Stepping Down or Getting Pushed?
A Competing Risks Analysis of Ministerial Turnover in the German Länder (1990-2010)

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Paper prepared for the EPSA General Conference
in Barcelona, 20-22. June 2013
Work in progress – please do not cite without permission
Comments very welcome

Abstract

The tenure of ministers may end because of very different terminal events. This paper explores the determinants of ministerial duration within the German Länder between 1990 and 2010. Building on theoretical considerations as well as a descriptive analysis of the data three broad types of terminal events can be distinguished: voluntary exits, forced exits and collective exits, where ministers have to leave office because their whole party does so. Applying a competing risks survival model shows the diverse effects that one and the same variable can have on the hazard for ministerial turnover depending on the type of terminal event.

1 Introduction: Different types of terminal events for ministerial turnover

The tenure of ministers may end because of very different terminal events. Some ministers may step down voluntarily because they find other career options more intriguing, others will have to leave office because their party was voted out of government and again others may be forced by the prime minister to leave their ministry because their enmeshment in a scandal would otherwise seriously affect the

government's popularity. These three examples show that ministers face different risks which could all finally lead to losing their job in the cabinet. Yet, most students of ministerial careers do not distinguish between these diverse hazards treating all terminal events the same way.

In this paper I follow a different path. I distinguish between twelve specific terminal events and show how often they empirically account for a minister's end in cabinets of the German Länder. These twelve exit-types are then aggregated to three broader groups of terminal events: 1) voluntary exits, 2) forced exits and 3) collective exits. I assume that there are distinctive factors at work for each of these groups. Using a competing risks approach these three exit-types are regarded as three mutually exclusive, yet for every minister at least potentially possible terminal events. Having said this I model the different determinants of ministerial turnover according to the type of terminal event.

The paper has the following structure: The next section reviews existing works on executive elites with a particular focus on ministerial tenure and puts them in the context of this study. Section three explains the distinct hypotheses for the three types of terminal events. Sections four and five lay down the original data set that I use in the statistical models and describe very briefly the specifics of the applied competing events hazard model. The results of these Cox-models are presented in section six. The paper concludes with a short overview of the results and sheds some light on potential ways to proceed with the topic of ministerial tenure.

2 This study in the context of existing works

The majority of studies on executive elites can be broadly divided into two groups:

1. Works that look at the paths into office and thus the probabilities of politicians to gain a ministerial seat – in systems with coalition governments this often means to investigate the question of how to divide the spoils of offices among the coalition partners.[1]
2. Studies examining the reasons why ministers have to leave office and how long they stay in the cabinet.

This study here follows the second question. In general, there is probably a multitude of factors at work when a minister's time in government comes to an end. I assume many of these factors to be contingent on the minister him- or herself as well as on the political sphere in which he or she operates. This view stands at least partly in contrast to present studies which maintain a strong focus on the prime minister's capacities to hire and fire. Yet, with their record of coalition governments the prime minister's autonomy for cabinet reshuffles or demotions is much weaker in the German Länder than it is, for example, in Great Britain or Australia – two

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[1] From the perspective of the entire coalition building process the portfolio allocation model (Laver and Shepsle 1996) can be seen as one way to approach these questions. Other works are more individual and thus career oriented, trying to figure out the relevant factors that serve as a stepping stone for a political career (Rose 1971) or they focus on the specifics of a certain political system (O'Malley 2006; Quiroz Flores and Smith 2011).

countries often discussed in ministerial turnover literature (cp. Berlinski, Dewan, and Dowding 2010; Weller 1999; Woodhouse 1993). Thus, the context of coalition governments is one of the aspects that must be taken into account when analyzing ministerial turnover in the German Länder, while at the same time the principal agent relationship between the prime minister and his or her ministers that is decisive for Westminster systems plays a smaller role in the German context. Thus, its focus, oriented towards the individual minister, separates this study also from other works that approach ministerial turnover from a prime minister's perspective and ask under which conditions and for what reasons heads of government reshuffle their cabinets, demote or promote ministers and induce individual ministers resignations (Dewan and Dowding 2005; Indridason and Kam 2008).

This study also adds more generally to the existing literature on political elites in Germany. Apart from sociological works following the seminal book by Dietrich Herzog (1975) who gave questionnaires to a more or less representative sample of top-politicians concerning their paths to power (cp. Gruber 2008), the majority of studies on selection and de-selection processes for German political elites has focused predominantly on parliamentarians (cp. Best, Jahr, and Vogel 2011; Patzelt 1997) and federal ministers (cp. Ali 2003; Fischer and Kaiser 2009a; Fischer, Kaiser, and Rohlfing 2006) or career patterns connecting both (cp. Fischer and Kaiser 2009b; Fischer and Kaiser 2010). Yet the subnational level is often only analyzed as a recruiting pool for a position on the federal level (cp. Fischer and Kaiser 2011). One exception is a book by Lars Vogel (2009) describing the recruitment of federal as well as Länder ministers.

Contrary to the more comprehensive literature on selection mechanisms, there has been less systematic work on ministerial turnover and duration in office. Although there are at least some studies that look at ministerial tenure on the national level (cp. Berlinski, Dewan, and Dowding 2007; Dowding and Dumont 2009) – also in non-Western democracies (cp. Nikolenyi and Fettelschoss 2009; Stefan 2009) – the subnational level has just recently started to attain more scholarly attention. The existing studies nevertheless show that shifting the focus from the national to subnational levels should not only be regarded as a means to increase the number of cases and thus to find more robust results when it comes to the general patterns of ministerial turnover, but also that analyses of political elites on the subnational level are an important building bloc for the understanding of more complex multi-level career patterns (cp. Rodriguez-Teruel 2011; Stolz 2003). For Germany it has been shown that characteristics of the political and institutional setting determine an individual minister's hazard for leaving the cabinet to a great deal while biographic characteristics in general only play a minor role for a minister's duration in office (Jäckle 2013). These results nevertheless must be seen with caution as they stem from pooled survival models, not distinguishing between the different types of competing terminal events. Due to this fact the effects of certain variables could be found to be underestimated.[2]

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[2] In another article Jäckle proposes a different dependent variable. There he analyzes not the overall duration in cabinet but the duration within a specific ministerial office. This portfolio duration can be regarded as a further indicator for political stability within a political system. Again political and institutional factors turn out to be more decisive than individual biographic characteristics of

The separate analysis of different types of terminal events using a competing risks approach as it is well known from government survival literature (cp. Diermeier and Stephenson 1999; Saalfeld 2008; Jäckle 2011) has until now not been much applied to the question of ministerial tenure. The only work I am aware of is a study by Matthew Kerby (2012) who distinguishes between voluntary and involuntary exits for his sample of Canadian provincial ministers. In this study here I follow that distinction, but add one further type of terminal event: collective exits.

3 Hypotheses

In this section I will first distinguish between twelve specific instances of terminal events that could end a ministerial tenure and categorize them according to three broad types of terminal events. Then I will present the specific hypotheses concerning these three different types of terminal events. The last part of the section gives an overview of the controls used in the Cox-models.

3.1 Twelve ways to drop out of a cabinet

Ministers can either leave their position in cabinet voluntarily, because they were forced out of office, or because their whole party left the government and the minister – cling together, swing together – hence had to leave as well. The following table 1 lists the different terminal events that can be sorts according to these three broad types.

Table 1: Types of terminal events

Voluntary exits	Forced exits	Collective exits
ill health/old age	scandal	voting out of government
change into private business	partial ministerial reshuffle after elections	lost vote of no confidence against pm
change into other state/ political position	problems within the own party	problems within the governing coalition
	other terminal event (politically induced)	

Ministers exiting voluntarily can for example leave for a lucrative job within private business, or a high ranking state-position. Some also move from a Länder ministry to the federal level. The third type of instances in that category – those ministers leaving because of their ill health or old age – seems on the first view perhaps to be misplaced, as from the minister's point of view both reasons could also be seen as non-voluntary exits: both may force a minister out of office without him or her being able to do anything against it. Yet, I regard forced exits as exits that are politically induced which means that the force that pushes a minister out of office has to originate in the political sphere.

Therefore three main types of forced exits can be distinguished: First, all types of scandals where the media, the political opponent, the own coalition members and/or

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the ministers (Jäckle 2013).

the public puts so much pressure on the minister that he or she has to leave the cabinet. Second, especially after elections prime ministers have the chance to shuffle around the cabinet members according to their will. These periods are windows of opportunity to get rid of unpopular or inapt ministers. And third, ministers can get into serious trouble if they loose the confidence of their party, e.g. if they position themselves in opposition to the majority view in their party. The fourth type of exits in that category are those terminal events where it is not completely possible to determine the exact reason for the termination, but a political (non collective exit)-reasons is highly likely.

Ministers that left the cabinet due to collective exits can be classified into those that had to leave government because their party was voted out of office, ministers that left together with a prime minister after a lost vote of no confidence and those ministers that left their office because their whole parliamentary group.

Additionally there are two more terminal events that do not fit into the three presented categories. Ministers could die in office and the observation period could come to an end before the minister has left the cabinet. Both of these terminal events will always be treated as censored in the statistical analysis (see section 5).

3.2 Voluntary exits

When do ministers voluntarily step down? My first hypothesis is that age is positively correlated with the probability of a voluntary exit because especially older ministers should be more likely to leave the government due to ill health and general for age reasons.

H 1. *Older ministers should be more likely to leave the cabinet voluntarily. On the other hand we do not assume any effects of age on forced or collective exits.[3]*

The second hypothesis we have on voluntary exits is connected to the salience of a ministry. In important portfolios ministers should have better options to present themselves and thereby to advance their own careers. Hence, these politicians should ceteris paribus get more interesting job offers from outside the political business as well as for other state or political positions.

H 2. *Ministers heading important portfolios should have a higher hazard to step down voluntarily.*

Although the importance of a ministry is also a function of the parties' ideology (Greens will most likely assign more weight to the ministry of environment, whereas Social Democrats might deem the ministries of labour and social welfare more important), we can, with respect to the specific Länder competencies, nevertheless identify a certain core of ministries which are of specific significance for all governments. These are the ministries of finance, education and cultural affairs, economic affairs and of the interior.[4]

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[3] Age is measured in days but standardized to years for obtaining larger and thus better interpretable coefficients. It is included as a time varying covariate.

[4] The classification follows Pappi et al. (2008).

3.3 Forced exits

For the forced exits the principal agent logic becomes relevant. In theory, the prime ministers in the German Länder are able to decide about the composition of their cabinet on their own. Yet, in reality coalition agreements often hinder prime ministers from implementing their staffing policies. Therefore, the type of government is crucial for the possibilities prime ministers have to hire and especially fire ministers.

H 3. *Ministers serving in single party majority governments (SPG) or in coalition governments with the prime minister being from the same party as the minister should have a higher hazard to be forced out of cabinet than their colleagues in coalition governments who are not from the same party as the prime minister.*

3.4 Collective exits

The category of collective exits contains first and foremost those ministers whose party was voted out of office. There are only few instances when a whole party left the cabinet not after elections, but during the interelection period. The first hypothesis is therefore again connected to the type of government. SPG should have higher chances to be successful at future elections and this should have an impact on the hazard for collective exits. Additionally it is extremely unlikely that a party holding the majority and ruling alone drops out of government completely. Taken these arguments together we can formulate the following hypothesis.

H 4. *In SPG the hazard for collective exits should be lower than for non SPG governments.*

The same argument can be made for coalition governments when the minister comes from the same party as the prime minister.

H 5. *In a coalition government where the minister comes from the same party as the prime minister we expect a lower hazard for collective exits.*

3.5 Controls

Earlier studies have shown that there are a number of other variables that should be controlled for. These variables can be divided into two groups: First, individual factors describing biographic characteristics of the respective minister and second, factors on the aggregate level, i.e. attributes of the institutional and political setting that determine the political arena in which the ministers act. The table 2 lists the factors controlled for in the Cox-models. For a more thorough description of the underlying theoretical arguments see Jäckle (2012; 2013).

4 Data

The original data set compiled for this analysis consists of 768 ministerial spells in total. Table 3 gives an overview and classifies them by Bundesland and type of terminal event. All ministers who held a position within one of the 16 German

Table 2: Independent variables for the statistical analysis

Individual level	Aggregate level
age (time-varying)	important ministry
gender	minority cabinets
regional rootedness (birthplace in the same Bundesland as the ministerial job)	type of government (SPG; coalition government with minister coming from the same party as pm)
number of spells the minister has served before the observed spell	majority (percentage of parliamentary seats of the government party/parties)
expert minister	length of constitutional interelection period (CIEP)
number of different cabinet positions (portfolios) during the ministerial spell	possibility to launch a vote of no confidence against individual ministers
length of party membership (time varying)	
education (tertiary education; doctorate; *Habilitation*)	

Länder cabinets between January 1 1991 and December 31 2010 were included with their complete duration. Thus none of the data are left-censored, instead for all ministers their first day in office was coded, even if this date was before January 1 1991. For example the former Bavarian prime minister Max Streibl started his cabinet-career in 1970 as minister of agriculture and ecology. In 1977 he changed into the office of the minister of finance and in 1988 he took the office of the prime minister after the early death of Franz Josef Strauß. The ministerial spell recorded for Max Streibl lasts from 1970 to 1992, when he was succeeded by Edmund Stoiber as Bavarian prime minister. Prime ministers (Ministerpräsidenten) are included in the data set although they are obviously in a lot of respects more than just a *primus inter pares* within government.[5] To account for the specific positions prime ministers hold within a cabinet I control for pm-status in the Cox-models.

Ministerial spells that were interrupted by some time when the minister was not part of the government are counted as separate durations. Nevertheless the analysis controls for the amount of experience a minister has gained during earlier positions within government.

The boxplots in figure 1 present the durations in cabinet according to the different terminal events. Looking at the median durations we find that especially those ministers who drop out of cabinet due to voluntary reasons are the ones with the longest overall cabinet-durations, while ministers that were forced out of office or had to leave office due to a collective exit show considerably shorter tenures.

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[5] For them the principal-agent-logic is in spite of all coalition effects still relevant. On the one hand, being the principal, they at least have the constitutional power to dismiss their agents, the ministers, if there are conflicts between them, and on the other hand they cannot be dismissed so easily. The only possibility for a (forced) turnover of a prime minister (apart from voluntary resignations) is to lose a vote of no confidence or a motion of confidence. In addition, the change of a prime minister is always more severe than the turnover of any other minister as it is synonymous to a government termination.

Table 3: Terminal events by Bundesland

terminal event	BE	BR	BW	BY	HB	HE	HH	MV	NI	NRW	RP	SH	SL	SN	ST	TH	sum
ill health / age		2	2	1	3	1		4	3	3	3	3	1		2	1	29
change to other political/state position	7	9	5	1	3	4	3	2	7	6	5	3	5	5	3	5	73
change into private business	8	2	7	4	5	5	5		1	3	2	8			1	3	54
scandal	3	7	5	7	3	6	8	2	3	5	1	2	1	6	8	4	71
partial ministerial reshuffle after elections	8	1	7	1	8	1	9	5		5	2	3	7	2	2	4	65
problems within the own party	1	1	2	6	1		1	5				4	2	1	1	1	26
other terminal event (politically induced)	9	8	4	9	4	8	6	3	8	2	3	6	4	19	6	13	112
voting out of government	4	6	4		6	20	20	10	24	23	10	2	8	2	22	8	169
lost vote of no confidence against prime minister	5											1					6
problems within the governing coalition	3				1		3					4					11
death					1												1
end of observation period	9	9	12	12	7	11	6	9	9	12	8	8	9	10	10	10	151
sum	57	45	48	41	42	56	61	40	55	59	34	44	37	45	55	49	768

Figure 1: Minister's overall duration in Cabinet
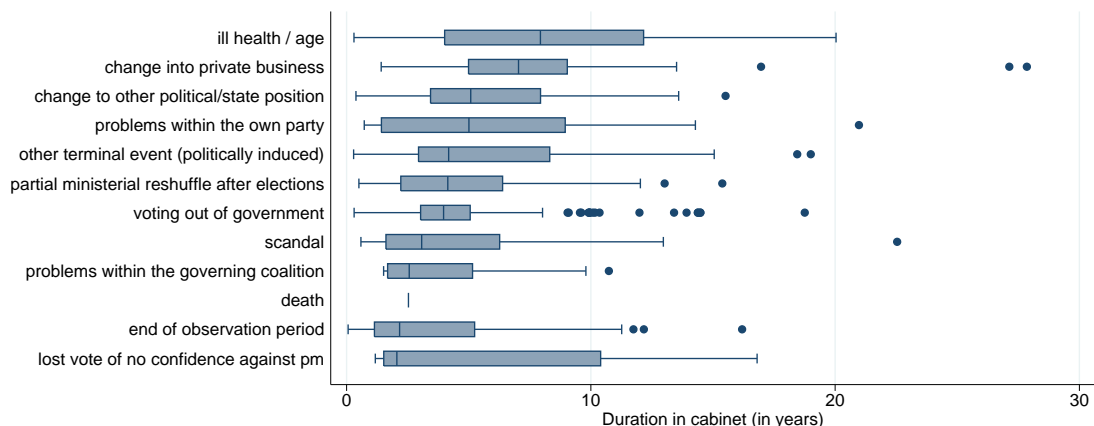
5 Method

According to the research question I use the semiparametric Cox-model (Cox 1972) as it allows to estimate β-coefficients and hazard-ratios without the necessity to assume a certain baseline function. Regardless whether we believe that there is a real and direct dependency between elapsed time and the baseline hazard or we expect the time dependency to be just an artifact of unobserved heterogeneity in the data – which by definition always comes along with a negative time dependency (cp. Zorn 2000, p. 368; Vermunt 1997, p. 189), for estimating a completely parametrized model the functional form of the baseline hazard has to be specified correctly. After all, a theoretically grounded derivation of the baseline hazard is impossible if time dependency is due to unobserved heterogeneity and it is still extremely difficult in cases of 'real' time dependency. Nevertheless, resorting to the observation of empirical survival or hazard functions can also not be seen as a real solution, as it only approximates the baseline hazard function while the effects of all explanatory variables are still included in this pooled hazard function – whether this function comes close to the baseline hazard depends on the question in how far the covariates correlate with time at risk (cp. Jäckle 2011, pp. 71-75).

The Cox-model is a convenient way to circumvent the problems of fully parametric approaches. It indeed assumes that there is a certain time dependency, but we do not have to specify any particular functional form of this baseline hazard. Therefore we need to make less basic assumptions when estimating the model – assumptions that could always be wrong and result in biased estimates. The hazard rate, that gives the instantaneous risk that a minister drops out of office at time t – given he or she has not dropped out before – reads as follows:

$$\lambda_i(t) = \lambda_0(t)exp\left(\beta_1 x_{1i} + \beta_2 x_{2i} + \ldots + \beta_k\right) \qquad (1)$$

We see that there is no explicit constant β_0 that would describe the baseline hazard in a parametrized model. But even without knowing the concrete form of the baseline hazard we can estimate the β-coefficients as long as we assume the hazard ratios to

be proportional.[6] Cox developed the so called partial likelihood (PL) method which is based not on the exact survival times, but on their rank order (cp. Cox 1975). In a similar way like in MLE the logarithm of the PL is maximized for obtaining the β-coefficients:

$$\log L_p = \sum_{i=1}^{K} \delta_i \left[\beta' x_i - \log \sum_{j \in R(t_i)} \exp(\beta' x_j) \right] \tag{2}$$

A dummy variable δ_i distinguishes between events of interest and censored durations. In general we censor cases if we cannot observe their full event history, either because the starting point is before the beginning of the observation period (left censoring) or because our subject is still in the risk set, i.e. he or she has not experienced the event of interest until the end of the observation period (right censoring). For all censored cases we assume that they would have lasted longer if their event history were not artificially shortened.

For this reason we also right censor cases where the terminal event was clearly no event of interest. In addition to the end of the observation period, the death of a minister is also treated as right censored, because we expect that this minister would have stayed longer in office if he or she did not experience this clearly not politically motivated but indeed for the minister ultimately terminal event. In event history censoring does not mean to drop a case completely from the data set, but to use the available information from uncensored cases that have finished their event history completely to estimate how long a censored case would have lasted if it was not terminated early. As we do not have a fixed starting point of our observation period, but observe all ministers that had been in office from January 1 1991 onwards with their real starting point of their ministerial duration, we do not have any left censored cases.

Censoring is also the key concept for the estimation of competing risks models. For every one of the three types of terminal events we estimate a separate proportional hazard model with all cases terminating due to a terminal event other than the specific one of interest being censored. For example, the hazard rate of the forced exits is estimated treating collective exits as well as voluntary exits exactly the same way as cases terminating due to the end of the observation period or due to death – they are all censored. Three basic requirements have to be met for the estimation:[7]

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[6] This so called proportional hazards assumption is an essential concept of the Cox-model. It means that for time-invariant covariates the relative hazard of two subjects i and j is given by the following relationship: $\frac{\lambda_i(t)}{\lambda_j(t)} = \frac{\lambda_0(t) e^{X_i \beta}}{\lambda_0(t) e^{X_j \beta}} = \frac{e^{X_i \beta}}{e^{X_j \beta}}$ (Therneau and Grambsch 2000, p. 127). In this case it is obvious that elapsed time does not play any role for this relationship. In the case of time-varying covariates the hazard ratio for the two subjects changes to $\frac{e^{X_i(t)\beta}}{e^{X_j(t)\beta}}$ and here the relationship does not have to be any more independent from elapsed time (cp. Warwick 1994, p. 163 Allison 1998, p. 34). Yet, the relative influence of two covariates still can be solely summed up by the coefficient β. We therefore test whether every covariate has a "proportional and constant effect that is invariant to when in the process the value of the covariate changes" (Box-Steffensmeier and Jones 2004, pp. 131-132).

[7] For a statistically more elaborated discussion of the competing risks approach see: Kalbfleisch and Prentice 2002, pp. 163-187, Blossfeld, Golsch, and Rohwer 2007, p. 169.

1. The competing events must be mutually exclusive, i.e. every case can only experience one of the three types of terminal events.
2. Every subject in the population must have a non-zero probability to terminate because of each of the three types of events (cp. Elandt-Johnson and Johnson 1980, p. 270).
3. The occurrence of one of the competing events must not affect the hazard rate of experiencing another event (cp. Box-Steffensmeier and Jones 1997, pp. 1437-1438).

All three preconditions are fulfilled in our study as every minister could, at least theoretically, drop out of cabinet because of each of the three types of terminal events and each of the events is also definitely terminal which means that no minister can experience more than one of these events at a time.[8]

6 Results of the statistical analysis

This section presents the results for the Cox-models in form of hazard ratios. These antilogs of the partial likelihood coefficients are easier to interpret than the raw coefficients. A ratio of 1 indicates no influence of the independent variable on the hazard. Values greater than one show an increase in hazard, those lower than one indicate a decrease. For example, a hazard ratio of 1.5 means that an increase of the independent variable of one point raises the hazard for turnover under ceteris paribus conditions by 50 percent. The results of the Cox-models can be found in table 4. For each competing event there are two models. The first one is a full model with all variables included simultaneously, the second one applies a stepwise backward selection mechanism to obtain a more parsimonious model.

With respect to our main argument that one and the same variable can have very different effects according to the type of terminal event, we find all our hypotheses supported. Ministers heading important portfolios indeed show a higher hazard for leaving the cabinet voluntarily (H2), the same is, at least by trend, also true for older ministers (H1). When the minister is a member of a coalition government and comes from the same party as the prime minister this increases his or her hazard to be forced out of office significantly, but not as strong as in cases where the minister is part of a single party government (H3). As expected, for the collective exits this pattern turns around: Ministers serving in SPG and in coalitions where the prime minister is from the same party as the minister show significantly lower hazard ratios (H4 & H5). Again the effect is stronger for the SPG.

Besides these hypotheses, also some of the control variables show significant effects. For example, being regionally rooted in a Bundesland seems to help a minister survive longer in cabinet (at least when it comes to voluntary and – also the effect is not completely significant – to forced exits). Nevertheless most of the control variables do not affect the hazard rate in any way. This result was not completely unexpected,

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[8] As described earlier, durations of ministers resuming a position within cabinet after some time outside the government are treated as new and separate event histories. In contrast, a repeated events approach would undermine the estimation of the competing risks model.

Figure 2: Model fit (Cox-Snell residuals vs. cumulative Kaplan-Meier hazard)
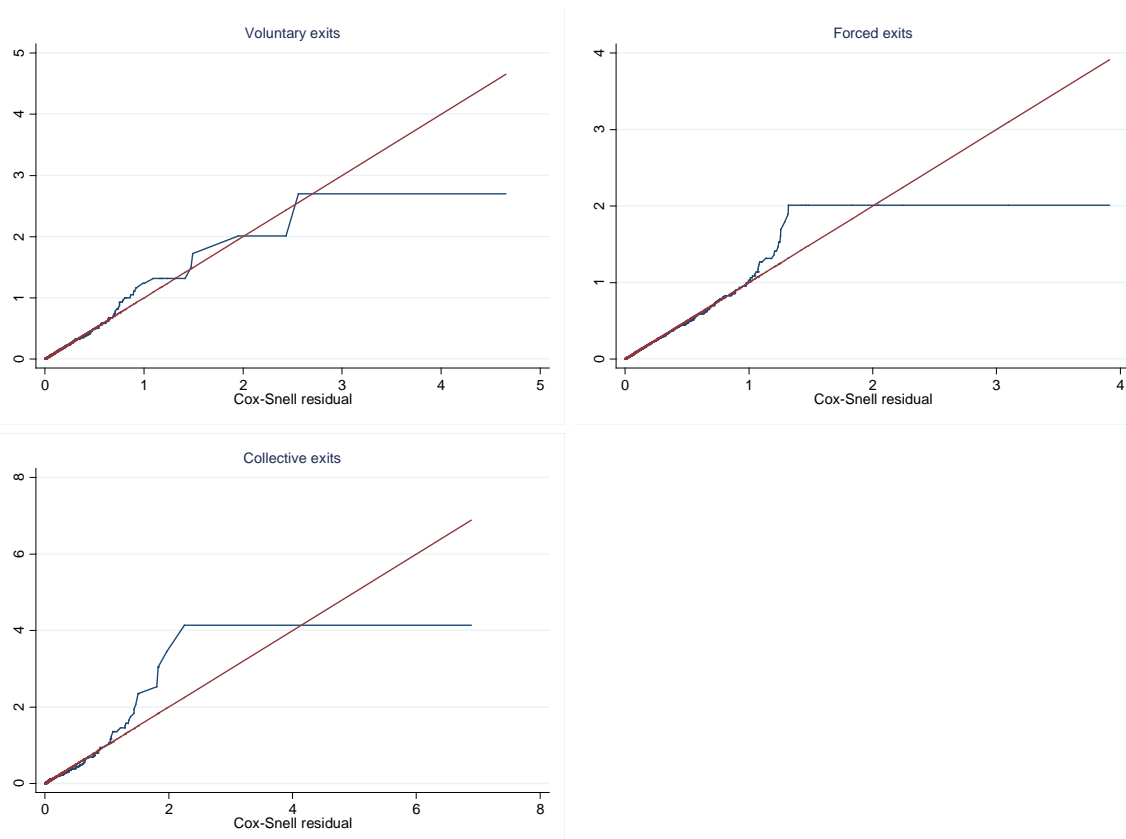
as a number of studies have shown that especially the biographic characteristics do not influence very much the probability to drop out of office. More or less we could say, that for those politicians who make it into the cabinet – and for this journey they clearly need specific biographic characteristics – these individual factors do not play a big role in determining their tenure in office. At this stage it seems to be more the aggregate parameters describing the political and institutional landscape that influence the individual hazards in a stronger way.

Assessing the model fit in Cox-models is not as straightforward as in a regular regression analysis where you have a R^2. One possibility to check for the overall model fit is to inspect to what extent the survival times estimated from the Cox-model $\hat{S}_i(t)$ correlate with the real ones $S_i(t)$ (cp. Klein and Moeschberger 2003). This can be achieved by plotting the Cox-Snell residuals (cp. Cox and Snell 1968) against the empirical cumulative hazard rate derived from a Kaplan-Meier estimation (cp. Box-Steffensmeier and Jones 2004, pp. 120-125).

For a good fitting model the Cox-Snell Plot should only deviate slightly from a straight line with slope 1 – departures from this pattern in the right part of the plot can be tolerated as they can be attributed to the effective sample size which becomes smaller and smaller with time, leading to a more variable baseline hazard (cp. Stata 2007, pp. 170-171). Figure two shows the model fit for all three backward selection models. The voluntary exits and forced exits models show a quite good

Table 4: Cox-models

	Voluntary (full)	Voluntary (stepwise)	Forced (full)	Forced (stepwise)	Collective (full)	Collective (stepwise)
SPG	1.177		2.519***	2.723***	0.451**	0.440**
	(0.334)		(0.528)	(0.558)	(0.173)	(0.168)
SPG * time					1.000**	1.000**
					(0.000173)	(0.000172)
Coalition & same party as pm	1.730**	1.579***	1.782***	1.858***	0.578***	0.564***
	(0.442)	(0.259)	(0.351)	(0.357)	(0.106)	(0.0978)
Minority cabinet	1.121		0.854		1.222	
	(0.525)		(0.274)		(0.397)	
Parl. strength of gov. parties (in %)	1.000		1.007	1.010	0.977**	0.973***
	(0.0103)		(0.00806)	(0.00745)	(0.00947)	(0.00861)
Important ministry	1.505**	1.500**	0.912		1.272	1.283
	(0.261)	(0.251)	(0.116)		(0.199)	(0.194)
CIEP (in years)	0.807		0.699**	0.695**	0.459***	0.420***
	(0.180)		(0.107)	(0.100)	(0.0803)	(0.0692)
Individual vote of no confidence	1.244		0.997		0.820	
	(0.231)		(0.146)		(0.162)	
Age (in years, time varying)	1.019	1.019	1.011		1.003	
	(0.0143)	(0.0124)	(0.0105)		(0.0122)	
Gender (0 = female, 1 = male)	1.014		1.003		0.939	
	(0.207)		(0.151)		(0.167)	
Tertiary education	1.006		0.980		1.270	
	(0.284)		(0.212)		(0.367)	
PhD	1.036		1.227		1.015	
	(0.202)		(0.174)		(0.186)	
Habilitation	0.803		0.762		0.620	0.603*
	(0.271)		(0.194)		(0.206)	(0.183)
Regional rootedness	0.713*	0.745*	0.848	0.838	1.241	
	(0.127)	(0.124)	(0.111)	(0.105)	(0.196)	
Party membership (in years, time varying)	1.002		0.997		0.997	
	(0.00885)		(0.00626)		(0.00797)	
Expert minister	0.941		0.961		0.747	
	(0.271)		(0.208)		(0.245)	
Number of cabinet spells before	1.038		0.858		0.612	
	(0.380)		(0.263)		(0.286)	
Number of portfolios during spell	0.115***	0.119***	0.109***	0.107***	0.146***	0.144***
	(0.0346)	(0.0347)	(0.0234)	(0.0228)	(0.0367)	(0.0362)
Number of portfolios * time	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***
	(8.38e-05)	(8.09e-05)	(6.67e-05)	(6.61e-05)	(8.34e-05)	(8.36e-05)
N_sub	765	765	765	765	765	765
N_fail	156	156	271	271	184	184
loglikelihood	-705.5	-707.2	-1314	-1316	-810.6	-813.7
χ²	190.8	187.6	336.9	332.1	339.4	333.2

Hazard ratios with standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Stepwise backward selection models: removing $p >= 0.20$. Prime ministers included. Interactions with survival time included when the Grambsch-Therneau test showed significant non-proportionality.

model fit – especially in the most relevant lower left side of the plots. The fit for the collective exits model is not that good.

7 Conclusion: different paths leading to a long time in office

In this paper I have shown that it makes sense to distinguish between different types of terminal events when it comes to ministerial turnover. We saw that one and the same variable (e.g. SPG) can have very different effects on the hazard depending on the type of terminal event. Factors that help a minister not being pushed out of office can on the other side make it more likely that he or she leaves office voluntarily. Thus, if we want to gain a better understanding of the complex processes that govern the selection and deselection mechanism of ministerial careers we should definitely continue with more competing events approaches.

Furthermore, I introduced a newly compiled original dataset on German Länder ministers. This source of data combines biographic characteristics of the individual ministers as well as data on the more macro political landscape. That makes this dataset a powerful source not only for the test of ministerial duration models, but also for more general questions of political careers. Especially in a multi-level-system like Germany political careers are often characterized by frequent moves from one level to another. Combining this dataset with national and perhaps EU or regional data would make it possible to take a look at the complete careers of politicians and not only to focus on a fragment, like in this paper.

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