Luiss Guido Carli, Rome

Dottorato di Ricerca in Diritto ed Economia

XXV Ciclo

Fringe Law & Economics

Google, Competition Policy and the Hegel's Owl

Competition law in Developing Countries. India, a case study

Economics of Failure in Movies after the Big Crisis

Rosamaria Bitetti

15th January, 2013

Index

1 Contents

RINGRAZIAMENTI 6

GENERAL INTRODUCTION 7

SECTION I

GOOGLE, COMPETITION POLICY AND THE HEGEL'S OWL 11

1 Can the Hegel's owl spread its wings and fly? 12

2 The new economy: did the dusk begun to fall? 14

3 The breeze of Behavioral antitrust 20

4 Google, a tale of a virtuous monopolist? 22

5 The trouble with dominance 26

6 The trouble with abuses 32

6.1 Refusal to supply 34

6.2 Tying or bundling 36

7 The trouble with remedies 39

Conclusions 43

References 45

SECTION II

COMPETITION LAW IN DEVELOPING COUNTRIES. 50

INDIA, A CASE STUDY 50

Introduction 51

1 Competition and Competition law: friends or foes? 52

1.1 The proliferation of Competition law 52

1.2 Theoretical Underpinnings 55

1.3 The Antitrust revisionism 58

1.4 Radical critiques 61

1.5 Shall we export competition law? 64

2 Development concerns 65

2.1 Limits of the Neoclassical approach 65

2.2 Weak legal systems and opportunism 69

2.3 Transition and rent-seeking 78

2.4 Incentives to investments and entrepreneurship 82

2.5 Institutional weakness 87

2.6 Summary 92

3 Competition law in India: A case study 93

3.1 Country overview 93

3.2 The Monopoly and Restrictive Trade Practise Act 95

3.3 The Competition Act 98

3.4 Lessons from India's Competition laws 100

Conclusions 101

References 102

SECTION III

ECONOMICS OF FAILURE IN MOVIES AFTER THE BIG CRISIS 112

Introduction 113

1 Narratives and complex representations of economics 114

1. Movies as Weapons of Mass Narrative embedment 118

2 Economic failure, 101 (or maybe not) 121

3 Filming the invisible hand 126

4 Movies and economic failure: a macro analysis 130

5 Movies and economic failure: case studies 137

Conclusions 142

References 143

Annex A: Movie database 146

RINGRAZIAMENTI

Ringrazio per questa tesi tutti quelli che mi hanno accompagnato in questo percorso di studi, che è partito da Roma e si è spostato a Rotterdam, Ghent, Mumbai. In questi anni ho avuto meravigliose avventure intellettuali, che spero di aver degnamente condensato in questi tre scritti.

Ringrazio l'Institute of Humane Studies della George Mason University, per cui ho preparato il paper sull'antitrust ai tempi di Google, e la meravigliosa faculty con cui ho avuto l'opportunità di discuterlo. Per l'articolo sulla ricezione del diritto della concorrenza nei paesi in via di sviluppo ringrazio la faculty dell'Indira Ghandi Institute for Development Research Mumbai, ma soprattutto al gruppo di ricercatori con cui ho condiviso l'esperienza indiana (e in particolare Maria Pia Sacco, Gabriela Witek e Pranav Sidwani: le discussioni nell'appartamento E4 durante i monsoni hanno contribuito a questo risultato). Ringrazio infine l'Istituto Bruno Leoni che, oltre ad essere stato il mio punto di riferimento culturale da molti anni, mi ha dato l'occasione per presentare l'articolo sulle rappresentazioni del fallimento economico nell'industria cinematografica prima e dopo la Crisi.

Ringrazio gli altri Professori: Raffaele de Mucci, Lorenzo Infantino, Simona Fallocco, Nicola Iannello, Andrea Renda, che mi hanno accompagnata per un pezzetto di questo percorso intellettuale, e soprattutto il mio Supervisor, Roberto Pardolesi, che è stato guida (e pungolo!) costante in questi anni, ed ha accettato sempre di buon grado di seguire la mia ricerca in territori inusuali.

Poichè non di soli articoli vive l'uomo, e nemmeno il dottorando, ringrazio tutti i miei amici che, a Roma e ovunque, che hanno accettato di continuare a frequentarmi nonostante gli propinassi sovente filippiche interminabili di analisi economica in pizzeria o al museo. Ringrazio ovviamente la mia famiglia, che mi ha sempre riempita di affetto e boccacci di sottoli. E l'app di Justeat, che mi ha sfamata sotto deadline. Ringrazio anche la mia seconda famiglia, l'Italian pack, con cui ho condiviso le gioie, i dolori e soprattutto i molti traslochi di questo dottorato. In particolare Giacomo Luchetta, per i commenti attenti e puntuali al mio lavoro, e per avermi ricordato costantemente che dovevo farlo (e fare le vaccinazioni, pagare le tasse, compilare certificati: grazie! Non avrei letteralmente finito senza di te).

Ma questo lavoro lo dedico ai miei genitori, Vincenzo e Pina: non hanno una laurea, ma sono le persone da cui ho imparato di più nella vita.

GENERAL INTRODUCTION

Fringe science is defined as scientific inquiry in an established field of study that departs from mainstream or orthodox theories, and is classified in the "fringes" of a credible mainstream academic discipline. If is there a common denominator of some the results of my last three years of research, that common denominator is being fringe law and economics.

Fringe for the use of unorthodox economic paradigms - such as Austrian Economics - or for the uncommon application of Public Choice or Institutional Economics to more traditional law and economics issues. But fringe also because I have had the ambitious interest of inquiring whether mainstream analytical tools, regulatory theories do hold also at the margin of our discipline, whether the technological or institutional is radically different from the context in which those models originated.

The paper in the first section, ***Google, Competition Law and the Hegel Owl*** deals with the theoretical questions - begging a ending in courts - of the landmark case of our decade. But it more broadly deals with the problem of antitrust enforcement in highly dynamic, innovative digital markets, whose structure and business models we do not completely understand and yet we assume to be able to stir toward a greater efficiency. Stealing a metaphor from Hegel, I wanted to know if the Owl of economic theory, which backs up regulation, knows where to fly in the daylight of economic transformations in the digital markets. Digital markets characterized by digital goods, whose price is zero or close to zero, network effects, magmatic experimentation of business models, winner-takes-it-all victories and, at the same time, an hyper-Schumpeterian pace of creative destruction among Titans.

My follow up question, on the issue is whether behavioral economics can help us better understand markets dynamics, frame and detect abuses and draft remedies. Indeed, while behavioral economics has become exceptionally popular and advocated by many as the next paradigm to ground antitrust inquiries there has been little or no application of it in actual enforcement. If the Google saga is such a crucial case for determining antitrust boundaries in the next decade, I've found peculiar not to find much literature about how to use behavioral economics to understand it, and I've tried, indeed with no much success, to use it as a counterpart to Chicagoan and Austrian economics.

I've found out that behavioral economics has very limited practical use in the three steps required for assessing dominance, because it gives contradictory results for defining the market, the credible threat and assessing the role of the consumer. It particularly underestimate the role of decreased costs of information and switching cost in the internet. By reviving a discredited theory in antitrust, the theory of leverage, without any univocal results, behavioral economics can give very little new insights about the specific abuses Google might be charged of, refusal to supply or tying. On the other hand, while not free from negative consequences, behavioral economics can indeed provide some useful suggestion for drafting remedies. A "nudging" opt-in opt-out remedy can be more effective than fines, and less aggressive than structural remedies, but even in this case it will lower pace of innovation and the quality experienced by the consumer.

Paper in section II, ***Competition Law in Developing Countries - India, a case study***, deals with the issue of the transplant of competition law in countries whose economic and system is radically different from the one in which competition law was generated. And a contest in which the mainstream theory that laid the grounds for competition law has proven itself to be particularly unsuccessful in explaining growth - or better, the lack of it. In the last years 102 countries have adopted competition law in their jurisdictions, even though it was not consistent with their general policy about the market and even though they opposed it during the multilateral negotiation in the Doha round. This happened because developed countries pushed it as a conditional clause in their trade agreements. But while there is no uncontroversial evidence that competition law has positive or negative effects on growth, not even for developed countries, there are structural and historical conditions that make this transplant more difficult in developing ones. I resorted to Neo-institutional, Austrian and Public choice economics to better assess the variables that will affect a poor quality of antitrust enforcement, and how it will have a marginal negative effect on developing economies. First of all, developing countries have weak legal systems, with limited ability to enforce contracts and property right. This requires for the firms to operate more flexible organizational solutions, but those risk to be found false positives when the antitrust enforcement is not sophisticated, as in a legal system with scarce resources. In the second place, Developing Countries are facing a gradual transition to an open market economy, and gradual transition create a lot of space for political manipulation and rent seeking. Rent seeking and cartelization are alternative inputs for obtaining a rent, and the introduction of antitrust, with weak institutions, decreases the cost of rent seeking by increasing the cost of cartelization. Thirdly, developing countries have a high regulatory risk, which is increased by the introduction of an unsophisticated,

strict and unpredictable antitrust enforcement: this will lead to less innovative, profitable business conduct and less investments.

There's a whole set of reasons why we imply that the quality of antitrust enforcement is meant to be unsophisticated and strict in developing countries first of all, the Competition Authority and the legal system in general have access to limited resources, experience and skills. Second, corruption, interventionist regulatory culture, weak independence, will increased the likelihood that antitrust enforcement will be utilized to further policy goals different from economic efficiency. Finally the prominence of informal economy and limited data availability will distort the perception of market shares, potential competition and other relevant economic variables.

I test my research on the Indian case, which is intriguing in its peculiar mix of sophistication, inherited from the British legal system and regulatory ingenuity inherited from the closed-economy years.

The final paper, ***Economics of Failure in Movies after the Big Crisis*** addresses a traditional Law and Economics issue - business failure - but in a particular dimension, or its cinematographic representation. An empirical analysis of a database of 240 movies from before and after the financial crisis, as well as three case studies has been used to support an more general theory to explain the so called Blinder Law, which is "economists have the least influence on policy where they know the most and are most agreed and they have the most influence on policy where they know the least and disagree most vehemently". While economics science has obtained some results that are generally accepted by experts, their perception among the population, which participate in the democratic decision making process, and non-expert policymakers radically differs. And we can use economic models to explain this different perception, analyzing how the cinematographic industry is influences the diffusion of wrong or correct economic ideas. In particular, I will use a principal-agent model and a cost of information theory to explain anti market biases in movies, and test them against our database. The result is that filmmakers get economics right or wrong independently from their biases toward the market, but in a manner which is inversely proportional to the complexity of the concept.

In my paper I've analyzed how complex representations of economic concepts substitute efforts for acquiring technical knowledge and create a hiatus between experts and non experts' comprehension of reality. Complex representation arise

 Tutti i diritti riservati

when the concept is easy enough to be elaborated in an intuitive way, because non-experts do not feel the need to refer to experts. A dynamic that economists need to understand and address, especially when they are meant to be policy relevant like those involved in economic analysis of law.

SECTION I

GOOGLE, COMPETITION POLICY AND THE HEGEL'S OWL

Rosamaria Bitetti

1 Can the Hegel's owl spread its wings and fly?[1]

With a powerful metaphor, philosopher Hegel described philosophy as the Owl of Minerva, that "only when the dusk starts to fall does it spread its wings and fly" [Hegel, 1821]. Philosophy comes only at the end of the day, as a descriptive reflection of what happened, and Hegel's owl cannot reverse the movement of the stars and stop the twilight. Economics is the philosophy of modern competition policy: economic theory, competition policy and competition law are inextricably intertwined. Ever since competition law came into existence, the economic theory of competition has exercised its influence upon it. Rules change as, and when, the underlying economic theory changes. As time went by, different paradigms (Neoclassical, Harvard, Chicago, Game theory) informed antitrust enforcement [Kovacic, 1992]. Competition policy changes because the definition of competition, the way it works and how it can be promoted are not univocal and eternal tenets in the economic science.

Pretty much like Hegel's owl, they rather followed changes in economic history and society. For instance, the theory of perfect competition is clearly modeled after the agricultural market, that was easier to observe when the competition was described as emerging among atomistic producers of homogeneous goods. Features of specific markets observed by economists in a given historical period did shape the content of an otherwise vague concept such as barriers to entry: economies of scale reflect the importance of the efficient plant size in classic manufacturing industries; capital investments reflect the historical scarcity of these assets before the improvement of legal tools to raise capital; the idea that aggressive advertising can be a limit to competition is linked to the emergence of traditional media such as newspapers and television, which created a limited number of powerful channels for reaching consumers. Much of the reflection about distribution agreements, tying and bundling came of course after the emergence of department stores and distribution networks.

But unlike Hegel's owl, that can only come to the scene too late to give instructions about how the world ought to be, economic theory does affect economic

[1] Paper presented at the peer reviewed conference "Symposium on Scholarship & a Free Society" organized by the Institute of Humane Studies at the George Mason University (reviewer: Prof. Todd Zywicki, GMU School of Law). Also presented at the Italian Society of Law and Economics annual conference, 2012 (peer reviewed conference).

relations by informing competition law. Our owl can actually change the movements of the stars and stop the twilight, for good or for bad. So it is of the utmost importance to be sure that it flies, to follow the metaphor, in the right direction and at the right time: this is the purpose of this paper. I will analyze the main trends in the new economy of internet-based transactions, trends that are demoting the explanatory power of economic models traditionally describing unilateral conducts. I will try to ascertain whether a specific innovation in economic theory, behavioral economics, can actually inform antitrust with new and more useful models to assess whether an abuse has occurred. This comparison will be carried through the lens of a real, and representative, case study: Google and its current troubles with antitrust authorities all over the world.

The Google saga is an important experiment to assess whether antitrust investigations incur in mistakes when the underlying monopoly models are not revised to accommodate digital economic postulates, and whether behavioral economics can cast a light and help avoiding those mistakes. Mistakes that are especially dangerous when they might result in reduced innovation and, as such, competition. The Google saga is thus an unavoidable issue when discussing antitrust, pretty much as ten years ago it was impossible to discuss competition policy without talking about Microsoft.

A few years later we can already enjoy some of the benefit of hindsight: our reflection can fly after economic events and learn something in perspective. The Redmond Giant is, today, far less dangerous for competition authorities, but in reducing Microsoft's market power the role antitrust, though aggressive, was only marginal. Real competition came from outside the channels of competition that were taken into account at the time of the Microsoft processes. Indeed, competition remedies were quite inefficient - as I will discuss further on. Competition come from the rise of open source software, the shift to cloud computing as a further step in the process of dematerialization of digital economy, and, of course, the rise of Google. As a result, Microsoft is now only a marginal concern for competition, and it is even a plaintiff against Google.

The opportunity of looking back, like the Hegel's owl, at the Microsoft cases should give us some perspective on the ephemeral nature of monopoly and other competition models in highly innovative contests, and somehow an heritage of economic analysis that passed the test of time. I will use the Google case to test if a further set of theoretical tools, less known at the time of Microsoft, but increasingly

popular today: behavioral economics. Never like today competition issues deal with markets with an high rate of innovation: if these economic models are meant to be policy relevant, they must be able to provide useful insights in a case that is meant to be the new cornerstone of competition policy. Just as it happened at the time of Microsoft, the antitrust, law and economics academic community is today devoting an uncountable amount of bytes typing its analysis of every angle in the Google cases.

Surprisingly, though, there is very little literature that explicitly uses behavioral economics to assess the strength and the scope of the abuse allegations. After reviewing some key features of competition in the age of internet, I will go back to this point and try to incorporate behavioral economics in the analysis of this paradigmatic saga.

2 The new economy: did the dusk begun to fall?

Or, did contemporary economics elaborate useful models and doctrines for antitrust enforcement in the new era? The first problematization of the relationship between antitrust and the new economy can be traced back to Richard Posner [2000]. He defined the new economy as the union of three sectors, manufacturers of computer software, internet-based businesses, and communications services and equipment meant to support the first two markets – and while a lot changed since 2000, this definition still applies if we take into proper account the fact that the bulk of innovation and market growth happened in the second of the two markets, which is where nowadays the antitrust debate is discussed. Back at the time, Posner argued that there was no real problem in applying antitrust models to the new economy, since "antitrust doctrine is supple enough, and its commitment to economic rationality strong enough, to take in stride the competitive issues presented by the new economy" - but he also quite prophetically added that "the real problem lies on the institutional side: the enforcement agencies and the courts do not have adequate technical resources, and do not move fast enough, to cope effectively with a very complex business sector that changes very rapidly". For this reason, he claimed for a cautionary approach to antitrust enforcement in the new economy.

Twelve years later, he was right: enforcement agencies have been far from cautious and extremely active in the new economy. Manne and Wright [2010] explain

this tech-activism with a sort of career incentive-driven cultural prejudice against innovative practices that are hard to understand, and thus more easily interpreted as abusive, by economists and enforcers.

And another important shift from Posner's time is the fact that 2010s antitrust doctrine (and regulation in general) is no longer committed to economic rationality, but it is now modeled after what Russell Korobin [2011] names "regulatory agnosticism": influenced by behavioral economics, it deviated from the assumption of rationality and the possibility of relying on revealed preferences to analyze economic outcomes (we will see this aspect in the next section). As a result, the debate about effectiveness of antitrust in the new economy is far from dead and very important.

Internet and communication technologies are driving a new economic revolution, whose incredible extent, probably, we are only beginning to appreciate, and whose effects, definitely, we are just beginning to understand. I can only attempt at an overview of the most significant features of these phenomena, without any conceit of a completeness which is far from the scope of this paper and, probably, of current state of economic knowledge.

The first and more obvious feature of the new economy is the incredible amount of information that computer-mediated transactions have made possible to create and share in the economic system. One of the first consequences of the increased rate of knowledge transmission in society is the creation of new and innovative products at a pace that humans never experienced before. But knowledge and product innovations are just an aspect of the internet revolution. Indeed, the dramatic fall of the cost of information made a great deal of business innovation: Hal Varian [2010] highlights the possibility of creating new and more efficient contracts due to the fact that more and more aspects of economic transactions became observable and thus apt to monitoring. The whole online advertising world, which lies at the heart of current debates, is a perfect example of this revolution: now an advertiser can actually monitor how many people look at their ad – or even better, click through it. The reduction of uncertainty about the return of investments in advertisement creates *ex ante* incentives to entering into the contract. As a result, online advertisement become more effective and more spread.

The increased amount of real-time information about transactions makes it possible to know more about people's preferences, build small to medium scale

experimental business models and test them on the marketplace, rather than rely on, no matter how authoritative and expensive, opinions from managers and experts.

Business model experimentation is another fundamental, though less obvious feature of the new economy. Experimentation is not only easier now, but it is also necessary in order to cope with the high level of competition and the specific features of digital goods.

ICTs, together with the progressive fall of shipment costs created an unified marketplace in which incumbent businesses and new entrants can offer their services to a much market larger than ever. They can reach new customers through websites, find investors and commercial partners far away from home in a worldwide cooperation.

Worldwide cooperation is made increasingly easier by the fact that ICTs allow for a radical decentralization of physical, human and social capital inputs with cloud computing [Benkler, 2010]. Also, significant upfront capital investments such as data storage, generic components, applications, can be now acquired off the shelves from platform services – turning fixed into variable costs, and decreasing this variable cost at an incredible rate.

The other force behind the need of business model experimentation – and behind the whole new economics – is the function of production of digital goods, which is characterized by "radical scale economies", meaning that almost all production costs are upfront, while the marginal cost of reproduction is close to zero. As a result, also the price that can be charged is often close to zero. Which calls for a big business problem: how to recoup the initial investment and maybe get some profits? This is a relatively new problem entrepreneurs have to cope with: they don't only have to imagine a product that can please their customers, they also have to figure out how to make them (or someone else) pay for it. The first years are of the new economies – in which we are still living – are a tumultuous magma of business model experimentation.

One of the new economy business models relies on customization and personalization of goods: since incredible amounts of information about customers preferences are now available, and the marketplace is so large that entrepreneurs can reach millions of potential customers by focusing on the long tail of the demand function, they can make their products targeted for special customers hoping that they will buy that product that so much reflects their unique mix of preferences. Paradoxically, then, consumer welfare is increased by the fact that the market is

offering them customized goods. Goods that are less and less substitutable, no longer being one-size-fits-all. Also, businesses can rely on the information they have to perfectly discriminate, and charge each buyer according to his willingness to pay[2].

An extreme version of this strategy is the Freemium model, by which a product or service is provided free of charge to most of its users, but a premium is charged for advanced features, functionalities, or related products and services. The provision of a good, free of charge, helps the entrepreneur to make his product visible to a very large customer base, to subsequently fish a limited group of people willing to pay for his premium service.

Alternatively, if an entrepreneur cannot find premium customers, he can focus on a more traditional business model: advertisement. The producer lets advertisers pay for its service to other customers, who pay back for the service provided, rather than with money, with their attention to advertisements or "eyeballs", how it has became commonly known.

In both cases, the entrepreneur is building his business on cross-subsidization, by letting a subset of its customers pay for the others – a model that its often defined as a two-sided market [Katz and Shapiro, 1986]. The cross-subsidization can happen between premium users, covering the cost of providing the service also for free users, or between buyers of advertisement space covering the costs of providing the digital product to all the consumers. And in both cases, there are important economies of scale: the larger is the customer base, the more likely is that the entrepreneur will find long tail, willing to pay customers. The more popular the digital goods become – and popularity in the new information economy is an observable and quantifiable phenomenon – the more advertisers will be willing to buy from the entrepreneur. If the service providers fails to reach a significant dimension, he will not be able to enjoy these scale economies.

Two consideration follows from this complex system: first, that the entrepreneur has a greater incentive to innovate its own product or products (free version and premium, as well as digital service in itself and advertisement). Advanced features and increased functionality are an important feature of the new economy: that is because

[2] In a contest with low barriers to entry, this will generate optimal amount sold and competition will shift all the surplus to the customer see Varian [2005: 1-46]

the provider of a digital good or service has to compete, other than with other providers, with himself. He needs to improve its basic products in order to obtain the larger customer base possible, and as a consequence, the potential buyers of its ancillary advertisement services. But he needs to improve his premium services in order to motivate the premium buyer – and after a while he can pass on to the basic service the additional features, once he finds better ones for premium users. Self-competition results in a self-enforcing contract between the producer and its discriminated customers: if he tries to acquire premium users by degrading the quality of its free services instead than by improving its premium ones, he will lose customer base, therefore popularity and advertisers. If he tries to charge a price too high to both advertisers and premium users, they will not be willing to subsidize the other users. It should be noted that the self-competition as a disciplining and innovative force also works in markets for digital but not completely immaterial goods such as software or electronics. Since those goods are not perishable, a provider needs to compete with its previous release, and he can do it only by adding new functionalities and features [McKenzie and Lee, 2001].

The second consideration that follows the importance of popularity in these business models is that the digital market will see the emergence of either providers that will focus on a (not so) small market niche of potential customers with peculiar demand or providers that will try to build the largest possible network of customers, resulting in "winner-take-all" (or most) of the market [Frank and Cook, 1995].

This is also explained by using the concept of network economies: the fact that when one product become popular, and its market share increases, the value of the product to consumers increases because they value the fact that other people are using the same product - a network externality. Consumers utility from the goods is then partially derived from the characteristics of the good in itself, and partially from the fact that is mostly used and from the expectation that it will be used by more and more people in the future. This characteristic lead many observers to suggest that, since people do not only incorporate in their utility function only the intrinsic value (sic!) of the good, but also the diffusion or expected diffusion of the product, they will end up selecting as dominant a provider of a good that is not the best, but it simply is (or it is expected to be) the most popular. And the network externality idea leans to the problem of lock-in [David, 1985], which is actually a borderline concept between

traditional and behavioral economics, since the latter plays a great emphasis on path dependency and consumer inertia.

And while there is a lot of theoretical controversy on the concept of lock-in both in the offline and the digital world [Liebowitz and Margolis 1990, 2001], in the latter we can see an incredible rate of obsolescence of dominant positions. We already mentioned Microsoft; in the 2000s Posner's article, the first example that comes to his mind is AOL. AOL and Microsoft, pretty much like AltaVista, Yahoo!, BlackBerry, Nokia, MySpace, enjoyed for a limited period a customer base as large as to look likely to be able to lock customers in, but then they quickly become obsolete and not antitrust-scary anymore.

New powerful players entered the game: Google, to begin with. But also Facebook provides a good example of the extent of transformations in the digital economy: when it was funded, in 2004, the most popular brand on the Internet was Microsoft's MSN – Google itself only scored fifth. The most authoritative encyclopedia was Encyclopedia.com. Today, Facebook has more users than the whole Internet in 2004 [Garber, 2012].

Paraphrasing Adam Thierer, the age of the tech titans takes place in the land of Schumpeterian creative destruction, where "innovative risk-takers are constantly shaking things up and displacing yesterday's lumbering, lethargic giants. In markets built largely upon binary code, the pace and nature of change has become hyper-Schumpeterian: unrelenting and utterly unpredictable"[Thierer, 2011].

This fierce competition among technologies and networks is once again possible because the new economy has no frontiers, and new entrants can come from anywhere, gathering investments from everywhere, and creating innovation from knowledge and tools that are more and more spread in society. It also depends from the production function of digital goods, whose input are immaterial and thus whose supply can be quickly expanded in order to compete with dominant providers that are falling behind with innovation or charging prices too high.

In front of the radical transformations happening in the economic reality at the time of the internet, looks like the owl of economic theory has left its nest too early and, blinded by the daylight, doesn't really know in which direction to fly. Since Posner's call for caution in antitrust enforcement was left unanswered, we should look further to see if the conceptual tools retrieved from last centuries economics are still

holding and whether they can accommodate digital postulates. If, alternatively, we do not have economic models strong enough to analyze economic phenomena that are happening for the first time in an economy stormed by technological transformations, we should back the call for caution, wait for the dusk to fall and for the owl to see again.

3 The breeze of Behavioral antitrust

Following the Hegel's owl metaphor, behavioral economics is like a new a new breeze, growing stronger and suggesting our owl in which direction to fly. Over the last fifteen years, behavioral economics, i.e. the use of psychology to reconsider the homo economicus paradigm has become a popular field of study in law and economics. Broadly articulated for the first time in Cass Sunstein and Richard Thaler's call for so-called "libertarian paternalism"[Sunstein and Thaler, 2003] and again in their book Nudge [Sunstein and Thaler, 2008], behavioral law and economics has become very influential in regulation[3], suggesting to design regulatory interventions taking into account the evidence of systematic irrational deviations from the neoclassical theory of behavior and to incorporate little "nudges" that can "steer people in directions that will promote their welfare but will not prescribe or proscribe any particular choices" and thus improve consumer choice. More recently, several commentators have argued in favor or against of incorporating of behavioral economics within antitrust law [Reeves and Stucke, 2010; Stucke, 2007; Tor and Rinner, 2009; Wright and Stone, 2010].

Advocates of behaviorally informed competition policy argue that economics, and antitrust in particular, have insofar "worship[ed] at the shrine of rationality" [Leslie, 2010]. Most of economics and regulation models are indeed built on the assumption that individuals and firms maximize the achievement of their goals[4]. Recent economic

---

[3] Cass Sunstein has been appointed Administrator of the Office of Information and Regulatory Affairs in the US, Richard Thaler has been involved in the creation of a unit in the British regulatory unit in order to incorporate the principles of Nudge into public policy. The US Consumer Financial Protection Bureau represents the clearest example of behavioral law and economics influence in regulation.

[4] It should be noted that in sophisticated economic approaches, this assumption does not entail any value judgment about the optimality or desirability or quality of goals that economic actors pursue, but it rather implies a procedural rationality that falls from the logical necessity of

literature, on the other hand, has increasingly focused on systematic mistakes (biases) that people make while taking their decisions: in other words, their revealed preferences are not a good economic instrument anymore, because "in some cases *individuals make inferior decisions in terms of their own welfare* -- decisions that they would change if they had complete information, unlimited cognitive abilities, and no lack of willpower." [Sunstein and Thaler, 2008: 1161].

Behavioral economics criticizes most of the assumptions behind the standard economic model[5], and tries to build a new model of human behavior starting from the results of psychological experiments and survey. It brings then the promise of giving a more realistic model of how consumers, firms and regulators act in the marketplace, which should bring about important consequences in the field of antitrust enforcement.

I will not try to address here the methodological and substantial concerns regarding the findings of behavioral economics and its (lack of a) model of human choice. I will rather have an "after win" approach and answer to the popular call for behaviorally informed competition policy. I will try to find if antitrust can take into account biases in the behavior of market actors such as consumers and firms (or better, their managers or entrepreneurs) and build better instruments to reconstruct an offense and propose a more effective remedy.

While the behavioral antitrust literature continues to grow– and reaches the ears of regulators, politicians and antitrust enforcers [Rosch, 2010], some authors are reasonably skeptical about the fact that behavioral economics is advanced and consistent enough to be applied in market regulation without slipper in arbitrariness [Whitman and Rizzo, 2007; Wright and Stone, 2010]. Others have argued with some success that contemporary antitrust has, especially in Europe, already incorporated behavioral concerns [Petit and Neyrinck, 2010]. But in general, the law and economics

---

choosing, among scarce means, those that the actor believes to be more appropriate to reach his goals – no matter how sub-optimal, undesirable or plainly wrong those goals might be. See e.g. Mises [1949]

[5] Specifically, it criticizes the assumption behind the concept of preferences: standard microeconomics requires that preferences adhere to the assumptions of completeness, reflexivity, transitivity, continuity, strong monotonicity, non-satiation, and convexity. These are the conditions for the utility function, upon which the economic actor makes his choices, to exist and be quasi-concave. See e.g. MasColell et al. [1995]

community seems, at most, convinced that the behavioral demolition of market actors' rationality can justify a different, and most likely more energetic antitrust approach.

But quite surprisingly enough there is very little use of behavioral economics in the analysis of the Google case. This comes at odds with the general claim that behavioral economics is a new and more fecund paradigm in economics and that should be used more in antitrust analysis. If a paradigm, no matter how popular in the academic community, does not provide useful analytical tools to deal with what is probably the biggest challenge in economic analysis of antitrust of our times, maybe it is not that new and useful at all? Leaving this skepticism aside, I will try to take behavioral economics seriously and incorporate it in my analysis of the issue.

4 Google, a tale of a virtuous monopolist?

Once upon a time, there was a small, innovative company, founded by two nerd students at Stanford, that delivered an incredibly innovative search experience, found a path-breaking business model, challenged and defeated giant monopolists of his early times, and become quite big. In the process, it kept innovating and offering more and more features and products – most of them were considered incredible solutions both by technology analysts and by customers, who kept using them. Many others just did not take off and were discarded – and kept experimenting and improving with its core business: search. As a result, it became the target of antitrust authorities from all over the world.

Google core business is internet search, and it has been an incredible product innovator[6], sorting out in 1996 a sophisticated algorithm to interpret people's inquiry, filter results and rank them according to their relevancy - back in the prehistoric times of search, it was mostly done by human power. In 1998 Google revolutionized the concept of relevancy building it on links and off-the-page criteria, used as votes from other web users, instead that just relying on frequency of words and location (on-the-page criteria).

[6] The history of technological innovations in the search engine market is retrieved from a series of articles published in the sectoral blog S*earchengineland.com* by Danny Sullivan [2007, 2008, 2012]

This allowed for much better search results, but the innovation wasn't over, ad a second major improvement in the search started in 2007, when Google launched its Universal search: mixing different results such as pages, simple information like time and weather, maps and other "relevant" answers into its result page. These are considered vertical search results as opposed to general results because, they retrieve results for a query, e.g. "pizza", only in images or addresses, or pizzerias. Integration of vertical searches results improve the Google's user experience, but only as long as the answers are the right, i.e. more relevant, ones.

In 2008 Google started experimenting ways to better retrieve individually relevant results with Google Personalized search, that takes into account customers search history to deliver results more relevant to him (if I type Google, it will most likely return to me articles about Google's antitrust troubles), and launching in 2012 the Search Plus Your World feature. Assuming you can learn something about what a web user is asking for in a search query from what he and his friend liked and shared before, the result incorporates preferences retrieved from Google own social network, Google plus.

In 2012 Google launched its Knowledge Graph, that provides a box with popular facts about people, places and things alongside links to other content, revolutionizing once again the search process, which will now work with logical entities in addition to web pages.

But that it is not enough: in these years, Google launched hundreds of other products: some of them become extremely popular, like Gmail, Google Maps or its mobile operating system, Android. Some others were popular for a while then become obsolete, like Blogger. Some remained unknown for most of the population but used by fringe users (like Ngram Viewer for searching trends in academic publications, or Google Refine, used to clean up messy data-sets). Some other products, while meant for the general public failed miserably to reach customers and were shut down, like Google Buzz, Google Waves and Knol (the first two are social sharing platforms, while the last one was an alternative to wiki platform for user-generated encyclopedia). As a result of this continuous innovation, Google become the dominant search engine of the new economy.

Google was also an incredible innovator in business models: it decided to base all its revenue on advertising, against the current trend of allowing for paid results in the

organic searches. And since in computer-mediated transactions it is possible to make observable aspects of a contract that used to be unobservable, it started charging advertisers only for effective clicks. It also created a sophisticated auction system to allocate the space for ads, taking into account both the relevance of the page, through the quality score, and advertisers willingness to pay. Since Google offered a more measurable and effective form of advertising, not only become the larger provider of search advertisement, but also pushed this form of advertising (as opposed to display advertising, like pop ups and banners) to be the most important in the internet world.

But this is a tale of a virtuous monopolist that, no matter how virtuously, still become a monopolist: "it fills all the criteria for tracing brave risk-taking, innovation, economic growth (...), but could at the same time threaten the market's development" [Pardolesi and Arnaudo, 2010: p.10]. This is also the tale of the unsolved conflict between static and dynamic competition in antitrust, which is exacerbated in the new economy because of the pace of innovation: if an innovation, that delivers a huge benefit to consumers, falls in the categories of abuse according to traditional economic models, antitrust falls in a logical short-circuit.

In 2010, pushed by complaints filed by several competitors, the European Commission started an formal investigation against Google. While still *in fieri*, the EU case give us a good framework to analyze the Google saga - also because it covers the same main criticism raised by other competition authorities, such as the FTC investigation launched in June 2011 on similar issues[7].

According to the Commission press release, four are the main conducts that might be found as abusive: first, whether "Google has abused a dominant market position in online search by allegedly lowering the ranking of unpaid search results of competing services which are specialized in providing users with specific online content such as price comparisons (so-called vertical search services) and by according preferential placement to the results of its own vertical search services in order to shut out competing services" [European Commission 2010]. This issue can be framed, in general, as a foreclosure abuse, and it is specifically assimilable to the instances of abusive bundling and, in extreme, to refusal to supply. But this issue went far beyond the scope of antitrust to symptomize a more general concern about Google's ability to

---

[7] It will be interesting, when the FTC closes the investigation, to see whether the US courts rely on different economic models to address quite the same issues.

manipulate search results and thus manipulate the access to world information [Pasquale and Bracha, 2008; Vaidhyanathan, 2011; Auletta, 2009].

Secondly, in order to better define the foreclosure abuse, the Commission declared that was also going to investigate "allegations that Google imposes exclusivity obligations on advertising partners, preventing them from placing certain types of competing ads on their web sites", and "suspected restrictions on the portability of online advertising campaign data to competing online advertising platforms", which can be conformed as a more or less graduate form of exclusive agreements[8].

Finally, the Commission declared to investigate "into allegations that Google lowered the 'Quality Score' for sponsored links of competing vertical search services. The Quality Score is one of the factors that determine the price paid to Google by advertisers": this abuse is more related to a less used case-law of the exploitative abuses.

Instead of formally concluding the investigation with a Statement of Objections, in May 2012 the EU Commission asked Google to propose remedies to address some of the issues that were originally included in the investigation, and in particular: a. preferential treatment of its own vertical search products over competing ones; b. the aggregation and integration in search results of original material from the websites of its competitors such as review[9]; c. exclusive arrangements with advertising partners and d. restriction on the portability of data from online search advertising campaign [Almunia, 2012].

And while the formal investigation is not over with the request of commitments, this solution tells us something. First of all, that the EU Commission is somehow more cautious than it had been before in addressing competition issues related to this "virtuous monopolist". The commitments request from the Commission is interesting

[8] Exclusive dealing agreement are a form of abuse instrumental to foreclosure. Compared to other issues raised, they have to be evaluated on a case by case standard, considering specific factors such as duration, exclusivity and automatic renewal clauses - information that will not be in the public domain until the procedure is closed. As such, we need to postpone the analysis of these abuse allegation.

[9] This issue, though concerns much more intellectual property rights violations or, at best, unfair trade practices - as such, is no relevant to our analysis and I just mention it for sake of completeness.

for what they ask, but also for what they do not ask: in the final version, the issue of the Quality score as a price setting instrument is not mentioned, meaning either that the Commission decided to avoid the slippery path of an exploitative abuse, which entails interfering with prices setting, or that it is open to a cooperative solution.

Finally, this choice from the Commission can also be interpreted as an admission of the lack of remedial solutions consistent and efficient enough to be imposed - which is in line with recent literature on search neutrality [see e.g. Ammori and Pelican, 2012] - and thus the choice to resort to co-regulation to find a more flexible solution.

There's a lot on the antitrust table in the tale of Google, which will give us the chance to test both traditional and behavioral economic models in addressing the competition concerns in order to see where there are troubles in using those models to address the magmatic, innovative realm of the new economy.

5 The trouble with dominance

The first problem in defining a single firm conduct as abusive is the assessment of dominance. This is a twofold process: first, the competition authority needs to define the relevant market, and second it has to prove that the undertaking has some degree of market power. Market power is defined by which is built upon three key variables: the market position of the dominant undertaking and its competitors; the constraints imposed by the credible threat of future expansion by actual competitors or entry by potential competitors; the constraints imposed by the bargaining strength of the undertaking's customers [European Commission, 2009: 9-12].

Google is certainly big and the most popular search engine: but is size enough to consider it dominant? The internet is delivering new and new good any day, whose degree of substitution and complementarity is very hard to assess. In addition, the new economy is built on non-traditional business models that mix together two markets in order to allow for cross-subsidization among different groups of consumers or buyers of two different goods. Also, the level of competition among alternative means to reach a certain end is quite important - so competition doesn't happen among homogeneous goods, but rather comes from very different ones.

For instance, if I want to buy a camera, I can go on Google and search for camera, or I can just type the EBay or other sellers' address on my browser bar. This

alternative ways to reach a seller are not counted in the relevant market, because are not part of search inquiries. Still, they are in the realm of alternatives. So, what is Google selling, exactly? It is selling a. organic search results, for free; b. several other digital products, mostly for free, and c. operating systems, in a market that is mostly outside the scope of our analysis. But its core source of revenues is d. advertising, and specifically, search advertising, which is the relevant market for the antitrust controversies we are discussing. Of course, though, indirectly Google gets revenues also from a. (and b.), because it creates the scale of the customer base that will attract buyers of d. Now, neither the market of search and the market for online advertising are easy to define, because it is not easy to list and compare all the possible substitute goods. Provided that both general search and advertisement are meant as an instrument to lower the cost of information [Stigler, 1983[10]], first of all, they are substitutable among each other. A clear manifestation of this is the proliferation of Search Engine Optimization (SEO) marketing professionals: a firm can decide to invest its marketing resources in paid advertisement on Google, or in SEO and improve its ranking in the organic results. As a mean to reach information, no matter how important, search engines are not the only possible instrument: people can just remember the address, or reach websites through suggestion from friends in their social network. All these are substitute for Google queries.

As a mean to reach customers, search advertising also competes with other forms of online advertisement, such as display advertising, which accounts for 45% of all online advertisement or viral advertisements, which require artistic and marketing expenses instead of paying for a visible spot. Even more: search advertising competes with offline advertising, since there is a sort of cross-elasticity between online and offline marketing expenditures.

It is often argued that other forms of advertising are not substitutes of search advertisement because only the latter allows for a profilation of the potential client. First of all, this is not historically true: targeting the right customer has always been the goal of advertisement. Indeed, ads run on Vanity Fair are different from those run on Sports week, and TV advertisers buy time-slots during shows that can interest

[10] As reported, together with most useful insights to analyze the Google case, in Manne and Wright [2011].

viewer whose profile fits the buyer of their products. And this is even less true in the online world, where also the display advertising is getting more and more personalized.

The task of assessing the relevant market in the new economy is even more complicated by the fact that often digital goods are priced at zero or close to zero. Traditionally, competition authorities rely on price variation to define whether a good is a substitute and shall thus be included in the relevant market with the Small but Significant Non-transitory increase in Price (SSNIP) test - which measures how much consumer will switch to an alternative when the allegedly dominant firm increases its price. Of course, when the price of a digital good is zero, like in the search market, it is harder for antitrust enforcers to analyze consumers behaviors.

Unfortunately, behavioral economics cannot give us better indications in this field: in the behavioral model of choice, people might be influenced by the endowment effect or other heuristics and perceive goods that they already use, or that are dominant in the markets, as standing alone and not competing with alternatives. How strong are these effects? In normal markets, idiosyncratic preferences are incorporated, and made measurable, by the SSNIP test and the residual demand elasticity - so that, even if the behavioral findings correctly describe human behaviors, they have no practical use. But when it comes to digital goods, priced zero, it is impossible to estimate these effects and thus any antitrust analysis built on behavioral assumption will simply rely on opinions and perceptions. Maybe these effects can be quantified through surveys and interviews, but even if we can avoid the distortionary effect, suggested by behavioral economics, of the way the survey is framed, we are switching from a measurement based on revealed preferences to one based on stated preferences. And if people are biased when making their market choices - whose consequences are doomed to bare in terms of ex post dissatisfaction about their purchase - there is no reason to assume that those cognitive forces will not play against them also when they reply to a survey, when they do not have any incentive to overcome cognitive shortcuts because there is no sanction for their actions.

Once the market is defined, and we have seen how hard it is in this case, we should be able to assess the dominance in that market. Historically, the most important surrogate for a firm market dominance has been its share of the industry (the relevant market) total output in a given year, because of a correlation between market share and market power, or the ability to deviate from marginal cost pricing [Hovenkamp, 1999]. Now, this correlation is built on the assumption that the larger the

share of the output produced by the firm, the higher its ability of reducing the quantity produced and, as such, to raise the price. But this correlation doesn't hold that much in the new economy for two sets of reasons: first, that digital good have marginal cost of production close to zero, so it easy for competitors who retain a small market share, to instantly increase their production as soon as the monopolist start abusing his power [McKenzie and Lee, 2001].

Google now operates 80% of global search queries - which raises to 95% in Europe, but falls to 74% in the US or to 49% in China[11] - and it is considered the gateway to the world's knowledge. But paradoxically, if tomorrow was suddenly shut down all of its market shares would be immediately taken over by its competitors and the knowledge of the world will still be accessible, even with some minor quality problems. As such, the advertisers that are now using Google to promote their goods, could instantly use other means. Out of the paradox, this means that if Google increases its prices or lowers its quality - in other words, if stops innovating itself - its market shares can be to a large extent covered by someone else.

The other aspect that lowers the significance of the correlation between market share and market power is the very nature of competition in the new economy: a competition that may come from everywhere, since geographical distances are no more an issue in defining the relevant market.

Which brings us to the second element of the assessment of dominance: the "credible threat" of future expansion by actual competitors or entry by potential competitors. While we have insofar observed that the new economy, by increasing worldwide cooperation and competition, makes the threat of competition stronger, behavioral economics suggests that this might not be the case. The concept of "credible threat" is very much passable of behavioral interpretations, since it relies a lot on firm expectations that, as we have learned by now, are not always rational.

In addition, also the competitors' willingness to enter the market might be plagued by irrationality: on one hand, because of the endowment effect and risk aversion, "a new entrant will prefer to spend resources, and secure gains, on its existing market, rather than to enter a new market, where gains are potentially higher, but haphazard" [Petit and Neyrinck, 2010: 7] - a claim that sounds far from realistic in the

[11] Data retrieved from http://www.netmarketshare.com/, referring to the period 2012 Q2

digital world where the rate of creation of new goods, new services and new markets is extremely high.

On the other hand, though, behavioral insights might also suggests that "firms often enter markets that are protected by high barriers. To start, decision-makers often tend to be overconfident, by virtue of optimism and desirability biases. Those individuals typically underestimate basic economic facts which run contrary to their projects, and overestimate the intrinsic value of their purported plans. In such settings, of course, entry may fail, but the threat of irrational entry will discipline the incumbent firm" [Petit and Neyrinck, 2010: 7]. But if the conclusions that we can draw from behavioral analysis are contradictory, it is hard to see any practical use for antitrust.

In one of the very few papers using behavioral instruments to analyze the Google case, Stucke theorizes trial-and-error learning as an entry barrier in the search engine market: "if firms and consumers have biases and heuristics is learning as an entry barrier, namely, companies to effectively compete need a minimum level of trial-and-error feedback. Firms can have imperfect knowledge about current and future consumer preferences, a blurred and changing understanding of their goals and preferences, and a limited repertoire of actions to cope with whatever problems they face. Consumers have changing and, at times, inconsistent preferences" [Stucke, 2011: 9-10].

But this behavioral twist doesn't add much at the traditional description of the market process as a discovery procedure, in which entrepreneurs try different strategies and solution to better please their customers [Kirzner, 1997]: the fact that they have more experience (or, learning economies), doesn't prevent other entrepreneurs to try different solutions and strategies. To some extent, Stucke is deriving simply the barrier to entry from the market share, assuming that there are economies of scale in the search engine market, and while there are certainly learning economies coming from the amount of search performed [Luchetta, 2012], it is not necessarily true that this are related to the market share. In fact, quality depends on the absolute number of queries managed, not the relative one: and as such, even if Google's competitors now retain a much smaller market share, they still are handling a very large number of queries.

Considering the expansion of the total number of queries, this is most likely larger than the number of queries that Google was able to crunch when it entered the

market and then become dominant, just because in the trial-and-error market process Google discovered the best way to provide an answer to those queries.

If barriers to entry and credible threats are a much more blended concept in the new economy, a greater emphasis, in the assessment of dominance, should be placed on the third force, the constraints imposed by the bargaining strength of the undertaking's customers. Which brings us back to the consumer role in the economy: a topic about which behavioral economics has said a lot, but probably too much to be useful in antitrust analysis. If indeed we accept the limited knowledge, limited willpower and limited self-interest vision of the consumer, we should assume that he has never any bargaining power - and even when he's got some, we cannot really rely on the way he uses it, because his choices are revealing, rather than his true preferences, his biases.

I believe this is a fundamental point in the discussion about antitrust in the new economy: never like today, we have alternative products or means to reach what we want. Most of them are also for free, switching costs are quite low. In Google's own worlds, the biggest constraint is the fact that "competition is just a click away" [Kovacevich, 2009]: Google's user can use another engine at any time, without even typing a web address (they can just Google it).

If we use behavioral analysis, we can say the lack of switching is merely due to their inertia. Or, the popularity of a search engine cannot be explained in terms of its technological superiority, but rather by herding behaviors [Stucke, 2011: 9-10]. As a result, they end up locked in an inferior technology, or remain loyal to a monopolist even when it sells inferior products[12].

Of course, these explanations be as good as any other, once we decide to cross the border of psychology and not to rely on revealed preferences anymore. But what I will argue is that these biases, and especially cognitive biases, do hold much better in the traditional economy than in the internet one. Indeed, consumers have never been so much empowered with choice as in the new economy of information: a global marketplace, technological competition, cheapest cost of information in the story of mankind, and tools to compare alternatives freely available on the internet.

---

[12] On this specific point, though, I'm also unconvinced that the lock in applies to a brand (Google) as well as for a technology (search engines).

Before of any economic choice, a consumer can easily compare its options from the comfort of his armchair, without the pressure of the personal relation with the seller (a pressure that has been recognized by behavioral economics when informed consumer protection regulation prescribing longer cooling off periods for door-to-door selling). He can read on line reviews or, if he is really lazy, watch video-reviews, which are booming on the internet. Customers can voice their dissent and dissatisfaction writing reviews that will reach many more people that it was ever conceivable before the internet. When the cost of information and communication is so low, each customer might easily become a sophisticated buyer and react to anticompetitive behaviors from the monopolist. Focusing on behavioral biases might push out of sight this important aspect of the new economy.

In the end, it does seem fair to conclude that it is much harder to prove dominance in the new economy because traditional economic models do not completely grasp the complexity of competition and business models. And that behavioral economics cannot equip us with better instruments to asses it. But setting aside these perplexities, I am going to assume the dominance of Google in the next section, in order to assess how dangerous are the specific abuses.

6 The trouble with abuses

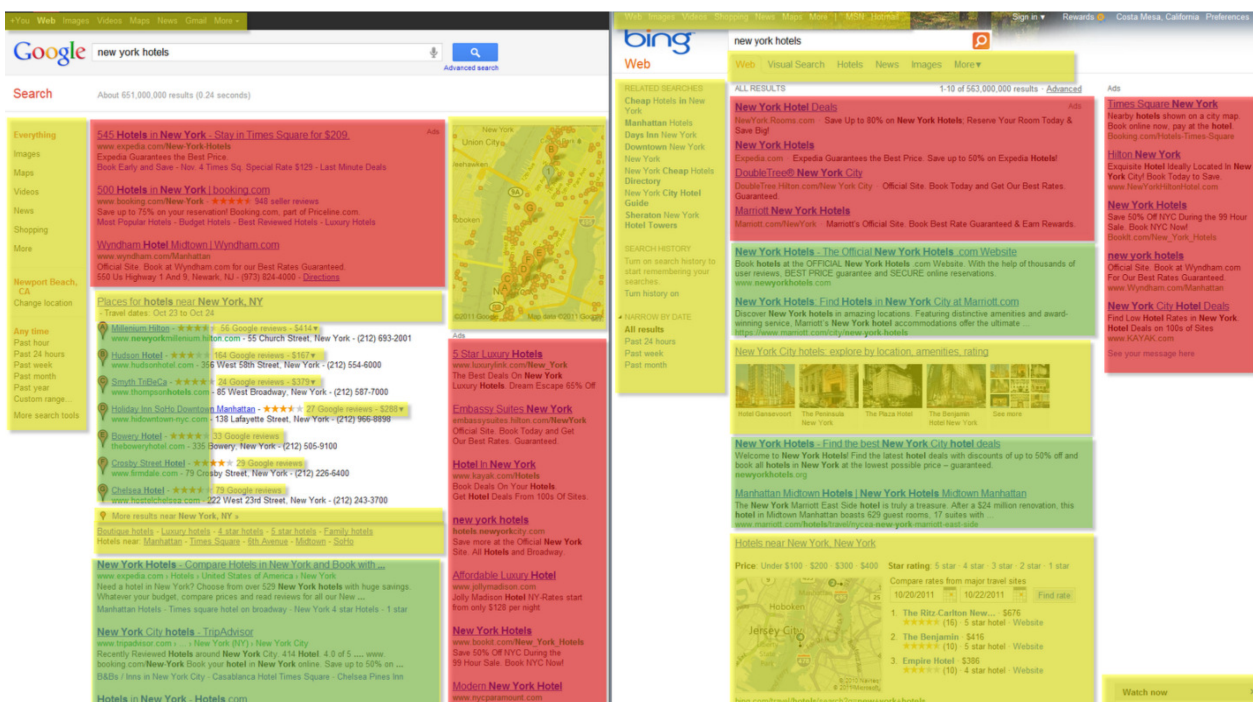
The assumption that the relevant market is defined properly, and subsequently, that the market share and market power of the dominant firm are substantial is especially important considering the EU special responsibility doctrine, i.e. that if a firm has a dominant position[13] then it has "a special responsibility not to allow its conduct to impair competition on the common market"[14], which is to say that some behaviors, such as tying, refusal to supply, exclusive agreements that would be allowed below a certain market share are not acceptable anymore. Or better, the monopolist can still play an efficiency defense, according to the Enforcement Guidelines from the EC Commission [2009: 28-31].

[13] The lowest market share used to assume dominance was 39.7%in the BA/Virgin case of 2004.

[14] Industrie Michelin v Commission of the European Communities, Case 322/81, 1883

The dominant undertaking can explain that there are pro-competitive aspects of its conduct and that he is passing on to the consumer part of the efficiencies - but it will be harder to balance the efficiency effects with the foreclosure effects [European Commission, 2009: 30].

In our case, because of its alleged dominance, Google can be charged of illegal bundling or refusal to supply even though a preferential treatment is a common feature of the industry - and as such, done also by Google's competitors that filed a complaint before the European Commission or the FTC. As you can see from the figure, Microsoft's Bing does exactly the same thing:



Source: Searchengineland.com

Green: Organic search results; Red: Paid content; Yellow: Search Engine own products

But this happens because adding additional features to your own products is, rather than an abusive tying, a normal feature of the digital marketplace.

This issue, indeed, can be addressed as a tying case or, in a more extreme version, as an denial to supply an essential facility case, and while we still don't know how the competition authorities will deal with both, we can use the case to examine how strong these economic model holds in the new economy.

6.1 Refusal to supply

The refusal to supply argument is extremely popular among critics of Google and supporters of search neutrality: not surprisingly, since the essential facility narrative is quite powerful. After all, Google manages the majority of searches, and if your website does not appear in Google results, it basically doesn't exist in the digital marketplace. Vertical search engines, whose placement in organic results was lowered by the change in Google's algorithm saw their traffic fall dramatically overnight[15]. But is it enough to qualify Google as an essential facility? The essential facility doctrine is indeed quite controversial in economic analysis and in antitrust enforcement[16], because it lowers the ex ante incentives to invest in an efficient platform. This is particularly important in the new economy, where the ability of building a large network - or simply a large customer base - is often the best business solution to deal with the close to zero marginal price of digital goods.

In the specific case, moreover, it is very hard to assess if Google is an essential facility because, as we mentioned before, it is very hard to define the relevant market: Google is actually dominant only if we assume that Internet (unpaid) search is not competing with other instruments to reach users' attention[Manne and Wright, 2011], but we argued that this is not the case. If Google is not an essential, but just a very effective facility, there is no reason to share the benefits of its efficiency with Google's competitors instead than with its customers. Because configuring some sort of duty to supply Google's platform to its competitors - even if this stretch of the special responsibility doctrine is acceptable - comes at an high price: that of lowering Google's ability of doing its own job, which is, exactly, to discriminate between websites relevant to the user's query and websites that are not. A job that Google is already required to perform at best: otherwise "competition is just a click away" and Google will lose its customer base. We can even extend this reasoning to state that if there is a demand for neutrality in the market, Google will provide it - but behavioral economist will argue, against it, that cognitive heuristics and network effects can prevent users to use their countervailing power against the monopolist, and they might end up locked in the

[15] Foundem's Google Story, August 2009, Searchneutrality.org

[16] Although much more so in the US after the Trinko case than in Europe after the Microsoft (Server) case.

monopolistic status quo. This depiction of human choice goes back to the unsolved issue we raised before of the role of the information-empowered consumer in the new economy. But it is also build on the assumption that network effects, that Google platform allegedly enjoys, are either externalities that might bring to market failures, or some form of consumer's bias due to lock-in effects, as we discussed earlier.

Indeed, Write and Manne [2011] effectively argued that Google does not enjoys these network effects. In the search market, there is not increased utility for a user derived from the number of other users - except, maybe, from the fact that by handling a larger number of queries, Google can perform better result: but this is rather a demand-side economy of scale than a network externality. Advertisers do not increase their utility by the number of other advertisers who join the network - quite the opposite, because increased demand will increase the price. Additionally, the increased utility they enjoy by the increased number of search users is internalized by the price - click sensitive - they pay to Google: technological innovation and the information availability made Google able to perfectly internalize what could have been a network externality, leaning to a market failure.

If the lack of search neutrality is not a market failure, then the problem of Google's power to discriminate resulting in a danger for the internet world should not be address with competition law. A similar point is made also by Frank Pasquale, who coauthored the first and most influential article addressing the problem of search neutrality, when he writes "Federal Search Commission [Pasquale and Bracha, 2008], like many other parts of the search engine accountability literature, tried too hard to shoehorn a wide variety of social concerns about search engines into the economic language of antitrust policy exclusive agreements" [Pasquale, 2010: 402, *reference mine*]. Whether this problem can be addressed with other forms of regulation, is another interesting, and debatable issue, but it is outside the scope of our analysis.

The core business of competition law is, indeed, competition and addressing a specific subset of market failures related to the monopoly problem not to solve other regulatory issue such as plurality. Competition policy has been often stretched up, especially in Europe, to cope with other goals in a multi-valued approach, but this approach has not been regarded as successful and has been discarded by the European Commission[17]. Using a controversial economic model, the essential facility doctrine, to

[17] [Pardolesi, 2005]

pursue a non-economic goal inside competition law is a strategy as far as possible from the cautious approach Posner suggested in the complex and fast evolving world of the new economy.

6.2 Tying or bundling

Alternatively, we can construct the preferential treatment of Google's own services as a form of bundling. We can consider Google Universal Search, i.e. the fact that it integrates its own products such as Maps, Shopping or Google Plus profiles results of important people in its search results, as a tying that the search engine uses to leverage its own products against those offered by competing vertical search engines. Also, Search Plus Your World can be seen as a way to leverage Google's social network, Plus, by linking it to its broadly appreciated organic search services in order to compete with much more popular social networks such as Facebook, Twitter or Tumblr.

Let's start by disclosing that the leverage theory is a quite old and criticized economic model, as the Chicago School argued. It is erroneous to claim that a monopolist can artificially increase its profits in a competitive or partially competitive market[Bork, 1978]. Still, this theory is quite alive in antitrust enforcement, and partly so because of behavioral concerns[18]: behavioral economics tends to emphasize the extent of the bundling ability of a monopolist because of consumer biases, because "even small switching costs can have significant effects on consumer behavior in the presence of consumer inertia, endowment effects, and default bias. This can, in turn, make foreclosure more likely to occur through tying and bundling" [Benett et al., 2010: 121]. A clear exemplification of this reasoning is the 2004 and 2007 European Commission Vs Microsoft cases, in which the Microsoft was charged of illegally tying, respectively, Window Media Player and Internet Explorer by integrating these features into its operating system, even though they were added for free and it was easy to access alternative products - mostly for free - in the marketplace, because of the leveraging power of the default option.

[18] Even before the rise of behavioral economics, "competition law captures anticompetitive bundling strategies which go well beyond conventional economic theory" [Petit and Neyrinck, 2010: 24]

Instead of discussing whether consumers are really biased by defaults when deciding not to switch to a competitor - instead of simply enjoying the additional feature offered for free, we should try to understand if this theoretical tool is more or less apt to interpret the competitive process in the new economy.

First of all, as we mentioned before, integrating new features and options is a natural trait of the digital marketplace. And this is due precisely to competition: producers of digital goods that are not perishable - like operating systems - have to compete with themselves, and add new features in order to motivate the customer to buy the new version of their product. Producers of perishable digital goods - like search queries - are in a self-enforcing contract relation with their customers, either when they use a Freemium business model or when they have to build, and keep, a free customer base large enough to motivate advertisers to pay for reaching it.

Generally speaking, it is reasonable to assume a market demand for multi-tasking products, or at least for interoperability among different tools: for instance, internet users appreciate the ability to search through their emails and online documents, and search the web from their email box or a social network page. As a result, the line between complementary products and additional features get blurred and it is hard to tell when the monopolist is bundling a different good instead of adding an additional feature.

Let's take a look at bundling of Google Plus in Google's homepage and in Gmail[19], and the integration of Google Plus social preferences in Google's general algorithm for search relevancy. Is it an illegal bundling, or just a way to fight obsolescence when the market for search engines might, in the future, be more and more influenced by social networks? When most of the information on people's preference is created in social networks that are, to some extent, closed systems that Google cannot (or cannot perfectly) access for crawling information[20], the only possible

---

[19] Gmail, while quite popular, cannot really be considered dominant in the market for email clients, because it competes with all the alternative email providers and off-line email clients.

[20] Amit Singhal, who oversees Google's ranking algorithms declared "Facebook and Twitter and other services, basically, their terms of service don't allow us to crawl them deeply and store things. Google+ is the only [network] that provides such a persistent service" in an interview to SearchEngineLand.com, available at http://searchengineland.com/googles-results-get-more-personal-with-search-plus-your-world-107285

way for Google to be competitive is to make, instead of buy, this vital input for its future services. Vital exactly because of competition, since Google's competitor Bing, for instance, has a privileged accessed to Facebook's information about social preference thanks to a search agreement with the web larger social network, which also might enter the search engine market in the future. The least we can say, is that pro-competitive effects of this bundling must be weighed against the foreclosure effects of tying.

An economic theory that overestimate the leverage effects and does not account for an important feature of the innovation in the digital marketplace is less useful than one that does understand it. So, behavioral enrichments of the leverage theory are not fruitful in the new economy. Also because here we can learn a bit from the Hegel's owl, look back at the relatively brief history of the new economy and learn from that little dusk that has fallen insofar. Think about the Microsoft failure to leverage Window Media Player or Internet Explorer: both attempts were defeated not by an antitrust remedy - which proved to be largely ineffective, as we will discuss later - but rather by the rise of highly innovative competitors such as ITunes, Firefox and Chrome.

The very history of Google is full of failures to leverage its products. Knol was launched in 2008 as an alternative to Wikipedia's platform for a peer encyclopedia: it was shut down in 2012 due to lack of success. Google Buzz and Google waves were two attempts at entering the social networking and micro blogging markets: they were launched with great enthusiasm and marketing investments from the Mountain View, never really took off and were discontinued respectively, in 2011 and 2012. Google Buzz, particularly, was added as default to Gmail's functionalities and, at least in the initial phase, it was not possible to opt out, configuring a truly coercive bundling: the internet marketplace immediately reacted with polemics about this business practice, that was corrected in a prompt way: this little digression shall teach us something about the actual role of the customer in constraining market power in the new economy.

Conversely, other products such as Gmail and Google Maps quickly gained market shares and become among the most popular products of the company. The main difference among the two sets of products might be the degree of innovation delivered by Gmail and Google maps, as recognized by tech experts - if this is true, we can conclude that in the digital market place these products reached their success because they really delivered new services to the customer, and not because of the

leverage power. But we can also argue that also Knol, Google Buzz and Wave were innovative, or at least as innovative as their competitors in technical terms. Still, they failed to please the consumer. It might be because they were, simply not good enough, but it might also be because consumers have idiosyncratic preferences for other, less efficient, products, are biased in favor of the *status quo* or whatever non rational explanation behavioralists can give us. This simply means that psychological biases work both in favor and against the monopolist, and we cannot rely on them to sustain the leverage theory.

7 The trouble with remedies

In the last section we assume, against what we discussed in the previous paragraphs, that Google is dominant and that its conducts are indeed abusive, and we accept the argument that its innovative way of delivering search results, while increasing the quality of services provided to both consumers and advertisers, still harms them in the long term because it decreases competition by foreclosing the market to its competitors. We are still in the troublesome position of trying to find remedies that will improve, the current situation.

Probably, also competition authorities are a bit lost here: as we can interpret the lack of a precise request from the European Commission and the reliance, instead, on the request of commitments from Google. Since the new economy is characterized by a great complexity of business models, integration of products and sophisticate technological knowledge, it is even more complex for antitrust enforcers to overcome information asymmetries and draft regulatory or structural remedies.

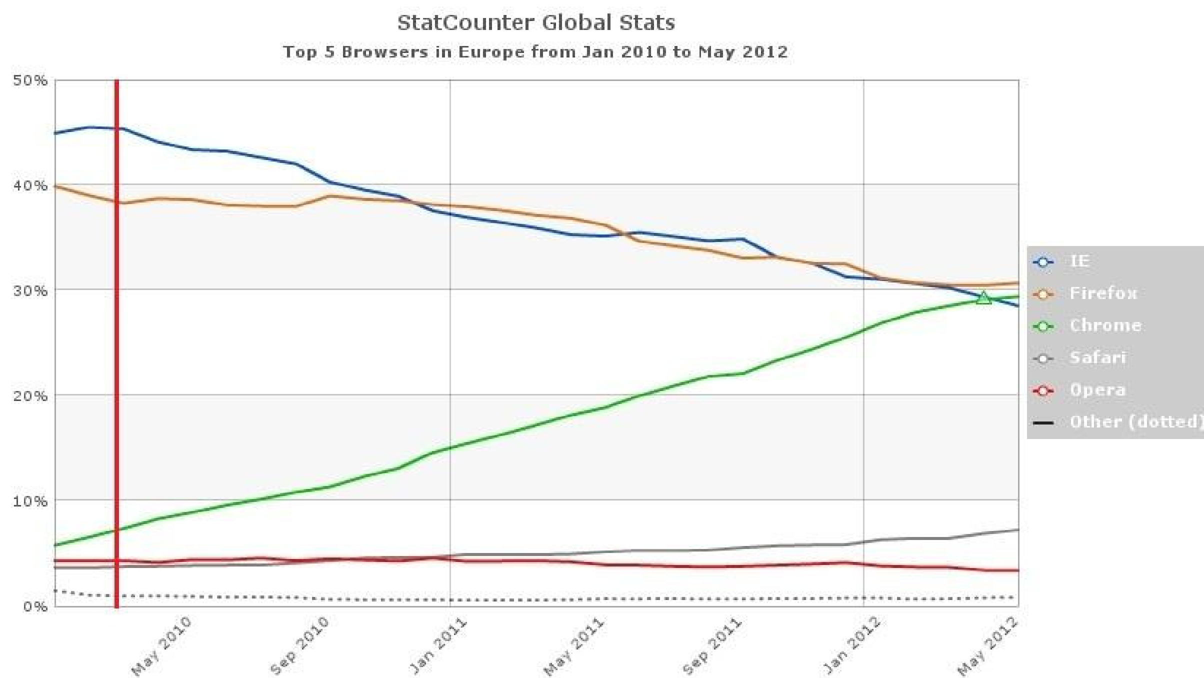
Traditional antitrust remedies, such as fines have certainly a deterrence effect, but they might arrive too late, when the monopolist has already created a large customer base thanks to his abusive conducts - and considering the network effects in the internet-based economy, they might not affect the dominant position anymore.

We can take behavioral allegation seriously about how imperfections in people's choice exacerbate their lock in the monopolist technology - in our case: people do not switch to competitors even though Google, by favoring its own results, does not meet to their demand for neutrality because they are locked in by their status quo bias. Still, it doesn't mean that regulators can find the right technological solution to perform and

display searches with perfect equilibrium between relevancy, neutrality and business sustainability. Pretty much like in the general debate about standard lock in, it is hard to believe than the most efficient standard can be chosen outside of a market process [Cowen and Crampton, 2002].

Here, behavioral economics comes with a quite practical and elegant solution: rather than imposing a restriction, better to gently "nudge" consumers by changing a default rule. The problem with nudge-based regulation instead of coercive one is exactly that people are still free to chose and opt out the regulatory default for the previous one that the regulatory intervention is trying to change. But if, as behavioral antitrust defendants claim, we cannot rely on people's preferences regarding a certain choice - since they are originally biased - why should we draft a regulation that allows for opt out, and let them switch back to the previous, allegedly inefficient, situation? The behavioral remedy risks to be ineffective, in the eye of its proponent, to unlock the consumers. Arguably, regulatory interventions inspired by behavioral economics will necessarily encounter only modest results at meeting their goals because of their very structure: by not imposing any particular outcome, they still rely on consumers' preferences. But consumers can always choose not to react to the nudge, and be consistent with their allegedly biased preference. This could lead to potential slippery slopes when at least some decision-makers may view the (apparent) failure of one intervention as justification for further, more intrusive intervention.

We have a quite recent case to test the effectiveness of these proposal: in December 2009, the Commission closed its investigation about abusive tying of Internet Explorer by accepting legally binding commitments from Microsoft. Since March 2010 and for five years, Microsoft will offer to the European consumers a ballot screen enabling users of Windows to choose which of its competitors' web browser(s) they want to install in addition to, or instead of, Internet Explorer. This remedy was



clearly inspired by behavioral insights: a regulatory intervention that doesn't impose a restriction (e.g. unbundling Internet Explorer) but rather changes a default rule (demand the customer to initially make a pre-selection between a range of competing web browsers). Two years later, we can actually see that IE's market share fell from 45.32% to 28.5%. But it is due to the ballot screen? Let's take a look at the trend:

There is actually no particular dip in correspondence of the initial months of the Ballot Choice' implementation (the red line). Rather, IE's quota started to drastically fall when Chrome, delivering a new and faster Internet experience started eroding IE's market quote (together with Mozilla, whose trend is less drastic). And comparing browser's market trends in EU and worldwide, there is no significant difference between the "de-biased" choices of European consumers and those from the rest of the world, who did not enjoy the antitrust nudge. This is consistent with our criticism of

the behaviorally inspired remedies, but also with the idea that competition, in the new economy, comes more from innovation than from regulatory authorities.

And while the opt-out default changing regulation is less dangerous than traditional command and control ones, it certainly doesn't come without a price. In the IE case, soon after the Ballot Choice portal was launched, some smaller competitors (so called second-tier browsers because were not immediately visible in the box) appealed to the EU Commission for a better placement.

This result is consistent with more classical economic theory: often, state regulation freezes competition, by enforcing the state of the market. A new, innovative browser will find it harder to penetrate the market, since this regulatory intervention translated the browser choice in a choice between available browser. Had this happened at the time of the 2002 US Internet Explorer Case, the customer would have probably been left with a more balanced division of market shares between Netscape and Explorer, but without Firefox or Chrome and the great deal of innovation they brought into the browser market.

Even with its imperfection, this solution still looks like the most viable as a conclusion of the Google saga. It would be easily applied to the alleged tying by defaults of the Google search engine to Google Chrome, but it looks like it is not necessary at all: new installations of Chrome already pop-up to first time users the suggestion that they can change their default search engine. And Google drafted the nudge better than the regulator: it simply suggests to go looking for alternative search engines instead than providing a defined set of alternatives which might freeze innovation.

It is hard, but not inconceivable, to imagine how to apply this regulatory technique to the search engine market: for instance, the default landing page for a query might display only organic and paid results, while a richer and sophisticated search experience, including Universal Search and Knowledge graph results, could be displayed on demand. Regulators can ask Google to provide Personalized search and Search Plus Your World results only to users who opt-in for this system - which is now the default.

Of course, this will turn back the time of innovation respectively to 1998 and 2007: it will basically ask to Google to compete less on improving innovating its products. It will raise Google's costs in acquiring social generated information to build

the personalized search of the future. It will hamper its complex business model by damaging some users, who can easily switch to Google's competitors. Competitors which, not burdened by any special responsibility, are still able to use the full power of innovation.

The 1998 or 2007 antitrust-friendly version of Google will give more space to vertical engines and alternative providers of information, but we shall remember that competition law is not meant to protect competitors, but either the competitive process or the consumers. As for the competitive process, the traditional justification for preventing foreclosure - which is: harming competitors - is that it reduces future consumer welfare by reducing its future options. But this idea risks to miss the fact that, in the new economy most of the consumer options come from innovation and fierce competition - fierce exactly because new entrants have to compete with virtuous, innovative monopolies. A competition policy based on economic models that force monopolists to compete less instead of more does not solve antitrust's inner conflict with innovation is probably counterproductive in the new economy.

Still, proponents of behavioral remedies have some success in arguing that "nudge" solutions and changing defaults are the less dangerous approach: they will accommodate antitrust concerns about increasing consumer choice and thus consumer welfare, and at the same time leave to people the freedom of switching back to the normal outcome of the market process. But what if people really want the innovations that Google delivered insofar, and they do really appreciate the fact that it can actually match better their preferences?

They will switch back to the original version of Google, and the remedy will be largely ineffective, as it was in the Explorer case. But it will came at a higher cost for the consumer, who now has to opt-in in order to reap the full benefits of innovation, since the regulatory default option has a lower quality than the market one: quite paradoxical if we assume that the whole purpose of antitrust is to protect consumer welfare.

Conclusions

After a long flight in the daylight of fast changing new economy, our owl is still lost.

The Google case was our experimentum crucis to assess whether traditional economic models or behavioral ones are able to solve the inner conflict between innovation and antitrust. Competition policy, to be considered effective, needs to deliver benefits to consumers. But when most of the benefits for consumers comes from innovation, and regulatory models are not able to account for it, antitrust risks to delay, rater than increase, innovation and benefits to consumers: as such, those models need to be rethought. Behavioral economics, though, doesn't seem to be the paradigmatic shift we need to address this concern - it rather looks like a paradigm even less able to understand innovation. It does not provide us with tools to better assess dominance, nor to analyze single abuses. It can yes suggest viable remedies, but with the caveat that most of the value of behavioral remedies comes from the fact that they are going to be largely ineffective - even though they will still impose a cost on consumers.

We should be aware that a competition policy informed by weak economic models can stop the movement of innovation, maybe we shall accept that, at least until the night has fallen and we can better understand the new economy, we should have a cautionary approach to competition law.

References

Ammori, Marvin and Pelican, Luke, "Proposed Remedies for Search Bias: 'Search Neutrality' and Other Proposals in the Google Inquiry", *Journal of Internet Law*, May 14, 2012. Available at SSRN: http://ssrn.com/abstract=2058159

Auletta, Ken. *Googled: The End of the World as We Know It.* New York: Penguin, 2009

Benett, M., J. Fingleton, A. Fletcher, L. Hurley and D. Ruck, "What Does Behavioral Economics Mean for Competition Policy ?", *Competition Policy International*, Spring 2010, vol 6, n°1, p. 121

Benkler, Yochai "Decentralization, Freedom to operate & Human Sociality" in: Berin Szoka and Adam Marcus (eds) *The next Digital Decade: Essays on the Future of the Internet.* Washington D.C.: TechFreedom, 2010. 257-272

Bork, Robert H.. *The antitrust paradox: a policy at war with itself.* New York: Basic Books, 1978

Cowen, Tyler and Eric Crampton, *Market Failure or Success: The New Debate.* Oakland, CA: The Independent Institute, 2002

David, Paul A., "Clio and the economics of QWERTY", *American Economic Review* 1985, 75: 332–337.

European Commission, *Commission probes allegations of antitrust violations by Google*, Press release IP/10/1624. 30 November 2010 http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/372&format=HTML&aged=0&language=EN

European Commission, *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings*, OJ, C 45, 24 Feb 2009

Frank, Robert H., and Philip J. Cook. *The winner-take-all society.* New York: Free Press, 1995.

Garber, Megan. "The Internet at the Dawn of Facebook" *The Atlantic*, 17 May 2012. Available at http://www.theatlantic.com/technology/archive/2012/05/the-internet-at-the-dawn-of-facebook/257342/

Hegel, Georg Wilhelm Friedrich. *Philosophy of right*, 1821. Trans. HB Nisbet, ed. AW Wood (Cambridge: 1998).

Hovenkamp, Herbert. *Federal Antitrust Policy: The Law of Competition and Its Practice*. St. Paul, MN: West, 1999

Joaquín Almunia, "Competition Policy Statement of VP Almunia on the Google antitrust investigation", SPEECH/12/372 21 May 2012 http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH%2F12%2F372&format=HTML&aged=0&language=EN&guiLanguage=en

Katz, M. and C. Shapiro (1986) "Technology Adoption in the Presence of Network Externalities" *Journal of Political Economy*, Vol. 94, No. 4, pp. 822-841

Kirzner, Israel M., "Entrepreneurial Discovery and the Competitive Market Process", *Journal of Economic Literature*, Vol. 35, No. 1 March 1997, pp. 60-85

Korobkin, Russell B., "What Comes After Victory for Behavioral Law and Economics?" *UCLA School of Law, Law-Econ Research Paper* No. 11-10, 2011. Available at SSRN: http://ssrn.com/abstract=1787070

Kovacevich, Adam "Google's Approach to Competition", *Google Policy Blog* May 8, 2009, http://googlepublicpolicy.blogspot.com/2009/05/googles-approach-tocompetition.html

Kovacic, William E, "The Influence of Economics on Antitrust" *Law, Economic Inquiry,* 1992, vol. 30, issue 2, p. 294-306

Leslie, Christopher R., "Rationality Analysis in Antitrust", *University of Pennsylvania Law Review*, Vol. 158, No. 2, 2010; Available at SSRN: http://ssrn.com/abstract=1557850

Liebowitz, Stan J. and Stephen Margolis, "The Fable of the Keys" *Journal of Law and Economics*, 1990 22: 1–26.

Liebowitz, Stan J. and Stephen Margolis, *Winners, losers & Microsoft: competition and antitrust in high technology (Rev. ed.)* Oakland, Calif.: Independent Institute, 2001.

Luchetta, Giacomo, "Is the Google Platform a Two-Sided Market?" (April 30, 2012). Available at SSRN: http://ssrn.com/abstract=2048683

Manne, Geoffrey A. and Wright, Joshua D., "Google and the Limits of Antitrust: The Case Against the Antitrust Case Against Google", *Harvard Journal of Law and Public Policy*, Vol. 34, No. 1, Winter 2011. Available at SSRN: http://ssrn.com/abstract=1577556

Manne, Geoffrey A. and Wright, Joshua D., "Innovation and the Limits of Antitrust", *Journal of Competition Law and Economics*, March 2010 Vol. 6, Issue 1, pp. 153-202, 2010. Available at SSRN: http://ssrn.com/abstract=1578762

MasColell, A., M. Whinston and J. Gree, *Microeconomic Theory*, Oxford: Oxford University Press, 1995

McKenzie, Richard B. and Dwight R. Lee, "How digital economics revises antitrust thinking" *The Antitrust Bulletin*, 36 Summer 2001. 253-98.

Mises Ludwig, *Human Action: A Treatise on Economics*. New Haven: Yale University Press, 1949

Pardolesi, Roberto and Arnaudo, Luca, "Single-Firm Conduct: A Discipline in Search of Itself (Try with Google?)", *LE Lab working paper*, January 25, 2010. Available at SSRN: http://ssrn.com/abstract=1541928. p.10

Pardolesi, Roberto, Modernization: the "new mantra" of Trans-Atlantic competition law, speech at Harvard University on February 11, 2005, Available at http://www.law-economics.net/public/Boston%20speech%20revised%2007-02.pdf

Pasquale, Frank "Dominant Search Engines: An Essential Cultural & Political Facility" in: Berin Szoka and Adam Marcus (eds) *The next Digital Decade: Essays on the Future of the Internet*. Washington D.C.: TechFreedom, 2010 p. 402

Pasquale, Frank A. and Bracha, Oren, "Federal Search Commission? Access, Fairness and Accountability in the Law of Search", *Cornell Law Review*, September 2008. Available at SSRN: http://ssrn.com/abstract=1002453,

Petit, Nicolas and Neyrinck, Norman, "Behavioral Economics and Abuse of Dominance: A Proposed Alternative Reading of the Article 102 TFEU Case-Law", *College of Europe GCLC Working Paper* No. 02 2010

Posner, Richard A., "Antitrust in the New Economy", *University of Chicago Law & Economics, Olin Working Paper* No. 106. November 2000 Available at SSRN: http://ssrn.com/abstract=249316

Reeves, Amanda P. and Stucke, Maurice E., "Behavioral Antitrust", *Indiana Law Journal*, Vol. 86, 2010; Available at SSRN: http://ssrn.com/abstract=1582720

Rosch, J. Thomas (Commissioner, Federal Trade Commission) "Behavioral Economics: Observations Regarding Issues That Lie Ahead", *Remarks before the Vienna Competition Conference*, Austria, June 9, 2010. Available at http://ftc.gov/speeches/rosch/100609viennaremarks.pdf

Stigler, George, *The Organization of Industry.* Chicago: University of Chicago, 1983,

Stucke, Maurice E., "Behavioral Antitrust and Monopolization", *Journal of Competition Law and Economics*, November 17, 2011; Available at SSRN: http://ssrn.com/abstract=1961327

Stucke, Maurice E., "Behavioral Economists at the Gate: Antitrust in the 21st Century" *Loyola University Chicago Law Journal*, Vol. 38, 2007; Available at SSRN: http://ssrn.com/abstract=981530

Sunstein, Cass R. and Thaler, Richard H., "Libertarian Paternalism Is Not An Oxymoron" *University of Chicago Law Review* 70 (4), (2003): 1159-1202

Thaler, Richard H., and Cass R. Sunstein. *Nudge: Improving Decisions about Health, Wealth, and Happiness.* New Haven, CT: Yale UP, 2008.

Thierer, Adam. "Of 'Tech Titans' and Schumpeter's Vision", *Forbes*, 22 Aug. 2011. http://www.forbes.com/sites/adamthierer/2011/08/22/of-tech-titans-and-schumpeters-vision/2/

Tor, Avishalom and Rinner, William J., "Behavioral Antitrust: A New Approach to the Rule of Reason after Leegin", *University of Haifa Faculty of Law Legal Studies Research Paper Series*, December 1, 2009. Available at SSRN: http://ssrn.com/abstract=1522948

Vaidhyanathan, Siva. *The Googlization of Everything: (and Why We Should Worry).* Berkeley: University of California, 2011;

 Tutti i diritti riservati

Varian, Hal R. "Computer-Mediated Transactions" in: Berin Szoka and Adam Marcus (eds) *The next Digital Decade: Essays on the Future of the Internet*. Washington D.C.: TechFreedom, 2010. 239-257

Varian, Hal R., "Competition and Market Power" in: Farrel, Joseph, Carl Shapiro and Hal R. Varian (eds), *The Economics of Information Technology: an Introduction*. Cambridge: Cambridge Univ. Press. 2005. 1-46

Whitman, Douglas Glen and Mario Rizzo, "Paternalist Slopes", *NYU Journal of Law & Liberty*, 2007

Wright, Joshua D. and Stone, Judd E., "Misbehavioral Economics: The Case Against Behavioral Antitrust", *Cardozo Law Review*, Vol. 33, No. 4, 2012, pp. 1517-1533; Available at SSRN: http://ssrn.com/abstract=1686389

SECTION II

COMPETITION LAW IN DEVELOPING COUNTRIES. INDIA, A CASE STUDY

Rosamaria Bitetti

Introduction[1]

This dissertation addresses the topic of legal transplant of Competition Law in developing countries. The diffusion of Competition Law is a significant transnational trend: nowadays there are more than one hundred pieces of legislation enforcing a comprehensive set of competition laws all over the world. Several critiques of antitrust are known in the economic literature, both from the theoretical and from an empirical point of view. Some of those have been incorporated in the state-of-the art antitrust enforcement, leading to increased sophistication but also to increased complexity. After reviewing this literature (section 1), we will describe specific concerns for antitrust enforcement in developing countries (section 2).

If the theoretical underpinnings of Competition Law are actually not so sound, the developed countries and international institutions that are strongly encouraging, when not actually imposing, those institutions to developing countries should take a step back. There is a growing literature that addresses this topic, but it generally it echoes political positions that challenges competition rather than competition law. The basic idea is that competition policies do not answer the needs of countries whose main concern is endemic poverty and high inequality[Fox, 2007]. Assuming that endemic poverty can be better addressed through competition and economic growth, and that inequality doesn't necessarily follow more competition but it is more consistently a consequence of rent seeking and increasing privileges in society, this work follows a different path.

Using insights from New Institutionalism, Public Choice and Austrian Economics, we will criticize competition law because it will create further

[1] Paper prepared at the Indira Ghandi Institute of Development Research, Mumbai. Reviewer: Prof. Subrata Sarkar. Presented at the Italian Society of Law and Economics annual conference, 2011 (peer reviewed conference).

distortions in the competitive process. The scope for these distortions will be higher in developing countries because of the weakness of their legal system and governance. Competition Law is a new, not necessarily milder, form of state intervention in the market process, and thus encounters general knowledge failure of central planning. In addition, it can be easily captured and diverted for scopes different that the public interest. We will argue that both these concerns are higher in developing than in developed countries.

Finally, section 3, will analyze the Indian experience with different regimes of competition law, at different stages of its economic growth, as a case study for the insights developed in section 2.

1 Competition and Competition law: friends or foes?

1.1 The proliferation of Competition law

By Completion Law we define a set of laws and regulation that address the structure of the market by regulating firms' behavior in order to promote, facilitate or increase competition. The public interest economic rationale of competition law states that its goal is to increase economic (allocative) efficiency and consumer welfare, even though other political goals have played a significant role in its enforcement[2]. Despite doubts and criticisms that we will analyze in the following sections, the prevailing view holds that competition law, also

[2] In Europe, for instance, goals different from allocative efficiency have been officially declared, ranging from consumer welfare to environmental protection, but from actual enforcement we can conclude that competition policy has been mostly used instrumentally to unify the European Common Market. See. e.g. Van den Bergh and Camesasca [2006].

known as antitrust[3], plays a pivotal role in modern economic regulation, by increasing efficiency and ultimately consumer welfare[4].

Competition Law is a form of economic regulation. It targets three general problems: monopoly power by a dominant firm, that is enabled by its dominance to increase prices and foreclose the market; agreements among independent firms aimed at undermining competition by fixing prices, restricting outputs, investment and other; mergers and combination that, by increasing concentration in a market, may lessen competition. Although regulation of prices and economic relations is by no means a recent phenomenon in economic history[5], competition law as we now it was initiated by the Canada Competition Act in 1889 and made popular by the US 1890 Sherman Act that prohibited any "attempt to monopolize"[6] and "[e]very contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce"[7]. Europe gave herself similar institutions with the Treaty of Rome in 1954, and member states followed adopting antitrust national law. Chile in 1958 and India in 1969 were the first developing countries to adopt some form of antitrust regulation, but it wasn't until the 90s that competition law started spreading around the world.

---

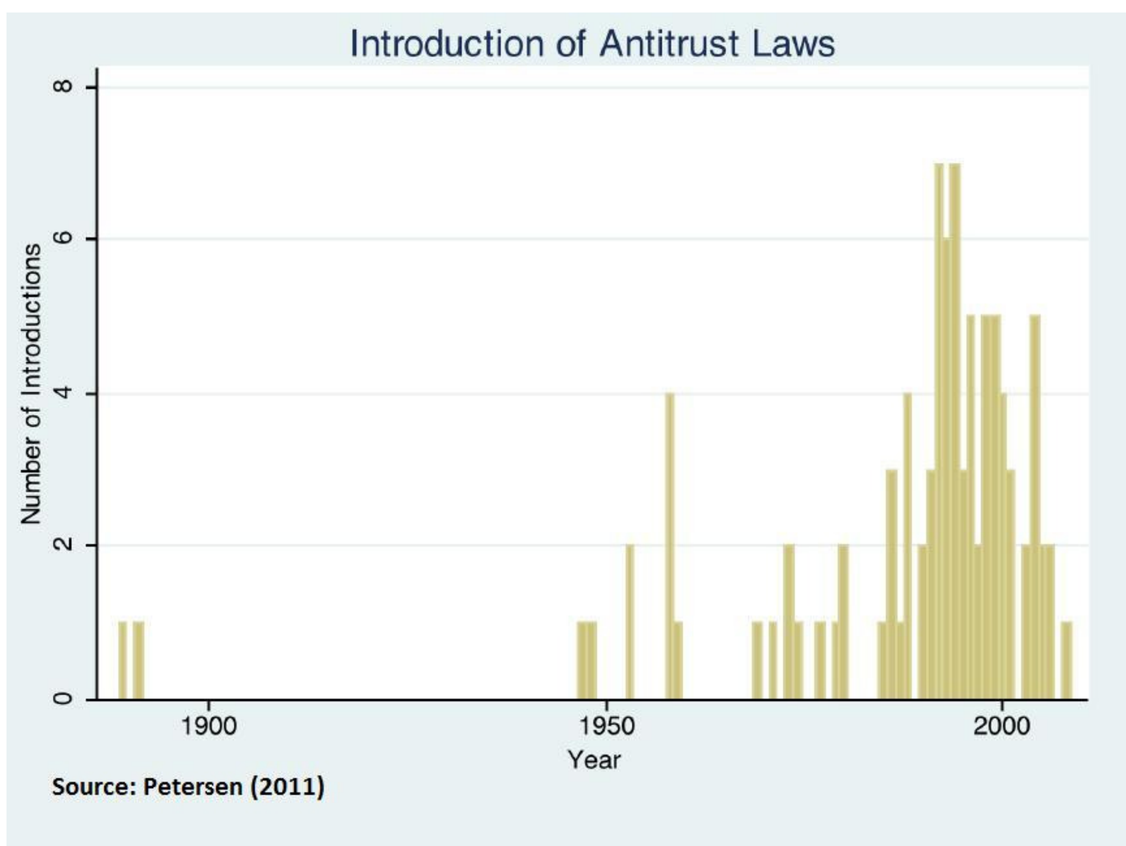
[3] The common law institute of the Trust was the legal instrument used in order to build large conglomerate corporations, and become the target of Senator Sherman rhetoric while promoting its homonymous act. Hereafter we will use competition law and antitrust as synonymous.

[4] Frey et al. [1984]find that 83% of economists, from the whole political spectrum, agree with the proposition that antitrust is necessary to improve economic performance, a percentage much higher than for several other uncontroversial economic themes.

[5] According to a reconstruction by de León [2009], the first regulation prohibiting agreements was enacted by Alfonso the sage of Castilla y Leon, 1625.

[6] Section 2

[7] Section 1



Tracing back the proliferation of antitrust, it had its explosion during the 90s, when multilateral lending institutions started to push competition law as a condition for credit and several developed countries actively advocated the establishment of antitrust. A formal attempt to impose a transnational competition law regime failed with the Doha round: European strong lobbying for a Multilateral Agreement on

Competition (MAC) failed because of the resistance of developing countries to the idea of a one-size fits all solutions. But on a bilateral relation the situation was quite different: in the same time, in fact, mostly UE and pushed Competition Related Provisions into preferential trade agreement and regional agreements [Evenett, 2005]. Developing countries, singularly, had not enough bargaining power to avoid a provision that, in another contest, publicly declared to be not in line with their interest. As a result, in those years 102 countries have adopted competition law in their jurisdictions, even though it was not

consistent with their general policy about the market. In some cases, it simply led to an incomplete or no enforcement. In other cases, missing an understanding and appreciation of the competition process, it led to implementation and enforcement not perfectly in line with the competition law rationale [Cernat, 2005].

The international proliferation of antitrust regimes results largely biased by the stronger bargaining power exercised by developed countries (mostly US and EU) in international trade agreements, rather than being a proof of a voluntary transplant of an efficient economic institution. In order to assess the desirability its diffusion, it is necessary to assess competition law rationale and beneficial impact in the first place. Despite the general acceptance of competition law, several theoretical critiques have been moved to the neoclassical logic behind it, and often incorporated in the antitrust enforcement. As for its impact, the empirical evidence is poor and debatable at least.

1.2 Theoretical Underpinnings

Probably no other field of law uses as much economic lexicon as competition law, often disguising political considerations[8]. The core idea of the positive effect of competition in the optimal allocation of scarce resource is drawn from economics: competition and its benefits becomes thus a sort of "moral justification" for the market against economic planning. Still, the

[8] Political reasons lies at the origins of antitrust such as the fear that big firm will concentrate too much power and become a threat to democratic power (for a review, see e.g. [Pitofsky, 1979]): this still influence the current enforcement, as we can see in famous cases such as Microsoft [Liebowitz and Margolis, 2001]. Several antitrust cases had non-economic goals: for instance, in Europe economic efficiency became subservient to the scope of market unification, or big international mergers such as Boeing-Douglas or GE-Honeywell were judged more on political than economic grounds. This explains why frequently antitrust decisions are not so sound form an economic perspective[McChesney, 2000].

definition of competition, the way it works and how it can contribute to economic growth isn't univocal in the economic science.

When was firstly defined by Adam Smith in 1776, competition was a behavioral concept of rivalry between two or more persons[Paul J. McNulty, 1968]. But this behavioral meaning was lost in the last century, when economics tried to acquire a scientific status by borrowing mathematical language from hard sciences, and a new concept of competition, or rather perfect competition, was formulated: these mathematical refinements, initiated by Cournot [1838] and continued by Edgeworth [1881] and Clark [1914], lie the foundation of both mainstream textbook economics and advanced modeling of market behaviors [Stigler, 1957].

As prerequisites for the purely competitive model to hold, resources should be perfectly mobile, there should be no artificial restrictions to the entry in the market, no transaction costs and no opportunistic behaviors. All the relevant information must be correct and fully known to all the market participants, which thus live in a word of calculable risk rather than uncertainty. All the goods in a given market are homogeneous and perfectly substitutable in the mind of consumers and they are produced by a large number of small producers, so small that their increase or decrease in prices and output cannot noticeably affect the total market price – i.e. their demand is flat and they are price takers. Since they cannot adjust the price of their commodity, they are induced to maximize their profit by producing the output that equals the marginal sale with their marginal cost. Firms that have a marginal cost above the market price are driven out of the market, so that only efficient producers remain on the market. If some technological change allows for a marginal cost lower than the market price and a single producer makes extra-profits[9], other producers will mobilize other resources to emulate this new, more efficient production function and reach a new market price.

[9] Normal profits, the remuneration of capital and entrepreneurial labor are already incorporated in the cost function.

At the opposite, monopoly power is obtained by a firm[10] – or a group of firms that coordinate their economic choices in order to act like a single firm – whose output is large enough to affect the total market price, and thus faces a downward sloping demand. In this market setting, the enterprise is price taker no more, and can decide to produces an output where the marginal revenue is equal to its marginal cost, but since the demand function is sloped downward, the price charged for the output is greater that marginal cost, and allocative efficiency is no longer attained. In addition, the monopolist can earn extra-profits.

Since Harberger [1954], the difference between a competitive and a monopolistic state of the market is depicted as a graph showing both a redistribution from the consumer to the producer (to which economists should be indifferent, since economics is not concerned with distributional issues: but politicians are) a welfare-loss triangle that represents resources' misallocation.

Even though different variation on the competition concept emerged in economic literature[11], they mostly worked as refinements: perfect competition is still the cornerstone of competition law, and the benchmark to compare all the actual market settings. The market-structure approach to competition assumes that the number and the size of producers "determines the behavior of the firms in the industry, and the behavior determines the quality of the industry's performance" [Caves, 1967: 17], as if there were a univocal, necessary relationship between the structure of a market and its efficiency. The structural approach still influences so much both academic and policy application of

[10] Monopoly power is a derived concept from the original model of monopoly, in which a single firm faces the entire demand for the product under consideration. This concept is either too strict to be realistic (there are no many historical recurrences of single producers) and or too broad to be practical (in a market of differentiated products, any producer is somehow a monopolist), see. Murray N. Rothbard [1962].

[11] Such as Chamberlin [1933]'s monopolistic competition and Clark [1940]'s workable competition.

competition law, from the tools utilized in the antitrust scrutiny (the use of concentration indexes to begin with) to structural policies such as merger control and breaking up remedies for abuse of monopoly power.

Second cornerstone of competition law theoretical model is the concept of barriers to entry. Of course, the most effective and stable source of monopoly power is governmental prohibition of competitive entry through regulation[12], but that is outside the scope of competition law, that instead focuses on non-legal barriers to entry. These second kind of barriers can be anything that allows incumbent firms to earn extra profits without threat of entry [Tirole, 1989], since a new firm has to overcome them before being able to compete successfully. Thus, capital or knowledge investments scale economies, advertisement or product differentiation are "logically" assumed to limit competition and thus reduce social welfare, since they are not possible under the purely competitive conditions.

1.3 The Antitrust revisionism

First steps into antitrust revisionism by economist started in the 50s, especially with empirical examinations of specific antitrust doctrines and single cases[13]. Rubin [1995]surveys the ex post analysis of several landmark cases in US antitrust, finding out that less than half of them were judged on sound economic grounds: in other words, competition enforcement was committing type I errors or false negative, condemning behaviors that were not inefficient. Growing literature on case mistakes stimulated a broader analysis on the impact of antitrust, and since economist failed to substantiate any realistic connection

[12] According to the public interest theory, those kind of regulation are put in place in order to increase the quality of goods or services. Public choice economists argue instead that they emerge as a result of political bargain between legislators and regulators and interest groups that want to limit competition. For an interesting empirical test of these two alternative theories, see Djankov et al. [2002]

[13] For a rich recollection of misjudged cases, see Armentano [1990]and Kwoka and White [2009].

between concentration and inefficiencies or monopoly profits (see e.g. Demsetz [1973], Brozen [1974]) a professional disenchantment with the structural approach and the doctrine of the barriers of entry begun.

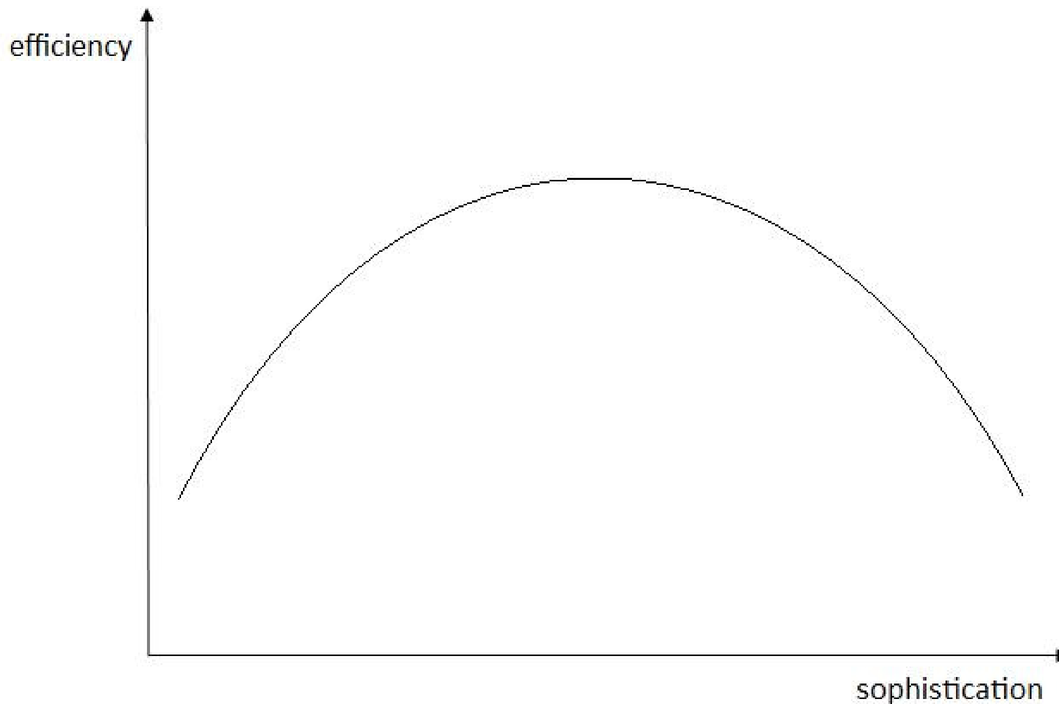
New institutional and Transaction Cost Economics[14] severely challenged neoclassical assumptions. NIE and TCE approaches acknowledge that, in real world, all rights to use resources are not perfectly defined, allocated and transferable. Economic actors face transaction and information costs in every interaction, as well as a genuine uncertainty on future conditions. They can also behave opportunistically as long as they can externalize part of the costs of their actions. For this reason, institutions like the firm naturally arise in the market process and the nature of transaction costs affect their shapes:

> An obvious example is the choice of the particular form of business organization [. . .] another example is the choice of the production technique, which may facilitate or hinder monitoring, favor large or small teams, and entail large o small firm specific investments. A broader example is the choice to make or buy, which affects the degree of vertical and horizontal integration as well as the nature of the formal and informal contracts that bind together owners of specific capital, lenders, employees, suppliers, distributors, and customers. Moreover, these contracts may include self-enforcing provisions, such as cancellation at will, and mechanism to monitor performance and assure compliance, such as internal operating rules and the use of hostages. Few, if any, of these arrangements would exist in a competitive environment under naïve neoclassical conditions. As a result, arrangements that have evolved to facilitate specialization and exchange in a world of uncertainty, attenuated property rights, and positive information, transaction and enforcement cost have been misinterpreted as anticompetitive and made object of antitrust activity. [De Alessi, 1995, 189]

[14] For a general review, see Klein [2000]. More specifically on antitrust issue, see the landmark Williamson [1968].

Inspired by the new institutionalists' insights and by their free market attitude, a group of economists that would become collectively known as Chicago School begin to challenge many of the alleged antitrust violations, providing efficiency explanations for vertical agreements, tie-in, discriminatory practices and so on[15]. Rather than challenging the neoclassical reasoning behind competition law, Chicagoans enriched it, made it more sophisticated in order to avoid false positives. Those critiques were really influential, and antitrust enforcement became less strict and more complex at the same time: this was signed by a passage from *per se* rules to rules of reason. If on one hand the Chicago revisionism certainly helped competition law to work on sounder economic principles and smoothed down antitrust enforcement, diminishing the negative impact of some norms that punished not-necessarily inefficient behaviors, on the other hand this increased uncertainty: reaching a paradox that in competition law the only general rule is that every case will be decided case by case. Modern day antitrust, with its complexity, rules of reason, trade-offs analysis has the unpleasant side-effect of increasing uncertainty. This complexity is undesirable since it decrease market incentives by adding some regulatory risk to the natural market risk. We can better explain this concept with a graph, showing that, up to a certain point, the antitrust sophistication brought about by the Chicago school had a positive effect on the quality of antitrust enforcement (α), by decreasing type II errors. After a certain point, though, higher costs of administration and higher regulatory risk offset those gains.

[15] For the most famous articles, see Bork [1978], McGee [1958],Telser [1960], Easterbrook [1983].



1.4 Radical critiques

Chicago's criticism, through broad had insofar been unsystematic: even though unconvinced by actual antitrust enforcement, most economists still believe that the unsatisfactory record of antitrust enforcement could be solved with increased research, better education of judges and commissioners, more resources spent on adjudications. Perfect competition remained their optimal benchmark, and competition law was justified insofar was able approximate it.

Austrian economists, on the other hand, argued that not only is perfect competition an unrealistic model, but it is also far from ideal[16] . It is a static depiction of unrealistic facts, not a theory of a competitive process: "modern

[16] The following section relies on the works of Hayek [1972], Schumpeter [1934], Murray N. Roth- bard [1962], Armentano [1990]and Armentano [1999].

theory of competitive equilibrium assumes the situation to exist which a true explanation ought to account for as the effect of the competitive process" [Hayek, 1972, p. 92]. In real market, instead, information is not given, but discovered by entrepreneurs in a dynamic process that rewards with market success those who were better at forecasting it. Once technology is given and consumer preferences are ruled out by the homogeneity of goods, there is little space for an entrepreneurial activity. But if you rule out these assumptions, firms cannot have the same size or output and compete on price-equals-marginal-cost. They rather compete on "new commodities, the new technology, the new source of supply, the new type of organization – which commands a decisive cost or quality advantage and which strikes not at the margins of the profit and the outputs of existing firms, but at their foundations and their very lives" [Schumpeter, 1934, p. 84].

Economic growth is not just increased outputs: is increased quality and better ability to respond to consumers need. Those needs change, and entrepreneurs find out, though a process of trial and error, what is the best way to organize their production – including efficient contractual agreements with their suppliers. In this perspective, monopolization through market means is a positive thing, long-run profits are simply be a return to long-run innovation and risk taking and the only barrier to entry in the new market is the customer satisfaction. Regulatory policies that reduce the effectiveness of the reward and punishment mechanism of the market will hamper innovation and long term efficiency.

In a synchronic perspective of the competitive process, perfect competition is found to be "not only impossible, but inferior, and has no title to being set up as a model of ideal efficiency. It is hence a mistake to base the theory of government regulation of industry on the principle that big business should be made to work as the respective industry would be in perfect competition" [Schumpeter, 1934, ibidem].

But even ignoring this ex ante critique of perfect competition as a benchmark for competition regulation, strong doubts can be raised on the ex

post application of competition law. Competition law is economic regulation, and as any other form of regulation is subject to knowledge shortfalls: if the optimal allocation, the optimal market structure, the content of efficiency were to be known by the regulators or any human being, there would be no need of competition and competition law in the first place: a perfect production would be simply planned from the central regulator. Both history and economics thought us that it's not the case (Hayek [1945], Mises [1936]).

On a more prosaic level, when a competition authority evaluates a merger, a predatory or exclusionary charge, can only uses average variable costs as proxy of marginal cost, can only attempt to quantify efficiencies, mark up prices and welfare losses, and definitely cannot calculate a market equilibrium price different that those really charged by the firms in the market. Those are abstract conceptual instruments, not to be exactly known and weighted one against the other Rothbard [1979]. As a result, no reliable cost-benefit analysis can be performed.

We have seen in the previous section that the ex post economic analysis of antitrust cases is not encouraging: most of the times, American courts, that enjoy extensive resources and prime quality training, including economic training, made frequent mistakes in adjudicating competition law. Still, advocates of competition law, including many Chicago authors that contributed to its revisionism, expect that those mistakes can be avoided through reforms, better education, and better enforcement. Alternatively, a group of scholars started applying the public choice framework[17] to antitrust[18] , suggesting that rather than from simple mistakes, antitrust enforcement disappointing record derives from the fact that "patterns of antitrust enforcement are motivated at least in part by political pressures unrelated to aggregate economic welfare. For example,

[17] Public choice refers to a school that applies the theories and methods of economics to the analysis of political behavior, See e.g. Buchanan and Tullock [1962],Arrow [1963], Niskanen [1971], Olson [1965].

[18] See e.g. McChesney and Shughart [1995], Tollison [1985], Faith et al. [1982].

antitrust is useful to politicians in stopping mergers that would result in plant closings or job transfers in their home districts"[McChesney, 1993]. Looking at competition policy "without romance", it is easier to appreciate how it can be distorted and used to promote special interests instead than social welfare.

It is also easier explains the surprising fact that antitrust institutions are always been accepted as beneficial on purely theoretical grounds, while the assumption that competition law have a positive impact on a nation's wealth is quite controversial in empirical literature. For instance, Shughart and Tollison [1991] build a sort of Phillips curve that links negatively competition and vigor in enforcing antitrust, showing that antitrust does not generate more production and more employment. Bittlingmayer [1992]shows how antitrust increases investor uncertainty and business confidence. Young and Shughart [2010] explains how the changes in the strategy of antitrust enforcement acts like an exogenous technology shock in the real business cycle, and according to their data, "innovations in antitrust law enforcement apparently do not constrain ~~market power in the economy, but~~ do hamper productivity growth, at least temporarily. Perhaps antitrust achieves its stated objectives in the small. Even if so, it does not seem to do so in the large"[Young and Shughart, 2010, p. 421].

1.5 Shall we export competition law?

We have seen insofar that there are theoretical and empirical reasons to challenge competition law in general. We should always keep in mind that in world of scarcity, it is necessary to weight if the expected benefit of antitrust enforcement with its cost. While economic benefits arising from competition law have not been uncontrovertibly established, we are certain that competition law is expensive in term of resources and potential economic distortions. Developed countries are exporting, often leveraging on credit or trade, a set of rules and institutions based on shaky theoretical premises, that become more complex to

manage with time, and have not univocal positive effect on growth. They are exporting them to an environment that is not willing or able to transplant them at the best.

Using competition law to enforce efficiency is difficult – if not impossible, according to our review – in developed countries with decades of experience with market institutions. It is even more difficult in places where the market culture is not that strong and political authority only half-heartedly accepted market and competition. In the next chapter I will analyze how some features of developing economies rise specific concerns related to the implementation of competition law in developing countries.

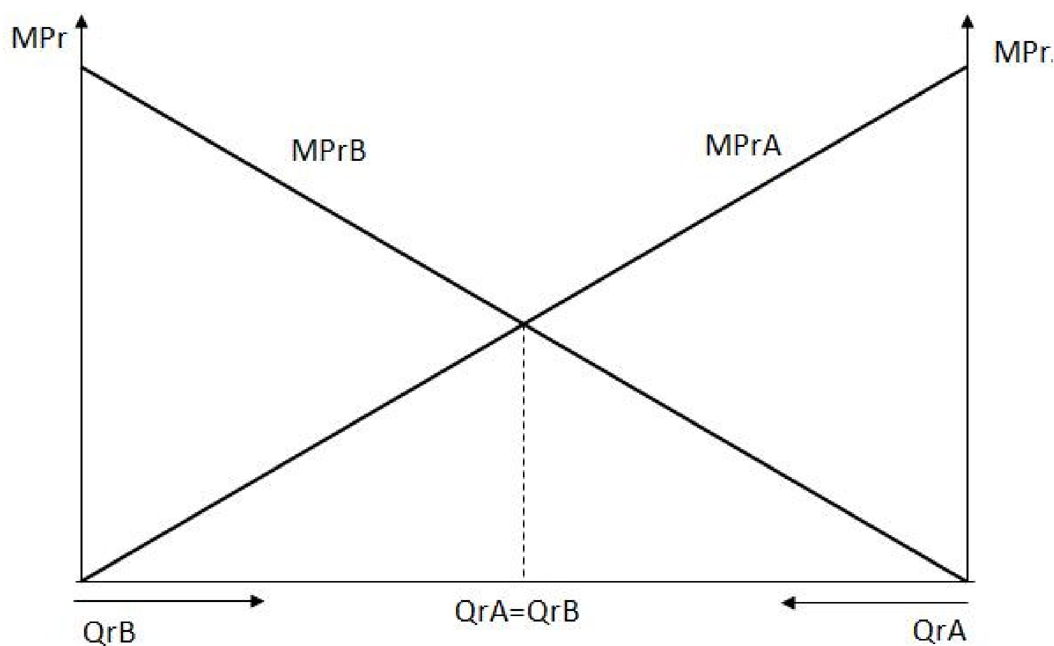
2 Development concerns

2.1 Limits of the Neoclassical approach

Economic science doesn't change with latitude, so the flaws of competition law are the same in both developed and developing countries. But we will argue in this section that antitrust enforcement is more harmful in developing countries, for two orders of reasons: first, the latter have specific development needs and institutional problems that antitrust will worsen. Second, enforcement of competition law will be of a lower quality because of several institutional weaknesses, and this will increase uncertainty and social costs.

As we explained in the previous chapter, competition law's theoretical underpinnings are directly derived from neoclassic economics assumptions. This theoretical framework applies to a world of certainty, where all resources are optimally allocated, preferences and technologies are set and immutable, firms do not exist: they are just simple maximizing production functions. Cost is equal to price at every margin and all the opportunities of gain are fully employed – economies are on the frontiers of Pareto optimality. Neoclassical theory, though,

failed in answering the very question that lies at the foundation of economics, that is to say the causes of the wealth of nations. In that framework, national borders mark the difference in scarcity of productive resources. The following graph simplifies the mechanism by depicting the different levels of endowment of two countries, A and B. In each country, as soon as the resource (r on the vertical axes: may be capital, productive knowledge or labor) becomes abundant, its marginal productivity decreases (MPr).



In the neoclassical framework, in absence of transaction costs and uncertainty, all the opportunities of profits are exploited. So the only possible equilibrium point is where the marginal productivities are equals, and QrA=QrB. Capital markets will invest in the place where MPk is higher, workers will migrate toward places where a higher wage reflect a higher MPl.

Unfortunately, this doesn't happen. In a famous lecture to the American Economic Association, Mancur Olson recollect from various literature the

empirical evidences to confute the idea that differences in endowments of any of classical aggregate factors of production nor differential access to technology explain much of the difference in per capita income. He proved that the world's stock of knowledge is available to all the countries at a cost extremely inferior to what it would yield in productivity. Marginal productivity of labor – low wages – can't be explained by density of population (overcrowded places like Hong Kong have a much higher income than), and it is not affected by large migrations. Diminishing returns to land and other natural resources cannot explain much of the huge international differences in income and capital flows do not follow in direction or magnitude the difference in capital marginal productivity [Olson, 1996].

If neoclassical theory of growth fails to explain the huge variations in performance across countries, even bigger has been the failure of neoclassical recipes to growth problems suggested by international organizations in the last decades: "most of them did not affect growth in developing countries, and actually many countries that did well in the 1970s and the 1980s followed other avenues and would hardly figure among the suitable case studies for neoclassical text-books"[Colombatto, 2004, p. 253]. Clearly, neoclassical economics was overlooking something.

Like the general concept of competition, also growth can better be explained by unorthodox economic approaches. Institutional economics urged researcher and policy makers to acknowledge than, rather than differences in resources endowment, national borders sign differences in institutions and the way they shape incentives and economic activity. In fact, after being severely criticized, development policies have been revised to incorporate institutional economics insights. But while plain neoclassical recipes have been reviewed and enriched, competition law is still in the check-list of suggested measures for growth by most international institutions, ignoring the caveats that we reviewed in the previous chapter.

Historical experiences are do not specifically support that much enthusiasm about competition law: among the major success stories of growth, Hong Kong,

Singapore, Taiwan, Botswana and Mauritius had not a formal competition law until later stages of their development. Other countries, such as India and Kenya implemented competition law but that has not led them anywhere close to the same economic success. Neither are empirical studies supportive: Kee and Hoekman [2003]'s study of 42 countries over a period of 18 years suggests that the reduction of regulatory barriers to entry and trade barriers induces higher economic benefits that the implementation of competition law. Tay-Cheng [2011]delivers the most recent and comprehensive analysis (sampling 101 countries) of the effect of competition law on productivity's growth. The evidence shows that poor less developed countries, whose institutional frameworks cannot exceed a threshold level of quality, competition law is ineffective in increasing market competition or economic growth. As for the developed countries and middle-income developing countries, although their institutional frameworks have passed the threshold level, results depend on the enforcement, and a stronger competition law not only cannot support productivity growth, but might also slow down the potential path of growth.

The promotion of antitrust seems nowadays a startling example of a more general conceptual discrepancy in development policies pursued and suggested by international institutions and multilateral lending agencies. Even though after the failure of the state-led growth paradigm, the importance of market, property rights and entrepreneurship are advocated, these solutions are nowadays proposed in a constructivist blend, in which property rights structures are a tool of policy making, subject to political or technocratic discretion when it comes to their definition, their assignment or reassignment, and their enforcement[Colombatto, 2004]. Market advocacy is filtered through the neoclassical model of perfect competition, which simply restates the purpose of optimal allocation in mainstream economic terms, with no real understanding of how market process works. It can be indeed argued that competition law, by limiting economic decision of assumed dominant firms and the range of contractual agreements available to economic actors, actually neglects, instead

condemn free market institutions such as freedom of contract and property rights (See Armentano [1999], Pilon [1979]).

Public interest theory of antitrust states that it prevents monopolies to interfere with perfect allocation of resources in the market: it is better understood as the last economically accepted form of central planning, inspired by the idea that regulators can limit economic freedom if it results in a market structure that they do not appreciate. With some resistance – reflecting more a general attitude against competition than against competition law – these ideas found fertile grounds in those developing economies that for decades unsuccessfully relied on strong state intervention to attain economic growth and prosperity. For these historical reasons, the introduction of competition law is more risky in developing countries, since their market unfriendly policy culture will call for a stricter enforcement, distorted through interventionist lens. It should not be surprising that even China, while still embracing communism and social planning, gave herself an antitrust legislation in 2008.

Antitrust enforcement is an economic regulation that focuses on static market model and short-term allocative efficiency. It does not consider the institutional reality of reforming economies or their long term development goals. After arguing in the previous chapter that competition law doesn't actually favor real competition, the following sections I will illustrate how specific institutional and historical problems in developing countries risk to be worsened by competition law and its enforcement.

2.2 Weak legal systems and opportunism

Outside the neoclassical model of market, where firms are just atomistic dots in a supply curve, real firms and entrepreneurs have to make choices about their corporate form, their technique of production, and their interaction with suppliers and buyers. Division of labor and specialization are at the hearth of economic growth, but they are only possible if economic actors can interact and

exchange with some reasonable certainty that the counterpart will not behave opportunistically and respect their promises. Contract law is meant to increase certainty in market interactions and allow both parties to benefit from entering into an exchange. This situation can be easily modeled as an agency game, in which player A can decide to invest or not invest in an exchange, and B can decide after if cooperate on the agreed performance or appropriate A's investment.

Agency game without contract			
		B	
		Cooperate	Appropriate
A	Invest	0,5 (A); 0,5 (B)	-1 (A); 1 (B)
	Do not invest	0 (A); 0 (B)	0 (A); 0 (B)

Without a contract, B's dominant strategy is to appropriate, instead of dividing the benefits from trade. A can anticipate this move and decide not to invest. But when contracts enter the scenario, payoffs are changed, since the breach of a contract is sanctioned, and both players will prefer to cooperate.

Agency game with contract			
		B	
		Cooperate	Breach
A	Invest	0,5 (A); 0,5 (B)	0,5 (A); -0,5 (B)
	Do not invest	0 (A); 0 (B)	0 (A); 0 (B)

Contract law is an enforcement mechanism, transforming a non cooperative game in a cooperative one. However, real world business transaction are often

complex, non simultaneous, long term exchanges that involve specific investments. This creates a scope for opportunistic behaviors that legal enforcement can never completely solve, so that the parties resort to arrangements that make contracts self-enforcing – i.e. compliance is more profitable than opportunism. Even though a economic literature emphasize that contractual disputes are quite often solved outside the courtrooms even in fully developed market economies (Ellickson [1991], Macauley [1963]), we should be aware that bargaining happens in the shadow of the law: the expected value of a legally sanctioned outcome define the bargaining positions of two parties, and if the legal rule is efficient, it tames their opportunistic instincts.

Enforcement of contracts is, directly or indirectly, a solution to trust and commitment problems in business relationship, but these problems are exacerbated in developing countries, where the state often fails to offer a quick and effective enforcement of contract. The gains from trade are severely discounted because the access to the judicial system is both delayed by inefficiencies and hampered by despicable doctrines or worst, corruption [Cooter and Schäfer, 2012].

Incorporating the risk of missed enforcement in a contract, e can model our previous agency game by ξ.

Agency game with contract and judicial risk (ξ)			
		B	
		Cooperate	Breach
A	Invest	0,5 (A); 0,5 (B)	0,5*ξ (A); -0,5*-ξ (B)
	Do not invest	0 (A); 0 (B)	0 (A); 0 (B)

Assuming that the judicial risk is equally perceived by the parties, with a high$-\xi$ B may consider that he has very reasonable chance of escaping the juridical consequences of his opportunistic behavior. He will breach the contract if the expected value of appropriation, accounting for the high risk of non-enforcement of the contract, is higher than the gains from trade $-0,5 * \xi > -0,5 * -\xi$. A will anticipate this and avoid investing in the first place, so we are back in the original, non cooperative equilibrium.

Being not able to commit themselves to a business transaction, both parties lose the gains from trade. Outside the model of perfect competition, where all the transaction have no cost and producers face no uncertainty, the commitment problem in business transactions affects many choices about the organization of firms, their optimal size and the structure of the markets. While organizing different stages of production, every firm has to face the make or buy dilemma [Williamson, 1975]: to perform or produce another task internally or acquire it out in the market. The hierarchical solution (integrating another task) offers the advantages of lower monitoring costs and elude the hold-up problem, but comes at the cost of higher internal coordination problems cost (bureaucracy increases with size and effective management has diminishing returns), and reduced gains from specialization. Weighting at the margin the cost of using the market against the cost of a hierarchical integration defines the boundaries of a firm [Coase, 1937].

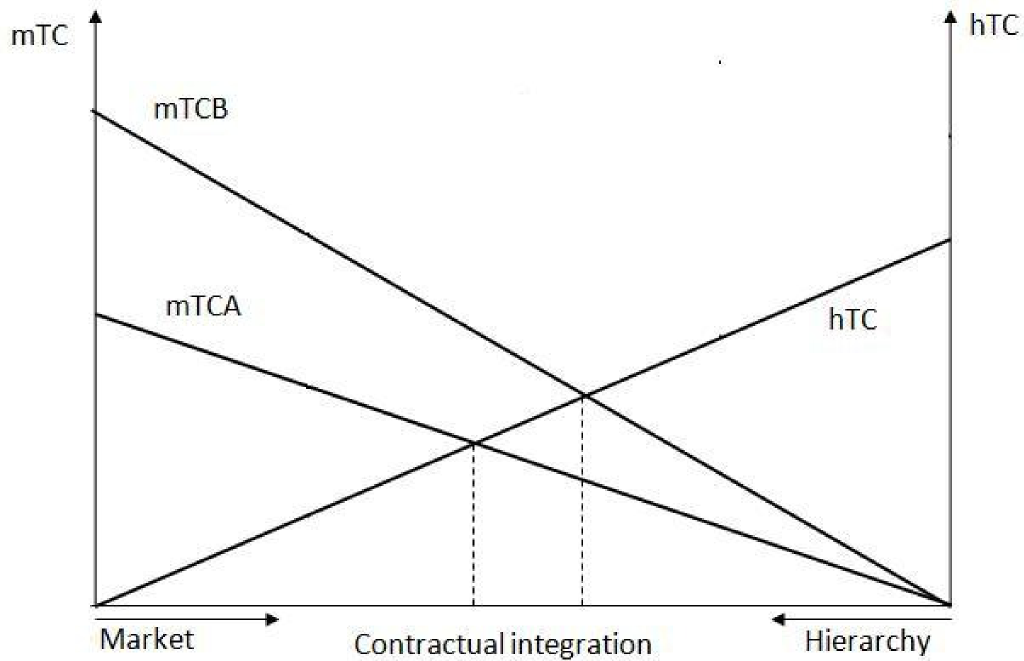
In countries where the access to courts is delayed and contract enforcement is weak, the cost of the market solution is higher than in countries with an effective legal system, since there is higher uncertainty about the performance of the counterpart. Williamson has explained the point as follows:

> Absent confidence in the governance supports for such market transactions, what could otherwise be viable middle-range transactions will flee to one of the poles – by moving to the spot market (attended by the sacrifice of asset specificity and resulting loss of productive value) or by moving to hierarchy (with the added bureaucratic cost load). A high-performance economy will support transactions of all three kinds rather

> than force polar choices. Widespread reliance on subcontracting will thus be observed in a high-performance economy. [Williamson, 1994, p. 9]

In a situation of high legal uncertainty about future performance, a firm will more likely integrate vertically or try to create arrangements that enhance the security of its agreements. Because of this polarization, one would expect hierarchical integration, either structural (mergers and larger firms) or contractual (vertical agreements) to be much more frequent in developing economies than in high income economies.

The following graph models the make or buy dilemma for firms of two countries, A and B, with different quality of the legal system. In a continuous that goes from the market solution (radical outsourcing on the spot market) to the hierarchy (complete vertical integration), sources of transaction cost changes if we get closer to on solution or the other. On the left axis, we have transaction costs associated with the market solution: they involve information, monitoring and search costs as well as the risk of hold-ups. B has to face higher transaction cost curve for using market, since legal enforcement is weak and opportunistic behaviors are a higher threat. On the right axis, transaction costs associated with hierarchical integration involve higher management costs, bureaucracy and the loss of gains from specialization, which can provide better inputs at a lower price. Differences in legal systems in A and B do not affect the cost curve for hierarchical integration.



Firms in A and B minimize transaction costs from both sources, but the B equilibrium is characterized by higher overall level of transaction costs (which reflect the loss of productivity due to weak contract enforcement) and a market structure leaning more toward vertical integration.

How does competition law fit in this contest? The structuralist approach of neoclassical economics is not able to explain these differences in A and B's market structures: if all transaction comes spontaneously, firms do not need to integrate or perform self-enforcing contrast. With its bias against hierarchical integration, competition law enforcement then become a threat to the emergence of both structural (merger and acquisition) and contractual (vertical and horizontal agreements) solutions designed to minimize the likelihood of opportunistic behaviors.

Resorting to our agency game, antitrust add a new coefficient to judicial risk, which works in the same direction of ξ.

Agency game with contract, judicial (ξ) and antitrust (ά) risk			
		B	
		Cooperate	Breach
A	Invest	0,5 / 0,5	0,5*ξά / -0,5*-ξά
	Do not invest	0 / 0	0 / 0

B's payoffs for behaving opportunistically will be positively affected by the possibility of escaping remedies for the breach of contract both for the absent or not timely enforcement of the contract and the risk of the self-enforcing contract provision to be found in contrast with antitrust regulation. The influence of α may be marginal compared to ξ, but still can change its strategy, and lead to an inferior equilibrium of the game.

Competition law prohibitions make the hierarchical integration more costly by limiting and imposing a high regulatory burden on mergers and acquisitions, and reduce the number of available contractual arrangements by persecuting several vertical and horizontal agreements. It is true, in developed countries antitrust become more sophisticated in the treatment of vertical agreements – most of them are subject to a rule of reason. But considering the poor quality of legal systems, as well as lack of experience and resources, we can assume that the antitrust will be stricter and less efficient[19]. In developing countries, antitrust risk (α) is elevated: from *de facto per se* rules in vertical agreements to higher cost imposed to vertical integration.

Contractual limitations, concerning price or other qualities, imposed by a manufacturer to its distributors18 have always been in the eye of the antitrust regulator[20] . The vertical restraint doctrine is biased by the idea that a producer,

---

[19] See Infra, section 2.5.

[20] Analogous reasoning can be applied to seller of inputs.

because of his size, has a higher bargaining power and can impose unfair conditions to its dealers in order to manipulate the competition in the retail market and thus acquire monopoly power. This prejudice ignores the fact that a manufacturer-dealer agreement is open to opportunist behaviors, and the manufacturer – who invest first a huge amount of capital in order to reach a given level of quantity and quality of the product as well as to build brand awareness and selling strategies – is actually the weaker counterpart. After entering the contractual relationship, the dealer may not invest enough in quality of distribution, or set the prices too high: this will hamper the distribution scheme envisioned by the manufacturer in its choices of production optimization.

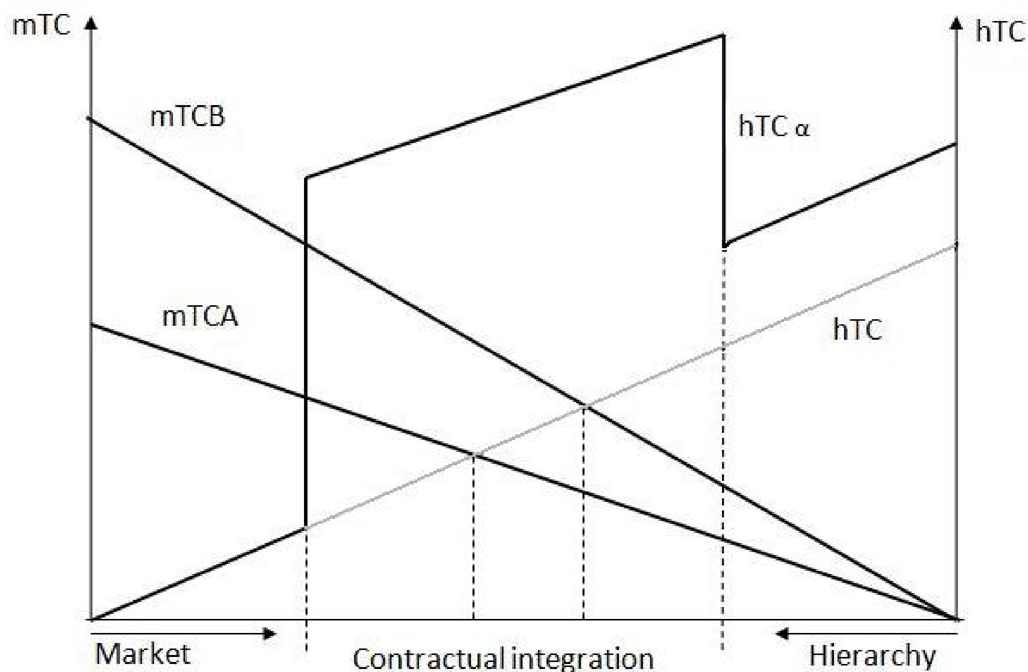
So negatively perceived price restraint schemes (RPM), for instance, prevent opportunism by making it less profitable: once price is fixed or constrained in the upper or lower band, retailers can only compete by increasing service quality. Other non price restraints such as exclusive dealing or restrictions on territory are useful to align the interest of producer and reseller that are otherwise in a principal-agent relationship. Antitrust also may also charge a manufacturers with a large share of the market if he refuses to deal with some dealers, or if he decides to charge different prices to different reseller: both procedures though have an efficiency enhancing function, since they allow a producer to screen and rule out retailers that are more prone to opportunistic behaviors, or at least receive an higher premium for embracing an higher risk.

Opportunistic behaviors are of course more likely in horizontal agreements – which make them very unstable. Classical competition view sees any form of coordination between competitors as inefficient, but there are reasonable exceptions, where cartels are a cooperative attempt to solve market problems. For instance, in expanding industries that faces integer or high fixed-cost and sharply declining marginal cost, price competition comes at the price of reduced output and quality, since investment in fixed costs cannot be covered by price-equals-marginal-cost: this is frequently the case in infrastructure and

transport industries [Bittlingmayer, 1985] that incidentally have a great relevance in developing countries.

Moving more toward the hierarchy solution, in concentrated markets competition authorities might prohibit mergers and joint ventures with provision related to joint pricing and output. Even when mergers and acquisitions are not prohibited, antitrust makes them more costly in terms of time, uncertainty and legal resources used to draft an antitrust-proof contract and deal with the procedures.

Increased administrative burden, as well as type I mistakes in antitrust enforcement reduces efficiency in both developed and developing countries. But because of the weak legal system in the latter, they are more likely and more dangerous. This result can be explained in our previous make or buy dilemma



graph:

Antitrust enforcement increases the costs of vertical integration, and creates discontinuity in the hierarchy solution by outlawing some vertical restraint (generally RPM) and increasing the risk of other to be charged as anticompetitive. As a result, the joint minimization of mTC and hTCα will occur at the extremes of vertical integration and spot market transaction, but with higher total transaction costs. This implies that many productive transactions will not happen, and gains from trade will be loss. The extent of this social welfare loss will be higher in developing countries than in developed ones.

2.3 Transition and rent-seeking

Until the mid-70s, most developing countries relied on the widely accepted idea that growth comes as a result of industrialization, and that should be primarily a task of the government. It was also believed that poor countries could not compete with industrialized countries in manufacturing industries, at least in that initial period, and protectionist policies were implemented as a result. Although the details varied, the general strategy of the closed economy included government ownership, creation of legal monopolies and heavy regulation of the economy. Imports prohibition or limitations through an overwhelming license system were functional to shield inefficient, state protected "infant industry" from international competition. With large and poorly managed public firms and legal monopolies insensitive to cost minimization, private businesses hampered by heavy regulatory burdens, troublesome bureaucracy and limited or no access to cheaper imported inputs, developing economies experienced very low or even negative growth rates [Krueger, 1995].

Inspired by the success of Korea, Taiwan, Hong Kong, Singapore the so called Asian Tigers and encouraged by the international community, in the late 70s many countries altered their domestic and trade policies, by opening to international competition and enacting extensive programs of privatization and

deregulation. In this section we will see how transitional character of developing economies interacts with the antitrust institutions.

In practice, trade liberalization programs haven't always been as successful as the theory behind would have predicted[21]. This has been explained by several commentators by the fact that private monopolies substituted legal ones, while international cartels limited the gains from free trade: as a consequence, competition law has been advocated as a remedy to market failures in transition economies[22].

This conclusion is deeply rooted in the public interest theory that sees regulation as a limit to market failures. No matter how detrimental interventionist and mercantilist regulations have been, their withdrawal is still assumed to leave space to collusion and monopoly power. In particular with reference to international trade and cartelization, this assumption is easily rebuttable: it can be a normal reaction by domestic producers, which see their profit fall, to cartelize in order to charge supracompetitive prices. But the fact that they attempt doesn't mean that they succeed: an increase in prices will make imported goods even more convenient, and market shares of the members of the cartel will be further reduced, giving them high incentives to cheat on the cartel and ultimately to the dissolution of the same.

Public choice economics seems better suited than the public interest theory to explain the failure of transition programs. Policy transition, especially if gradualist, favors rent seeking activities more than market failures. Last decades' trade policies can be defined as managed trade rather than free trade. While economic theory would suggest giving up trade barriers on the merits of this policy itself, from both developed and developing countries trade opening was realized as a piecemeal concession to political partners in a jumble of long and complex multilateral or bilateral trade agreements, topped with the creation of

[21] See, e.g. Globerman [1990], Leamer [1988].

[22] See, e.g. Frischtak et al. [1989], Gray and Davis [1993], Kovacic and Thorpe [1993].

international bureaucracies meant to facilitate the bargaining process among different countries. Batemarco [2007]wittily compares the 54 words long Article I, Section 9, of the American Constitution that establish free trade among US states[23] with the over 2.000 pages (900 of which are tariff rates) of the NAFTA and the 29.000 pages of the WTO treaty. These treaties are full of non tariff conditions and quality standards, opening phases and exceptions to full liberalization.

Even though it certainly constituted an improvement against previous foreclosure policies, managed trade liberalization created a wide space for manipulation and rent seeking by national groups who wanted to ease the private damages of competition by delaying its effects. Similarly, internal deregulation programs created the scope for rent seeking as long as private interest groups could affect the time horizon of reforms, delaying those who will touch them directly.

Demission of state-owned industries also has to deal with similar issues: they can be assigned to private parties close to the government instead than through a competitive process. Rent seeking during privatization is facilitated also because the government has two conflicting, and both acceptable in the public interest theory, goals: maximize the revenues from the sale and design a competitive regulatory framework. Since regulation-protected industries can earn supracompetitive profits, is both in the government's and in the pressure groups' interest to privatize without liberalization. Transition economies are characterized by higher space for rent seeking: as a result, resources are used in the lobbying process has a high marginal productivity – they are very effective in guarantee extra-profits.

[23] "No tax or duty shall be laid on articles exported from any state. No preference shall be given by any regulation of commerce or revenue to the ports of one State over those of another: nor shall vessels bound to, or from, one State, be obliged to enter, clear, or pay duties in another".

Antitrust enforcement is of course not suited to address this problem, but may exacerbate it two ways. When a firm tries to earn a rent, collusion and lobby are two different alternative inputs [Williams and Rodriguez, 1995]. Competition law makes collusion more expensive, since potential members of a cartel have to face increased costs (coordinate secretly) and lower expected utility (once unenforceable, their agreement is far more unstable)[24].

One step further, competition law may be strategically used to obtain non tariff barriers to international competition. Neoclassical emphasis on atomistic firms is well suited to ground the protection of small domestic competitors against bigger newcomers: predatory pricing charges can attain the same results of antidumping measures, merger regulation can be used to foreclose the market and so on. Shughart et al. [1995]tested the hypothesis that competition law can be used to protect domestic small firms using variations in the budgets of the US Department of Justice – Antitrust Division, and the Federal Trade Commission from 1932 to 1981. They found out that, holding constant values such as general economic activity and caseload, there is a statistically significant increase in funding of the competition authorities when import competition increases. Rather than been alternative instruments to discipline the market, antitrust enforcement efforts are strategically used to react to foreign competition: there is no reason to assume that similar distortions can happen everywhere else.

By establishing another regulatory agency, competition law creates another target for interest groups trying to secure their rent. The competition authority can be influenced both directly and through political pressure from the government, who appoints its members and controls its budget. If collusion becomes more costly and less efficient, as a result of antitrust enforcement, while the technology of rent seeking is expanded with a new regulator to capture,

[24] Same reasoning applies to a dominant firm that must dissimulate allegedly non-competitive behaviors and discount them by the risk of being fined.

private interest groups will invest their more of their resources in the latter activity.

But while market cartels and dominant positions are unstable, legal monopolies are not. Regulatory restrictions are indeed the best way to enforce a cartel. In a comparative risk assessment, legal monopolies are, because of their enforceability, a more dangerous threat to social welfare than private monopolies, in both developed and developing countries. Transition economies should better use their scarce resources in fighting distortionary regulation resulting from private interest groups than on competition law that only makes rent-seeking more desirable.

2.4 Incentives to investments and entrepreneurship

Since developing counties reformed their economy and opened it to international competition, domestic producers needed become more efficient in order to defend their market shares and become competitive in export markets. We have seen in the previous sections how competition can hamper the restructuring process of internal markets by reducing self-enforcing arrangements and by increasing incentives to rent-seeking.

Economic growth needs an increase productivity as well as in investments: especially the latter need for both domestic and foreign investment has been recognized by policymakers who set it as a priority in their political agenda. Investments go where they are more profitable, and certainly their scarcity increases their profitability in low income countries. Still, this doesn't happen naturally because the expected value of an investment is affected by both the extent of future[25] profits (π) as well as their riskiness (σ).

[25] Time discounting is outside the scope of our analysis.

$$Iev = \int (\pi, \sigma)$$

The risk element can be disaggregated, for the purpose of our analysis, in the normal risk of a business failure in the market (σm) and regulatory risk (σr). The latter is defined a broader sense than the previously mentioned judicial risk (ξ) in order to incorporate, beside the risk of missed enforcement of a contract, property risk, weak protection of corporate shareholders, as well as risks of policy changes.

$$Iev = \int [\pi, (\sigma m + \sigma r)$$

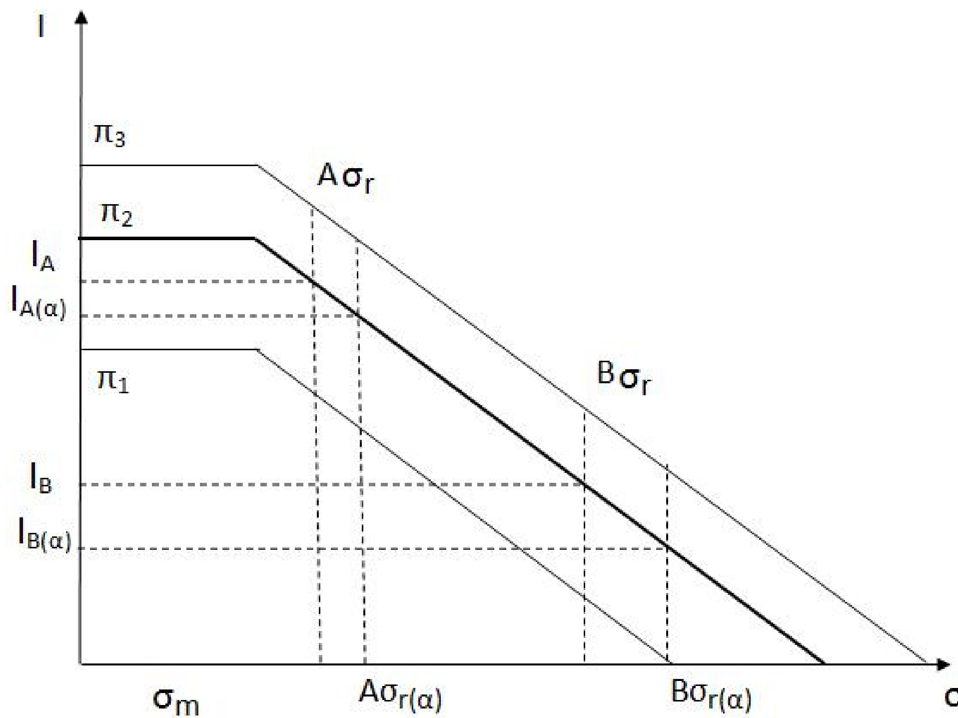
Assuming that market risk is no higher than in industrialized economies, investments in transition economies must pay the price of poor regulatory environment: capital will flow in and firms will enter the market only if investors expect higher profits than those expected in economies with a better performing juridical system and more stable policies. Antitrust enforcement (α) has a negative impact on π and a positive impact on σr. Especially if its administration will be distorted by limited resources or rent-seeking, it can be perceived by business as a negative shift in regulatory policy, thus increasing the regulatory risk. It will also reduce profitability by limiting innovative business solutions. α will be larger when antitrust enforcement is particularly strict and unsophisticated, as we assume in developing countries[26].

$$Iev = \int \{[\pi(\alpha)],\ [\sigma m + \sigma r(\alpha)]\}$$

$$\alpha B > \alpha A$$

[26] See infra, section 2.5

For instance, in order to enter in a risky policy environment, a firm will require higher levels of profitability. Systematically higher returns can be a reward for its risky investment – as well as, on a more general point, of its entrepreneurial success – but antitrust authorities might interpret them as a proof of anticompetitive behaviors. Legal challenges reduce the value of a firm's stock, so the firm might be deterred from the entrance in market by the fear of an antitrust suit.



For different levels of profits ($\pi1 < \pi2 < \pi3$), the graph show how investments are affected by an increased risk. The initial portion of the curve reflects the market risk, that is homogeneous in A and B, and we assume to be constant. The second portion represent the increased regulatory risk: the two countries have different levels of σ. When competition law is introduced, A is shifted by αA and B by αB. In both countries, the overall level of investments will be reduced, but to a larger extent in developing countries. Once again, the

deterrence effect of competition law might be marginal compared to the overall regulatory risk, but still positive, and still more dangerous in developing countries than in developed one because the original condition and of socio-economical importance of prompt investments. Alternatively, the same level of investments will be obtained if the enterprise has higher levels of profitability, but competition law is more likely to reduce **π**, so that less investment will arrive.

Strict antitrust enforcement limits the profitability of an investment by constraining innovative behaviors and making market restructuring more costly. After all, efficient entrepreneurs that find new products, new way to structure production or distribution are expected to earn higher profits: if concentration comes as a result of superior efficiency, the role of antitrust becomes ambiguous, since it may inhibit truly competitive behaviors. As Armentano put it,

> the real perversity inherent to the traditional competitive perspective is that it can treat as resource misallocating the very business practices that are, in fact, essential to any competitive process. Business organization compete by differentiating products, innovating new products, discounting list prices, locating in areas convenient to consumers, advertising prices and services, and purchasing resources cheaper than rivals. (Armentano 1990, p. 27)

At his deep core, the missed distinction between legal and marked monopolies prevents to antitrust enforcement to understand that if a monopoly is obtained in the marketplace, the only barrier to the entry of new competitors is the monopolist efficiency in satisfy his customers. After all, the most effective way to gain and hold a free-market monopoly position is to be more efficient than rivals or potential rivals. By targeting monopolistic firms and imposing extra burdens on firms with high market shares[27], antitrust reduces the *ex ante*

[27] An extreme example is EU doctrine of "special responsibility", that restrict to firm with a dominant market share behaviors that are allowed to their competitors, [Van den Bergh and Camesasca, 2006].

incentive for innovative firms to grow and reduces the *ex post* ability to defend their market success – in other words, to compete vigorously. Furthermore, competition law can be used strategically by less efficient competitors who initiate lawsuits in order to damage large innovative firms [Baumol and Ordover, 1985].

If there is something that we can save from the infancy industry argument, is that size does matter for competing in international markets. But only as long as the growth reflects a superior production technique – exactly the target of competition law. Competition law reduces then the emergence of real national champions that developing countries so much need in order to compete internationally.

After decades of protectionism and state management, developing economies need to update their business models and face problems that neoclassical framework ignores. For instance, immature business models and production techniques create a greater variability in the quality of goods sold in the marketplace of developing countries: as a result, customer must face higher search and measurement costs. Brands and trademarks solve this problem by certifying a constant level quality [Barzel, 1982], but in order to successfully penetrate a market firms must undertake many behaviors that can be subjected to competition law scrutiny: brand awareness and advertising are considered a barrier to entry, and development of a distribution network might develop in vertical restraints.

Another proof of immaturity developing countries' markets is the high variation of retail prices, and the extensive diffusion of customer-retailer bargaining[28] . By increasing transaction costs and the risk of being charged an

[28] My hypothetical explanation for the extension of bargaining is that in low income countries, where women have a reduced role in the labor force and thus are responsible for purchasing, time has a low opportunity cost. In addition, there are extreme variations in the distribution of income. Through long bargaining, the sellers force the customers to time or price-discriminate themselves.

"unfair price", this decreases the overall demand. RPM schemes can increase trust in the market by setting a reference point for consumers.

In order to attain higher profits in the domestic and in the international market, entrepreneurs in developing countries needs to be free to experiment and to resort to the widest range of contractual, strategic and managerial solutions. They should not be restrained by a regulation inspired by an outdated economic paradigm that does not reflect their peculiar needs.

2.5 Institutional weakness

Institutional weakness increases the negative impact of competition law (α) by increasing the number of erroneous charges: for various conditions, the enforcement of antitrust in countries with institutions that are either inefficient or dysfunctional will be more unsophisticated (incur in more Type I errors), and more uncertain because it will be more easily influenced by non-economic variables.

A first symptom of institutional inefficiency is corruption, notoriously a huge problem in low income countries: nine out of every ten developing countries scored fewer than 5 points out of 10 in the Corruption Perception Index 2011 . When the access to economic goods is tightly mediated through politics and economic freedom strongly reduced, as it was in the pre-reform developing economies, corruption become the only possible answer in order to do business. Though if used to overcome burdensome regulation and buy out goods and services that are not available otherwise may be an efficient reaction [Leff, 1964], of course corruption should not be accepted as a positive thing. First of all, once behavior is socially accepted, does not make a difference anymore if the corruption is efficient (used to overcome burdensome regulation) or malicious (used to obtain rents or favors).

But more importantly, corruption creates further incentives for policymakers to regulate, in order to obtain more bribes creating a vicious circle

that increases corruption, regulation and lowers the quality of institutions (tollbooth theory, de Soto [1989]). If corruption is widespread, there is no reason to assume that competition authorities will not be affected. Regulation and corruption are highly correlated [Djankov et al., 2002]: considering that, notwithstanding the important reforms implemented in the last decades, nowadays the level of regulation in developing countries is still much higher than in developed countries, we can assume that also competition law will be less impartial and more prone to corruption.

Another consequence of highly regulated market is the fact that most of developing economies are take place in the informal economics. This is the only way to escape excessively burdensome regulation or heavy taxation[29]. For the purposes of antitrust implementation, it also mean that the official data about the economy are not reliable: market shares will always be overestimated, and will be more difficult to take into account, for instance, the potential competition or countervailing buyer power. The availability of statistical data is crucial to perform the complex economic analysis required by antitrust investigations. In developing countries statistical data about domestic market is not always available or complete: this will also influence the size of α.

As we have seen in section 1.3, the model of antitrust enforcement ideally prevalent in developed countries is extremely sophisticated. It incorporate some "efficiency justifications" to behaviors such as many form of vertical agreements and mergers previously considered per se harmful and so prohibited.

Modern antitrust relies more on rules of reason, which imply that competition authorities should weight the efficiency gains against the costs of reduced competition case by case. But even assuming that it can be performed[30], this intellectual exercise requires complex economic skills together with

---

[29] But it also means that they cannot benefit from legal or other services the state can provide, lowering their productivity level.

[30] See section 2.4

sophisticate legal reasoning: it poses serious problems even to competition authorities in developed countries, which have a longer experience and can allocate more resources in the provision of justice.

Definitely, this enhanced antitrust model, in order to be performed optimally, requires that very high quality of legal system that developing countries lack in the first place. And considering that, even in the post-Chicago sophisticated model, benefits enacted by competition law are controversial, probably legal resources should be better allocated where they can tackle broader problems.

We can expect antitrust enforcement in developing countries being less articulated and stricter in the analysis of anticompetitive behaviors, as well as more severe in authorizing joint ventures and mergers. Due to scarce resources, antitrust enforcement can be more time consuming, and time is a vital variable in business relationship – especially in countries with high judicial and regulatory risk.

Also, with resource constraint, competition authorities' capability of pursue their investigation will be limited: they will not prioritize their activities according to the alleged harmfulness of the anticompetitive behavior, but rather on more observable characteristics. Vertical restraints, whose economic impact is not univocally negative, will be prosecuted more than cartels, which are very hard to detect. Less investigative ability will also mean more reliance on private antitrust enforcement, which can be strategically used by competitors.

Beside the scarcity of resources and experience, regulatory culture also impacts on the way competition law will be administered. Competition investigations and judgments are more likely to be performed with zealot ardor by enforcers with an interventionist formation, who still have great faith in state intervention as well as little experience and understanding of the market process. Regulatory performance will also reflect broader culture of skepticism toward the market by general public and politicians. As a result, competition policies can be

distorted to reflect political concerns different than competition[31], and its legal instruments will more likely be utilized to attain other policy goals. For instance, an increase in prices due to market shocks can be addressed as a cartel in order to allow populist politicians to show the public that they are active in keeping prices low.

Scarcity of resources and public pressure can also undermine the independence of judgment of antitrust agencies. Independence is defined as the probability of implementing policies based on facts and the law without the interference of political agents. In economic literature, independence is seen, at the same time, as strongly connected with the quality of regulation, but somehow as an unrealistic premise. In a famous article, Weingast and Morgan [1983] explained that independent agencies are never completely independent, as they are subject to parliamentary oversight for the decision about resources and nominations. Faith et al. [1982]advanced and tested the Antitrust Pork Barrel hypothesis: it explains that competition agencies are not different from other regulatory bodies, and their adjudication is influenced by politicians acting on the request of special-interest groups in their districts.

Developing countries are setting up regulatory agencies, but even when they are formally independent they are subject to political pressure as well. Particularly because since privatizations and regulatory reform corporate and market power are themes with high political sensitivity, governments will be less willing to relinquish their control on competition policy. Since regulators, and in many cases even judges, owe their positions and the chances to make a career to political élites, the possibility of exercising independent judgment is seriously undermined.

Another reason why the issue of independence of competition agencies is central in the debate about the effectiveness of antitrust in developing countries is the "advocacy" function that competition authorities are supposed to pursue.

[31] de León [2009]masterfully analyze this process in Latin America.

After recognizing that the more serious threat to competitive process in developing countries is government intervention, international institutions suggested that competition regulators should focus on educating the public about the benefit of competition and performing reviews of existing and proposed laws and regulations. To many commentators, this should be the main activity of a competition authority[32] .

First of all, it is quite ironical that a competition argument calls for a state funded research agency that will only crowd out private think-tanks and social organizations that played a fundamental role in bringing market reforms in the east and are now starting to spread in developing countries [Mcgann, 2007]. Secondly, the efficiency of advocacy toward the government is of course constrained by the degree of independence of the authority, both from private rent seeking and government. This independence is limited, in both developed and developing countries: Public choice approaches to regulation cast serious doubts on the ability of governmental agencies, like any other bureaucracy, to judge themselves or the body from which they derive their budget and their power [Wilson and Rachal, 1977]. In addition, competition advocacy requires the antitrust authority to work more closely with the government in order to remain influential, and initiate a political bargaining over different regulations: this might further decrease its degree of independence.

While there is a wide consensus on the importance of competition advocacy in both national regulators and the international community, but there is very little empirical support on its merits, the extent of its benefit and how to be performed efficiently[Evenett, 2006]: many competition authorities in developing countries are using their already scarce resources to foster an activity whose effectiveness is likely to be limited and that might reduce further their independence.

[32] See, e.g. Rodriguez and Coate [1997], ICN [2002], OECD [2004].

2.6 Summary

To sum up, while economic premises of competition law are shaky in both developed and developing countries, the latter will experience more negative consequences from its implementation for two orders of reasons: first, developing countries have specific development needs and institutional problems that will be worsened. Second, antitrust enforcement will be of a lower quality because of institutional weakness, thus increasing uncertainty and social costs.

STRUCTURAL CONDITIONS THAT WILL BE AFFECTED BY ANTITRUST	
Weak legal system	Weak legal systems force economic actors to resort to self-enforcing contractual agreements to avoid opportunistic behaviours. α reduces the availability of this arrangements.
Transition and gradualism	Gradual transition to an open market economy can be effectively controlled by pressure groups. α decreases the cost of rent seeking by increasing the cost of cartelization
Regulatory risk	Developing countries have a high regulatory risk, which is increased by α. This will lead to less innovative, profitable business conduct and less investments.
VARIABLES THAT WILL AFFECT ANTITRUST ENFORCEMENT	
Corruption	Increase likelihood of corruption of the antitrust authority;
Informal economy	Distort the perception of market shares, potential competition and other relevant economic variables;
Data availability	Distort the perception of market shares, potential competition and other relevant economic variables;
Limited experience and skills	Lead to unsophisticated, strict enforcement;
Limited resources	Lead to unsophisticated, strict enforcement;
Regulatory culture	Lead to unsophisticated, strict enforcement; Increased likelihood that antitrust enforcement will be utilized to further other policy goals;

Independence	Increased likelihood that antitrust enforcement will be utilized to further other policy goals;

3 Competition law in India: A case study

3.1 Country overview

In this section I will analyze the Indian experience with competition law to see if the particular caveats enlightened in the previous section also apply.

Influenced by the exploitative experience of colonization and by the socialist ideals of the political leader Jawaharlal Nehru, after its independence India aimed at self-independence by following the familiar closed economy pattern of import substitution and heavy state intervention. Many industries, including telecommunications, energy, insurance, steel and mining were nationalized[33]. Central planning and business regulation were so pervasive that the expression License-permit Raj was coined[34] to define the elaborate system of licenses, regulations and accompanying red tape that were required to set up and run businesses in India.

Not surprisingly, India's economic growth in those years was not impressive: the so called "Hindu rate of growth" of about 3.5% from the 1950s to the 1980s stood in stark contrast with the rate of growth of other Asian Tigers that were experiencing two digit rates. Despite extensive and expensive welfare programs and relatively high taxation (in the 70s, the marginal income tax rate reached 97.7%), socialism did not reach the goal of reducing poverty: on every social indicators, India scored worse than their open-market Asian counterparts, and

[33] My overview of Indian economic history relies on the accounts of Panagariya [2008] and Aiyar [2008].

[34] For the first time by the statesman Chakravarthi Rajagopalachari, who firmly opposed it.

sometimes reached lower levels than in some poor African states. Corruption was widespread in order to bypass the License-permit Raj and obtain political favors.

Reforms started ten years later than in other developing countries: a foreign exchange crisis in 1991 and a temporary lack of power in the parliament allowed half-hearted reforms that transformed the slow Hindu elephant into a new Asian tiger. GDP grew around 8% in the following decades, India become a particularly competitive provider of high quality services[35], and instead of being crushed by international competition, many Indian business become multinationals and conquered international markets.

Still, many problems affect the Indian regulatory scenario: according to the Heritage Foundation's Index of Economic Freedom, in 2011 non trade barriers are still high, the government still plays a fundamental role in the economy, and property rights are not perfectly enforced. In particular, the government subsidizes agriculture and energy and applies retail control on "essential commodities" such as 25 different kind of crops, services, energy, water and drugs at factory, wholesale and retail level. For the purpose of our analysis, this diverts the price system and undermines the possibility of correctly using price-analysis instruments required by competition law. In addition, it shows a high political sensitivity on the topic and a strong inclination of the government to interfere in matters that should be regulated by market competition and eventually by the competition authority.

Levels of regulation are still extremely high, bureaucracy is non-transparent and burdensome – India ranks 135th out of 183 countries in the ease to do business indicators of the World Bank, and, not surprisingly, 84th out of 180 in Transparency International's Corruption Perceptions Index for 2010. Regulation and corruption increase the profitability of rent seeking, especially in the contest of very slow and only partially accepted reforms. In Doing business, India comes in 182th out of 183 in the contract enforcement: it takes 46

[35] Heavy labor regulation prevented India to become competitive in the manufacturing sector.

procedures, 1,420 days and almost two fifth of the total value of the claim in legal expenses (the OECD average is 31.2 procedures, 517.5 days and half the cost) to have a ruling. A severely limited access to the judicial system means more reliance on self-enforcing arrangements. We have insofar encountered many of the conditions we laid before for a negative impact of competition law.

3.2 The Monopoly and Restrictive Trade Practise Act

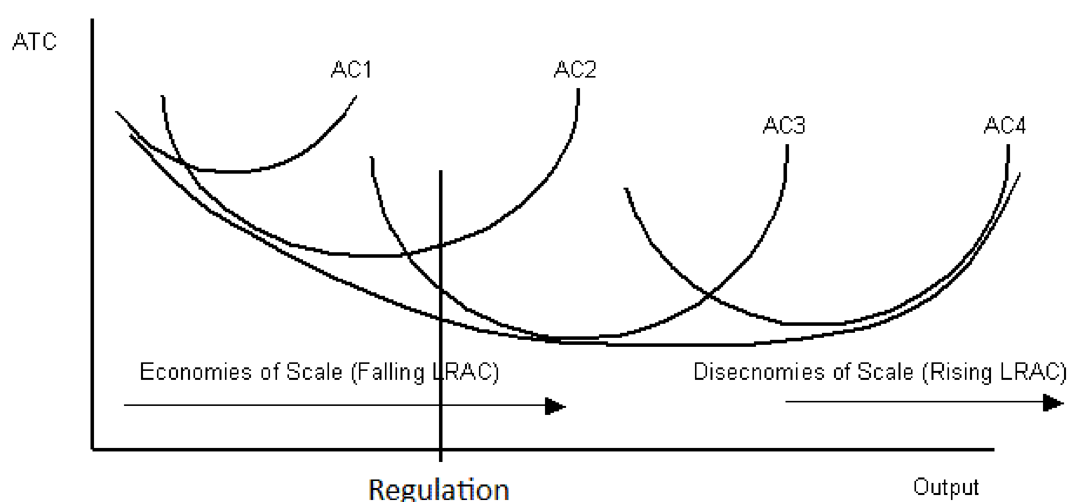
India was one of the first developing countries to introduce competition law, in 1969 with the Monopoly and Restrictive Trade Practise Act[36]. Filtered through the highly interventionist regulatory culture of the time, the MRTP was very different from what we do expect from competition law statute, resulting in regulatory activities that did not increase competition.

The most striking feature was the register of MRTP companies that had, together their undertakings, either a market share of one third (later reduced to one fourth) or a certain threshold of assets (one crore[37] rupees for dominant firms, ten crores otherwise). Listed companies were subject to approval from the government – that often did not even refer it to the MRTP Commission – in the matter of mergers and acquisitions, but also for product differentiation and expansion of their production capacity. This system worked like another layer of the License-permit Raj, and prevented firms to benefit from economies of scale and diversification. In the graph, regulation prevents the firm from setting its output level at the minimum efficient scale by imposing to stop production in the declining portion of the long run average costs.

[36] The analysis of the Indian competition regimes mostly relies on the attentive works of Bhattacharjea [2008], Bhattacharjea [2010] and Sansom and Christian [2010].

[37] One crore correspond to ten million rupees.

As a result, Indian firms were kept small and prevented to diversify and innovate – definitely a movement toward the ideal neoclassical market structure, but hardly an efficient outcome for economic performance. Competition law, filtered through an interventionist culture, became a pernicious instrument of market planning: chapter III of the MTPR was indeed abolished with the market reforms of 1991.



The MRPR commission was poorly funded: a fraction of 0.0009% of total government budget was lower than those of South Africa (0.033), Sri Lanka (0.003), Tanzania (0.017) and Zambia (0.056), and its expenses had to be approved by the government, further undermining its independence [CUTS International, 2003].

Another feature in line with our previous analysis was the economic and semantic confusion of the regulation. The MRTP act defined Monopolistic Trade Practices as actions aimed at "unreasonably" limiting competition and increasing prices. These were the equivalent of abuses of dominant position, with the only exception that, after an amendment in 1984, they became per se illegal also if undertaken by non-dominant firms. As a result, abuses of dominant

position leaned more toward price controls and general regulation38. In Chapter V, Restrictive Trade Practices – covering vertical and horizontal agreements – were defined as practices that "tends to bring about manipulation of prices, or conditions of delivery". The 1984 amendment added the Chapter Vb that dealt with Unfair Trade Practices: those included misleading advertising, price schemes and low quality standards. As a consequence of these definitions, antitrust enforcement was diverted into consumer protection and contractual disputes. Of an already meager budget, little resources were left to pursue what should be a priority in antitrust enforcement: the commission record of selling cartels was indeed extremely low and declining [Bhattacharjea, 2008].

Instead, in a famous judgment punished an importing cartel for imposing prices too low and in another one pursued a charge of predatory pricing against Indonesian producers of float glass because it would destroy domestic producers39. In both cases the judgment was later reversed, but it shows a dangerous propensity of distort competition law for protectionist finalities.

Overall, even though the Indian legal system is quite sophisticated and the precedents are rich and India passed a competition regime more than 40 years ago, the experience maturated by enforcers, courts and practitioners under the MRTP regime is not particularly useful to address competition law issues, and its interventionist enforcement might be resilient to the application of the new competition law regime recently enacted. A peculiar example is the surprisingly modern repeal of the per se rule for territorial restraint in the 1977 TELCO v. Registrar of Restrictive Trade Agreements case, who anticipated similar conclusions of the famous US case of Continental T.V. v. GTE Sylvania. Unfortunately, this economically sound position was overruled in 2004 Peico Electronics and Electricals v. Union of India – just after a new competition regime passed.

---

[38] Fortunately, not many cases were prosecuted by the MRTP Commission.

[39] ANSAC v. Alkali Manufacturers' Association of India; Haridas Exports v. All India Float Glass Manufacturers' Association.

3.3 The Competition Act

Approved by the Indian Parliament in 2002, the Competition act went into force in May 2009 after seven years of controversy: the Supreme Court was petitioned on the constitutionality of the exercise of judicial powers by a Commission appointed by the executive. In order to overcome this problem, the Act was emended in 2007 with the creation of an appellate judicial body. It was also the occasion for emending and refining the whole act before it even come into practice. The merger control regime, abolished in 1991 was relived, with its procedure to be detailed in a subsequent regulation that was actually approved in May 2011.

The OECD has described the new Indian competition Law regime as 'close to state-of-the-art' [OECD, 2007]. Modeled after EU competition law, it gets rid of vague concepts as "unfair practices" and "unreasonable prices" and covers the usual three areas of competition law. Still, there are some peculiarities that I will describe in this quick overview.

Section 3 forbids any agreement, vertical or horizontal, "which causes or is likely to cause an appreciable adverse effect on competition within India". However, the Competition Commission (CCI) is supposed to perform an economic analysis for any case, even for hardcore horizontal agreements and RPM. The Commission should weight the "creation of barriers to new entrants in the market; driving existing competitors out of the market; foreclosure of competition by hindering entry into the market" against the "accrual of benefits to consumers; improvements in production or distribution of goods or provision of services; promotion of technical, scientific and economic development by means of production or distribution of goods or provision of services".

Section 4 prohibits the abuses of dominant position. Beside foreclosure abuses and tying, as described at S4(2) (c) or (e), it does not require the Commission to prove an appreciable adverse effect on competition to condemn

abuses: there are legal grounds to consider any form of price discrimination as per se illegal. A particularly strict feature is the power of the Commission to impose structural remedies such as break ups to dominant firms that might reduce competition in the future without proving the existence of an abuse.

The definition of dominance is quite vague: the Commission is required to take into account, other than normal economic criteria, 'social obligations and social costs', 'relative advantage, by way of the contribution to the economic development, by the enterprise enjoying a Dominant position' and 'any other factor which the [CCI] may consider relevant for the inquiry'. Probably in the intentions of the legislator these "development" saving clauses would have been used to adapt competition law to development needs: unfortunately, they also pave the way for social, political or industrial goals to interfere with the economic reasoning of competition law. In the first year of CCI jurisprudence they haven't been used. Still, they increase policy risk and potential for rent seeking.

Finally, Section 6 forbids mergers with an appreciable adverse effect on competition. Regulation n.3 2011 specifies the procedures, the thresholds for the mandatory notification to the CCI and time limits for the Commission to authorize or dismiss. Even if the thresholds have been increased, and individual assets or turnover should be evaluated instead that the combined ones, they still remain punitive because they are computed over the asset size or the turnover of the whole target and not the value of the stake being acquired. As a result, even the purchase of a single share should be notified to the CCI.

Another concern is about the timing: the 210 days review period is still too long compared to the average time of a global acquisition (approximately one month). In addition, the act requires that the filing of the merger or acquisition proposal has to be made within 30 days of any agreement: this includes also preliminary, non binding expression of interest. The risk of the information getting public might hamper the bargaining process, or create volatility in stock prices.

While quite in line with the international practice, the Indian Merger regulation has been seen by some commentators as not able to learn from the specific pattern of development of Indian industries that have since the liberalization gone through a broad process of restructuring and global acquisitions [Sampath and De Mallik, 2011].

3.4 Lessons from India's Competition laws

The first lesson we can learn from the Indian competition history is that the adoption of antitrust statutes in a contest of highly regulated, closed economy is likely to be distorted by the general regulatory culture. Competition law in this contest will just become another layer of regulation, decreasing the economic performance. In order to increase competition and ultimately growth, priority should be given to different reforms, such as trade liberalization, deregulation of prices and privatization, as well as improvements in the overall governance.

The early adoption of competition law, beside its direct negative effects, will be dangerous because it would create a economically unsound precedents and influence the forma mentis of the enforcers of future, and more in line with the international best practices, competition statutes.

Since the new antitrust regime just was brought into force in 2010, and completed in June 2011 with the merger review, the current analysis is mostly based on the law on the books. It certainly constitutes an improvement over the previous legislation, but in the normative text there is still scope for confusions and misinterpretations. The development saving clause, while in theory useful to adapt competition law to development needs, might reduce the certainty of law. The merger regulation is mostly likely to affect negatively the process of market restructuring, as well as international competition.

Conclusions

In 1990, Armentano published a famous "Case for a Repeal" of antitrust laws. In this work, I have extended the antitrust skepticism to the antitrust proliferation in developing countries.

Besides differences in sizes and stages of development, emerging economies share some common problems: a weak legal system, poor governance and high regulatory risk, and a tricky transition from closed economies to free trade and free market. We have argued that the implementation of competition law will reduce market responses to these problems, and it will exacerbate rent seeking and corruption. In addition, developing countries lack the basic requirements in terms of resources, regulatory culture, institutional strength, data availability for an antitrust system to work properly.

Given that resources are scarce, and dramatically scarcer in developing countries, they should not be used to implement a policy with a limited if not negative impact on growth. Maybe developed countries can afford it, but certainly nations that need to attain growth as a solution to radical poverty should not indulge in an expensive form of regulation that mostly works only in outdated economic models.

References

AAVV. Corruption Perceptions Index. Technical report, Transparency International, 2010.

AAVV. Index of Economic Freedom. Technical report, Heritage Foundation, 2011a.

AAVV. Doing Business. Technical report, World Bank, 2011b.

Swaminathan Anklesaria Aiyar. *Escape From The Benevolent Zookeepers*. Times of India, New Delhi, 2008.

Dominick T. Armentano. *Antitrust and Monopoly: Anatomy of a Policy Failure*. Independent Institute, (Oakland, Calif., 2nd revise edition, 1990.

Dominick T. Armentano. *Antitrust: The case for Repeal*. The Ludwig von Mises Institute, Auburn, Alab., 1999.

Kenneth J. Arrow. Uncertainty and the Welfare Economics of Medical Care. *American Economic Review*, 53:941–73, 1963.

Yoram Barzel. Measurement Costs and the Organization of Markets. *Journal of Law and Economics*, 25(1):27–48, 1982.

Robert Batemarco. Why Managed Trade is not Free Trade. In Manuel F. Ayau, editor, *Not a Zero-Sum Game. The Paradox of Change*. Universidad Francisco Marroquìn, Guatemala, 2007.

William J Baumol and Janusz A. Ordover. Use of Antitrust to Subvert Competition. *Journal of Law and Economics*, 28:247–265, 1985.

Aditya Bhattacharjea. India's New Competition Law: A Comparative Assessment. *Journal of Competition Law and Economics*, 2008.

Aditya Bhattacharjea. Of omissions and Commissions: India's Competition Laws. *Economic and Political Weekly*, 35, 2010.

George Bittlingmayer. Did antitrust policy cause the great merger wave? *Journal of Law and Economics*, 28:77–118, 1985.

George Bittlingmayer. Stock Returns, Real Activity, and the Trust Question. *Journal of Finance*, 47:1701–1729, 1992.

Robert H. Bork. *The Antitrust Paradox: A Policy at War with itself.* Basic Books, New York, 1978.

Yale Brozen. Concentration and Profits: Does Concentration Matter *Antitrust Bulletin*, 19:381–399, 1974.

James M. Buchanan and Gordon Tullock. *The Calculus of Consent: Logical Foundations of Constitutional Democracy.* University of Michigan Press, Ann Arbor, 1962.

Richard Caves. *American Industry: Structure, Conduct, Performance.* Prentice Hall, Englewood Cliffs, N.J., 2d edition, 1967.

Lucian Cernat. Eager to Ink, but Ready to Act? RTA Proliferation and International Cooperation on Competition Policy. In Lucian Cernat, Philippe Brusick, and Ana Maria Alvarez, editors, *Competition Provisions in Regional Trade Agreements: How to Assure Development Gain.* UNCTAD, New York and Geneva, 2005.

Edward Chamberlin. *The Theory of Monopolistic Competition.* Harvard University Press, Cambridge, Mass., 1933.

J Clark. A Contribution to the Theory of Competitive Price. *Quarterly Journal of Economics*, 28(4):747–771, 1914.

J. Clark. Towards a Concept of. Workable Competition. *American Economic Review*, (30):241–256, 1940.

Ronald H. Coase. *The Firm, the Market, and the Law.* Chicago, 1937.

Enrico Colombatto. Are property rights relevant for development economics? On the dangers of Western constructivism. In Enrico Colombatto, editor, *The Elgar companion to the economics of property rights*, pages 251–270. Edward Elgar, Cheltenham, UK Northampton, MA, USA, 2004.

Robert D. Cooter and Hans-Bernd Schäfer. *Solomon's Knot: How Law Can End the Poverty of Nations.* Princeton, 2012.

Augustin Cournot. *Recherches sur les Principes Mathematiques de la Theorie des Richesses.* Hachette, Paris, 1838.

CUTS International. Pulling Up Our Socks: A Study of Competition Regimes of Seven Developing Countries of Africa and Asia under the 7-Up Project. Technical report, CUTS International, 2003.

Louis De Alessi. The public Choice model of Antitrust. In Fred S. McChesney and William F. Shughart, editors, *The Causes and Consequences of Antitrust: the Public-choice Perspective*, pages 189–201. University of Chicago, Chicago, 1995.

Ignacio de León. *An institutional assessment of antitrust policy: the Latin American experience.* Kluwer Law International, Alphen Van deen Rijn, 2009.

Hernando de Soto. *The Other Path.* Basic Books, New York, 1989.

Harold Demsetz. Industry Structure, Market Rivalry, and Public Policy. *Journal of Law and Economics*, 16(1):1–10, 1973.

S. Djankov, R. La Porta, F. Lopez de Silanes, and A. Shleifer. The Regulation of Entry. *Quarterly Journal of Economics*, 117(1):1–37, 2002.

Frank Easterbrook. Fixing the Price Fixing Confusion: A Rule of Reason Approach. *Yale Law Journal*, 92:706–30, 1983.

F Edgeworth. *Mathematical Psychics*. London, Paul Kegan, 1881.

Robert C. Ellickson. *Order Without Law: How Neighbors Settle Disputes*. Harvard University Press, Cambridge, Mass., 1991.

Simon J. Evenett. What Can We Really Learn from the Competition Provisions of Regional Trade Agreements? In Lucian Cernat, Philippe Brusick, and Ana Maria Alvarez, editors, *Competition Provisions in Regional Trade Agreements: How to Assure Development Gains*. UNCTAD, New York and Geneva, 2005.

Simon J. Evenett. Competition Advocacy: Time for Rethink? *Journal of International Law and Business*, 26(3), 2006.

Roger L. Faith, Donald R. Leavens, and Robert D. Tollison. Antitrust Pork Barrel. *Journal of Law and Economics*, 15, 1982.

Eleanor M. Fox. Economic Development, Poverty and Antitrust: The Other Path. *Southwestern Journal of Law & Trade in the Americas*, 13:211, 2007.

Bruno S. Frey, Werner M. Pommerehne, Friedrich Schneider, and Guy Gilbert.

Consensus and Dissension among Economists: An Empirical Inquiry. *American*

Economic Review1, 7:986, 1984.

Claudio Frischtak, U. Zachau, and B. Hadjimichael. *Competition Policies for Industrializing Countries*. World Bank, Washington, D.C., 1989.

Steve Globerman. Trade liberalization and Competitive Behavior: A Note

assessing the Evidence and the Public Policy Implications. *Journal of Policy Analysis and Management*, 9, 1990.

Clive S. Gray and Anthony A. Davis. Competition Policy in Developing Countries Pursuing Structural Adjustment. *The Antitrust Bulletin*, pages 425–467, 1993.

Arnold C. Harberger. Monopoly and Resource Allocation. *The American Economic Review,*, 44(2):77–87, 1954.

Friedrich A. Hayek. The Use of Knowledge in Society. *The American Economic*

Review, 35(4):519–30, 1945.

Friedrich A. Hayek. The Meaning of Competition. In *Individualism and Economic Order*, pages 92–106. Henry Regnery Company, Chicago, 1972.

ICN. Advocacy And Competition Policy. Report of the Advocacy Working Group. Technical report, International Competition Network, 2002.

Hiau Looi Kee and Bernard Hoekman. Imports, Entry, and Competition Law as

Market Disciplines. 2003.

Peter G. Klein. New Institutional Economics, in Boudewijn Bouckeart and Gerrit De Geest, eds., *Encyclopedia of Law and Economics*, Cheltenham, U.K: Edward Elgar, pp. 456–89, 2000

William Kovacic and RE Thorpe. Anti-trust Law for Transition Economy. *Legal*

Times, pages 41–42, 1993.

Anne O. Krueger. *Trade policies and developing nations.* The Brookings Institution, Washington, D.C., 1995.

John E. Kwoka and Lawrence J. White. *The Antitrust Revolution: Economics,*

Competition, and Policy. Oxford University Press, New York, 2009.

E. Leamer. Cross-section Estimation of the Effects of Trade Barriers. In E. Feenstra, editor, *Empirical Methods for international Trade.* Massachusetts Institute of Technology, Cambridge, Mass., 1988.

N.H. Leff. Economic Development through Bureaucratic Corruption. *American Behavioral Scientist*, 82(2):337–41, 1964.

Stan J. Liebowitz and Stephen E. Margolis. *Winners, Losers and Microsoft.* Independent Institute, Oakland, Calif., revised edition, 2001.

Stuart Macauley. Non-Contractual Relations in Business: A Preliminary Study. *American Sociological Review*, 28:55, 1963.

Fred McChesney. Antitrust. In David R. Henderson, editor, *The Fortune Encyclopedia of Economics.* Warner Books, New York, 1993.

Fred S. McChesney. Economics versus Politics in Antitrust? *Harvard Journal of Law & Public Policy*, 23(133), 2000.

Fred S. McChesney and William F. Shughart. *The Causes and Consequences of*

Antitrust: the Public-choice Perspective. University of Chicago, Chicago, 1995.

James Mcgann. The Global Go-To Think Tanks. Technical report, Foreign Policy

Research Institute, 2007.

John S. McGee. Predatory Price Cutting: The Standard Oil (N.J.) Case. *Journal of Law and Economics*, 1:137–169, 1958.

Ludwig Von Mises. *Socialism: An economic and sociological analysis.* Jonathan

Cape, London, 1936.

Murray N. Rothbard. *Man, Economic and State*. Princeton, 1962.

William A. Niskanen. *Bureaucracy and Representative Government.* Chicago,1971.

OECD. Competition Advocacy: Challenges For Developing Countries. Technical report, Organisation for Economic Co-operation and Development, Paris, 2004.

OECD. Economic Survey of India. Technical report, Organisation for Economic Co-operation and Development, Paris, 2007.

Mancur Olson. *The Logic of Collective Action: Public Goods and the Theory of*

Groups. Harvard University Press, Cambridge, Mass., 1965.

Mancur Olson. Big Bills Left on the Sidewalk: Why Some Nations Are Rich, and

Others Poor. *Journal of Economic Perspectives*, 10(2), 1996.

Arvind Panagariya. *India: The Emerging Giant*. Oxford University Press, Cambridge, Mass., 2008.

Paul J. McNulty. Economic Theory and the Meaning of Competition. *Quarterly*

Journal of Economics, 82, 1968.

Niels Petersen. Antitrust Law and the Promotion of Democracy and Economic

Growth. 2011.

 Tutti i diritti riservati

Roger Pilon. Corporations and Rights: On Treating Corporate People Justly. *Georgia Law Review*, 13:1245–1370, 1979.

Robert Pitofsky. The political content of antitrust. *University of Pennsylvania Law Review*, 127(4), 1979.

A.E. Rodriguez and Malcolm B. Coate. Competition policy in transition economies: the role of competition advocacy. *Brooklyn Journal of International Law*, 1997.

Murray N. Rothbard. The Myth of Efficiency. In Mario Rizzo, editor, *Time, Uncertainty, and Disequilibrium*, pages 90–95. D.C. Heath, Boston, 1979.

Paul Rubin. What do Economists think of Antitrust? A random walk down Pennsylvania Avenue. In Fred S. McChesney and William F. Shughart, editors, *The Causes and Consequences of Antitrust: the Public-choice Perspective*, pages 33–63. University of Chicago, Chicago, 1995.

Vijaya Sampath and Ankita Goel De Mallik. The New Indian Merger Control Regulations: How Does the Balance Tilt? *Competition Policy International Antitrust Chronicle*, 1, 2011.

Mark Sansom and Priya Christian. India's New Competition Regime: The Elephant Who Became a Tiger. *Journal of European Competition and Practice*, 1(1), 2010.

Joseph Schumpeter. *The Theory of Economic Development*. Harvard University

Press, Cambridge, Mass., 1934.

William F. Shughart and Robert D. Tollison. The Employment Consequences of the Sherman and Clayton Acts. *Journal of Institutional and Theoretical Economics*, 137:38–52, 1991.

William F. Shughart, John D. Silverman, and Robert D. Tollison. Antitrust

Enforcement and Foreign Competition. In *The Causes and Consequences of Antitrust: the Public-choice Perspective*, pages 179–188. University of Chicago, Chicago, 1995.

G Stigler. Perfect Competition, Historically Contemplated. *Journal of Political*

Economy, 65:1–17, 1957.

Ma Tay-Cheng. The effect of Competition Law Enforcement on Economic Growth. *Journal of Competition Law & Economics*, 7(2):301–334, 2011.

Lester G. Telser. Why Should Manufacturers Want Fair Trade? *Journal of Law and Economics*, 3:86–105, 1960.

Jean Tirole. *The Theory of Industrial Organization*. Cambridge, Massachusetts, London, England, 1989.

Robert D. Tollison. Public choice and antitrust. *Cato Journal*, 1985. URL http:

//www.cato.org/pubs/journal/cj4n3/cj4n3-12.pdf.

Roger Van den Bergh and Peter D. Camesasca. *European competition law and economics: a comparative perspective*, volume 2001. Sweet and Maxwell, London, 2006. ISBN 9050951619.

B. Weingast and M. Morgan. Bureaucratic Discretion or Congressional Control: Regulatory Policymaking by the Federal Trade Commission. *Journal of Political Economy*, 91:765–800, 1983.

Mark D. Williams and A. E. Rodriguez. Antitrust and Liberalization in Developing Countries. *The International Trade Journal,*, 4:495, 1995.

Oliver E. Williamson. Economies as an Antitrust Defense: The Welfare

Tradeoffs. *American Economic Review*, 58:18–35, 1968.

Oliver E. Williamson. *Markets and Hierarchies: Analysis and Antitrust Implications*. The Free Press, New York, 1975.

Oliver E. Williamson. Institutions and Economic Organization: The Governance Perspective,. In *Annual Conference on Development Economics,*, Washington D.C, 1994. World Bank.

James Q. Wilson and Patricia Rachal. Can the Government Regulate Itself? *The Public Interest*, 46:3–14, 1977.

Andrew Young and William F. Shughart. The consequences of the US DoJ's antitrust activities. A macroeconomic perspective. *Public Choice*, 142(3):409–422, 2010.

Tesi di dottorato di ricerca in diritto ed economia discussa presso l'Università LUISS Guido Carli - anno 2013
Rosamaria Bitetti, *Economics of Failure in Movies after the Big Crisis*- Tutti i diritti riservati

SECTION III

ECONOMICS OF FAILURE IN MOVIES AFTER THE BIG CRISIS

Introduction[1]

Often economists and businessmen complain that capitalism is Hollywood big villain, and that the movie industry promotes a negative view of business as a realm of greed and moral corruption. The following paper is meant to analyze to a deeper extent the process by which the movie industry contributes to promote certain prejudices in the public understanding of economics.

Instead of looking for a general anti-capitalist bias, I will analyze a specific concept, that of economic or business failure, in the years immediately before and after the big crisis of the late 2000s.

Economists are aware that failure is a normal fact, and a vital feature of the market system. Still, during periods of hard recession policies meant to prevent business failure are advocated and implemented, against the most basic principles of economics. A policy that is clearly economic unsound but yet finds popularity is a political economy problem, and I will argue that those problems are most likely to occur when there is a hiatus between the expert knowledge and a laymen understanding of a concept. The hiatus dimension is inversely proportional to the technical complexity of a concept, and paradoxically laymen disagree the most with those economic ideas on which the scientific community agrees the most. In section 1 I will explain the process of complex representation of economic concepts and how it affects the political economy problem. Narratives play an important role in shaping the public debate because when confronted with economic concepts, laymen tend to interiorize and then use a version of those concepts filtered through their personal experiences and intuitions. In section 1 I will explain how artists, and filmmakers in particular, play a vital role in the production of those narratives that will affect the

[1] This paper has been presented at the peer reviewed conference held by the Istituto Bruno Leoni, Mises Seminar. Chair of selection committee: Prof. Carlo Lottieri, University of Siena; Reviewer: Prof. Kevin Dowd, University of Nottingham.

consumer understanding of economics. Still, filmmakers are part of a cultural élite, which most likely has been exposed to some introductory level of economics: in section 3 I analyze whether economic textbooks do convey a convincing explanation of the beneficial function of economic failure. In section 4 I will further analyze the relationship between filmmakers and economics. I build on three complementary explanations: lack of understanding or interest for economics; resentment toward the market as a consequence of the production structure of the movie industry; complex representation of economic concepts. While the first two influence the general attitude toward markets, the latter is concept-specific, and I will work on the example of economic failure.

In section 5 I will analyze significant movies produced in the time frames 2004-2007 and 2008-2011 in light of what discussed before. A macro-analysis will be applied on a database of 240 movies, which are particularly relevant they met the appreciation of either the public or the critics. Through qualitative, the macro-analysis is meant to descry trends and variations in the narratives of economic failure before and after the big crisis. In section 6 I will use the framework developed in the previous sections to understand what's preventing movies to give sound representation of the concept of economic failure, arguing that the anti-business bias is a different phenomenon than the complex representation of failure, and the latter is inversely affected by the complexity of the topic.

1 Narratives and complex representations of economics

Economics is a science of complexity, which tries to explain unintended results of interaction among individuals who do not share a common purpose. Its goal is to foresee those consequences that are not instantly visible. As such, the way economists thinks is often radically different form the way laymen do, and the latter systematically disagree from the most widely accepted opinions in economic science. [Caplan 2002]. When economists use concepts such as

rationality, profit, cost, trade, competition and so on are using words that embed a whole set of assumption and results, a shared knowledge that defines the economic way of thinking. On the other hand, also common people, who lacks of this mind frame, are exposed to this jargon in their daily life: they often use the same words, but they attach to it a different, non technical meaning. When exposed to economic concepts, people interiorize them in an intuitive way, relating it to their non-technical knowledge and personal experiences. These adapted versions of economic concepts can be described as *complex representations*: representation that appears clear enough to circulate widely within a population and thus become cultural, but whose contents and implications require expert knowledge, nonetheless, in order to be fully appreciated" [Adamo 2009].

Most types of expert knowledge are complex, in the sense that is difficult, require advanced training and the acquisition of a specific language. Complex representations, in our meaning, do not arise for complex theorems of physics or engineering: they arise when a concept appears to be clear enough to be introduced in the layman way of thinking. Advanced concepts of economics such as dynamic stochastic general equilibrium models or the Black–Scholes models, while debatable among the expert, do not conflict with the laymen comprehension for the simple reason that he has no way to relate it to his knowledge. What instead give rise to complex representations are the most basic elements of economic science, or economics principles. While these are simple concepts – in the sense that they are thought in introductory economics – they are often counter intuitive to the non-expert audience. Cost is a simple example: while people think in terms of monetary costs, economist think in terms of opportunity costs, and this give rise to two different estimates of the entity.

The process of complex representation happens because acquiring and processing information, and especially technical information, is costly. Laymen do not have strong incentives to acquire it unless it yields important or close consequences: when confronted with new concepts , people can either dismiss them as technical jargon, irrelevant to their daily life, or use a simplified version

of them, the complex representation that they recreate with their current stock of knowledge and heuristics. Narratives play here a significant role in the creation of these complex representations: unless someone is sitting in an economic class, he recreates the meaning of an economic concept in a story mode, rather than a paradigmatic form of though. While the paradigmatic thought seeks to explain relationships between events and actions with the laws of logic, the narrative mode recreates meaning through the salience of personal, unsequenced and random experiences [Bruner 1986]. Of course, meaning created with a narrative mode can be radically different than those obtained with a rigorous paradigmatic process, and this creates a hiatus between the expert use of concepts and the laymen understanding.

The lack of economic understanding is not a problem in the market process, which has its own natural way to rewarding the optimal accumulation of knowledge. Indeed, a complex representation that radically diverges from the scientific construct of a concept becomes a problem when non experts, either voters or policymakers, are called to form and express their preference about economic policies through the political system. Markets minimize the use of heuristic shortcuts, the political process increases them: let's take the example of trade.

An economic actor does not need to know the Ricardo theorem in order to buy a cheap Chinese dress or a technologically advanced Korean Smart phone: the market process conveys enough information for him to make a maximizing decision. Furthermore, when he has to make a decision that yields more important consequences for his own life, such as deciding to go to Poland to have a cheaper dental surgery, he will have all the incentives to acquire information about the quality of the Polish health system up to the optimal point. Conversely, in the political system incentives to acquire information are low, because the cost of erroneous choices is perceived as negligible [Downs, 1957]. When a citizen is confronted with the political issue of voting for a party that supports restrictions to free trade, the salience of the narrative of losing jobs is strong: is on the newspapers, maybe someone in its social network lost his

job, is emotionally charged by the nationalist discourse. On the other hand, negative consequences which economics highlight – reduced competition and efficiency in the supply system and in general, damages to the citizen as a consumer – are dispersed, not immediately retraceable to his daily life. Vivid narratives, such as those of newspapers reports on "Chinese invasion" and "they are stealing our jobs" fill the lack of expert knowledge on the benefits of free trade. As a result, quoting Gregory Mankiw, "few propositions command as much consensus among professional economists as that open world trade increases economic growth and raises living standards. Smith's insights are now standard fare in Econ 101.Yet, whenever the economy goes through a difficult time, as it has in recent years, free trade comes under fire" [Mankiw 2006].

Non-expert, both voters and decision makers, are expected to have an opinion on principles, rather than complex models – where they are aware they need to rely on the expert knowledge. But it is exactly on principles - technically simple, but still counter intuitive concepts – that complex representations arise. They have a better chance to be used to analyze reality than the original concepts because they appear clear and relevant even to those who are not particularly familiar with them [Adamo 2009]. The hiatus between a technical meaning of concept and its representation is thus inversely proportional to the technical complexity of the concept itself.

This hiatus create problems when entering the policy cycle, and scientifically unsound policies results not from economic problems but rather from political economy problems [Nelson 2003]. Economists have indeed a commonly agreed answer, but have failed to convince political actors, both active and passive, that their solution is welfare optimizing. This hiatus explains the so called Murphy Law of economics, which is economists have the least influence on policy where they know the most and are most agreed and they have the most influence on policy where they know the least and disagree most vehemently[2]

2 This formulation is attributed to Princeton economist Alan Blinder

1. Movies as Weapons of Mass Narrative embedment

People, we discussed, use narrative thought to interpret inputs they receive from the external environment. Normally we use experiences from our personal life and from their social network to elaborate narratives to make sense of the world. But quite often, we have no direct experience of many events, instead we experience them through stories produced by someone else. We are consumers of narratives produced by professional communicators, such as journalists and artists.

In the field of political sociology, the fact that people often learn politically relevant facts as a by-product of nonpolitical routines – such as watching the news or movies - is termed by-product learning [2007]: the same principle applies to economic learning. While also economists use narratives in order to persuade and convey information about their specific knowledge [McCloskey 1990], of course communicators have a comparative advantage in doing so. Artists especially can create more vivid and salient stories, with an important impact on people's imagination, and a higher chance to be incorporated in their own complex representation of reality. People resort to arts for entertainment, but also for information and opinions. Unless they have an interest in gathering expert knowledge of the field, people create meaning about economic and social facts from works of arts they enjoy in their leisure time more often than from scientific works which require an high informational effort. Works of art are not truths, but they are often a convincing depiction of it. Furthermore, fiction narratives are easier to understand and memorize: we respond emotionally to the stories we learn, we retain more easily the emotionally charged information that we received, and we carry it on in our understanding of economics and political debate.

A well-known example is public understanding of an important economic phenomena, the industrial revolution: popular authors like Charles Dickens and Benjamin Disraeli masterfully depicted it as an age of poverty and capitalist

exploitation of the masses [Williams 1973], while historical economic analysis points out that standards of living of the poor were, indeed, increasing in that period [Ashton 1954]. But of course the heartbreaking story of orphans exploited by evil capitalists is much more vivid that the declining children mortality rate.

Popular art produces and spreads in society those narratives that will then become the building blocks of complex representations. The creation of a complex representation is still an individual phenomenon: when facing a new concept, people elaborate it according to their own knowledge, cognitive skills, experiences, tastes. They select the narrative, they elaborate it and apply in a non-uniform way. But the very fact representations are built from stories that can reach a large number of narrative consumer can create social patterns of representation. Since complex representation of economic facts affect the outcomes of political economy problems, understanding what kind of narratives are created and embedded in society through arts becomes an important exercise to understand the lay comprehension of economic concepts. Compared to traditional forms of arts such as paintings or literature, movies are so much more powerful in creating and effectively spreading stories that they can be considered Weapons of Mass Narrative- embedment.

A useful example of how movies impacted on the public policy debate is the relationships between disaster movies and public perception of environmental and risk regulation. Risk regulation involves a combination of simple (as in economics principles) but counterintuitive concepts such as expected cost of harm, opportunity cost and marginal benefits of precautions, and it is one of the fields where expert perceptions of risk mostly diverge from those of laymen, which are influenced by the entity of the damage, its saliency rather than by the risk itself [Slovic 1991]. Disaster movies, with their adrenalinic stories, have a much stronger impact on imagination that risk statistics or scientific reports. An American public survey reported statistically significant differences between perceptions of risks, concerns about global warming, and political commitment to the cause between respondents who had seen the popular movie The day after

tomorrow [2004] compared to non-watchers, even after controlling for other socio-demographic indicators[Leiserowtiz, 2004].

Ribstenin provides another useful example while explaining how the popularity of the movie Wall Street [1987] negatively influenced public representation of insider trading. The aggressive narrative chosen by Oliver Stone while depicting Gordon Gekko, unscrupulous corporate raider in the 80s impacted on the collective representation of corporate markets. According to the author, that created a strong prejudice against hostile takeovers – which play a fundamental role in the market for corporate control. Also, it resulted in harsh judicial punishment for insider traders as well as political initiatives such as the following *Insider Trading and Securities Fraud Enforcement Act* of 1988, which increased penalties and fines for insider trading and clarified a civil cause of action for outsiders who trade during insider trading [Ribstenin 2006]

Movies are weapons of mass narrative-embedment for a twofold reason: first of all, the combination of textual and visual elements, the interpretations and music provides greater salience to the stories conveyed. Secondly, a movie has a larger potential outreach than a book or a painting. As an example, let's compare the impressive commercial success of Margaret Mitchell's novel, Gone with the Wind, and the even more successful movie adapted from the novel: more than 30 million copies have been sold worldwide [Brown and Wiley 2011]. On the other hand, the 1939 historical epic movie has been seen by over 200 million of moviegoers in the US theaters only [3]. And this figure greatly underestimates the number of people who actually watched the movie, because doesn't take into account the worldwide market, or the television and home rental markets, the piracy over the internet and communitarian ways of enjoyment of forms cinema (such as local festivals, cine-forum).

If we then compare with the success of economics books, even with the most popular among them, the comparison is overwhelming: Samuelson's

3 Extimates mine from Mojo All time Domestic grosses, Adjusted for Ticket Price Inflation, http://boxofficemojo.com/alltime/adjusted.htm

Economics, which has been for decades the most popular textbook of economics sold about 4 millions of copies in its 19 editions ranging from 1948 to 2010. Its contemporary stronger competitor, Mankiw's Principles of Economics, has sold about one million of copies from its first publishing in 2008. The bestseller of popular economics, Levitt and Dubner's Freakonomics [2005] sold 4 million copies[4].

, Obviously, common people, who are expected to have opinions about economic policies, obviously do not learn economics from economists. But the cultural elites involved in the creation of narratives through movies, might quite often have an introductory level knowledge of economics: probably filmmakers, most certainly movie producers and other media workers. For this reason, in the following section I will analyze how the concept of economic failure – which is a basic principle, not an advanced topic of economics – is communicated by economics professional to non-experts, in the main economics textbooks[5]. Later on I will develop on how cinema cultural élites can be biased in understanding basic economic concepts and thus develop and embed in society narratives that are distant from the original technical concept.

2 Economic failure, 101 (or maybe not)

Failure is a normal fact of economic life: an historical survey, retracing survival rate of the world's 100 largest industrial companies from 1912 to 1995, finding out that only 52 survived as independent entities, only 28 were larger in than in the first period, and only 19 remained in the top 100. 48 companies disappeared, and 29 went bankrupt: and we are talking about the largest, safest industries of the time [Hannah 1999]. As reported by The Economist, "the average time a

4 Datas about copies sold retrieved from wikipedia.

5 List of most influential economics textbooks retrieved from the Zuidhof (2012) study of textbooks economics as a specific scientific literature genre.

company spends in the S&P 500 index has declined from 75 years in 1937 to about 15 years today. Up to 90% of new businesses fail shortly after being founded. Venture-capital firms are lucky if 20% of their investments pay off. Pharmaceutical companies research hundreds of molecular groups before coming up with a marketable drug" [The Economist 2011].

Economists are aware of the functional importance of failure in the economic system: through a decentralized system of choices, consumers can rule out of the market enterprises that are not efficient enough in providing them satisfactory goods and services. The market invisible hand reallocates resources from declining industries, whose products are not demanded anymore, to products more desired by consumers. But this beneficial function is not intuitive:

> People often failed to realize this inherent feature of capitalism because they did not grasp the meaning and the effects of capital scarcity. The task of the entrepreneur is to select from the multitude of technologically feasible projects those which will satisfy the most urgent of the not yet satisfied needs of the public. Those projects for the execution of which the capital supply does not suffice must not be carried out. The market is always crammed with visionaries who want to float such impracticable and unworkable schemes. It is these dreamers who always complain about the blindness of the capitalists who are too stupid to look after their own interests. Of course, the investors often err in the choice of their investments. But these faults consist precisely in the fact that they preferred an unsuitable project to another that would have satisfied more urgent needs of the buying public [Mises 2008: 19].

The efficiency of failure is indeed a counterintuitive concept: in order to explain it, economists have to "unteach" erroneous prejudices grounded in experiences from the real world. Business failure is a painful phenomenon, and loss of job is one of the most painful events in a personal life. That's the instinctive narrative for people approaching the topic, while the long term efficiency gains as consumers are unseen and perceived as negligible, in comparison.

Surprisingly, in mainstream economics, failure does not exist: the same idea is expressed with the concept of exit from the market of inefficient firms. In most of textbooks, the concept itself is not explained diffusely: they just mention the freedom of exit as a feature of perfect/monopolistic competition or explain the decision of exit in the long term equilibrium [Mankiw 2006: ch. 14; Samuelson 1998: 193, Krugman 2010, ch. 14]. Colander [2004] doesn't even explain the concept of exit. Stiglitz provides a few lines:

> "As price falls, there are two market responses. The firms that still find it profitable to produce at the lower price will produce less, and the higher-cost firms will exit the market. In this way, the competitive market ensures that whatever the product, it is produced at the lowest possible price by the most efficient firms"[Stiglitz 2006: 163].

Baumol is even terser, and all that he says is :

> "In a free market, inputs are assigned to the firms that can make the most productive (most profitable) use of them. Firms that cannot make a sufficiently productive use of some input will be priced out of the market for that item" [Baumol, 2006: 294].

Both Stiglitz and Baumol explain the allocative efficiency of freeing resources to more productive uses, none of them explains how the decision about the optimal use of those resources is dispersed in society. In other words, they fail to convey the important role of the consumer in deciding, with their simplest economic choices, about the merit of a use of resources. And while this is a very empowering narrative, it is certainly a counterintuitive one. Also, in all cases exit is described static way: it is either the price or the use of input. Indeed, the assumption behind neoclassical models is indeed that all production functions are equal because the technology is fixed at a given time. They do not communicate the point, effectively conveyed by Mises before, that in real life economy there are indeed alternatives technologies and combination of inputs, and the role of the entrepreneur is to try which one is the best – and once again, the decision about its merits is by the consumers. Austrian economics describe

entrepreneurship as a trial an error process, in which failure sanctions wrong entrepreneurial choices and empower consumers [Mises 1922, Kirzner 1973]: but Austrian economics, which could provide this more effective narrative, is not thought in introductory economics classes.

Schumpeter underlines how the underappreciation of the role of failure is not an accident, but a characteristics of neoclassical economics as a science of equilibriums, in which "the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them" [Schumpeter [1943], 2003: 84].

Basic models of mainstream economics indeed depict static situations of equilibrium and thus fail to take into account innovation and dynamic efficiencies. Those concepts are definitely re-introduced in advanced models, but do not belong to the realm of basic principles. As is well-known, Schumpeter fathered the expression Creative destruction to describe the dynamic process by which capitalism incessantly revolutionizes the economic structures from within, incessantly destroying some, and creating new ones. This revolution come with the cost of failure being a constant in economic life, and this a painful process. But it is the best process for creating innovation and improving standards of living: as commented by Cox and Alm [2008],

> "A society cannot reap the rewards of creative destruction without accepting that some individuals might be worse off, not just in the short term, but perhaps forever. At the same time, attempts to soften the harsher aspects of creative destruction by trying to preserve jobs or protect industries will lead to stagnation and decline, short-circuiting the march of progress. Schumpeter's enduring term reminds us that capitalism's pain and gain are inextricably linked. The process of creating new industries does not go forward without sweeping away the preexisting order".

Attempts to reduce the pain by avoiding business failure are thus an inefficient distortion of the market mechanism: they are basically a subsidy aimed at the less efficient entrepreneurs. But this is another phenomenon that textbook economics fails to explain convincingly. Among the texts analysed, Frank is the

only one that provides the reader with an account of the negative effects of preventing exit from the market when a business is not profitable:

> "No less important than the freedom to enter a market is the freedom to leave. When the airline industry was regulated by the federal government, air carriers were often required to serve specific markets, even though they were losing money in them. When firms discover that a market, once entered, is difficult or impossible to leave, they become reluctant to enter new markets. Barriers to exit thus become barriers to entry. Without reasonably free entry and exit, then, the implications of Adam Smith's invisible hand theory cannot be expected to hold"[Frank 2009: 214].

First of all, he pointing out the negative effects of deterrence on entry instead of explaining why operating at loss is wasteful of resources for the society. By lacking this full explanation and rather resorting to the rhetoric device of the invisible hand, the example fails to provide the reader with material reasons to avoid this intervention beside the one that "the model will not work".

The beneficial function of economic failure in the market system is not rocket science: does not require complex modeling, or mathematic language. All that is required is to understand unseen consequences and to reason in an economic way. I am sure that if asked, any single one of the authors of the textbook I've analyzed would agree with the beneficial function of economic failure in the economic system: still their textbooks do not explain it well enough. Most people do not even learn introductory economics, and they do not think like economists. Unfortunately, even people that are exposed to basic principles of economics might fail to fully appreciate the importance of this concept. Part of the cultural and artistic élites will then miss the opportunity of understand the importance of economic failure.

This is particularly dangerous because in recession times policies such as bailout and subsidies to inefficient industries are more likely to arise if people involved in democratic choices have a lack of understanding of basic economic principles. Once again, this doesn't mean that an artist or the layman must be able to judge the economic soundness of complex theories such as the systemic

risk and cascadine failure that have been used to justify government bailout of financial institutions. But the hiatus between the original and the complex representation of a simple economic concept – like the one of failure - increase the entity of political economy problems in the policy cycle.

3 Filming the invisible hand

Movies and sound economics, unfortunately, do not always go well together: after underlying the economists' faults in communicating the concept of economic failure, let's turn to filmmakers. Filmmakers too engage in the process of complex representation of economic concepts in light of their own experiences and perceptions. Once again, while this process is individual, there are some features of the movie industry that equally affect filmmakers and thus might generate some regularities. I will here resort to three kinds of explanations: one is the anti-capitalist bias resulting from the industrial organization of the movie business. The second is the lack of understanding or interest for economics, and finally I will address

It is a widespread opinion that artists do not share economist's (general) appreciation for markets and business. According to Pollard [2000], the sentence "Making money is a dirty game. […] might almost sum up the attitude of English literature towards British business", and the same attitude is shared by other artists. They project themselves in an imaginative world and they strive for self-expression, but they have to please the taste of consumers for living. Artists usually have a high perception of the quality of their work, but that quality is not always rewarded by the market process, which results in resentment toward it.

All artists must face a trade-off between the expression of their own peculiar view of the world and the potential income derived from adapting to consumers preferences [Cowen Tabarrok 2000], but filmmakers have to face much higher restraints. While a writer or a painter, for how much he can appreciate

and enjoy collaboration with other artists, can mostly produce his work in autonomy, movies are by necessity collective products. Movies require cooperation with people with different artistic skills (screen players, directors, cinematography directors, actors, sound directors and so on) as well as business skills. Compared to other forms of art, movies require a much more elaborate production structure, more complex organizations and higher capital to be invested. A painter or a writer can produce his work with relatively little capital and without relying on other organizations before the distribution of their work. Directors and screenwriters who elaborate the narratives behind a movie, instead, have to confront themselves continuously with a complex capitalistic organization that will produce their work of art. As such, they do not express directly the artistic perspective of a single author, but rather a version of it bounded by external constraints, such as the requests of producers, who are businessman looking for profit.

Ribstein [2009] explains how industrial organization of movies production creates resentment in filmmakers that cannot freely express their artistic vision, but have to accommodate for the requests and impositions of their producers and co-workers. This resentment is transformed in a peculiarly negative opinion of capitalists that are providing them with the funding necessary to express themselves. Producers, on the other hand, have no particular anti-business bias, being themselves businessmen: but they are willing to indulge on the artist's bias as far as it does not alienate the final consumer. Moviegoers might have some anti-capitalist bias, but most of them have a job, run a business, invest their savings and this imposes another external constraint on the expression of views that are too anti-capitalist. As a result, the narrative delivered cannot be too aggressive against market behaviors. Ribstein defines this situation as an imperfect principal-agent relation: producers invest their capital in filmmakers because they lack of the artistic skills necessary to deliver a movie. The filmmaker is the agent of the producer, but he also has his own agenda of artistic expression, which can include anti-business narratives. The principal can reduce this dysfunctional behavior, but only up to a certain point, where monitoring costs equals the loss of profit due to the production of movies that

conflict with the experiences of movie consumers. As a consequence, anti-business narratives will not often be the main theme of the movie, but often a subplot or a reference.

But while this explains why filmmakers can have a negative stance on capitalism doesn't necessarily imply that they cannot they cannot express economic facts correctly. This last option can be interpreted in light of the fact that filmmakers simply don't think economics is an interesting topic. While most of economists find the price mechanism or the organization of human labors in a firm are fascinating phenomena, most people simply don't. Filmmakers are not sensitive to the dry language of economics – and in the previous section we saw that this is partially economists' fault. Kuykendall [2007] quotes Adoplh Berle saying "business does not produce heroes" to support her thesis that the lack of narratives in the corporate law language give rise to indifference or hostility about business in the popular culture. Tabarrok [2010] adds on this layer a subsequent layer: economics is a science of complexity, and even if filmmakers do understand it, still remains "hard to present the profoundly nuanced and intricate latticework of capitalism in two hours".

A third element beside the anti-business bias and the lack of interest in economics, some features of the movie industry experiences complex representation of failure might be counterproductive. Filmmakers have a large exposure to failure: making movies is indeed a very risky business, with high rewards for very few winners: less than 2% of films account for 80% of box-office returns [The Economist 2011]. As a consequence, they most create their own complex representation of the concept of failure in light of their personal experiences or through those of their social networks. In addition, in their field of work prizes and recognition from experts and critics play a vital role in assessing the artistic value of their work: as such, it might come hard for them to appreciate the fact that markets impose on them a decentralized decision process about the merits of an economic activity.

Combining these complex representations with the lack of understanding of economic subtleties and the general resentment about the capitalist system, the following narratives to explain failure can be introduced in movies:

- **Failure as conspiracy**. Good stories need a bad villain: blaming the invisible hand does not provide exactly an exciting plot twist. Complexity of a decentralized decision system is hard to represent, and the fact that ultimately consumers are the ones to be blamed because not choosing the product is not a feasible narrative considering our principal-agent problem and the incentives to control for narratives that grossly alienate the public. Considering this, failure is hard to be represented as a normal and healthy part of economic life.
- **Failure as bad luck**. It's undeniable that luck plays an important role in the success or failure of an enterprise, but that doesn't mean that all failures are caused by bad luck.
- **Failure as an injustice**. In this narrative, the failing business does so because of some unfair treatment by some external actor, which can endanger the life of the business by either competing in an unfair way with them or avoid supporting it in its efforts for escaping. This narrative reflects the frustration that filmmakers experience in their job when they perceive their talent as underappreciated or have to endure economic constraints to their expression.
- **Failure as betrayal or fraud**. Other aspects connected with economic failure, such as downsizing, reducing payments or changing line of production are hardly described as normal acts of entrepreneurial adaptation to the market environment, but rather as a betrayal of shared values by the heartless capitalist. This narrative directly builds on filmmakers anti-business bias.

All of these narratives are present in the movies I will analyze in the next section, but there are also cases where the filmmakers can properly understand economic concepts and build economically sound narratives.

4 Movies and economic failure: a macro analysis

In order to understand how the movie industry represented failure before and after the financial crisis, we relay first on a qualitative analysis of a large database of 240 movies covering two time periods, 2004-2007, before the recession, and 2008-2011. Films selected are fiction ones, not documentaries, for a twofold reason: the exponentially larger audience of the fist kind of movies, and the fact that we are interested in narratives, and fiction narratives are a much powerful vehicle of by-product learning.

In order to account for different kind of relevancy to the process of mass narrative-embedment, movies in this macro-analysis are not selected by topic, but according to three criteria of relevancy: their popularity, their impact among critics and cultural élites, and a combination of the two. Accordingly, movies are retrieved from three kinds of sources:

1. **Box office, worldwide[6]:** these movies are big productions, meant to become blockbusters. They represent both what the general consumer wants the most, and what the movie industry expects for them to appreciate. These movies are not particularly innovative in the cinematographic technique, with simple content and typical public-pleaser features such as happy endings, visual effects. Frequently they are film about superheroes, disaster movies and romantic comedies.
2. **Academy Award, best picture[7] nominees**: the Academy of Motion Pictures and Awards, a professional honorary organization, in theory

6 Data are retrieved from the international section, covering 107 territories, of Box Office Mojo, http://www.boxofficemojo.com

7 Since there is inconsistency in the number of nominees for best pictures, and in order to reach similar number of observation per year, the selection has been integrated with nominees for best original and adapted screenplay, as a recognition of valuable content. When the best

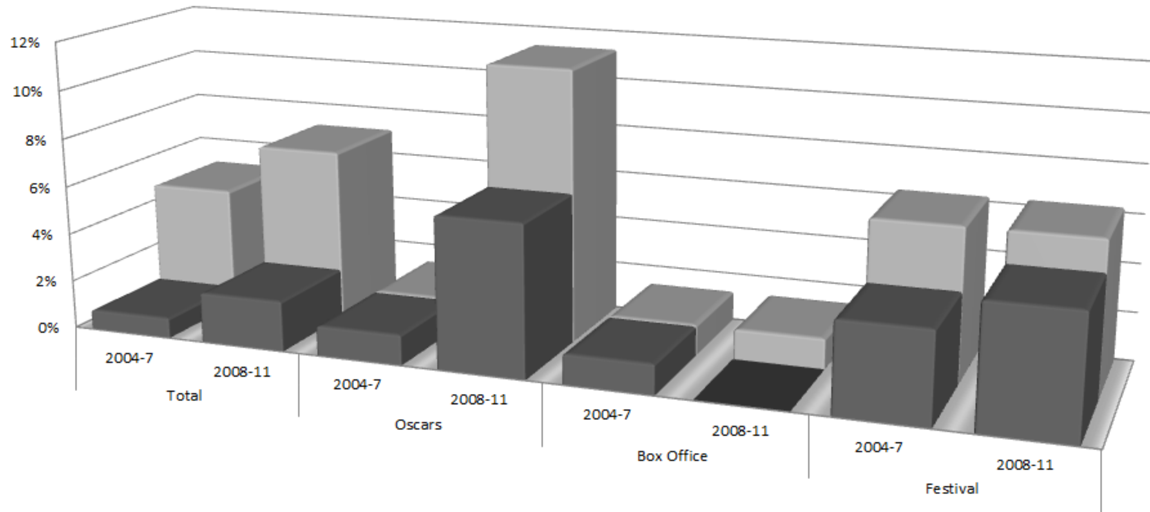
grants its prestigious Awards of Merits, or Oscars, based only on artistic merit, commercial success and popularity play an important role. As such, they represent mainstream quality films, rich of artistic merit, in line with the expectations of professionals in the business, and important for consumers of the product.

3. **Festival awards winners**: in order to select movies that can are relevant as *avant gard* cinema, I've selected movies that have been awarded with the most important recognitions of historical international festivals – Mostra Internazionale d'Arte Cinematografica di Venezia, Internationale Filmfestspiele Berlin – and from the independent movies circuit Sundance Film Festival. Movies in this set are usually produced on a low budget, aimed at a much more restricted audience, more complex in content and innovative in language and style.

The analysis of this database is qualitative: key points are marked with a code, and extracted from content – which in this case is both text and images – and grouped in similar concepts to make them workable. Specifically, I've coded movies that analyze the theme of failure in the economic (as opposed to personal or artistic) dimension, and themes that touch upon economic themes at all. The concept coded can either be the main theme of the movie, or just a subplot. Shutting up a business is the typical example of the first field, while economic hardships, an entrepreneurial enterprise, collusion etc. are examples of the second field. Results are summarized in the following chart, which depicts the number of movies either depicting failure or economic concepts as a percentage of the total number of movies examined, divided by source. The table below reports the number of movies.

---

screenplay nominations where more than those required for completing the dataset, integration has been decided according to box office results. Source: Academy awards database, http://awardsdatabase.oscars.org/ampas_awards/BasicSearchInput.jsp, and Box Office Mojo http://www.boxofficemojo.com



	Total		Oscars		Box Office		Festival	
	2004-7	2008-11	2004-7	2008-11	2004-7	2008-11	2004-7	2008-11
Failure	2	5	1	5	1	1	3	4
Economics	12	17	1	9	1	1	5	5

The first observation we can do is that economic themes, and business failure as such, are not very popular in the industry: in the overall period, few filmmakers and moviegoers were interested in movies about this topic. Out of 240 movies analyzes, only 29 movies touched economic themes, and only 7 dealt with the issue of economic failure[8]. This is consistent with the Tabarrok suggestion that movies are not the best format for explaining the complexities of economics. The numbers are too small to deliver any significant quantitative analysis: even when most represented, movies about economics and business failure were respectively 7% and 2% of the movies surveyed – in absolute numbers, But we can discern a small trend, and assume that the economic situation increases interest in those theme: people resort to art to understand reality, to consume narratives that they will use to interpreter the world. Movies with economic themes rise from 12 to 17 from the period before to the period

[8] The number of the movies in coded in the statistics broken by database is larger than the total because in a few cases movies were both successful at box office and recipient of one or more awards. Full list of movies in Annex A.

after the crisis. Movies about economic failure increased, in the two time periods from 2 to 5.

Also the distribution of these productions is interesting: the most visible trend is in the Oscar set. Essai or independent movies winning the favor of critics are the proxy of what filmmakers want to talk about: in the trade-off between artistic expression and economic success, they have chosen the first. Being low budget or market niche production, involve less restraint from the producers: as such, they can and do represent narratives about business without the control of the principal, and when they discuss economics they do it with a stronger anti-market bias. But they are also less sensitive to the demand: the space they give to economic themes, and to failure, doesn't change in response to the economic environment.

Box offices movie, instead, are even negatively impacted: none of the 120 movies that mostly interested people addressed the issue of failure during the big crisis. This is consisted with the idea that while people might learn about economics fact as a byproduct of watching a movie, which is not the first reason why they buy a ticket. Box Office movies are those who usually play safe, and in which production has a higher control of the content. As such, the main genre is action, fantasy or romantic comedy: not the best outlook for economic themes.

Movies awarded with the Oscar, instead, represent a middle ground between the artist attempts at self-expression and the producer desire to hit a commercial success. In this middle ground we found the larger space for discussing economic themes in general and business failure particularly. These are also the movies with the larger effect of narrative-embedment: they reach far more people than Essai and independent movies, and people that are not just looking for escapist entertainment, but also interesting content.

In this macro-analysis can further inquire on how the economic environment is affecting the tone of the narrative of failure. Movies about economic failure increased, in the two time periods from 2 [Ratatouille, The Aviator], to 5 [Up in the Air, Bridesmaids, The Artist, The Tree of Life, War

Horse]. In both examples from the first time period, failure is not depicted in gloomy tones, and it is rather a step for a following success.

Pixar's animated movie ***Ratatouille*** [2004] tells the story of a rat gifted with an exceptional talent for cooking, who works behind the scene in a high class restaurant. Quite predictably, this violation of basic health rules, once discovered drives away the customers, and the restaurant fails. But in the subsequent scene main characters are working in a little bistrot named after the rat himself – and with a rat-shaped signboard, letting us assume that customers are there aware of the "peculiarity" of the chef. While external actors (the health inspector and the villain Chef) have a role in exposing the presence of rats in the kitchen, the filmmakers doesn't follow the narrative of failure as an injustice, and accepts the event as a normal fact of economic life, without overdramatizing it.

The Aviator [2004], directed by Martin Scorsese, is a biopic about Howard Hughes (Leonardo Di Caprio), path-breaking entrepreneur in the movie and aviation industry despite its severe obsessive-compulsive disorder. The movie depicts – as well as Hughes romantic life – its pioneering efforts in both industries, and the risks of failure that its Trans World Airlines faces when a prototype of plane crashes and Senator Brewster (Alan Alda) proposes a Commercial Airline Bill, which would give Pan Am the a monopoly on international air travel. There the filmmaker uses the failure as injustice, narrative, but it does it in a sound economic way: Hughes business is at risk of failure not because of economic reason, but rather because of perverse regulation obtained through rent-seeking efforts of the Pan Am chairman Juan Tripp (Alec Baldwin). Still the main character is able to fight it by exposing Senator Brewster's corruption. The other reason why Hughes face risk is because he is designing and producing innovative airplanes: the movie is able to highlight the importance of the fact that failure is a side-effect of innovation, or what business literature defines as "failures at the frontier" [Edmondson 2011].

In the five movies from the years 2008-2011, instead, failure is presented in an overdramatized fashion. In all cases, business failure and the loss of employment are represented as a tragic personal event that brings strong consequences in their life.

Steven Spielberg's ***War Horse*** [2011] is actually a war movie describing the friendship between a boy named Albert Narracott (Jeremy Irvine) and his beautiful racehorse through the World War I. The beginning touches a few economic themes, such as the purchase of the horse for an expense that his too high for the budget of the family of the boy, and endangers their survival. Instead of selling the horse, which is not able to plough and contribute to the family farm, Albert trains him with great efforts and tries cultivating a lower, rock-filled field. Bad weather frustrate his efforts, and the father is forced to sell the horse to the army, devastating Albert and beginning the war adventures of the two. While is evident to the economist watching the movie that the Albert was taking very poor business decision while buy an horse that was too expensive and not an optimal input in his economic activity, the filmmakers prefers to depict as heroic the boy determination to pursue an inefficient activity, whose success was only prevented by bad luck.

Terence Malick's ***The Tree of Life*** [2011] movie is an experimental essai movie that depicts the story of a family in the 50s as a metaphor for the contrast between nature and grace, represented respectively by the father (Brad Pitt) and the mother (Jessica Chastain). Much of the movie revolves about other issues, but a turning point in the relationships in the family is when the father loses his job, and dramatically start to questions his life-choices.

The Artist [2011] is a French silent movie by Michel Hazanavicius which tells the story of a the love story between George Valentin (Jean Dujardin), disgraced silent film star and Peppy Miller (Bérénice Bejo), rising star of sound cinema. The fall of the great actor, who refuses to keep up with the new fashion, is depicted in a touching way, up to the point when he is about to kill himself. I will talk more extensively on this movie later.

The romantic comedy ***Bridesmaids*** [2011] also shows the impact of business failure in the personal life of Annie Walker (Kristen Wiig) a single woman in her 30s who has been asked by her best friend to be the maid of honor at her wedding. The movies follows her mishaps in relating with the other bridesmaids along the several events preceding the wedding, and her love story with the traffic cop Nathan Rhodes (Chris O'Dowd). Both her friendships and the fresh romance are affected by Annie's trauma of closing her bakery, resulting in her refusal to bake again for someone else and resentment toward other people. With the light tones of a comedy, the movies shows how failure, for how painful, is a normal aspect of business life: at the beginning of the movie, Annie avoid the failure as conspiracy or injustice: she plainly declares: “Well, I'm the genius that opened a bakery during the recession”.

Up in the Air [2009] goes directly at the heart of the big crisis by telling the story of professional corporate "downsizer" Ryan Bingham (George Clooney), who flies around the US to fire people on behalf of "pussies who don't have the balls to sack their own employees". The director Jason Reitman increases the dramatic impact of the movie by adding shortages of interview of real people who recently lost their job, reflecting the pain of the experience. Notwithstanding, this movie is shows a good economic reasoning. Through the instinctively negative figure of the corporate downsizer – who doesn't know the person that he is going to fire – the movies explain the efficiency of division of labor and outsourcing: firing someone requires specific competences and abilities, which Bingham has and that the employer might not have. Indeed the movies shows extensively how experience and skills are required by showing the initiation to the job of the Well, Natalie Keener (Anna Kendrick). Bingham, in his standard procedure to layoff people display empathy for their situation, but he also exhort them to turn a failure into an opportunity to do something else. To some extent, the movie convey a sound economic representation of the function of failure in a dynamic perspective, which can be summarized in Bingham signature line: “anybody who ever built an empire or changed the world sat where you are right now. And it's because they sat there they were able to do it”.

During the big crisis, the theme of economic failure has been not prominent, but present in cinema. Its representation has occurred more often than in the period before, and more often in mainstream quality movies than in blockbusters or in experimental author movies. The general tone, while describing failure and its consequences, is dramatic and emphasize the negative impact on the main characters. Still this doesn't always prevent filmmakers from creating economically consistent narratives.

5 Movies and economic failure: case studies

In this session I will analyze in more depth three movies produced during the recession, which more extensively deal with the issue of business failure The case studies are The Artist [2011], from the previous session; Wall Street – Money Never Sleeps [2010], a big Hollywood productions; and L'industriale [The entrepreneur, 2011], an Italian medium-size production presented at the Festival del Film di Roma. By presenting these case studies, I will try to analyze how the anti-business bias in the movie industry and a wrong economic representation are two different problems. Indeed, a movie can fail to grasp and communicate economic concepts sound narrative even though it has an overall pro-business approach. Instead, a movies with an anti-business bias, can explain economics correctly. Also, I will highlight how, in line with what described in section 1, unsound representation of economic concepts happen not for technically difficult, but for basic principles.

The Artist is not a movie that frowns on capitalism, which is mostly represented by the good-tempered studio boss Al Zimmer, a positive figure – also thanks to the masterful interpretation of John Goodman. While definitely committed to business success, Zimmer cannot really resist the personal requests of his stars. It is true, he fires the main character, George Valentin, but only after he refuses to do talkies, sound movies. And while doing so, clearly declare

the role of consumers in the decision, by stating clearly "the public wants fresh meat and the public is never wrong".

While being a love story, the artist has a great economic narrative. Indeed, it is a perfectly Schumpeterian movie, able to brilliantly render the gale of creative destruction Even the biggest star in the movie industry can be ruled out of the market because of innovation. George Valentin is the reason people go watching movies produced by his studio: but as an entrepreneur, he is quite short sighted. Feeling sure of his charm over consumers, he dismiss the new technology and refuses to adapt to it. Not only, he decides to invest all of his money in a great movie, Tears of Love, shoot without sound. Unsurprisingly, the night of the first show of his movie theaters are empty: also because everybody go watching the new romantic comedy by Peppy Milller, an extra that Valentin helped entering the market and now a star. Bankrupt and forgotten, Valentin risks to die in a fire started in the small rooms where he lives after auctioning his house and all hiss possession. But in a vivid scene, he doesn't blame anyone else but rather admit that it has been his pride and short sightedness that put him in that position.

The story goes on with Peppy taking care of George, and trying to persuade Zimmer to re-hire him, but they only can accomplish this desire when the two artist came up with a new idea: to combine their superb dancing skills in a new kind of movie, the musical. In theory, the concept of innovation is not a basic principle of economics, but it must somehow fascinate moviemakers: this movie (and The Aviator from the previous section) depicts it in a very effective way. After the radical innovation of sound movies, The Artist also shows us an example of incremental innovation, which builds on the sound technology, and combines music and dancing. Incremental innovation is also able to reshuffle the positions in the market – this time giving a happy ending to our characters.

L'imprenditore on the other hand, is an example of a movie with a positive bias toward business, but that still conveys an economically unsound representation of failure. In an almost grey Turin, the movies shows us the economic and personal misfortunes of Nicola Ranieri (Pierfrancesco Favino),

owner of a firm that produces photovoltaic panels on the edges of bankruptcy. The masterful direction of Giuliano Montaldo portraits Ranieri as a tenacious hero, willing to do anything possible to save his firm – a feeling particularly strong when he appeal to the workers in a heartfelt speech when he asks them "to fight with me, even though nobody wants our environmental gadgets anymore". Unable to accept the bankruptcy, Ranieri is waiting for new liquidity from German partner, but he doesn't accept the idea of giving up his majority share, and accuses his lawyer (Francesco Scianna) of working against him when he suggests so. He also refuses as a partner his wealthy wife and his mother in law, whose successful winemaking activity he despise. In a very strong scene, he resorts to his bank that, after watching is balances, refuses to give him more credit, and Ranieri leaves outraged, complaining about the fact that banks do everything but help people who do their jobs.

The whole movie is built on the narrative of failure as injustice, but what is really happening here is the market working at his best. A firm that produces something that is not demanded, shall be closed and set productive resources free to be better used. Apparently, Ranieri has developed a new, more efficient solar technology, but he has not enough capital to fund it – the director presents the foregone production as a social waste, but this is not the case. If a small firm has an innovative technology but cannot fund it, the most efficient thing to do is either to find a partner or to sell it to a bigger company. It's Ranieri's management indeed that prevent this to happens, because he wants to retain control of a business he clearly failed to manage properly. By doing so, he endangers the future of his workers, which could keep their jobs if the firm was bought by someone else: what he presents as fight for the firm is actually a fight for his control. The filmmaker – and the spectator with him – empathizes with Ranieri, showing hostility against takeovers quite frequent in movies [Roe 1994]. But the economist knows that if an entrepreneur that is unable to manage his assets he shall be replaced.

My final case study instead is a movie that, while having a strong anti-business bias, is able to convey both accurate and inaccurate narratives of

economic phenomena. **Wall Street - Money never sleeps [2010]** is the comeback from prison of Gordon Gekko (Michael Douglas) and the story of his fraudulent relationship with his daughter Winnie (Carrey Mulligan) and his future husband Jacke Moore (Shia LaBeouf), broker during the financial crisis. The movie has a strong anti-business attitude which is made clear since the beginning. Winnie and Jacke (to some extent) are the only two positive characters of the movies. She is a journalist who works in a little online newspaper, which proudly wants to keep non profit because she despite profits and business. Jacke is a broker, but he is redeemed by his faith in green energy: while he presents it as a sector interesting for profitable reasons, later in the story is developed that he actually cares about his pet project of cold fusion because he wants to change the world. All the other characters, bankers and investors, are described as greedy, vindicative, prone to fraud and unable to value personal relationships. Wall Street 2 is also Oliver Stone's narrative of the financial crisis, and business failure is an interesting subplot: while the first one is quite a sophisticated economic depiction, the latter is presented with an unsound economic narrative.

Scorsese narrative of the financial crisis starts with the "Greed got greedier" speech at the beginning of the movie. There, Gekko expose evils of the financial economy, but he is also able to point out the role of the government lowering interest rates and allowing banks to leverage their debt with sophisticated financial instruments, as well as irresponsible behaviors by consumers. While aggressive, this is a quite sophisticated – and accurate – economic narrative.

In a subsequent scene, Stone gives his narrative of the bailouts: when the financial crisis escalated, the Federal Reserve Board and the biggest financial institutions have an emergency meeting, hold in a claustrophobic closed room. There's a strong impression that big banks and regulators are conspiring on the back of citizens – confirmed when one board member suggests that the main difficulty will be to sell the agreed solution to the Congress. Stone uses a (maybe too) apocalyptic narrative to describe the consequence of the banking system collapse, a narrative which resounds economic theories of systemic risk and

interconnectness. But this story is conveyed by the villains of the story in order to pressure regulators, leaving the spectator doubtful about its validity. Stone also points at the other side of the argument with a dramatic remark by the Fed Secretary, who replies "You're talking nationalization, Bretton. Socialism. I've fought it all my life".

On the other hand, when it comes to a simpler concept of economics this sophistication is lost. While discussing the failure of Keller Zabel Investments, the artistic narratives become less anti-business, but diverge more from economic soundness. The company is highly invested in toxic debt, and the very managing partner, before the collapse, declare that he is unable to understand the world of finance anymore. When the villain Bretton James starts spreading rumors about the financial weakness of KZI, its stock loses more than 30% of its value Zabel tries to arrange a bailout for KZI but his attempts are blocked by James, who suggests that a bailout would create moral hazard (just to forget about it when, in a subsequent moment, he is asking the government to bail its investment bank). Zabel then kills himself, and exit the scene as a heroic figure who failed because of an evil plot. This is a misleading representation of failure, built on the failure as injustice narrative. Zeller is, admittedly, an entrepreneur who is not able to cope with his tasks anymore, and made bad investments. The company is indeed overexposed and it would be beneficial to let it fail. Still, Stone creates empathy between the spectator and Zeller, by imputing the failure to James, who wants to profit from it – Stone's hostility against competition in the market for management was already made clear in the first Wall Street movie.

It is also interesting how the concept of moral hazard, a relatively simple concept of economics, is conveyed: Gekko, at some point, give an inaccurate definition when he explains that "Moral hazard, that's when somebody takes your money and is not responsible for it": that is the premise of moral hazard, i.e. the fact that a party does not incur in all the consequences of his behavior and can defer them to another party who cannot hold him perfectly accountable. Moral hazard is indeed the riskier behavior that follows from this situation, and

it is a serious economic problem to consider when discussing business failure. But the credibility of the concept is undermined in Wall Street by the very fact that the concept is introduced is introduced by the hypocritical villain to pursue its vindicative agenda against Zeller. Indeed, Jake refers to it as an excuse for most of the movie, and that is probably the perception that the spectator will bring home.

, My point is that when the movie addresses a complex economic event is able to convey, even through a simplified, narrative mode and despite its anti-business bias, the controversy in economic literature. The spectator is not presented with a defense of the systemic risk and too big to fail theory, but rather with a nuanced depiction able to deliver both sides of the scientific debate. On the other hand, when it comes to a simpler concept of economics, such as failure or moral hazard, this sophistication is lost.

Conclusions

In order to understand cinema's influence on the public policy debate it is important to understand the mechanism by which movies can embed collective narratives in society, and how these narratives are elaborated by filmmakers and by the spectator. In my paper I've analyzed how complex representations of economic concepts substitute efforts for acquiring technical knowledge and create a hiatus between experts and non experts' comprehension of reality. Complex representation arise when the concept is easy enough to be elaborated in an intuitive way, because non-experts do not feel the need to refer to experts.

While analyzing the movies produced after the financial crisis, I've found out that the expected market of the movie has an impact on the ability to discuss economic concepts: mainstream quality productions, meant to please both consumers and the artistic community, are the most fertile ground for narratives about economics. Also, we observed that a bias in favor or against business doesn't necessarily imply or prevent an economically sound narrative.

Being aware of the way people learn about economics as a by-product of entertainment, and of the power as mass narrative-embedment weapons of movies, and what prevents filmmakers from conveying economic consistent narratives is important for economists concerned about how the lack of economic understanding can negatively affect the public debate. Anti-business bias in filmmakers cannot be debunked, because it is a resultant of the industrial organization of their business, elaborated in a narrative mode. But it is probably not that important. What could be more important, and a humble contribution of the economist in this field, is to produce clearer economic explanations in order to unteach complex representations at least in those people who are exposed to introductory economic science. Frank Knight understood the importance of communicating effectively economics when he wrote: "If our social science is to yield fruits in an improved quality of human life, it must for the most part be "sold" to the masses first. The necessity of making its literature not merely accurate and convincing, but as nearly "fool-proof " as possible, is therefore manifest" [Knight 1921:18].

References

Adamo, Stefano [2009]. "On the Social Diffusion of Sophisticated Ideas" in *The International Journal of Interdisciplinary Social Sciences*, Vol. 3, No. 10

Ashton, Thomas S. [1954]. "The Standard of Life of the Workers in England, 1790–1830" In Friedrich A. Hayek (ed.), *Capitalism and the Historians.* Chicago: University of Chicago Press

Bruner, J. [1986]. *Actual Minds, Possible Worlds.* Cambridge, MA: Harvard University Press

Caplan, Bryan [2002] "Systematically Biased Beliefs about Economics: Robust Evidence of Judgemental Anomalies from the Survey of Americans and

Economists on the Economy", T*he Economic Journal*, Vol. 112, No. 479, pp. 433-458

Cowen, Tyler and Alexander Tabarrok, [2000]"An Economic Theory of Avant-Garde and Popular Art, or High and Low Culture", 67 *S. ECON. J.* 232

Downs, Anthony [1957]. *An economic theory of democracy.* New York: Harper

Economist, The [2001] Fail often, fail well, Apr 14th 2011

Edmondson, Amy C. [2011]. "Strategies for Learning from Failure" in *Harvard Business Review* 89, no. 4

Ellen F. Brown and John Wiley [2011], *Margaret Mitchell's Gone With the Wind: A Bestseller's Odyssey from Atlanta to Hollywood*, Taylor Trade Publishing, p. 320

Hannah, L [1999] "Marshall's Trees and the Global Forest: were Giant Redwoods different?" in N.L. Lamoreaux et al.(eds) *Learning by doing in Markets, Firms and Countries*, National Bureau of Economic research

Harris, Larry [2003]. "Insider Trading" in *Trading & Exchanges*, Oxford: Oxford University Press, p. 591-597

Kirzner, Israel M. [1973]. *Competition and entrepreneurship.* Chicago: University of Chicago Press

Knight, Frank H. [1921]. *Risk, uncertainty and profit.* Boston: Houghton Mifflin Company

Kuykendall, Mae [2010]. "No Imagination: The Marginal Role of Narrative in Corporate Law", *Buffalo Law Review*, Vol. 55, No. 2, p. 537, 2007

Leiserowitz, A. A. [2004]. "Before and After the Day After Tomorrow: A US Study of Climate Change Risk Perception". *Envrionment* , 46 (9), 21-37

Mankiw, Gregory [2006]. Outsourcing "Redux", *Greg Mankiw Blog* http://gregmankiw.blogspot.it/2006/05/outsourcing-redux.html,

McCloskey, Deirdre N. [1990]. *If you're so smart: the narrative of economic expertise* Chicago: University of Chicago Press

Mises, Ludwig [1936]. *Socialism; an economic and sociological analysis*,. London: J. Cape

Nelson, Douglas [2003]. "Political Economy Problems in International Trade Policy". Inaugural Lecture at the University of Nottingham

Prior, Markus [2007] *Post-Broadcast Democracy.* Cambridge: Cambridge University Press

Ribstein, Larry E. [2006]. "Imagining Wall Street". *Virginia Law and Business Review*, Vol. 1, p. 165

Ribstein, Larry E. [2009]. "Wall Street and Vine: Hollywood's View of Business", *U Illinois Law & Economics Research Paper No. LE05-010*

Mark J. Roe, *Strong Managers Weak Owners.* Princeton: Princeton University Press 1994].

Sarbin, T.R. [1986]. *Narrative Psychology: The Storied Nature of Human Conduct.* New York: Praeger

Schumpeter, Joseph Alois [1943]. *Capitalism, socialism, and democracy.* London: G. Allen & Unwin Ltd.

Slovic, P. [1991]. "Beyond numbers: A Broader Perspective on Risk Perception and risk Communication", in Deborah G. Mayo and Hollander (eds) *Acceptable Evidence - Science and value in risk Management*, New York: Oxford University Press, pp. 48-65

Tabarrok Alex [2010]. "Capitalism: Hollywood's Miscast Villain", *The Wall Street Journal*, April 6th.

Williams, Raymond [1973]. *The Country and the City*, Oxford: Oxford University Press.

Tutti i diritti riservati

Annex A: Movie database

Database I: Box Office

Harry Potter and the Prisoner of Azkaban [2004]

Meet the Fockers [2004]

Ocean's Twelve [2004]

Shark Tale [2004]

Shrek 2 [2004]

Spider-Man 2 [2004]

The Day After Tomorrow [2004]

The Incredibles [2004]

The Passion of the Christ [2004]

Troy [2004]

Batman Begins [2005]

Charlie and the Chocolate Factory [2005]

Harry Potter and the Goblet of Fire [2005]

Hitch [2005]

King Kong [2005]

Madagascar [2005]

Mr. & Mrs. Smith [2005]

Star Wars: Episode III - Revenge of the Sith [2005]

The Chronicles of Narnia: The Lion [the Witch and the Wardrobe [2005]

War of the Worlds [2005]

Cars [2006]

Casino Royale [2006]

Happy Feet [2006]

Ice Age: The Meltdown [2006]

Mission: Impossible III [2006]

Night at the Museum [2006]

Pirates of the Caribbean: Dead Man's Chest [2006]

Superman Returns [2006]

The Da Vinci Code [2006]

X-Men: The Last Stand [2006]

300 [2007]

Harry Potter and the Order of the Phoenix [2007]

I Am Legend [2007]

National Treasure: Book of Secrets [2007]

Pirates of the Caribbean: At World's End [2007]

Ratatouille [2007]

Shrek the Third [2007]

Spider-Man 3 [2007]

The Simpsons Movie [2007]

Transformers [2007]

Hancock [2008]

Indiana Jones and the Kingdom of the Crystal Skull [2008]

Iron Man [2008]

Kung Fu Panda [2008]

Madagascar: Escape 2 Africa [2008]

Mamma Mia! [2008]

Quantum of Solace [2008]

The Chronicles of Narnia: Prince Caspian [2008]

The Dark Knight [2008]

WALL-E [2008]

2012 [2009]

Angels & Demons [2009]

Avatar [2009]

Harry Potter and the Half-Blood Prince [2009]

Ice Age: Dawn of the Dinosaurs [2009]

Sherlock Holmes [2009]

The Hangover [2009]

The Twilight Saga: New Moon [2009]

Transformers: Revenge of the Fallen [2009]

Up [2009]

Alice in Wonderland [2010]

Despicable Me [2010]

Harry Potter and the Deathly Hallows Part 1 [2010]

How to Train Your Dragon [2010]

Inception [2010]

Iron Man 2 [2010]

Shrek Forever After [2010]

Tangled [2010]

The Twilight Saga: Eclipse [2010

Toy Story 3 [2010]

Cars 2 [2011]

Fast Five [2011]

Harry Potter and the Deathly Hallows Part 2 [2011]

Kung Fu Panda 2 [2011]

Mission: Impossible - Ghost Protocol [2011]

Pirates of the Caribbean: On Stranger Tides [2011]

The Hangover Part II [2011]

The Smurfs [2011]

The Twilight Saga: Breaking Dawn Part 1 [2011]

Transformers: Dark of the Moon [2011]

Database II: Academy Awards

Eternal Sunshine of the Spotless Mind [2004]

Finding Neverland [2004]

Hotel Rwanda [2004]

Million Dollar Baby [2004]

Ray [2004]

Sideways [2004]

The Aviator [2004]

The Incredibles [2004]

The Motorcycle Diaries [2004

Vera Drake [2004]

A History of Violence [2005]

Brokeback Mountain [2005]

Capote [2005]

Crash [2005]

Good Night [and Good Luck [2005]

Match Point [2005]

Munich [2005]

Syriana [2005]

The Constant Gardener [2005]

The Squid and the Whale [2005]

Babel [2006]

Borat [2006]

Children of Men [2006]

Letters from Iwo Jima [2006]

Little Children [2006]

Little Miss Sunshine [2006]

Notes on a Scandal [2006]

Pan's Labyrinth [2006]

The Departed [2006]

The Queen [2006]

Atonement [2007]

Away from Her [2007]

Juno [2007]

Lars and the Real Girl [2007]

Michael Clayton [2007]

No Country for Old Men [2007]

Ratatouille [2007]

The Diving Bell and the Butterfly [2007]

The Savages [2007]

There Will Be Blood [2007]

Doubt [2008]

Frost/Nixon [2008]

Frozen River [2008]

Happy-Go-Lucky [2008]

In Bruges [2008]

Milk [2008]

Slumdog Millionaire [2008]

The Curious Case of Benjamin Button [2008

The Reader [2008]

WALL-E [2008]

A Serious Man [2009]

An Education [2009]

Avatar [2009]

District 9 [2009]

Inglourious Basterds [2009]

Precious: Based on the Novel "Push" by Sapphire [2009]

The Blind Side [2009]

The Hurt Locker [2009]

Up [2009]

Up in the Air [2009]

127 Hours [2010]

Black Swan [2010]

Inception [2010]

The Fighter [2010]

The Kids Are All Right [2010]

The King's Speech [2010]

The Social Network [2010]

Toy Story 3 [2010]

True Grit [2010]

Winter's Bone [2010]

Bridesmaids [2011]

Extremely Loud and Incredibly Close [2011]

Hugo [2011]

Midnight in Paris [2011]

Moneyball [2011]

The Artist [2011]

The Descendants [2011]

The Help [2011]

The Tree of Life [2011]

War Horse [2011]

Database III: Festival d'Essay

Brother to Brother [2004]

Head-On (Gegen die Wand) [2004]

Look at me [2004]

Lost Embrace [2004]

Maria Full of Grace [2004]

Oldboy [2004]

Primer [2004]

Seducing Doctor Lewis [2004]

The Sea Inside [2004]

Vera Drake [2004]

Brokeback Mountain [2005]

Broken Flowers [2005]

Brothers [2005]

Forty Shades of Blue [2005]

Hustle & Flow [2005]

L'enfant (The Child) [2005]

Mary [2005]

Peacock [2005]

The Hero [2005]

U-Carmen eKhayelitsha [2005]

13 Tzameti [2006]

Daratt [2006]

Flanders [2006]

Grbavica [2006]

No. 2 [2006]

Offside [2006]

Quinceañera [2006]

Still Life [2006]

The House of Sand [2006]

The Wind That Shakes the Barley [2006]

4 Months, 3 Weeks and 2 Days (4 luni [2007]

Dark Matter [2007]

El otro [2007]

I'm not There [2007]

Lust [Caution [2007]

Once [2007]

Padre Nuestro [2007]

Sweet Mud [2007]

The Mourning Forest [2007]

Tuya's Marriage [2007]

Captain Abu Raed [2008]

Frozen River [2008]

Gomorrah (Gomorra) [2008]

King of Ping Pong [2008]

Standard Operating Procedure [2008]

Teza [2008]

The Class (Entre les murs) [2008]

The Elite Squad [2008]

The Wackness [2008]

The Wrestler [2008]

A Prophet [2009]

Adam [2009]

Alle Anderen [2009]

An Education [2009]

Lebanon [2009]

Precious: Based on the Novel "Push" by Sapphire [2009]

Soul Kitchen [2009]

The Maid [2009]

The Milk of Sorrow [2009]

The White Ribbon [2009]

Animal Kingdom [2010]

Essential Killing [2010]

Happythankyoumoreplease [2010]

Honey [2010]

If I Want to Whistle, I Whistle [2010]

Of Gods and Men [2010]

Somewhere [2010]

Uncle Boonmee Who Can Recall His Past Lives [2010]

Undertow [2010]

Winter's Bone [2010]

A Torinói ló [2011]

Circumstance [2011]

Faust [2011]

Happy [Happy [2011]

Kinyarwanda [2011]

Like Crazy [2011]

Nader and Simin, A Separation [2011]

Once Upon a Time in Anatolia [2011]

Terraferma [2011]

The Tree of Life [2011]