Financial Information Asymmetry and
The Challenges of Global Governance

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Abstract

Finance has been founded on the concept of information asymmetry since the beginnings of the industry. Financial intermediaries not only know more about those who supply and those who demand capital, but are encouraged by governments to gain and maintain information asymmetry advantages in order to effectively intermediate. Yet such advantages may combine with political influence and questionable ethics to engender excessive risk-taking, encourage self-dealing, and exacerbate financial crises. Analyzing how informational asymmetry arises in finance and how organizational structures employ this asymmetry will enable us to understand the challenges of global financial governance. Implementing policies which encourage bankers and financiers, and their financial institutions, to act as stewards will strengthen financial environments and enhance financial resilience. Modern financial intermediation involves the interlinked, network nature of financial risk and requires integrated governmental regulation with private actor governance structures which employ informational asymmetries.

Keywords

Information asymmetry; financial risk; financial regulation and governance; networks; club goods in finance, ethics.
INTRODUCTION

For half a century until his death in 1905, eminent banker Alexander Kleinwort fastidiously kept “information books” in which he recorded details on every one of his clients, the details of their financing and the particulars of each counterparty bank (Chapman, 1984: 72-5; also 43–5). Information in “the City”, as London’s financial district has long been known, was a powerful form of capital. Information linkages between London bankers and government officials were quite common, as English bankers “were guided by some brief public intimation, a speech in the House of Commons or at a political dinner...” (Feis, 1930: 86). Linkage between governments and bankers based on shared information can be traced back millennia. Informational linkages between government and banking have grown through war (Kennedy, 1987: 76–84; Tilly, 1992), processes of macroeconomic management (Alessandri & Haldane, 2009; Bakır, 2013; Pérez, 1997) and diplomacy (Chapman, 1984; Ferguson, 1999; Tilly, 1992).

Financial intermediaries not only know more about those who supply and those who demand capital; they have long been encouraged by governments to gain and maintain information asymmetry advantages in order to effectively intermediate. This symbiotic relationship deepened considerably as governments grew larger through providing services and defending borders. The first known forms of bankers’ acceptances and letters of credit were established in China in the 11th century A.D. as the imperial government enabled banks to issue “flying money” and notes based on tax revenues (von Glahn, 2005; Horesh, 2013: 49-64). An inflection point in government/banking relationships was reached in the European wars beginning in the late 17th century, as the "two-way system of raising and simultaneously spending vast sums of money acted like a bellows, fanning the development of western capitalism and of the nation-state itself" (Kennedy, 1987: 76, also 72-85).

Governments sought out banks for their capacity to transmit, use and store information as well as for their capital-raising capacity. Two hundred years ago, the Rothschild family maintained such an effective network of “private couriers to-ing and fro-ing with copies of letters... [that by the 1830s, this network was] used by the leading statesmen of the continent as an express postal service” (Ferguson, 1999: xxvii). Banks and bankers, particularly in Europe and America,
began to develop large proprietary stores of information which could be used to obtain, originate and structure deals (Chapman, 1984; Hidy, 1941; Morrison and Wilhelm, 2004). Modern governments use banks’ information to plan economies, target industries for expansion, promote social programs, and monitor tax compliance. Banking theory holds that banks act as information conduits (Allen, 2001; Rajan & Winton, 1995) by accepting this social function to monitor their clients and pass on part of this information to governments, other financial institutions, private observers and the public at large (Diamond, 1984; Schumpeter, 1939).

As the late 20th century progressed, banks and financial intermediaries increased return to capital-holders (Piketty, 2014) and increased their political power (Pauly, 1997) as the financial sectors of modern economies grow relative to other sectors (Bush, 2014; Philippon & Reshef, 2009). Banks and financial intermediaries also created excessive risk (Aliber, 2005; Alessandri & Haldane, 2009; Woolley, 2010). Banks’ informational advantages combined with political influence and questionable ethics have encouraged this excessive risk-taking (Carruthers, 2013; van Horne, 1985) as well as self-dealing (Wooley, 2010). This combination may also deepen, broaden and extend financial crises (Bhidé, 2009; Rajan, 2006). We have witnessed a shift from a time when “American banks were chartered because they were considered… in the more mystical terminology of the 18th and 19th centuries, ‘public blessing[s]’” (Polski, 2003: 42).

Analyzing how informational asymmetry arises in finance and why organizational structures employ this asymmetry will enable us to understand the challenges of global financial governance. Implementing policies which encourage bankers and financiers to act as stewards will strengthen financial environments and enhance financial resilience (Bakir, 2013; Selmier, forthcoming). Insisting upon such stewardship will help instill- or help re-instill- a sense of moral primacy into financial actors and financial markets. Modern financial intermediation and the interlinked, network nature of financial risk have developed together (Allen & Babus, 2009; Selmier, 2013; Zaloom, 2006). Thus it requires integrated governmental regulation with private actor governance structures which employ informational asymmetries as well as a sense of moral rectitude and stewardship among bankers and financiers.
Banks are institutions which are fundamentally important to any economy. In their role as financial intermediaries, banks intermediate across both space and time. In space, a bank accepts deposits from those who have capital and then makes loans to those who require capital; in time a bank converts short-term deposits into long-term loans. Through this intermediation, banks engage in “qualitative asset transformation” (Boot, Greenbaum & Thakor, 1993; Greenbaum & Thakor, 1995). This simple, but fairly accurate, archetypal intermediation model allows banks to profit by exploiting interest rate spreads between deposits and lent/invested funds, and also accurately represents the bank’s risk inherent in maturity mismatches. However this intermediation model is bank-centric rather than encompassing the network nature of finance (Allen & Babus, 2009; Zaloom, 2006) and financial networks’ heavy dependence on organizations which span multiple financial intermediaries (Bakır, 2013; Selmier, 2013, forthcoming). As discussed throughout the rest of this paper, financial networks and organizational structures directly influence information flows and informational asymmetry amongst financial intermediaries and between financial intermediaries and the broader public.

In their intermediation role, banks have long relied not only on financial capital, but also on reputational and informational capital (Boot, Greenbaum, and Thakor, 1993; Morrison and Wilhelm, 2004, 2008). Financial capital includes not only the bank’s deposits, reserves, and equity and debt outstanding, but also its capacity to obtain more financial capital through central banks, other private banks, and both public and private investors. Banks’ informational capital comes through gathering, saving and using information. This information includes “hard data” which may be considered as that data which can be manipulated through alphanumeric calculation, and “soft data”, obtained through personal interactions with various contacts including clients as well as other financial actors and government officials (Boot, 2000, Greenbaum & Thakor, 1995). This soft data is less easily managed, due in part to the complexities of organizing and codifying the experiences, tacit knowledge and financial talent within the bank (Boot, Greenbaum, & Thakor, 1993; Ferguson, 1999; Morrison & Wilhelm, 2004, 2008). Reputational capital is accumulated through trust and successful financial contracting which leads to recognition within the industry, by government officials and among
active and potential clients. To become and remain successful, such intermediaries must rely on information, communication, capital and above all, reputation.

Importantly, banks may be considered as intermediaries in property rights as well as in financial capital flows. Because these financial contracts involve intangible assets, uncertain outcomes and considerable risk, belief in the honesty and integrity of the “counterparty” is essential. Carruthers and Kim (2011: 240) elegantly put it:

*Promises form the core of finance... Much financial activity involves, one way or another, the design, production, distribution, evaluation, acceptance (or rejection), enforcement, and modification of promises.*

Those property rights intermediated or possessed by banks and other financial institutions present complex challenges. While an industrial firm may protect its business through patents and intellectual property rights, banks and financial firms rarely can construct such IPR portfolios around financial products and processes. So while a bank or financial institution may have proprietary information about its clients' IPR portfolios- these are often assets upon which loans or investments are made- it has a more limited IPR portfolio of its own. Rather, the most important corporate asset for a financial firm is its people and its capital, both highly mobile. In order to compete, a financial firm must constantly and creatively employ these corporate assets to design new financial products (Allen & Santomero, 1997; Palmer, 2012) and redesign its corporate structure around these new products (Eccles & Crane, 1988; Selmier & Frasher, 2013), utilizing its informational and reputational capital and profitably deploying the financial capital it has or can access. In so doing banks and financial firms innovate and embrace new technologies.

An example illustrating this concept of constant, creative design and limited IPR portfolio may be seen in the development of “Treasury strips”, which were synthetic fixed income instruments created by US banks and brokerage firms in the early 1980s. At that time the yields on US Treasury bonds were historically high. At the simplest, banks and brokerage firms split Treasury bonds into principal and interest coupon streams: clients who wished to acquire an income stream bought the coupon instruments; those who wanted a payout in the longer term bought the principal coupon (for instance, someone planning for retirement income in 20 or 30 years). The plethora of brand names and the speed at which competitors rushed to bring out “me-too” products indicates the difficulties of constructing IPR protection around new financial products.
Treasury strips were first developed in 1981 by Merrill Lynch and called LYONS [Liquid-yield Option Notes], and soon competing investment banks brought out similar instruments with names like TIGRs [“tigers”, Treasury Income Growth Receipts], CATs, ZEBRAs, STAGs and so on (Rybczynski, 1988; Sandretto, 1993).

Partly because they cannot defend their business behind the walls of IPR portfolios and must develop products as quickly as possible (Palmer, 2012), banks are often at the forefront of new ICT and organizational/financial technologies. Over the last two centuries banks and financial firms have been among the first to adopt use of the telegraph, the telephone, and computing. Such new technologies enabled banks and financial firms to gain a temporary advantage over their competition. For instance, in the 1870s Montagus became the first London-based bank to extensively use the telegraph, locating their offices so as to trade based on telegraphed information (Chapman, 1984: 47). To put this into modern perspective, the global financial services industry invested more than any other aggregated buying group- more than even governments- with an estimated information technology budget of $500 billion in 2009 (Economist, 2009). This high level of IT investment has been long-established; large financial firms were among the early investors in supercomputing, investing on what technologists call the “bleeding edge” because of the costs of acquiring the latest technology. Citibank’s mid- effort to develop the world’s most advanced check-processing system resulted in the scrapping of a multi-million USD automated check processing machine before it was even completed- the “iron” was towed out and sunk in the Atlantic (van Cleveland and Huertas, 1985: 291–93).

Quite simply, banks attempt to develop asymmetric advantages vis-à-vis competing financial institutions and other social actors through their massive IT investment programs. However these huge IT investments can become inefficient; so large, segmented and sometimes ill-coordinated are the resulting stores of information that financial institutions themselves sometimes experience problems accounting for complex instruments (Economist, 2009; Sandretto, 1993), managing them (Eccles & Crane, 1988; Lewis, 2009) and even understanding them (Hu, 2012; Zink & Selnier, 2013). The LYONS, TIGRs and CATs noted above provide an example, as corporate managers struggled to account for the informational complexity of the embedded income streams on their balance sheets (Sandretto, 1993).
Because banks have access to such immense stores of information, and also because they are fragile institutions, banking economists extend their argument to say that banks are charged with a *social responsibility* to employ their informational advantages to monitor financial contracts (Diamond, 1984), whether banks are in developed or developing economies (von Mettenheim, 2006; Stallings & Studart, 2006). In other words, they must use their information to monitor then transmit information embedded in that monitoring to society at large (Allen, 2001; Diamond, 1984; Rajan & Winton, 1995). Loan and debt covenants are constructed around this function (Krasa & Villamil, 1992; Rajan & Winton, 1995). The theory is that their position as financial intermediaries effectively requires that they accept this social function to monitor their clients and pass part of this information (Diamond, 1984; Schumpeter, 1939).

This function is termed delegated monitoring. Societies have delegated to financial intermediaries this monitoring function to improve economic efficiency (Diamond, 1984; Krasa & Villamil, 1992). Monitoring is costly in that information collection and analysis requires expertise, time and money, as evidenced by the financial industry’s very high IT investment, the above-average compensation for those working in the industry, and the fees charged. Some of these fees may come in the form of rents extracted through obtaining oligopolistic positions in the financial industry. Delegated monitoring not only provides information in a direct form, but indirectly the information provided improves the discipline of both borrowers and lends, enables risk management in regional and national economies, and thereby improves overall management in intermediated financial markets (Diamond, 1984; Krasa & Villamil, 1992) and in traded financial markets (Allen & Santomero, 1997). These benefits are theorized to permeate out through an economy whether banks hew to a relationship model of banking or a transactional model of banking.

Relationship banking involves a bank or banker investing a considerable amount of time in face-to-face interaction with a client, which results in proprietary knowledge used in making credit allocation decisions (Boot, 2000: 10). Transactional banking may be considered at the opposite end of the spectrum from relationship banking: arms-length, hard data-driven financial contracting transacted at sufficiently high volume to justify the considerable expense required for data processing. These are archetypal forms of banking; in practice, relationship banking does not eschew hard data, and transaction-oriented banking usually leads to person-to-person
contacts through trading and client interaction. As may be gathered from above, there are substantial information search costs in both types of banking. And information storage, usage and intra- and inter-bank transmission of the data captures is costly as well. (Berger & Udell, 1992; Boot, 2000; Hayes, 1979).

**Information Pathologies in Relationship and Transactional Banking**

Relationship and transaction banking each have certain pathologies in the ways in which information is hidden, lost, undisclosed, or simply not acted upon. These pathologies affect economic efficiency, social justice and, of course, governance quality. The value of information is driven in part by how well known and accessible it is, and so the corporate governance of information within a bank concerns both the bank itself and the society in which it operates.

To gain a perspective on these pathologies we can juxtapose examples from the United States and Chinese banking systems. Given the size of their economies, their political power and the influence of their banks, we can see how these pathologies may be easily be projected outside the respective home country into other countries’ banking systems and into the character of international banking. Table 1 charts how informational shortfalls play out in relationship and transactional banking and so give rise to these pathologies.

We should note at the start that the US hews toward a transaction banking model while China hews toward a relationship banking model. A major challenge facing information disclosure under the transactional banking model is that bankers and financiers are incented to produce as many transactions as possible but, once a transaction is completed, there is little incentive to continue monitoring. Because the bank-client relationship is distant and there is a very high volume of transactions, the conception had been that little reputational damage results if a few transactions go bad.

But a lurking systemic danger became evident in the recent global financial crisis when collapse of parts of the US mortgage market led to massive problems. The *Economist* (2008) colorfully described this pathology in US mortgage banking terms:

> Old-fashioned mortgage lending is like a marriage: both the bank and the borrower have an incentive to make things work. Securitization (before the 2007 onset of financial crisis)... was more orgiastic, involving lots of participants in fleeting relationships.

This pathology is labelled A in Table 1 below.
In Chinese banking this pathology manifests in a second form in that large Chinese banks show even less interest in smaller and medium-sized commercial clients [SMEs] than their banking counterparts in other countries (Cousin, 2007; Zhang, 2002). SMEs may have relationships with smaller banks but for many of the SMEs their only banking relationship is with a local credit cooperative or other non-bank financial institution (Fu & Bao, 2011; Zhang, 2002). Compared with other countries’ banking systems, monitoring of SMEs is weaker in Chinese banking and information is less accessible (Fu & Bao, 2011; Selmier, 2016a,b).

Banking suffers from incomplete information sets partly because everything about the client cannot be known. In transactional banking, lack of interpersonal client contact and history may not be offset by information gleaned through credit scoring models, risk pooling and other quantitative financial analytics. Hence hard data assumes a greater role in risk management, in competition with other financial intermediaries, and in ongoing corporate planning and reporting to government agencies. But accuracy in these functions may compromised due to overreliance on hard data and a lack of client interactions, as indicated under B in Table 1. A linked problem involves difficulty in renegotiating financial contracts as a relationship does not exist (see Rajan, 2006: 511, as to why this problem becomes more brittle with credit-default swaps).

If one could characterize information pathologies in transactional banking as arising because banker-client relationships as too distant, then the pathologies labeled C and D in Table 1 arise because relationships are too close under relationship banking. That “closeness” masks a wide variation between C and D, however. In any bank, control over credit is subject to size of loan and size of client which then guide how high in banking management a loan must “climb” to obtain a sign-off on credit allocation, and so it is in Chinese banking. To remove steps on "the ladder", some Chinese bankers will split larger loans into smaller pieces (Cousin: 2007, 101-4), thereby hiding information from not only senior banking management but also from government officials task with auditing and monitoring a bank in question (labelled C in Table 1).

Kornai (1986) described this problem, writ large, as a combination of undue client and government influence on banking decisions as the soft-budget constraint. He argued soft-budget constraints were common in communist economies where government officials were unwilling
to restrict funding to struggling state-owned firms. Banking economists shifted Kornai’s concept into relationship banking by arguing that banks were often unwilling to enforce harsh lending conditions, particularly in East Asia (Maskin, 1996; Qian, 1994). A banker may violate her fiduciary responsibility by extending additional capital to the borrower (Kang, 2002) or be pressured by government officials (Hakenes & Hainz, 2008). The influence of government influence in managerial appointments within China’s state-owned banks makes this more pernicious (Shen & Lin, 2012). This problem is labelled D in Table 1.

**INFORMATION AND STRUCTURE OF FINANCE IMPACTS GOVERNANCE**

The above-mentioned pathologies are those which may manifest between clients and their banks or bankers. But there are also problems which manifest at pan-industry levels and pan-society levels. These systemic problems are better understood by looking at how the structure of finance and the organizations created within the industry help to manage information flows. These organizational structures channel those flows and lead to repositories of information within the firms, structures and industry itself.

Over much of long history of banking, banks and bankers organized into clubs to manage information, share or lessen financial risks, and to govern themselves. A club is “a voluntary group deriving mutual benefits from sharing one or more of the following [characteristics]: production costs, the members’ characteristics, or a good characterized by excludable benefits” (Sandler & Tschirhart, 1997: 335). In the financial industry we find organizations which illustrate all three of these characteristics: production costs are lowered in firms which accumulate the expertise to engage in a variety of financial deals, gather the informational stores to gain a competitive advantage over their competitors, and obtain the capital and contacts required to spread out risk. Banking partnerships, venture capital and private equity firms, and mutual fund complexes all exhibit these tendencies. It is not a stretch to say the unique, specialized expertise resident within these organizations constitute unique characteristics. And certainly those who work within enjoy goods such as profits, informational advantages, and privileged access. That is not to say that there is equal enjoyment of these goods in such industry structures, as some within the club walls may gain more and suffer less risk (Scotchmer, 1985; also see Siquiera, 2001, for a broader game-theoretic approach to this point).
The scope of banking clubs have gradually shifted from firm structure to groups of firms such as bank clearing houses and syndicates toward industry-spanning forms of clubs (Chapman, 1984; Selmier, 2013). A prominent example of an industry-spanning club consists of the banks which are considered too-big-to-fail [TBTF]. The club-like characteristics of American banks who are members of the TBTF club include access to implicit insurance underwritten by the US government which serves to lower these banks' costs of funding by a substantial amount (Alessandri & Haldane, 2009; Hughes & Mester, 1993; Mester, 2005) as well as raise their market capitalization (Brewer & Jagtiani, 2007).

TBTF presents the sharp edge of increasing capital-concentration in the industry. In 1979, Hayes warned that American investment banking was being "transformed" as capital requirements to compete for the larger, more prestigious deals required rapidly growing capital reserves. This shift accelerated the ongoing decline of investment banking partnerships whose capital was limited by their partners' reserves and retained earnings (Chapman, 1984; Morrison & Wilhelm, 2004). The symbiotic ties between increasing levels of capital requirements and IT investments widened the growing gap in informational asymmetry, political power and the capacity to capture profits in new financial profits between larger, well-capitalized commercial and investment banks and smaller ones. IT investments could not be funded without capital to invest in deals, to retain profits, and to develop new products. New products and larger deals could not be structured without higher IT investments.

Capital and information have combined to create complex new products which revolutionized the industry, and this process accelerated over the last half-century. An example would be the development of mortgage-backed securities. What might be termed traditional American mortgages were usually originated and then locally-held by the saving and loan association or private bank which had first arranged the mortgage and whose bankers watched over and serviced the mortgage until it was paid off (Bartlett, 1989: ch. 1). The introduction of powerful computing technology enabled financial institutions to begin to pool thousands of mortgages together around 1968, creating “mortgage pass-throughs” wherein the mortgages were still separated loans but were now serviced through a central operation. In a few years mortgage-backed securities [MBS] were developed. In these products the interest payments and principal amounts were comingled in a debt structure wherein cash flows could be sliced and diced to fit
investors’ needs (Bartlett, 1989; Hayre, Mohebbi & Zimmerman, 1995). A series of innovations followed in which more variance and more complexity in MBS added valuable options of differing maturities and risk levels for some, and overwhelming complexity for others. Complex innovations like these led eminent financial economists Allen and Santomero (1997: 1480) to segment the market by informational asymmetry:

... who is the market? From our perspective it consists of two different groups... The first of these are the market participants of economic theory. They are fully informed at each instant of time and are active participants in the dynamic management of their portfolio of financial assets... [T]he second group... are usually described as uninformed. They are making decisions with limited information on both the nature of the financial claims involved and the most recent information on fair market value. It is to this group that the financial intermediary offers participation services...

Over the last half-century power over information and capital allocation led to increasing political power. Political power, like information-linked advantages, accrued more to the dominant nodes in financial networks. This led to structural power derived through finance (Cerny, 1994; Strange, 1990), especially from the dominance of financial institutions’ and countries’ positions in financial networks (May, Levin & Sugihara, 2008; Oatley, Winecoff, Pennock & Danzman, 2013). Financial economics has been based on maximum entropy models in which “banks spread their lending as evenly as possible” (Allen & Babus, 2009: 372-74).

These models ignore three important aspects of financial markets: one, bankers and financiers prefer to deal with those they trust. Dealing increases information flow to those who dominate trade flow. Two, markets had long been hierarchically structured. With dominant nodes (May et al, 2008) and informational asymmetry within markets (Allen and Santomero, 1997; Zink & Selmier, 2013), hierarchies became more prominent. And three, the actors in financial networks are consistently gaming both the market and systemic risks to take advantage of their informational advantages and lower exposure to individual (Bhidé 2009; Woolley, 2010).

Rather than markets developing along the lines of maximum entropy models, financial markets have developed into disassortative financial networks, wherein fewer counterparties handle more of the transactions. These types of networks engender different individual and systemic risks than those encountered under maximum entropy models and, as much of financial market
governance is based on the more accepted model accepted in financial economies, considerable governance challenges arise.

WHY REGULATORS ARE DISADVANTAGED REGARDING BANK GOVERNANCE

Those banks and financial institutions who occupy the dominant nodes in their respective disassortative financial networks are often able to use their advantages regarding regulation and governance (Congleton 2009; Weder di Mauro, 2009). In addition to gaining leverage through TBTF (Alessandri & Haldane, 2009; Brewer & Jagtiani, 2007; Mester, 2005), scholars have described a broad range of regulatory challenges as “boundary issues.” Goodhart and Lastra (2012) see innovation and the ways in which adaptive actors engage in opportunistic behavior as casual links in the challenges to demarcate regulatory responsibility between regulated and unregulated financial institutions, as well as how to set geographic boundaries when an actor operates across borders where legal and regulatory structures vary from one side to the other. Very large banks not only cross regulatory as well as geographic borders; in some cases banks take advantage of boundary conditions by purposefully creating boundary-crossing innovative products (Allen & Santomero, 1997; Goodman & Pauly, 1993; van Horne, 1985) which may come with unknown consequences (Hu, 2012; Rajan, 2006). For instance, multi-currency swap arrangements with embedded options, whose embedded opportunities and risks can only be assessed through complex mathematical modeling (Rybczynski, 1988; Sandretto, 1993). A more recent example involved credit-default swaps. A specialized unit within AIG took advantage of AIG’s capacity to engage in this business under insurance rather than bank regulations (Lewis, 2010), and operated across both regulatory and geographic borders. In fact, AIG purposefully withheld information on credit default swap exposure, for instance, in the most recent financial crisis (Morgenson & Story, 2010).

Perverse incentives which arise through banks’ channels of proprietary information may lead to challenges to systemic stability: first, banks and financial firms have been found to screen out, withhold, or signal-jam information for their own benefit. AIG’s action on credit-default swaps in only the recent information-withholding example in a long line of historical financial crises (Reinhardt & Rogoff, 2009). Second, bank managers may privately benefit from informational advantages (Stallings & Studart, 2005; Reinhardt & Rogoff, 2009). Rajan (2006: 500) noted before the recent global financial crisis that “changes in the financial sector have altered
managerial incentives, which in turn have altered the nature of risks undertaken by the system, with some potential for distortions.” And third, not only are bankers’ incentives misaligned against proper disclosure of information, regulators’ incentives may also be misaligned against information disclosure. Bankers and financiers in fact use this: “As soon as crisis strikes, the optimal choice for policymakers differs from the pre-announced policy… the authorities will usually offer support. The banks anticipate this behaviour and run even more risks as a result” commented economist and member of the German Council of Economic Experts Beatrice Weder di Mauro (2009).

Banks’ and financial institutions’ information stores and embedded expertise have also translated into delegation of some responsibility by regulatory agencies concerning rule-making and self-regulation (Pauly, 2001; Underhill & Zhang, 2008; Young, 2013). Of course this delegation of authority increases banks’ and financial institutions’ political power. But such delegation also occurs under the presumptions that financial institutions are unified actors with ready access to those stores of information and datasets. The “silo” effect in banking information systems, wherein banks and financial institutions build vertical information systems to create, market and manage complex financial products (Eccles & Crane, 1988; Economist, 2009; Lewis, 2009), undermines some of the rationale for delegation of rule-making and hampers efforts to craft optimal rules and regulations. This occurs because financial institutions’ representatives who are charged with crafting and advising on the rules may sit outside the silo without same knowledge of risk known to those within (Lewis, 2009).

Storing information “vertically”- in silos- weakens banks’ and financial institutions’ capacity to manage risk and to disclose information as well. Hu (2012) suggests banks may not only be TBTF but also “too complex to depict” in that regulatory models depend on information disclosure by banks which is then gathered by regulatory bodies (2012: 1621-28). Difficulty in reporting information is compounded by financial products which are so complex that they may not be understood by senior management (Eccles & Crane, 1988; Lewis, 2009; Zink & Selmier, 2013). To encompass this potentially dangerous mix of complex financial products, incomplete information sets and the bounded rationality of bankers, financiers, clients and regulators, an optimal “regulatory approach must be highly eclectic in nature, in terms of academic disciplines
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[economics, finance, law plus computer science, mathematics and psychology] and in terms of ‘local knowledge’ of marketplace realities” (Hu, 2012: 1679).

Lastly, there are conflicting incentives for national governments as to how to regulate or even how to structure regulation. Rothschild wrote in 1976 that “[American] banks’ expansion has been most luxuriant where it is most free of government restrictions: above all, in the Eurocurrency business. Of all the flora of the boom, Eurobanking has been the most fecund.” While the Interest Equalization Act was not intended to benefit American banks, it lend to a burgeoning international banking business (Goodman & Pauly, 1993).

The American government has long been happy to continue to explicitly support American banks through business promotion, including governance structure which favor them. A century ago President Wilson linked the structural power of finance with his support of American banks: “… those who finance the world must understand it and rule it with their spirits and with their minds” (quoted in Frieden, 1988:71). Linkages remain to this day. Oatley and Nabors (1998) noted that American negotiations for Basel Accords were shaded toward disadvantaging Japanese banks to support American ones. Japanese officials were conflicted as to whether to support their banks or to hew toward the “San Francisco System” wherein Japan supported American financial interests in exchange for the security umbrella which the US provided (Calder, 2004). Indeed one can argue that the US is still willing to trade American bank support for more open information disclosure and more balanced bank regulation, as evidenced by US government pursuit of Swiss banks for information on offshore accounts while American banks were perhaps less rigorously pursued (Emmenegger, 2015).

INTEGRATED APPROACH TO FINANCIAL MARKET GOVERNANCE

Even if it were desired, informational asymmetry in finance will not disappear. Borrowers do not want known the details of their borrowing; corporate borrowers often do not wish the reasons for that borrowing to be known because it may give information to competitors. Private and corporate financial information is closely guarded (Allen & Santomero, 1997; Selmier & Frasher, 2013). Governments often consider financial information not only critical to macroeconomic management, but also a key component of national security (Steil & Litan, 2008) and so constrict access. Access to such information may provide leverage to some countries, with the US at the...
top of the pyramid in terms of leverage (Emmenegger, 2015; Oatley et al., 2013; Strange, 1990). And given these regulatory and governance issues arising from bank information disclosure at each level in the global political economy—individual, firm, country, international financial system—the challenges facing regulators and governance officials are compounded by informational asymmetry within financial systems.

With increasing financialization have come increased governmental attempts to access and control financial information. These efforts were due in part to a view of what constituted international financial stability built upon a belief that explicit institutionalization of financial governance would achieve greater stability (Ruggie, 1982; also see Ikenberry, 2001, and Snidal, 1985, for this argument in terms of hegemonic stability). Best (2005) argued that limited access to financial information and ambiguity was accepted and even embraced before Bretton Woods Institutions were established, yet the evolution of the international financial system has seen ongoing attempts to remove ambiguity from financial markets. While national governments remain the key actors in financial governance (Helleiner, 2014), banks and financial institutions hold the information which is critical to the success of financial governance. Banks and financial institutions must be forced to move beyond what Pauly (2001:469) criticized as “enforcers in a resurgent system of global capitalism” toward engaged participants in financial system governance.

Banks and financial institutions remain fragile, and the inherent weakness of banks means that governmental support is needed. As banking expertise and information is required for good governance, governments can use—successfully using—fragility of financial institutions to combine microprudential regulation with macroeconomic governance (Houben, 2013). Governments can go further in using banks and financial institutions to self-govern, forcing them to employ the information they have to better regulate their counterparties. In the past the club nature of banking enabled such self-governance in the form of clearinghouses (Dowd, 1994; Nair, 2016), syndications (Chapman, 1984; Selmier, 2013) and the basic interactions between banks (Morrison & Wilhelm, 2004). An example of how a carrot and stick approach utilizing club governance could be applied to the way in which LIBOR [London Interbank Overnight Rate] is set. LIBOR is the rate at which banks lend to each other in overnight London markets and is used as a benchmark guide for setting the prices of millions of financial contracts including...
swaps, forward contracts, loans and repurchase agreements. The LIBOR rate was established each day by polling a small number of banks [16 for the three-month LIBOR] then taking the average of the middle banks. That is, the highest and lowest quartiles of banks’ responses were removed and the middle half’s responses were then averaged. A scandal erupted around LIBOR in 2012 when it was found that traders at a few banks had conspired to fix artificial rates.

LIBOR-fixing is very important to global finance for the information it provides, and clearly the banks involved LIBOR-fixing constitute a club who benefit from privileged access. As outside observers do not have access to the same level of information, the simplest governance mechanism is to force those banks participating in the club to self-police and, if a conspiracy is uncovered, to report. Failing to report would be dealt with by expulsion from the club and/or large fines. Clubs in banking can and should be used as disciplining organizations. As government support is sometimes necessary and profits are higher for those in the club, threatened expulsion when self-regulation fails is a powerful stick.

Pauly (1997) wondered if financial globalization may approach the limits of its legitimacy and provoke a backlash against banks and financial institutions. This legitimacy has been stretched partly through the tensions arising from informational asymmetry between “market participants of economic theory” and the “uninformed” as Allen and Santomero described them (1997: 1480). Banks and financial institutions will not lose their informational advantages, but these advantages may be turned to use in governance. Ultimately, banks and financial institutions must be physically domiciled somewhere. Tethered to a geographic location and fragile by nature, their information sets may be employed to improve governance.
BIBLIOGRAPHY

Aliber, R.Z. 2005. The 35 Most Tumultuous Years in Monetary History: Shocks, the Transfer Problem, and Financial Trauma. International Monetary Fund.


Table 1: Informational Pathologies in Relational and Transactional Banking

<table>
<thead>
<tr>
<th>Banking Type</th>
<th>External Information Reporting</th>
<th>Internal Information Usage</th>
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<tbody>
<tr>
<td></td>
<td>Problem</td>
<td>Issue</td>
</tr>
<tr>
<td><strong>Transactional</strong></td>
<td>too distant</td>
<td>A. Little commitment to borrower, so incentive to monitor now weakened</td>
</tr>
<tr>
<td><strong>Relational</strong></td>
<td>Information too tightly held</td>
<td>C. non-disclosure to authorities</td>
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Source: Economist (2009)