

Konrad, Kai A.

Article — Published Version

The political economy of paternalism

Public Choice

Provided in Cooperation with:

Springer Nature

Suggested Citation: Konrad, Kai A. (2024) : The political economy of paternalism, Public Choice, ISSN 1573-7101, Springer US, New York, NY, Vol. 201, Iss. 1, pp. 61-81, <https://doi.org/10.1007/s11127-024-01168-y>

This Version is available at:

<https://hdl.handle.net/10419/315350>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/4.0/>



The political economy of paternalism

Kai A. Konrad¹

Received: 11 August 2023 / Accepted: 21 March 2024 / Published online: 22 May 2024
© The Author(s) 2024

Abstract

Some citizens place a high value on making decisions for themselves. Other citizens are happy to delegate decisions to a government agency. Such differences in political attitudes to paternalism can be explained in a strict rational-choice model with citizens' heterogeneous tastes in the economic sphere. Citizens with more eccentric tastes and with high decision-making abilities tend to favor a libertarian regime. If majority preferences matter, heterogeneity in economic preferences and analytical abilities can also explain whether the political regime is more paternalist or more libertarian. As decision-making skills are a learnable capability, the strategic complementarity of individuals' investments in analytical skills in the context of political regime outcomes suggests a feedback mechanism that can cause multiple expectations equilibria. Both a libertarian regime or a paternalist regime can emerge.

Keywords Paternalism · Libertarianism · Autonomous decision-making · Majoritarian decisions · Decision skills · Formation of decision capabilities

JEL Classification D18 · D78 · H11

1 Introduction

Some citizens place a high value on making decisions for themselves. Others are happy to delegate decisions to a government agency.¹ Such delegation of decision-making is a common phenomenon. Indeed, governments intervene to a considerable extent and regulate the approval and accessibility of medicines and drugs, regulate or prohibit dangerous behavior, enact many types of safety regulations, intervene in the market for health products, regulate the market for pension products, and regulate the trade in financial assets. The intensity and depth of such interventions varies between countries. Indices such as the Heritage Foundation's Index of Economic Freedom, the Economic Freedom of the World Index (Cato Institute & Fraser Institute et al.) or the annual Freedom in the World report (Freedom House)

¹ Substantial preference differences have been documented. For survey evidence see, e.g., Pedersen et al. (2014); Konrad and Simon (2021), and Sainz Villalba (2023).

✉ Kai A. Konrad
kai.konrad@tax.mpg.de

¹ Max Planck Institute for Tax Law and Public Finance, Marstallplatz 1, D-80539 Munich, Germany

typically measure components of “freedom” that relate closely to freedom of personal/economic choice, and identify major differences between countries.²

The analysis here offers a theory for why individuals differ in their desire to delegate economic decisions on their private matters to the government, how this desire can form political regimes on how paternalist the government is, and how expectations about the future political regime can be self-fulfilling. Many choices in the economic sphere have multiple payoff components: Some payoff components are highly correlated among all citizens and some payoff components result from more idiosyncratic tastes.³ As it turns out, citizens with more eccentric economic tastes and with high decision-making abilities are more in favor of a libertarian government regime. If majority preferences matter for the policy regime outcome, the distribution of preferences on basic economic issues can therefore explain whether a country’s political regime is more paternalist or more libertarian.

The general decision-making ability is itself a capability that can be learned at some cost at school and early in life (Heckmann & Corbin, 2016). Such analytical skills are more useful in a society that gives more scope for individual choices, and less useful in a more paternalist society. Expectations about the future political regime therefore affect citizens’ choices to invest in such skills. Furthermore, in a society in which majorities form the regime on how paternalist the government is, individuals’ capability-learning choices become strategic complements. This causes a feedback mechanism that can cause multiple expectations equilibria in the political regime choice between a more paternalist and a more libertarian regime.

The existing literature offers several explanations for citizens’ attitudes toward paternalism. Mill (1859/2014) alludes to a possible information advantage of the citizen compared to the government, and is closest to the approach in this paper. Benz et al. (2004) and Benz and Frey (2008) suggest that citizens might intrinsically attribute value to the citizens’ procedural freedom to make their own decisions.⁴ An even earlier discussion of the intrinsic value of freedom of choice is by Sen (1988), who asks if, how, and to what extent such an intrinsic value could be embedded in a consequentialist framework by making it a “freedom-to-choose commodity.” Buchanan (2005) suggests that individuals might genuinely dislike taking responsibility as a reason for why some citizens would prefer to delegate decision-making to the government.

The analysis here concentrates on one important governance aspect: the trade-off between two types of information asymmetries. Individual differences in preference can be given greater consideration in a libertarian world, as only the individuals know their specific preferences. The potential advantages of the government’s economies of scale in the risk assessment of economic decision alternatives are more likely to be exploited through state regulation. If these are the same for all citizens, the government must expend this

² Berggren and Gutmann (2020) correlate personal freedom with measures of judicial independence, and the institutional design of political decision-making. They find stronger correlations of freedom with judicial independence and weaker correlations with “Democracy” as predictors of personal freedom.

³ A generic example that will be used in this paper is pension choices. Regarding their old-age savings all citizens likely care about inflation, growth, and other return characteristics of savings instruments. But based on their different lifetime planning and intertemporal consumption tastes, individuals might differ in their choice of an optimal pension plan. Some citizens might have eccentric tastes, whereas others have moderate tastes, closer to the median of the population. And how well citizens can solve their optimization problems in old-age savings depends on more basic analytical skills developed earlier in life.

⁴ See also Bavetta et al. (2017) on how choosing oneself can, as a way of self-realization, contribute to happiness.

cost only once, whereas a fully decentralized decision framework will have duplication of assessment costs and/or transaction costs of communication.

Many other aspects are disregarded here. One important assumption is that a paternalist government is benevolent in the sense of the maximization of citizens' utility. This assumption deliberately excludes many reasons why the libertarian regime might have advantages over a paternalistic government. Governments are notoriously susceptible to the influence of interest groups and can be captured by special interest groups (Olson, 1965) or power might be in the hands of elites (Engerman & Sokoloff, 2012). And individual politicians themselves may pursue ideological goals, or they may inaccurately or incorrectly determine the systematic payoff effect for other reasons.⁵ All of this may lead to other than purely benevolent decisions.

Paternalism is often confounded with the government's agenda to address the problems of externalities that economic choices might have for other citizens, or valuation differences between government agencies and private economic agents (see, for an analysis, Hillman (1980), and Besley (1988)). The analysis here does not rely on externalities or such motives. Also, an influential literature studies behavioral aspects, assuming that citizens make "systematic mistakes."⁶ Disregarding these aspects, we consider a framework in which man is a fully rational agent when making own choices on own private matters: an agent who has complete or incomplete information, but correctly processes the available information, who can obtain better information at a cost, who appropriately weighs the costs and benefits of doing so, and who does not need to be protected from their own mental defects or systematic cognitive malfunctions.

2 The formal analysis

2.1 Players and their tastes

Let there be an infinitely large set of players indexed by i . In the economic sphere citizens assess their own economic payoffs from two economic choice outcomes denoted A (lternative) and D (efault). These payoffs are determined by two payoff components that add to the total payoff: one is systematic across citizens and gives all citizens the same benefit of A over D . The second component captures an idiosyncratic benefit. For this component A may be better than D for some citizens and worse for others. Formally, the two benefits are described by two payoff-relevant variables $x \in [-1, 1]$ and $y_i \in [-1, 1]$: the citizen i 's systematic benefit x from A compared to D (same for all i), and citizen i 's idiosyncratic benefit y_i from A compared to D (typically different between citizens). Note that benefits of A over D can also be negative. If A is chosen, this gives i a payoff of $x + y_i \in [-2, +2]$. If D is chosen, i 's payoff is zero (where the zero payoff from D is a normalization).

For illustration, let us consider whether a citizen's contributions to a funded retirement system are annuitized or paid out at the time of retirement. The relative advantageousness of the two alternatives depends, for example, on the inflation risk during the retirement

⁵ Hertwig and Ryall (2020) consider non-benevolent government in a framework of soft paternalism, and Ambuehl et al. (2021) focus on citizens' preferences for the decision regime that applies for others: whether their fellow citizens should decide freely and individually or whether the state should decide for them.

⁶ A prominent example is Thaler and Sunstein (2003). For a selection of recent surveys see, e.g., Congiu and Moscati (2022); Cai (2020); Ledderer et al. (2020), and Blaga et al. (2018).

period – a risk that is similar for everyone, as measured by the x component. And the government may be more aware of this risk than the individual citizen. But different individual advantages and disadvantages y_i of the two alternatives may result, for example, from citizens' idiosyncratic preferences for their lifetime consumption profiles.

It is useful to define two option values. First, nature draws a given frequency distribution $F(y)$ of citizens' idiosyncratic tastes, measured by the benefit y_i of A compared to D .⁷ For this benefit y_i , nature's choice sorts all citizens along the line of possible values $y_i \in [-1, 1]$. To make the analysis easily tractable, let F be continuously differentiable, with $F(-1) = 0$, $F(1) = 1$ and symmetric around $y = 0$, implying that $F'(-y) = F'(y)$ and $E(y) = 0$. Further, denote the expected value of all positive y_i as

$$\int_0^1 y_i F'(y_i) dy_i \equiv V(F). \quad (1)$$

Second, the systematic payoff-relevant factor x is a draw from a given random distribution with the cumulative distribution function $G(x)$ with support $[-1, 1]$. It describes the systematic benefit x from outcome A compared to D . This $G(x)$ is known by all citizens. For tractability reasons $G(x)$ is twice continuously differentiable, and is symmetric around $x = 0$, implying $G'(x) = G'(-x)$ and $E(x) = 0$. We define the option value

$$V(G) = \int_0^1 x G'(x) dx. \quad (2)$$

The interval $[-1, 1]$ is just a normalization in relation to information costs that will be defined later. The setup is compatible with very different CDFs with very different dispersions. For instance, $G(y)$ might have virtually no dispersion, with all mass around a small interval around zero together with $F(x)$ having a very high dispersion, or even with positive mass only at intervals in the extreme ends of the distribution, or vice versa.

2.2 Sequence of actions and outcomes

Stage 1: Each citizen i decides whether to acquire decision capabilities for later in life. This choice is denoted by $\omega_i \in \{0, 1\}$. The choice of $\omega_i = 0$ means that i does not invest in such skills. Choice $\omega_i = 1$ implies a training cost $e > 0$ and endows i with decision capabilities. The choice of ω_i determines the citizen's later cost of learning the true value of x . Citizens make the capability choice early on in life. The functions F and G are common knowledge at that point of time, but neither the systematic x nor their own idiosyncratic values y_i are known to the citizens when choosing ω_i .

In a broader model, the cost e might be a governmental policy choice variable. For instance, the amount of public provision of schooling will affect this cost. We might also note that parents, social norms and their intergenerational transmission, etc., have some impact on this cost and the education decision.⁸ Individuals might also differ in their

⁷ This frequency distribution has well-defined proportions of citizen types in any given interval $[y_a, y_b]$. The assumption of a given frequency distribution of types is a common bypass for the measure-theoretic problems that standardly arise if y_i were the realization of an iid-distributed random variable for each citizen i . For discussions see Judd (1985) and Uhlig (1996).

⁸ For overviews of the demand-side and the supply-side of education, see, for instance, Checchi (2006). A review on the role/effectiveness of, for instance, youth financial education is by McCormick (2009).

individual costs. We take the true cost of $\omega = 1$ as a given here, because these other aspects are not our main concern.

Stage 2: Citizens costlessly observe the value of their own idiosyncratic benefit y_i ; i.e., they learn about their own degree of eccentricity. Citizens then vote on the political regime. Each citizen votes for either a libertarian regime or for a paternalist regime along the lines of median voter theory. Voting is costless, all citizens vote, and they vote sincerely.⁹ Let λ denote the share of citizens who vote for the libertarian regime and $(1 - \lambda)$ be the share of citizens who vote for the paternalist regime. The regime that reaches the larger share of votes is implemented. For $\lambda = 1/2$ a fair coin drop decides.

Simple majority voting (without logrolling, without abstention or strategic voting, without parties, etc.) is adopted here as “the” alternative to purely individual choice because of its analytical simplicity, and its role as a benchmark. Starting with the pioneering work by Downs (1957) and Buchanan and Tullock (1962), the theory of Public Choice has developed a great variety of models for decision-making by citizen voters and their aggregation. The role of majorities has a prominent role in many well-known variants of voting models, such that the theory developed here should be relevant also in these modifications, as long as political governance rules are decided on the basis of the distribution of voter preferences.^{10,11}

Stage 3 – paternalist regime: If voting in stage 2 led to the paternalist regime, then the decision between A and D is made by ‘the state’: an automated decision mechanism. The decision mechanism knows the true value of the systematic benefit component x , and the frequency distribution F of idiosyncratic benefits y_i , but not the individual idiosyncratic benefit y_i of each and every citizen.¹²

Stage 3 – libertarian regime: If the majoritarian decision led to the libertarian regime, the citizens individually choose between A and D . Before making this decision, the individuals might use their capabilities and expend some cost of learning the true value of x . This cost depends on whether the citizen acquired decision capabilities in stage 1. This cost will be c_0 for i if i did not develop decision capabilities (i.e., chose $\omega_i = 0$) and c_1 otherwise (i.e., for $\omega_i = 1$), where $c_0 > c_1$. The following Fig. 1 illustrates the game tree.

Payoffs are functions of the capability formation cost implied by choosing ω_i , and the choice of whether to learn the true value of x , of the resulting information acquisition cost of $c_i = c(\omega_i) \in \{c_0, c_1\}$, and of the final outcome A or D . Accordingly, the payoff of i with idiosyncratic benefit y_i is

⁹ Given that each citizen has zero mass, strategic motives are not an issue here. Sherif (2022) shows in a recent survey that a diversity of motivations exist for why non-pivotal voters vote.

¹⁰ While a defining element of “Democracy” is “political freedom”, it has been pointed out by Zakaria (1997) and Mukant and Rodrik (2020) that one needs to distinguish between democracy with personal and economic freedom and non-liberal democracy. Democracies differ with respect to personal and economic liberties (Berggren & Gutmann, 2020).

¹¹ The paper is silent about the paternalism dimension in autocracies. As the discussion on the Hayek thesis by Knutsen (2016) suggests, the paternalism-libertarianism trade-off also emerges there, and similar mechanisms may apply there: what a country’s population finds desirable should also matter for an autocrat whose aim is to stay in power.

¹² The assumption that the government knows x is based on a simple economies-of-scale argument. Let us take a large community of n consumers. All of them face the problem of whether a certain product is dangerous. Now everyone can find this out for themselves with a cost of c to do so. If the state carries out these tests, the costs are also c , but financed via a tax and distributed among the community, costs of c/n arise for each citizen, and if n becomes very large, these costs are negligible for the payoffs of the individual citizens.

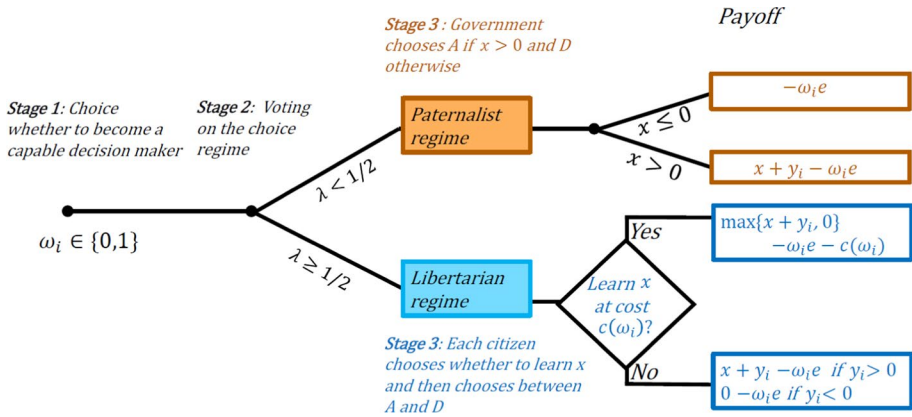


Fig. 1 Game tree

$$\pi_i = \begin{cases} y_i + x - \omega_i e - \theta_i c(\omega_i) & \text{if the outcome is A} \\ -\omega_i e - \theta_i c(\omega_i) & \text{if the outcome is D} \end{cases} \quad (3)$$

where $\theta_i \in \{0, 1\}$ is an indicator variable for whether a citizen i acquires information on the true value of x .

In the formal setup here, only one economic choice is made and the payoff consequences of choice have only two components, of which the x -component is perfectly correlated among citizens and the y -component is fully idiosyncratic, x is just a number between -1 and 1 , uniformly applying to all citizens. These assumptions are meant to reduce complexity, but the single economic choice item represents a whole set of such choices, and each choice might involve multiple payoff components, some of which are more idiosyncratic than others in an empirical counterpart of the framework. It would be first best in our framework if the government could make individual-specific decisions that take the true values of y_i into account, or if the government could costlessly inform citizens about the value of x (basically driving c_0 down to zero) and then leave the decision to the individual. However, such costs of informing citizens are significant in a more complex reality and generate the trade-off between individual decisions and governmental decision-making. This justifies the assumption that $c_0 > 0$. These considerations also highlight that the citizens' costs of inference in x are a policy variable, and the paper offers comparative static results on this policy variable, with a broader discussion in Sect. 6.

3 Equilibrium

3.1 Equilibrium in stage 3

In the *paternalist regime* the state is not a player and acts as if it is a benevolent automaton that maximizes expected welfare. Hence, the state chooses A if $x > 0$ and D if $x < 0$. Each

of these outcomes occurs with ex-ante probability $G(0) = 1 - G(0) = 1/2$.¹³ For a citizen with taste y_i the resulting expected payoff is

$$\int_0^1 (y_i + x)G'(x)dx - \omega_i e = u^p(y_i) - \omega_i e, \quad (4)$$

where, using (2), the utility $u^p(y_i)$ in the paternalist regime is

$$u^p(y_i) = \frac{1}{2}y_i + V(G). \quad (5)$$

Not seeking information on x is optimal for individual citizens in this case, because the citizen's information acquisition on x is costly but also useless in the paternalist regime.

Consider the *libertarian regime*. The citizen i knows y_i at this stage. The citizen has invested in decision capabilities ($\omega_i = 1$) or not ($\omega_i = 0$), resulting in information acquisition costs $c_i \in \{c_1, c_0\}$. The citizen decides whether to acquire information about x and then chooses A or D . If the citizen acquires information, the citizen knows both x and y_i and optimally chooses A if $x + y_i > 0$ and D if $x + y_i < 0$. If the citizen i does not acquire information about x , the citizen anticipates $E(x) = 0$ and chooses A if $y_i + E(x) = y_i > 0$ and D if $y_i + E(x) = y_i < 0$.¹⁴ The player could always decide on the basis of y_i only. But learning the true value of x has a cost of c_i and allows the citizen to correct its choice if y_i and x are of opposite signs and the absolute value of x is larger than that of y_i . As is easy to verify, the player prefers to learn the true value of x if $y_i \in (-\bar{y}(c_i), \bar{y}(c_i))$ and prefers to make a decision on y_i only and save the cost c_i if $y_i \in [-1, -\bar{y}(c_i)] \cup (\bar{y}(c_i), 1]$ where $\bar{y}(c_i)$ is defined by

$$\int_{-\bar{y}}^1 (\bar{y} + x)G'(x)dx - \bar{y} = c_i. \quad (6)$$

Intuitively, an individual who assesses the precise value of x has a cost c_i and always makes the optimal decision between A and D . Alternatively, i could base the decision only on y_i and save the cost. This implies that i sometimes makes “wrong” decisions: for instance, when y_i is negative, but x is positive and larger than y_i , or y_i is positive, but x is negative and larger in absolute terms. If i knows x , i can avoid such wrong decisions. The left-hand side sums up the expected payoff benefits from these better decisions. The range and size of such improvements depend on how much y_i differs from $y = 0$. For instance, for $y_i = -1$ the choice D is always optimal for all x and the cost of information would be wasted. The value \bar{y} is the critical value of y_i for which these expected benefits equal the cost c_i . Note that the interval $(-\bar{y}(c_i), \bar{y}(c_i))$ is always non-empty if c_i is sufficiently close to zero, and it vanishes if c_i is sufficiently high.

Put differently, if the idiosyncratic taste component shows no clear preference for A or D (i.e., if y_i is close to zero), then learning about the level of x is particularly worthwhile. If, with regard to the idiosyncratic preference component, one of the alternatives performs significantly better than the other (i.e., if y_i is close to 1, or close to

¹³ The outcome $x = 0$ is a zero-probability event. We can make any assumption about the choice for this event. In the game tree in Fig. 1, for instance, the assumption is that D is chosen in case of this zero-probability event.

¹⁴ The outcomes $x + y_i = 0$ or $y_i = 0$ are zero probability events. We can make any assumption about the choice for these events and assume that the citizen randomizes in this case.

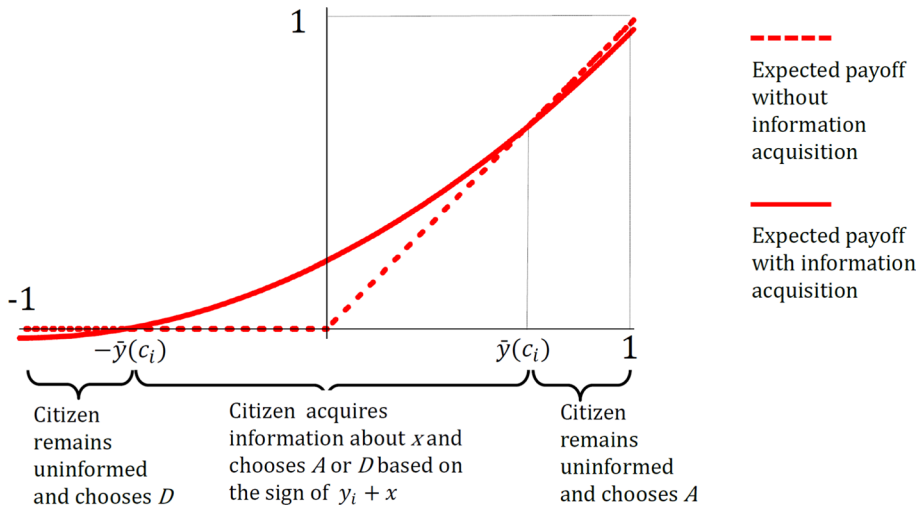


Fig. 2 Dashed line: expected payoff if i does not acquire information. Solid line: expected payoff net of information cost c_i if i acquires information

-1), then it is unlikely that the decision for or against A would be influenced by the knowledge of the actual value of x . For sufficiently extreme values of y_i the expected payoff benefit from information acquisition is then smaller than the information acquisition cost. Accounting for the optimal information acquisition choice, we find that citizen i 's expected payoff is equal to $u(y_i; c_i) - \omega_i e$ where

$$u(y_i; c_i) = \begin{cases} 0 & \text{if } y_i < -\bar{y}(c_i) \\ -c_i + \int_{-y_i}^1 (y_i + x)G'(x)dx & \text{if } y_i \in (-\bar{y}(c_i), \bar{y}(c_i)) \\ y_i & \text{if } y_i > \bar{y}(c_i). \end{cases} \quad (7)$$

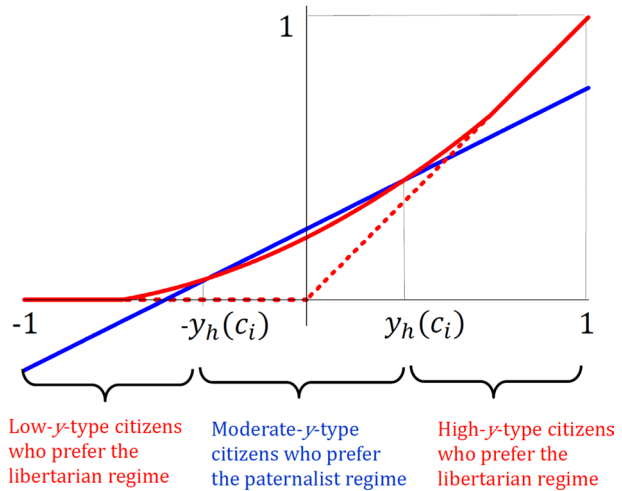
It is easily confirmed that $u(y_i; c_i)$ in (7) is continuous and weakly monotonically increasing in y_i and weakly convex in y_i and has $u(-1; c_i) = 0$ and $u(1; c_i) = 1$.

Figure 2 illustrates the payoffs of a citizen if she does not acquire information and if she acquires information as functions of y_i for the special parametric values with $G(x)$ uniformly distributed and $c_i = 0.1$. The dashed line is i 's expected payoff $\max\{0, y_i\} + E(x)$ if i does not acquire information. The solid curve is the expected payoff if i acquires information. For a positive but sufficiently small cost $c_i \in (0, V(G))$ these curves intersect precisely two times, where each intersection characterizes the critical values (6) for which the citizen is indifferent about whether to acquire information.

The payoff $u(y_i; c_i)$ that makes use of the optimal information acquisition behavior consists of the upper envelope of the two curves: the dashed segment for $y_i \in [-1, -\bar{y})$, the solid segment for $y_i \in (-\bar{y}, \bar{y})$ and the dashed segment for $y_i \in [\bar{y}, 1]$.

The critical size \bar{y} of the idiosyncratic benefit defined in (6) is a function of c_i . A lower c_i shifts the solid curve in Fig. 2 up and makes information acquisition relatively more attractive. The interval $(-\bar{y}, \bar{y})$ increases monotonically in size from size zero for $c_i = V(G)$ to the full support $(-1, 1)$ for $c_i = 0$. The length of this interval $(-\bar{y}, \bar{y})$ remains

Fig. 3 Political preferences: Citizens compare their expected payoff in the paternalist regime (blue linear curve) and their optimized payoff (red convex solid function) in the libertarian regime



zero for $c_i > V(G)$, and not seeking costly information on x is the citizen's strictly preferred choice for $c_i > V(G)$.

3.2 Political preferences and equilibrium in stage 2

A citizen with taste y_i knows her own y_i when she votes at stage 2. She compares the expected payoffs she has for the two regimes as described in (5) for the paternalist regime and in (7) for the libertarian regime.

Proposition 1 *There is a critical level $y_h(c_i)$ of the idiosyncratic payoff component such that citizens with y_i more distant from $E(y_i)$ than $|y_h(c_i)|$ prefer the libertarian regime and citizens closer to $E(y_i)$ prefer the paternalist regime. This critical level is a weakly increasing function in the cost c_i of information acquisition. The range of tastes for which citizens prefer the libertarian regime is larger (or at least of equal size) if the cost of information acquisition is lower.*

The formal proof of these properties is relegated to an appendix. Intuitively, for a citizen with an idiosyncratic taste benefit y_i close to $y = 0$ the paternalist automaton almost always makes the right decision. Hence, this citizen prefers to delegate the choice between A and D to the government that knows the true x . Citizens who have more eccentric preferences (i.e., for whom the absolute value of y_i is larger) prefer to make their own decisions. Some of them (those with very eccentric preferences and/or a high cost of learning x) do not expend resources to learn x and decide solely on the basis of the sign of y_i . For some others, their y_i is sufficiently important and their cost of learning x is sufficiently low, such that they prefer not to leave the decision to the government, but they still collect the information about the true x and base their decisions on the full knowledge of $x + y_i$.

Figure 3 shows the partition of citizens between paternalists and libertarians as a function of their idiosyncratic taste component. The payoff as a function of y_i in the paternalist regime is depicted as the blue solid curve (the linear curve with slope 1/2) and the payoff – accounting for an optimal information decision – in the libertarian regime is the upper hull of the two red curves from Fig. 2.

Proposition 1 describes how individual preferences for a libertarian or a paternalist regime depend on the values of y_i and c_i . Together with the given frequency distribution of idiosyncratic preferences described by F and the share of individuals who invested in decision capabilities, this determines the share of citizens who prefer a libertarian regime or who would like to delegate decision-making to the government. The majoritarian choice then determines the regime.

The determinants of the critical value y_h (and $y_l = -y_h$) also reveal the comparative statics of the political-economy logic. Under $c_l < c_0$ and Proposition 1, $y_h(c_0) \geq y_h(c_l)$. Hence, the share of citizens who prefer a libertarian regime tends to be higher if the citizens' cost of information acquisition is lower. Let γ_l and $\gamma_0 = (1 - \gamma_l)$ denote the share of citizens with a low ($c_i = c_l$) and high ($c_i = 0$) information acquisition costs.¹⁵ Then, a majority of citizens vote libertarian in stage 2 if

$$2\gamma_l F(-y_h(c_l)) + 2(1 - \gamma_l)F(-y_h(c_0)) > 1/2 \quad (8)$$

and votes paternalist if the reverse inequality holds. This can be summarized in three observations:

- The majoritarian outcome depends on the frequency distribution F of idiosyncratic preferences and on citizens' decision costs (their "capabilities").
- The condition for a libertarian majority is more easily fulfilled for a polarized preference distribution, i.e., a frequency distribution that has a larger share of citizens with eccentric preferences.
- The overall share of citizens voting libertarian should be higher (at least not lower) if a larger share of citizens have low information acquisition costs (i.e., if the share of citizens with decision capabilities is higher).

3.3 Pension plans: an example and casual empirical observations

One of the many important economic areas in which the choice of whether to give up decision autonomy and delegate decisions to the government is pension decisions. To make good own financial decisions on the amount of savings and the structure of pension plans depends on several things: knowledge and information that is relevant for all citizens, the capability to collect relevant information and process it in a meaningful way, and knowledge on their own individual characteristics in terms of their own state of health, their own plans for retirement, and specific consumer preferences.

Piecemeal evidence is in support of a correlation between individuals' knowledge status and their preferences for making own choices. Van Dalen and Henkens (2018, p. 1390) report that financial knowledge is a "statistical significant predictor of choice preferences with respect to level of pension savings and the issue of pension fund choice: people with more financial knowledge have a stronger preference for making their own decisions at the level of pension savings and the pension fund."¹⁶ Sainz Villalba and Konrad (2023), conduct an internet survey

¹⁵ Recall the sequencing of decision-making. Citizens decide on investing in their capabilities before their y_i -taste becomes known to them. This makes it natural to assume that the frequency distribution of y_i -tastes is the same among the capable and the less capable citizens.

¹⁶ For financial literacy as within and across multiple countries see Lusardi and Mitchell (2011) and Atkinson and Messy (2011) and for the role of financial capability education programs see Collins and Odders-White (2015) and Lührmann et al. (2015).

and find further supportive evidence. They test several hypotheses. Two of these are important in our context: one is on the correlation between a subject's financial literacy and the subject's preference for making own decisions. They find statistically significant evidence that the group of respondents with the highest financial literacy are more likely to prefer to make their own pension decisions. The second hypothesis is on whether individuals who think that their preferences for pensions are much different from those of the majority are more likely to have a preference for making own pension choices. They find that the self-assessed preference distance from the majority opinion has significant explanatory power and it is more likely that respondents with a large difference dislike being regulated by the government.

These findings are in line with the results of the theory model. Citizens with preferences and tastes that much depart from the median/mean preferences can rightly fear that the choice decisions of a utilitarian government would not appropriately account for these preferences or tastes. The utilitarian government might make the wrong choices for them. Therefore, they prefer individual decision-making. Furthermore, the positive empirical correlation between financial literacy and a desire for own decision-making is in line with the prediction of the formal model about the role of capabilities/information acquisition costs. We cannot offer a full empirical assessment, but the theory findings suggest a research program to assess these hypotheses more broadly and systematically for a multiplicity of areas of economic choice.

3.4 Stage 1 choices on capabilities

A young citizen i does not yet know her own idiosyncratic taste benefit y_i nor the political equilibrium outcome in the future society. This situation corresponds with the stage-1 problem in the formal analysis. To acquire capabilities that lead to a low own cost c_i of good decision-making is advantageous for i only in a future libertarian society, and if the expected increase in payoff from the information cost reduction exceeds the cost of skill acquisition.

The expected benefit of skill acquisition is highest if a citizen can firmly assume that the equilibrium regime will be libertarian. Let us denote $p_i \in [0, 1]$ citizen i 's belief in stage 1 that the majoritarian outcome in stage 2 is libertarian and $(1 - p_i)$ the probability belief that the regime will be paternalist. Also, recall that each citizen is non-atomistic, so the citizen's voting choice does not affect the voting outcome in stage 2. The citizen is better off if she decides to invest in decision capability if

$$p_i \cdot \int_{-1}^{+1} [u(y_i; c_1) - u(y_i; c_0)] F'(y_i) dy_i > e. \quad (9)$$

The right-hand side of (9) is a constant – the cost of acquisition of capabilities, the left-hand side of (9) is a continuous, strictly monotonically increasing function of p_i that takes the value $0 < e$ for $p_i = 0$. Let us assume that developing decision capabilities is individually worthwhile in a libertarian regime:

$$\int_{-1}^{+1} [u(y_i; c_1) - u(y_i; c_0)] F'(y_i) dy_i > e. \quad (10)$$

Then, there is exactly one \hat{p} for which equality holds in (9). For a smaller p_i citizen i prefers not to invest in own capability. For a larger p_i citizen i prefers to make such an investment. In equilibrium, citizens have correct beliefs: p_i equals the true probability that a majority will favor the libertarian regime. Denote the correct belief as p . If $p < \hat{p}$ each citizen is better off if she does not acquire decision capabilities (i.e., chooses $\omega_i = 0$). If $p > \hat{p}$ then all

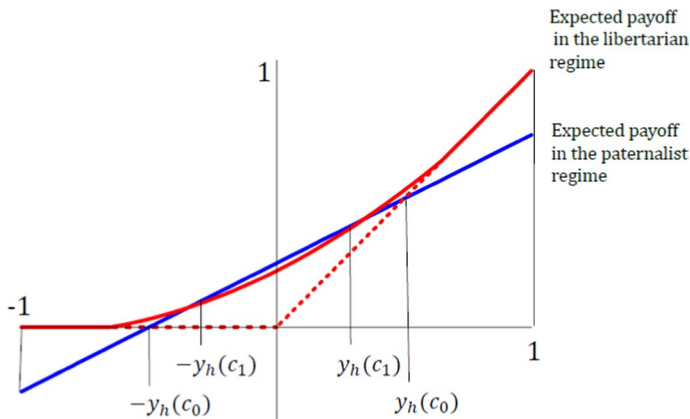


Fig. 4 The cost of information acquisition depends on the previous choice of decision capabilities. A lower information acquisition cost reduces the range of voter types that prefer paternalism from $(-y_h(c_0), y_h(c_0))$ to $(-y_h(c_1), y_h(c_1))$, where in the figure $c_0 > c_1 = 0$ is assumed

citizens prefer to acquire skills in stage 1. For $p = \hat{p}$ all citizens are indifferent at this stage about whether to acquire skills. Let us ignore unstable equilibrium voting outcomes that are generated by this indifference.¹⁷ Then, two equilibria remain: $p = 0$ or with $p = 1$, i.e., situations in which almost all citizens make the same skill acquisition choice.

Proposition 2 (i) A perfect Bayesian equilibrium exists in which all citizens invest in decision capabilities in stage 1 and a majority votes for the libertarian regime in stage 2, if $2F(-y_h(c_1)) > 1/2$. (ii) If $2F(-y_h(c_0)) < 1/2$, then a perfect Bayesian equilibrium exists in which all citizens do not invest in decision capabilities in stage 1 and a majority votes for the paternalist regime. (iii) The range of admissible parameters (F, c_0, c_1, e) in which both equilibria exist is non-empty.

The proof is in the Appendix. Figure 4 illustrates Proposition 2 for $c_0 \gg c_1 = 0$.

The solid red line describes $u(y_i; c_1)$, the payoff as a function of y_i in the libertarian regime if, as a consequence of capability acquisition, the information cost on x is very low. The dashed red line describes $u(y_i; c_0)$, the payoff if the information cost is very high, as a consequence of no capability acquisition. The blue line describes the payoff of a citizen i in the paternalist regime (5) as a function of i 's idiosyncratic benefit of y_i . In stage 2, when citizens vote on the regime, if all citizens have invested in decision capabilities such that $c_i = c_1$ for all citizens, then all citizens with taste $y_i \in [0, -y_h(c_1)) \cup (y_h(c_1), 1]$ vote for the libertarian regime. When all citizens have not invested in decision capabilities, they have high costs. Accordingly, only citizen types with $y_i \in [0, -y_h(c_0)) \cup (y_h(c_0), 1]$

¹⁷ For a wide parameter range a multiplicity of equilibrium voting choices can exist that generate precisely an equilibrium probability $p = \hat{p} \notin \{0, 1\}$. However, these equilibria are unstable. All voters are indifferent in this type of equilibrium as to whether to choose $\omega_i = 0$ or $\omega_i = 1$. If only a tiny set of these indifferent voters change their decisions toward the libertarian or the paternalist regime, all citizens are no longer indifferent.

vote for the libertarian regime. That is, the voting decisions of citizens with $y_i \in (-y_h(c_0), -y_h(c_1)) \cup (y_h(c_1), y_h(c_0))$ are a function of their skill-investment decision in stage 1: they turn their voting decision from pro-paternalist to pro-libertarian if they invested in stage 1. The vote share of citizens in these intervals is

$$F(y_l(c_1)) - F(y_l(c_0)) + F(y_h(c_0)) - F(y_h(c_1)) \quad (11)$$

If this share of citizens is decisive for whether there is a majority of pro-libertarian citizens or of pro-paternalist citizens, then the capability-acquisition choices in stage 1 determine the political regime choice, and this choice becomes self-fulfilling.

Using $y_l = -y_h$, the share (11) is

$$2F(-y_h(c_1)) - 2F(-y_h(c_0)). \quad (12)$$

Condition (12) also shows that the range of multiplicity of equilibrium widens if c_0 becomes larger and if c_1 becomes smaller.

Multiplicity of equilibrium might explain whether countries with very similar fundamentals and taste distributions of the citizens choose different regimes. This might contribute toward explaining the heterogeneity in measures of the personal and economic freedom found in the world, which was discussed in the introduction.

4 Welfare

We may consider the expected utility of citizens under the veil of ignorance about their own y_i . Do they prefer the paternalist equilibrium or the equilibrium with the libertarian regime? This comparison depends on the specific parameters, as can be illustrated with a simple example. Let F and G be uniformly distributed on $[-1, 1]$, let $c_0 \rightarrow \infty$ and $c_1 \rightarrow 0$. The expected utility in the equilibrium with the paternalist regime can be calculated to be $\frac{1}{4}$. The expected utility in the equilibrium with the libertarian regime is $-e + \frac{2}{3}$. In this example the size of e determines whether the expected payoff (under the veil of ignorance about own y_i) is larger in the paternalist regime or in the libertarian regime. The libertarian regime has the higher ex-ante expected utility if $e \in (0, \frac{5}{12})$, and the ex-ante welfare ranking of political outcomes reverses for higher values of e . The example is in line with the more general intuition that the libertarian regime is more attractive from an ex-ante point of view if the cost e of investing in decision capability is low.

Proposition 1 illustrated how the interests of a citizen i depend on the citizen's idiosyncratic payoff component y_i and whether the citizen acquired skills. Citizens who acquired skills have low costs of learning the true x and citizens who have preferences that differ more strongly from mean preferences are better off in the libertarian regime, and citizens who have high costs c_i and tastes y_i closer to the mean taste benefit from a paternalist regime. Skill acquisition is an individual choice. So some individuals might acquire these skills and others do not. But in the equilibria in Proposition 2 all citizens choose individually and make the same decision on skill acquisition.

5 Discussion

Sections 2, 3 and 4 make a number of assumptions that need to be discussed more closely to bridge the gap between the formal analysis and its empirical counterpart.

5.1 Cost-of-information assumptions

The analysis assumes that the government's cost of assessing the true value of x is negligible. Economies of scope may justify this assumption. Suppose that the government can assess the true value of x at some positive but finite cost. As x is common to a large set of citizens, a decision by the government can avoid the duplication of information acquisition effort. With a large set of citizens, this can drive the per-citizen cost of governmental effort of information-acquisition to zero in the limit. In the empirical counterpart to the analytical framework this cost need not be precisely zero, but zero cost per citizen can be seen as a normalization, in comparison to the costs encountered by private individuals.

In the libertarian regime each citizen has to pay an information cost of c_i to learn x . In an empirical counterpart these information collection activities need not be independent of each other. Citizens might communicate or information spillovers may be leveraged by the emergence of private institutions. For instance, rating agencies might emerge, as well as other private institutions that address the collective information problem. The cost savings due to the existence of such institutions do not invalidate the model analysis, but they do change the values of c_0 and c_1 that enter into the analysis. What is essential for the analysis is a trade-off between libertarian decision-making and paternalism, and this trade-off emerges if the private cost $c(x)$ that eventually applies in the absence of government intervention is higher than the governmental cost per citizen.

5.2 Information policy

One also has to consider a government policy that assesses the value of x and disseminates this information among the citizens. This policy option might be seen and analyzed as a possible third scenario, but closer inspection shows that it is very close to the libertarian regime: if the government provides full information on the value of x , this might reduce the individual citizen's cost of information acquisition, but not to zero. For reasons discussed when c_0 and c_1 were introduced, one would expect that these costs do not vanish completely, such that the basic trade-off survives. Where they vanish completely, and if the government's information is reliable and undistorted, such a policy would dominate the alternatives.

5.3 Soft paternalism

We can also discuss governmental initiatives that are sometimes labeled as “soft paternalism” or libertarian paternalism: the government might know x and make a non-binding recommendation, suggesting a choice of A or suggesting a choice of D to the citizens. This policy is sometimes called “nudging,” particularly if alongside the suggestion the citizen has to pay a small transaction cost for deviating from the suggested choice. To illustrate

the implications inside the analytical framework, let us assume that the transaction cost of deviating from the government recommendation is close to zero. Suppose the government knows x and suggests choosing A if x is positive and D if x is negative. In such a soft-paternalism regime, the calculus of the citizens changes. Suppose, for instance, the government suggests a choice of A . Then, each citizen can make inference and knows that $x > 0$, and more precisely, that x is a number from $(0, 1)$, with

$$E(x|x > 0) = \int_0^1 G'(x)dx.$$

Any citizen i who has $y_i \geq -E(x|x > 0)$ will then choose A . The remaining share of citizens have $y_i < -E(x|x > 0)$. If they do not pay the cost and do not learn the true value of x , they will choose D and have an expected payoff of zero, which is larger than the payoff $y_i + E(x|x > 0)$ from following the government's suggestion. In particular, for citizens i with a strongly negative y_i this will be the best choice. For a given cost c_i , some citizen types in an intermediate range $y_i \in (\tilde{y}, -E(x|x > 0))$ for \tilde{y} properly defined might still find it optimal to expend the information cost and make a fully informed choice. Hence, the individual's political preference on soft paternalism and libertarian choice follows a modified, but very similar logic to the choice between strong paternalism and libertarian choice.

5.4 Education policy

In their early years individuals might learn general skills that enable them to tackle all kinds of specific problems: how to structure a problem, logic thinking abilities to solve it, and other universal skills, including probability theory and calculus. Young citizens might embrace the given public schooling opportunities and benefit from it after spending learning effort, become educated and trained, or be reluctant to expend such effort. The empirical relevance of this choice was discussed above when the cost of skill acquisition was introduced. Whether it is an optimal choice for a young citizen to make extensive use of schooling options and to acquire skills depends not only on the given quality and costs of the education system, but also on the future social and economic environment: i.e., how useful these skills are in later life. A future political system that leaves no scope for individual decision-making makes it less worthwhile to acquire such skills than a future political system in which citizens must make their own decisions and have to bear the consequences of these decisions. The analysis in this paper uncovers how the decisions on making use of the public education offer interact and cause multiple equilibria as regards the political regime outcome. The governmental education alternatives basically determine the private costs of becoming skilled and may also shift both c_0 and c_1 . The analysis therefore allows a comparative-static analysis of how the governmental education initiatives affect policy-regime outcomes.

5.5 Generational dynamics and hysteresis

Capabilities are typically developed in early stages of life. The simple framework studied considered a game in which all citizens choose simultaneously whether to develop their decision capabilities. If populations consist of citizens of different ages, then younger cohorts make decisions about the acquisition of capabilities when the capabilities of members of the older generation are already molded. Such an overlapping-generations age

structure can generate hysteresis of regime choice. It seems plausible that the distribution of capabilities among the older citizens affect the anticipated distribution of capability choices among the young cohort. This might happen through imitation or the transmission of behavior, as is sometimes assumed for other tastes, attitudes or convictions.¹⁸ In the context here, the transmission is not intentional or driven by parental preferences but emerges from the impact of given majorities on the feasible policy options for the next generation. Suppose, for instance, the current old generation did not invest in capabilities. Hence, a smaller share of them will find a libertarian regime attractive. The current young generation might not have the critical population mass to shift a paternalist equilibrium toward a libertarian equilibrium in this case, even if the whole young population develops capabilities. Expectations will then be that the regime will be paternalist, and the young generation will therefore abstain from developing decision capabilities. This situation then repeats in the next generation, and this mechanism can generate inertia in how paternalism persists. The same logic applies in a libertarian society with a capable older generation: It might forward its regime also to the next generation. Hence, accounting for the age structure in a population tends to stabilize the regime choice over time.

5.6 A truly dynamic and multi-dimensional framework?

The formal analysis is in the tradition of multistage, but static games, whereas the empirical counterpart typically has dynamic elements. Incomplete information in a framework that accounts for such dynamics leads to interesting questions (e.g., should one pioneer or wait and learn from others? Can one learn from government choices? What activities and findings are observable and by whom?) – learning, signaling, and Bayesian updating become relevant. These issues have been studied in other more abstract contexts but are orthogonal to the basic trade-off studied here. The model should not be understood as one in which there is a repeated choice of the same single issue, but a generalization would have a whole vector of decision problems that might appear simultaneously and/or sequentially. At a high cost of complexity increase one could work out this generalization analytically, also allowing for the heterogeneity of citizens along several choice dimensions. There are many different choices on different economic problems that have to be made. For some of these choice problems the assessment needs very specialized knowledge, e.g., on medical, biological or technical issues, such that a delegated choice is best for all individuals. There are also issues in which the individual information costs are trivial.¹⁹ The framework here is relevant for a presumably large intermediate range of choice problems in which there is a real trade-off between the advantage of taking individual preferences on board and the cost-saving advantage of a public assessment of common payoff components. Skill-acquisition decisions will then shift the range of intermediate decision problems in which some, but not all types of individuals prefer individual decision-making to paternalism.

¹⁸ A large literature in the social sciences considers intergenerational transmission of norms and culture. See Hawkins et al. (2019) for a review.

¹⁹ Note that the formal framework covers such corner solutions, as F and G can be very different in their dispersions and the actual mass of F or G need not be spread across the full supports of these distributions.

6 Conclusions

The fundamental trade-off that shapes the political preferences of voters is an information trade-off. The government might have the benefit of better and more cost-effective information about the decision consequences that apply universally to all citizens, and citizens might want to benefit from this information advantage. But citizens may also have an idiosyncratic gain or loss from one or the other economic outcome. The paternalist state cannot know these idiosyncratic tastes and cannot tailor its regulatory decisions to each individual case. The government typically must choose a one-size-fits-all policy. These two aspects generate a trade-off and are important for a partitioning of the population into paternalists and libertarians, which, in turn, determines whether the majoritarian outcome is paternalist or libertarian.

A channel that shapes this political equilibrium is the endogeneity of citizens' decision capabilities. Their quest for libertarianism is further strengthened if citizens can educate themselves and develop skills that lower their cost of making good autonomous decisions. If the costs for analyzing decision problems becomes low enough, then libertarianism will prevail. Unfortunately, this outcome relies on there being a sufficient number of citizens who invest in such capabilities. Examples of such investment are the willingness to invest in financial literacy, in the knowledge about healthy food, or about desirable safety precautions, etc. And in turn, the willingness to invest in such decision skills depends on citizens' anticipations of what regime will prevail. There is a mutually reinforcing feedback loop between the anticipation of a paternalist regime and the lack of skill investment, but there is also a mutually reinforcing feedback loop between the anticipation of a libertarian society and how citizens invest in increasing their own ability to make informed decisions. This feedback loop suggests a multiplicity of equilibrium. Starting from the same ex-ante homogeneous population, a libertarian society and a paternalist regime are both possible outcomes of democratic regime choice among fully rational consequentialist voters.

The role of this feedback loop for equilibrium outcomes has been unveiled here in a static model. Factors such as the formation of consumer organizations that make it easier for the citizens to stay informed about the systematic payoff component shift the range in which multiple equilibria exist and may make a libertarian regime with autonomous decisions more likely. Accounting for the age distribution in a society is also relevant and can explain hysteresis, essentially leading the younger citizens to make skill acquisition choices that are similar to their parent generation.

Appendix

Proof of Proposition 1 The claim in Proposition 1 that citizens with $y_i \in (-y_h(c_i), y_h(c_i))$ prefer the paternalist regime and citizens with preferences outside this interval prefer the libertarian regime follows from the following properties of the payoffs $u(y_i, c_i)$ and $u^p(y_i)$: $u(y_i; c_i)$ as in (7) and $u^p(y_i)$ as in (5) intersect exactly twice. Denote the points of intersection by $y_h(c_i) \in (0, 1]$ and $y_l \in [-1, 0]$. It holds that $y_l(c_i) = -y_h(c_i)$. We prove this property as follows. Recall that $u(y_i; c_i)$ as in (7) is a continuous function of y_i that starts in $u(-1; c_i) = 0$, has $u(0; c_i) = \max\{0, V(G) - c_i\} < V(G)$ at $y_i = 0$ and ends in $u(1; c_i) = 1$. Recall the definition of the critical taste value \bar{y} defined by (6). The function $u(y_i; c_i)$ has zero slope on $y_i \in [0, -\bar{y})$, is increasing and strictly convex on $(-\bar{y}, \bar{y})$, and $u(y_i; c_i) = y_i$,

i.e., is the identity, in the interval $y_i \in (\bar{y}, 1)$. The function $u^p(y_i)$ as in (4) is linear, has $u^p(-1) = -\frac{1}{2} + V(G) < 0$, it has $u^p(0) = V(G) \in (0, \frac{1}{2}) > \max\{0, V(G) - c_i\}$, and it has $u^p(1) = \frac{1}{2} + V(G) \in (\frac{1}{2}, 1)$. According to these values at $\{-1, 0, 1\}$ and the properties of $u(y_i; c_i)$ and u^p the two curves must intersect (at least) once for y_i in the interval $(-1, 0)$ and once for y_i in the interval $(0, 1)$. Uniqueness of the intersection in the interval $y_i \in (-1, 0)$ follows because u^p has a constant positive slope of $\frac{1}{2}$, and $u(y_i; c_i)$ has a slope equal to zero in the range $(-1, -\bar{y})$, is strictly convex in the range $(-\bar{y}, 0)$ and has $u(0; c_i) < u^p(0)$. An analogous argument applies for the uniqueness of the intersection in the range $y_i \in (0, 1)$. For a given c_i , denote the intersections by $y_l(c_i)$ and $y_h(c_i)$. It follows from the above that u^p intersects $u(y_i; c_i)$ from the lower left to the upper right at $y_i = y_l(c_i)$ and that u^p intersects $u(y_i; c_i)$ from the upper left to the lower right at $y_i = y_h(c_i)$. This implies that the voter with a cost c_i prefers the libertarian regime for tastes y_i in the ranges $[-1, y_l(c_i))$ and $(y_h(c_i), 1]$, and prefers the paternalist regime for tastes y_i in the range $(y_l(c_i), y_h(c_i))$.

Next, we note that $y_l(c_i) = -y_h(c_i)$ follows from structural symmetry of the choice problem between the two alternatives. A more detailed proof of this property uses that y_l and y_h are the only values y_i for which $u^p(y_i) = u(y_i; c_i)$, and that $y_l < 0$ and $y_h > 0$ and distinguishes between two cases, one in which $0 < y_h \leq \bar{y} < 1$ and one in which $0 < \bar{y} < y_h < 1$.

Finally, consider the claim $\frac{dy_l(c_i)}{dc_i} \geq 0$, which is equivalent to the claim $\frac{dy_h(c_i)}{dc_i} \leq 0$. Two cases need to be distinguished. If $y_l(c_i) < \bar{y}(c_i)$, then a marginal increase in c_i does not change y_l , as the citizen with $y_i = y_l < -\bar{y}$ does not acquire information in equilibrium in the libertarian regime. If $y_l \in (-\bar{y}, 0)$, then, recalling that $V(G) = \int_0^1 xG'(x)dx = -\int_{-1}^0 xG'(x)dx$, the intersection $u^p(y_i) = u(y_i; c_i)$ determines y_l as the solution of

$$\frac{1}{2}y_l + V(G) = -c_i + y_l \int_{-y_l}^1 G'(x)dx + \int_{-y_l}^1 xG'(x)dx$$

which can be written as

$$y_l \int_0^{-y_l} G'(x)dx + \int_0^{-y_l} xG'(x)dx + c_i = 0. \quad (13)$$

Totally differentiating and simplifying yields

$$\frac{dy_l}{dc_i} = -\frac{1}{\int_0^{-y_l} G'(x)dx} < 0. \quad (14)$$

□

Proof of Proposition 2

- (i) Let $2F(-y_h(c_1)) > 1/2$. Suppose citizen i believes that all other citizens $j \neq i$ invest in decision capabilities (i.e. choose $\omega_j = 1$). They will expect that a libertarian majority emerges from this with probability $p = 1$, leading to the libertarian regime. In this regime all citizens solve an individual maximization problem as described in Proposition 1, where they know their own cost c_i , their own idiosyncratic taste component y_i and the distribution $G(x)$ from which x is drawn.

In stage 1, not knowing her own y_i yet, but given these beliefs and (10) and (9), citizen i prefers to invest in decision capabilities. The same logic applies for all citizens, such that all citizens have invested in decision capabilities when they enter the voting stage 2. Now, as citizens vote and vote sincerely, they vote for the libertarian regime if their type $y_i \in [-1, y_l(c_1)) \cup (y_h(c_1), 1]$ and for the paternalist regime if their type $y_i \in (y_l(c_1), y_h(c_1))$. Accordingly, the share of citizens who vote for the libertarian regime is $F(y_l(c_1)) + (1 - F(y_h(c_1))) = 2F(-y_h(c_1))$, where the equality sign follows from $y_l(c_i) = -y_h(c_i)$ and from the symmetry properties of the frequency distribution F .

As $2F(-y_h(c_1)) > 1/2$ the libertarian regime is the majoritarian outcome, and this confirms the equilibrium belief $p = 1$. Note that a citizen could deviate from this candidate equilibrium behavior in stages 1 or 2. First, she could make a different voting decision. Given the large set of voters, this would not make a difference for the majoritarian outcome. So she cannot increase her payoff by voting for any other than the libertarian regime. Second, she could decide not to invest in decision capabilities. This would also not change the majoritarian voting outcome, but given (10) and (9) this choice would make her worse off in expectation.

- (ii) Let $2F(-y_h(c_0)) < 1/2$. Suppose citizen i believes that all other citizens do not invest in decision capabilities such that they all have information costs c_0 . Furthermore, she will then believe that the voting outcome is paternalist with probability 1, i.e., $p = 0$. This then leads to the paternalist regime and an expected payoff for her as described by (4). She prefers not to invest in decision capabilities. The same logic applies for all citizens, such that all citizens have not invested in decision capabilities when they enter the voting stage. She votes for the libertarian regime if $y_i \in [-1, y_l(c_0)) \cup (y_h(c_0), 1]$ and for the paternalist regime if $y_i \in (y_l(c_0), y_h(c_0))$. Accordingly, the share of citizens who vote for the libertarian regime is $F(y_l(c_0)) + (1 - F(y_h(c_0))) = 2F(-y_h(c_0))$, where the equality sign follows from $y_l(c_i) = -y_h(c_i)$ and from the symmetry of the distribution function F . As $2F(-y_h(c_0)) < 1/2$ the paternalist regime is the majoritarian outcome. This confirms the equilibrium belief $p = 0$. Note that citizen i could deviate at stages 1 or 2. First, she could make a different voting decision. Given the large set of voters, this would not make a difference for the majoritarian outcome nor for her payoff. Second, she could choose $\omega_i = 1$, i.e., decide to invest in decision capabilities. This would not change the paternalist majoritarian voting outcome, and this choice would make her worse off by the amount of the cost e of this investment.
- (iii) We note: $y_h(c_0) \geq y_h(c_1)$ implies $2F(-y_h(c_0)) \leq 2F(-y_h(c_1))$, where strict inequality applies if $-y_l(c_1) < -y_h(c_1)$. Hence, for a suitably chosen F , it holds that

$$2F(-y_h(c_0)) < 1/2 < 2F(-y_h(c_1)), \quad (15)$$

such that both these equilibria exist: the equilibrium in which all citizens invest in decision capabilities and where a majority of them vote for the libertarian regime, and the equilibrium in which all citizens do not invest in decision capabilities and where a majority of them vote for the paternalist regime. \square

Acknowledgements Comments by Dan Kovenock, Sven A. Simon, Arye Hillman, the participants of BEAT at Tsinghua University, PolEcCon in Berlin, a seminar at University of Magdeburg and AMES2023 at Nanyang Technological University in Singapore, and three reviewers are gratefully acknowledged. I also

thank Jennifer Rontganger for language corrections and a student RA for confirming correctness of the literature references. The usual caveat applies.

Funding Open Access funding enabled and organized by Projekt DEAL.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Ambuehl, S., Bernheim, B. D., & Ockenfels, A. (2021). What motivates paternalism? An experimental study. *American Economic Review*, 111(3), 787–830.
- Atkinson, A., & Messy, F.-A. (2011). Assessing financial literacy in 12 countries, an OECD/INFE international pilot exercise. *Journal of Pension Economics and Finance*, 10(4), 657–665.
- Bavetta, S., Maimone, D., Patti, A., Miller, P., & Navarra, P. (2017). More choice for better choosers: Political freedom, autonomy, and happiness. *Political Studies*, 65(2), 316–338.
- Benz, M., & Frey, B. S. (2008). The value of doing what you like: Evidence from the self-employed in 23 countries. *Journal of Economic Behavior & Organization*, 68(3–4), 445–455.
- Benz, M., Frey, B. S., & Stutzer, A. (2004). Introducing procedural utility: Not only what, but also how matters. *Journal of Institutional and Theoretical Economics*, 160(3), 377–401.
- Berggren, N., & Gutmann, J. (2020). Securing personal freedom through institutions: The role of electoral democracy and judicial independence. *European Journal of Law and Economics*, 49, 165–186.
- Besley, T. (1988). A simple model for merit good arguments. *Journal of Public Economics*, 35(3), 371–383.
- Blaga, O. M., Vasilescu, L., & Chereches, R. M. (2018). Use and effectiveness of behavioural economics in interventions for lifestyle risk factors of non-communicable diseases: A systematic review with policy implications. *Perspectives in Public Health*, 138(2), 100–110.
- Buchanan, J. M. (2005). Afraid to be free: Dependency as desideratum. *Public Choice*, 124(1–2), 19–31.
- Buchanan, J. M., & Tullock, G. (1962). *The calculus of consent: Logical foundations of constitutional democracy*. University of Michigan Press.
- Cai, C. W. (2020). Nudging the financial market? A review of the nudge theory. *Accounting and Finance*, 60(4), 3341–3365.
- Checchi, D. (2006). *The economics of education: Human capital, family background and inequality* (p. 2006). Cambridge University Press.
- Collins, J. M., & Odders-White, E. (2015). A framework for developing and testing financial capability education programs. *Journal of Economic Education*, 46(1), 105–120.
- Congiu, L., & Moscati, I. (2022). A review of nudges: Definitions, justifications, effectiveness. *Journal of Economic Surveys*, 36(1), 188–213.
- Downs, A. (1957). *An Economic Theory of Democracy*. Harper and Row.
- Engerman, S. L., & Sokoloff, K. L. (2012). *Economic development in the Americas since 1500*. Cambridge University Press.
- Hawkins, R. X. D., Goodman, N. D., & Goldstone, R. L. (2019). The emergence of social norms and conventions. *Trends in Cognitive Sciences*, 23(2), 158–169.
- Heckmann, J. J., & Corbin, C. O. (2016). Capabilities and skills. *Journal of Human Development and Capabilities*, 17(3), 342–359.
- Hertwig, R., & Ryall, M. D. (2020). Nudge versus boost: Agency dynamics under libertarian paternalism. *Economic Journal*, 130(629), 1384–1415.
- Hillman, A. L. (1980). Notions of merit want. *Public Finance/Finances Publiques*, 35(2), 212–226.
- Judd, K. L. (1985). The law of large numbers with a continuum of IID random variables. *Journal of Economic Theory*, 35(1), 19–25.
- Knutsen, T. A. (2016). Should liberals sometimes prefer dictatorships to democracies? A closer look at the Hayek thesis. *Democratization*, 23(3), 375–394.

- Konrad, K. A., & Simon, S. A. (2021). Paternalism attitudes and the happiness value of fundamental freedoms. *SSRN Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2021-04*.
- Ledderer, L., Kjær, M., Madsen, E. K., Busch, J., & Fage-Butler, A. (2020). Nudging in public health lifestyle interventions: A systematic literature review and metasynthesis. *Health Education & Behavior*, 47(5), 749–764.
- Lührmann, M., Serra-Garcia, M., & Winter, J. (2015). Teaching teenagers in finance: Does it work? *Journal of Banking and Finance*, 54, 160–174.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: An overview. *Journal of Pension Economics & Finance*, 10(4), 497–508.
- McCormick, M. H. (2009). The effectiveness of youth financial education: A review of the literature. *Journal of Financial Counseling and Planning*, 20(1), 70–83.
- Mill, J. S. (2014). *On liberty, introduction and notes by W. L. Courtney*. Enhanced Ebooks.
- Mukant, S. W., & Rodrik, D. (2020). The Political Economy of liberal democracy. *Economic Journal*, 130(April), 765–792.
- Olson, M. (1965). *The Logic of Collective Action*. Harvard University Press.
- Pedersen, S. K., Koch, A. K., & Nafziger, J. (2014). Who wants paternalism? *Bulletin of Economic Research*, 66(S1), 147–166.
- Sainz Villalba, C., & Konrad, K. A. (2023). Autonomy or delegation, libertarianism or paternalism: What I like for myself and what I like for others on pension savings. *SSRN Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2023-10*.
- Sen, A. K. (1988). Freedom of choice, concept and content. *European Economic Review*, 32(2–3), 269–294.
- Sherif, R. (2022). Why do we vote? Evidence on expressive voting. *SSRN Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2022-04*.
- Thaler, R. H., & Sunstein, C. R. (2003). Libertarian paternalism. *American Economic Review*, 93(2), 175–179.
- Uhlig, H. (1996). A law of large numbers for large economies. *Economic Theory*, 8, 41–50.
- Van Dalen, H. P., & Henkens, K. (2018). Do people really want freedom of choice? Assessing preferences of pension holders. *Social Policy & Administration*, 52(7), 1379–1395.
- Zakaria, F. (1997). The rise of illiberal democracy. *Foreign Affairs*, 76(6), 22–43.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.