

Women's rights in democratic transitions: A global sequence analysis, 1900–2012

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Abstract. What determines countries' successful transition to democracy? This article explores the impact of granting civil rights in authoritarian regimes and especially the gendered aspect of this process. It argues that both men's and women's liberal rights are essential conditions for democratisation to take place: providing both women and men rights reduces an inequality that affects half of the population, thus increasing the costs of repression and enabling the formation of women's organising – historically important to spark protests in initial phases of democratisation. This argument is tested empirically using data that cover 173 countries over the years 1900–2012 and contain more nuanced measures than commonly used. Through novel sequence analysis methods, the results suggest that in order to gain electoral democracy a country first needs to furnish civil liberties to both women and men.

Keywords: democratic transitions; liberal rights; gender; sequence analysis

The majority of the mainstream democratization literature has remained gender blind, with very little to say about the participation of women in transitions to democracy or the gendered nature of those processes. (Waylen 2003: 157)

Introduction

Is the improvement of women's civil liberties a necessary condition for countries to democratise? Some early studies discuss the evolution of citizen rights and their sequence. Marshall's (1950) seminal work suggests that legal rights come first and, followed by political and social rights, participatory rights are the final stage of this sequence (see also Janosky 1998). The well-established distinction between political liberalisation and democratisation stresses how a process of liberalisation, or reduction of state repression and extension of civil liberties, tends to precede a democratic transition that allows for the organisation of political associations and regular, competitive elections for important governmental posts (O'Donnell & Schmitter 1986; Przeworski 1986, 1991). Once authoritarian rulers ease control over them, citizens have more opportunities to challenge existing political leaders and institutions. Further, with increases in civil liberties, citizens have a stronger standing

in the public sphere and are better able to organise into political movements to demand additional political rights.

But do civil liberties *for women* matter? Historically, men gained civil liberties, the vote and so on before women (Ramirez et al. 1997). For example, men gained the right to vote in Greece in 1864, yet women only in 1952. And in Denmark, men's suffrage dates to back to 1849, while women's suffrage only to 1915. Feminist scholars note that the acquisition process for political, civic and social citizenship rights may differ for men and women (Dietz 1998; Fallon 2003; Phillips 1998; Walby 1994; Young 1990). Yet scholars of democracy rarely distinguish between men's and women's acquisition of democratic rights (Paxton 2000; Paxton et al. 2006), instead tending to assume that male acquisition is sufficient (e.g., Huntington 1991; Muller 1988; Rueschemeyer et al. 1992). Recent scholarship on women's role in democratisation movements suggests that this strategy may be insufficient for fully understanding democratisation. Case study evidence suggests that women's civil liberties were crucial for enabling women to organise, which initiated protests and led to transition in a range of countries (Arat 1994; Moghadam 2008; Tripp 2001; Waylen 1994, 2007). Quantitative studies considering the past 25 years also identify that more equal distribution of education between women and men (Barro 1999; Fish 2002; Sanborn & Thyne 2014), female labour force participation (Wyndow et al. 2013) and the conception of gender equality as a part of broader cultural changes (Inglehart et al. 2002) are all factors that contribute to democratisation. This suggests that the expansion of women's rights may play a unique role in democratisation – a role that has not been systematically examined.

Parallel to the argument holding that economic inequality is detrimental for democratisation (cf. Acemoglu & Robinson 2006; Boix 2003; Lipset 1959), we believe that inequality in civil liberties and rights between men and women – such as whether or not women are free to move, discuss politics and to hold material and immaterial assets – will affect the establishment of electoral democracy. To test whether women's acquisition of basic civil liberties is essential for transition to electoral democracy, we use a novel sequencing approach that investigates the temporal process of events. The approach combines frequency counts, dependency analysis and transition graphs that count and map changes in two ordinal variables to determine which variable, if any, precedes the other in time (Lindenfors et al. 2015). We also rely on Bayesian dynamical system modeling to verify the patterns. Different from conventional time-series cross-sectional methods that rely on specifying a time interval (lag) between the occurrences of the independent and dependent variables, the proposed approach does not assume a constant time period between the achievement of women's rights and successful transition to democracy across all countries, and thus allows for more flexible analyses of the temporal relationship between the two in various contexts.¹

We utilise a newly collected dataset on both men's and women's rights and measures of countries' transitions to democracy that, covering 173 countries over the 1900–2012 period, is more detailed than commonly used. Altogether, we are able to systematically examine the relationships between civil liberties for both men and women and democratic transitions. The results suggest that in order to gain electoral democracy a country first needs to give civil liberties to both women and men. We demonstrate that the improvement of civil rights is indeed a critical condition for successful democratic transition to take place. In addition, civil rights of both genders are crucial: when both men and women enjoy certain levels of civil liberties, regime changes are more likely to occur. With the new approach, we show that

over the period 1900–2012 there are few cases of democratic transition without women's civil liberties first reaching a certain threshold. The empirical analysis thus demonstrates that assuming women's civil liberties can be subsumed under men's does not adequately tell the story of democratisation.

Women's civil liberties and democratisation

The literature focusing on the relationship between economic inequality and democratisation identifies that resource redistribution from the rich/rulers to the poor/ruled is a natural consequence of regime transition. The challenge to the authoritarian power structure comes from the lower classes, who wish to change the redistributive equilibrium in society through democratisation (Acemoglu & Robinson 2001; Boix 2003). In addition, the possibility of a democratic transition is conditional on the relative costs of repressing the organised opposition of citizens compared to the potential costs of redistribution under a future democracy. Democratisation will not occur when 'the cost of redistribution surpasses that of repressing revolts' (Houle 2009: 592).² Extending this argument, we suggest that the improvement of women's civil liberties is important for democratisation because it affects the costs of repression.

The literature has noted how the improvement of civil liberties *in general* triggers more pressure for further democratic reforms (e.g., Linz & Stepan 1996; O'Donnell & Schmitter 1986; Przeworski 1986). The expansion of civil liberties and reduction of state repression enhance citizens' capacity to voice opposition, organise movements and challenge the regime. 'The "opening," "thaw," "decompression," or whatever it is called, of authoritarian rule, usually produces a sharp and rapid increase in general politicization and popular activism' (O'Donnell & Schmitter 1986: 26). When more citizens enjoy liberal rights and are better able to initiate effective revolts, repression becomes difficult, which changes authoritarian calculations. Tests of this theory tend to subsume women's civil liberties under men's, even though they often were achieved at different dates (Paxton 2000; Paxton et al. 2006)

Thus, a parallel argument would suggest that when half of the population – that is, women – increasingly gain the rights to move, voice demands, discuss, and hold material and immaterial assets, the calculation of repression cost is significantly changed. Conversely, countries where women are denied their basic rights – that is, highly gender unequal societies – are less likely to democratise as fewer people have the capacity to express opposition to the system, and thus the relative cost of repressing revolts is lower.³ Women's civil rights and liberties may, in fact, be particularly important because women are traditionally 'marginalized from formal politics and their issues are "depoliticized"' (Jaquette 2001: 116). Women in settings without rights often lack experience of engagement in public life, such as working formally or engaging in political movements, and thus tend to 'manage their affairs autonomously instead of engaging in public protests and organization' (Jaquette 2001: 116). Thus, the granting of rights – specifically the freedom of domestic movement and discussion, participation in labour market and property rights – is especially necessary for women to generate civic skills that are crucial for the development of opposition movements. Without these, a large share of the population would remain in the private sphere and uninvolved in political activities. Therefore, it is expected that the

improvement of women's civil liberties will substantially increase the pressure and demands for political change faced by authoritarian governments. Relaxation of these constraints sets the stage of increased pressure for further democratic reforms *à la* classic theories of liberalisation.

Case study evidence suggests that women's organising and demands are indeed quite central to democratisation.⁴ Research from a range of countries shows that women's organisations play key roles during initial phases of opposition to authoritarianism. Focusing on Latin America, Waylen (1994) identifies women's groups in the 1970s in authoritarian Chile and Argentina who campaigned against human rights violations. In the 1980s, women's pro-democratisation groups emerged in Brazil, Chile and Peru centred on the 'politics of daily life' that struck women harder economically than men. For instance, in the urban protests against authoritarian repression in Brazil, 80 per cent of the participants are believed to be women (Waylen 2007: 57). In the Middle East and North Africa, women's organisations have played important roles in countries such as Turkey and Iran (Arat 1994; Moghadam 2004, 2010, 2013). And, '[i]n Morocco, women's groups were central actors in the country's democratization during the 1990s' (Moghadam 2008: 11).

In sub-Saharan Africa too, women organising played an important role in the move toward electoral democracy. In South Africa, women's organisation had a tremendous impact in the struggle against apartheid (Waylen 2007). Moreover, Tripp (2001: 142–143) gives numerous examples of African countries where democratisation processes were sparked by protests organized by women:

In Kenya, the early 1990s saw women at the forefront of often violent protests in support of imprisoned human rights activists. In Mali, thousands of demonstrating women and children were fired on by the forces of President Moussa Traoré in a series of events that led to his downfall. In Sierra Leone ... women were the only group that openly defied soldiers and demonstrated for a free vote. In Guinea, women organized a sit-in in front of the presidential palace in Conakry.

During democratic consolidation, women's civil rights and liberties are related to their greater representation in legislatures and thus higher participatory democracy (Fallon et al. 2012; Paxton & Hughes 2015; Paxton et al. 2010; Viterna & Fallon 2008).

Besides the direct organisation of women's movements, Sanborn and Thyne (2014: 779) note that 'even when females do not lead movements, the breaking of traditional norms of gender inequality empowers male leaders of democratization movements to lead more effective movements, recognizing that females can play a crucial role in agitating for political change'. In such situations, they argue, the rights given to women may strengthen political opposition as a whole. Although they did not explicitly identify women's organising, O'Donnell and Schmitter (1986: 27) argue that 'the diversification and extension of opposition throughout society ... increases the perceived costs of repression'. Certainly, drawing on half a population previously marginalised should strengthen existing protest movements.

Based on these theoretical arguments, the improvement in women's rights to discuss, move, own property and participate in the public sphere is important for successful democratisation because it increases the cost of repression. This expectation has not been systematically examined. Instead, despite case studies in a wide range of countries suggesting

a unique, leading and critical role of women's organising, the consequences of women's gains in civil liberties and subsequent social movement activism for democracy have often been ignored in the mainstream democratisation literature. Feminist political theorists were the first to point out that the use of 'citizen' or 'person' in writings on democracy did not include women (Pateman 1988, 1989; Phillips 1995; Young 1990). The scholarship on democracy and democratisation is also rife with examples of male-only assessments (e.g., Alvarez et al. 1996; Huntington 1991; Lipset 1959; Mainwaring 1993; Mainwaring et al. 2001; Reich 2002; Rueschemeyer et al. 1992). Feminist theorists have argued that the appearance of neutrality toward gender or equality between men and women in political language often hides substantial gender inequality. If gender-neutral language is used in principle but in practice only men's acquisition of rights is measured or assessed as important to democratisation, then women are not equal but rather invisible (Paxton 2000; Paxton et al. 2006).

In sum, in contrast to Rueschemeyer et al. (1992: 48), who state that women are 'far less important in the known histories of democratization', our discussion suggests that *women's civil liberties are in fact critical for successful transitions to democracy*. By granting civil rights to half the population, citizens are more likely to organise politically and challenge the regime, making the costs of repression increase and consequently strengthening the possibility of democratic transition.

Methods

To examine this argument, we utilise a combination of several novel sequence analysis approaches to verify the temporal relationship between the improvement of civil rights and democratic transition. More or less inspired by comparable analyses in biology, scholars in the social sciences have developed several approaches to identify and test sequences of events in time-series data. For example, inspired by studies on DNA sequence analyses, social sequence analyses identify the similarity of sequences and explore the temporal order of discrete events, such as life course trajectories, decision making and crisis (Abbott 1995; Abbott & Tsay 2000; Casper & Wilson 2015; Gauthier et al. 2010). However, the phenomena we are interested in here – the relationship between levels of women's civil liberties and successful democratic transitions in different countries and years – involve more than one variable measured mainly on an ordinal or continuous scale. To explore combinations of changes in these various variables over time, we implement several approaches, including frequency tables, dependency analyses and transition graphs, as well as Bayesian dynamical systems modeling (Ranganathan et al. 2014a; Spaiser et al. 2014).

Frequency tables

To explore the relative frequencies of two ordinal variables we first investigate how often pairs of values occur. We construct frequency tables including all possible combinations of the values of these two variables. Temporal order and sequencing can vary in time across different countries – that is, it is unrealistic to assume a constant time difference between changes in X and changes in Y across countries and over time.⁵ To deal with the issue of

variant time lags, we reshape the data and combine yearly observations when the values of both variables do not change into one observation and count them together as an ‘event’, regardless of how many years that combination is stable and when the event started to take place. An ‘event’ refers to the combination of a fixed value i on variable X and a fixed value j on variable Y for a time period t . If the variables are strongly associated and grow linearly, we can then determine if any of them tends to be ahead of the other, in ordinal value, or if they mostly assume the same values. For this purpose, we count the occurrences of each combination and compare the percentages of events where X is greater than Y , Y is greater than X , and both are at equal value.

There is rarely much theoretical justification for assigning a time interval, either one, five or more years, between the improvement in civil liberties and the establishment of electoral democracy. Furthermore, assuming a constant time lag between the two variables across countries and over time is an unnecessary parameter restriction. Our novel strategy allows us to identify and analyse identical sequences of changes in variables, even if the lengths of events vary in different countries and times. Therefore, we are able to assess the temporal order of variables across a wide range of countries with different transition dates and consolidation lengths (see Lindenfors et al. (2015) for a more thorough description of the approach).

Dependency analysis

To further explore whether values of Y are systematically conditional on values of X , we adopt an approach akin to a bare-bones version of qualitative comparative analysis (QCA), here termed ‘dependency analysis’. The method is inspired by ‘the contingent states test’, which was an early method developed to investigate dependencies in biological evolution (Sillén-Tullberg 1993). To conduct the dependency analysis, for each value of Y , we scan the dataset for the lowest value in X . If values in Y always correspond to higher ‘lowest values’ in X , then it can be inferred that values of Y are likely to be conditional on certain values of X . Simultaneously, if for each value of X , the corresponding ‘lowest value’ in Y is its minimum, then this shows that X is not restricted by Y . These two observations in combination indicate that potential dependencies between the two variables exist only in one direction.⁶

Note that even though variables X and Y may co-vary, this method checks for absolute dependencies in the data, not statistical correlations. This strategy takes into account all possible combinations of values for the two variables, and provides a general description for the entire system, including combinations that do not occur in the data. To allow some margin of error, a percentile of observations can be specified and treated as the ‘lowest values’, which will slightly relax the criterion of *absolute* dependencies. In the following analysis, we report both absolute dependencies and dependencies that leave a 5 per cent margin for rare events, as is sometimes implemented in QCA.

Consistent with the frequency analysis, this approach does not depend on the assumption of invariant time lags between changes in variables across countries and over time. We are able to identify whether the improvement of electoral democracy tends to depend on certain values of the civil liberties measure, but do not need to specify a constant time interval between the occurrences of the two.

Transition graphs

Frequency and dependency analyses allow us to explore how often one variable is larger than or dependent on another, but do not really clarify how this comes to be. To document the exact pathways by which variables change, we adopt a graphical approach following Lindenfors et al. (2015). The rationale for this approach is elaborated upon in Online Appendix A. We first construct a table listing all observed changes in values of two variables, and then produce a graph mapping all these changes. We map all observed changes in values of the two variables using arrows to indicate movement between events, where the thickness of each arrow is proportional to the number of changes that occur along that particular path (see Figure 1 later in this article as an example). We also add circles in the graphs to indicate the number of times that a particular combination of values is the end result of a change – the size of each circle is proportional to the number of observations on that particular combination. These are comparable to the numbers reported in the frequency tables, except that the initial state for each country is not included in the figures.

This approach also does not assume invariant time lags between occurrences or a common starting point across countries and sequences. The durations of events along a particular path may span different lengths of time across countries and sequences. The path from one event to another, represented as an arrow on the graph, means a change in values of either variable that occurs within one year, the basic coding unit of time in the dataset for the current analysis. The graphs enable us to identify if variable X tends to change (either increase or decrease) before variable Y , if Y moves first, or if both are likely to change to higher (or lower) values at the same time.⁷

Bayesian dynamical systems

The previous three approaches intend to capture the temporal relationships between the improvement of civil liberties and electoral democracy. However, democratic development can sometimes be abrupt and clearly nonlinear, suggesting threshold values that change the speed or direction of development (Jansson et al. 2013; Lindenfors et al. 2011; Spaiser et al. 2014). In order to study potential nonlinear dynamics in the interaction between the development of male and female civil liberties and electoral democracy, we also employ a newly developed Bayesian dynamical systems approach that models the probable reform direction of countries depending on state combinations. This approach models changes in levels of electoral democracy between times t and $t+1$ as a function of the levels of electoral democracy and civil liberties of both genders at time t , and then identifies the best nonlinear functions that capture the interactions between variables. Bayes factors are employed to decide how many interaction terms should be included in the model, with a punishment for overly complex models.⁸ Instead of testing a specific model with data, this approach relies on data to select the most appropriate model from various potential polynomial models. The method gives a pair of differential equations, modeling how the values in each of the variables involved affect the direction and speed of each other. From this, we can infer the most likely trajectory a country will follow with regard to its development of civil liberties and electoral democracy, given any starting point. The method is described in full by Spaiser et al. (2014) and Ranganathan et al. (2014a, 2014b).

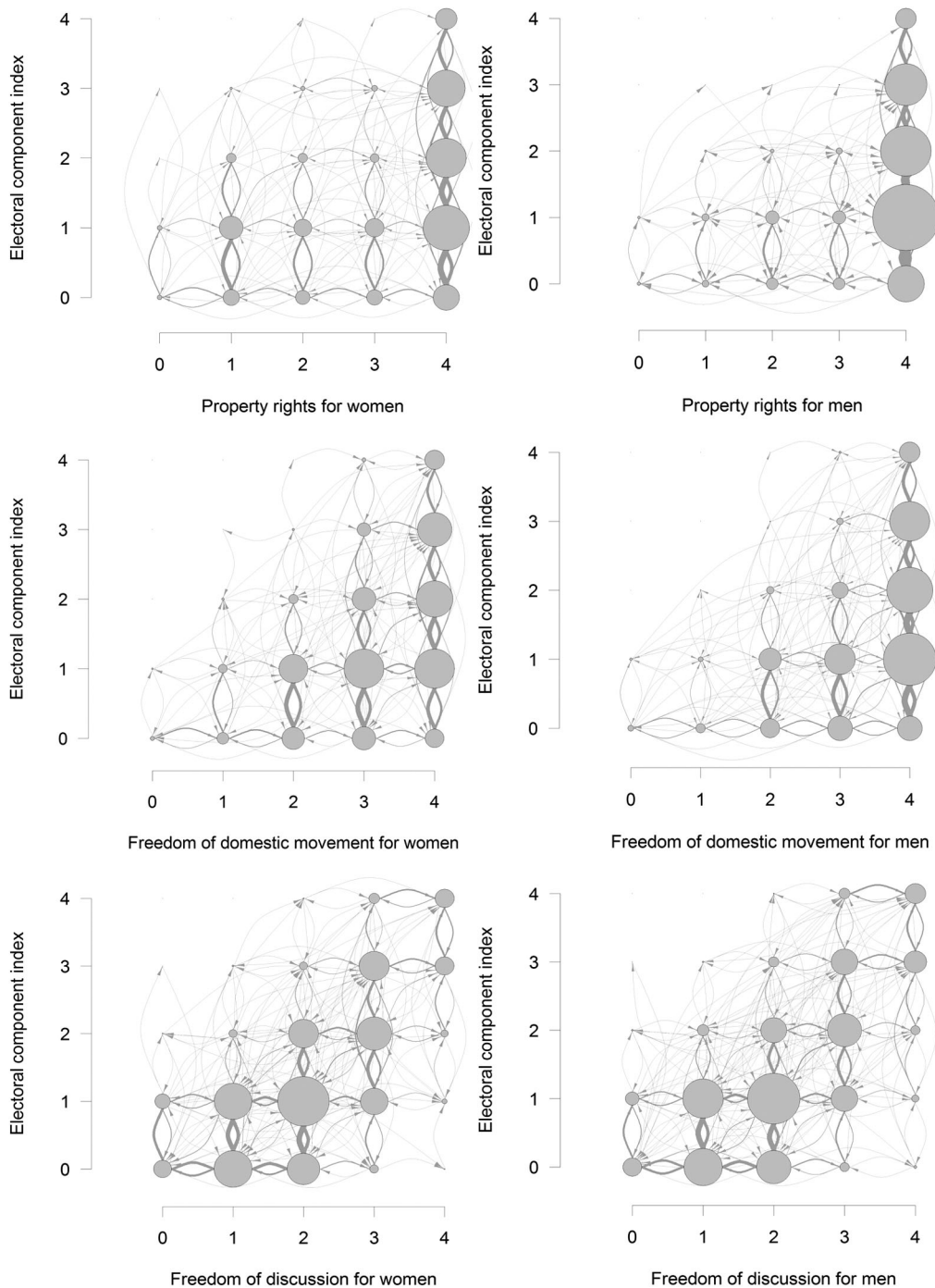


Figure 1. Pathway of changes in civil liberty indicators and the electoral component index.

These different approaches complement each other. Frequency tables reveal how often different pairs of values occur. Once we see that the values of one variable tend to be lower/higher than the other based on the simple frequencies, we have to further verify other aspects of their potential temporal relationship. Dependency analyses examine each value of a given variable to see if values of one variable are systematically conditional on higher values of the other. The method investigates whether such dependency exists among (nearly) all observations in the existing data. Then, by depicting the pathways for how variables change, the transition graphs allow us to know how the frequency/dependency patterns identified by the above two approaches come to be. Finally, once we establish the common order and direction of change between two variables, the Bayesian dynamical modeling can be utilised to show the potential nonlinear relationship between them and the speed of change, and help make inferences from all the data. Overall, these approaches aim to display different aspects of a sequential relationship. If all the approaches consistently indicate that values of *Y* change before values of *X*, we are more certain about the sequence of events.

Data and measures

To explore the temporal relationship between the improvement of civil rights for both genders and democratic transitions, we utilise the data collected by the Varieties of Democracy (V-Dem) project (version 6). This is a new dataset that collects data on more than 300 indicators measuring different dimensions of democracy in 173 countries around the world from 1900 to 2012. Different from existing datasets, which usually relied on a small group of experts who rated all countries or asked each expert to code one single unit, the V-Dem project invited over 2,500 local and cross-national experts to provide judgments on various indicators about democracy (Coppedge et al. 2011, 2016). Experts' ratings are aggregated through a Bayesian item response theory model (Pemstein et al. 2015). The model takes into account the possibilities that experts may make mistakes and have different scales in mind when providing judgments. In addition, bridging-coders – experts who coded multiple countries – were recruited to calibrate the scales of estimates cross-nationally.

We define 'democratic transition' as 'any significant move toward mass democracy' (cf. Acemoglu & Robinson 2001: 938). We follow a focus in the literature on free and fair elections as well as multiparty competition as the core element of democracy (see Diamond 2015: 141). To measure the existence of free and fair elections, we utilise the electoral component index developed by Jan Teorell and included in the V-Dem dataset (Coppedge et al. 2016). The electoral component index intends to measure the extent to which the electoral principle of democracy is achieved in the country – that is, whether political leaders in a country are selected through the mechanisms of competitive elections and thus have to be responsive and accountable to their citizens at least to some extent, as captured by Dahl's (1971) conceptualisation of 'polyarchy'. The index combines indicators on the level of suffrage, freedom to join political and civil society organisations, whether elections are clean and without systematic irregularities, and whether the chief executive is selected through elections.

For the index, the measurement model produces interval-level estimates of latent traits roughly in a standard normal distribution. For the sequence analyses, which require ordinal variables, we take the corresponding normal cumulative probability of each value and divide

them into five ordinal categories based on the probabilities.⁹ The highest categories on the indicators of the electoral component index indicate that in the country, suffrage is extensive, elections are clean, the chief executive is selected (directly or indirectly) through elections, and political parties operate freely. Thus, the highest category on the aggregate electoral index can be defined as a successful transition to electoral democracy, and any increase on the index can be viewed as improvement in democracy.

The V-Dem dataset includes several measures on levels of civil liberties. We utilise the indicators with regard to four features: freedom of domestic movement; freedom from forced labour; freedom of discussion; and property rights. All these indicators are measured on 0–4 scale, where 0 represents no freedom at all and 4 means full freedom.¹⁰ These four indicators are measured for men and women separately. They capture the extent to which citizens in a country are able to move freely, to discuss and to have a basic share of property. If they are denied these rights, it is difficult for them to organise collectively and engage in political movement against authoritarian rule.

Empirical results

Frequency and dependency analysis

To examine the relationship between civil liberties and the development of the electoral principle of democracy, we first compare male and female civil rights. As described in the methods section, we list all observed combinations between the male and female civil liberty indicators, and then calculate the percentage of ‘events’ where men had higher levels of civil liberties than females, and vice versa. The relative frequencies are included in Table 1.

The relative percentages in Table 1 show that in the majority of cases men have civil rights that are higher than or equal to those of women. Thus, male civil liberties tend to be ahead of female civil liberties, especially when it comes to property rights, freedom of domestic movement and freedom from forced labour.¹¹ We then compare the levels of both male and female civil liberties with scores of the electoral component index. Table 2 lists the percentages of observations where the values of the civil liberty indicators are greater than the values of the electoral component index, in comparison to observations where the values of the electoral index are greater. Note that by comparisons with frequency tables B.1 and B.2 in the Online Appendix the frequencies are similar when civil rights and the electoral component index are moving up as when they are moving down.

Table 1. Relative frequencies of male and female civil liberties

	% events when men > women	% events when men = women	% events when men < women
Property rights	46	42	12
Freedom of domestic movement	30	52	18
Freedom from forced labour	29	54	17
Freedom of discussion	22	57	21

Table 2. Relative frequency table of civil liberties and the electoral principle of democracy

Variable Y = Electoral component index	% events when X > Y	% events when X = Y	% events when X < Y
Variable X:			
Property rights for men	86	12	2
Freedom of domestic movement for men	84	14	2
Freedom of domestic movement for women	80	16	3
Freedom from forced labour for men	75	19	5
Property rights for women	73	20	7
Freedom from forced labour for women	71	22	7
Freedom of discussion for men	56	31	12
Freedom of discussion for women	55	33	12

Note: The order of the variable X is according to the percentage of events when $X > Y$.

The relative frequencies included in Table 2 show that the electoral component index generally has lower ordinal values than property rights for men and women, freedom of domestic movement for men and women, and freedom from forced labour for men and women, but also, to a lesser degree, freedom of discussion for men and women. Given the large disparity between the values for civil rights and the electoral component index, it is likely that a country's civil rights, especially property rights and freedom of domestic movement, tend to attain high values before its performance on the electoral index achieves an equivalent level (assuming similar scales on all variables). Note that our results are not simply the consequence of differences in variable distributions. It is likely that both male and female civil rights improve before having competitive elections. Importantly, as a robustness test we construct frequency tables for different subsamples, and find that the same pattern prevails for both early and the third wave democracies (Tables B.3 and B.4 in the Online Appendix), and for developed (Western Europe and North America) and developing countries (Tables B.5 and B.6 in the Online Appendix).¹²

To investigate if having competitive elections depends on the development of both male and female civil rights, we conduct dependency analyses. Table 3 documents, across all observed combinations, countries' minimal scores for the civil rights indicators when the country scores 0, 1, 2, 3 or 4 on the electoral index. Numbers within parentheses are the absolute minimal values, while numbers outside parentheses are the fifth percentiles, which allow 5 per cent margins of error. For example, there is no country scoring 3 on the electoral index when its level of property rights for men is not at least 4 (with 5 per cent margins of error). For a country to be assigned to the highest category on the electoral index, it must score 4 for the indicators of property rights for both men and women and freedom of domestic movement for men, and score at least 3 for all other indicators.

Table 3 clearly suggests that the electoral component index is conditional on pre-existing high levels of a number of civil liberties. For a country to achieve certain levels on the electoral index, it needs high scores for the indicators of property rights and freedom of domestic movement for both men and women. The dependency is less strong, but still clear on the indicators of freedom of discussion for both genders. The results suggest that

Table 3. Dependency table of the electoral component index on civil liberties

Electoral component index	0	1	2	3	4
Freedom of domestic movement for women		1	2 (1)	3 (1)	3 (2)
Freedom of discussion for women		1	1	2	3 (2)
Property rights for men			2 (1)	4 (1)	4 (4)
Freedom of domestic movement for men			2 (1)	3 (1)	4 (2)
Freedom from forced labour for men			2	3 (2)	3 (2)
Freedom from forced labour for women			2	2 (1)	3 (2)
Property rights for women			1	2	4 (2)
Freedom of discussion for men			1	2	3 (2)

Note: The order of civil liberty indicators is according to the extent of dependency of electoral democracy upon the civil liberty.

Table 4. Dependency table of civil liberty indicators on the electoral component index

Electoral component index	0	1	2	3	4
Freedom of domestic movement for women					
Freedom of discussion for women					2
Property rights for men					
Freedom of domestic movement for men					
Freedom from forced labour for men					
Freedom from forced labour for women					
Property rights for women					
Freedom of discussion for men					1

Note: The order of civil liberty indicators is according to the extent of dependency of electoral democracy upon the civil liberty.

civil liberties for both men and women are important for a country to have competitive elections.

To rule out the possibility that the development of civil liberties may also depend on the quality of elections, the minimal values presented in Table 3 are due to correlations and not temporal dependencies, Table 4 shows the reversed descriptives to those in the previous table. The numbers in Table 4 are countries' minimal scores on the electoral component index when the country scores 0, 1, 2, 3 or 4 for these civil liberty indicators. The table shows that nearly no values of the civil liberty indicators are dependent on the electoral component index. These two tables of dependency analysis suggest that the establishment of free and fair elections depends on civil liberties, and not the other way around.

The frequency and dependency tables presented in Tables 1–4 show the pairwise relationships in the data between the electoral index and civil rights indicators, and between male and female civil rights. The results suggest that civil rights for men tend to develop ahead of civil rights for women. Even though men's rights improve before women's rights, if female civil rights are capped to certain values, it still remains difficult for a country to

experience democratic transitions. Civil rights for men and women are both important and have both to reach certain levels before the country has free and fair elections.

In order to verify that these patterns are not due to the effects of confounding factors, we also use the conventional fixed-effect regression analysis to control for variables identified as crucial predictors of democratisation. The estimated regression models are included in Online Appendix C, and show that both men's and women's rights are correlated with the emergence of competitive elections, even when the effects of economic development, income inequality and oil production per capita are controlled for. In addition, coefficients of interaction terms between male and female civil liberties indicators also suggest that the effects of liberal rights on electoral democracy are particularly salient when the rights of men and women are both advanced. When there is gender inequality and women have limited rights, the development of electoral democracy is less likely to rise with the civil liberty indicators.¹³

Transition graphs

The frequency and dependency analyses suggest that countries tend to score higher for both male and female civil rights than on the electoral index, and that the electoral index is dependent on pre-existing civil rights of both genders, but not the other way around. To further verify the direction of changes, and ensure that our results imply a development in male and female civil liberties before the establishment of free and fair elections, we plot all changes for the electoral index and different civil right indicators. Figure 1 shows all the observed pathways of changes. As described in the previous section, in these figures, the thickness of each arrow is proportional to the number of changes that occur along that particular path, while the size of each circle is proportional to the number of observations on that particular combination. For example, in the plot in the upper-left panel, the x axis represents the level of property rights for men and the y axis represents the electoral index. Nearly all circles are below the diagonal, and most large circles and thick arrows are located at $x = 4$. These suggest that in most countries, men have enjoyed full property rights before even modest improvement in electoral competition takes place. The plot in the upper-right panel shows the pathway of changes in property rights for women and the electoral index. Similarly, most circles and arrows are below the diagonal, and larger circles tend to be located at $x = 4$. There are some smaller circles in the area where $y = 1$ and x is between 1 and 3, indicating that there are some countries where there is quite limited electoral competition when women have some but not full property rights. For the majority of cases, to achieve 3 or 4 on the electoral scale both men and women have to first possess full property rights.

Other plots show similar patterns and are consistent with our hypotheses that civil liberties for both men and women tend to develop first, before the emergence of free and fair elections. The figures for forced labour are included in Figure B.1 in the Online Appendix. Similar to what frequency and dependency analyses show, across the different types of civil rights, the quality of elections especially depends on high scores for property rights and freedom of domestic movement and, to a lesser degree, on certain levels of freedom of discussion.

Bayesian dynamical systems

To further identify potential nonlinear relationships between civil rights indicators and the electoral index, we adopt the Bayesian dynamical systems approach. All the above methods indicate that electoral democracy depends on high scores for civil liberties of both genders, and the correlations between them prevail when the potential confounding factors are controlled as suggested by the regression analysis in Online Appendix C. For convenience and clarity of the discussion, therefore, in the following we continue focusing on them and ignoring the potential impact from other variables. In other words, we assume they work in a closed system, and thus the equations are correct descriptions of democratisation processes. We investigate the feedback between male and female property rights and freedom of discussion and their effect for and from the electoral component index.

With regard to property rights, the equations with the largest Bayes' factors¹⁴ for female (F) and male (M) property rights and the electoral component index (E) are the following:

$$dF = (0.049 - 0.051F) E \quad (1)$$

$$dM = (0.064 + 0.019F - 0.086M) E \quad (2)$$

$$dE = (0.11 - 0.39E + 0.28E^2) E + 0.02F^3 \quad (3)$$

The comparison of the first two equations suggests that both male and female rights increase at decreasing rates. Male rights initially grow more rapidly than female rights, but will slow down unless female rights also grow. If female property rights remain at the level of 0, male property rights cannot grow beyond 0.74 on the 0–1 scale.¹⁵ These two equations also show that changes in property rights also grow linearly with the electoral component index. With regard to changes in the electoral index, female rights appear to be slightly more important than male rights. The equation with the largest Bayes factors includes only the electoral index itself and female rights. Male and female rights, however, are highly correlated, and thus this should not be interpreted as male rights not being important, but it suggests that *female rights are somewhat better predictors of increases in the electoral component index*.¹⁶

This third equation shows that at low levels of female rights, the electoral index can grow roughly independently of property rights. However, as the index reaches higher values, the growth of the electoral index depends more on the improvement of female property rights. If female property rights remain at the level of 0, the electoral index cannot achieve values larger than 0.38.¹⁷ With high scores on the property rights indicators, the electoral index cannot stay at low values; while with low scores on the property rights indicators, it is not possible for the electoral index to remain high.

With regard to freedom of discussion, the equations with the largest Bayes factors are the following:

$$dF = (0.055 - 0.087F + 0.035E^2) E \quad (4)$$

$$dM = (0.055 + 0.11F - 0.17M) E \quad (5)$$

$$dE = 0.0060 - 0.059E^2 + 0.039F^3 \quad (6)$$

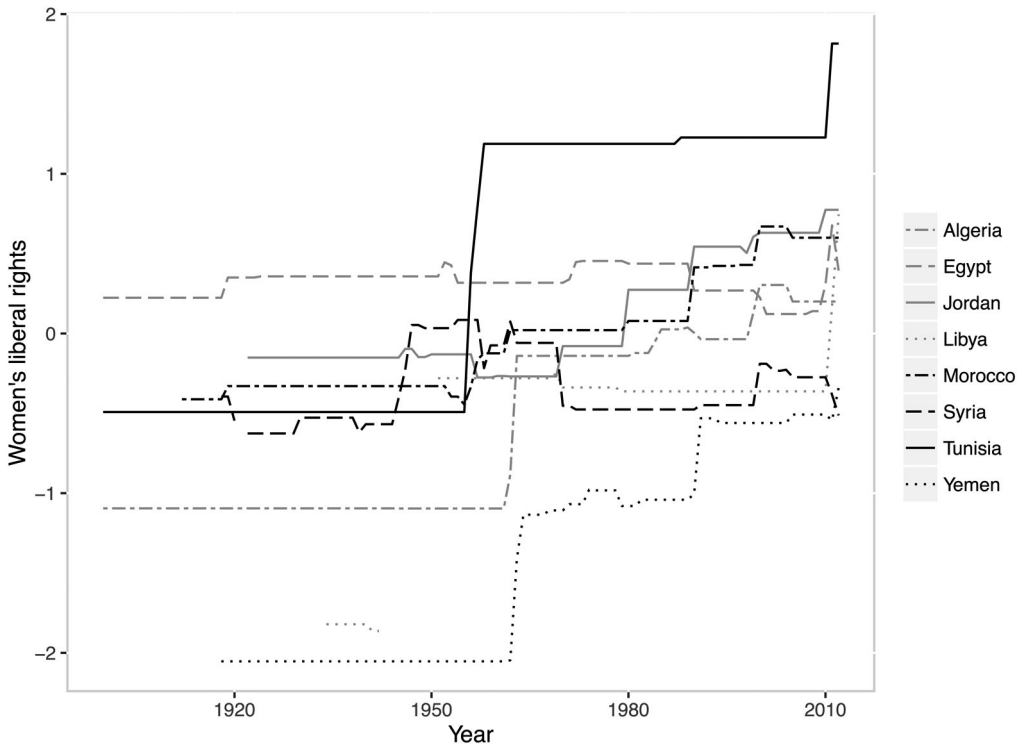


Figure 2. Women's liberal rights in Arab Spring countries.

As the equations show, improvement in all variables depends on female rights, while male rights show up only as a self-limiting term in the second equation. The change in men's freedom of discussion increases linearly with women's freedom, with a larger coefficient than that for property rights, and depends on it to grow large. For changes in the electoral index, similarly, the equations suggest women's freedom of discussion has greater impact on the index than men's freedom. As the index increases, the growth of the electoral index depends more on the improvement of female freedom. The electoral index cannot grow beyond one third (0.32) on the scale without women's freedom of discussion.¹⁸

The dynamical systems suggest that while all the previous approaches point out the dependency of the electoral index on civil liberty indicators, there is some nonlinearity between them. The more nuanced complexities involved in this dependency relationship require further studies. Overall, however, the equations are consistent with the pattern that male rights grow at first, but are increasingly limited if there is a lack of female rights. Further, *the electoral component index depends primarily on female rights in order to grow*. In general, changes in the electoral index take the form of (polynomial with the electoral index) + (female civil rights). This suggests that *both* the rate and direction of change in the electoral index are affected by levels of civil rights, particularly when the index grows large. *The index will decline, or not grow further, unless there is a certain amount of female civil rights*. In addition, the equations for change in civil rights are in the form of (polynomial without the electoral index) * (electoral index). This suggests there is also a feedback process, where the electoral index affects the speed of change in civil rights, but not the other direction.

The improvement in civil rights is expected to be faster in countries where the level of electoral democracy is high.

Concluding discussion

This article began by discussing the theoretical reasons why women's rights may matter for a country's successful transition toward democratic rule. We pointed specifically to macro-level factors regarding gender inequality in rights as well as how women's organising may be crucial during democratic transitions. In countries where women have civil liberties and rights, the costs of repression for authoritarian rulers tend to be larger than in countries where half of the population is not granted such rights. Expert assessments covering 173 states over the years 1900–2012 allow us to conduct empirical tests that span a longer period of time and across more countries than earlier research.

We have offered systematic analyses on the oft-mentioned relationship between political liberalisation and democratisation. From a gendered aspect, we especially point out the importance of women's civil rights. Utilising sequence analysis approaches focusing on the temporal relationships between variables, and a novel cross-sectional time-series dataset including disaggregated measures of democracy, our results from different approaches all point to the fact that both men's and women's liberal rights develop before democratic transitions. Despite the fact that men's civil rights tend to attain high values sooner than women's civil rights, if female civil rights are limited, the likelihood for a country to establish democratic elections is still low. This pattern is robust also when analysing subsets of this data, such as time periods with the earliest democracies.

These findings have implications for both researchers and policy makers. We point toward the important role of rights for women. The findings suggest that influential modernisation writings – stressing the role of economic development in democratisation processes – and the theoretical discussion on the evolution of different rights (cf. Janosky 1998; Marshall 1950) may partly have been misinformed. The gendered feature of this process has, until now, rarely been studied in a comparative perspective. Thus, we confirm insights gained by qualitative studies of women's organisation in democratisation processes (e.g., Moghadam 2008; Tripp 2001; Waylen 2007).

For policy makers, the results can improve our understanding of current challenges for further democratisation of regions where women's rights are weak. This may, for instance, provide insights into why so few countries were successfully democratised during the so-called 'Arab Spring': only one country (Tunisia) upheld democratic gains. While the future of countries in this region is difficult to predict, the democracy scholar Larry Diamond recently noted: 'Tunisia remains full of promise. Alone among the Arab Spring states, it has achieved a remarkable level of political compromise among secular parties' (Diamond 2015). As Figure 2 shows, based on the averages of the five civil liberty indicators for women, Tunisia was, at the same time, the country in the region with the most rights for women.¹⁹

For further analyses, we expect to develop a refined way to draw inferences from our approaches, and examine cases with similar sequences to see whether they share some features. In addition, among different types of civil rights, our results suggest that the improvement of property rights, especially, tends to predate democratisation. Future research could benefit from examining the relative importance of different rights. We

also invite a further use of multi-method research that combines the strength of different approaches.

The present study stands in a long line of literature arguing for the expansion of the concept of 'citizen' in democratisation. Consider Moore's (1966) classic study on the causes of democracy, which measures democracy with a restricted form of male suffrage and finds that the bourgeoisie are the main proponent of democracy. Moore's study is critiqued by Rueschemeyer et al. (1992), who argue that one cannot claim the bourgeoisie was the protagonist for democracy unless *universal* manhood suffrage is ignored. Instead, Rueschemeyer et al. measure democracy with general male suffrage and find the working class to be more influential in the push for democracy. Yet, in a manner similar to their critique of Moore, we can argue that the working class is only important for the inauguration of an exclusionary form of male democracy rather than democracy as currently conceptualised. Neither Moore's nor Rueschemeyer et al.'s explanation for democratisation captures full democracy, since they both ignore female suffrage. The entire debate about different class influences on democracy is predicated on the exclusion of women. We instead show that the extension of civil liberties to women is essential.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Appendix A: Theoretical Background to the Graphical Investigation of Ordinal Sequences
Appendix B: Additional Results

Appendix C: Regression Analysis

Appendix D: Bayes Factors for the Dynamical Systems

Notes

1. By using the new approach, we also contribute methodologically to the understanding of the role that women play in democratisation. Qualitative case studies that analyse women's organisations in liberation processes focus on single countries over a limited period of time, while quantitative studies tend to rely on regression frameworks whereby it is difficult to identify the temporal relationship between variables and deal with endogeneity issues.
2. While research on inequality and democratisation have theoretical nuances – such as if the relationship is that of an inverted U-shape (Acemoglu & Robinson 2006) or a direct negative correlation (Boix 2003) and if there are different effects from inequalities in income compared to inequalities in land distribution (see Ansell & Samuels 2010) – recent empirical studies find support for the importance of inequality for societies' transition towards democratic rule (Spaiser & Sumpter 2016).
3. If women do not have formal civil liberties, customary violations of their rights embedded in informal culture are further constraining. Such examples include Purdah, female seclusion existing even today in parts of South Asia (Shaheed 1986), or the denial of the right to own or inherit shared property in many countries (USAID 2012). These cultural practices significantly constrain women's power in public spaces; consequently, women are unable to exert 'civic agency' (Welzel 2013) or make demands on the state (Young 1993).
4. For a discussion on the relationship between women's movements and struggles of decolonisation, see Ray and Korteweg (1999).
5. Varying coefficient models allow the coefficients to vary over either time or groups (see Fan & Zhang 2008; Li et al. 2011), but cannot account for different lengths of sequence across both time and countries. We acknowledge that by combining yearly observations into an 'event', it is likely that we are comparing sequences with very different lengths. For electoral democracy and each of the civil liberty variables, the average event duration is around 11 years. Since we do not assume a fixed time lag between the improvement of liberal rights and electoral democracy in the theory, and the data suggests the durations do vary across countries and starting points, we opt for this less restricting approach.
6. Dependency here should not be taken as a causal relation between X and Y , but only that certain values for a variable are conditional on the other variable in the available observations.
7. The graphs look similar to the 'decorated parallel coordinate plot' developed by Bürgin and Ritschard (2014) to present a set of discrete event sequences, and then identify the typical order. However, the most important difference is that our transition graphs allow the exploration of temporal relationships between two binary or ordinal variables.
8. Since we compare several models to each other, we use the Bayesian marginal likelihood directly. With a preference for the models with the highest values, this measure has the same function as the conventional use of the Bayes factor, the ratio of likelihood probabilities.
9. The continuous versions are still used in the Bayesian dynamical systems approach.
10. For these indicators, the measurement model also produces interval-level estimates of latent traits. For the sequence analysis, we utilise the ordinal category with the highest posterior probability based on the measurement model. We also try alternative ways to ordinalise the variables – such as taking the corresponding normal cumulative probability of each value and dividing them into five ordinal categories based on the probabilities – and they generate consistent results.
11. Among the cases where women have higher levels of civil rights than men, many are countries undergoing interstate or internal conflicts, including Belgium and Finland during the First World War; Denmark, Italy, Japan, and the United Kingdom during the Second World War; and Afghanistan and Vietnam in the course of civil wars. Others include several countries when they were under authoritarianism, such as Bulgaria, Chile, Malaysia, Turkey and Serbia. This is consistent with the theoretical contention that when formal politics is largely repressed, with non-conventional activities, women can sometimes exercise the freedom of discussion and be the 'first movers' of opposition.

12. Among the developed countries, the percentages when $X = Y$ are somewhat higher, which is partly due to there being more events scoring the highest value for both variables.
13. Note that in the regression models, even though all independent variables are lagged by one year, it is still difficult to identify the temporal relationships between the improvement of electoral quality and civil rights for both genders. Whether there is a temporal lag between the empowerment of men and women is also not clear from these models. In addition, there is no theoretical justification for the selection of a constant one-year lag across countries and over time. Sequence analyses are intended to deal with these issues.
14. We identified the model with the largest Bayesian marginal likelihood. For ease of interpretation, if a model with fewer terms had a marginal likelihood less than 0.05 per cent below the largest, we opted for the simpler model. The Bayesian marginal likelihoods for models of different numbers of terms are presented in Online Appendix D.
15. Based on the second equation, if $F = 0$ and $M = 0.064/0.080 \approx 0.74$, then $dM = 0$. In other words, when female property rights remain 0, male property rights do not increase once they have reached 0.74.
16. The separate equations for male (or female) civil rights versus the electoral component and the path diagrams are shown in Online Appendix D.
17. Based on the third equation, if $F = 0$ and $E \approx 0.38$, then $dE = 0$. When female property rights remain 0, the electoral index does not increase once having reached 0.38.
18. Based on the third equation, if $F = 0$ and $E = \sqrt{0.006/0.059} \approx 0.032$, then $dE = 0$.
19. By contrast, Jordan is an example where men enjoyed similar or even higher level of civil rights to Tunisia by 2010, but women's rights were more limited; and political reforms in Jordan since the beginning of the Arab Spring have been modest.

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