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Maximizing Competition in the Case of Two-Sided Markets

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I. INTRODUCTION

A two-sided market refers to a type of economic transaction or network in which there are two distinct user groups and the demands of each group are both dependent and subject to economies of scale. In their paper, *Two-Sided Markets: A Progress Report*, Rochet & Tirole describe a two-sided market as one “in which the volume of transactions between end-users depends on the structure and not only on the overall level of the fees charged by the platform.”² In two-sided markets, the demand of one set of end-users impacts the demand of the other set of consumers more than cost-based pricing. In other words, “[a] platform’s usage or variable charges impact the two sides’ willingness to trade once on the platform, and thereby their net surpluses from potential interactions; the platforms’ membership or fixed charges in turn condition the end-users’ presence on the platform.”³ An end-user in a two-sided market does not internalize the welfare impact of his use of the platform; rather, in a two-sided market, one set of consumers’ choice of a good affects another set of consumers’ choice of a different good.⁴ Coordination across markets matters in two-sided markets, whereas coordination *within* markets may have little effect.⁵

Two-sided markets, once a rarity, are now much more the norm. Traditional markets in which a producer supplies goods and services directly to consumers have been replaced by two-sided markets where products and services that consumers want are ever-more complex and technology-driven. It is important to distinguish between traditional markets and two-sided markets because two-sided markets are characterized by fundamentally different economies of scale, as described above. The unusual effects of two-sided markets can often prove to be “vexing” to antitrust regulators, for “producer and consumer surplus can move together,”⁶ rendering traditional regulatory regimes ineffective. The differences between traditional markets and two-sided markets need to be understood as much by regulators as those operating in the markets.

In a traditional market, consumers internalize the effects of their purchase decisions. For example, “the buyer of a razor internalizes in his purchase decision the net surplus that he will

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² JEAN-CHARLES ROCHET and JEAN TIROLE, “TWO-SIDED MARKETS: A PROGRESS REPORT” at 2-3 (2005).

³ *Id.* at 3.

⁴ Geoffrey C. Parker & Marshall W. Van Alstyne, *Two-Sided Network Effects: A Theory of Information Product Design* 51(10) MGMT SCI 1494, 1496 (2005).

⁵ *Id.*

⁶ *Id.*

derive from buying razor blades.”⁷ In a two-sided market, the effects of consumption patterns are externalized. Consider, for example, the case of an auction house. Each side of this two-sided market—consumers looking to buy goods at the auction house and consumers wanting to sell their goods using the auction house’s services—has a vested interest in the size of the other side of the market. Sellers of goods at auction houses want to maximize the number of potential buyers; potential buyers want to maximize the number of goods to which they have access. The larger the network of buyers, the higher the sellers’ demand for the auction house’s services will be. Conversely, the larger the network of sellers (and, therefore, goods auctioned off), the more potential buyers will attend an auction. Thus, the decisions of one set of consumers are externalized and influence the other side’s demand.

The different economic impacts of two-sided markets are also evident in the sale of video game consoles, wherein video game software designers and gamers make up each side of the two-sided market. Gamers want to buy video game consoles that support the greatest number of games, and video game software designers want to write for consoles that attract the greatest number of gamers.

With the increasing prevalence of internet sales and high technology, many traditional goods and services markets have taken on two-sided characteristics. In the case of internet sales, a typically two-sided network can take on elements of a three-sided market, as when advertisers on a web platform are also consumers of the services offered by the platform, which creates three sets of consumers: the end-user, the merchant-user, and the advertiser-user. Amazon.com, for example, levies charges on both book publishers and end consumers and seeks revenue from advertisers.

Two-sided markets can also be characterized by network effects. “Network effects” are said to exist when the value of a product increases with the number of people who possess the product. Take, for example, the telephone: one telephone by itself is of no value to its owner. However, as the number of owners of telephones increases (i.e., as the network grows), so does the value of the individual product. The same is true for the consumer credit card market—a two-sided market paradigm. The value of a credit card to a consumer depends on the number of stores that take that particular card; the value of the credit card to a merchant depends on the number of customers that wish to use that particular card to buy the merchant’s goods or services. In other words, the value of the credit card to each set of consumers is dependent on the size of the network of the other set of consumers.

Network effects alter the economics of the two-sided market in key ways. In most traditional markets, marginal costs follow a traditional U-shaped curve; however, unlike traditional markets, in markets with network effects consumption of a product does not lead to a corresponding reduction in available products. Because the marginal cost of production declines to zero, there is a sharp downward pressure on cost and, therefore, on price.

Industries subject to network effects are also subject to positive feedback loops, meaning that success is disproportionately rewarded, and failure is disproportionately punished. Thus, in industries subject to network effects, one marketing mistake can lead to a significant fall in market share. Firms, in order to succeed, must compete vigorously for temporary monopolies over platforms that compete directly against each other. They must also build as large an installed base as possible in order to compensate for the declining marginal cost curve.

⁷ Rochet, *Two-Sided Markets* at 3.

II. TWO-SIDED MARKETS AND CREDIT CARDS IN THE CONTEXT OF GLOBAL ECONOMIC CRISIS

It has become even more important to understand two-sided markets in the context of the current global economic crisis. Network effects and the unique economies of scale to which two-sided markets are subject require careful consideration by policy makers and balanced regulation. One of the most important considerations is the need to stimulate credit and lending markets in order to increase consumer demand. In response to financial instability—or perceived financial instability—consumers reduce spending, to catastrophic results. Governments and regulators can counteract the effects of this “spending crunch,” by adopting measures to ensure increased access to consumer credit.

Rodrigo Rato, the Managing Director of the IMF wrote in a 2006 note that although the global economy was experiencing unprecedented growth (at a rate of 5 percent per annum), there was a real need to rein in global imbalance. He was particularly concerned with the U.S. current account deficit:

Those are the immediate preoccupations, but underlying them is a deeper concern about rapidly expanding global imbalances. Those imbalances are most evident in the extremely large U.S. current account deficit and the correspondingly large surplus in the external accounts of other countries. The U.S. is currently running a current account deficit equal to 6.5 percent of GDP, and is spending considerably more than it saves. In fact, the U.S. is absorbing roughly 70 percent of world external savings. Meanwhile, current account surpluses have been growing rapidly in the oil exporting nations, Japan, China and the rest of emerging Asia. In some countries, those surpluses have produced a large buildup of foreign currency reserves, while U.S. external indebtedness has continued to grow.⁸

Rato’s point was that global imbalance was a structural problem in what was otherwise a strong economy. He points to precisely the problems that laid the foundations for the global economic crisis of 2008/9 by noting that the imbalance caused by inadequate consumer spending in developing nations was coupled with over-reliance on mercantilist trade models which could lead to global economic problems in the future.

Rato suggests two fundamental problems in the economy, one on the consumer side and one on the producer side. The first problem is the lack of consumer demand in developing countries. The second problem is the distorted market that leads to over-incentivization of production. These problems are linked because the lack of consumer demand in the producing countries in the developing world means that any over-production must be absorbed by countries that have higher levels of consumer demand, in particular the United States. Over-production occurs where internal market distortions lead to an artificial reduction in the cost of production. This artificial reduction in cost leads to production levels higher than they otherwise would be in a competitive environment. This over-production must be absorbed by some set of consumers somewhere. As this set has historically been U.S. consumers, it has led to downward pressure on U.S. interest rates, further inflating U.S. demand and U.S. debt. Imbalance could be rectified by simultaneously lowering distortionary practices that lead to over-production as well as increasing consumer demand in the producing countries. We will discuss both in this paper, but will focus

⁸ Rato, *Ensuring Global Economic Stability*, BORSEN ZEITUNG (Sept. 2006).

primarily on the ways in which consumer demand can be raised with reference to increasing credit availability to individual citizens, as well as businessmen.

India's President Pratibha Patil has talked about the need to stimulate consumer demand in India.⁹ In China, voices have called for stimulation of consumer demand amongst the middle class as a way of pulling out of the economic downturn.¹⁰ In China, the stimulation of consumer demand is needed to ensure truly sustainable growth.

A. Small Business and Credit Expansion

Credit expansion plays a critical role in the operations of small businesses around the world. Many small businesses are initially funded by the owners borrowing on their personal credit cards. Credit cards are vital to small businesses and the lack of access to functioning credit cards can impede small business growth. USAID¹¹ has noted that:

The absence of robust credit markets in developing countries is a significant impediment to sustained economic growth. Productive economic activity is severely limited by the inability of entrepreneurs, small businesses and individuals to obtain loans. In contrast, there is widespread access to credit in most developed countries, and it is relatively easy for entrepreneurs to get a loan to start a business, for small businesses to get a loan to expand their operations or for individuals to get a loan to purchase a home.

While the principal focus of USAID's work was to analyze the impact of easier loan facilities in developing countries, clearly credit cards can play a key role in ensuring functioning credit markets in these countries.

B. Credit and Global Imbalance

There are many sources of global imbalance. One such source is the disproportionate spending of U.S. consumers over consumers in other parts of the world. For global economic recovery to take place, there needs to be increased consumer spending in markets outside the U.S. Providing access to credit in the form of personal credit cards plays an important role in increasing consumer spending and in managing cash flow. As of 2002, of the 714 million cards in circulation in China (most of which were debit cards), only 2.74 million were international credit cards. Credit card spending amounted to only 3 percent of the total consumer spending in China (itself a very low figure). Only 2.7 percent of merchants accepted credit cards in 2002. In Mexico, credit card penetration is very low—3.5 percent. In India, credit card penetration is even less robust at around 2 percent.

Credit cards are an important way of stimulating demand for the kinds of products that will lead to job creation, particularly in non-U.S. markets where credit card usage is low and credit card penetration is not very deep. However, credit card markets—like other markets—grow only when incentives for their use and production are correctly aligned. Policy makers must understand the core economic drivers of credit card markets in order to, in the short term, achieve global market expansion and, in the long term, stimulate consumer spending and economic recovery.

⁹ See FINAN. CHRON. (27th May, 2009).

¹⁰ For example, see Cheng Xiaobei, *China Today*, available at www.chinatoday.com.cn/ctenglish/se/.../content_180244.htm, last visited December 21, 2009.

¹¹ Paul Freedman, *Designing Loan Guarantees to Spur Growth in Developing Countries*, USAID (2004).

But there is a spectrum of credit card products that do not all equally contribute to the stimulation of consumption. Typical three-party systems, such as American Express, require that card balances be paid off each month. This delays the payment to be sure, but does not allow consumers to carry higher debt loads. Three-party systems therefore have a much more limited impact on increasing consumption. Four-party systems where consumers pay off a minimum payment each month and can carry debt for significant periods contribute much more significantly to the stimulation of consumption. Consumers using these cards do not have to worry that they must pay off the entire balance at the end of each month. As long as they can continue to convince the issuing bank that they can sustain the debt load, they can carry significant debt. In the developing country context, the regulatory system and competition policy ought to ensure that credit card companies have maximum flexibility to create differentiated products and tailor products to individual consumers and their individual capacities to carry debt.

There is some argument against credit card expansion. A common perception is that credit cards lead to consumers becoming over-extended, thereby discouraging saving. Too much easy credit has been blamed for the recent fiscal crisis. This perception, however, does not apply with equal force to developing markets, where the availability of credit is much lower. In developing countries, it is necessary to ensure that access to credit cards is increased; the pitfalls experienced in advanced, industrialized countries with high levels of credit card penetration cannot really provide a blueprint for expanded access to credit in developing countries. Access to credit stimulates consumer demand, thereby increasing spending in the developing world and lessening the imbalance between developed and developing market spending. It is important to note that the difference between developing countries and developed countries is that consumer demand in developing countries is far lower than it is in developed countries, and that demand must be increased in order to stimulate the overall global economy. Unless demand in developing countries is stimulated, and a middle class is developed, the current global imbalance will not be corrected and global economic recovery will not be promoted. The increase in the use of four-party card systems, in particular, is a key part of correcting imbalance by stimulating consumption and allowing purchases to be made that would not otherwise be made.

III. GOALS OF CREDIT CARD REGULATION

The overall goals of a central bank or regulatory agency in financial regulation are broader effectiveness and stability of financial systems and, in turn, greater public confidence in money and the economy. Among these goals is promoting efficiency and innovation in financial systems, including credit card markets, which enhance consumer welfare. The emphasis is on how to ensure markets are more efficient; but in order to determine this, we will need to look at what “efficiency” means precisely.

Efficiency means the maximization of allocative and productive efficiency, (allocative efficiency refers to the allocation of resources, while productive efficiency refers to the production process). Productive efficiency is maximized when goods are produced at the lowest possible cost. Economic drivers pushing for maximum production efficiency are better management, greater levels of innovation, and smarter business processes. While allocative efficiency can be maximized, productive efficiency can continuously be enhanced through management improvements and greater innovation. It is productive efficiency that contributes the non-zero sum aspect to a particular transaction or series of transactions by enabling continuous reduction of costs through innovations.

In the context of credit card regulation, greater allocative and productive efficiency is determined by reference to two different sets of consumers. The first set of consumers are the merchants, and the second set of consumers are the ultimate users of credit cards as described elsewhere in this paper. From an efficiency viewpoint, with respect to merchants, greater competition may actually undercut competition for the end consumers.

Particularly now, it is imperative that credit card markets function properly so that credit is available to the greatest number of people, thus stimulating consumer demand. Moreover, it is more important to stimulate the expansion of credit markets in parts of the world where credit card penetration is low, than to stimulate expansion in mature, developed markets, such as the United States. While it is unquestionably true that credit cards have expanded dramatically in the developed world, they are nowhere near the needed level in developing countries. Credit cards are certainly not overused in developing country markets, and concerns about creating a credit dependency are simply not real concerns for developing countries.

The question is how best to achieve the goal of ensuring credit card availability to the greatest number of people. There is a tension in credit card and payment systems between giving access to key facilities so that new entrants can be encouraged and, at the same time, implementing a policy that allows firms in the sector to succeed. In order for firms to be successful the fundamental economic drivers of the industry must be well understood by competition regulators. We discuss those drivers at length in this paper, but at this point it is necessary to understand that merely giving greater access does not always lead to pro-competitive outcomes. If the goal is expansion of the credit market itself, then the way to achieve that goal is to focus on competition, but competition that delivers efficiency-increasing outcomes.

In reality, credit card and payment systems are systems that are not unlike the world of competing global supply chains. Most products are now manufactured in multiple places and rely on a highly integrated and seamless global supply chain. In this world, there is premium on efficiency that removes the sand in the gears of the global trading system. Credit systems play a similar role in the global economy. It is important to bear in mind that many other inefficiencies and market distortions can impede efficient outcomes in the credit card sector. For example, the high cost of infrastructure in Brazil caused by the Informatics Law and the desire of the government to protect its infant IT sector created much more segmentation and led to higher switching costs than would have existed otherwise.

The World Bank, in its report on Retail Payment Systems,¹² suggested that efficiency and reliability of payment systems were paramount considerations. They suggest the following three important policy goals:

- a) Achievement of socially optimal use of payment instruments;
- b) Deployment of an efficient infrastructure to support payment services; and
- c) Affordability and ease of access to payment instruments and services.

One can readily see the importance of efficiencies running through these principles. In addition, the World Bank suggested certain Guidelines that include:

¹² *Balancing Cooperation and Competition in Retail Payment Systems; Lessons from Latin American Case Studies*, World Bank (November 2008)

- a) Taking full account of market complexities; including, in particular, recognition that network effects are at play in these markets and hence traditional cost structures are not appropriate to analyzing these markets as pricing structures matter;
- b) Policy Trade-Offs. Account must be paid to the dynamic nature of these markets and that static market analysis should not be applied; and
- c) Effective oversight by Central Banks.

As we will go on to discuss at much greater length, there are two types of competition at play in these kinds of systems:

- a) Competition across retail payment instruments (for example checks versus electronic transfers); and
- b) Competition for the same payment instrument.

Under (b), we see competition among platforms (different credit card providers) and competition within the platform (between different card issuers and acquirers). These market dynamics put greater emphasis on growing the network—i.e. increasing the size of the market, subject to ensuring that the risks of inefficient lock-in are minimized. All of the above means that competition in retail payment systems must be analyzed differently from competition in other sectors.

In order to expand the credit markets, regulators should strive to remove inefficiencies, including any regulations or interventions that distort the delicate balance in two-sided markets. As discussed above, two-sided markets grow when the right balance in price structure is struck, with one set of consumers receiving a below-cost price and the other receiving a price substantially above cost. Without such a pricing structure, consumer demand is not stimulated (and the industry may well fall victim to the catastrophic failures that accompany the positive feedback loop). Any method of regulation that seeks to equalize the charges on either side of the two-sided market or that seeks to tie pricing to cost will have a distortive effect on the market and, therefore, negative economic consequences. When the proper prices are set for each set of consumers (prices that are not necessarily cost-related), consumer surplus increases with producer surplus.¹³ Thus, in the case of credit cards, interchange fees between banks can increase consumer surplus by enhancing the network effects of a typical credit card transaction.

As we have noted, payment systems are vital to a sustained and vibrant global economy. Electronic payments systems in general are much more efficient than paper transactions, and credit card regulation, particularly in the area of the setting of interchange fees, should bear this in mind. Economies grow and develop best when financial transactions are made more efficient and quicker regardless of whether credit is being incented or not. Electronic payments, since they are more efficient than paper, should be incented over paper transactions. Credit card payments combine both the benefits of electronic payment systems, as well as the aforementioned credit benefits, and so there is a double reason for incensing take-up.

IV. SPECIFIC CASES OF CREDIT CARD MARKETS; MARKET DYNAMICS

The following describes characteristics of two-sided markets, specifically, credit card markets, the consideration and understanding of which are essential to effective regulation.

¹³ Parker & Van Alstyne at 3.

A. Importance of Pricing Structure

The economic dynamics of two-sided markets are based on a number of factors. These factors include, for example: (a) network effects; and (b) public goods characteristics. From these factors emerge some market dynamics that drive participants in these markets. Among these dynamics is the fact that the marginal cost curve for these types of markets is declining to zero, which means that purely cost-based pricing will also be driven to zero. Producers in two-sided markets must price their goods or services in such a way as to rapidly expand their installed base of customers. Such rapid expansion of the installed base acts to counteract the industry dynamics driving the marginal cost to zero. Indeed, a large and rapidly installed base is a vital requirement to the survival of industries with two-sided characteristics.

Some two-sided markets demonstrate stronger reliance on the two-sided aspects of the model. Credit card markets may be thought of as “strong” two-sided markets, because they are deeply entrenched in the two-sided structure and cannot readily deviate; whereas the airline industry, on the other hand, may be thought of as a “weak” two-sided market because consumers can and do (at ever-increasing rates) deal directly with airlines in making travel arrangements, thereby obviating the need for travel agent services. Other examples of two-sided markets (such as online auction services, et al.) fall somewhere along the strong/weak continuum, based on their dependency on the two-sided structure and the factors discussed above.

In the context of a market with strong two-sided effects, it is important to understand what competition actually means. Behavior that, in a traditional market, might be considered anticompetitive may not be anticompetitive in a market that exhibits strong two-sided market effects, and may have only marginal anticompetitive effects in weak two-sided markets. Behaviors typically regarded as anticompetitive may actually be required in the context of two-sided markets.

In many two-sided markets, in order to rapidly increase the installed base (a necessary ingredient for the success of any industry subject to two-sided market effects), very low pricing at the end-user level is necessary. Without this very low pricing, the declining marginal-costs curve would force prices to near zero, slashing the profitability of firms. Similarly, though tying or bundling practices may be deemed anticompetitive in the traditional market context, such practices would not have the same anticompetitive market foreclosure effects in two-sided markets, and may indeed exhibit some efficiency-increasing effects.

B. Importance of Analyzing Upstream and Downstream Effects

It is important that in analyzing a particular two-sided market, upstream and downstream effects are properly understood and evaluated. In the case of credit card markets, it is important to have a clear understanding of the levels of competition in the banking sector itself. If the market for issuing or acquiring banks is hindered by a lack of competition, then such anticompetitive effects can filter through into the downstream markets and affect the merchant and end-consumers of credit cards. That precise regulatory environment in these upstream and downstream markets can also have an impact on levels of competition at both sides of a two-sided market cannot be ignored.

C. Importance of Efficiency in Retail Markets

Lack of efficiency in retail markets can have a significant impact on the economy; therefore, there is a premium on ensuring efficiency in retail markets in order to further stimulate

the economy. These efficiencies can be accomplished by not only shifting to electronic systems as discussed above, but also by ensuring that consumer welfare is enhanced at the end-consumer level. The problem with credit card markets is the very high level of sunk costs associated with building the network in the first place.

D. Impact of Economies of Scale and Scope

Economies of scale and scope, plus network externalities, mean that the market is characterized by positive feedback loops that reward success and punish failure in more extreme ways than is the case for other industries. Positive feedback leads to extreme outcomes. Positive feedback is to be contrasted with the negative feedback that applies in more traditional industries. Here any attempt by the market leader to increase its market share would lead to smaller firms taking action to remain in the market, and the market would move to an equilibrium where multiple competitors remained actively competing. In markets that manifest network effects, or other aspects that lead to declining marginal cost, markets tend towards outcomes where only one firm or a limited number of firms are successful. This type of positive feedback occurs where there are demand-side economies of scale. As demand-side economies of scale come into being, smaller rivals do not have the ability to compete with the market leader. The more popular a particular product becomes, the more value it has. In industries characterized by these economic effects, maintaining a large installed base becomes ever more important.

Positive feedback loops such as those described above are even more extreme when network effects apply. According to Metcalfe's law (or rule) the value of a network is proportional to $n(n-1)$, where n is the number of users. Small increases in the number of users can therefore lead to values increasing by orders of magnitude more than the increase in the numbers of users.

E. The Need to Encourage Inter-Platform Competition

Competition takes place both within the platform and among platforms. In the case of the new media economy, which expresses many of the characteristics at play in two-sided markets, policymakers need to ensure that competition within each individual platform does not lead to erosion of competition between platforms where the greatest consumer gains are to be made in a converging environment. In the financial sector, too, we are starting to see greater levels of competition among platforms that have not traditionally competed against each other.

F. Stimulating End-Consumer Side of a Two-Sided Market

Given that there are two types of consumer in a two-sided market, it is important to see how various industries ensure that competition at one side of the market is not secured by losing pro-competitive benefits at the other. In the credit card industry, by way of example, a fee is set between the merchant's bank and the card issuer's bank. This fee is inversely proportional to the end-consumer price (because the interchange fee is passed through to the merchant and then to the end-consumer), as well as the user fee that is charged by the issuing bank to its customer. Hence, if the interchange fee is artificially low, there is a risk that prices to end-consumers will end up being inflated, or that user or membership fees for credit cards will be increased in order to make up the shortfall to the issuing bank. Either of these would negatively impact the end-consumer market even as it assists the merchant market. Hence the setting of the interchange fee can be regarded as an accelerator pedal driving the end-consumer market—you want to safely accelerate in order to maximize end-consumer welfare and benefits.

G. Efficiency Issues in Analyzing Credit Card Systems

The World Bank study referred to above looks at the question of efficiency issues in analyzing credit card markets for the Brazilian retail payments sector. The problem in Brazil is, specifically, a very fragmented market for point-of-sale infrastructure. In Brazil, there is very little inter-operability among acquirers organized along vertical structures relative to each specific card. The fact that an individual brand is accessible only to certain acquirers has thwarted strong inter-platform competition, by prioritizing competition within each individual platform. As we have noted earlier, until 1993, the Brazilian market was closed to technology imports from abroad. This led to a solidified market with only a small number of local vendors having ties to an incumbent acquirer. Once the market was opened, this status allowed international competitors to be successful in the market place.

In the context of enabling greater inter-operability, the World Bank analysis of Brazilian card markets notes that technological progress means greater convergence of technology and financial services, helping unconventional and cheaper distribution channels. This lowers the importance and relevance of physical points of sale, and therefore increases competition, lowering the possibility of lock-in and path dependence because niche players can exist and survive in ways that they could not have done prior to convergence. These new entrants can lower the perceived power of incumbents as market-share information alone is not a good proxy for market power.

However, economic efficiency in the provision of payment and settlement services could be lower in Brazil because of a lack of integration of payment systems. Fragmentation is a key feature of the Brazilian retail payments sector as a whole, and this fragmentation has led to less, rather than more, competitive markets and outcomes. This fragmentation also means there is greater inefficiency visited on the system. The low inter-operability in Brazil prevents the positive externalities of two-sided markets from being properly developed. It prevents scale economies from being used to build more competitive markets.

Brazilian distortionary tax rules also have general application. In Brazil, tax rules exempt checks but permit charges over electronic instruments, hence disincentivizing electronic payment methods.

The World Bank report also notes that cardholders are very sensitive to changes in their fees and to fee pricing generally. Since one of the goals of the regulatory framework is to increase the market for credit card use, especially in developing and emerging markets, it is critically imperative that this sensitivity to card fees be fully accepted. The reaction of cardholders to high charges or changes in fees may be much greater than merchants' reaction to fee changes, because in the cardholder case, there is no-one to pass this fee to. Indeed, there is evidence, particularly based on what happened in Australia, that any reductions in merchant charges do not have any significant impact on retail prices, because merchants simply pocket the gains.

There is great pressure among competition agencies to conclude that interchange fees must be closely related to processing costs.

H. Importance of Increased Competition with State-Owned or State-Sponsored Actors in Financial Markets

In the current financial environment there is increased focus on competition with state-owned companies and state-sponsored companies. The dynamics of competing with State-Owned Enterprises (“SOEs”) and Government-Supported Enterprises (“GSEs”) are taking on a more significant role, thus it increasingly important that competition tests take full account of the

fact that a private-sector firm is competing head-on with a government-owned firm. Different tests may be required to ensure a level playing field. The tests must recognize that the SOE or GSE may be a revenue maximizer at best and, hence, there is less need to demonstrate it must recoup lost profit if it is engaged in low- or below-cost pricing. In addition, the tests must include elements of government privilege in evaluation and calculation of cost. The behavioral areas of concern fall into several categories:

- a) Direct action by a government that is discriminatory in nature;
- b) Actions by SOEs exercising delegated government power, i.e. the regulatory function;
- c) Actions by SOEs where they are in direct competition with private firms (e.g., Chinese or U.S.), including predatory pricing, bundling or tying arrangements;
- d) Actions by SOEs which are non-discriminatory and that impact foreign firms and domestic firms alike;
- e) Use of government privileges, such as preferential loans, tax advantages, or access to preferred customs channels, to artificially prefer SOEs in competition with private firms;
- f) Injection of SOEs into Standard Setting Organizations (“SSOs”);
- g) Abuse of government process to obtain particular standards in order to determine market outcomes; and
- h) Market foreclosure activities by SOEs where there is a refusal to deal, or the withholding of a key facility.

VI. ROLE OF THE COMPETITION AGENCY

In essence, the competition agency’s role is to advocate for competition and competitive legislative and regulatory frameworks. The competition agency also plays an important role in ensuring that the regulatory framework does not damage the competitive market. The competition agency fulfils its role by engaging in “competition advocacy,” a phrase that has become a technical term of art, meaning advocating for pro-competitive solutions with other government departments and with firms that have governmental components. The competition agency should engage in competition advocacy by releasing reports and meeting with financial regulators, central banks, and legislators to explain what competition means in the context of two-sided markets. Competition agencies, however, should be mindful not to try to be the financial regulator or to set out the framework for financial regulation; rather, the competition agency’s role is to assist other regulators in understanding the true meaning of the term “competition.”

In practice, competition advocacy is fraught with difficulty; new competition agencies have limited political power and patronage and must take on entities with significantly more political power. Competition agencies tend to be successful when they rely on carefully researched reports, and when they are careful not to overreach and try to determine what an *ex ante* regulatory system should look like. A competition agency is at its best when it makes explicit the costs of a regulatory system, state measure, or the activities of state-owned or -supported enterprises, so that the argued benefits can be weighed against those costs. In this way, markets can be made more competitive and more efficient, releasing wealth into the system.

There are some good examples of competition advocacy in the financial services sector, most recently in Brazil, where the competition agency (SDE) and the Central Bank jointly issued a report on the credit card market arguing for pro-competitive regulatory solutions. The report highlighted a number of key issues, such as the high degree of vertical separation within the credit card sector in Brazil, and the need to create a more competitive environment.

VII. RISKS OF GETTING THE REGULATORY FRAMEWORK WRONG

Given the sometimes dire consequences of the wrong pricing decisions in two-sided markets, there is a high degree of risk if regulation treats markets with strong two-sided effects the same as traditional markets. Regulation that does not take into account two-sided and network effects could diminish the economic drivers and incentives that lead to market expansion. In the case of financial services markets, a regulatory scheme that does not take into account the special characteristics of two-sided markets could have the unintended consequence of shutting down the flow of capital and credit at a particularly inopportune time.

The regulatory framework must be based on encouraging competition that enhances consumer welfare. This does not mean that less regulation in these areas is automatically better; however, the regulatory framework should avoid the following pitfalls:

- a) regulations that limit the ability of suppliers to discriminate between the two sets of consumers in a two-sided market;
- b) regulations based on the costs to either side of the two-sided market;
- c) the failure to recognize the supplier's property rights in brand identity; and
- d) regulations that fail to account for the free-rider problem. Indeed, some regulatory systems can actually make the free-rider problem worse by penalizing attempts to introduce efficiency, limiting the ability of actors to free-ride off the investment of other firms.

In other words, the type of competition that we are describing will lead to market expansion. However, competition arguments are frequently used to justify regulatory interventions that actually promote consumer welfare-damaging forced levels of competition that will lead to market contraction.