

Characterising Corruption by Adopting a Systemic Risk Perspective: Importing Macro Prudential Financial Regulation into the Policy Debate

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This article aims to theorise corruption from a “macro” perspective. It elaborates upon a range of social sciences literatures, notably from criminology and political sciences, that have discussed various “macro”-level factors contributing to corruption, including market characteristics. Its most distinct contribution to the literature is in importing the concept of “systemic risk” – thus far chiefly examined in the financial regulation literature – to the analysis of corruption. It draws on the financial literature on systemic risk and macro-prudential regulation and supervision. In so doing, it elaborates upon concepts such as “network” and “contagion” as to theorise the effects of corruption on resource allocation. This is supplemented by reference to the legal canon of literature on market regulation.

I. INTRODUCTION

The rationale for public policy intervention lies in the inadequacies of free markets. As unfettered markets fail in allocating resources efficiently, government is called upon to step in and correct such market failures.¹ The necessary exercise of collective power through government to cure market failures, however, opens up avenues for potential abuse of power, eventually leading to corruption.²

Corruption affects markets, allocation of economic resources and society at large. This perspective could be said to be “macro”, and it is projected at capturing the implications

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¹ For a detailed analysis of the economic theories of regulation see, for example, J den Hertog, “Review of Economic Theories of Regulation” (2010) Utrecht School of Economics Tjalling C. Koopman Research Institute Discussion Paper Series 10-18 <www.uu.nl/sites/default/files/rebo_use_dp_2010_10-18.pdf> (last accessed 20 January 2020). See also D Acemoglu and T Verdier, “The Choice Between Market Failures and Corruption” (2000) 90 *Am Econ Rev* 194; OE Williamson, “Review of Markets or Governments: Choosing Between Imperfect Alternatives” (1989) 27 *J Econ Lit* 92.

² That markets are far away from producing either economically optimal or socially desirable outcomes has been elaborated in a well-known and voluminous literature. The main justification for public policy intervention lies hence in the inadequacies of markets as measured against the criteria of “efficiency” and “distributional equity”. See, eg, FM Bator, “The Anatomy of Market Failure” (1958) 72 *Q J Econ* 351; PH Aranson, “Theories of Economic Regulation: From Clarity to Confusion” (1990) 6 *J Law Politics* 247; DP Baron, “Regulation and Legislative Choice” (1988) 19 *RAND J Econ* 467; Y Barzel, “Measurement Cost and the Organisation of Markets” (1982) 25 *J Law Econ* 27; J Vickers, “Government Regulatory Policy” (1991) 7 *Ox Rev Econ Policy* 13.

of corruption within, and between, markets and society. In fact, empirical data and anecdotal evidence show that the effects of corruption upon the allocation of resources are uncertain. Despite often resulting in sheer deviation from an optimal allocation of resources, corruption can, at times, even promote allocative efficiency of the factors of production (labour and capital) over a limited period of time (dynamic efficiency).³

Corruption practices cause the public to bear negative economic consequences (social costs), most likely leading to misallocation of resources, as a mirror-image of what market failures do.⁴ The economic analysis of corruption and bribery shows, in fact, that corruption hinders investment (both domestic and foreign), reduces growth, restricts trade, distorts the size and composition of government expenditure, weakens the financial system, and strengthens the underground economy. As some types of incentives determine market failures, so too incentives influencing non-market organisations (governments) may cause behaviours and outcomes (government supply) that diverge from the socially preferable ones.

In *certain circumstances*, however, corruption seems to work the opposite way. In fact, its occurrence results in a re-distribution of labour and capital resources that increases total welfare.⁵

Our working hypothesis posits the idea that *such circumstances* relate to the characteristics of the market in which corruption occurs. The market to our mind means the set of relations between economic actors and social, political, legal, and civil institutions. Such relations form a network by which each player, and each event, sets in motion a chain of positive or negative consequences over the others and over the marketplace as such. The net effects of corruption over the allocation of resources (a chain of either positive or negative consequences) thus depend on the interrelations and interlinkages between corruption and markets.

This network, and the contagion and transmission effects it brings about, closely resembles what is known as “systemic risk” in financial studies. Systemic risk has indeed been thoroughly studied in the ambit of financial markets, where the interconnection between market players is greater than anywhere else. Yet, we are inclined to believe that the theoretical underpinning behind systemic risks lends itself well to interpret the interlinkages that connect corruption occurrence to markets, and the working out of market processes. Further, we deem the financial regulatory engagement with systemic risk – ie macro prudential regulation – an insightful area to look into to push the debate on the legal and economic analysis of corruption towards a new frontier.

³ Market outcomes can be termed efficient if the same level of total benefits which they generate cannot be obtained at a lower cost (productive efficiency) or, alternatively, if greater benefits cannot be generated at the same level of costs. Either way, the resulting total benefits must exceed total costs if the outcomes are to be deemed efficient. Distributional equity is a yardstick by which to examine the formulation, evaluation, and implementation of alternative public policies. The central question relates to the standard against which to evaluate distributional equity. In fact, answers can be different depending on how equity is interpreted (in the sense of equality of outcome or equality of opportunity, “horizontal” versus “vertical” equity, etc).

⁴ Particularly informative in that respect is the data collected by the World Bank. See, eg, World Bank, *Governance and Development* (World Bank 1992); World Bank, *Anticorruption in Transition: A Contribution to the Policy Debate* (World Bank 2000); World Bank, *News and Broadcast: The Costs of Corruption* (World Bank 2004).

⁵ GS Becker and GJ Stigler, “Law Enforcement, Malfeasance, and Compensation of Enforcers” (1974) 3 J Leg Stud 1.

The remainder of the paper is structured as follows. The next section displays how corruption sets in motion a series of negative economic consequences. Section III gives an overview of the current economic scholarship, scrutinising the analytical approaches to corruption. The “macro” angle of analysis is introduced and explained in Section IV. Section V deals with systemic risk and macro prudential financial regulation. The article moves on in Section VI to import the systemic risk insights into the policy debate surrounding corruption. It integrates the concept of systemic risk into the policy debate on countering corruption. The article then closes with a brief conclusion.

II. DEFINING CORRUPTION AND THE NEGATIVE ECONOMIC CONSEQUENCES IT BRINGS ABOUT

Corruption has always been something of a conundrum to economists.⁶ Despite clearly being economic in its nature and principal motivation, ie a personal gain, it is also determined by a wide range of institutional, psychological, cultural, and social factors.⁷ This complexity challenges the narrow assumptions that economics uses to model the behaviour of economic actors. In fact, the concept of “unethical” behaviour is difficult for economists to analyse given their assumption that all individuals and organisations simply pursue self-interest opportunistically.⁸

Corruption takes many different forms, and defining it is one of the most enduring debates in legal and socio-political thoughts.⁹ In fact, a very lively discussion on the precise contours of the phenomenon is still ongoing.¹⁰

It is interesting to note that the United Nations Convention Against Corruption (UNCAC) lacks a definition of corruption, despite it being the only legally binding universal anti-corruption instrument. On the other hand, Transparency International, until fairly recently, had used two definitions, somehow reflecting the general confusion on the defining characteristic of corruption.¹¹

⁶ Among those who tried to point out the difficulties associated with gauging corruption, see, eg, A Shleifer and RW Vishny, “Politicians and Firms” (1994) 109 Q J Econ 995; JE Stiglitz, *Globalization and its Discontents* (Penguin 2002); Transparency International, *About Corruption* (2006); G Tullock, “Controlling Corruption” (1989) 27 J Econ Lit 658.

⁷ VG Fitzsimons, “Economic Models of Corruption” in S Bracking (ed), *Corruption and Development: The Anti-corruption Campaigns* (Palgrave 2007) p 87.

⁸ D Cressey, *Other People’s Money: A Study in the Social Psychology of Embezzlement* (Free Press 1953); P Mauro, “Corruption and Growth” (1995) 110 Q J Econ 681; FS McChesney, “Rent Extraction and Rent Creation in the Economic Theory of Regulation” (1987) 16 J Leg Stud 101; DC North, “Beyond the New Economic History” (1974) 34 J Econ Hist 1; DC North, *Institutions, Institutional Change and Economic Performance* (Cambridge University Press 1990).

⁹ For some introduction to the issue of defining corruption see, eg, M Philp, “Defining Political Corruption” (1997) 45 Political Stud 436; J Gardiner, “Defining Corruption” in M Punch et al (eds), *Coping with Corruption in a Borderless World* (Kluwer 1993) p 21; O Kurer, “Definitions of Corruption” in PM Heywood (ed), *Routledge Handbook of Political Corruption* (Routledge 2014) p 83 ff.

¹⁰ See, eg, C Brown et al, “Political Corruption and Firm Value in the US” (2018) J Bus Ethics <[ssrn.com/abstract=3147385](https://doi.org/10.1017/err.2020.1)> (last accessed 20 January 2020); E Dimant and G Tosato, “Causes and Effects of Corruption: What Has Past Decade’s Empirical Research Taught Us? A Survey” (2017) 32 J Econ Surv 335.

¹¹ For its annual Corruption Perceptions Index (CPI), Transparency International referred to corruption as “the abuse of public office for private gains”. This notion is the same as that used by other agencies and organisations such as the World Bank. In other contexts, however, Transparency International used a more general definition, qualifying corruption as “the abuse of entrusted power for private gain”. In 2012, however, the definition for the purposes of

Not only is corruption a thorny and blurred phenomenon, it also affects economies at local (state, regional, municipal), national and international levels. Although it has been common to focus on preventing corruption practices at a global level, for example, by promoting convergence of practices and harmonisation of regulatory tools, it is also particularly necessary to consider how corruption affects micro-transactions at a local level. Public economics often refers to corruption as “the sale by government officials of government property for personal gain”.¹² Thus, as pointed out by Jain, “it is an act in which the power of public office is used for personal gain, in a manner that contravenes the rules of the game”.¹³ Some version of such definition serves as a starting point for economic modelling. Most economic models, therefore, take a somewhat parsimonious stance, focusing primarily on market corruption and bribery. This view is, however, quite limited in scope, and many situations residing between the private and public-sector escape from being captured. Quite recently, Pellegrini came up with a broader definition: “Corruption is the misuse of entrusted power for private gain; it is behaviour which deviates from the formal duties of a given role because of private-regarding (personal, close family, private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private-regarding influence”.¹⁴ According to the author, this includes such behaviour as bribery (use of a reward to pervert the judgment of a person in a position of trust); nepotism (bestowal of patronage by reason of ascriptive relationship rather than merit); and misappropriation (illegal appropriation of public resources for private-regarding uses).

Most importantly, the problem of definition is one of analysis. The definition of the concept determines, in fact, what gets modelled and what empiricists look for in the data. In line with previous works,¹⁵ the data shows that corruption has a strong connection to the national level of income. Reinikka and Smith demonstrate that no reliable assumptions about the nature or extent of a country’s corruption problems can be brought forward on the basis of its location alone.¹⁶ In fact, according to the

the CPI has been changed and unified to the latter. Corruption refers to “the abuse of entrusted power for private gain. Corruption can be classified as grand, petty and political, depending on the amounts of money lost and the sector where it occurs”. See UNDP, *Human Development Report: Deepening Democracy in a Fragmented World* (OUP/UNDP 2002); UNODCCP *Global Dynamics of Corruption, the Role of the United Nations Helping Member States Build Integrity to Curb Corruption* (Global Programme against Corruption Conferences, Vienna 2002).

¹² A Shleifer and RW Vishny, “Corruption” (1993) 108 Q J Econ 599.

¹³ AK Jain, “Corruption: A Review” (2001) 15 J Econ Surv 71.

¹⁴ L Pellegrini, “Economic Analysis of Corruption” in L Pellegrini (ed), *Corruption, Development and the Environment* (Springer 2011) p 78.

¹⁵ R Reinikka and J Svensson, “Measuring and Understanding Corruption at the Micro Level” in D Della Porta and S Rose-Ackerman (eds), *Corrupt Exchanges: Empirical Themes in the Politics and Political Economy of Corruption* (Nomos Verlagsgesellschaft 2002). See also, eg, S Gupta, H Davoodi and R Alonso-Terme, “Does Corruption Affect Income Inequality and Poverty?” (1998) IMF Working Paper 76; BW Husted, “Wealth, Culture, and Corruption” (1999) 30 J Int Bus Stud 339; M Paldam, “The Cross-Country Pattern of Corruption: Economics, Culture, and the Seesaw Dynamics” (2002) 18 Eur J Political Econ 215; J-S You and S Khagram, “A Comparative Study of Inequality and Corruption” (2005) 70 Am Sociol Rev 136; C Shen and JB Williamson, “Corruption, Democracy, Economic Freedom, and State Strength: A Cross-national Analysis” (2005) 46 Int J Comp Sociol 327.

¹⁶ R Reinikka and N Smith, *Public Expenditure Tracking Surveys in Education* (UNESCO International Institute for Educational Planning 2004) p 15. These measures of perceived corruption are subject to the bias of members of the sample, which might give partial explanation for the remarkably good performance of OECD countries despite the evidence that many of the highest value acts of fraud and corruption in fact occur in OECD countries.

mean and range of corruption scores for the different regions, regional groups' ranges of corruption overlap.

Despite the need to scrutinise the specific causes of corruption in each case, certain factors appear likely to be of general importance in determining the level of corruption in any economy. Such factors are varying and range from "inside" (individual behaviour) to "outside" (market dynamics) ones. This research is particularly concerned with the latter, and the next section encompasses a brief literature review of the economic analysis of corruption.

III. LITERATURE REVIEW AND ANALYTICAL APPROACHES TO CORRUPTION

Although minimising social costs is really what anti-corruption policy is all about, economists, as well as other social scientists and policy analysts, often display a profound ambivalence towards it.¹⁷ On the one hand, the virtues of public intervention are extolled as a necessary means to increase welfare, as amply reflected and codified in the "theory of market failures". On the other, conventional economic analysis has been conducted along the working hypothesis that the public sector is invariably correlated with the emergence of corruption, thus blaming how public power is relentlessly exercised.

In fact, despite public institutions being necessarily called upon to deal with issues that cannot be solved solely by market forces, they seem fated to fail in serving their task. This ignites a vicious cycle of the failures of the markets and the failures of the governments, blurring the lines of which failures get to produce which social costs.

Economic analyses of corruption vary in terms of approaches and methodologies to the problem. Some consider determinants of individual decision-making in the general economic, social, and political environment. Others are rather concerned with influences within organisations, focusing on personal motivating and demotivating factors. Another distinction is traditionally made between those who consider corruption to be a consequence of a principal-agent relationship, with agents' decision to abuse their position of trust, and those who consider corruption to be a consequence of the activities of vested interests.¹⁸

In reconciling the different angles, public choice economics has approached corruption from the perspective of the optimal and actual conduct of government institutions. In that respect, the seminal contribution by Stigler has been highly influential.¹⁹ According to his "capture" theory, firms will attempt to corrupt their regulators, or "capture" them, due to the potential for firms to gain from particular forms of regulation that may be in regulators' power.²⁰ From this perspective, strict regulation of standards imposes

¹⁷ GS Eskeland and H Thiele, *Corruption Under Moral Hazard* (Mimeo, World Bank 1999).

¹⁸ *ibid*; C Prendergast, *Investigating Corruption* (Mimeo, World Bank 1999); D Dreyer Lassen and JE Alt, "The Political Economy of Institutions and Corruption in American States" (2002) University of Copenhagen, Economic Policy Research Unit, Working Paper No 02-16.

¹⁹ See, eg, GJ Stigler, "The Theory of Economic Regulation" (1971) 2 *The Bell Journal of Economics and Management Science* 3.

²⁰ Regulatory capture is a broad phenomenon referring to the situation where the State privileges commercial or political concerns of special interest groups that dominate the industry or sector over the public interest. Capture

significant compliance costs on firms, which may form barriers to the entry of new firms and thus reduce the level of competition in the market. This, in turn, permits firms to extract additional “rents”, or unearned surpluses in value, which incumbent firms share.

Along these lines, the law has been viewed as a means to cope with market failures. In fact, the government, and its action through the law, are essential for the protection of the welfare of the general public, given the existence of market failures that can be redressed by corrective government actions.²¹

Despite governments being called upon to counter market failures, there seems to be a consensus among scholars on the emergence of corruption. Government involvement, in fact, appears to inexorably create the potential for rent-seeking from bureaucrats to extract bribes from firms or individuals due to the excess of the value of services over their state-administered price.²² At the same time, market privatisation has been championed as a means of countering and preventing the occurrence of corruption. Policies favouring market liberalisation have been advanced by economists and the main international trade and policy-making bodies,²³ confirming such dialectic between “market forces” and “corruption”.

In their paper, significantly entitled “The Choice between Market Failures and Corruption”, Acemoglu and Verdier come forward with a framework based on four assumptions: (i) Government is a benevolent social planner intervening to correct market failures; (ii) government intervention requires the use of agents – bureaucrats – to collect information, make decisions and implement policies; (iii) these bureaucrats are self-interested, and by virtue of their superior information, hard to monitor; (iv) there is some heterogeneity among bureaucrats. These assumptions simply imply, in the words of the authors, that “when the market failure is important, the optimal allocation of resources will involve a certain degree of government intervention, accompanied by a large government bureaucracy, rents for public employees,

may be caused subtly through the provision of information, or so called “information capture”. The information imbalance between regulators and private actors, and the consequent dependency of the former on the latter, empowers industry to influence rules and standards, and tilts the outcome toward industry interests. Thus, as policy becomes more complex, and regulators become more dependent on industry, there is a higher likelihood that rules will be biased towards industry preferences. On the other hand, “representational capture” occurs when there is an imbalance in the representation of the competing interests, such as between commercial and public interests. In such cases, a regulator is at higher risk of adopting an industry-friendly point of view if the only people that it hears from, or primarily hears from, are industry members. For further elaboration upon regulatory capture, see eg D Carpenter and DA Moss, “New Conceptions of Capture – Mechanisms and Outcomes” in D Carpenter and DA Moss (eds), *Preventing Regulatory Capture: Special Interest Influence and How to Limit It* (Cambridge University Press 2014); N McCarty, “Complexity, Capacity, and Capture” in Carpenter and Moss (eds), *ibid*.

²¹ This is commonly known as the public interest theory of regulation. See eg T Prosser, *Nationalised Industries and Public Control* (Blackwell 1986); SP Croley, “Theories of Regulation: Incorporating the Administrative Process” (1998) 1 Columbia Law Rev 56; O James, “Regulation Inside Governments: Public Interest Justifications and Regulatory Failures” (2000) 78 Public Adm 327.

²² AO Krueger, “The Political Economy of the Rent-Seeking Society” (1974) 64 Am Econ Rev 291, at p 296.

²³ P Cool and C Kirkpatrick (eds), *Privatisation in Less Developed Countries* (Wheatsheaf 1988); J Vickers and G Yarrow, *Privatization: An Economic Analysis* (MIT Press 1988); C Shapiro and RD Willig, “Economic Rationales for the Scope of Privatization” in EN Suleiman and J Waterbury (eds), *The Political Economy of Public Sector Reform and Privatization* (Westview Press 1990); M Boycko et al, “A Theory of Privatisation” (1996) 106 Econ J 309; D Lal, *The Poverty of “Development Economics* (IEA Hobart Paperback No 16, 1997); World Bank, *Bureaucrats in Business: The Economics and Politics of Government Ownership* (Oxford University Press 1995).

misallocation of resources and corruption”. In their eyes, all this “indicates the unavoidable price of dealing with market failures”.²⁴

The seminal contribution by Wolf shows that neither markets nor governments can be studied in isolation.²⁵ His theoretical model of market and non-market failures captures the complexity of contributing factors determining corruption in real political and economic settings as unable to be neatly classified as either market or government (non-market) failures.²⁶ Specifically, he identified several attributes of non-market demand. Most of these relate to the political context that surrounds the activities of the government bureaux, such as increased public awareness of market shortcomings, political organisation and enfranchisement, the tendency for maximising politicians and bureaucrats to be rewarded for propagating interventionist solutions to perceived social problems without reference to the costs of implementation of the high time-discount of political actors.²⁷ The inefficiencies and inequities of public institutions are different from, but not less appreciable than, those associated with markets. More specifically, corruption provokes individuals to bear costs produced by the injurers, exactly as happens in the case of negative externalities. When a corrupt practice occurs, in fact, resources are not allocated in such a way as to yield the best output, to the detriment of consumer welfare. As Wolf’s argumentation goes, in both cases, the failures – whether market or non-market – are appraised against the same yardstick, that is, allocative efficiency and distributional equity judged according to some explicit social or ethical norm.

We think that such considerations could be interestingly linked to findings in the area of financial regulation. Importing these findings, in fact, moves the debate further, to approach the interconnections and linkages between the different contributing factors to corruption. The transfer of the nuances developed in the “systemic risk” financial regulation literature to the field of corruption raises questions pertaining to what sorts of connections, between what kinds of institutions, in what kinds of circumstances, would make corruption pose a “systemic risk” leading to such market and non-market failures. In moving in this direction, the next section will zoom out to look at the macro perspective of corruption.

²⁴ D Acemoglu and T Verdier, “The Choice between Market Failures and Corruption” (2000) 90 *Am Econ Rev* 194.

²⁵ See C Wolf Jr, *Markets or Governments: Choosing Between Imperfect Alternatives* (MIT Press 1989).

²⁶ In the literature the same concepts are referred to as “state failure”, “government failure” or “non-market failure”. See, eg, KJ Arrow, *The Limits to Organization* (Norton 1974); BA Weisbrod, “Problems of Enhancing in the Public Interest: Towards a Model of Government Failure” in BA Weisbrod et al (eds), *Public Interest Law: An Economic and Institutional Analysis* (University of California Press 1978) pp 30–41; D Parker, “Economic Regulation: A Review of Issues” (2002) 73 *Ann Public Coop Econ* 493; BE Dollery and AC Worthington, “The Evaluation of Public Policy: Normative Economic Theories of Government Failure” (1996) 7 *J Interdiscip Econ* 27; P-O Johansson, *The Economic Theory and Measurement of Environmental Benefits* (Cambridge University Press 1987); J Le Grand, “The Theory of Government Failure” (1991) 21 *Br J Polit Sci* 423; AR Vining and DL Weimer, “Government Supply and Government Production Failure: A Framework Based on Contestability” (1991) 10 *J Public Policy* 1; OE Williamson, “Review of Markets or Governments: Choosing Between Imperfect Alternatives” (1989) 27 *J Econ Lit* 92.

²⁷ C Wolf Jr, “A Theory of Nonmarket Failure: Framework for Implementation Analysis” (1979) 22 *J Law Econ* 107; C Wolf Jr, “A Theory of Non-Market Failures” (1979) 55 *Public Interest*; C Wolf Jr, “Non-market Failure Revisited: The Anatomy and Physiology of Government Deficiencies” in H Hanusch (ed), *Anatomy of Government Deficiencies* (Springer-Verlag 1983) pp 27–42; C Wolf Jr, “Market and Non-Market Failures: Comparison and Assessment” (1987) 7 *J Public Policy* 43.

IV. FROM INSIDE TO OUTSIDE: STUDYING CORRUPTION FROM A “MACRO” ANGLE

Corruption is a multi-faceted phenomenon caused by a wide array of factors. The elusiveness of corruption makes it difficult for politicians and scholars alike to fully understand the complexity of it. In striving to disentangle the different facets of it, our working hypothesis is based on a fundamental division between two dimensions: “micro” factors and “macro” factors.

Micro factors comprise key incentives and crucial variables determining the behaviour of those who engage in corrupt practices (individual incentives, rent seeking, inequities in intra- organisational allocation and evaluation of power and privilege, and so on). Corrupt behaviour can arise in a number of different forms, but the agency theory serves as the major theoretical underpinning for most of them.²⁸ Traditional microeconomic research into the causes of corruption is based on information economics and agency models, more recently supplemented by empirical studies. Information economics is grounded on two pillars: (i) not all the principals have the same amount of information on their exchange (information asymmetry); and (ii) agents’ actions and their effects are not easy to observe and/or quantify. Under these assumptions, theoretical and empirical research examines potential maverick behaviours of markets and government and suggests measures that could reduce such behaviours at the lowest possible cost.²⁹

Macro factors, on the other hand, refer to the dynamic interaction between corruption and the market where corruption occurs. Not only should corruption be defined by referring to the behaviour triggering it, but also, quite significantly, by examining how corruption affects the allocation of economic resources in the marketplace. We claim that this economic, social, and institutional dimension of corruption plays a pivotal role in orientating the efforts of states and international organisations in countering corruption.

Some studies have already taken this “macro” perspective, instead of defining corruption as an individualistic action. Those studies approached corruption as a *social deviation* (from an optimum).³⁰ They analysed the negative impact of corruption on the economic, social, and political development of countries, due, for instance, to the increased transaction costs, the reduction in the efficiency of public services, the distortion of the decision-making process, and the undermining of social values. Empirical research demonstrates that corruption is associated with social costs and inefficiencies.³¹ However, no definitive estimate has been produced of the total

²⁸ JT Wells, “Why Employees Commit Fraud” (2001) 191(2) J Accountancy 89.

²⁹ M Arnone and LS Borlini, *Corruption: Economic Analysis and International Law* (Edward Elgar 2014) p 20.

³⁰ Reinikka and Svensson, *supra*, note 15; Reinikka and Smith, *supra*, note 16; F Allen et al, “Corruption and Competition” (2015) <[dx.doi.org/10.2139/ssrn.2685219](https://doi.org/10.2139/ssrn.2685219)> (last accessed 20 January 2020).

³¹ See, eg Mauro, *supra*, note 8; P Mauro, “The Effects of Corruption on Growth, Investment, and Government Expenditure” (1998) IMF Working Paper 96/98; S-J Wei, “Why is Corruption So Much More Taxing Than Tax? Arbitrariness Kills” (1997) NBER Working Paper No 6255; S-J Wei, *Corruption in Economic Transition and Development: Grease or Sand?* (UNECE Spring Seminar, Geneva 1999) <www.unece.org/fileadmin/DAM/ead/sem/sem2001/papers/Wei.pdf> (last accessed 20 January 2020); J Edgardo Campos et al, “The Impact of Corruption on Investment” (1999) 27 World Dev 1059; D Kaufmann, “Corruption: The Facts” (1997) 107 Foreign Policy 114; V Tanzi, “Corruption Around the World: Causes, Consequences, Scope, and Cures” (1998) IMF Staff Papers 45/4; V Tanzi and HR Davoodi, “Corruption, Public Investment, and Growth” (1997) IMF Working Paper

impact of corruption in economic terms, due to the variety of specifications of variables of the statistical models used to estimate the costs of corruption.³²

Further, Shleifer and Vishny study how corruption can result in promoting allocative efficiency. They conclude that corruption might indeed improve bargaining outcomes between agents in the public and private sector, in line with the logic of the Coase theorem. Their study shows that bribery is a cheap way to distribute wealth between politicians and agents in the private sector, and because of this, both parties have an incentive to maximise total wealth. In the absence of bribery, in fact, the politicians would attempt to expropriate wealth in other, less efficient ways, and the resource allocation would become politically motivated and inefficient.³³

Thus, corruption might increase efficiency by allowing private sector agents to buy their way out of some of the inefficiencies that would otherwise be introduced by politicians. Boycko et al warn, however, that this does not guarantee the best allocation of resources, unless the objectives of politicians and their counterparts in the private sector accurately reflect social welfare in a broader way.³⁴ Macroeconometric findings on the relationship between economic cycles and corruption corroborate such uncertainty. On the one hand, data show that corruption is a contribution factor in worsening economic recessions or slowdowns.³⁵ On the other, there is proof that recessions help contrasting illegal agreements, as resources become more valuable and competitive pressure increases.³⁶

Along the same lines, comprehensive studies have been conducted on the efficiency implications of corruption through its impact on growth and investment, international trade, and development. Arnone and Borlini conclude that corruption generally reduces growth and investment, skews expenditure towards public investment and away from operations and maintenance, and redirects foreign direct investment towards countries with lower corruption.³⁷

Treisman argues for more use of experience-based corruption measures, in order to provide a statistical analysis searching for macro determinants of these measures, in

No 97/139; D Kaufmann and S-J Wei, "Does 'Grease Money' Speed up the Wheels of Commerce?" (2000) IMF Working Papers No 64; S-J Wei and S Sievers, "The Cost of Crony Capitalism" in *The Asian Competitiveness Report* (World Economic Forum 1999); S Johnson et al, "Regulatory Discretion and the Unofficial Economy" (1998) 88 *Am Econ Rev* 387; S Johnson et al, "Corruption, Public Finances, and the Unofficial Economy" (1999) World Bank Policy Research Working Paper No 2169 <ssrn.com/abstract=192569> accessed 2018; Gupta et al, supra, note 15; JE Anderson and D Marcouiller, "Trade, Insecurity, and Home Bias: An Empirical Investigation" (2002) 84 *Rev Econ Stat* 342.

³² In fact, corruption should not be necessarily accounted for as a social deviation from an optimum. If the optimum had to be Pareto efficiency, in fact, corruption might actually result, at times, in a better allocation of resources. The view that corruption can be efficiency-enhancing has a long tradition in economics, see, eg, TS Aitd, "Economic Analysis of Corruption: A Survey" (2003) 113 *Econ J* 632.

³³ Shleifer and Vishny, supra, note 6; Shleifer and Vishny, supra, note 12.

³⁴ M Boycko et al, *Privatizing Russia* (MIT Press 1995).

³⁵ GA Akerlof and RJ Shiller, *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (Princeton University Press 2009) p 64.

³⁶ M Arnone and P Davigo, "Arriva la Crisi Economica? Subito Spunta la Corruzione" (2005) 5 *Vita e Pensiero* 3.

³⁷ M Arnone and LS Borlini, "Corruption – Economic Analysis and Evolution of the International Law and Institutions" (2011) CeMaFiR Working Paper No 04 - 07.2011, Bocconi Legal Studies Research Paper No 1933460.

comparison with those used in previous studies on perceived corruption measures.³⁸ More recently, the same author draws attention to the divergence between perceived corruption measures aggregated by Transparency International (TI) and the World Bank, and the experience-based corruption measures, which survey business managers' actual experience with corruption.³⁹ Past studies have established correlation (both statistically significant or otherwise) between perceived corruption and a wide variety of political, economic, social, and cultural factors. However, the main doubt with respect to these studies is how well the perceived corruption measures reflect cross-national differences in corruption levels, instead of just differences in reputations. Such doubt is backed by numerous studies invalidating the correlation between corruption perception and experience in several countries. A quick statistical test by the author using TI's perceived and experience-based data shows that while there is a positive correlation between perceived and actual corruption experience in rich democracies and poor autocracies, for the rest of the countries the correlation is much harder to discern. The author does acknowledge the problems plaguing the two types of measures. Perceived corruption measures can suffer from preconceived bias shaped by external influences other than direct information. Experience-based measures may encounter problems such as respondents' reticence or insincerity, which can lead to underreporting or misleading data. However, the author does not believe that these problems are the cause of the disparity between the two types of measures, pointing out that countries with greater restrictions on freedom of speech and the press and countries where bribery appears to be under-reported do not coincide.

Chen et al carry out empirical analysis of the micro and macro factors affecting how likely bribery is to occur.⁴⁰ The analysis provides statistical evidence suggesting that macro factors do indeed have a significant role in the likelihood of bribery.

On the other hand, next to economic analysis, a range of social sciences literature, notably from criminology and political sciences, has discussed various "macro"-level factors contributing to corruption, including market characteristics.⁴¹

Notably, Lord and Levi focus mainly on the finances of corruption, more specifically on transnational corporate bribery: what is financed and how the funds are raised, as well as the distribution mechanisms, in the hope that the analysis would provide crucial inputs for formulating effective intervention policies.⁴² The authors classify the aspects of

³⁸ D Treisman, "What Have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research" (2007) 10 *Annu Rev Political Sci* 211.

³⁹ D Treisman, "What Does Cross-National Empirical Research Reveal about the Causes of Corruption" in Heywood, *supra*, note 9, pp 95–109.

⁴⁰ Y Chen et al, "Factors Influencing the Incidence of Bribery Payouts by Firms: A Cross-Country Analysis" (2008) 77 *J Bus Ethics* 231.

⁴¹ See, eg, N Passas, "Lawful but Awful: 'Legal Corporate Crimes'" (2005) 34 *J Socio-Econ* 771; A Mungiu-Pippidi, "Contextual Choices in Fighting Corruption: Lessons Learned" (2011) Norwegian Agency for Development Cooperation <ssrn.com/abstract=2042021> (last accessed 20 January 2020); C Can Aktan, "Political Corruption: An Introductory on Terminology and Typology" (2015) 7 *Int J Social Sci and Humanity Stud* 1309.

⁴² N Lord and M Levi, "Organizing the Finances for and the Finances from Transnational Corporate Bribery" (2017) 14 *Eur J Criminol* 365.

transnational corporate into two types: necessary elements and contingent conditions. The necessary elements consist mainly of micro aspects, pertaining to the actors involved in the act of bribery. The contingent conditions are those that facilitate and shape bribery, which consists mainly of macro aspects of corruption, such as social and legal contexts as well as collaboration among those directly and indirectly involved.

In details, the necessary elements are: (i) legitimate access to the bribery locations/resources; (ii) spatially separated from the ultimate victims, which allows for the decisions to bribe to be rational (grounding acts of bribery in microeconomic theories of economic rationality and individual decision-making); (iii) an appearance of legitimacy.

On the other hand, the contingent conditions amount to: (i) cooperating social/corporate networks (horizontally organised and flexible) of external actors such as accountants or lawyers; (ii) financial institutions willing cooperate with anonymous shell companies (in order to legitimise bribes); (iii) less developed enforcement and infrastructures (which reduce risks and increases the expected value of bribery).

These macro factors shape how the finances of bribery can be – and are – organised, by creating a conducive environment in which bribery can take place should the necessary elements be present. The authors suggest that policies aiming to reduce and prevent bribery should, based on their hypotheses, focus on both the necessary and contingent factors. They contend that it is at the corporation level that intervention policies may work best.

Natural resources management studies elaborated further on this perspective, as a result of the postulation that corruption is the main reason behind the resource curse. Corruption is said to have two main forms: rent-seeking and patronage. According to the rent-seeking perspective, macro factors play a significant role in encouraging rent-seeking behaviours. Economies with bad institutions and ethnic fractionalisation are said to be conducive for rent-seeking. The patronage phenomenon also depends on the quality of institutions of a country. Bad institutions – in this case institutions responsible for the allocation of public resources – once again are said to facilitate the resource curse. Political competition, or the lack thereof, is also another factor that enables patronage behaviours. Natural resource sectors also require complex contractual and technological arrangements, which make it easier to engage in and conceal corruption than in other sectors. The complex networks of private agents and public officials involved also increase the likelihood of corruption. It is the availability of opportunities systemic to natural resource sectors that incentivises the many players, and incentives for corruption emerge at each and every stage of the resource-extracting process. Yet, different natural resource sectors have different sets of incentives for and risks of corruption, suggesting that a one-size-fits-all approach is not recommended.⁴³

⁴³ See eg I Kolstad and T Søreide, “Corruption in Natural Resource Management: Implications for Policy Makers” (2009) 34(4) *Resource Policy* 214; DA Williams and P Le Billon, *Corruption, Natural Resources and Development: From Resource Curse to Political Ecology* (Edward Elgar 2017); OECD, *Corruption in the Extractive Value Chain – Typology of Risks, Mitigation Measures and Incentives* (OECD 2015).

V. SYSTEMIC RISK AND MACRO PRUDENTIAL FINANCIAL REGULATION

Systemic risk is a complex concept with no clear consensus on its definition, both before and after the financial crisis 2007–2009.⁴⁴ Authorities often perceive systemic risk in terms of financial stability, or, to be more precise, the lack thereof. The US Financial Oversight Council (FSOC), created by the Dodd-Frank Act, views systemic risk as something that affects “the stability of the financial system as a whole, as opposed to the risk facing individual financial institutions or market participants”.⁴⁵ The UK Financial Services Act 2012 defines systemic risk as “a risk to the stability of the UK financial system as a whole or of a significant part of that system”.⁴⁶ Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 established the European Systemic Risk Board (ESRB), whose objective is to detect “a risk which could seriously jeopardise the orderly functioning and integrity of financial markets or the stability of the whole or part of the Union’s financial system”.⁴⁷ It appears that while legislators recognise the significance of the concept of systemic risk and its considerable relevance to financial stability, these current legal definitions of systemic risk are nebulous and lacking in substance. Such definitions therefore seem to be inadequate in guiding the decision-making process of relevant authorities and providing legal basis for policies.⁴⁸

The economic literature has also been unable to come to an agreement with regard to systemic risk. In a survey on the literature, Benoit et al define systemic risk as the risk of an occurrence of an event that can severely and adversely affect many market participants simultaneously, then spreads through the system.⁴⁹ Smaga surveys 55 general definitions, each of which concerns itself with different aspects of systemic risk.⁵⁰ Reviewing these definitions uncovers several interesting trends. In line with Benoit et al’s definition, the most common features of systemic risk are its large scale and its contagion effects. Before the financial crisis 2007–2009, many definitions emphasised the sudden nature of the triggering event, and a subsequent loss of confidence. After the crisis, however, attention was shifted towards its impact on the real economy, the resulting insolvency/defaults, and its evolving nature.

There is a broad consensus regarding the two dimensions of systemic risk: the time dimension and the cross-sectional dimension.⁵¹ The time dimension of systemic risk refers to the cyclicity of the business cycle, and how systemic risk builds up

⁴⁴ S Oosterloo and J de Haan, “A Survey of Institutional Frameworks for Financial Stability” (2003) DNB Occasional Studies 104, Netherlands Central Bank, Research Department; GNF Weiß et al, “What Factors Drive Systemic Risk During International Financial Crises” (2014) 41 J Bank Finance 78.

⁴⁵ US Department of the Treasury, *2011 Annual Report – Financial Stability Oversight Council* (US Department of the Treasury 2011).

⁴⁶ UK Financial Services Act 2012, Pt 9C.

⁴⁷ EU Regulation 1092/2010 of the European Parliament and of the Council.

⁴⁸ L Amorello, *Macroprudential Banking Supervision & Monetary Policy* (Palgrave Macmillan 2018).

⁴⁹ S Benoit et al, “Where the Risks Lie: A Survey on Systemic Risk” (2017) 21 Rev Finance 109.

⁵⁰ P Smaga, “The Concept of Systemic Risk” (2014) SRC Special Paper No 5.

⁵¹ O Butzbach, “Systemic Risk, Macro-Prudential Regulation and Organizational Diversity in Banking” (2016) 35 Policy Soc 239; X Freixas et al, *Systemic Risk, Crises, and Macroprudential Regulation* (MIT Press 2015); FSB, IMF, and BIS, *Macroprudential Policy Tools and Frameworks: Technical Report February* (2011); IMF, *Key Aspects of Macroprudential Policy: Technical Report* (2013).

and evolves pro-cyclically over time. The cross-sectional dimension refers to the distribution of systemic risk at any point in time. Butzbach interprets this as the degree of interconnectedness of financial institutions.⁵² Freixas et al open up the definition to refer to other negative externalities that are exogenous to the system. These include spill overs following negative events and policies, and sparked a sheer interest in the analysis of contagion, particularly using network models.

As Claudio Borio maintains, macro “is an orientation or perspective of regulatory and supervisory arrangements”.⁵³ Macro-perspective means calibrating them from a system-wide or systemic perspective, rather than from that of the safety and soundness of individual institutions on a stand-alone basis. It implies taking a top-down approach and identifying the desirable output for the system as a whole and, from there, eventually deriving the optimum for the individual institutions within it. It means explicitly taking into account the fact that drivers of risk depend on the collective behaviour of the parties and actors in the market.

VI. THE APPLICATION OF THE CONCEPT OF ‘SYSTEMIC RISK’ TO CORRUPTION

In taking this peculiar stance, this orientation or perspective of regulatory arrangements, we move the policy questions to the identification of the *causal connection* between corruption and market mechanism. This means that our analysis is focusing on sectors and activities that are most affected; ways in which corruption distorts the allocation of the factors of production, ie labour, capital; ways in which corruption hampers the competitiveness of domestic markets and income distribution. In declining to apply this macro-perspective angle, we draw upon the concept of systemic risk, as thoroughly elaborated by the economic and legal literature in the domain of banking and finance. Since the “macro” perspective indeed gained great momentum in the financial sector, we consider it meaningful to integrate ideas from this field into the anti-corruption debate.

So, what would the concept of “interconnectedness” of global financial institutions, a key contributor to systemic risk in financial markets, look like in corruption? What would the mapping of the “architecture” entail? What sorts of connections, between what kinds of institutions, in what kinds of circumstances, would make corruption pose a “systemic risk” of leading to such failures? We proceed and attempt to transfer the nuances developed in the “systemic risk” financial regulation literature to the field of corruption.

In his ground-breaking contribution, Schwarcz asserts that greater focus should be devoted to the marketplace and the relationship between markets and institutions, rather than to the phenomena taking place at the “micro” level. In building up his arguments, he defines systemic risk as the situation where a “trigger event, such as an economic shock or institutional failure, causes a chain of bad economic consequences – sometimes referred to as a domino effect that impact markets”.⁵⁴ In the financial sector,

⁵² Butzbach, *supra*, note 51.

⁵³ C Borio, “Towards a macroprudential framework for financial supervision and regulation?” (2003) BIS Working Papers No 128, p 5.

⁵⁴ SL Schwarcz, “Systemic Risk” (2008) 97 *Georgetown Law J* 193, at p 195.

the chain of negative economic consequences occurs because banks are closely intertwined financially.⁵⁵ They lend to and borrow from each other, hold deposit balances with each other, and make payments through the interbank clearing system. Because of this interconnectedness, one bank's default on an obligation to another may adversely affect that other bank's ability to meet its obligations to yet other banks, and "so on down the chain of banks and beyond".⁵⁶ The ultimate objective of a macro-prudential approach to regulation and supervision is thus to avoid or minimise the costs they generate for the real economy.⁵⁷

This perspective lends itself well to an interpretation of some forms of corruption. In fact, corruption sets in motion a chain of economic, institutional, and social costs, nullifying the correct functioning of market mechanisms with potential destructive consequences for the whole economy.

Thus, by synthesising the relevant factors to the purposes of this study, we can reach a working definition of *systemic risk*: the risk that (i) a corruption act triggers either (X) the failure of a chain of markets or institutions or (Y) a chain of significant (transitory positive or) negative economic consequences, possibly producing social costs and hence (ii) resulting in a miss-allocation of resources (ie increases the cost or decreases the availability of capital, labour, land, and entrepreneurship).

The concept of X is elaborated along the lines of what political scientists, such as Lessig and Thompson, have termed "institutional corruption", where public bodies have lost their function and public confidence due to institutional corruption.⁵⁸ As explained in Thompson's book, *Ethics in Congress: From Individual to Institutional Corruption*, and as developed in a series of articles that extend and refine the idea, "institutional corruption" is defined in contrast to "individual corruption".⁵⁹ "Individual corruption", Thompson explains, is the "personal gain or benefit by a public official in exchange for promoting private interests". "Institutional corruption", by contrast, is "political gain or benefit by a public official under conditions that in general tend to promote private interests".

Y indicates the setting in motion of a negative consequences (ie misallocation of resources, factors of production, etc) due to connection and contagion. This element is quite essential, since it moves the focus on effective rules, reliable institutions and effective system of prevention, control, and punishment of deviant behaviour (governance) to whether and how the qualitative characteristics of governance cause the actual spreading of corruptive episodes.

In fact, contagion is inherent to the systemic risk and occurs when systemic risk materialises.⁶⁰ Contagion is the main mechanism through which instability becomes

⁵⁵ For a review of the multitude of systemic risk definitions in the literature, see Smaga, *supra*, note 50.

⁵⁶ Schwarz, *supra*, note 54, p 199.

⁵⁷ Borio, *supra*, note 53, p 7.

⁵⁸ L Lessig, "Institutional Corruptions" (2013) Edmond J Safra Ctr for Ethics Working Papers No 1, <papers.ssrn.com/sol3/papers.cfm?abstract_id=2233582> (last accessed 20 January 2020); DF Thompson, *Ethics in Congress: From Individual to Institutional Corruption* (The Brookings Institution 1995).

⁵⁹ *ibid.*

⁶⁰ S Martínez-Jaramillo et al, "Systemic Risk, Financial Contagion and Financial Fragility" (2010) 34 J Econ Dyn Control 2358.

so widespread that a crisis reaches systemic dimensions, resulting in an appreciable misallocation of factors of production and economic resources.

This implies that systemic risk boils down to transmission. The transmission is sequential, in a causal sense, as the triggering event occurs in one point of space (or one economic actor) and moves to another or others, depending on the network of relations connecting all the points (and economic actors) of the ecosystem. As well described by Smaga, “contagion effect can therefore be defined as the probability that the instability of the given institution (instrument, market, infrastructure, financial system sector) will spread to other parts of the system with negative effects”.⁶¹

The transmission mechanism multiplies the shock, resulting in a domino effect with a negative impact on the overall reallocation of resources (allocative efficiency). Contagion and transmission depend then on the various channels through which the initial shock (trigger event, ie corruption) spreads out.

In that respect, countering systemic risk requires, among other things, the study of the level of “interconnectedness” in a given context, and “interlinkages” between the different actors involved. In order to detect the pattern of diffusion, it is essential to map out what Lessig refers to as “architecture” – that is, the code, protocols, platforms, and structures that determine how firms behave and how policy- and law-makers react.⁶² The set of relations between economic actors and social, political, legal, and civil institutions is indeed essential since it creates the network through which occurrence can ignite systemic risk and provoke social costs. Such architecture consists of a set of rules, institutions and agents who mutually interact in the management of resources. This is in line with the very foundational idea of the law as an instrument used by the state to achieve the community’s chosen collective goals, creating and policing the boundaries of a platform for free and secure interaction between participants.⁶³ In that regard, the law is a “facilitator” serving as a connecting point between the different parties and actors of the market. The law hence frames the interactions, generating “the rules of the game” and whether and how each player is dependent on and intertwined with the others.

Gaining a comprehensive understanding of the dynamics through which corruption proliferates *within* and *between* markets therefore entails an in-depth analysis of the dynamic interactions between actors and/or systems, and to the operations of forces which produce a constant tension between stability and change within a system. However, those interactions are themselves “complex and intricate, as actors are diverse in their goals, intentions, purposes, norms, and powers”.⁶⁴ This creates a difference in how the “micro” perspective and the “macro” perspective pursue their

⁶¹ Smaga, *supra*, note 50.

⁶² L Lessig, *Code 2.0* (Basic Books 2006).

⁶³ B Morgan and K Yeung, *An Introduction to Law and Regulation* (Cambridge University Press 2007) p 26.

⁶⁴ J Black, “Decentering Regulation: Understanding the Role of Regulation and Self-Regulation in a ‘Post-Regulatory’ World” (2001) 103 *Curr Leg Probl* 54; J Black, “Mapping the Contours of Contemporary Financial Services Regulation” (2002) 2 *J Corp Law Stud* 243; J Black, “Critical Reflections on Regulation” (2002) 27 *Aust J Leg Philos* 1; J Black, “Enrolling Actors in Regulatory Systems: Examples from UK Financial Services Regulation” (2003) *Public Law* 63; J Black, “Seeing, Knowing, and Regulating Financial Markets: Moving the Cognitive Framework from the Economic to the Social” (2013) LSE Legal Studies Working Paper No 24 <ssrn.com/abstract=2346098> (last accessed 20 January 2020).

Table 1. The micro and macro perspective to corruption compared

	MICRO	MACRO
OBJECTIVE	Limit personal incentives to corruption (minimise agency costs)	Improve resource allocation (minimise social costs)
CHARACTERISATION OF RISK	Seen as dependent on individual agents' behaviour (endogenous)	Seen as dependent on collective behaviour, interconnections and interlinkages (exogenous)
CORRELATIONS ACROSS PARTIES AND ECONOMIC ACTORS	Irrelevant	Essential
CALIBRATION OF POLICIES AND CONTROLS	Bottom-up; in terms of risks of individual organisations	Top-down; in terms of system-wide risk

objectives, characterise risks, appraise correlations across parties and economic actors, and eventually calibrate their policies respectively (see Table 1).

To address common exposures and interlinkages operationally, financial policy-makers and scholars alike studied the contribution of each market player to systemic risk, once a given level of acceptable risk for the system as a whole is selected.⁶⁵ Taking into account elements listed above, one can propose a conceptual model of “macro” analysis of corruption. The model consists of several components. Such components might be considered as the steps of a policy “roadmap” to gauge the intensity and likelihood of “systemic risk”:

- triggering event (type of corruption practice, source, duration, scope);
- institutions (legal, political, and economic) affected by the triggering event or shock;
- channels of contagion (mapping out *where* the “triggering point” is located and what network of relation revolves around the triggering point);
- structural vulnerabilities (mapping out *how* the “point” or “place” where corruption occurred connects with the network, ie regulatory fragmentation, lack of enforcement mechanisms, peculiarities of the good or service subject of corruption, etc).

VII. CONCLUDING REMARKS

This paper surveys a range of issues relating to the law and economics analysis of corruption. The widespread disjunction between “markets” and “corruption”

⁶⁵ IMF, *A Fair and Substantial Contribution by the Financial Sector: Final Report to the G20* (2010); E Perotti and J Suarez, “Liquidity Insurance for Systemic Crises” (2009) CEPR Policy Insight No 31; VV Acharya et al, “Measuring Systemic Risk” (2017) 30 *Rev Financ Stud* 2; Borio, *supra*, note 53, p 7; C Borio, “Implementing a Macroprudential Framework: Blending Boldness and Realism” (2011) 6 *Capitalism and Society*; C Borio, “The Financial Cycle and Macroeconomics: What Have We Learnt?” (2014) 45 *J Bank Finance* 182.

represents something of a puzzle. Up until now very scant interest has been paid to the interdependencies between corruption and the market where corruption occurs. To the contrary, we believe that the formation of law and policy to counter corruption ought to incorporate considerations pertaining to market dynamics.

This study represents the first attempt to conceptualise how corruption relates to the context within which it occurs and thus to formalise a theory of the systemic implications of corruption. From a policy-making perspective, this study demonstrates that a “macro” perspective is as useful for understanding (and consequently addressing) corruption as the (prevailing) “micro” perspective. In fact, some “macro” factors mould the manifestation of the corrupt practice, along with “micro” factors.

Corruption is often undertaken as a means of overcoming efforts to transfer resources through regulation. Corruption tricks the market, and the legal order of the market, to transfer resources to the hands of few at the expense of community. To prevent such phenomena, policies and regulatory engagement need to scrutinise and incorporate the signals and characteristics of the market. The essence of this approach is that corruption is no longer seen as isolated from markets. Rather, the patterns of corruption are materially influenced by how the market is formed and by the set of relations between economic actors.

This innovative entry point of analysis into the policy debate opens up interesting avenues for further research, particularly relating to analytical tools and policy actions to adequately monitor interconnectedness and contagion. This might involve potential contagion channels to be identified and modelled, allowing for the possibility to broadening the range of macroprudential instruments beyond those currently available, which focus almost exclusively on the micro dimension of corruptive phenomena.