Spillovers from Voice and Exit

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Abstract: My use of voice or exit can have spillover effects on you. I argue that voice behaves in important respects like a positional good. Positional goods have value only relative to the goods that others possess. Acquiring positional goods imposes negative externalities on others who lose status. Voice grants a form of influence that is relative rather than absolute, and can give rise to a winner-take-all distribution of influence. The more effective your voice, the less effective mine. Exit, by contrast, has properties in common with a network good. A network good is valuable to the extent that other individuals possess the same good. Possession of the good thus generates positive externalities. Exit operates like a network good, generating direct and indirect spillovers that create benefits even for those who do not possess the capacity to exit.

Introduction

The assignment of rights entails external effects. If a judge rules that Jane has an easement across John's property, John loses any benefits attendant on a right to exclude. Albert's right to vote exerts some influence on the policies that Bob lives under. And my rights to speak up or get out—my rights of voice and exit—affect the decisions of organizations that you also engage with. Voice and exit generate substantial spillovers in political society because they affect the provision of governance. This essay builds upon the work of Albert Hirschmann (1970), adapting concepts from economic theory to explore the external effects of voice and exit. While voice and exit take a wide variety of forms, my aim is to draw out some abstract and general features of voice and exit that have gone underappreciated.

My thesis is twofold. First, voice operates in important respects like a positional good. Positional goods are valued for their relative position in a hierarchy rather than their absolute qualities. One individual's acquisition of a highly ranked positional good entails negative spillovers for others, whose goods are now further down on the relevant hierarchy. Voice likewise generates negative, positional spillovers: my voice makes your voice less effective. Influence is relative, so as I move up the hierarchy of influence you tend to move down. Second, exit operates in important respects like a network good. Network goods are valued largely because other individuals possess the same sort of good. One individual's acquisition of a network good entails positive spillovers for others who might possess that sort of good. Exit likewise generates positive spillovers: my exit makes your exit more effective, through both direct and indirect channels. Directly, exit allows us to better sort into communities of shared interests. Indirectly, the ability to exit places competitive pressure on organizations we both interact with.

My use of the term "spillovers" is deliberate. The literature regarding positional and network goods uses terms like "positional (network) goods," "positional (network) externalities," "positional competition," or "network effects" (David 1985; Frank 2005; Hirsch 1977; Katz and Shapiro 1985, 1994). While I call upon these terms where appropriate, I describe the qualities of voice and exit that I am highlighting as spillovers. Voice and exit are not helpfully thought of as economic goods simplicitur, because individuals do not normally choose what voice and exit rights they have. Such rights are usually determined by the interplay between governance institutions and collective actions. In particular, I am concerned with influence spillovers: how does the effectiveness of my voice affect the effectiveness of your voice: does it make your voice more or less powerful? The spillovers I posit are poorly described as externalities, because they cannot be classified as costs or benefits without knowledge of the value that individuals attach to effectiveness. It is possible that your voice makes my voice less effective, but that I simply do not care. Finally, these spillovers refer to the effect my voice has on your voice and my exit on your exit, not on how those spillovers make individuals' goals more or less compatible. The term "spillovers" emphasizes the external effects of voice and exit without implying anything about preferences, choices, or competition.

Three qualifications should be kept in mind throughout. First, my discussion of the external effects of voice focuses on acts of speech rather than voting.² This is in keeping with Hirschmann's broader definition of voice as "kicking up a fuss" (Hirschman 1970, p. 30). Second, I am analyzing not just the formal rights of voice and exit but rather the *effective* capacity to utilize those rights. Voice means the capacity to influence the outcome of a

¹ Hibbing and Theiss-Morse (2002) argue that individuals often dislike political participation.

² Warren (2011) treats voting as exit. It is beyond the scope of this paper to examine that claim in detail, but it seems doubtful that voting has the same positive spillovers that the forms of exit I analyze do.

deliberation, and exit means the ability to actually exit from a relationship. If I have the formal right to speak but no talent or skill at making a point, my voice does not noticeably diminish your influence. And if I have the right to exit but no means to do so, my right does not generate positive spillovers for you. Third, and most importantly, I am not claiming that these influence spillovers are the only relevant spillovers from voice or exit. When evaluating institutions that enable voice or exit, other effects of voice and exit—e.g., the ability of voice to convey nuanced messages or that generates fiscal drain—should also be taken into account.

My primary aim is to develop conceptual accounts of the spillovers generated by voice and exit. I do not develop a formal model of either, since such models could only illustrate spillovers that have already been assumed to exist. Moreover, I do not engage in detailed hypothesis testing or identification. Voice and exit take a variety of forms across political, economic, and civil society activities. As a result, there are no direct and broadly applicable measures of effective voice or exit. Nonetheless, I present an array of stylized facts that are *consistent* with these characterizations and are in line with the evidence that economists typically cite when identifying positional or network externalities. I identify characteristics of markets for both positional goods and network goods and map those characteristics onto empirical observations related to forms of voice and exit. My purpose in offering these stylized facts is first and foremost illustrative, but I also hope to convince the reader that these spillovers merit further consideration.

Previous literature on empirically examining voice and exit has largely ignored these spillovers, and has not framed them in terms of positional or network externalities. Much of the literature following Hirschman focuses on the choice between using voice and exit as strategies, rather than their effects (e.g., Dowding and John 2012). There is a growing empirical literature

on deliberative democracy, but it mostly focuses on examining the requisite background conditions for "good" deliberation and on how deliberation affects beliefs or collective actions (Mendelberg 2002, Thompson 2008). My goal is rather different: to understand the distribution of influence resulting from voice and exit in non-ideal situations. Finally, economists often study exit mechanisms in markets or involving interjuridictional competition, which end up furnishing me with several examples of the network effects of exit. Typically these studies do not explicitly discuss exit (with some exceptions, such as Fishback 1998), network effects, or agents' influence, but these ideas are often implicit, especially in discussions of market power.

My argument proceeds as follows. First, I explain in detail the concept of positional goods, highlighting three features economists ascribe to them: negative spillovers, the capacity to lead to arms races, and the emergence of winner-take-all markets. Second, I explain how the exercise of voice generates negative positional spillovers, can lead to arms races, and can create winner-take-all deliberative fora. Third, I explain the nature of network goods, highlighting three features that they have: positive direct spillovers, positive indirect spillovers, and the tendency to generate demand-side increasing returns in product markets. Fourth, explain how the exercise of exit generates both direct and indirect positive spillovers, and that it can sometimes generate increasing returns in the effectiveness of exit rights. I conclude by highlighting some potential implications and directions for future research.

Positional Goods

Positional goods are valued for their relative rather than absolute qualities (Hirsch 1976, pp. 23-26). If a consumer wishes to purchase a car because it can accelerate from 0 to 60 miles per hour in 8 seconds, he is buying a normal economic good. If he wishes to purchase a car

because it can accelerate from 0 to 60 miles per hour more quickly than his neighbor's car, he is buying a positional good. Economists typically model consumers as purchasing goods that provide a bundle of objective services. But a positional good is valued according to where it falls in some socially established ranking. Is my car nicer than my neighbor's? Will my children attend the highest ranked school? Robert Frank has explored the various implications that positional goods have for understanding the welfare properties of markets (Frank 2005, 2011; Frank and Cook 1995). I focus on three such implications here.

First, positional goods impose negative spillovers on others. If my neighbor brings home a car that is nicer than mine, I experience a welfare loss. To the extent that what I value is the *relative* quality of my car, that value has fallen. Forms of positional competition include admissions into prestigious medical schools or military conflicts. It is worth noting that competition to get into medical school may spur the accumulation of human capital and thus improve the quality of physicians, so it is important to qualify claims about positional spillovers by recognizing that real-world goods are typically a bundle of objective characteristics and positional characteristics. In the limit, the pursuit of a *pure* positional good is a zero-sum activity: your gain is offset by my loss and vice versa.

Second, positional competition can result in wasteful arms races as individuals vie for status. "If everyone stands on tiptoe, no one sees better" (Hirsch 1976, p. 5). Literal arms races are an example of this phenomenon. What matters in a military contest is relative strength, so there is a powerful motive for armed forces to invest in having more and better weapons than potential rivals. This of course gives rivals an incentive to invest more as well, potentially leading to a wasteful and vicious circle of military buildup. If armed groups could credibly commit to cutting their military strength in half, both groups would retain the same relative

strength, but at a much lower cost and with less disastrous consequences in a case of a conflict. Frank et. al. (2014) utilize this basic idea to predict 'expenditure cascades:' when income inequality is high, households are more likely to get caught in a positional arms race and therefore to end up in situations of financial distress.

Third, positional goods are often associated with winner-take-all markets (Frank and Cook 1995 Ch. 2, 2013). Several markets seem to operate in this way. For instance, music has increasingly become a winner-take-all market as audio recording technology has improved and distribution has become cheaper (Frank 2011, p. 150). Two hundred years ago, there was some positional competition to be the best live musical group in a local area. But when it comes to selling compact discs or electronic copies of music, musicians are not just competing against other local musicians: they are competing against the Beatles. If the Beatles are just slightly better than the next best band, then they can sell many more records, because people typically want to hear the best music. A key driver of the skewed distributions of winner-take-all markets is that *success begets success* (Frank and Cook 1995, p. 36). If a listener likes one song better than another, she is more likely to request that song on the radio (or on a streaming service). That makes others more likely to hear the song, which makes them more likely to request it or to purchase the album. These effects can snowball, creating a highly skewed distribution of payoffs.

Winner-take-all markets arise when relative rather than absolute performance determines rewards. I do not have to be twice as good as you to earn twice as much of a reward. This results in an extremely skewed distribution of payoffs where rewards are disproportionately concentrated at the top. Table 1 reports the number of recording artists according to their record sales for all bands with at least 10 million total certified record sales according to the Recording Industry Association of America. What this table illustrates is that, *even among the most*

successful participants in a winner-take-all market, success is distributed very unevenly. Among only those bands that have sold at least 10 million records, the average number of records sold is 25 million. The Beatles have 178 million certified sales, 7 times that. And success drops off quickly: Elvis Presley and Garth Brooks take second and third place at about 136 million each.

| Albums Sold | Artists |
|---------------|---------|
| ≥ 10 Million | 269 |
| ≥ 20 Million | 120 |
| ≥ 40 Million | 35 |
| ≥ 80 Million | 6 |
| ≥ 160 Million | 1 |

Table 1: Number of Artists by Record Sales³

Positional Spillovers from Voice

Voice operates in important respects like a positional good, often exhibiting all three of the characteristics noted above: negative spillovers, the tendency towards arms races, and the emergence of winner-take-all contests. ⁴ I am *not* claiming that it is a *pure* positional good. Many uses of voice are obviously not a zero-sum game, such as the use of voice to convey information that allows two parties to capture more of the gains from trade. In making the case that voice has positional spillovers, I am assuming that individual speakers and listeners are participating in some discussion forum. The boundaries of a forum, like the boundaries, of a market, are set by competition over listeners.

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³ Data are distilled from Recording Industry Association of America (2016).

⁴ Recall that by 'voice' I refer to acts of political speech and argument, not the right to vote. If voice is interpreted as merely the right to vote, it does not take on all three of these characteristics. Any one individual's vote is diluted as more individuals are enfranchised. In this sense enfranchisement may be zero-sum—the gain in voice by the enfranchised is offset by a loss in voice by those that already could vote—but it is not positional.

My claim that voice operates like a positional good centers on the *economy of attention*. Voice is only effective to the extent that others are listening. Time and attention are literally scarce resources, and so need to be allocated by listeners (Kahneman 2011, Chapter 2). Each moment that one group member is speaking is a moment in which others are not (de Jouvenal 1961). The time allotted to reading one message is not allotted to reading an alternative point of view.

Effective use of voice tends to impose negative spillovers on others because, in the economy of attention, *influence is relative*. My ability to capture attention comes at the expense of your ability to do the same. Both serious attempts to convince others of the merits of a position and more emotive or hierarchical attempts to exert influence are ultimately positional: the strength of my argument, the weight of my emotional appeal, or the extent of my authority only need to be stronger, weightier, or more extensive than yours. So the more influence I gain, the less you are likely to have. This is true even if we wish to persuade others of the same idea or course of action. I may be happy that you have influence because I like the way you utilize it, but the fact that you have it still means that I do not. In many cases what matters is the relative ability of two or more parties to influence their listeners and capture scarce attention. To the extent that this is true, effective use of voice becomes zero-sum.

One objection to the claim that voice generates negative spillovers is that individuals might use their own voices to intentionally increase the voice of others. This may take the form of creating a petition, actively sponsoring another's cause, or endorsing a candidate for office. In all of these cases one individual's voice can create positive spillovers for another's voice. But this particular *use* of voice still comports the general characteristics of *any* use of voice, because the attention now showered upon the object of these actions comes as the expense of other third

parties. If I draw attention to a particular cause or candidate there is less available for other causes or candidates. I may succeed at increasing the total amount of attention that individuals pay to discussion, but that outcome ultimately confronts a hard budget constraint in the form of time.

Voice can also generate an arms race. When we debate one another, a portion of our time is spent simply attempting to counter the others' arguments. Consider a strictly hypothetical departmental meeting at a university. Two sides arguing for different policies may become locked in a debate. Every time side A speaks up, side B feels compelled to respond, provoking another response from A, and so on. This can result in a long and costly procedure that doesn't much change the final decision that the department reaches. This is not to say that all the time is wasted: we might learn something from the discussion. But once this sort of competition gets going, it is hard to stop and the meeting—again, an imaginary meeting of a strictly hypothetical academic department—may become a long, painful, and wasteful ordeal.

One obvious example of a voice-fueled arms race is campaign fundraising. If my electoral opponent raises a large amount of money, I may seek to raise a large amount of money myself to offset her spending. If she has 10,000 yard signs, I want 20,000 yard signs. The literature on campaign spending often explicitly refers to it as an arms race (e.g., Abrams and Settle 2004; Frank and Cook 2013, p. 145). Jacobson (2015, p. 36) notes that empirical attempts to measure the influence of campaign spending on election outcomes have been plagued by the logic of an arms race: credible challengers spend money, provoking an increased response from

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⁵ Note that the existence of a voice-fueled arms race does not rely on campaign spending being effective at winning votes. Spending is a function of fundraising, and political donations may be a form of consumption expenditure (Ansolabehere et. al. 2003). Donation and spending totals would track positional competition either as inputs or a proxy variable for candidates' influence. But note that Jacobson (2015) raises serious empirical concerns about the findings that money does not matter, since spending is endogenous.

incumbents. This process follows precisely the logic of an expenditure cascade. As a result, spending by electoral opponents is highly correlated. For the 2014 U.S. Congressional and Senatorial races, the correlation coefficient between the campaign spending of the winner and the spending of the second highest vote getter for that seat is .667, indicating a strong positive relationship.⁶ A better measure may be to omit races with incumbents, since a sizeable political science literature argues that incumbent spending is less effective. This too is consistent with the idea that voice has positional spillover, since success at winning attention in previous elections begets success in future elections, providing a substitute for campaign spending. In races for open seats with no incumbent, the correlation between winner and runner-up spending is .848. All this is not to say that other variables could not be influencing the spending of both the winner and the runner-up—both candidates may spend more if the seat is particularly valuable or if forecasts indicate that the race will be close—but only that the data are consistent with an arms race.

Finally, the positional spillovers of voice can engender winner-take-all fora. Consider again the logic of the economy of attention. Imagine that every participant in a collective deliberation has the same formal right to participate in a discussion, even to the point of being allotted an equal amount of speaking time. But the substance of the discussion will largely depend on what claims individuals feel compelled to respond to. Some interjections seem *salient* in a way that influences the rest of the discussion. Since each speaker has scarce time, he will tend to respond either to those points or to those speakers that seem the most salient. Each response to a claim either invalidates that claim in the mind of listeners or simply increases its salience. In the world of voice, just as in the world of music, *success begets success*. If someone

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⁶ Data are from the Center for Responsive Politics (2016).

raises an issue that garners attention, I increase my chances of influencing the outcome by tying my claims (pro or con) to that issue.⁷ This dynamic can result in a distribution of influence on the content of the conversation that is highly skewed just as in a winner-take-all market. Moreover, just as with winner-take-all markets, this concentration increases with the number of listeners. As a deliberative venue increases in size, there is a more than proportionate diminution of the modal participant's influence.

Unfortunately, there is no unambiguous measure to indicate whether a distribution counts as winner-take-all. This ambiguity is compounded by the difficulty of finding convincing measures of influence due to the exercise of voice. The best option is to compare markets that have been identified as winner-take-all with proxy measures of influence in deliberative fora. My preferred measure of influence is academic citations. Academic publishing is an exercise in voice seeking attention, and academic citation patterns exemplify winner-take-all dynamics (Klamer 2007, Ch. 4). Citation patterns embody in a direct way how salient an argument is to an academic conversation, and they consume a scarce resource as long as there are word count limits. Once an article or book has been cited many times, a citation to it becomes an expected part of any article commenting on the same topic. It is difficult to discuss issues of distributive justice without citing Rawls, to examine the informational properties of markets without citing Hayek, or to explore voice and exit without citing Hirschmann. Kim et. Al. (2006) provide some evidence of this within economics. They compare the citation counts (as of 2006) of any article from 41 top economics journals that received at least 500 citations between 1970 and 2006. Table 2 provides a summary of their results. Even among a selection of heavily cited articles in top journals,

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⁷ My approach is distinct from Kuran and Sunstein's (1999) concept of an availability cascade, which concerns belief rather than attention, but the two approaches are probably complementary.

success is wildly unevenly distributed. The top two most highly cited received about five times as many citations as the average article in the sample.

| Citations | Articles | | |
|-----------|----------|--|--|
| ≥ 500 | 146 | | |
| ≥ 1000 | 43 | | |
| ≥ 2000 | 11 | | |
| ≥ 4000 | 2 | | |

Z 4000 Z Table 2: Citations to Top Economics Papers, 1970-2006⁸

Indirect measures of political influence likewise comport to this pattern. Table 3 reports on media coverage of Presidential candidates in the 2016 U.S. Presidential Republican primaries. The Television News Archive scans closed captions for news shows across 20 networks. The numbers in table 3 list how many individual news programs mentioned a given candidate in the year leading up to the 2016 Iowa Caucuses, in order to minimize the survival effect from candidates dropping out of the race. The results are skewed in a manner similar to the record sales and academic citation numbers reported above. Donald Trump had over 55,000 mentions, about four times as many as the average candidate from among this already highly select pool. Table 4 reports on the number of Twitter followers that the same pool of candidates had as of February 1, 2016, the date of the Iowa Caucuses. The distribution is again similar, with Donald Trump having 6,000,000 followers, around eight times the number the average nominee in the same pool.

| TV Mentions | Candidates |
|-------------|------------|
| 2,500+ | 15 |
| 5,000+ | 12 |
| 10,000+ | 8 |
| 20,000+ | 4 |
| 40,000+ | 1 |

Table 3: News Programs Mentioning U.S. Presidential 2016 Republican Primary Candidates 1 Feb 2015-1 Feb 2016⁹

⁸ Numbers are distilled from Kim et. al. (2006).

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| Twitter Followers | Candidates |
|-------------------|------------|
| 100,000+ | 14 |
| 250,000+ | 11 |
| 500,000+ | 7 |
| 1,000,000+ | 3 |
| 2,000,000+ | 1 |

Table 4: Twitter Followers of U.S. Presidential 2016 Republican Primary Candidates on 1 Feb 2016¹⁰

One might object to these measures since they include Donald Trump, a potential outlier in presidential elections. But this would be a mistake, for two reasons. First, the idea of winner-take-all markets (or fora) is used to explain the emergence of outliers, namely that they are more likely to emerge as positional competition takes place over a larger consumer base. Second, the mechanism that generates winner-take-all markets is that success begets success. So the fact that Trump was a successful television personality before entering the Presidential race is exactly the sort of fact that this theory would consider salient. Success as winning attention and influence in one domain can be leveraged into winning attention and influence in another domain.

Table 5: Winner-Take-All Distributions

| Success Proxy | Obs. | Min. | Max. | Mean | Std. | Skew |
|---|--------|------------|-------------|--------------|--------------|--------|
| RIAA, 10M+ sales | 269 | 10,000,000 | 178,000,000 | 24,879,182.2 | 21,249,622.2 | 3.41 |
| Econ Citations (500+) | 146 | 506 | 4318 | 975 | 673.5 | 2.90 |
| Republican Candidate Television Mentions | 17 | 694 | 55,217 | 14,394 | 14,077.8 | 1.72 |
| Republican Candidate Twitter Followers | 17 | 3,550 | 6,000,000 | 752,826 | 1,397,722.9 | 3.70 |
| Random Twitter Users Followers, 10,000+ | 130 | 10,116 | 1,401,143 | 45,226 | 128,775.1 | 9.37 |
| Random Twitter Users Followers, 1,000+ | 1,750 | 1,000 | 1,401,143 | 5,490.1 | 36,777.7 | 32.28 |
| Random Twitter Users Followers, 100+ | 20,717 | 100 | 1,401,143 | 718.1 | 10,785.9 | 109.26 |

Table 5 summarizes these measures of voice, as well as the numbers on record sales as a point of comparison. In addition to standard statistics summarizing each metric, I have included

¹⁰ Distilled from Social Bakers (2016).

⁹ Distilled from Internet Archive (2016).

the skewness of each. Skewness measures how asymmetric a distribution is; uniform and normal distributions have a skewness of 0. While there are no objective thresholds of skewness, an absolute value greater than 1 is typically understood as indicated a very skewed distribution. The number of observations for TV mentions and Twitter followers of Republican candidates' presidential are too small to draw any reasonable inferences, so I include a broader sample of Twitter users. These are distilled from Bruner (2013), who scraped over 400,000 random Twitter accounts in October 2013. He found that the median "active" Twitter user had only 61 followers. I have further limited his sample to high-impact Twitter users, with three different thresholds for what counts as high impact: 10,000 followers, 1,000 followers, and 100 followers.

The measures of influence in Table 5 are distributed at least as unevenly as record sales, an iconic case of a winner-take-all market. Where they are less skewed, the sample sizes are lower. Most importantly, these data are consistent with the idea that the larger the forum, the more skewed is the distribution of influence. While the logic of positional spillovers helps explain how such a pattern might arise, this is not a new idea. James Madison voices this hypothesis toward the end of Federalist 58:

The people can never err more than in supposing that by multiplying their representatives beyond a certain limit, they strengthen the barrier against the government of a few. Experience will forever admonish them that, on the contrary, after securing a sufficient number for the purposes of safety, local information, and of diffusive sympathy with the whole of society, they will counteract their own views by every addition to their representatives. The countenance of the government may become more democratic, but the soul that animates it will be more oligarchic. The machine will be enlarged, but the

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¹¹ Bruner provided these data on request.

fewer, and often the more secret, will be the springs by which its motions are directed. (Madison 1788 [1982], p. 299)

Network Goods

Network goods also generate spillover effects. But whereas the acquisition of a positional good imposes negative spillovers by pushing others down some social hierarchy, the acquisition of a network good creates positive spillovers, making the type of good in question even more valuable for others. Arguably the most important network good most individuals possess is fluency in a language. A language is valuable precisely and to the extent that others can send and receive messages with it as well. The more people who speak a language, the more valuable fluency is, and vice versa. Network effects also lead to markets with a few distinctive features.

Network spillovers can be either direct or indirect (Katz and Shapiro 1985). A direct spillover depends on nothing more than others possessing the good. For example, email access is a network good whose value is directly a function of the number of other individuals who might send or receive emails. Social media networks likewise exhibit this property: Facebook is valuable because so many others are on it, while MySpace no longer offers the benefits of an active and engaged community. My possession of a cellular telephone creates positive spillovers for anyone who might want to contact me.

Indirect network effects involve the actions of third parties rather than only the actions of other users of the good. The more individuals possess the good in question, the more incentive producers have to develop complementary goods. The more people speak English, the more media will be created in or translated into English. Various product standards such as electronic file formats and software ecosystems work through indirect network effects. A computer

operating system is valuable in part because other users create sufficient demand to make software development for that operating system profitable. It also pays to have a video playback device that utilizes the commonly accepted format: VHS in the 1980's, then DVD in by the late 1990's, and now Blu-ray. The internet likewise exemplifies indirect network externalities. The more users there are, the greater is the incentive for third parties to offer valuable services or facilitate online commerce. Indirect effects are typically associated with competition. The network good operates as a medium through which competitive forces operate to provide *other* goods.

As a result of these two types of positive spillovers, network goods are often characterized by increasing returns to scale (David 1985, Katz and Shapiro 1985). This is an odd use of the term 'returns to scale' that refers to the *demand side* of the market. Since the good in question becomes more valuable the more others use it, the quantity demanded of a network good often increases just because others have the product. One example of this process in recent years was the competition between HD DVD and Blu-ray as two high definition video formats that took place from 2006-2007. Though HD-DVD hit the market first and had a wider selection of titles, Sony's decision to enable the Playstation 3 video game console to play Blu-ray discs in late 2006 caused a dramatic shift. The network effects from combining a popular gaming console with the ability to play a particular high definition format caused the relative market share of HD-DVD and Blu-ray to flip within just a few months (Drawbaugh 2008). The desire to have goods that are compatible with those of other end users tends to lead to lead individuals to cluster around just a few options. The more people own Blu-ray players, the more attractive it is to acquire one.

Network Spillovers from Exit

Exit operates like a network good, exhibiting all three of these characteristics. Again, some qualifications are necessary here. As with voice, this is only true of *effective* ability to exit. If individuals possess formal exit rights but they are too costly to utilize then they cannot produce the spillover effects associated with a network good. Effective exit also requires that there be somewhere else to go. If there are no feasible alternatives to dealing with or being a member of a particular group, then exit rights are less valuable for the individual possessing them as well as others. *Freedom of entry* can thus be important in generating *effective* freedom to exit. Also, it is important to note that exit can have negative spillovers as well. If I exit from a school district and no longer pay property taxes there, you may be worse off if you previously relied on that tax revenue. But these additional or offsetting effects do not change the fact that my exit makes your exit more powerful in terms of influencing suppliers of goods or services.

Imagine a law that required that everyone in town eat lunch at the same Chinese restaurant. Now imagine that you are granted a unique exception: you have been given an exit right and can choose to patronize other establishments or prepare your own lunch. However, since you are the only one with that exit right, it is unlikely that you will have many other options. Unless your willingness to pay for Indian cuisine is particularly high, Indian restaurants will still remain closed for lunch. The division of labor is limited by the extent of the market, and in your case the market is a market of one. Moreover, even if you were willing to pay enough to eat Indian for lunch, you will dine alone. Your colleagues, family, and friends will still be eating Chinese.

Now imagine that the town council gradually expands the exit franchise. As more and more diners are free to choose their lunchtime supplier, the number of restaurants willing to offer

lunch services expands. The odds of finding a restaurant that serves cuisine you like thus increase, as does your ability to sort into a customer base of others you might like to dine with. Others' exit rights create a positive spillover for you. The last individual to get the right of lunchtime exit enjoys a much larger benefit from that right than the first individual did. The expansion of exit rights also creates competition between restaurants, creating an incentive to improve the quality of services. This change may even benefit those who still eat at the former monopoly restaurant. Even though it has some captive customers, that restaurant may find it worthwhile to try and keep those who can exit by offering better services. ¹² If the expansion of exit rights continues, competition may snowball to create a dining 'scene,' a cluster of restaurants that generates new and innovative products as firms compete with one another for both customers and employees. This thought experiment highlights the direct, indirect, and increasing returns properties of exit rights. Consider each in turn.

Exit rights create direct positive spillovers by allowing individuals to intentionally sort themselves into communities of shared interests. Such communities and such shared interests take a wide variety of forms. Individuals enter and exit from familial and social relationships of all sorts. They may wish to join religious communities whose practices and beliefs they find compelling, or to escape from those that they find oppressive (Kukathas 2003). The same is true of secular rules that govern various communities of interest. Rules are such that they must be consumed in a group, but the ability to enter and exit from clubs minimizes the costs of disagreement (Stringham 2015). And individuals may wish to exit arrangements based on more directly beneficial activities, such as seeking out new romantic partners. In all these cases, the effectiveness of exit is limited by the extent to which others can exit as well.

¹² This possibility depends on the restaurant's ability to segment the market into those with exit rights and those without, as with any form of price discrimination.

Being able to escape from unwanted relationships is valuable, but it is even more valuable if one can find a new community of shared interests. The more people that can effectively exit, the more likely it is that an individual will find a good match. Following Adam Smith's analysis of religious competition vs. religious monopoly, scholars studying the economics of religion find that both religious pluralism and religious freedom are positively correlated with religiosity and church attendance (Iannaccone 1991; Iannaconne et. al. 1997). The benefits of religiosity increase when individuals are more likely to be able to find a religious community that suits their beliefs and interests, which is possible to the extent that they have effective rights of exit.¹³ Chiappori and Weiss (2006) argue that, similarly, divorce includes some spillover benefits to others: the more people who can leave their spouses, the larger is the dating pool for finding a better match.

Exit also generates indirect spillover effects by encouraging competition. The benefits of exit are obvious for those who switch from one relationship to another. But there are also benefits for those who stay put as suppliers of services compete with one another. Standard models of economic competition are consistent with this idea. Increased mobility of consumers dampens market power, meaning that sellers confronting relatively elastic demand have less ability to capture rents. Except in the case of perfect price discrimination, this will also benefit consumers with less ability to exit. Alternative sources of supply also undercut the ability to form monopolies in the first place by giving buyers an exit option. These effects tend to increase the overall efficiency of the market, benefiting consumers beyond those who exit.

¹³ Much of this literature focuses on religious competition, so this may seem like an indirect rather than a direct network effect. However, as Iannaccone (1996) emphasizes, the standard model of religion is closer to club co-production of religious benefits by congregants themselves rather than a market model in which firms and consumers are completely separate. This evidence is consistent with both direct and indirect network effects.

Teske et. al. (1993) find evidence for these indirect effects with regard to Tiebout competition. The knowledge and mobility of a relatively small number of marginal individuals compels jurisdictions to behave competitively, creating spillover benefits for citizens whoa re less mobile and knowledge. Evidence on school choice is likewise consistent with this effect. Figlio and Hart (2014) examine the effects of the Florida Tax Credit Scholarship Program passed in 2001. They find that public schools that faced higher levels of competition from private schools before the program was implemented experience greater improvements in test scores. Competitive pressure created benefits for public school students who stayed put, not only for those who moved. Cebula, Hall, and Tackett (2017) similarly find that private school enrollment improves public school performance in West Virginia.

Evidence from laboratory testing the determinants of social cooperation illustrates the powerful indirect network effects of exit. In repeated prisoner's dilemma setups, the ability to exit from relationships and engage with others generates substantially higher levels of cooperation. Efferson et. al. (2016) argue that cooperation can be sustained by "running away from bad behavior," even when individuals do not know who is behaving badly. In their setup, individuals play a social dilemma game with everyone in their neighborhood, but they only see their total payoff. In the treatment in which individuals can move around the map and change their mix of neighbors, *overall* levels of cooperation were noticeably higher. Bednarik et. al. (2014) likewise find higher levels of cooperation even when switching partners is costly. The mere threat of exit improves the behavior of players generally.

On a broader scale, a wide array of authors claim that the polycentric, decentralized organization of medieval and early modern Europe generated competitive pressures to attract individuals and enterprise with good governance practices (Berman 1983, Weede 1990,

Weingast 1995, Salter 2015). Others apply this same logic to argue that the ability to exit helps explain contemporary patterns of both political and economic institutional quality (Fleck and Hanssen 2013, Martin 2015). If these authors are right, individuals' ability to exit from one polity to another improves institutional quality for all, sometimes to dramatic effect.

Finally, the ability to exit can exhibit increasing returns to scale. Recall that network goods are subject to increasing returns for adopters. It can be difficult to find an analogue for this with exit, since (a) the positive spillovers are to the effectiveness of exit, which is not the same as the demand for exit and (b) formal exit rights—an important component of the ability to exit—are often determined through collective action, which is not solely a function of individual incentives for adoption. Increasing returns to adopting new exit rights will thus only be evident when (a) individuals value exit rights and (b) have enough political influence to secure them through collective action. Nonetheless, there is indirect evidence that lends credence to this effect.

The domino theory the proliferation of regional trade agreements is a good example of the increasing returns to exit (Baldwin 1997, 2006). Lowering trade barriers is a prime example of increasing ability to exit; individuals and firms confronting lower tariffs and quotas have more opportunities to take their business elsewhere. Baldwin argues that individual trade agreements set off domino-like effects. If countries A and B sign a trade agreement, this will have some diversionary effect on country C. Exporting firms in country C will then have an incentive to place pressure on country C's government to lower its trade barriers as well in order to remain competitive. Baldwin and Jaimovich (2012) find empirical support for this hypothesis, arguing that free trade agreements are "contagious" because of their spillover effects on other countries.

Lemke (2016) similarly argues that the adoption of Married Women's Property Acts and related legislation was driven by competitive pressures between U.S. States and territories. Western territories wanted to attract women as settlers in order to qualify for statehood. In order to do so, they began passing legislation that overturned the legal doctrine of coverture, which stated that a married woman's property was in control of her husband. Since this legal maneuver proved to be successful, other territories and states began to follow suit. Maryland was the first to pass such an act in 1842. By 1851, half of the 36 U.S. states and territories had passed at least one such act. A second wave of reform took place from 1860-1877, by the end of which only 5 of 47 U.S. states and territories had not passed some sort of reform. These waves of adoption fit precisely the patterns of a network good: the more some states and territories granted women full property rights, the more pressure there was on other governments to follow suit.

Conclusion

My voice makes your voice less effective. My capacity for exit makes your capacity for exit more effective. These spillovers from voice and exit have implications for both positive and normative political science that are potentially both substantial and wide-ranging. Since voice is not purely positional and exit is not a pure network good, none of what follows should be taken as a definitive defense or critique of any given argument or institutional arrangement. Rather, these spillovers should take their place alongside other considerations of institutional evaluation and design when forming considered judgments about how institutions operate and which rules are appropriate under what circumstances.

The idea that voice tends to produce winner-take-all fora reinforces the view that democratic governance that are still dominated by a narrow group of elites. Previous work on deliberation has found that many participants stay silent, and often resent the process afterwards (Hibbing and Theiss-Morse 2002, Ch. 8). This finding is consistent with fora dominated by a few loud voices. A large literature in political science has argued that a number of political outcomes are driven by economic elites (Gillens and Page 2014). Others have claimed that the influence of money on politics and policy is exaggerated (Ansolabehere et. al. 2003). My claim that in the exercise of voice "success begets success" points to a distinct position. Success in gaining media attention in one sphere—which may include commerce—can give individuals a platform to gain further influence in the political sphere. This approach has the potential to translate classic arguments for the "iron law of oligarchy" (Michels 1911, Pareto 1935) into more contemporary, analytical forms. Whether money matters or not, elites in one domain have a leg up in gaining influence in politics, because it is easier for them to gain attention.

But perhaps more interesting are the implications of my argument for political theory and political philosophy. Defenses of voice are typically couched in terms of variations on democratic norms. Deliberative democrats argue that voice is important for securing genuine consensus, for aggregating diverse judgments (Landemore 2013), or for a host of other reasons (Mendelberg 2002, p. 153). Neo-republicans argue that voice is an important means of avoiding domination, giving individuals a say in the rules they live by (Pettit 2012). More recently, Knight and Johnson (2011) have put forward a case for voice that they deem 'pragmatist.'' Their argument focuses on the idea that voice can reflexively consider the quality of institutional arrangements in a way that markets and exit cannot. Translated into institutional design, these

arguments commend that rules be evaluated in part based on how they encourage citizen participation in the political process.

While it is true that expanding participation can increase the diversity of perspectives that inform collective action, expanding fora can also concentrate influence at the top. Whether diversity or concentration will dominate in any particular extension of participation is an empirical question. One way to deal with this unsettling possibility is to place more stringent normative constraints on the exercise of voice for a forum to be considered truly deliberative. Knight and Johnson take great care to lay out various conditions for political argument to effectively generate beneficial forms of reflexivity (Chs. 7-8). However, even if these conditions are met, winner-take-all fora can still substantial epistemic closure. Ideas and speakers can gain influence simply because they are initially salient. This is not due only to the external factors such as economic inequality that Knight and Johnson worry about, but rather, as I have argued above, is an intrinsic feature of the exercise of voice. When this occurs, rather than serving as a sieve through which good ideas from a variety of sources may be separated from those that only mask narrow interests or rely on faulty mental models, political argument can become a choke point that rewards prior success rather than contemporary merit.

Defenses of exit, by contrast, are typically couched in terms of efficiency. Exit is the hallmark of markets. Markets satisfy preferences within the constraints of scarcity. When considering the political realm, exit is valued because it produces market-like outcomes. Tiebout (1956) famously argues that exit can produce an efficient mix of goods and services. Brennan and Buchanan (1980) claim that jurisdictional competition alleviates some of the potential government failures associated with the power to tax. Somin (2016, Ch. 5) argues that footvoting can better grapple with the problem of political ignorance than ballot-box voting. Whereas

defenses of voice tend to commend participation as a goal of institutional design, these defenses of exit tend to celebrate polycentricity (Aligica and Tarko 2012).

There are a few notable exceptions to this trend, thinkers who defend polycentricty and exit in terms of democratic norms, especially in addressing how individuals with different values can live peacefully together. Kukathas (2003) takes the most extreme approach, arguing that freedom of association and disassociation is the core liberal right. But most seek to combine exit and voce in some measure. Vincent Ostrom (1971), translating the Federalist Papers into contemporary public choice analysis, offers a classic attempt to think through the problem of unconstrained voice. He argues that the fragmentation of political authority into polycentric systems is necessary for any form of genuine self-governance. He argues that, as deliberative bodies grow, the quality of deliberation tends to deteriorate past some point and opens the door for more concentrated political power. By breaking up governance functions across a range of polycentric—independent and diverse—jurisdictions, there is some hope for a "republican remedy to the republican disease" (Ch. 5). Ostrom's analysis thus raises the possibility that exit can play an important role in disciplining the hierarchical tendencies of voice, a point bolstered by my analysis.

Following Vincent and Elinor Ostrom, Aligica and Tarko (2013) examine the role of federalist and other polycentric systems in coping with a diversity of preferences for public services among citizens. Warren (2011) seeks to carve out space for exit in democratic theory by arguing that voice and exit can be complements. Whereas voice is exceptionally useful for communication, exit is useful for empowering citizens to be free participants in democratic deliberation. Warren argues that exit has a lower threshold for effectiveness than does voice, since utilizing voice to change collective choices is resource intensive. Levy (2015) argues that

polycentricity has an important role to play in serving as a buffer against centralized form of tyranny (just as centralized states have a role to play in offsetting local tyranny). Taylor (2013; 2017, Ch. 4) argues that neo-republicans should likewise value exit, as it helps undermine domination. My approach complements these various by highlighting that the capacity for exit typically benefits *both* citizens who share my preferences *and* those who do not by making their exit rights more effective.

Much work could be done on combining voice in exit in different ways. In addition to exit serving as a check on some potential pathologies of voice, it is certainly possible to imagine situations in which voice helps offset some of the limitations of exit, perhaps by providing more nuanced feedback to governance providers or helping to overcome resource constraints. Consequently, it may be beneficial for polycentric institutions nested within participatory institutions or vice versa. If we think of governance as a nested game, where in the chain of governance do we want to encourage participation, and where do we want to rely on polycentricity?

This essay also paves the way for a wide range of more applied research. As a theoretical lens, the operation of voice and exit touches on some of the most important historical questions social scientists now confront, namely explaining the process of institutional evolution. Moreover, as I have noted, there may be many cases where the spillovers I have identified are overwhelmed by other features of voice or exit, such as the capacity to communicate information by voice or the possibility of fiscal drain from exit. The aim of this essay was to establish the relevance of a basic theoretical point, but the extent to which that theory applies is always an empirical question. Finally, there is ample room to investigate the many particular forms that

voice and exit take. More focused studies would allow for more direct tests of the spillovers generated by a particular decision right.

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