

I. Economic Development and Democracy, Does Industrialization Lead to Universal Suffrage?

- A. This lecture explores mechanisms through which industrialization might be expected to lead to major political reforms.
- It is well known that economic development often changes the distribution of wealth within a society and that change in the distribution of wealth can lead to new political alignments.
 - However, as demonstrated below, such changes are unlikely to induce major changes in the rules governing suffrage even when those rules are decided by majority rule.
 - Another, more neglected, consequence of industrialization is that the relative cost and benefits of organizing political interests are reduced.
 - This lecture demonstrates that industrialization can generate major suffrage reform by empowering economic and ideological interest groups.
- B. The experience of nineteenth century northern Europe is used to illustrate the relevance of the analysis.
- C. Two revolutions occurred gradually in Northern Europe during the nineteenth century and first part of the twentieth century.
- First, there was a shift of political authority from kings to parliaments.
 - Second, parliaments became more broadly grounded in popular suffrage.
 - This century long shift in the locus of political power was a major event although the individual shifts of power and expansions of suffrage were often, themselves, relatively small events.
- D. Something significantly new happened in the 19th century Europe which gave rise to revolutionary changes in governance over the course of a century or so.
- It has often been suggested that industrialization played a role in these amazing and often largely peaceful reforms.
 - However, to the best of my knowledge, no one has provided a mechanism through which industrialization, which is itself largely an economic activity, may induce major political reforms.
- E. Whether economic development may induce constitutional reform is not obvious.
- After all, it is political decisions that define formal property rights and liability laws, and political decisions that largely determine how those rights and obligations will be enforced.
 - Such political decisions, along with technological advance, clearly have large effects on a nation's path of economic development.
 - Indeed, one could argue that national politics largely determines market activity, even in a fairly complete model of political economy.

- F. However, it also seems clear that causality is not unidirectionally from the political sphere to the economic one.
- There is clearly an interdependence between economic and political activities in the small as when individual pieces of legislation or administrative rulings are influenced by the testimony and lobbying efforts of organized economic interests.
 - Today's lecture suggests that this may also be true in the large insofar as major constitutional reforms may be induced by politically active groups whose economic interests are aligned with those reforms.
 - Industrialization induced by technological progress may create new opportunities and new pressures for constitutional reform.

II. Economic Growth and the Stability of Suffrage Laws

- A. In a polity where all citizens are eligible to vote and a median voter exists, two-candidate, two-party or two coalition competition for office tends to converge to the policy preferences of the median voter.
- In the present model, the median voter is *the voter* with the median endowment of capital and labor.
 - Note, however, that the median voter is not generally *the citizen* with median income, because the distribution of citizenship differs from the distribution of voters.
 - For much of the history of parliamentary systems, eligibility to vote was determined by tax payments, and consequently the median voter was generally a citizen with substantially more income than that of the median citizen.
 - In modern democracies, suffrage eligibility is determined by citizenship and age, with the consequence that the median voter is older than the median citizen.
- B. Suffrage restrictions can easily be incorporated into a standard electoral model.
- Suppose that citizens are allowed to vote whenever their labor income tax payment is greater than T^L or their capital income tax is greater than T^K . Given the assumed distribution of productive resources, this implies that only citizens whose labor endowment satisfies $twL_1 > T^L$ or whose capital endowment satisfies $trK_1 > T^K$ are entitled to vote.
 - (The tax rate is assumed to be determined by expenditures, with $t = c(G^*, Z)/Y$.)
- C. Note that a tax-based suffrage system can be restated in terms of economic wealth.
- In endowment terms, only citizens with a labor endowment greater than L^E with $L^E = T^L/tw$ or with a capital endowment greater than K^E , with $K^E = T^K/tw$, are able to vote.
 - Eligibility to vote in such systems is partly based on endowments, partly on productivity (insofar as productivity is reflected in wage rates and the return on capital) and partly on the general price level.
 - For the present, assume that the economic determinant of wage rates and the rate of return on capital are stable.

iv. This would tend to be the case in economic steady states and for short run analysis where it is normally assumed that a constant supply of capital and labor are employed using a particular production technology.

D. The median voter's income is partly determined by the eligibility rules for voting since these determine who actually votes. In the case developed in my paper, one needs T^L units of labor and T^K units of capital to vote, which under the distributional assumption made implies that median income is:

$$Y_v = (w(L_M - T^L/tw) + r(K_M - T^K/tw))(2 - \sqrt{2})/2. \quad (5)$$

and he or she will demand service level:

$$G^* = g(Y_v, Y, Z) \quad (6a)$$

or

$$G^* = \gamma(L_v, K_v, T^L, T^K, Y, Z) \quad (6b)$$

E. Note that the *present suffrage rules partly determine government policies* by determining the identity of the median voter.

i. In the special case examined in the paper, this relationship allows the present median voter preferences over election law to be characterized with the indirect utility function:

$$U_v^* = u(1 - C(\gamma(L_v, K_v, T^L, T^K, Y, Z), Z)/Y) Y_v, \gamma(L_v, K_v, T^L, T^K, Y, Z) \quad (7)$$

ii. Differentiating equation 7 with respect to T^L and T^K and applying the envelope theorem determine the first order conditions for median voter's optimal suffrage laws.

F. **These imply that the present suffrage qualifications T^L and T^K are *already optimized for the present median voter.***

G. **That is to say, in the standard electoral model, the present median voter is perfectly content with the election laws that made him or her the median voter!**

H. Consequently, changes in the wealth of the voters who select members of parliament will not affect the level of suffrage in a pure election model where voters are interested in the fiscal package provided by government and nothing more.

III. Economic Growth and Expansion of Suffrage without Suffrage Reform

A. A restricted franchise of the sort modeled above and widely in place in 19th century Europe tends to become less restrictive through time as economic growth takes place, because economic growth broadly increases income. Economic growth takes place as capital is accumulated, which tends to increase the marginal productivity and

thereby the wage rates of labor, and through technological advances that improve the productivity of both labor and capital.

B. As income rises throughout the income distribution, more and more citizens become qualified to vote, because more and more voters pay enough taxes to qualify for suffrage.

i. Stationary wealth-based rules for suffrage, consequently, imply that a somewhat larger electorate and somewhat new median voter tend to emerge in every election cycle during periods of economic growth and during periods of economic contraction.

ii. That is to say, a stable set of income- and wealth-based rules for voter eligibility will not yield a stable electorate in a setting where income and wealth are changing.

C. The electoral effect of economic growth on suffrage under stable tax- or income-based suffrage rules, consequently, tends to make the present median voter somewhat worse off.

i. After all, it is only by being the median voter that a particular citizen can realize his or her most preferred government service levels.

ii. A forward looking median voter would be inclined to gradually tighten the eligibility rules for suffrage by increasing the wealth or income requirements for electoral qualification so that he or she remains the median voter as economic growth takes place.

iii. *That is to say, if the present median voter had his or her way on suffrage reform, industrialization would tend to be associated with electoral rules that gradually became more demanding rather than less demanding through time.*

D. Fortunately, debate on suffrage issues, consequently, tends to be extensive and normally runs through several terms of office.

i. A single parliament normally cannot modify the prerequisites for suffrage in a single session of the legislature.

ii. The stability of rules governing suffrage is partly a consequence of the somewhat lengthy process through which most constitutional laws and major policies come to be adopted.

iii. Essentially all proposed changes in electoral rules will be reviewed by subsequent parliaments that are beholden to new median voters.

iv. And, clearly the new median voter(s) will veto suffrage reforms designed to assure that the previous median voter retains elective control of parliament.

v. **In this manner, the lengthy formal and informal process of changing election laws, together with the immediate interests of successive median voters, tends to increase the stability of the qualifications for suffrage, even during periods when other policy interests of the median voter change through time.**

IV. Tax Base Considerations in Suffrage Reform

V. Ideological Change and Constitutional Reform

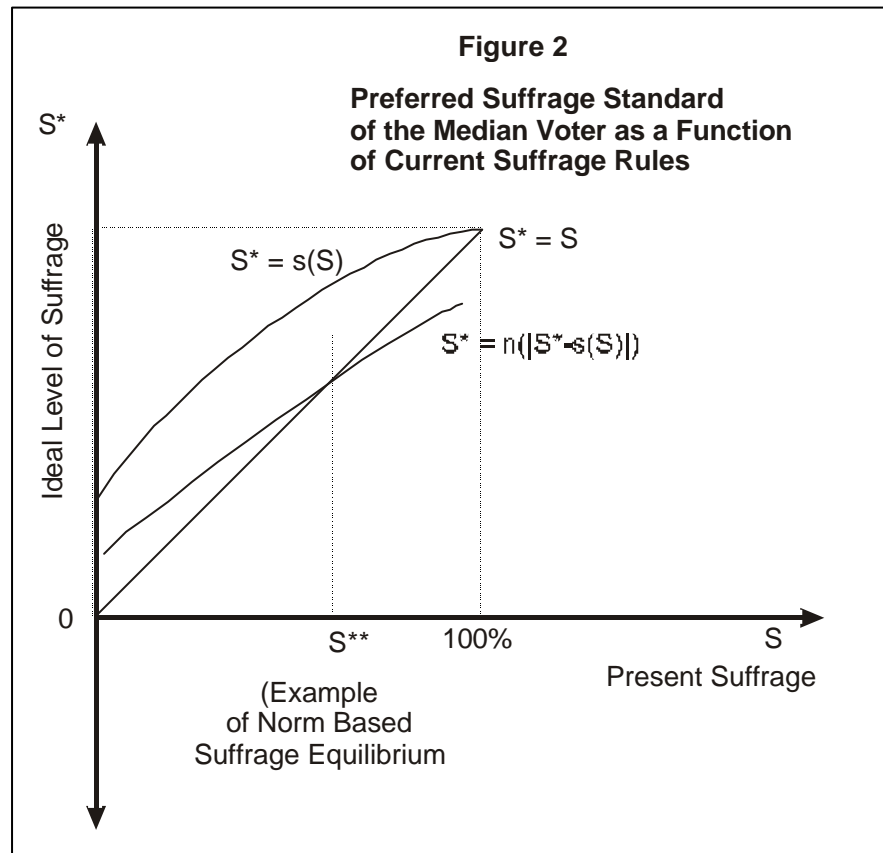
- A. Now suppose that the median voter's evaluation of suffrage law is not entirely based on its indirect effects on fiscal policy as implicitly assumed above, but also on direct effects that those laws have on suffrage, *per se*.
- For example, the normative or ideological theories of the median voter might imply that the breadth of suffrage,--what is often referred to as "democracy"--is an "end" as well as a "means." Suffrage may be considered to be an "entitlement" rather than a privilege for "qualified" citizens.
 - It may be widely felt that all property owners, all gainfully employed adults, all competent adults, or all adults should be entitled to vote.
 - When the current rules are more restrictive than the suffrage norms, suffrage expansion would be widely considered to be a praiseworthy policy and, consequently, attract public expressions of support, even by those who might privately be opposed, Kuran (1989) or Brennan and Hamlin (2000).
 - In all these cases, citizens would maximize a somewhat more complex utility function than assumed above and somewhat more complex interests in democracy.
- B. These other interests in suffrage can be represented by including the breadth of suffrage as an argument in the typical citizen's indirect utility function, $S = s(T^L, T^K)$. The median voter's preferred level of suffrage would now maximize:
- $$U_V = u(1 - C(\gamma(L_V, K_V, T^L, T^K, Y, Z), Z)/Y) Y_V, \gamma(L_V, K_V, T^L, T^K, Y, Z), s(T^L, T^K))$$
- with first order conditions:
- $$U_{TL} = [U_X (-C_G) Y_V/Y - U_G] G^*_{TL} + U_S S_{TL} = 0 \quad (9.1)$$
- $$U_{TK} = [U_X (-C_G) Y_V/Y - U_G] G^*_{TK} + U_S S_{TK} = 0 \quad (9.2)$$
- where $S = s(T^L, T^K)$ refers to the percentage of adults eligible to vote given thresholds T^L and T^K .
- C. Recall that in the absence of a non-fiscal interest in suffrage, the existing suffrage thresholds are optimal for the median voter.
- In this case, $U_S S_{TL} = 0$ and $U_S S_{TK} = 0$, and the first two terms in the first order conditions are always satisfied at the median voter's ideal, G^* .
 - As also previously noted, the same result also suggests that changes in median voter tastes with respect to private and public services or changes in the median voter's income will *not* cause the present median voter to change the existing suffrage laws.
- D. However, changes in the intensity of an individual's non-fiscal interest in suffrage can induce major suffrage reform.

- E. If a solution exists for 9.1 and 9.2, the voter will recommend a modest expansion of suffrage and that expansion will be adopted.
- The new median will not be inclined to veto the proposed reform, because the new median voter is clearly better off under the new rules.
 - He or she is now able to obtain his or her ideal pattern of public policies.
 - Moreover, if the next median voter has the same tastes as the present median voter, as assumed here, the successor will also be interested in suffrage reform.
- F. If suffrage is an ordinary good in the sense that it always has positive marginal utility, $U_s > 0$, only the corner solution of universal suffrage can be stable, although intermediate suffrage rules may be observed during the process of transition.
- G. Note also that changes in income *do not* play a role in this process of reform.
- This implies that industrialization can only play an indirect role in this process of transition.
 - For example, it may sponsor interest group activities that induce persons to value democracy as a good in its own right, rather than as a means to an end.
- H. Ideological Norms and Suffrage Reform
- I. Of course, non-fiscal interests in suffrage may not resemble those of ordinary goods or bads, but rather suffrage may be judged relative to some suffrage ideal or widely held normative theory.
- For example, it may widely be believed that suffrage should be based on "merit," however defined.
 - Merit-based theories of suffrage imply that those who properly qualified should be entitled to vote, but no others. In polities where suffrage norms are reasonably uniform and widespread, the non-fiscal utility of suffrage would be judged relative to the ideal level of suffrage associated with those norms, S^* , as with $S = n(|S^* - s(T^L, T^K)|)$.
 - A median voter who accepted a merit-based theory of suffrage would still face tradeoffs between advancing electoral norms and maintaining control over public policies, but in this case, the sequence of suffrage adjustments would stop when a median voter is reached who considers the present suffrage rules to be ideal--or is himself or herself disinterested in suffrage as an end in its own right.
 - At the ideal suffrage level, the marginal utility of further suffrage reform falls to zero, $U_S S_{TL} = 0$ and $U_S S_{TK} = 0$, and a stable equilibrium obtains.
- J. After reaching such a normative equilibrium, it is clear that increases in income will *not* induce further expansions of suffrage.
- Changes in the norm, however, can induce new reforms to be undertaken insofar as $U_S S_{TL}$ and $U_S S_{TK}$ no longer equal zero.

K. Figure 2 illustrates the equilibrium patterns of suffrage that tend to emerge under these two cases. Technological Change, Interest Groups, and the Expansion of Suffrage

VI. Economic Growth and Interest Groups

- A. Of course, economic growth of the sort generated by rapid industrialization does more than simply increase wealth.
- B. It also alters the manner in which economic resources are employed throughout the economy being industrialized.



- i. By doing so, industrialization *also changes the relative cost and benefits of organizing politically active interest groups.*
 - ii. Many of the same technological advances that allow large industrial firms to be created and managed successfully also reduce the costs of forming and managing large politically active interest groups.
 - iii. For example, the same improvements in communication and transport that allow economic entrepreneurs to assemble and manage large numbers of employees in the pursuit of profit also allows political entrepreneurs to assemble and coordinate the political activities of large numbers of individuals who share ideological or economic interests.
 - iv. The costs of organizing interest groups are further reduced by the successful creation of large industrial enterprises that place large numbers of individuals with more or less common economic interests in close proximity to one or another and within a well-functioning network of communication.
 - v. Industrialization also induces firms to locate close to one another in order to reduce the cost of transporting intermediate goods and providing specialized services to large enterprises and their employees.
 - vi. Economic development, consequently, tends to increase population densities, which further reduces the costs of organizing politically active groups.
- C. To the extent that political activities are what economists refer to as superior goods (goods that one purchases relatively more of as one's income rises), successful economic growth also increases the resources contributed to politically active interest groups.
- D. In addition to promoting the growth of political and economic interest groups, industrialization also provides some economic interest groups with more powerful tools for influencing public policy.
- i. As industrialization takes place larger, firms tend to become larger and both labor and capital tend to become more specialized.
 - ii. As each citizen's personal income becomes increasingly dependent on the availability of other complementary resources, and as the size of interest groups increases, it becomes increasingly possible for an economic interest group to reduce or threaten to reduce the incomes of those outside the group simply by temporarily withholding resources from the market, e. g. through strikes and strike threats.
- E. Perhaps the most obvious of the interest groups that can be expected to influence election laws are groups formed to promote suffrage, per se.
- i. Suffrage groups use a variety of means to lobby those with the power to change the laws governing eligibility for suffrage.
 - ii. Within the present model, such groups will be effective if they either induce an entirely new preference for suffrage, or, induce a change in the norms that determine the proper scope of suffrage.

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- iii. The public choice literature on interest groups implies that contributions to interest groups increase with personal income and with the productivity of interest group efforts. The better organized an interest group is the more support it will receive, other things being equal.
- F. In a setting where a non-fiscal interest in suffrage exists, support for suffrage movements will not come exclusively from those who are currently disenfranchised.
- i. Contributions to suffrage groups would be made by all citizens with an interest in broader suffrage.
 - ii. The relationship between a direct interest in suffrage and contributions to suffrage groups can be analyzed with a minor extension of the model developed above.
- G. All those whose norms or endowments call for more liberal election laws have an interest in supporting suffrage groups if there is a chance that the groups may influence the median voter's suffrage norm.
- i. Contributions to such groups, whether in kind or in cash, provide individuals with a method of increasing their (expected) utility over the status quo as long as the suffrage movement may be successful.
 - ii. Consider the case where new suffrage level $S' > S_v^*$ is supported by suffrage groups.
 - iii. If suffrage groups are even slightly effective, contributions to suffrage groups increase the probability that S' will obtain.
- H. Economic growth also empowers economic interest groups for the same reasons, and moreover provides those groups with **additional tools for influencing** ordinary public policies and constitutional law.
- i. By deepening the process of production and making greater use of specialization, industrialization tends to increase the economic independence of all agents within the economy both at the margin and inframarginally.
 - ii. This increase in interdependence allows economic interest groups to reduce national tax revenue and the income of all within the economy of interest by threatening to strike occasionally.
 - iii. The increase in specialization that occurs during industrialization implies that strike threats become a more powerful tool for influencing public policy, one which will often be more effective than persuasion.
- I. Bargaining with a strike threat differs in several ways from usual characterization economic bargaining where both sides benefit from exchange.
- i. A strike threat confronts those being struck with two alternatives neither of which is as attractive as a no-threat setting.
 - ii. On the one hand, the struck party may accept the economic losses associated with being struck; on the other, the struck party may accept an otherwise undesirable contract.
 - iii. The bargains reached under strike threats, consequently, do not necessarily make both parties better off in the short or the long run, and may, in fact, make both parties worse off.
- iv. In the conventional economic setting, a new labor contract entails higher wage rates for the striking employees and lower profits for the non-striking resource owners, often characterized as "firms," i. e. employers or owners of the firm's capital.
 - v. Firms may accept wage contracts which eventually cause them to become bankrupt, and workers may pay a higher price in lost wages during any strikes that are in fact implemented than they recoup in the subsequent wage contract.
 - vi. New legislation may similarly cost more than it generates in overall benefits in both the short and long run.
- J. **As in a rent-seeking game, the losses generated by conflict can easily make all parties worse off as conflict intensifies.**
- K. Nonetheless, a strike threat can be used to obtain changes in legislation favored by those striking or, in the case of interest here, to induce changes in political institutions favorable to the striking group.
- L. It is clear that a strike threat makes nonstrikers worse off.
- i. Even with fiscal effects alone, the strategy of threatening to temporarily withhold labor and/or capital from the market potentially allows the unenfranchised to bargain with the enfranchised for electoral reform. In the absence of franchise reforms, the present pivotal voter will face higher taxes, lower government services, and reduced private consumption.
 - ii. In effect, the interest groups using the strike threats place the median voter in a situation similar to that analyzed above in the setting where the tax base was partly determined by suffrage levels.
- M. **The pivotal voter will be willing to vote for the suffrage expansion requested by the strikers whenever the expected losses from more frequent strikes exceed those associated with extending the franchise.**
- i. If the present median voter's tradeoff between suffrage and fiscal stability is known beforehand, organized labor can select the probability of strikes that elicits the desired constitutional response--for example extending the vote to union members, but perhaps not to peasants, persons on relief, women, or children.
 - ii. However, the constitutional bargain reached depends somewhat on the particular sequence of offers and counter offers that take place.
 - iii. In the case where the median voter is able to anticipate or to elicit the a menu of strike probabilities from the economic interest group (as within a Grossman and Helpman (1996) model), the present median voter will propose the suffrage reform that equates his or her expected marginal gains from increased income and tax base security with the cost of the less appealing combination of government services that will be adopted by the new median voter.
- N. **Promises to reduce the probability of striking in the future are somewhat more creditable for radical suffrage reforms than for minor reforms.**
- i. Once universal suffrage is obtained ($T^L = T^K = 0$), no further increase in suffrage that can be secured via strike threat.

- ii. Peaceful but *revolutionary* change, thus, can be a natural consequence of this economic form of constitutional bargaining.
- O. The bargaining position of the well-organized but unenfranchised is, of course, reinforced by increased specialization and given any generalized economies of scale, both of which allow the strikers to reduce the personal income of nonstrikers, but it does not require them.
- i. **Industrialization, thus, increases the probability that strikers will be successful in their political aims.**
 - ii. It bears noting that the present analysis is **not class-based** but rather an interest group and production based.
 - iii. Many economic groups that can be organized within a polity do not have similar incomes, as true of farmers, or necessarily similar occupations, as with the old guilds or national labor federations, yet still exercise considerable power.
 - iv. A non-class based economic interest group that currently exercises considerable political power is the Organization of Petroleum Exporting Countries (OPEC).

VII. Conclusion: Economic Growth and the Revolutionary Reform of Suffrage Laws

- A. The above analysis has explored several mechanisms through which political institutions might be liberalized in response to economic development.
- B. The results clearly imply that the connection between majority rule, economic growth and the emergence of liberal democracy is **not causal** in the usual sense.
- i. Economic development that increases the median voter, or the median member of parliament's income, does not induce new more inclusive rules for suffrage, even in cases where the median voter has a direct ideological interest in suffrage.
 - ii. Democracy does not arise because it is a "superior or normal" good in the usual economic sense, because the current median voter is normally content with the election laws that made him or her pivotal regardless restrictive they are, and regardless of the pivotal voter's income level and occupation.
- C. Rather, the analysis suggests that **democracy may be indirectly produced** by economic and political developments associated with industrialization insofar as technological change and rising incomes empower interest groups with an interest in suffrage reform.
- i. Organized ideological groups may attempt to change widely held normative theories about proper qualifications for suffrage, and if successful may induce significant changes in suffrage.
 - ii. Organized economic groups may use strike threats to secure an expanded suffrage in exchange for a larger and more stable supply of productive inputs, not for ideological reasons but to obtain greater influence over the course of public policy.

- iii. Both persuasive ideological campaigns and strike threats may induce radical reforms of suffrage laws through entirely legal and nonviolent means.
- D. The continuum of suffrage laws allows "revolutionary" reforms in election laws to take place incrementally through a series of relatively small reforms.
- i. The possibility of marginal adjustments allows negotiation, compromise, and moderate democratic reforms to be undertaken without the necessity of civil wars or wholesale reform.
 - ii. This theoretical possibility is clearly evident in the constitutional histories of Northern Europe.
 - iii. During the period between 1800 and 1920 the United Kingdom, Denmark, Sweden and the Netherlands moved from electoral systems with very limited suffrage to universal suffrage.
 - iv. In none of these cases were revolutionary wars necessary.
- E. **In all these cases, suffrage movements and strike threats produced a series of electoral reforms that in the end revolutionized parliamentary governance in Northern Europe.**