Integrated Strategy: Residual Market Imperfections as the Foundation of Sustainable Competitive Advantage

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Market imperfections are central to understanding the mechanisms that permit firms to capture value. Through competition leading firms often reduce these imperfections, making markets more efficient. The remaining imperfections become a primary impetus for government intervention. Hence, understanding residual market imperfections – those imperfections that persist after market competition and regulation are accounted for – must undergird any assessment of the long-term attractiveness of firm strategies. Our proposed framework provides an integrated view of competition and government intervention, two of the principal forces that influence variation in firm profitability.

1. Introduction

Early in his first term, President Obama signed the Credit Card Accountability Responsibility and Disclosure Act of 2009. The CARD Act required disclosures that provided consumers with additional information about the cost of using credit cards, and it sharply limited the fees that banks could charge. The regulation reduced banks’ revenues and net income significantly, saving consumers more than $20 billion annually. The largest decline in income occurred in the most profitable card segment: fees from consumers with low credit scores (Agarwal et al., 2014).

This example illustrates two features of market economies. First, profits vary significantly across both market segments and between firms within those segments.

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1 We thank David Baron, Robert Grant, Hillary Greene, Rebecca Henderson, David Primo and conference participants at the Strategy and the Business Environment conference held at Duke, the LBS Ghoshal conference, and the Strategic Management Society for helpful comments. This paper is a substantially revised version of a paper entitled “Integrated Strategy.” Some of the ideas in this paper are also described in our course note “Strategies Beyond the Market” HBS 9-707-469 (rev. 2/2/2012).

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Banks that had focused on customers with limited access to credit earned a higher (risk-adjusted) return than banks that targeted wealthier consumers. Even over an extended period of time, competition did not fully dissipate the greater profitability at the lower end of the market. Second, the attractiveness of markets and the financial performance of companies are both potentially vulnerable to government intervention. For example, the CARD Act’s requirement that banks warn consumers before they exceeded their credit limit wiped out a substantial portion of the fees that contributed to the superior profitability of the subprime market.

The two questions that emerge from these features—what is the source of sustained supra normal profitability and why does government intervention often undermine it—turn out to have a single answer: residual market imperfections. These are the market imperfections that persist notwithstanding competition among firms and intervention by the government. They soften competition and allow firms to capture a greater fraction of the value that they create. As such, this paper’s two goals are, first, to provide a parsimonious characterization of the conditions under which firms attain such supra normal profits and, second, to better understand why governments frequently target precisely those markets exhibiting superior profitability.

Our framework is based on the economic theory of market failures (Bator 1958). The theory specifies a set of conditions that interfere with effective competition. A wide range of firm strategies—arguably nearly all of them—depend on the presence of market imperfections to yield supra normal profits (Yao 1988, Oberholzer and Yao 2013, Mahoney and Qian, 2013). Identifying the mechanisms through which a strategy avoids competition is a valuable starting point for analyzing the source of competitive advantage. But this analysis is incomplete. Market imperfections are often reduced when firms compete to create and capture value (see, e.g., Chatain and Zemsky 2011). In our introductory example, prior to the 2009 legislation, some banks provided consumers with better information to attract a larger share of the highly profitable lower-income households. Others competed by charging lower fees when consumers exceeded their

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3 Charge-offs are higher among customers with lower credit scores, but higher interest rates and incremental fees more than make up for the difference (Agarwal et al. 2014).
credit limits. These strategies reduced the importance of the initial information asymmetries. Government intervention through the CARD Act then further limited the market imperfections that had survived competition. Many forms of government intervention seek to preserve or enhance competition, putting the savvy strategist in tension with the determined regulator. *Residual market imperfections* are the imperfections that remain once both market competition and the public policy response to soft competition are taken into account. In the market for credit cards, some imperfections persist even today, after the implementation of the CARD Act. These residual imperfections constitute the true building blocks of longer-term strategic success.

One might think that market imperfections help companies and hurt consumers and that government regulation generally limits business opportunities in the interest of protecting consumers. Despite the CARD Act’s conformity to this pattern, the intuition is misleading more generally. Market imperfections often hurt business, government interventions can increase firm profits, and residual imperfections are not necessarily smaller than the imperfections that survived market competition. Laws to protect intellectual property provide a striking example of these varied relationships. In the absence of patents, copyrights, and trademarks, firms earn socially suboptimal returns on innovative activity because rival firms can easily appropriate their intellectual property. In environments without intellectual property rights, some firms are able to keep their innovations secret which, in turn, creates informational frictions that enhance their profitability. If governments then create formal IP protection, innovative firms gain even greater market power and the value of the residual market imperfections increases. As a result, companies that rely on IP often earn returns far in excess of their cost of capital.

*Figure 1* illustrates for the credit card and innovation examples how, from a firm perspective, the value of market imperfections changes with market competition and government intervention. In the credit card example, the value of market imperfections to firms is greatest if little competition exists among banks for lower-income households and there is no government intervention. As banks begin to compete on fees, the value of the market imperfection is reduced. In a final step, the CARD Act further undermines the value of the market imperfection. We observe the opposite pattern within the context of
intellectual property. Without a means to protect their intellectual property, firms are on average worst off. As some firms begin to learn how to keep intellectual property secret, profits increase. But innovative firms fare better if government creates and enforces intellectual property rights, the lowest bar in figure 1.

![Figure 1](image)

**Figure 1**

*Competition and Government Intervention Influence the Value of Market Imperfections*

Our framework contributes to the literature and to current management practice in two ways. Similar to other frameworks in strategic management—e.g., industry analysis (Porter 1980) and the Resource-based View (Wernerfelt 1984)—we identify a small set of forces that account for a substantial portion of the variation in profitability across firms. Following Yao (1988) and Oberholzer and Yao (2013), we contend that three imperfections—market power, asymmetric information, and transaction costs—are particularly important to our understanding of the variation in firm profitability.4

Our framework also helps integrate competitive strategy and regulatory concerns (Stigler 1971, Posner 1974, Baron 1995). While executives and academics alike recognize the importance of political and legal factors for a firm’s financial

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4 We discuss the relationship between these imperfections and the industry analysis and RBV perspective in Section 5.
performance, both communities lack an integrated framework that links market competition and government intervention (Durand et al. 2017). By providing an integrated framework to understand competition and government intervention, we hope to link classic strategic management with political and legal analysis. In so doing, we seek to provide an intellectual blueprint for a closer integration of these concerns.

This paper proceeds as follows: In the next section, we provide another example that illustrates the value of integrated strategic thinking. Section 3 then discusses market imperfections and their effect on profitability. Next, we address government intervention and residual market imperfections. Section 5 briefly focuses on the opportunities offered by strategies that exploit market imperfections and the competition to exploit them. We also distinguish our framework from current strategy theories. Finally, we conclude by considering how our framework can be used to formulate and implement sustainable strategies.

2. The Transformation of Market Failures

The market for automobile tires illustrates the value to considering both market forces and government activity in tandem. Consumers typically have imperfect information when they purchase replacement tires for their automobiles. Inspection does not allow them to observe the underlying performance characteristics of a tire, nor can their own experience provide much guidance regarding tire reliability and durability. Some firms capitalized on this market imperfection by establishing a reputation for quality tires. Brand reputation not only addressed the consumer information problem, it also allowed companies such as to earn higher premiums on their tires relative to companies with lesser reputations. While competition among brands reduced Goodyear’s ability to capture the value it created, scale economies in brand building and first-mover advantages allowed the company to attain supra normal profits (Breyer 1982; Oberholzer-Gee, Yao and Raabe 2006).

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5 Traditionally, strategic and unit planning has been separated from legal affairs (Schulz 1990). However, in recent years there is a strong trend towards including legal departments in a firm’s strategic planning conversations (Association of Corporate Counsel 2016, p.6).

6 By limiting our examination to government interventions we exclude an examination of the “private politics” (Baron 2001) dimension of nonmarket strategies.
The government response is not difficult to predict. In 1966 the U.S. Congress passed legislation that required the Department of Transportation to develop a tire grading system. The proposed system had the potential to reduce the information problem consumers faced and, therefore, threatened to reduce the value of the reputation strategies through which some firms sought to capitalize on this information problem. The grading of tire quality, however, turned out to be technically difficult for the government to implement. In 1979, after a long struggle between the regulators and the tire industry, Uniroyal, a tire company with a relatively weak brand but decent quality tires, broke ranks with its industry brethren and helped the government develop the necessary testing procedures and standards. It is perhaps only mildly surprising that Uniroyal’s products scored among the top tires on the new government rating. And it is of no surprise that Uniroyal subsequently built an advertising campaign around its impressive ratings performance.7

The example illustrates how profitable strategies can be built around market imperfections. The first imperfection (i.e., information asymmetry) made brands extra valuable, and the second imperfection (i.e., scale economies in brand building) prevented smaller companies from competing away the brand advantage. As will become apparent, it is often the transformation of different types of market imperfections that leads to sustainable supra normal profits.

3. The Core Framework

The intellectual basis for our approach is the economic theory of market failures. The approach categorizes failures as relating to market power, information imperfections, and transactions costs.8 Gerard Debreu (1959) and Kenneth Arrow and Frank Hahn (1971) showed that fully competitive markets would not allow companies to earn returns in excess of their cost of capital. Economists refer to this result as the First Welfare Theorem. From this glass-mostly-empty economic perspective we learn that a market failure, what we term a market imperfection, is necessary, though not sufficient, to sustain above-normal profits (Yao 1988; Oberholzer and Yao 2012).

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8 A fourth category, externalities, is of lesser significance in our context and is, therefore, not addressed.
Each of the three market imperfections discussed below reveals a specific reason why a company’s profit margin is not eroded by competition and represents a fundamental mechanism through which companies can obtain or maintain supra normal profits. As these imperfections also identify the main sources of market inefficiency, they directly provide the public interest justification for welfare-enhancing government intervention (Musgrave and Musgrave 1989).

3.1. Three Market Imperfections

Although our inspiration is drawn from the economic theory of market failures, we adapt the theory to accommodate the strategy context. We focus on three classic market failures: production economies, information imperfections, and transactions costs.

Production Economies

Production economies are an important source of market power, the ability of a firm to price above the level that would prevail under perfect competition. Economies of scale are a classic example of a production economy. If a larger scale decreases costs and the scale economy exists at levels that are substantial fractions of overall market demand, then economies of scale result in a reduced number of competitors and softer competition. Other types of production economies are associated with product scope (Baumol, Panzar, and Willig 1982), cumulative learning (Rapping 1965), or network size (Tirole 1994). Production economies can yield different types of competitive advantage. Network externalities increase consumer willingness-to-pay while economies of scale lower costs.

Firms pursue numerous strategies to take advantage of scale. Prominent examples include the underpricing of initial offerings and heavy investing in advertising (Sutton 1991), building capacity in advance of short-term demand (see, e.g., U.S. v. Alcoa, 146 F.2d 416 (2d Cir.) (1956)), and altering one’s location strategy to gain scale advantages (Ghemawat 2007). From a societal perspective, production economies create an interesting tension between increased efficiency (and potentially lower prices to consumers) and reduced competition (and potentially higher prices). For example,
competitive pressures animate firms to exploit economies of scale, leading to a more efficient use of resources. As in our previous examples, market competition serves to increase the economic surplus. At the same time, economies of scale can reduce the number of viable competitors, which may hurt consumers and prompt government intervention. This tension between the more efficient use of resources and softer competition is reflected in the government’s policy response to production economies. For example, antitrust law allows internal expansion; firm size is not itself deemed anticompetitive (ABA Section of Antitrust Law 2007). By contrast, the authorities regularly intervene in M&A activities to prevent the artificial creation of market power. Where economies of scale effectively create natural monopolies (e.g., electric utility distribution), it is common for governments to regulate pricing (Griffen and Puller 2005, Armstrong and Sappington 2006). Sometimes, the authorities even resort to public production. Consistent with the spirit of these interventions, electricity prices, for example, tend to be lower under public ownership (Fiorio and Florio 2013).

Information Imperfections

In the presence of information imperfections, buyers or sellers lack the information that is necessary for efficient exchange. Instances of asymmetric information in which one party lacks material information that is known to the other are particularly common (Ippolito 1986). Information imperfections can help soften competition if buyers are unaware of near-equivalent products offered by a rival firm (e.g., Chatain and Zemsky 2011). For example, a company with a superior product may have difficulty breaking into existing buyer-supplier networks because buyers are unaware of (Butters 1977) or do not trust the new entrant. As a result, current suppliers are able to charge higher prices.

A common intuition is that firms tend to benefit from information imperfections while customers tend to lose because, for example, firms benefit from increased search costs. However, as the tire industry example illustrates, this view is too simplistic. Reducing asymmetric information, for instance by building brands, can benefit consumers and firms with strong brands (Shapiro 1982) while harming firms that lack a strong brand. In the hopes of gaining competitive advantage, companies also employ
other types of quality assurance such as warranties or money-back guarantees. In each of these instances, competition reduces existing market imperfections. Unfortunately, such solutions can be unattractive to a firm if performance depends not only on the quality of the product but also on the way the customer uses it. The problem is particularly grave when the seller cannot observe customer behavior, another information imperfection. With respect to warranties, for example, inability to observe consumer behavior raises costs.

The competitive forces also reduce market imperfections when third parties such as credit ratings agencies and Consumer Reports alleviate information asymmetries. While markets for analysis and review help overcome information problems, they often face their own market imperfections. For instance, hotels regularly post negative reviews on nearby rivals, thereby reducing the value of online evaluations (Mayzlin, Dover, and Chevalier 2014, see also Faulhaber and Yao 1988).

Because information imperfections can weaken competition and reduce consumer welfare, regulatory actions to correct asymmetric information problems are common. Information regulation seeks to improve market efficiency by mandating disclosures. Examples include nutrition labeling, credit term disclosures, and energy efficiency labels. In the presence of severe information imperfections, governments sometimes resort to minimum standards to protect consumers (Fung, Graham, and Weil 2009). Finally, trademark law is designed to prevent consumer confusion and preserve firm incentives to reduce information asymmetries (Merges, Menell, and Lemley 2012).

Transactions Costs

Transactions costs are the costs of drafting, negotiating, and safeguarding agreements. They include the costs of governing transactional relationships and securing commitments. Williamson (1985) argues that transactions costs are a particular concern when the proposed exchange is complex, uncertain, and when it requires transaction-specific investments. If the transactions costs exceed the value of the exchange, no market will exist for that exchange. More commonly, market frictions alter the nature and level of market activity (see, e.g. Joskow 1987 for a discussion of how contracting is
affected by the need to invest in relationship-specific assets). Search costs are a good example of a transaction cost which alters equilibrium price levels (Stahl 1989). Transactions costs can also make it difficult to implement solutions to other market imperfections. For example, the transactions costs of returning faulty products reduce the value of product warranties.

As in the case of production economies and information imperfections, there are private and public actions directed towards reducing transaction costs. Mechanisms that speed settlement (e.g., third-party arbitration) or facilitate the enforcement of contracts (e.g., litigation) are particularly important. Patents, which allow companies to control the use of information about an innovation that is embedded in novel products or services, are another example.

3.2. Private Responses to Market Imperfections

Firms respond to market imperfections in diverse ways. At its simplest, a firm might choose to exploit its market power. When faced with poorly informed buyers, for instance, the firm might raise its prices. Bayer aspirin is a good example. Sold at three times the price of its private-label equivalent, the Bayer product has the same active ingredient and dosage as the generic versions. The power of Bayer’s brand primarily reflects the uncertainty of consumers with limited medical knowledge. Doctors and pharmacists, by contrast, devote 90% of their aspirin purchases to private label aspirin. If everyone was as well informed as pharmacists, the market share of branded aspirin would fall by more than one half (Bronnenberg et al., 2015). The case of aspirin is no exception. U.S. consumers spend $166 billion annually on branded products for which nearly identical private-label substitutes exist. In other instances, firms exploit scale economies to capture consumer surplus: Wal-Mart raises prices in sparsely populated markets where it faces little competition (Ghemawat et al. 2003); U.S. cable companies charge significant mark-ups and oversupply quality in response to scale advantages that benefit incumbent firms (Crawford et al. 2015).

In all these instances, firms exploit market imperfections at the expense of consumers and at the cost of efficiency. In other situations, however, competition among firms
transforms market imperfections, creating potential gains for firms and consumers. Here, market imperfections represent market opportunities whose mitigation creates value. As discussed previously, better credit card terms, investments in tire branding, and online reviews constitute examples of this second type of response. Firms often use complementary measures to create a competitive advantage in exploiting market imperfections. For example, risk-averse travelers find positive reviews of well-known travel brands particularly helpful (Casalo et al. 2015). Lesser-known brands do not benefit as much from online reviews, enhancing the advantage of travel providers with strong brands.

Uber and similar ride-sharing services provide another example of the mitigation of market imperfections that can benefit firms and consumers. The market for taxi services was traditionally plagued by information asymmetries. For example, supply and demand is mismatched in most markets most of the time. And industry regulations often had the effect of softening competition. For example, taxi drivers were frequently prohibited from picking up passengers in specific areas in many cities. Uber and similar services use technology to better match drivers and passengers, thereby making the market more efficient (Hall and Krueger 2016, Moon 2017). At the same time, the Uber business model benefits from (local) network externalities that give rise to market power because the matching technology is specific to a company’s platform. One imperfection is competed away; but a new imperfection has the potential to sustain supra-normal profits.

4. Government Intervention

While competition can reduce the value of market imperfections to firms, the persistence of imperfections even in fairly competitive environments prompts government intervention. Some interventions wipe out much of the value of the existing

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9 The importance of market failures as a rationale for regulation is reflected in the primary purposes of large U.S. federal regulatory agencies. An examination of the purposes of regulatory agencies with spending over $100 million show that the large majority of those agencies have purposes that link to market failures of production economies (market power), information imperfections, transactions costs, or externalities. Other
imperfections. The telecommunications industry provides a few striking examples. For years, the non-portability of individual cell phone numbers discouraged customers from switching telecom providers. Individuals who changed their carrier had to notify friends, acquaintances, and business contacts, a time-consuming task that made customers “loyal” to their providers. Not surprisingly, regulators eventually forced the portability of numbers in many countries, making markets far more competitive (Shi et al. 2006). Similarly, consumers in the United States (and in many other markets) incurred hefty charges when they used cell phone services that exceeded contractual limits. These “overage” fees were an important contributor to firm profitability (Miravete 2002, 2003; Herweg and Mierendorf 2013). Pressured by the Federal Communications Commission, the industry eventually agreed to send alerts to customers who were close to their service allowances.

It is rare, however, that government interventions magically produce fully competitive markets. Typically, some market imperfections persist post intervention and the effects of these imperfections will frequently vary across firms. Regulations that impose a fixed cost on firms, for example, will have asymmetric competitive consequences because they have smaller unit cost implications for larger firms.

Table 1 provides some examples that illustrate residual strategic opportunities that result from firm and government actions intended to mitigate various types of market imperfections.

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purposes include protection of rights (e.g., EEOC), protection of market boundaries (e.g., DEA), and macroeconomic policy (e.g., Federal Reserve).
Table 1: Examples of Market Imperfections, Responses, and Strategic Opportunities

<table>
<thead>
<tr>
<th>General Category</th>
<th>Example of Market Imperfection</th>
<th>Response of Firms</th>
<th>Response of Government</th>
<th>Residual Strategic Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Large economies of scale results in strong market power or even natural monopolies in portions of the value chain</td>
<td>Firms expand geographically and across product markets to take advantage of aggregate global production in a few locations</td>
<td>Regulation of access prices to portions of value chain</td>
<td>Implementation via regulatory rules may have asymmetric competitive consequences</td>
</tr>
<tr>
<td>Information</td>
<td>Buyers cannot evaluate quality of product</td>
<td>Firms build brands which assure consumers of quality</td>
<td>Government mandates quality rating system</td>
<td>Firms compete to shape rating system to gain competitive advantage; lesser brands market using government rating system</td>
</tr>
<tr>
<td>Transaction Costs</td>
<td>Extremely costly to prevent rivals from learning critical pieces of IP or imitating and reverse engineering innovations</td>
<td>Firms vertically integrate to reduce information leakage</td>
<td>Government provides patent protection for intellectual property</td>
<td>IP protection is uneven; R&amp;D, licensing, and alliance strategies adapt to patent laws; IP litigation becomes useful tactical tool</td>
</tr>
</tbody>
</table>

The observation that governments do not typically restore full efficiency is not a coincidence. Figure 2 illustrates two of the main obstacles to achieve full efficiency: second-best considerations and the inherent messiness of government intervention.
Figure 2
Paths to Residual Market Imperfections

As figure 2 illustrates, residual market imperfections, the building blocks of long-term competitive advantage, result from both private and public action. Private responses are the firm strategies that seek to exploit market imperfections. When private responses produce close-to-efficient outcomes, the likelihood of a public response decreases substantially. Public responses are government interventions. These are shaped by existing distortions in the economy and by the practical difficulties of implementing government programs.

4.1. Second-Best Considerations

In a world in which many markets are distorted, even an optimal government intervention often leads to further distortions. Economists refer to this insight as the theory of the second best (Lipsey and Lancaster 1956). For example, if a natural monopoly dominates one sector of the economy while another is competitive, it is
optimal for the government to raise prices above marginal cost in the competitive sector. Optimal innovation policy provides another example of a second-best intervention. Markets for innovation are prone to failure because new information, once created, can be shared at almost no cost. Governments correct this market imperfection by granting innovators temporary exclusive use positions in the form of patents and copyrights. This second-best response allows the patent holders to raise prices and benefit from residual market imperfections for considerable periods of time (Jaffe and Lerner 2004). Another consequence is that these exclusive-use positions may be awarded to undeserving inventions because patent offices economize on the resources devoted to patent evaluation, a problem that is compounded by the costs associated with litigation which would be needed to “undo” or “limit” that award. For our purposes, the key insight of the theory is that even a perfect government would choose to distort the economy, thereby providing a basis for the superior profitability of some firms (Spence 1975, Train 1991).

4.2. Messy Solutions

Real-world governments are less than perfect, of course. Residual market imperfections also persist because lawmakers and regulators find it difficult to design and implement interventions. This is particularly true in environments that allow stakeholders to influence policy (Baron 2001).

4.2.1. The Design of Interventions

Experts within the fields of economics, law, and policy—let alone across those fields—frequently disagree over the appropriate design solutions to market imperfection problems. With respect to controlling market power, for example, voluminous literatures exist arguing for and against various ways to regulate pricing by natural monopolists (Joskow 2007). Experts also disagree about which mergers to block to preserve competition (see, e.g., Scherer 1980). And while most observers agree that information imperfections can be reduced through the provision of more information, considerable debate exists regarding crucial details of what and how that additional information should be provided (Fung, Graham, and Weil 2009). If experts disagree, it is likely that at least
some government interventions leave markets imperfect, opening avenues to sustained superior profitability.

4.2.2. Influence Seeking

Expert disagreement is not the only force affecting governmental design of efficient interventions. Private parties, including firms, consistently use their influence to achieve their own as opposed to social gains. Groups with significant resources and focused interests are particularly influential (Stigler 1971). For example, adoption of regulations whose costs intensely affect one group but whose benefits are widely diffused will be more difficult to pass owing to the challenge of mobilizing diffuse interests (Wilson 1980). In these instances, it is especially likely that significant market imperfections will survive government intervention.

While documenting the influence of well-organized interest groups is easy (Austen-Smith, 1997; Rodrik, 1995; Yackee, 2006), important forces prevent policy outcomes from being entirely inefficient. One such force is competition among interest groups (Becker 1983). For every group that wants less regulation, there is often an opposing group that represents the interests of those who stand to gain from regulation.  

Another reason that efficiency considerations influence political decisions is electoral competition (Baron 1994, Grossman and Helpman 1996, Besley and Coate 2001, Riezman and Wilson 1997). Lawmakers who support policies and programs that hurt their constituents require compensation, typically in the form of campaign contributions or political favors. Organized interests employ two tactics to keep the cost of political favors limited. When choosing between policies with similar private but different public benefits, the interests choose the policy that is better for the electorate. Another tactic is to couch the arguments for private benefits in terms of the public interest. Groups often make claims regarding market efficiencies (e.g. price and investment planning effects), distribution (e.g., employment, fairness, support of small business or entrepreneurship),

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10 Insead and Chatain (2008) examine actions that a firm can take against a rival’s resources in both factor and political markets which increase the focal firm’s profits and conditions under which competitor responses will influence the longevity of that profit increase.
and implementation challenges (e.g., unreliability of regulatory procedures). While private interests may motivate such arguments, debate couched in public interest terms raises the costs to those who attempt to influence outcomes against the public interest (Grossman and Helpman 1994). Disguising private interest in public interest clothing requires expensive tailoring which might still split at the seams when subjected to the pressure of public interest scrutiny. Arguably, the tactic is likely to be more successful in the legislative arena – lawmakers often have a difficult time sorting out the public interest – than in administrative proceedings where experts better understand the public interest.

Design difficulties and influence seeking activities often combine to limit the efficiency gains from government intervention. While regulation might diminish or even eliminate some market imperfections, other imperfections are likely to persist and new ones might even emerge as a result of government activity.

4.2.3. Implementation

Even when there is agreement regarding policy design and only limited influence seeking by special interest groups, implementation of a given policy still has the potential to introduce additional inefficiencies (Tirole 1994; Prendergast 2007). All governmental action requires some administration either by a government agency or the courts. For example, merger interventions, while limited in the sense that they generally involve a one-time intervention (as opposed to an on-going regulatory presence) into the market, result from a process involving settlement negotiations with antitrust agencies and sometimes rulings by courts with limited antitrust law experience. Information disclosure interventions such as tire grading, discussed previously, may depend on an underlying testing procedure as well as monitoring and enforcement of such procedures and disclosures. And government interventions to reduce transactions costs raise collateral problems. Patents which confer time-limited exclusive rights are granted and enforced within a system that is expensive, error prone, and arguably insufficiently flexible to meet society’s needs regarding the myriad technologies at issue (Bessen and Meurer 2008).

Administration is of even greater importance when legislation addressing particular market imperfections is vague and open-ended (e.g., antitrust law guidance for the courts)
or delegates implementation to administrative agencies (e.g., corporate average fuel economy regulations to EPA).\textsuperscript{11} Such delegation allows decision makers with the administrative or judicial some responsibility to shape residual market imperfections subject to budget and organizational imperatives or political ideologies (Wolf 1979).

5. Integrated Strategy and Residual Market Imperfections

This section explores the market opportunity and sustainability implications of the residual market imperfections framework. We first argue that residual market imperfections offer opportunities for a firm to create value rather than merely being mechanisms that facilitate value capture. Second, we address the question of competition to exploit these imperfections and connect our framework to the positioning and RBV schools of strategic thought. Finally, we examine sustainability from the viewpoint of regulatory threats and different approaches of firms to counter those threats.

5.1 Strategic Opportunities

Companies whose strategies do not exploit one or more market imperfections face the full force of competition and, therefore, will find it difficult to attain sustained profitability. Hence, in evaluating a strategy, it is valuable to understand (1) what residual imperfections, if any, characterize the market, (2) how one’s strategy (and the strategies of rival firms) exploit such imperfections, and (3) how residual market imperfections may change over time. The third element in the evaluation involves not only projecting future market strategies, but also anticipating potential government intervention.

\textsuperscript{11} Because laws are not always clear-cut and need to be enforced to truly have bite, the mechanisms through which legal actions are brought and enforced are another critical component to understanding the non-market environment. Laws specify which parties have “standing” to bring legal actions. For the purpose of this paper, it is interesting that buyers and sometimes third parties (e.g., public interest groups) who seem somewhat removed from the direct effect of the action being challenged are sometimes given legal standing. This situation allows such parties to target particular firms with lawsuits that can be viewed as raising the transactions costs of doing business for individual firms.
While the analysis of residual market imperfections directly addresses value capture, strategies that build on these imperfections are opportunities for firms to create value. Our framework, therefore, has the additional contribution of suggesting fertile targets for business development and innovation. Consider, for example, a few of the many ways in which innovative firms reduce transactions cost: Apple’s extensive use of vertical integration to avoid compatibility issues (Yoffie and Baldwin 2015); Toyota’s close collaboration with suppliers (Williamson 2008); and Tata’s creation of more efficient firm-internal labor and capital markets (Khanna and Palepu 1997, 2000). In each of these cases, competition among firms encourages the innovators to share the transactions cost savings with consumers. More generally, the market imperfections analysis facilitates identifying customers that are most effectively targeted by a particular strategy: customers who would most suffer from the market imperfection that underlies the strategy.

5.2 Competition to Exploit Residual Market Imperfections

All perspectives on the sources of firm performance require some explanation for why created value will not be competed away (Rumelt 1979, Barney 1986). Both the positioning school (Porter 1979, 1980, 1996) and the resource-based view (Wernerfelt 1984) identify circumstances under which the number of firms that compete for customers remains limited. In a classic five forces analysis, for instance, markets are deemed attractive if the firm faces few rivals and a multitude of suppliers and customers. The key to longer-term profitability, then, depends on the number of competitors in the relevant markets. The positioning school relies heavily on the idea that each strategic position involves trade-offs, implicitly suggesting that in many markets the number of firms that compete in exactly the same way for the same group of customers is limited. Trade-offs reduce the willingness of current rivals to imitate the positions of other firms. Entrants, which lack such pre-existing trade-offs, are deterred for other reasons, economies of scale and other examples of high barriers to entry playing a critical role (Mahoney 2001).

12 Jia and Mayer (2016) suggest that a firm’s market capabilities could be a source of political capabilities.
Similarly, the resource-based view of enduring competitive advantage ultimately turns upon the number of firms in a market. Because resources are not tradable, they qualify as a source of rents that stay with the firm (Peteraf 1993). In the RBV view also, firms are intrinsically different and do not compete in exactly the same way. Superior resources for creating value lead to superior performance.

One contribution of the residual market imperfections framework is that it speaks directly to the question of why the number of firms remains limited. Production economies, information imperfections, and transactions costs, a subset of which have been addressed by Mahoney (2001) and Chatain and Zemsky (2011) as market frictions, all serve to keep limited the number of firms vying for a segment of customers. In the aspirin example, the effective number of competitors is small because consumers are unaware of the benefits of private-label products. The cost of identifying and contracting with potential suppliers typically limits the number of firms that customers would consider. As these examples make clear, our framework incorporates the classic reasons for a limited number of competitors (e.g., production economies), but we emphasize that the effective number of rivals is often smaller than government statistics or Yelp would suggest.

Because the residual market imperfections framework is squarely focused on understanding why the number of competitors remains limited despite attractive returns, the approach has the potential to lead to deeper insights and sharper recommendations. For instance, substantial capital requirements are sometimes used to illustrate high barriers to entry in the positioning school (Bain 1956). While financing constraints can be an impediment to entry, capital markets will have little difficulty supporting even very large projects in the absence of information asymmetries (McAfee et al. 2004). Information imperfections are the true source of competitive advantage. The difficulty of obtaining finance is a mere manifestation of the underlying imperfection.

We also see residual market imperfections as underlying the RBV analysis. Resources remain unique to firms because they cannot be easily identified and traded
(Itami and Roehl 1987, Dierickx and Cool 1989). Market imperfections are the impediments to trade. For example, outsiders often have difficulty understanding why a rival has greater capability. Meta-capabilities such as dynamic capabilities that involve an entire system of learning are particularly difficult to penetrate (Rivkin 2000, Teece, Pisano, and Shuen 1997, Helfat 2007). In fact, these capabilities may be so hard to understand and implement that even replication inside the firm can be a problem (Winter and Szulanski 2001). Whether within a single firm or across rivals, competitively relevant differences persist because of market imperfections.

To understand how our framework can lead to more precise strategy prescriptions, consider the power of brands. Brands can constitute a valuable resource (Grant 1991). But it is not difficult to find firms with widely recognized brands that fail to achieve supra-normal profits. The market imperfections framework suggests that brands are particularly valuable in markets with substantial uncertainty. Where brands serve as a valuable signal for quality, firms are more likely to experience attractive returns to brand-building activities. While the positioning school, the resource-based view, and the market imperfections framework are close cousins – each approach treats the number of competitors in a market as a key determinant of profitability – the market imperfections framework is arguably the most closely focused on the reasons why superior returns do not lead to perfect competition.

Overlaying this snapshot of firms and markets is the question of timing and recognition of profitable strategies. Even if imitable, innovative business ideas that create value or increase value capture may give the innovator first-mover advantages (Lieberman and Montgomery 1988) which can be leveraged into a sustainable competitive advantage if, for example, the first-mover advantage is linked to a market

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13 Market imperfections also may be the mechanism through which a given resource is valuable.
14 Our framework focuses primarily on the functional value offered by brands to consumers. Brands, of course, frequently offer emotional and self-expressive benefits (Aaker and Joachimsthaler 2000) which serve to differentiate offerings and soften competition. Like the case of investments in innovation, investments in brand are affected by residual market imperfections relating to the ability of the firm to overcome the transactions costs (and also asymmetric information problems) associated with preventing other firms from free-riding on branding investments. Here, trademark law protection functions in a similar way as patent protection to mitigate the market imperfection.
imperfection. For example, Toyota gained a significant cost and performance advantage over other automobile manufacturers through its extensive field experience with its hybrid automobile engine systems because it had the dominant market share of such vehicles (Reinhardt et al. 2006). These advantages, of course, depend on a wide range of considerations including pioneering costs, the tolerance of early adopters, as well as the growth rate of the market. Another intriguing barrier to imitation involves cognitive failures. They may not only impede the occurrence of the initial creative jump, but also the recognition of the strategic importance of a rival’s new strategy (Gavetti 2012).

Strategies that exploit one or more imperfections through an implementation that involves nontrivial development, then, would seem to offer the best opportunity for sustained profitability. The market imperfections intrinsically reduce competition while nontrivial development, especially when it involves some business innovation or underappreciated opportunity, would slow rival recognition of that development and reduce the attractiveness of late imitation.

5.3 Sustainability and Integrated Strategy

The previous subsection focused on classic sustainability threats from market competitors, we now broaden our discussion to include government action.

We begin by examining three approaches that firms take when they consider the effect of the political and legal environment on their strategy (see Dorobantu et al. 2017 for a closely related argument). One approach is to take the regulatory environment as given. Such firms treat government and legal institutions as providing exogenous “rules of the game.” They consider the sustainability of a given strategy as dependent on the current and future set of rules. Essentially, these firms are “rule takers” as they do not

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15 Early movers can acquire critical resources at below market value (e.g. intellectual property) or can lock up such resources through long-term contracts. Of course, these advantages would amount to rents on prescient forecasting rather than ongoing rent streams.

16 Baron (1995, 2013) emphasizes the value to a firm of having its top managers consider both the market and nonmarket strategies when making overall “integrated” strategy choices. See, also, Shotts (2016) who analyzes a game-theoretic model of a firm’s investment choices in an environment where government expropriation is a serious risk and uses the results of the analysis to underscore the importance of the integration of a firm’s political risk management with its operating units.
expect their actions to influence government. A deeper level of integration occurs when firms anticipate that their market strategies might elicit a government response. These companies account for the likelihood that changes in the rules of the game will influence returns from their market strategy. Companies in this group, which we term “passive rule shapers,” anticipate government action but are not directly involved in the public policy process. A third group, the “active rule shapers,” simultaneously consider market strategies and opportunities to actively shape the rules of the game (Bonardi et al. 2005, Bonardi et al. 2006, Henisz et al. 2014, Holburn and Vanden Bergh 2014). 17 These firms align their political and regulatory strategies to benefit their market strategy and thus take an endogenous view of rules when assessing the sustainability of their strategic choices. 18

Firms within each category, even rule-takers, benefit from anticipating possible regulatory changes. A valuable precondition to effective anticipation is the firm’s ability to identify which aspects of the governmental environment are strategy relevant. But doing so is challenging without a clear sense of how the source of profits and the sources of regulatory action are related. 19 This connection is one of the advantages of the residual market imperfections framework: in a given market the market imperfections that a firm attempts to exploit are the imperfections that a regulator (and consumer activists) would like to fix.

The framework, as applied to the sustainability threat posed by governmental action, suggests that the actual size of the residual market imperfections will be the dominant

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18 For a skeptical view of the performance consequences of firms’ political engagement, see Aggarwal et al. 2012, Faccio 2006, and Hadani and Schuler 2013.

19 For any given firm there is a plethora of environmental forces that may impact its profitability. A manager contemplating the sea of possible factors to consider is likely to feel adrift. A difficulty with current strategic models (e.g., the Five Forces) is that they generally do not help managers identify which nonmarket factors are important. For example, sometimes government is treated as an additional force. In other approaches, government influences the various market forces and, through these forces, ultimately the attractiveness of an industry itself. Obviously there are many other factors that impact the five forces: new technology, evolving consumer tastes, market fragmentation, switching costs, overcapacity and so on. Because there are so many factors, managers are forced to work with long and unwieldy lists of possible influences on profitability, without clear guidance as to when they need to pay attention to non-market forces.
factor determining governmental intervention into particular markets. Another factor is the extent to which those market imperfections are perceived as harming consumers. This latter dimension affects both the overall political impetus for regulatory change and the intensity with which various interest groups will engage in the political process.

The matrix in Figure 3 combines the residual market imperfections and perceived consumer harm dimensions and is useful for anticipating regulatory action. Understanding possible regulatory interventions in terms of their impact on market imperfections and mapping the reliance of existing firm strategies on the market imperfections illuminates each firm’s true interests vis-à-vis possible rule changes and provides insight into the likely outcomes from a political contest over such rules. When market imperfections and consumer harm are minimal (“no market problem”), regulatory intervention is least likely. When residual market imperfections are high and the perceived consumer harm is substantial (“market problem”), regulatory intervention is most probable and will be arguably directed towards mitigating the imperfection.

Somewhat less straightforward are the other two cases. When imperfections are high but perceived consumer harm is low (e.g., business-to-business settings), business interest group competition may address the imperfections, though the parochial interests of the players and the legislators may play a larger role, especially regarding legislative action, because the policy decisions are more removed from the public eye. The fourth and final case, characterized by high perceived consumer harm and low market imperfections, is interesting because regulatory actions might actually worsen the residual market imperfections.20

Thus far, Figure 3 has been discussed in terms of the anticipation of outcomes. Rule shapers, of course, would consider possible regulatory action as both a threat and an opportunity and would take political actions to affect the outcomes in each box. A rule shaper’s governmental or nonmarket strategy derives directly from their market strategy.

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20 The political entrepreneur setting and the interest group competition setting are related to two of Wilson’s (1980) categories in his politics of regulation, though he focuses on concentration of benefits and harms across affected groups.
and that market strategy anticipates the firm’s ability to shape regulatory outcomes. Firms that fully integrate market and nonmarket strategies not only anticipate governmental actions but they also try to influence those actions. Such firms also choose their market strategies by taking into account the impact their actions will have on residual market imperfections and perceived consumer harm. Both factors will influence the sustainability of their market strategy. Consider, for example, an action that provides value to consumers by mitigating a market imperfection (“Competition A” in Figure 3). The strategy will directly reduce the public interest demand for a governmental intervention. Such actions are more temporally robust than those that merely exploit such imperfections and profit streams emerging from such actions would seem easier to sustain. For example, if firms selling products in a market prone to information imperfections build high-quality reputations and provide customer friendly return policies, the residual information imperfection and consumer harm is reduced, lowering the likelihood of regulatory intervention. In contrast, a tactic which exploits information imperfections as well as some decision-making biases on the part of consumers would likely induce quick imitation and government intervention. For example, some telecommunications firms have arguably profited by getting consumers to buy the “wrong” plan. Such a tactic has at least two weaknesses—competitors can attempt to fix the information imperfection by offering use-based automatic adjustment plans and the government can compel greater transparency regarding information about plans and usage.

Another manner in which pressure for governmental action may be reduced emerges directly from the competition to exploit a market imperfection. As described in the CARD Act example, competition (“Competition B” in Figure 3) can sometimes result in price pressure that mitigates some of the potential costs imposed on consumers from the exploitation of the imperfection, even though the underlying imperfections are left unaffected. Finally, firms may engage in self-regulatory activities to preempt

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21 See, e.g., Keim and Zeithaml (1986) and de Figueiredo (2009) for discussions of corporate political strategies.
22 There is a debate over whether consumers make rational choices or not. See, e.g., Miravete (2003) and Grubb (2009).
government regulations (see, e.g., King and Lenox 2000, Delmas and Montes-Sancho 2010).

Figure 3: Likelihood of Government Intervention and Forces of Competition

<table>
<thead>
<tr>
<th>Perceived Consumer Harm</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Market</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Imperfection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitor (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition (B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>No Market Problem (unlikely)</td>
<td>No Market Problem: Political Opportunity (possible)</td>
</tr>
<tr>
<td>High</td>
<td>Market Problem: Interest Group Competition (possible)</td>
<td>Market Problem (most likely)</td>
</tr>
</tbody>
</table>

6. Conclusion

The residual market imperfections framework serves two purposes: it helps identify the source of value capture which facilitates an understanding of a firm’s competitive advantage and the animating factors that initiate and guide regulatory interventions into the market. If a strategy depends on exploiting one or more market imperfections—and most do—then potential government interventions that alter the nature of the imperfection are first-order threats to a firm’s competitive advantage. Seeing the market opportunities and the nonmarket threats through the lens of the residual market imperfection framework sharpens the relationship between market and nonmarket strategy. It better pins down the mechanism by which value is dynamically captured and
directs attention to governmental action as a key boundary condition; it offers a filter through which managers can focus on strategy-relevant nonmarket forces; and it makes clearer how nonmarket forces can be harnessed by firms to affect relative competitive advantage.

But residual market imperfections also present value creation opportunities. By partially or fully solving an existing market imperfection, a firm creates value while setting itself up to capture some portion of that value. Thus, a residual market imperfections perspective points the way towards sustainable strategies that allow a firm to be compensated for improving net social value. These strategies contrast with strategies that only exploit market or residual market imperfections to capture value. Any strategy that increases individual firm profits is likely to come under market attack by one’s competitors. Likewise, strategies that increase profits while not improving consumer benefits are also likely to attract nonmarket attacks. Thus, our analysis provides a natural way for firms to consider how and when their strategies have win-win characteristics for both themselves and society.

Finally, transcending the individual firm perspective, our integrated analysis of the interaction of firm strategy and government action also suggests that market outcomes can be highly path dependent. When the underlying market imperfections are significant, firm actions may transform the residual market imperfection. If they mitigate the problem, less severe or no regulation is likely to follow. But if they do not, a stronger regulatory response is more likely. The response will, in turn, alter the residual market imperfections that shape subsequent firm strategies. Hence, even putting political economy considerations aside, markets with similar underlying market imperfection characteristics may evolve to distinctly different end points.

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23 A cost-leadership strategy that is built around exploiting economies of scale is one in which the value-capture component—reduced market competition—is indivisible from the value creation component—efficiencies that lower the costs of production. This indivisibility makes it difficult for non-market actors to undermine value capture without engaging in direct market intervention.

24 Enron, for example, made substantial profits by exploiting arbitrage opportunities that were created as a result of early attempts to organize and run the California energy market.

25 Path dependency is exacerbated because the regulatory process exhibits significant inertia. Not only is the passage of regulation often difficult (see, e.g., Kingdon 1984), but the process of adjusting extant regulations to reflect modest reductions in the degree of consumer harm that might result from new firm solutions is also challenging.
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