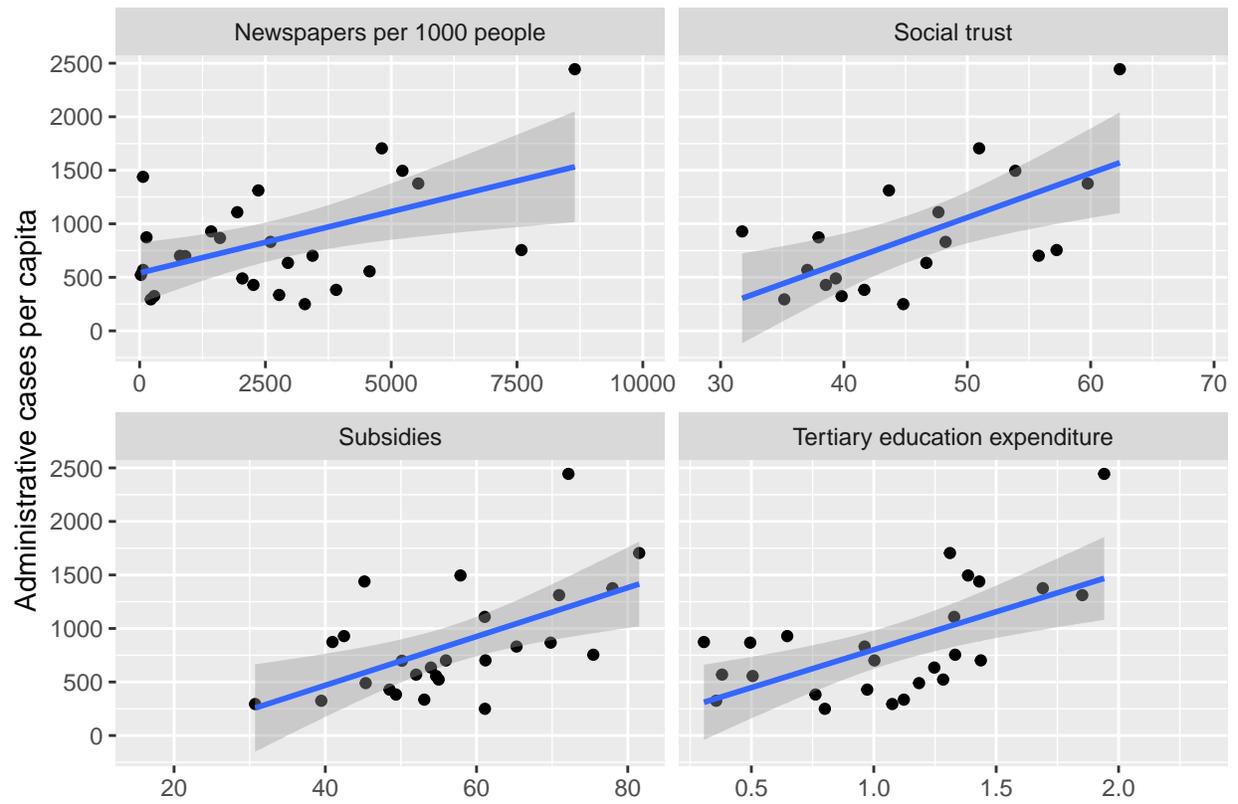


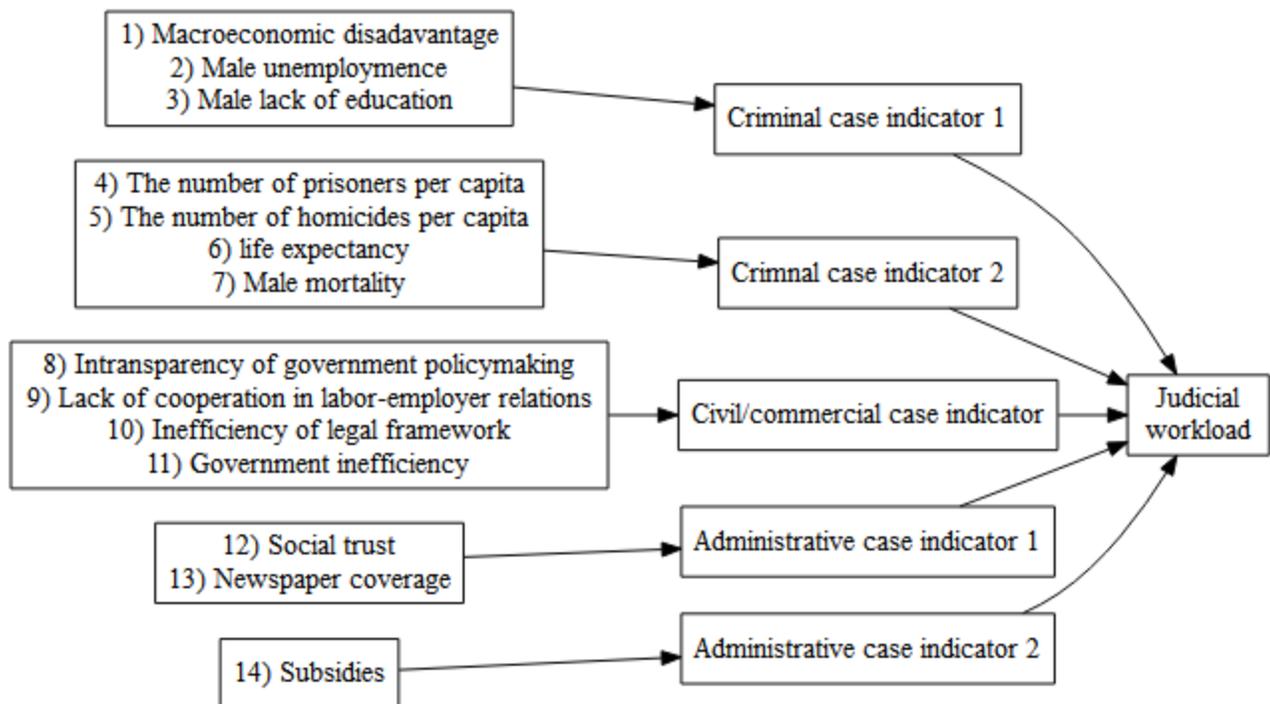
Figure 4.6: Correlation with the administrative case rate

4.4 Factor analysis

All in all, we have identified 14 judicial workload indicators. We have applied factor analysis to further structure the data. It turns out that the 14 sub-indicators fit into an overall model with five factors: One factor representing civil/commercial workload; two factors representing criminal case workload; and two factors representing administrative case workload.

We have used two slightly different methods to aggregate the 14 sub-indicators into the five workload indicators. The first method simply calculates the value of the aggregate indicator by taking the mean of the standardized values on the sub-indicators. This is the conventional approach. Missing values on sub-indicators have been imputed using a random forest approach.

The second method applies a confirmatory factor analysis, including the 14 sub-indicators AND the CEPEJ data for criminal, administrative and civil/commercial cases per capita. This model has been used to predict a value for each of the five workload indicators. Since we do not wish to let the reported number of cases for any specific country be reflected in the calculated workload indicator, we have neutralized these values when making the prediction.



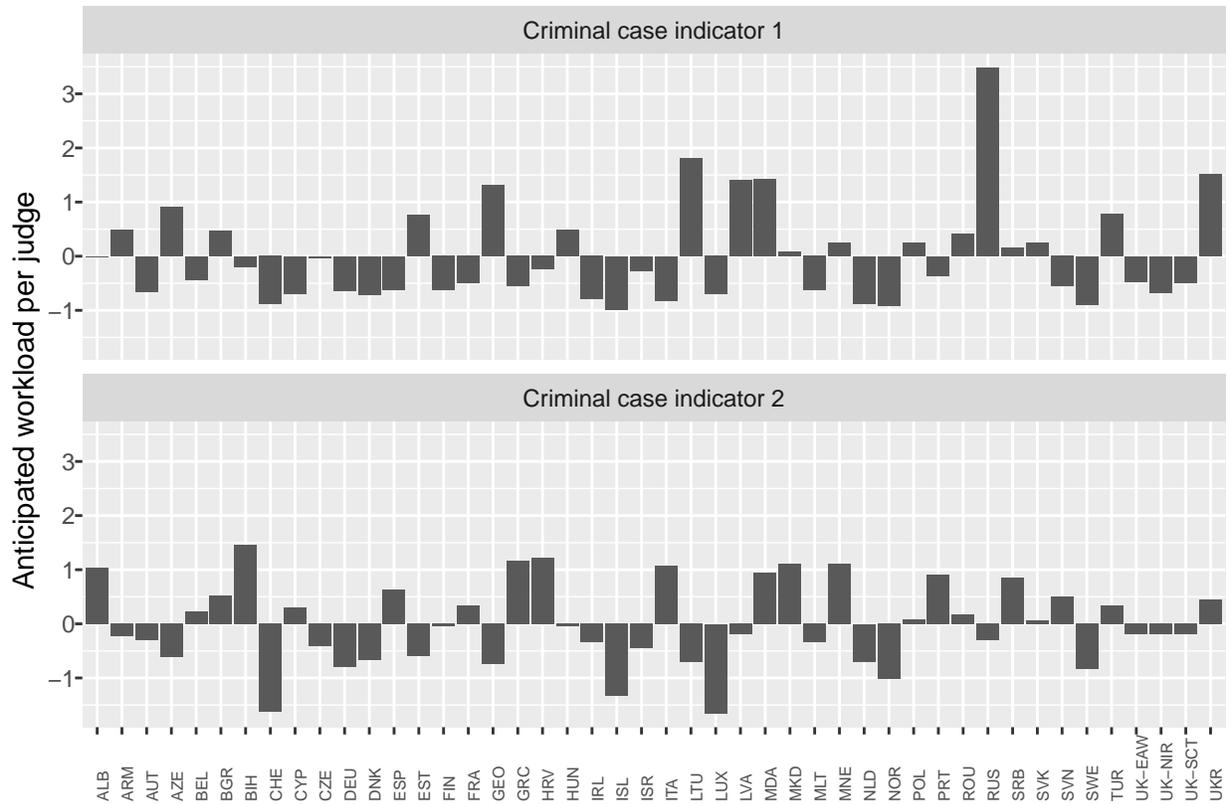


Figure 4.7: Criminal case indicators

The figure below shows the scores for the two criminal case indicators (according to the method aggregating the indicators by taking the mean of the standardized values on the sub-indicators). For Georgia indicator 1 is clearly above average, implying that criminal case workload per capita might be higher than the European average. The second indicator, however, is clearly below average, indicating that criminal case workload per capita may be lower than average.

For civil/commercial cases the indicator value for Georgia is close to the European average.

For administrative cases the indicator values for Georgia are below average, mostly so for indicator 1.

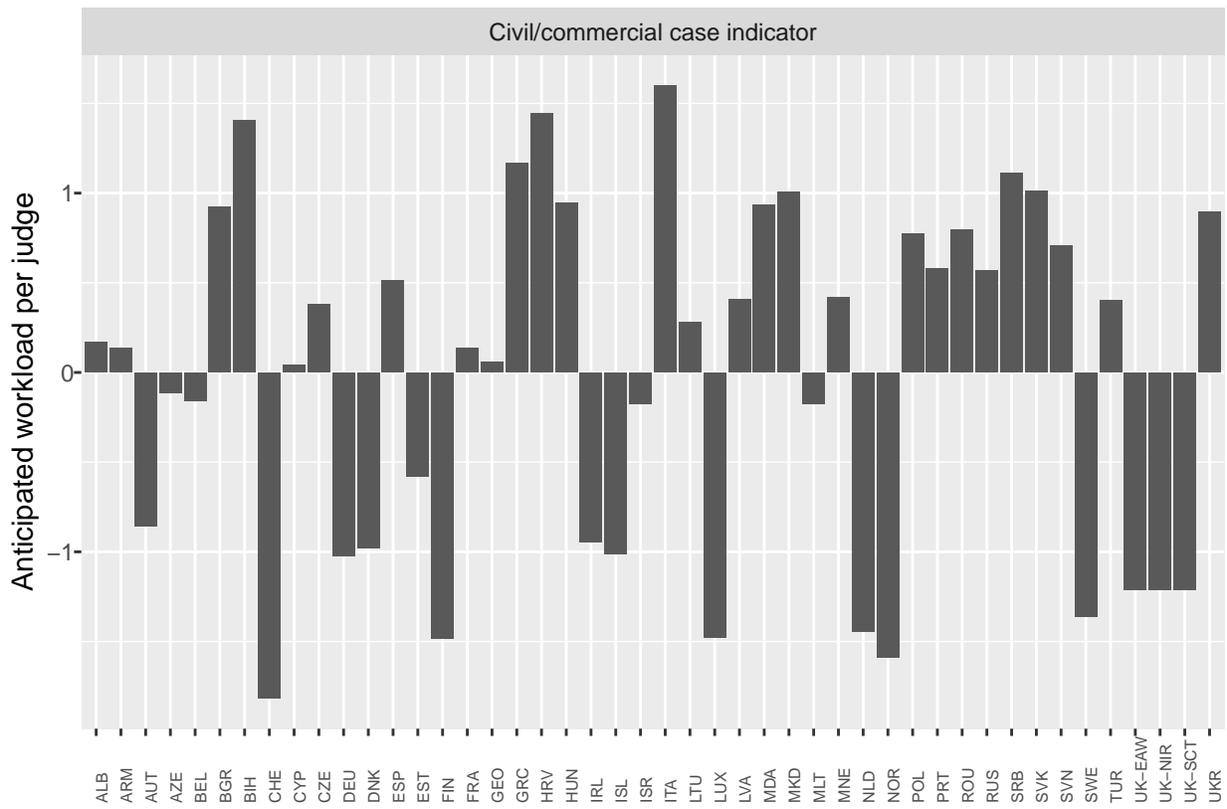


Figure 4.8: Civil/commercial case indicators

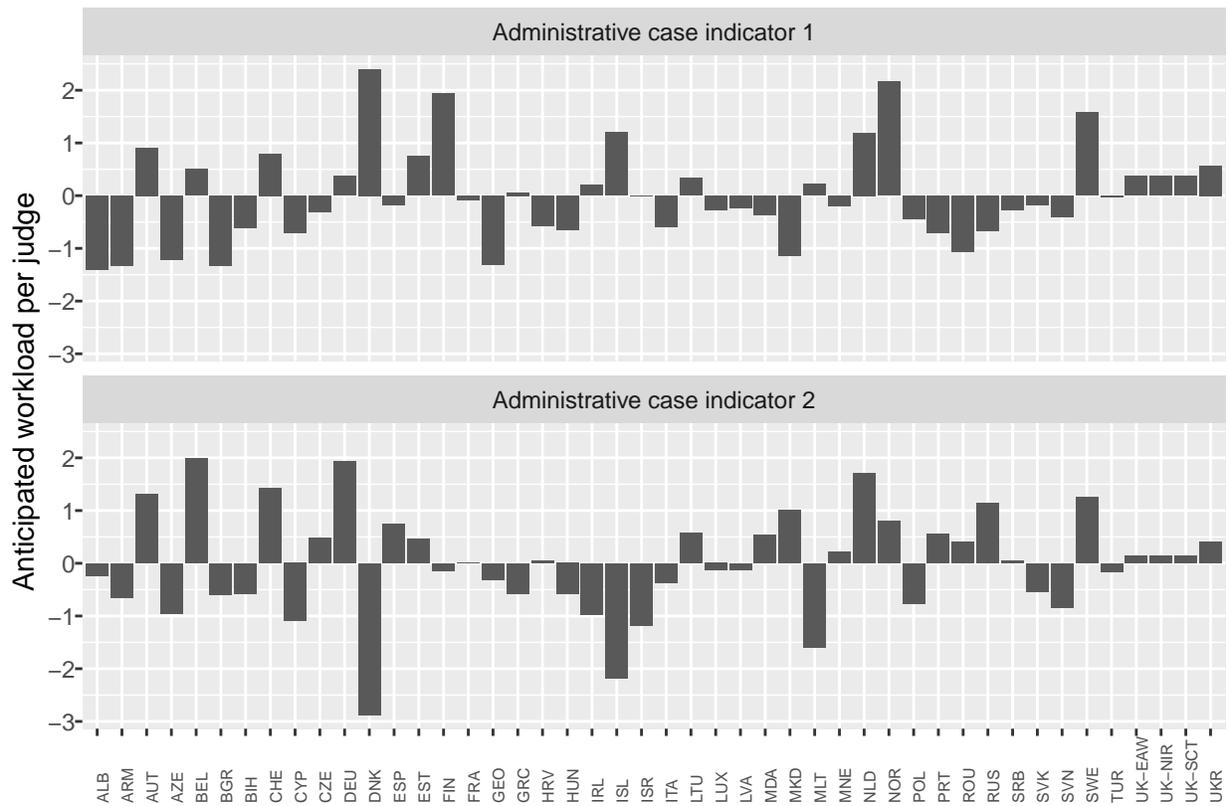


Figure 4.9: Administrative case indicators

Chapter 5

Assessment of the need for judges in Georgia

The five workload indicators, established and presented in the previous section, provide a unique opportunity to assess the need for judges in any particular country. In contrast to more traditional approaches, these indicators do not depend upon the number of cases reported (to CEPEJ) by any particular country. Furthermore, these indicators do not naively assume that population size is the only variable that matters when assessing the number of judges. The approach recognizes that social, demographic, political and economic variables have a substantial impact on judicial workload, and thus the need for judges.

To benchmark the number of judges in Georgia against other countries from the 5 workload indicators, we use Data Envelopment Analysis (DEA)¹. One of the main advantages with the DEA method is that it can handle multiple inputs and outputs and weight them together. Furthermore, DEA assumes we want the Georgian judiciary to be efficient, implying that we want to be able to say that the workload of Georgian judges is not lower than in other European countries (see below how we relax this assumption, though).

The approach can be illustrated as in the figure below. For illustrative purposes, we consider here only two workload indicators. On each axis we depict - for a number of countries - a workload indicator divided by the number of judges. From this we use DEA - a linear programming technique - to calculate an efficient front, illustrated by the line combining the points A, C, D and E. If Georgia lies outside this front, as in the illustrated example, it will need to increase the number of judges to reach the efficient front (In DEA-terminology Georgia is “super-efficient”). This implies that Georgia could increase the number of judges and remain efficient compared to all other countries in the sample. On the other hand, if Georgia is located as country B in the diagram, it will need to reduce the number of judges to reach the efficient front.

¹See Bogetoft and Otto(2011) for an in-depth presentation of DEA

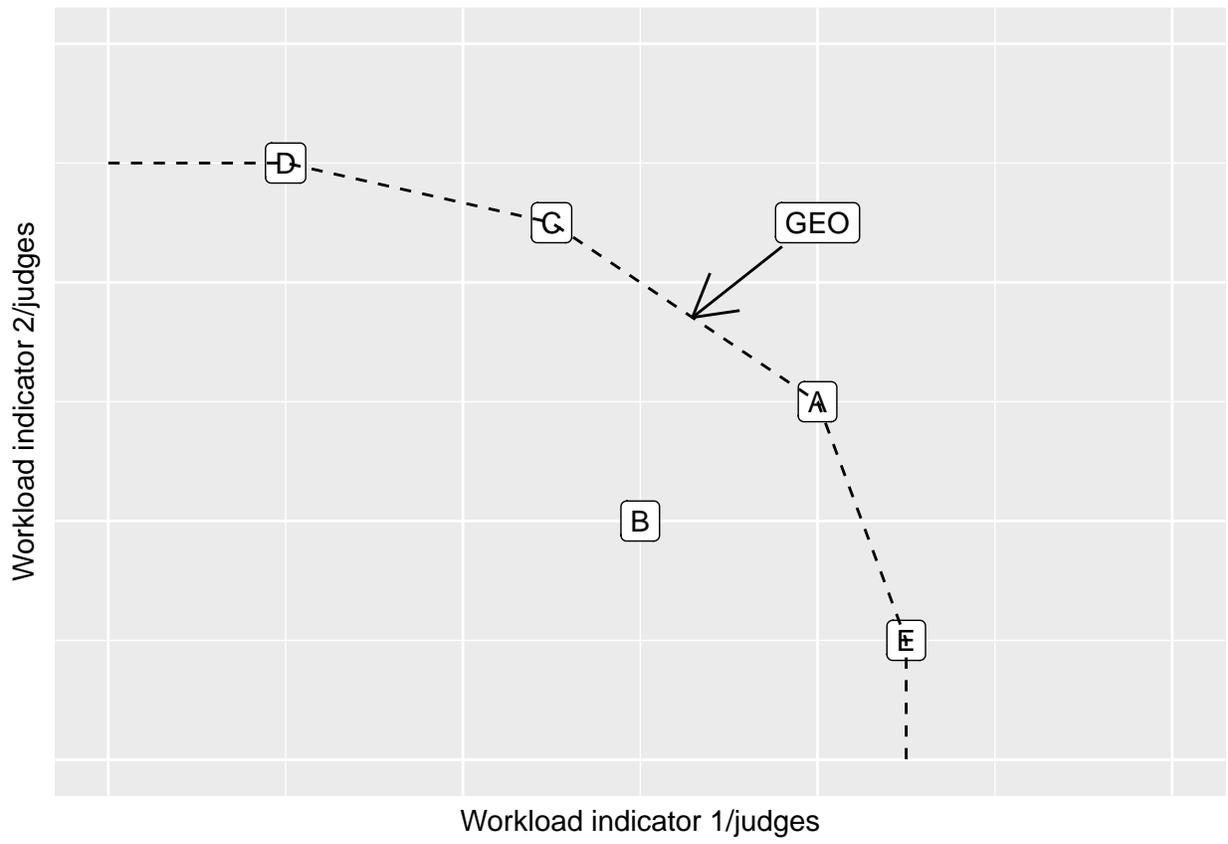


Figure 5.1: Illustration of the DEA-model

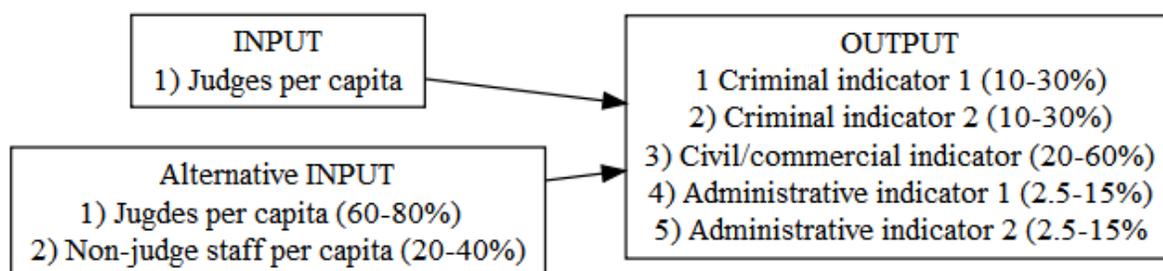
The DEA-method weighs together - for each country - the five workload indicators. In the standard version of DEA the weights can vary freely. This is ideal if we have no assumptions about the relative importance of the individual workload indicators.

However, given that most countries have more civil/commercial and criminal cases than administrative it may be relevant to assume these indicators should have a certain minimum weight. In the applied model we have assumed that the civil/commercial indicator have a weight of minimum 20 pct. and maximum 60 pct., reflecting that civil/commercial cases take up between 20 pct. and 60 pct. of total judge worktime.

Similarly, we have assumed that the combined weight for the two criminal case indicators varies between 20 pct. and 60 pct. For administrative case workload we assume that the combined weight of the two indicators varies between 5 pct. and 30 pct.

As input to the model we consider the number of professional judges plus “rechtspfleger” in each country as reported in the latest CEPEJ-report.²

It is also relevant to consider how much support each judge receives from nonjudge court staff. For this reason, we have tested an alternative model with judges and nonjudge staff as separate inputs. In this model we make sure judges is assigned a weight of at least 60%.



²As noted by Fabri (2017) we cannot necessarily assume that the different countries count judges in a similar way, so this is an important issue for the qualitative part of the analysis to address.

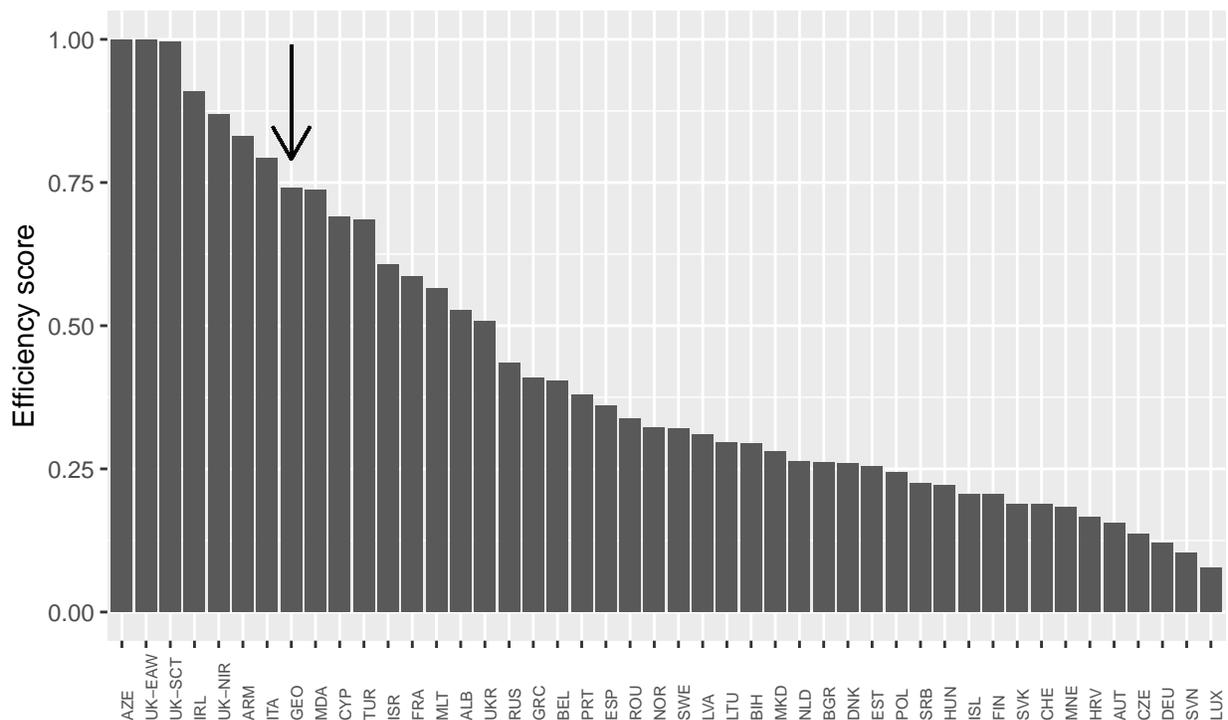


Figure 5.2: Efficiency according to model 1 (all countries)

We have considered various alternative benchmarking models. In the first model (1) we compare Georgia with the entire sample of European countries Figure 5.2 shows the calculated efficiency of the countries in this full model.³ The efficiency score for each country is shown on the vertical axis. An efficiency score of 1 implies that the country is fully efficient. An efficiency score below 1 indicates that in order to become efficient the country would have to reduce the number of judges.

According to this model Georgia is more efficient than the majority of other countries, but not fully efficient. The most efficient “countries” are England-Wales and Scotland. Azerbaijan and Armenia also appear to be more efficient than Georgia.

Table 5.1 shows how many judges Georgia would need if it was to be efficient according to the above model. It shows the comparison with the three most efficient countries. Country 1 is the most efficient, Country 2 the second most efficient, and so on. In the parenthesis is listed the maximum number of judges there could be in Georgia, if the judicial system is going to be efficient. The number listed in parenthesis after country 2 is the optimal number of judges when country 1 is removed from the model. The number listed after country 3 is the optimal number when both country 1 and 2 are removed from the model.

As described in the previous chapter, we have applied two supplementary methods for estimating judicial workload. Method 1 applies equal weights to all sub-indicators, while the weights in method 2 are based on a factor analysis. The table below shows the results for both methods. We also run models both with and without data for non-judge staff, thus resulting in four model variants: 1a-1d.

The models show then that, if all countries are included in the model, the optimal number of judges in Georgia is somewhere between 231 and 253.

³More specifically, the figure represents model 1a below

Table 5.1: Benchmarking with all other countries

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 1a	No	Method 1	AZE (231)	UK-EAW (236)	UK-SCT (238)
Model 1b	No	Method 2	UK-EAW (243)	AZE (243)	ARM (258)
Model 1c	Yes	Method 1	AZE (253)	ARM (255)	IRL (310)
Model 1d	Yes	Method 2	IRL (236)	ARM (237)	AZE (271)

It may be argued that it is most relevant to compare Georgia primarily to other countries with a civil law legal system. The Common Law system has a very different structure, and as argued by Fabri (2017) one obvious explanation for the low number of judges in Great Britain is that 95% of criminal cases are handled by magistrates (23,270 were reported in 2012, and 19,253 in 2014). They are volunteers without any legal expertise, and very limited training, and they are not reported as professional judges.

If Georgia wants to move toward a Common Law system, it may be able to cope with a decrease in the number of professional judges. If however, the present system is to be retained, comparison should be made to other civil law countries.

It may in addition be argued that Azerbaijan and Armenia are not the most relevant countries for comparison with Georgia. Unlike Georgia, these two countries have not signed an association agreement with the EU implying the lack of a current European perspective. Furthermore, Azerbaijan and Armenia score much lower than Georgia on various quality indicator, including the Corruption Perception Index. For the same reason, we have also decided to remove Turkey from this model.

If we remove Azerbaijan, Armenia, Turkey and the Common Law countries from the model, the result is as shown in figure 5.3. Now Georgia achieves an efficiency score higher than 1. In DEA-terminology it is “super-efficient”, implying Georgia may increase the number of judges and still remain efficient compared to all other countries in the model.

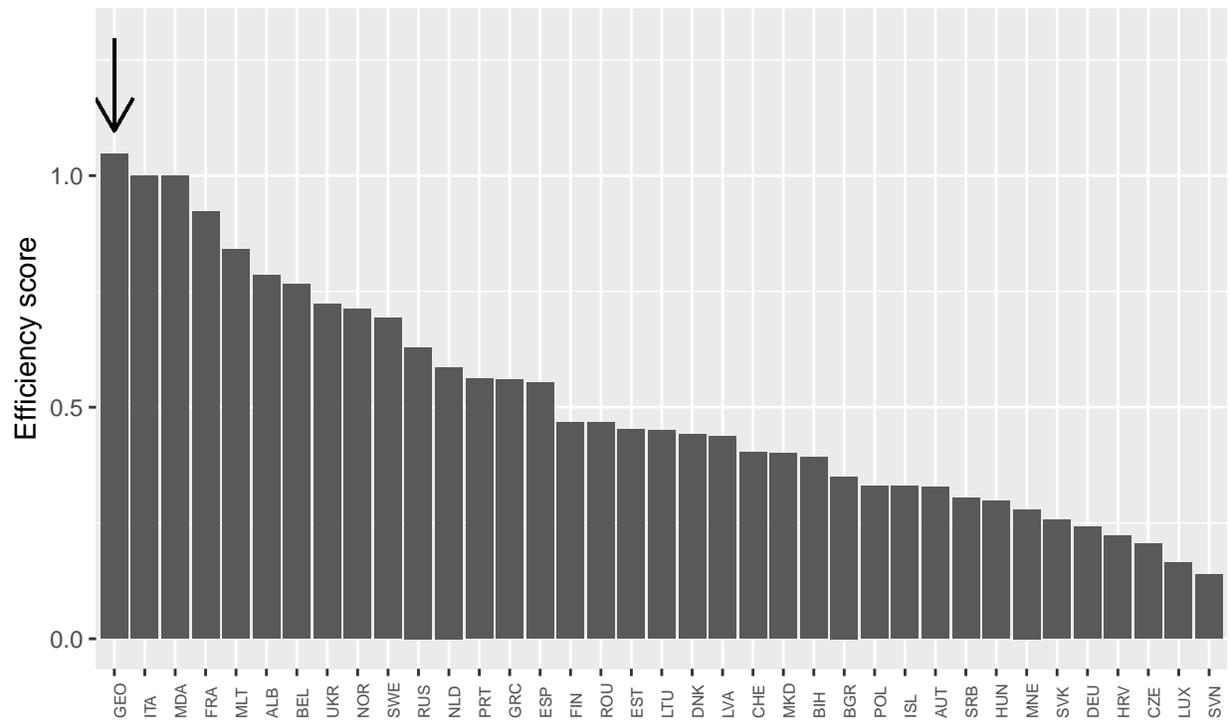


Figure 5.3: Efficiency according to model 2 (limited number of countries)

Table 5.2: Benchmarking with AZE, ARM and Common Law removed

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 2a	No	Method 1	MDA (327)	ITA (373)	FRA (422)
Model 2b	No	Method 2	MDA (324)	ITA (359)	UKR (431)
Model 2c	Yes	Method 1	ITA (344)	MDA (377)	FRA (386)
Model 2d	Yes	Method 2	NOR (332)	ITA (332)	MDA (384)

If Azerbaijan, Armenia, Turkey and the Common Law countries are removed from the model, the optimal number of judges in Georgia is, as listed below, between 324 and 344. The most efficient countries for comparison are Moldova, Norway and Italy.

We may consider to limit the benchmarking model further to include only countries with a high quality judicial system. There is no consensus on one unique indicator to measure the quality of a judicial system, but one indicator, often referred to, is the corruption perception index (CPI) from Transparency International. Although the CPI score measures corruption in general, and not just in the judicial sector, it may provide a reasonable approximation.

If we limit the benchmarking model to include only countries with a higher 2017 CPI score than Georgia, the results are as depicted below. Georgia is now even more super-efficient, implying that it could increase the number of judges substantially and still remain efficient.

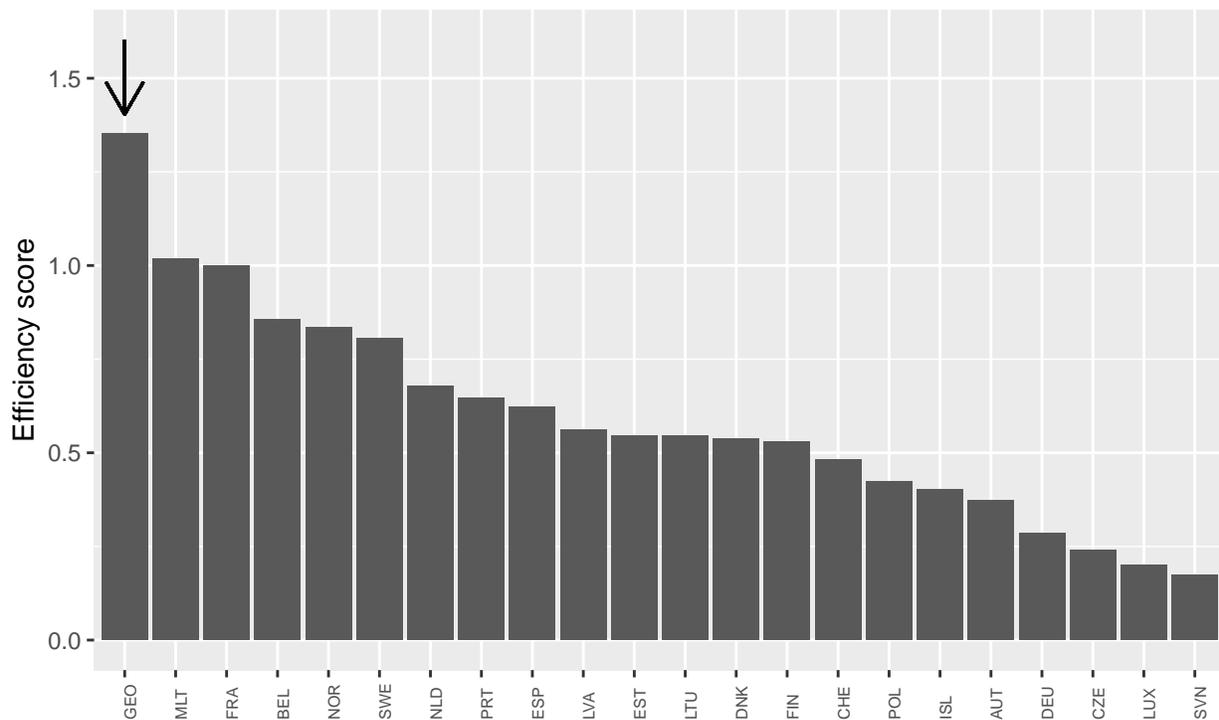


Table 5.3 shows the optimal number of judges according to this model.

The optimal number is then between 394 and 445. The most efficient of the remaining other countries is France.

Table 5.3: Benchmarking with countries with higher CPI score

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 3a	No	Method 1	FRA (422)	BEL (606)	PRT (664)
Model 3b	No	Method 2	FRA (445)	BEL (608)	NOR (653)
Model 3c	Yes	Method 1	FRA (394)	ISL (572)	DNK (572)
Model 3d	Yes	Method 2	FRA (415)	DNK (565)	ISL (565)

As an alternative, we may decide to compare Georgia only with countries with higher judicial independence, as measured by the World Economic Forum indicator (average over the last 4 years:2015-2018). The results are very similar.

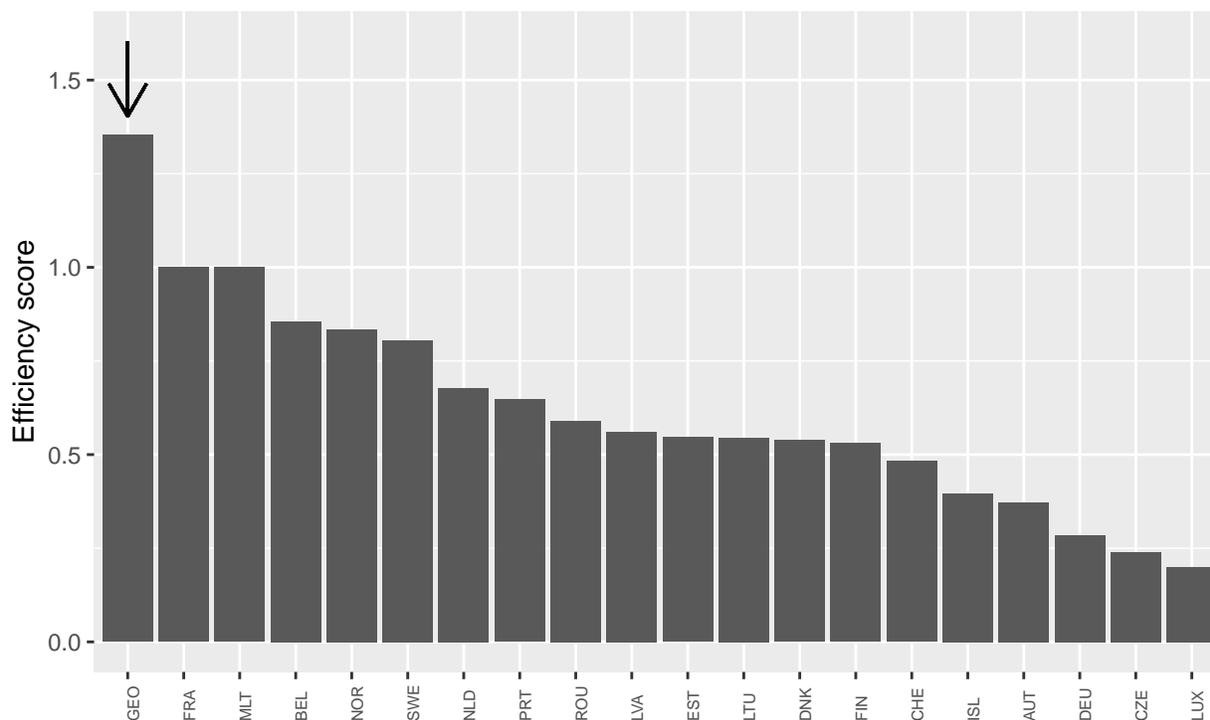


Table 5.4: Benchmarking with countries with higher judicial independence

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 4a	No	Method 1	FRA (422)	MLT (461)	BEL (606)
Model 4b	No	Method 2	MLT (441)	FRA (445)	BEL (608)
Model 4c	Yes	Method 1	FRA (394)	ISL (572)	DNK (572)
Model 4d	Yes	Method 2	FRA (415)	ROU (530)	DNK (565)

Finally, if we decide to compare Georgia only with other countries with a German legal origin, the result is that between 667 and 764 judges will be needed, and Latvia is the most important country for comparison

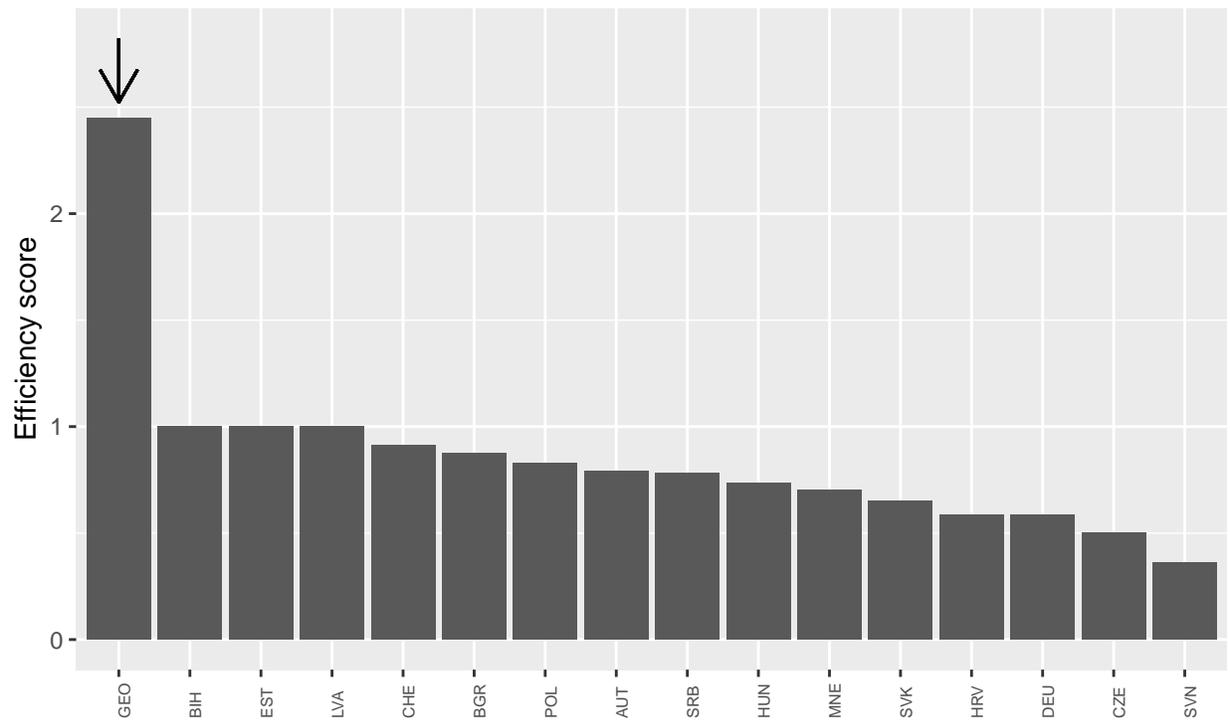


Figure 5.4: Benchmarking with countries with German legal origin

Table 5.5: Benchmarking with countries with German legal origin

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 5a	No	Method 1	LVA (764)	EST (883)	CHE (945)
Model 5b	No	Method 2	LVA (714)	EST (876)	BIH (930)
Model 5c	Yes	Method 1	LVA (714)	HUN (803)	BIH (803)
Model 5d	Yes	Method 2	AUT (667)	LVA (667)	HUN (797)

Out of the five models presented above we will put most weight on models 2, 3 and 4. The reason for this is that we consider it too problematic to imply Georgia should adopt practices from Azerbaijan, Armenia or the Common Law countries (model 1). On the other hand, we find it too restrictive to assume Georgia can only be compared to other countries with German legal origin.

Chapter 6

Qualitative analysis: Comparison with six other countries

This chapter presents the main conclusions from the comparative qualitative analysis of Georgia and six other countries which - based on the quantitative analysis in this report - are considered to be the most relevant countries for comparison with Georgia when it comes to assessment of the workload of judges. The six countries are: Azerbaijan (AZE), France (FRA), Italy (ITA), Latvia (LVA), Moldova (MDA) and Norway (NOR).

The countries have been selected because the results from the quantitative analysis, presented in the previous chapter, are most sensitive to exactly these countries. They are the countries which – according to our models – have a ratio of estimated judicial workload to judges which is closest to that of Georgia. For example, model 2a implies that Georgia could increase the number of judges to 350 and even though have a higher or similar efficiency as all the other countries in the sample. The country that according to model 2a “stops” Georgia from increasing the number of judges even more is Moldova. If Georgia increases the number of judges to a higher number than 350 it will – according to model 2a – become less efficient than Moldova. For this reason, it is especially important to check the data for a country like Moldova. If we have reason to believe the “real” ratio of estimated judicial workload to judges in Moldova is in fact higher, then the estimate for the number of judges in Georgia should be revised downwards. On the other hand, if we have reason to believe the real ratio for Moldova is in fact lower, then the estimate for the number of judges needed in Georgia should be revised upwards

We do not argue that the selected countries are particularly similar to Georgia. Some of them, like Norway and France, are indeed in many ways very different.

Azerbaijan has been selected because it is one of the few countries in the sample - except for Common Law countries - appearing to have a higher anticipated workload per judge than Georgia (model 1).

Moldova, Italy and Norway have been selected because, if we remove Azerbaijan, Armenia and the Common Law countries from the model (model 2), these countries are the ones with a workload ratio most similar to that of Georgia. All of them have a lower anticipated workload per judge than Georgia. This means that Georgia could increase the number of judges up to the level defined by Moldova, Italy and Norway and still remain more efficient than all other countries in the sample. This makes it especially interesting to test whether there could be reasons to question the assertion (not reflected in the quantitative data) that Georgia has a higher workload than Moldova, Italy and Norway.

France has been selected because, if we benchmark only with countries with a higher score on the Corruption Perception Index (model 3), or the judicial independence index from the World Economic Forum (model 4), France is the most efficient other country within this group. Georgia could therefore increase its number of judges up to the level defined by France and still remain efficient compared to all the countries within this group of countries with an estimated high quality of justice.

Latvia has been selected because, if we benchmark only with countries with German legal origin (model 5), Latvia is the most efficient other country within this group. Georgia could therefore increase its number of judges up to the level defined by Latvia and still remain efficient compared to all the countries with a German legal origin. The comparative analysis focus on characteristics which could potentially question the validity of the purely quantitative analyses. This includes:

- Differences in the way professional judges are defined and counted. This study relies on CEPEJ-data, but the different countries may not have a uniform approach for counting judges. For instance, some countries appear to have omitted reporting certain types of judges. Some countries have reported the number of judges according to the Full-time-equivalent-method, while others have not.
- Differences in the assistance judges receive. The amount assistance judges receive, both in the form judicial assistants and clerks, and in the form case-management and ICT systems, may impact the “real” workload of judges.
- Differences regarding the existence of autonomous or semi-autonomous bodies handling administrative or civil complaints (“quasi courts”), or alternative dispute resolution mechanisms which may in some countries handle cases, courts would otherwise handle.
- Differences regarding work performed by non-professional judges.
- Different barriers and incentives to initiating cases. Court fees, or requirements to be represented in court by a lawyer, or access to appeal may impact the number of cases reaching courts. Other incentives may impact litigation rates. As argued by Ramseyer and Rasmusen (2010), the degree of predictability of court decisions may have a large impact. The more predictable the outcome of a litigation process is, the more likely it is that the case can be settled without bothering the court system. Thus, the existence and publication of decisions guidelines may lower litigation rates. Furthermore, as shown by Bielen et al. (2018) severe backlogs could have a negative impact on litigation rates, since people will be less inclined to initiate litigation if they expect cases to drag on for a very long time.
- Differences regarding the types of non-litigious cases reaching courts. E.g. in some countries courts handle consensual divorces, or carry out notary functions, while not doing so in other countries.
- Differences regarding specialization. the requirement to decide cases in panels, and the number of court layers.
- Differences regarding backlogs. Seen from a long-term perspective only the workload associated with incoming cases matters. Present backlogs should not impact the number of judges needed long term. However, it may temporarily be necessary to have higher number of judges to reduce backlogs to a tolerable level. In addition, as argued above, severe backlogs could have a negative impact on litigation rates.

Appendix D contains detailed information about Georgia with relation to the issues listed above. The detailed analysis of the six countries is contained in appendix E. The information has (except for Norway) been provided by legal professionals from the respective countries, and it is supplemented with internet-based research. It has not been possible to cover all the issues mentioned above for all countries, but at least the analysis should provide a rough indication about whether we should question the results from the quantitative analysis. The table below summarizes the finding of the qualitative comparative analyses, and the anticipated impact on judicial workload.

A green color indicates that the judges in the specified country is actually better off (have less work per judge) than indicated by the 2014-CEPEJ-data we have used in the comparative analysis . So for instance in Norway, the reported number of judges does not include approximately 150 deputy judges. In contrast, a red color identifies items which may increase (relative to Georgia) judicial workload. For example, the comprehensive legal aid system in Norway may contribute to an increased workload per judge.

Color codes

Strongly decrease workload
Decrease workload
Neutral
Increase workload
Strongly increase workload

Additional qualitative information about:	Azerbaijan	France	Italy	Latvia	Moldova	Norway
Judges	Decrease workload	Neutral	Strongly decrease workload	Neutral	Strongly decrease workload	Strongly decrease workload
Assistance to judges	Neutral	Neutral	Neutral	Neutral	Increase workload	Neutral
Quasi courts, mediation and non-professional judges	Increase workload	Neutral	Decrease workload	Neutral	Neutral	Strongly decrease workload
Other functions	Increase workload	Neutral	Neutral	Neutral	Neutral	Neutral
Predictability	Neutral	Neutral	Neutral	Decrease workload	Decrease workload	Neutral
Accessibility	Neutral	Neutral	Neutral	Neutral	Neutral	Strongly increase workload

The main conclusion from the qualitative analysis is that the estimated workload for these 6 other countries is likely the same – or lower – if we take the additional information into account. This implies that the need for judges in Georgia is likely similar to or higher than what is indicated by the quantitative models. In Moldova the number of judges has increased by more than 10% since 2014. If we had used updated data for the numbers of judges in Moldova, we would therefore find Moldova to have a much lower ratio of estimated workload per judge.

In Italy the number of judges reported to CEPEJ (6.939 in 2014) does not include administrative judges. We have not been able to obtain updated data for the number of administrative judges, but a 2009-report estimates that the number is more than 5.000 (including “tax judges”). If we take these additional judges into account, we will find Italy to have a much lower ratio of estimated workload to judges.

In Norway, as mentioned, deputy judges (150 in 2017) are not included in the number of judges reported to CEPEJ (559 in 2014). Furthermore, mediation is mandatory and the mediation system may have prevented 77.000 litigation disputes from reaching the court system in 2017¹. These factors are likely to outweigh the fact that Norway has a very comprehensive legal aid system. If taken into account, we will likely find Norway to have a much lower de facto ratio of workload to judges.

The qualitative analysis should make us reconsider the results from model 2 (see previous chapter). If we adjust the number of judges in Italy, Moldova and Norway according to the new information, the results are as shown in table 6.1

According to the updated model 2, the optimal number of judges in Georgia is, as listed below, between 380 and 394.

The overall conclusion from both the quantitative and the qualitative analysis is then that the number of judges in Georgia should be in the range between 380 and 450. The lower bound in this range is determined by the updated model 2 (this chapter). The upper bound in the range is determined by model 3 and 4 (previous chapter). Model 3 and 4 excludes the countries with a lower score than Georgia on the corruption

¹www.forlikssraadet.no

Table 6.1: new model 2 with updated data

Model variants	Include other staff?	Method	Country 1	Country 2	Country 3
Model 2e	No	Method 1	MDA (383)	FRA (422)	MLT (461)
Model 2f	No	Method 2	MDA (380)	UKR (431)	MLT (441)
Model 2g	Yes	Method 1	FRA (386)	MDA (390)	ALB (391)
Model 2h	Yes	Method 2	FRA (394)	MDA (402)	UKR (451)

perception index (CPI) from Transparency International or the judicial independence index by the World Economic Forum.

A reasonable target for Georgia would be to aim for the middle of this range: 410 judges. This would be substantial increase from the current level (around 310 judges), but even with 410 judges, the Georgian courts will - given the current estimates for court workload - have a high ratio of workload to judges when compared to most other countries with well-functioning judicial systems.

Chapter 7

Discussion of backlog

The backlog of cases is often considered as an indicator for the need for judges. There are several problems with doing so:

- A court system may be overburdened by work, and still have a low backlog. This could happen if there are strict timeframes for solving cases and formal or informal sanctions associated with exceeding these. In that case, the work pressure more likely to result in poor and hastened decision-making than in a high backlog.
- A severe backlog may be the result of inefficient organization, and not caused by a lack of judges.
- Seen from a long-term perspective only the workload associated with incoming cases matters. Present backlogs should not impact the number of judges needed long term.

Nevertheless, it is of course relevant to consider the backlog also when analyzing the need for judges. It has been especially difficult to obtain updated comparative data for the development in backlogs. The CEPEJ-measure for backlogs is the estimated disposition time calculated as the number of pending cases (at the end of period) divided by the number of resolved cases in the period, and multiplied by 365. The indicator measures the theoretical time necessary for a pending case to be solved in court in light of the current pace of work (CEPEJ, 2016: 185).

According to the CEPEJ-report based on 2014-data, Georgia has a comparatively short disposition times. For civil and commercial litigious cases the calculated disposition time for Georgian 1st instance courts was around 100 days in 2014. For many other European countries, the disposition time was close to a year, or above that.

Figure 7.1 shows the development for Georgia since 2014. We observe especially a very dramatic increase in the disposition time for 1st instance civil cases. This number has tripled in the period from 2014 to 2017. The disposition time for administrative cases in the courts of appeal has also increased substantially.

For better understanding of the reasons for the backlog in Georgian courts, four focus-group interviews have been conducted with the stakeholders of the Georgian Judiciary – members of the High Council of Justice (HCOJ), judges of the Tbilisi City Court, judicial assistants of Tbilisi City Court, and attorneys (practicing in civil or criminal law). These meetings have demonstrated that the position of stakeholders is unanimous – everyone believes that the current number of judges is low and insufficient. However, these interviews also revealed other, more technical issues that affect the caseload of courts (and cause the delays in proceedings), as well as negatively influence the efficiency of courts in handling these cases. These issues include:

- Lawyers may often deliberately seek to delay cases, and they use the procedures according to the civil procedure code to further this aim. According to the focus group meetings, legislation could be revised in order to strengthen the power of judges for improved case management (to entitle judges not to allow postponements with no justification).

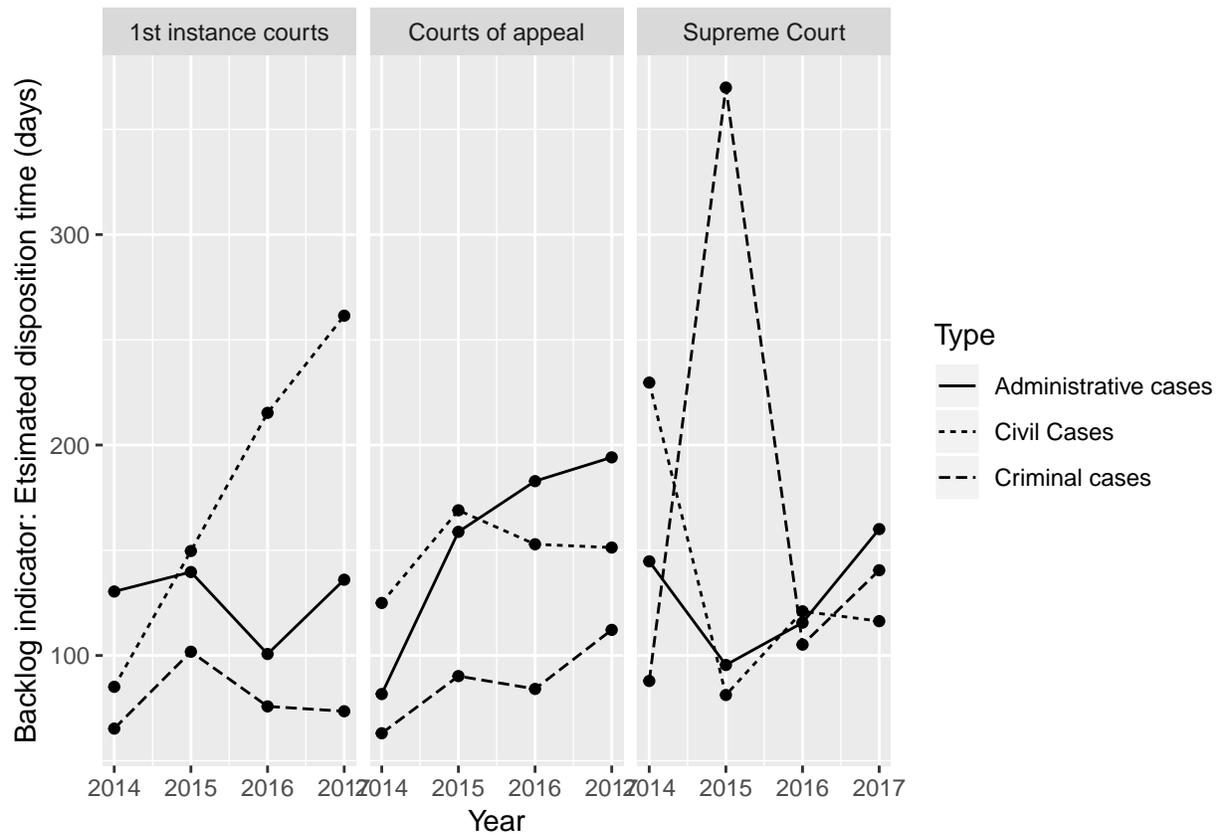


Figure 7.1: Indicator for backlogs in the Georgian courts

- Lack of courtrooms and lack of guards causes delays.
- To increase efficiency more work could be delegated to non-judge staff (recthspfleger's)
- The system for alternative dispute resolution/mediation needs to be improved.
- There are problems in serving court summons

In agreement with the observation above, that the disposition time in civil cases has increased a lot, civil case attorneys complain there is a huge number of cases per judge. One explanation may be that the term of office of several judges expired two years ago and they have not been replaced until recently. Furthermore, the civil attorneys allege that if the judge breaches the provisions of the Civil Procedure Code including the timeframes for the consideration of the cases, the mechanism for imposing a disciplinary responsibility is not effective. As the judges are aware that they will not be held accountable, they handle the cases with the serious breaches of the Civil Procedure Code. Notwithstanding this, the attorneys think that the existing resources are not enough to handle the cases properly and duly.

Appendix F contains the detailed observations from the focus group meetings.

Chapter 8

Conclusion

This study has adopted a demand-driven approach to the assessment of the number of judges. It is assumed the activity in courts in the European countries reflect a demand for judicial services, and that differences between the European countries in the number of cases (criminal, civil/commercial and administrative) per 100.000 inhabitants – at least partly – reflect differences in demand.

As argued by Ramseyer and Rasmusen (2010) the activity in courts is probably not only determined by demand, but also by the supply of judges: Cases may be initiated, and suits may be filed, because of the number of judges the government has appointed. Another important challenge, highlighted by Ramseyer and Rasmusen, is that “a case is not a case”. More specifically, analogous categories of disputes do not generate the same number of “countable” cases in every country.

In support of our demand-driven approach, we have in this study documented how the number of cases (criminal, civil/commercial and administrative) per 100.000 inhabitants correlates highly with factors implicating judicial demand.

For criminal cases, we show that the criminal case rate is strongly correlated with macroeconomic variables. Higher macroeconomic disadvantage, high (male) unemployment, and low levels of (male) education are associated with higher criminal case rates. Our interpretation is that these variables has a causal effect on the level of crime, and that this is reflected in the criminal case rate.

For civil and commercial litigious cases, we find a strong negative correlation with cooperation in labor-employer relations, transparency of government policymaking, efficiency of legal framework and overall government efficiency. Our interpretation is that poor labor-employer cooperation and bad legislation/unclear laws cause a higher number of litigations.

For administrative cases, we find a strong positive correlation between the administrative case rate and the amount of subsidies and other transfers (as share of public expenses). Our interpretation is that a high level of public subsidies and transfers leads to a higher number of administrative cases. We also find the administrative cases rate to be strongly correlated with the level of social trust and expenditure on tertiary education. We find it plausible that a higher level of social trust and general knowledge in the population may lead to a higher number of people who will be willing to, and have capacity to, confront public authorities in court.

All in all, this study identifies 14 indicators reflecting judicial demand. We use factor analysis to aggregate the 14 indicators into 5 indicators for estimated demand-driven judicial workload: Two indicators for criminal case workload, one indicator for civil/commercial case workload, and two indicators for administrative case workload. Since these indicators do not depend upon the number of cases reported (to CEPEJ) by any particular country, they do not suffer from the “a case is not a case”-problem highlighted by Ramseyer and Rasmusen. Our estimates of workload are entirely based on socio-economic and demographic variables.

To benchmark the number of judges in Georgia against other countries from the 5 workload indicators, we use Data Envelopment Analysis (DEA). One of the main advantages with the DEA method is that it can

handle multiple inputs and outputs and weight them together. Furthermore, DEA assumes we want the Georgian judiciary to be efficient, implying that we want to be able to say that the workload of Georgian judges is not lower than in other European countries.

Our benchmarking analysis aims to address some very important additional challenges. First, there are substantial differences regarding the structures of European judicial systems. One may therefore question our ability to compare quantitative data across nations. To address this issue, we have supplemented our quantitative analysis with a qualitative study. Furthermore, we have applied the concept of “legal origin” (LaPorta et al, 2008) to group countries into legal “families”. In appendix B we argue that it is fair to categorize Georgia into the group of countries with a German legal origin.

Another challenge for our benchmarking efforts is that the countries in our study may not have a “proper” number of judges. They could have too few, leading to a bad-functioning court system, or they could have too many, leading to inefficient use of public resources.

To address the first concern (some other countries may have too few judges), we introduce various indicators of judicial quality. In some models, we restrict comparison to other countries with high scores on judicial quality indicators, suggesting our assessment of the proper number of judges in Georgia is only based on well-functioning judicial systems.

To address the second concern (some other countries may have too many judges) we have, as mentioned, decided to require that Georgia remains “efficient” in comparison with the other countries. This implies that the proposed number of judges in Georgia should provide Georgian judges with an estimated workload which is not lower than in any of the other countries it is compared with.

Six countries have been selected for the qualitative analysis: Azerbaijan (AZE), France (FRA), Italy (ITA), Latvia (LVA), Moldova (MDA) and Norway (NOR). They have been selected because the results from the quantitative analysis are most sensitive to exactly these countries.

Our qualitative analysis has focused especially on:

- Differences in the way professional judges are defined and counted. This study relies on CEPEJ-data, but the different countries may not have a uniform approach for counting judges. For instance, some countries appear to have omitted reporting certain types of judges. Some countries have reported the number of judges according to the Full-time-equivalent-method, while others have not.
- Differences regarding the existence of autonomous or semi-autonomous bodies handling administrative or civil complaints (“quasi courts”), or alternative dispute resolution mechanisms which may in some countries handle cases, courts would otherwise handle.

But it includes also several other issues which may potentially impact the need for judges.

The main conclusion from the qualitative analysis is that the estimated workload per judge for these 6 other countries is likely the same – or lower – if we take the additional information into account.

This implies that the need for judges in Georgia is likely similar to or higher than what is indicated by the quantitative models.

Our assessment based on both the quantitative and the qualitative analysis is that the number of judges in Georgia should 410, or in the range between 380 and 450. The lower bound in this range is determined by model 2 in the report. This model includes most European countries with some important exceptions:

- We have excluded the Common Law countries. The Common Law system has a very different structure, not the least because a majority of criminal cases are in some of these countries handled by unprofessional judges.
- We have excluded Azerbaijan and Armenia from the model. Unlike Georgia, these two countries have not signed an association agreement with the EU implying the lack of a current European perspective. Furthermore, Azerbaijan and Armenia score much lower than Georgia on various quality indicator, including the Corruption Perception Index. For similar reasons, Turkey has also been excluded.

- We have – based on the qualitative analysis – updated our estimate for the number of judges in Moldova, Italy and Norway when considering the results from model 2. This is because our qualitative analysis indicates the “real” workload per judge in these countries is (in relative terms when compared to Georgia) lower than what is indicated by the quantitative analysis.

The upper bound in the range, 450, is determined by model 3 and 4. These models excludes the countries with a lower score than Georgia on the corruption perception index (CPI) from Transparency International or the judicial independence index by the World Economic Forum.

Since the present number of judges (including “rechtspflegers”¹) in Georgia is around 310, our estimate points to a need for a substantial increase in the number of judges. This in spite of the fact that our estimate is inherently conservative, since we have required Georgia to have an estimated workload which is not lower than in any of the other countries it is compared with.²

It is beyond the scope of phase one of this project to provide detailed recommendations for how and when such an increase in the number of judges should be implemented. Careful planning is obviously needed to ensure a successful implementation. It is crucial to ensure a sufficiently large pool of qualified candidates for new judge positions exists, and careful consideration is needed for how to best and most efficiently allocate new positions between courts.

In addition, it is important to remember that increasing the number of judges is by itself not a panacea for successfully dealing with problems related to high judicial workload. Our focus group meetings (see appendix F) have revealed several other potential important barriers to efficiency in the Georgian court systems, cf. chapter 7

Phase Two of this project will - if carried out - be an assessment of the distribution of judges and staff among courts with the intent being to construct a smart version of a case weighting system (CWS) and analyzing the court workflow process. An effective case weighting system will be crucial for ensuring an efficient allocation of new positions among courts. The analysis of workflow processes will provide more knowledge about the potential for removing current barriers to optimal work performance in the Georgian courts.

¹Georgia has reported to CEPEJ it had 4 rechtspflegers in 2014. Probably, this refers to 4 clerks with special delegated authority

²Our suggested number is in line with the number of judges Georgia used to have before the radical reforms of the mid-2000's.

References

- Altindag, Duha (2012). “Crime and unemployment: Evidence from Europe”, *International Review of Law and Economics*, Volume 32, Issue 1, Pp. 145-157.
- Bielen, S, Peeters, L, Marneffe, W. and Vereeck, L. (2018). “Backlogs and litigation rates: testing congestion equilibrium across European judiciaries”, *International Review of Law and Economics*, vol. 53, pp. 9-22.
- Bogetoft, P. and Otto, L (2011). *Benchmarking with DEA, SFA, and R*. Springer.
- Buehn, A. and F. Schneider (2016). “Estimating the Size of the Shadow Economy: Methods, Problems and Open Questions”. IZA Discussion Paper No. 9820.
- Cantor, David, Land, Kenneth (1985). Unemployment and crime rates in the post world war II United States: a theoretical and empirical analysis. *American Sociological Review* 50, 317–332.
- CEPEJ (2016). *European judicial systems: Efficiency and quality of justice*. CEPEJ Studies No. 23.
- Fabri, Marco (2017). “Methodological issues in the comparative analysis of the number of judges, administrative personnel, and court performance collected by the Commission for the Efficiency of Justice of the Council of Europe”, *Onati Socio-legal Series*, v. 7, n. 4.
- Gramckow, H. (2012), *Estimating Staffing Needs in the Justice Sector*, *Justics and Development Working Paper Series*, 19, World Bank.
- Kury, Helmuth and Wittrup, Jesper (2010). “Probleme Polizeilicher Kriminalstatistiken in früheren Sowjetländern – Das Beispiel Georgien”, *Osteuroparecht*, vol. 56, pp. 212-31.
- LaPorta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer (2008). “The Economic Consequences of Legal Origins.” *Journal of Economic Literature* 46 (2): 285-332
- Machin, Stephen, Olivier Marie and Sunčica Vujić (2011). “The crime reducing effect of education”, *The Economic Journal*, Vol. 121, No. 552, CONFERENCE PAPERS (MAY 2011), pp. 463-484
- Palumbo, G. et al. (2013), “The Economics of Civil Justice: New Cross-country Data and Empirics”, *OECD Economics Department Working Papers*, No. 1060, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k41w04ds6kf-en>
- Phillips, Julie, Land, Kenneth (2012). “The link between unemployment and crime rate fluctuations: An analysis at the county, state, and national levels”, *Social Science Research* 41, pp. 681–694
- Ramseyer, M. and Rasmusen, E. (2010). *Comparative litigation rates*. John M. Olin Discussion Paper Series no. 681.
- Schneider, F. (2005). “Shadow Economies around the World: What Do We Really Know? “, *European Journal of Political Economy* 21/4, 598-642.
- Schneider, Friedrich (2012). “The Shadow Economy and Work in the Shadow: What Do We (Not) Know?”, *IZA Discussion Paper No. 6423*.