

Introduction

With the 21st century in full swing, an era rife with technological advances that effectively connect all seven continents, the world has truly become a smaller place. Developing nations are approaching industrialized nations like the United States in different forms of technology yet continually remain behind in areas such as skilled labor. The prominent theory of international trade, the Heckscher – Ohlin theorem “predicts that a country exports the product(s) that use its abundant factor(s) of production intensively and imports the product(s) using its scarce factor(s) intensively.”(International Economics 62). Consistent with the theorem, industrialized countries such as the United States and the United Kingdom have followed suit by importing from the developing world its most abundant factor: labor.

In an attempt to minimize labor costs yet maintain productivity, industries in the industrialized world have increasingly turned towards outsourcing of jobs, projects, and even entire companies to cheaper overseas markets. The image of *outsourcing* generally paints a picture of foreign laborers undertaking “blue-collar”, labor-intensive jobs typically done by lower-middle class workers (Mcgillvray 2004). However, what once seemed to threaten only manual laborers has steadily crept into highly technological and highly educated industries.

Statement of the Question

In order to observe this trend, my research will focus on the existence (or lack thereof) of outsourcing on the skilled industries of medicine and accounting. Consistent with the abovementioned trend, outsourcing has gained much importance within the accounting field. However, medicine remains an empirical puzzle because it has primarily withheld from this outsourcing flux. The research will attempt to explain why two similarly demanding industries in terms of skill level, educational requirement, and licensing requirement have such noticeable differences in the level of outsourcing. The subspecialties of radiology for medicine and certified public accounting (CPA) for accounting were chosen because in both fields there is no

technological gap to outsourcing. Variations in the two industries will be studied in both the US and the UK. If differences in the level of outsourcing are solely seen between nations, the variation can be attributed to the difference in political institutions. The US and the UK were chosen because they are two highly industrialized nations, similar in demographics, standards of living, yet differ in the structure of political organization.

Literature Review

The extant literature offers little to no explanation for why cross-sectional variation in outsourcing exists. Although considerable research has been done concerning industries ability to achieve protectionist policies, most of this literature focuses on tariff and duty data. While these are the most prevalent forms of protection (McGillivray 2004), it assumes that industries with the most tariffs fundamentally outsource less. This is a dangerous assumption that implies protection is a monogamous term; the primary weakness I found in Pinelopi Koujianou Goldberg and Giovani Maggi article, "Protection for Sale: An Empirical Investigation", 1999 (explained further).

On the contrary, protection takes many nontariff forms and preventing outsourcing is just one of several methods. Although the focus of the project is to observe variation in outsourcing, specific literature on outsourcing variation does not exist. Because of this, the following works were selected because they deal with the general topic of industry protection and their models are not vitally constrained by one measure of protection. From this literature, we can extract which factors are important in identifying variation in protection. We can then draw inferences on outsourcing since preventing outsourcing is a type of protectionist policy. Although works highlighting outsourcing as a specific type of policy would have been ideal, this path remains the best alternative.

For example, in their work entitled "Protection for Sale" in the *American Economic Review*, 1994, Gene Grossman and Elhanan Helpman determine that interest group strength

affects the amount of protectionist policies an industry receives. The authors aim was to understand why some interest groups are successful in attaining private benefits while other groups are not. This is relevant to the topic of outsourcing since interest groups, by definition, want to protect the jobs and wages of its members.

For the purpose of the experiment, Grossman and Helpman adopt the “political-support approach” (845). That is, they model incumbent politicians who are aware that their decisions may affect their reelection chances. The paper makes the point that it is *not* interested in the relationship between campaign gifts in affecting election outcomes—this sort of influencing is illegal in most political systems. Rather, it is more interested in the effects of influencing policy. “In other words, politicians penchant for campaign gifts makes ‘protection for sale.’ ” (835). Their theory is supported by donations made by interest group Political Action Committees (PACs). For example, in the 1988 congressional elections, three-fourths (3/4) of all PAC donations went to incumbent candidates (Magelby and Nelson 1990, p 55). Excluding elections for open seats, incumbents received 6.3 times as much in contributions from PACs as did their challengers¹.

Lobbies make implicit political contributions relating to the trade policy choices made by the incumbent government. The government then sets subsequent policies by weighing the cost of social welfare and total contributions. Like many political scientists, Grossman and Helpman make the assumption that politicians choose policies that maximize their chance for reelection.

Yet in the process, the authors note that a sort of ‘political equilibrium’ is reached. Neither the government nor the interest group has an incentive to alter its behavior. By changing its contribution schedule, lobbying groups do not generate more welfare. Instead, by cutting back on interest group pressure, legislatures may possibly lose political advantage. The authors conclude that the protection a politically organized industry receives depends on the relative

¹ Ibid. p 86

weight the government attaches to its campaign contributions a propos voter welfare and “the fraction of voters that belong to an organized lobby group”(848).

Various weaknesses lie in the authors' conclusion. For example, the authors do not look into the theory of lobby formation or how groups organize. Groups organize for different reasons² yet the argument makes the underlying assumption that interest groups principally seek protection. Even if one does not buy into this rejoinder, a second weakness lies in the fact that the authors weigh lobby pressure by the fraction of voters that belong to it. The authors themselves admit that they neglect a lobby's ability to deliver blocks of vote, and only look into the number of voters that make up a lobby.

However, Professors Arthur Denzau and Michael Munger claim that unorganized voters, not legislators, decide which industries receive protection (Denzau and Munger, 1986). This conclusion would indicate that consumer preference would ultimately decide outsourcing behavior. In their work, “Legislators and Interest Group: How Unorganized Interests Get Represented”, 1986, Denzau and Munger look at three sets of agents that determine protectionist policy outcomes: legislators, voters, and interest groups.

The authors claim that the early pluralist belief where competing interest groups formed policy as the elected official remained the “passive referee” is too simplistic (90). Like Grossman and Helpman, Denzau and Munger regard legislators as solely concerned in maximizing the number of votes they receive. Because the assumed goal of an elected official is to stay in office, the authors point out that “ ‘winning comfortably’...is more desirable than winning by a narrow plurality...since a narrow victory is a sign of weakness that can inspire hostile political actors to deploy resources more intensely the next time around” (91). Voters are defined as a large, unorganized group comprised from two subgroups. The *civics class voter* is

² For example, the American College of Radiology as well as the National Health Services in the UK decree that their formations were principally to maintain and promote high quality of medical services to their constituency. (www.nhs.uk.gov, and CITEEE)

well informed about his elected officials' policies, unaffected by advertising, and votes based on his personal preferences. In contrast, the *rational ignorance voter* is largely uninformed about policies and votes based on (biased) information he receives from interest groups. Interest groups attempt to gain legislators' favor in order to maximize their sole goal: improving their own wealth.

Effectively, the legislator considers the total amount of potential votes and contributions he might receive by aligning with a certain interest group and donates his time and effort accordingly. On the other hand, interest groups choose legislators based upon their comparative advantage; that is, because elected officials differ in their "productive capability" (seniority, committee assignments, influential ability) and in the range of voter preferences in their geographic constituency, interest groups choose legislators in predictable ways. To this end, interest groups are fundamentally constrained by the preferences of the legislator's constituency. If a constituency's preferences are diverse regarding industry protection, for instance, interest groups would need to expend considerably more resources to advertise there. The authors conclude that the unorganized voters have implicitly constrained interest group pressure and become the primary agents affecting protectionist policy outcomes. .

Denzau and Munger's model makes the unstated assumption that legislators primarily serve interest groups and not voters. Although democratically unpleasing, the model succeeds given that the preferences of the geographic constituency among legislators differ. However, the model does not account for what might happen if the preferences in different geographic constituencies were similar. Likewise, there is no insight into what would happen if the constituency was taken as the entire nation—in which case the constituency for vying interest groups is exactly the same.

Although empirically a sound argument, Denzau and Munger's model remains limited in scope. Their conclusions are based on the assumption that constituencies have different preferences—a supposition that may or may not be true.

As discussed previously, Koujianou and Maggi's work is included in this review to implicate the weaknesses involved in extrapolating broad conclusions from just one measure of protection. In *Protection for Sale: An Empirical Investigation*, 1999, the authors validate the claim that the Grossman-Helpman (G-H), "Protection for Sale" model, can *entirely* explain cross-sectional differences in protection. The model, devised in 1994, explains that variation can entirely be understood by looking at an industry's: (1) import elasticity, (2) import-penetration ratio, (3) and political organization³. In order to validate the original model, the authors introduced variables that were not tested in the initial experiment. In this way, if any of the introduced variables—such as employment size, measures of unionization, sectoral unemployment rate—accounted for any measurable explicatory relationship, the model would be deemed incomplete.

An important point: the authors did not *test* the G-H model because they did not have a plausible alternative hypothesis. The scope of the paper was only to empirically validate the claims made by the G-H model using non-tariff data whereas the original model strictly used tariff measures as data. To measure protection, accordingly, the authors used coverage ratios for nontariff barriers.

The authors found that *none* of the additional variables they introduced justified cross sectional differences among industries; as a result, their findings remained entirely consistent with the G-H model. However, a considerable limitation arises in the way the authors' empirically measure protection. As the authors themselves even allude to, "Coverage ratios are a notoriously imprecise measure of nontariff barriers; however there seems to be consensus that, in the absence of reliable numbers on tariff equivalents, they are the best available measure" (1141).

Protection is a complex subject matter that takes a multitude of nontariff forms—coverage ratios, subsidies, voluntary export restraints, outsourcing to name a few—and

³ "According to the model, [politically] organized industries are the ones that contribute money to the government" (1135).

cannot simply be measured by any one form⁴. My criticism of the study does not lie in their use of non-tariff data but in the broad conclusions they infer from their results. By simply using (imprecise measures) of coverage ratios, the authors make a rather large leap of faith by claiming they have measured 'protection'. If the authors constructed composite indices accounting for more than just one form of nontariff assistance, then they would be right to say that they have measured 'protection'. As is, however, the authors have simply measured the correlation between *one* form of protection (coverage ratios) and import penetration. Although the G-H model claims to answer the fundamental question at hand, it has only been (properly) validated using tariff data and so I have not included the model's worth in my hypothesis.

Professors March Busch of Harvard University and Eric Reinhardt of Emory University argue that it is principally variations in geographical concentration that account for the different levels of (nontariff) protection across industries in the US.⁵ In the context of outsourcing, then, the authors conclusion would indicate that industries that are geographically concentrated but politically dispersed would be most likely to receive protection and prevent outsourcing. Large industries also benefit from becoming politically concentrated.

Professor Fiona McGillivray of New York University also takes a similar approach. In *The Comparative Politics of Trade and Industrial Policy*, she attempts to explain not cross-sectional differences in protection, but why a given industry is able to obtain protection in one country yet has to face the open market in another. The question of whether or not to outsource often centers around this topic. By looking at various variables including the industry's political clout, geographical concentration, and other such factors, she concludes that cross national differences in industry protection are due to the combined effect of the industry's geography and country's electoral system. McGillivray looks at three varying types of political institutions:

⁴ Historically, tariffs have been seen as the principal means of protection (McGillivray 2004). As a result, the G-H model was able to accurately measure for 'protection' by relying solely on tariff data. The authors in this study, however, were attempting to use a nontariff measurement of protection.

⁵ "Industrial Location and Protection: The Political and Economic Geography of US Nontariff Barriers," 1999

majoritarian systems with strong parties (eg United Kingdom), majoritarian systems with weak parties (eg United States), and proportional representation systems (eg Germany).

The author concludes that the underlying reasoning behind protection is political. Despite how much noise an industry's interest group may make, or despite how valuable an industry may be, an industry's likelihood of protection lies in its ability to influence election outcomes in a specified electoral system. As such, the author conjectures that in strong party majoritarian systems, the industries most likely to obtain protection lie in "electorally concentrated marginal districts" whereas in weak party majoritarian systems, "favored industries are large and geographically dispersed" (46). McGillivray's theory offers an explanation for the different levels of industrial protection across a number of industrialized states.

My research serves as an extension to Professor McGillivray's work with key differences. The most noticeable difference lies in the industries we have chosen to test the models. McGillivray's work focuses on the more labor-intensive jobs of cutlery, textile, and steel whereas my study investigates more technologically, skilled jobs of medicine and accounting.

Secondly, a chief difference lies in the variables we are looking for. As later expounded on in the causal model, the conclusions drawn from *The Comparative Politics of Trade and Industrial Policy* as well as Busch and Reinhardt's work do not empirically apply to the industries of medicine and accounting. There must be another factor engendering the different levels of protection seen in these two industries. A major weakness is that both works do not look into how groups organize nor how groups are regulated—the basis for my causal model.

Causal Model

Outsourcing is fundamentally a binary procedure; both a desire and means must coexist to undergo the process. Micro economically, the desire to outsource is easily explainable. Across countries, base salary comparisons alone indicate a reason enough to outsource. For example, a prototypical accounting operation today would utilize one hundred certified public accountants

(CPAs) at an average salary of \$75,000 (US). Inductively, a transaction of this magnitude would implicitly constitute a sunk cost of \$7.5 million (US) per annum before a penny's profit is even made (Rosenthal 2003). However, as the five leading American accounting firms⁶ soon realized, a quality accountant in Bangalore, India who is able suitably accomplish the same tasks would roughly cost the firm \$25,000 (US) per annum (Rosenthal 2003, Perry 2002). Even by admittedly over simplifying the economics and restricting ourselves to just salary comparisons, our analogy already demonstrates an immediate savings of \$5 million (US).

Such a phenomenon is equally representative in medicine as well. On average, a radiologist in the United States earns over \$261,000 per annum.⁷ If we contrast the wage rate for a like worker in India at \$40,000⁸ we can comfortably and empirically conclude a high degree of savings.

The latter half of the two-fold process mentions 'the means' to outsource. An in depth explanation of exactly how finance and health industries outsource will be left for a later time, yet the fact that both accounting and radiology currently outsource, albeit to varying degrees, repudiates any 'technological barriers' that might exist in transferring labor overseas. Indeed, the fact that 86 percent of global business executives (included in the survey were accounting firms like PricewaterhouseCoopers) reported "satisfaction" with their outsourcing ventures bolsters our prevailing assumption (Perry 2002). Yet the fact remains that barriers *do* exist, and it is in identifying and understanding these barriers that will ultimately explain why variation in outsourcing exists between accounting and radiology in the United States and the United Kingdom.

In the US, medicine can be viewed in industry terms. Consisting of privatized hospitals, personal practices, and specialty clinics, the health industry exemplifies the free-market system.

⁶ AKA "The Big 5"-- PricewaterhouseCoopers' (PwC), Arthur Anderson, Deloitte & Touche, Ernst & Young, and KPMG

⁷ <http://www.physicianssearch.com/physician/salary2.html>

⁸ http://www.atimes.com/atimes/South_Asia/EG19Df03.html

As with any industry found in a free market setting, competitors exist in the form of other hospitals and insurance companies. Additionally, there exists a union/lobbying group for physicians in the American Medical Association (AMA). As a nationally organized group of physicians, the AMA promises “Representation for every state, every specialty and every stage of training and practice”⁹ and has historically fought for friendly policies for its members.¹⁰

As such, a possible explanation lies in the forces Fiona McGillivray discusses in her work, *The Comparative Politics of Trade and Industrial Policy* and Marc Busch and Eric Reinhardt similarly explain in their piece, *Industrial Location and Protection: The Political and Economic Geography of US Nontariff Barriers*. Both works argue that it is fundamentally an industry’s geography within the state’s political system that accounts for its ability—or inability—to obtain favorable protectionist policies. In particular, Busch and Reinhardt argue that geographically concentrated but politically dispersed industries are the ones most likely to receive such policies and McGillivray contends that within the weak party majoritarian system of the United States, the favored industry would be large and geographically dispersed.

However, medicine, and radiology in particular, are not large industries. To date, there are roughly only 30,000 radiologists in the United States (Pollack 2004). Although medicine is geographically dispersed, doctors are extremely few in number in terms of industry size. An alternative explanation must exist.

A practicing radiologist in America can only practice in his/her state of licensure but a handful of hospitals such as University of Utah Hospitals and Clinics, Brigham and Women’s Hospital, and Massachusetts General Hospital were all legally able to outsource technical aspects of radiology procedures (Domalewski & Oxendine 2004, Pollack 2003). In a time of taut Medicare and hospital budgets, increased demand on social security, and deficiency of

⁹ www.ama-assn.com

¹⁰ “The American Medical Association: Power, Purpose, and Politics in Organized Medicine.” *The Yale Law Journal*, Vol 63, No. 7 (May, 1954), p 937-1022.

radiologists (Pollack 2003), it is perplexing to understand why more hospitals do not attempt this process.

The degree of self-regulation is the main determinant for the low level of outsourcing seen in the US medical industry. Of the four cases to be considered - radiology in the U.S, radiology in the U.K., accounting in the U.S., and accounting in the U.K. - the American radiology industry was the only one in which outsourcing was not widely used.¹¹

The structure of the American radiology industry is such that practicing physicians control it. The AMA, compounded by “layman’s ignorance” of medical matters, is the sole spokesman for the medical profession (937).¹² When it comes to the job of regulating medicine, the US government largely stays out of the process. In this way, the AMA as an organization comprised of practicing physicians, has been able to regulate its own industry.¹³

To undertake this self-regulation, the AMA has delegated power to subcommittees that it has created. The power to regulate radiology lies in the body known as ‘The American College of Radiology or ACR (similarly, there exists an American College of Cardiology, Urology, etc). Because radiology licensing is state specific, each state possesses its own ACR (Litt 2004).

The ACR’s self-proclaimed reason for existence is to maintain the highest quality of care for its patients.¹⁴ Officially, the ACR does not rule out outsourcing—to do so would be politically un-savvy—but maintains that it will not do so if it jeopardizes patient care (Litt 2004). Even so, all fifty states have enacted rather stringent requirements that would fundamentally make large-scale outsourcing impossible. For example, all states require that at least four years of training in an American or Canadian residency before sitting for the board exam, “medical credentials” (which is understood to apply only to American training), and US malpractice insurance (Litt 2004). Additionally, some states have endorsed even more stringent regulations.

¹¹ (Litt, Andrew MD, 2004), (Rosenthal 2003), (www.nhs.uk)

¹² “The American Medical Association: Power, Purpose, and Politics in Organized Medicine.” *The Yale Law Journal*, Vol 63, No. 7 (May, 1954), p 937-1022.

¹³ Ibid. p 1015

¹⁴ www.acr.org

For example, New York state requires that a licensed radiologist must be a US resident or green card holder (Litt 2004). Twenty-four states maintain that a physician must be licensed in the state in which film is being read¹⁵. For example, New Jersey is one these states. A NY certified radiologist, consequently, is not legally permitted to interpret film in NJ without that states certification.¹⁶

Comparatively, the British medical industry is structured very differently. Within the British framework, medicine cannot be viewed as a privatized industry but as an entity controlled by government. Since the inception of the National Health Services (NHS) Act in 1948, medicine has become a function of government rather than industry in the United Kingdom. The NHS consists of three sectors—each with its own budget and governing board that all report directly to the Chief Medical Officer of Health in the Department of Health and Social Security (DHSS) (Bjorkman 1985). In brief, the British medical industry is government regulated whereas the American system is self-regulated. The difference between the US and UK medical industries are more than just differences in the countries themselves but are differences in the political organization of the two industries.

The National Health Services has itself reported an increased use of outsourcing in the British medical industry.¹⁷ The NHS has also begun to undertake in the practice of “health tourism.” In order to alleviate the overcrowding in British hospitals, the British government has begun flying patients to privatized clinics in India.¹⁸

¹⁵ www.acr.org

¹⁶ Outsourcing is not wholly disapproving in the medical world, however. Several hospitals are using what are called ‘nighthawk services’. Many states, face a dearth of radiologists; the chairman of the board of chancellors at the American College of Radiology mentions “crisis proportions” within the community (www.acr.org). Rather than have the already sparse number of radiologists transcribe images all throughout the night, hospitals electronically transfer the images overseas to companies like Nighthawk Radiology Services in Sydney, Australia where it is daytime. The readings made by these services are preliminary, and a secondary diagnosis by an American-certified radiologist is made the following morning. (Pollack 2003). ACR laws apply to the actual diagnosis of film.

¹⁷ www.tradedivest.uk.gov

¹⁸ www.outsourcing-journal.com/issues/sep2001/bop_1.html

By comparison, the accounting industry in both the UK and US use high levels of outsourcing¹⁹. Although the research at this juncture is preliminary, the accounting industries across these nations relate no significant difference in their degrees of outsourcing. As such, differences in the level of outsourcing cannot be explained by country specific factors such as the organization of political institutions. An alternative explanation must therefore exist.

Accounting industries in the US and UK are similarly organized (Biviji 2004, Salem 2004). In the US, for example, regulation of the industry does not come internally but is addressed by two federally controlled bodies. Accounting, like all financial industries, is regulated by the Securities and Exchange Commission (SEC). Within accounting specifically, the Financial Accounting Standards Board (FASB) publishes standards for all accountants to follow.

The key here is that in US accounting, UK accounting, and UK medicine, there is no internally regulating organization. Oversight and regulation in the accounting industry comes from federal agencies which have a much more minimal understanding and involvement with the day-to-day industry practices. In US medicine, actual physicians regulate the industry. I argue that the jurisdiction of these types of regulatory bodies is the end result. Run by federal bodies, the SEC and FASB are concerned with the integrity with the financial products and less concerned with the processes by which they are developed.

For example, the control of practicing as a CPA is not nearly as scrutinized as in the radiology industry. To this date, there are no laws preventing outsourcing in either SEC or FASB bylaws. CPA certification is national—and one can practice outside a country as well as in the country. Unlike radiology, extensive training within the country is not needed, however, those who are capable of passing the certification exams are granted licensure, regardless of nationality.

¹⁹ (Perry 2002), www.hsc.uk.net

Furthermore, in accounting, there is no desire to nationally organize and self-regulate as in the medical industry (Biviji 2004). Accounting executives note that intra-industry competition is so keen, outsourcing is seen as an essential means for survival (Salem 2004).

Preliminary research shows that of the four cases being studied, the ones federally regulated all show higher levels of outsourcing than the self-regulated industry. By the nature of the fact that a self-regulating organization was willingly created, it would follow that in medicine regulating the supply of doctors would be desired as well.

Testable Hypothesis

The model has proceeded thus far with anecdotal evidence supporting the claim that different levels of protection exist among industries. Although several key points of data addressed in the causal story demonstrate this cross-industry variation, an empirical analysis of this trend will be included in the final research project. The existence of cross industry variation of outsourcing will not be dealt with extensively, but data will be included to reasonably support the hypothesis that variation exists. In studying the variation, the more important question of *why* variation between accounting and medicine exists can proceed with no hesitation.

The existing literature (see Literature Review) posits two prevailing schools of thought on the topic. The first belief, as written by Grossman and Helpman, theorizes that as the fraction of voters within a lobby group increases, its level of protection increases. The second belief, as hypothesized by McGillivray and Busch & Reinhardt, speculates that as an industry's geographical concentration in a majority or key electoral districts increases, its level of protection correspondingly increases.

Yet, as indicated in both the Literature Review and the Causal Model, these notions had no explanatory power regarding the outsourcing trend in question. As such, an industry's geographic concentration, political concentration, and its interest groups vote fraction will be controlled for in the experiment.

Additionally, examining two similar countries will control for country specific variation; that is to say, because the same industries will be studied in both the US and the UK, variation based solely on the industry's home country will be controlled for. Having controlled for alternative explanations, the variable left to be tested involves the industries regulatory-making body. Of the four cases to be studied, only the US medical industry is comprised of a solely self-regulating body. The model predicts that as self-regulation of an industry increases, its degree of outsourcing decreases

Description of Data

The type of the industry's regulatory body is the independent variable to be tested. The four case studies under examination include:

1. US Medical Industry (concentrating on radiologists)
2. US Accounting Industry (concentrating on certified public accountants)
3. UK Medical Industry (concentrating on radiologists)
4. UK Accounting Industry

For each case, the level of outsourcing (dependent variable) as a function of industry self-regulation (independent variable) will be measured. To measure the level of outsourcing, a ratio/percentage will be used. Because the number of accountants and doctors are not equal, a percentage will provide greater insight into outsourcing trends for both industries. In this way, an index indicating the number of outsourced jobs per x-number of employees, for example, can be determined. The cases were selected in order to test the proposed model.

(1) The *US medical industry (Radiology)* is the industry in question. The research aims to explain why a large level of outsourcing is not seen in radiology but prevalently seen in other industries.

(2) The *US accounting industry (CPA)* was selected to highlight the variation of outsourcing seen in highly skilled jobs. Certified public accounting is similarly demanding to radiology in terms of skill level, educational requirement, and licensing requirement. However, while over eighty

percent of accounting firms have outsourced technical aspects of the job, only three hospitals have similarly done so²⁰. The force protecting medicine from outsourcing must necessarily be lacking in this industry.

(3),(4) The *UK medical industry (radiology)* and the *UK accounting industry* were selected for several reasons.

-If higher levels of outsourcing are seen in the British medical and accounting industries vis-à-vis their American counterparts, the variation can be attributed to the nature of political institutions.

-If significantly higher levels of outsourcing are seen in the UK accounting industry than the UK medical industry, the variation can be attributed to some industry specific factor.

-If high levels of outsourcing are similarly seen in the UK medical industry, UK accounting industry AND US accounting industry, the nature of outsourcing variation as a product of industry self-regulation would be confirmed.

²⁰ University of Utah Hospitals and Clinics, Brigham and Women's Hospital, and Massachusetts General Hospital. This statistic excludes hospitals that use preliminary outsourcing as part of Nighthawk services (Domalewski & Oxendine 2004, Pollack 2003). Accounting data found in (Perry 2002)

Controls

Levels of outsourcing (y-variable) will be measured against the causal stories espoused by:

(1) McGillivray and Busch & Reinhardt;

Industry concentration (x-variable) for accounting and radiology will be measured in the same geographical constituencies that Fiona McGillivray's uses in her work, *The Comparative Politics of Trade and Industrial Policy*. If McGillivray's model is true, as an industry's geography in an electively important state increases, its level of outsourcing should decrease.

(2) Grossman and Helpman;

The number of voters constituting a medical or accounting interest group will be used as the x-variables. The authors predict that as the number of voters increase, the level of outsourcing should decrease.

As such, an industry's geographical concentration and interest group composition—the two alternative causal stories, have been controlled for in the experiment.

Data

US and UK accounting firms have established Business Process Outsourcing (BPO) offices in the country that an outsourcing practice has been set up (Salem). Data regarding the outsourcing practices of the specific firm (number of accountants, types of accountants) can be retrieved from these offices. Data on radiology outsourcing in the United Kingdom can be obtained from the local Strategic Health Authority (SHA) offices of the NHS. Outsourcing data for US hospitals can be obtained from the radiology departments of individual hospitals. (The American College of Radiology does not possess data on outsourcing practices of individual hospitals). The number of voters constituting the American Medical Association can be obtained from the AMA homepage (www.ama-assn.com).²¹

²¹ At this time, no similar interest group like the AMA was found to exist for accounting in the United States. However, I have not exhaustively researched the field of certified public accounting in the British system at this time.

Empirical Method

Firstly, the attempt will be made to control for all previously mentioned alternative hypotheses. As such, the cases will primarily be tested against Professor McGillivray's hypothesis regarding industry geography. To maintain consistency, I will use the same political districts/regions that Professor McGillivray uses in her study. The cases will then be tested against Grossman and Helpman's model.

It is expected that no explanatory relationship will be seen using either McGillivray's or Grossman and Helpman's models and so the cases can then be tested against the proposed model. The proposed model argues that as an industry's ability to self-regulate increases, its level of outsourcing decreases. To test this, self-regulation will be made the independent variable. Self-regulation is a discrete variable; it will only be measured in terms of 'absence' or 'presence'. Of the four case studies, only the US medical industry has the presence of a self-regulating body. To this end, for the proposed model to hold true, higher levels of outsourcing will be seen in the three cases that do not present a self-regulating body. Having controlled for alternative hypotheses and possible distracters, an empirically measured cause-effect relationship can be determined.

Conclusion

The existing literature offers little to no insight as to why cross-sectional variation in outsourcing exists either within or across countries. The research project aims to empirically understand why this variation occurs and sheds light on an issue that has generated controversy in both labor and political circles. This paper will attempt to empirically validate this point. The possibility for further study includes a more rigorous statistical approach. This can be achieved by addressing additional data points by using more countries, more industries, or both.

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