

Jean-Claude Trichet: What role for finance?

University lecture by Mr Jean-Claude Trichet, President of the European Central Bank, at the Universidade Nova de Lisboa, Lisbon, 6 May 2010.

* * *

Ladies and Gentlemen,

I would like to thank Universidade Nova very warmly for the kind invitation and the opportunity to deliver a lecture here.

I have chosen the title “What role for finance?” because the past three years have taught us how important it is to reflect on this question. And I have chosen it for a university lecture because I believe that university researchers – and the young people they educate – will make a vital contribution to re-thinking the role of finance in our societies.

Finance touches virtually every sphere of human endeavour – from individuals and households to corporations and governments. But the crisis has posed a provocative question to which many people would like an answer: why and to what extent does society need finance?

In recent economic history, the answer has always been dependent on circumstances. In times of affluence, when finance makes lenders and borrowers alike rich and respected, the answer is resoundingly positive. In contrast, in times of economic regress, disillusionment with markets suggests to an embittered public that financiers of all kinds are the same as short-term speculators motivated by greed.

I will try to bring a timeless perspective to these vacillating public attitudes towards finance. To anticipate my line of reasoning, I think that – at a minimum – the crisis has belied the long-standing conviction in macroeconomics, that “*where enterprise leads, finance follows*”.

Contrary to Joan Robinson’s 1952 dictum, I think that financial structures are part of the deep texture of an economy. They are relevant for trend growth and for shaping the business cycle around the trend. Here, I side more with Joseph Schumpeter, who in 1934 wrote: “He (the banker) stands between those who wish to form new combinations and the possessors of productive means... He is the ephor (the overseer) of the exchange economy”.

At the same time, and again in contrast to Joan Robinson’s view of “finance as a veil”, I see financial structures as a prime source of aggregate uncertainty. The economic relevance of shocks that originate in the markets for lending and borrowing is incalculable. It cannot be measured in normal times. It is difficult to quantify even in times of crisis. But we all know that it is large, and that no society can afford to let finance sever its ties to the real economy.

Yet, over the past two decades, financial players have gradually expanded their activities beyond Schumpeter’s idea of intermediation between savers and investors. The financial sector has gradually and quietly decoupled – at least in part – from the real economy. Financial innovations and the trading book are increasingly seen as a more profitable business line than extending loans to businesses. Credit default swaps, asset-backed securities and collateralised debt obligations are the most illustrative examples of this change of focus.

In my remarks today I will discuss this quiet shift in the paradigm of finance. I will explore how finance creates economic value, and why – at times – it can do more harm than good. I will conclude by proposing a way forward – a way that discourages business models oriented to the short term, that promotes healthy financial innovation and that ensures long-term financial stability.

I. Finance, economic growth and welfare

Let me start with my provocative question: why and to what extent does society need finance?

Beyond the sanctification of finance in booms and the banker-bashing in crises – society does need finance. Society needs finance for five key reasons that give economic value to financial intermediation:¹

- First, external finance reduces the need for self-finance. Self-finance constrains investment.
- Second, finance provides screening and monitoring services that help society to evaluate and rank investment projects.
- Third, finance facilitates the management and diversification of risk. Otherwise, entrepreneurs would find many sources of risk unbearable.
- Fourth, finance promotes the transformation of liquidity. Savers place high value on liquidity while investors need the opportunity to invest long-term.
- And fifth, finance facilitates the process of price discovery.

The first function, the *provision of external funds*, is most apparent in the economics of industrial revolutions. What drove the industrial revolution in England in the 18th century?

True, in those days the initial outlays for setting up a business were relatively modest: production facilities were small and machinery was cheap. So retained earnings from craftsmanship, family equity or loans from relatives or friends were the dominant form of finance.²

But the true inflection point in the economic fortunes of nations – the point at which the pattern of growth turned definitively upwards – did not come until heavy capital investments could lengthen the life of the production cycle. A steady rise in the wealth of nations required a large injection of capital.³

Without access to credit, such large upfront payments of production resources simply would not have been possible. Without credit, production processes are constrained to an economically inefficient scale.⁴ The opportunity to borrow against future income streams reduced the constraints on the ability of entrepreneurs to invest in bigger machines and larger premises.

Today, access to external funding is no less important. It has the potential to spur economic innovation and allows production facilities to be operated efficiently through standing credit lines.

Access to credit is not only important for businesses. Students can receive a loan in expectation of the higher income that they are likely to earn later in their lives. Student loans permit the enjoyment of the benefits of a higher education at a time in life when income is low.

Credit makes promising projects possible – whether they are embodied in physical capital or in better education.

¹ For a similar classification of functions see Levine (2005).

² See Pollins (1954) or Hudson (2002).

³ See Hicks (1969).

⁴ See e.g. Sirri and Tufano (1995).

The *provision of screening and monitoring services* is the second key function of finance. Specialised screening of the quality of borrowers is an effective remedy against the problem of adverse selection in credit markets. Financial intermediaries acquire, process and evaluate information about potential borrowers. In doing so, they help reduce the large costs that we – as individuals – would face if lending of savings were not intermediated.

Likewise, banks are more effective at monitoring the behaviour of borrowers *after* funds have been allocated. They can thereby reduce the costs associated with moral hazard – a situation in which asymmetric information can lead borrowers to take action that erodes the value of the loan.

Stock markets can also perform this duty. Influential research literature claims that liquid stock markets help foster corporate governance and hence reduce moral hazard.⁵ The basic intuition is straightforward. If managerial compensation is directly linked to stock market performance, either through contracts or stock ownership, managers have an incentive to select and implement actions that increase shareholder wealth.

The *transformation and management of risk* – the third key function of financial institutions in modern societies – became the focus of attention during the recent financial crisis. I will turn to the dark side of this function later. For now, let me stress the potential value of risk management. Financial markets provide savers with a large array of instruments that allow them to diversify the risks associated with their investments along two broad dimensions: across firms, industries and nations; and over time.⁶ Financial markets also allow entrepreneurs to manage risks from sources such as movements of interest rates or currencies.

Financial institutions are able to hedge another type of risk – liquidity risk. *Liquidity transformation* – the fourth function in my list – helps control liquidity risk for the aggregate economy. Individuals generally express a high preference for liquidity in anticipation of uncertain future disbursements. So, there is a tendency – on the lenders' side – for a large share of savings to be held in cash, or in very short-term debt instruments. Borrowers, however, typically require loans with a long maturity. The more potentially lucrative a project, the more deferred its economic payoffs. We can see here the emergence of a trade-off between the *social* value of a long-term investment and the *private* value of liquidity.

Financial intermediaries – in particular depository institutions – reconcile the trade-off. By engaging in maturity transformation, they make it possible for socially-valued long-term projects to be funded by privately-desirable liquidity. Likewise, well-developed equity markets constitute a permanent source of funding for companies while savers are able quickly and easily to convert their shares back into cash.

The final key function of finance is "*price discovery*." In textbook financial markets, asset prices on average reflect all economically relevant information. The market force that moves the trading system close to this ideal – in which prices are "correct" given the current state of knowledge – is arbitrage, the simultaneous purchase and sale of the same asset in two different markets at advantageously different prices.

By engaging in arbitrage, financial players eliminate price discrimination. By removing price differences that are not motivated by differences in payoffs or underlying risk characteristics, arbitrage eliminates the potential for rents in the economy.

In summary, financial intermediation – if well-designed and properly administered – has the capacity to allocate financial funds more efficiently in the economy. By doing so, it has the power to raise the level of savings and investment.

⁵ See e.g. Diamond and Verrecchia (1982) or Jensen and Murphy (1990) for an empirical examination.

⁶ See Levine (2005).

This is not just theory. A growing body of empirical evidence using very different methodologies and datasets for various countries has established that finance – and by finance I mean both banks and markets – can exert a positive influence on capital accumulation and economic growth.⁷ The findings also suggest that there is no institutional structure – the mix between banks and markets – that is optimal for fostering growth.

What matters is that people have access to financial instruments; the exact type and composition is of secondary importance.

II. Financial developments, innovations and excesses

Let me now turn to the darker side of finance. Robert Merton – one of the architects of modern financial theory – once said: “Any virtue can readily become a vice if taken to excess, and just so with innovations”.⁸ When – and how – can finance turn into a source of instability and economic regress?

My answer is simple. When function 2 is ignored, and functions 3, 4 and 5 are abused. In other words, when *screening and monitoring* services are neglected, and when *risk management, liquidity transformation* and *price discovery* are flawed.

There is unlikely to be a better case study of the functional degradation of finance than the events that led up to the crisis that started in 2007. I am convinced that if banks neglect their primary activity of due diligence, and if they come to abuse risk control techniques, liquidity creation and arbitrage opportunities, finance will do more harm than good to the economy. And crises of the magnitude that we have witnessed become unavoidable.

This is not to say that financial markets are solely to blame for the financial crisis. Policy-makers, regulators and supervisors also bear some responsibility for the incidents that led to the most severe financial crisis since the Great Depression. But understanding the impact of the paradigm shift of private finance in recent years demands a deep introspection into the inner mechanisms of financial economics.

1. The neglect of screening and monitoring activities

Let me recall the essence of the screening duty of banks. Banks acquire and evaluate information about potential borrowers. At the heart of this duty is a thorough *due diligence* at the start of the contract and *continual monitoring* of the creditworthiness of the borrower and the quality of investment, as the project progresses. A precondition for due diligence and monitoring is that the creditor-borrower relationship is continued.

Securitisation of loans made loan discontinuation possible. The bank would extend a loan but immediately pool it together with loans of similar scope and characteristics, so that the idiosyncratic risk inherent in each individual contract would find compensation in the idiosyncratic risk of other contracts. The law of large numbers would take care of cross-loan return compensation within the pool. So, the return to the pool would be less risky and more predictable than the return to any of its constituent components. In fact, the pool would turn a heterogeneous collection of assets into a standardised financial object that could be placed in the market.

The traditional banking model, in which banks would issue loans and hold them until they are repaid, was replaced by “*originate and distribute*”. In this new model, banks would not hold the loans they originated. They would pass the loans onto other financial investors by slicing and repackaging the claims attached to them. In other words, by securitising the loans.

⁷ See Levine (2005) for a brilliant summary of the literature.

⁸ See Merton (1992).

The prevalence of this model led to significant growth in the market for structured finance in the United States and, to a lesser extent, in Europe. For instance, the volume of residential mortgage-backed securities issued in the United States was around EUR 200 billion in 2006.⁹ Ten years before, this kind of security hardly existed.

Sub-prime lending, which was the outgrowth of securitisation, is not bad *per se*. It extends credit to people who, for various reasons would otherwise be denied credit. But by definition, sub-prime loans are inherently riskier for lenders as the probability of delinquency is inversely related to the creditworthiness of the borrower. But delinquency risk is less of a concern if there is an expectation that the loan can be readily sold off and somebody else will have to face the consequence of non-performance.

This expectation was a powerful trigger of sub-prime loan growth. Sub-prime mortgage lending in the United States grew from USD 33 billion in 1993 to around USD 700 billion in 2006, the year preceding the beginning of the crisis¹⁰, when nearly one in four US mortgages was sub-prime. At the same time, these borrowers were responsible for around 50% of all US foreclosures. These numbers provide a good idea about the quantum of risk that was inherent in the balance sheets of the US financial system.

Fatally, securitisation had lessened lenders' incentives for prudent screening and steady monitoring. A recent study finds that the opportunity to securitise sub-prime mortgages reduces the incentives for financial intermediaries to carefully screen and monitor borrowers.¹¹ The intuition is straightforward. If banks are allowed to put the large risk that a sub-prime mortgage loan poses off-balance sheet by securitising it, they will concentrate their business efforts in expanding the originations. This seems consistent with the facts. After all, the share of securitised sub-prime mortgages in the US reached 75% in 2006, up from 54% in 2001.¹² Hence, only a small share of sub-prime mortgages remained on the balance sheet of the originating institution.

2. The abuse of risk management duties

Conducting a fully-fledged risk analysis requires full information. The ultimate investors in securitised loans could in principle have exercised the due diligence that banks were no longer providing. But risk management was difficult, paradoxically, because information became unavailable to investors. It was buried in financial structures that were not transparent. Paradoxically, securitisation – a new technique to control risk – had made risk control practically impossible.

The “originate and distribute” business strategy had turned risk into a commodity. Risk could be bundled, sliced and re-bundled for further sale. Securitisation and financial derivatives were the vehicles through which risk became marketable, passed between participants, spread across the system and – in this way – it became difficult to localise and quantify.

Individually, diversified strategies all looked like rational attempts to unload risk to those parties in the system that were more willing and able to bear it. In the aggregate, however, strategies all looked alike!

Viewed across the system, diversification was subject to a fallacy of composition. Individual strategies were diversified. But the aggregation of a complex web of identical strategies – all

⁹ Source: Dealogic/DCM Analytics. Original USD amounts converted into euro.

¹⁰ Data sources are: Center for Responsible Lending, Inside Mortgage Finance and Mortgage Bankers Association (MBA). Data for foreclosures refer to the sum of sub-prime AMR and FMR.

¹¹ Keys et al (2010).

¹² Source: Mortgage Market Statistical Annual (2007).

designed to shed risk individually – generated a lack of diversity for the financial system as a whole. In the end, it turned out that the system could not diversify risk away.

3. *Flawed liquidity transformation*

Through the use of short-term repurchase agreements banks increasingly financed their longer-term asset holdings with shorter maturity market instruments. Off-balance sheet structured investment vehicles (SIVs) became popular as a result of wholesale financing. Rather than relying on deposits from private savers, as was the norm in the traditional banking model, the banking system started to borrow funds off-balance sheet in the money market by selling short-term commercial papers and engaging in repurchase agreements. This shift in funding was a by-product of securitisation as much as a source of its potentially unlimited expansion.

This self-referential circuit of finance – where asset acquisition created funding needs and funding mechanisms expanded asset acquisition even further – is evident in the data. The share of total investment bank assets that were financed by overnight repurchase agreements roughly doubled from 2000 to 2007.¹³

While deposits provide a rather stable and dependable source of funding for financing longer-term investments, the market for commercial papers and repurchase agreements can be prone to sudden shifts in confidence. Indeed, in the summer of 2007, with investors pulling back from asset-backed securities, banks saw the value of their assets and hence their capital base declining dramatically.

4. *Financial excesses*

In the end, the social costs of negligence and abuse were devastating. Even more so, because finance had expanded at an unsustainable pace in the years leading up to the 2007/2008 crisis. A number of economies had come to pin their national fortunes on a sector that is potentially very profitable, but also ruinously risky.

The financial industry has grown substantially during the past three decades. In 1977 the share of financial intermediation in total US gross value added was around 5%. In 2007 this share was over 8%. It was also a highly profitable business for years. Financial sector compensation as a share of total US compensation doubled during the last thirty years. In the euro area this share rose by roughly 25%.

High earnings attracted many bright young people into the industry. Although the total number of employees in the financial sector remained relatively stable, higher than average wages in the finance industry led to a diversion of highly-skilled individuals from the real economy to the financial sector.¹⁴ For instance, in 2006 a financial industry employee earned 35% more than an engineer with a similar level of education.

These numbers speak a clear language. Financial creativity had its price. Banks increased their demand for highly-skilled talents, bidding up the market clearing wage in this industry. Whether or not financial employees have been overcompensated is a difficult question. But they have certainly been given the wrong incentives.

A less difficult question is whether talent was always and everywhere employed in a productive way. Here my answer is no. Many financial instruments were not invented to finance the ownership of additional homes, to finance productive investments or education or

¹³ See Brunnermeier (2009).

¹⁴ See Philippon and Reshef (2009).

to help firms hedge the uncertainties of currency or interest rate risk. Some of these instruments were invented to generate fees without creating social value.

The way forward

Looking ahead, what can be done to ensure that financial institutions return to the path of virtue? The extent of the financial crisis leaves no doubt that tighter regulations and supervision are required to overhaul the financial system. But a fine line needs to be drawn between ensuring financial efficiency – and financial innovation is an important ingredient of efficiency – and financial stability. Excessive, ill-designed regulation may counteract our intentions.

To improve the resilience of the financial system we need first to identify the sources of instability and fragility. Not all financial institutions have been equally involved in developments that led to the 2007/2008 financial crisis. It seems that the current predicament originated mainly in institutions that had moved away from traditional retail banking, from institutions that increasingly relied on non-interest income and non-deposit-funding.¹⁵

These insights should serve as a starting point for shaping the contours of the post-crisis financial system. Reforms should be designed in a way that ensures that those segments of finance, which remain faithful to the mission of providing functional services to the real economy, are not put at an economic disadvantage. Profit maximisation sets the incentives in a market economy to achieve first-best outcomes. But just as employers bear a social responsibility for their employees, banks bear a social responsibility for savers and for society as a whole. Reforms must be targeted at internalising this social responsibility in business strategies so that what is collectively optimal is selected by profit-maximising business units.

I see three elements at the core of efforts to reform the international financial system:

- The first ingredient is a mechanism that enforces transparency in financial structures. This is essential for the financial industry to return to its prime mission of assessing the quality of investment. The trend towards more sophisticated financial instruments has not been matched by increasing disclosure requirements. Sellers of securitised products must disclose all information about the underlying loan structure so that both investors and rating agencies can correctly price the risks embedded in these products. More transparency can also be achieved by central counterparty clearing of bilateral over-the-counter trading arrangements.
- Second, the progressive mutation of arbitrage into speculation needs to be reversed. Financial players that take large speculative positions in certain segments of the market can exert a non-negligible bearing on the future pricing of an asset or bond by affecting market sentiment. Current market structures can aggravate this effect. For instance, investors are currently allowed to buy credit defaults swaps without holding the underlying asset, typically a bond. By first buying the credit default swaps and then trying to affect market sentiment by going short on the underlying bond, investors can make large profits without a change in the fundamental value of the reference entity and, worse, to its detriment.
- Third, credit and liquidity risk management should not become a force of procyclicality for the financial system as a whole. Limited liability in economic contracts introduces an asymmetry that is potentially fatal in the financial sphere. Owners and managers of financial companies are given a distinct incentive to expand risk-taking in anticipation of high returns (if there is a favourable pay-off), while remaining

¹⁵ See Beltratti and Stulz (2009).

confident of a limited loss in the event of failure. The perception that public authorities will always socialise the costs of financial crisis reinforces private investors' expectation that they will harvest more of the upside and shift more of the downside. Regulation should attempt to limit the risks banks assume by imposing higher, countercyclical capital requirements, thus limiting leverage. Financial institutions will be asked to raise the quality and quantity of their capital base to ensure they have adequate funding in place as a buffer against future market disruptions. A correction of compensation practices for financial employees is also warranted. Compensation should put emphasis on rewarding longer-term business performance. These objectives are currently examined within the framework of the Basel Committee on Banking Supervision.

Implementing these measures will lead the return to a more sustainable, longer-term business model for banks. At the global level, the G20 and the Financial Stability Board have become the main forum for international cooperation on these reforms. Complemented by macroprudential supervision that takes due account of the interconnectedness of financial institutions and systemic risk, these reforms will pave the way for lower market volatility and hence greater financial stability.

A courageous overhaul of the financial system will also help to bridge the rising gap that has emerged between the financial sector and the real economy. We cannot afford financial activities that neglect the interest of the real economy. Indeed, the financial industry and the real economy must share a common goal. Only united will they contribute to strong, sustainable and balanced growth and to future economic prosperity.

Thank you for your attention.

References

- Allen, F. and D. Gale (1997), "Financial Markets, Intermediaries, and Intertemporal Smoothing", *Journal of Political Economy*, 105: 523–546.
- Beltratti, A. and R. M. Stulz (2009), "Why Did Some Banks Perform Better During the Credit Crisis? A Cross-Country Study of the Impact of Governance and Regulation", Charles A. Dice Center Working Paper No 2009–12, July.
- Brunnermeier, M. (2009), "Deciphering the Liquidity and Credit Crunch 2007–08", *Journal of Economic Perspectives* 23(1), 77–100.
- Diamond, D. W. and R. E. Verrecchia (1982), "Optimal Managerial Contracts and Equilibrium Security Prices", *Journal of Finance*, 37: 275–287.
- Hicks, J. (1969), "A Theory of Economic History", Oxford: Clarendon Press.
- Hudson, P. (2002), "The Genesis of Industrial Capital: A Study of the West Riding Wool Textile Industry", Cambridge University Press.
- Jensen, M. and K. Murphy (1990), "Performance Pay and Top Management Incentives", *Journal of Political Economy*, 98: 225–263.
- Keys, B., T. K. Mukherjee, A. Seru, and V. Vig (2010), "Did Securitization Lead to Lax Screening? Evidence from Sub-prime Loans", *Quarterly Journal of Economics*.
- Levine, R. (2005), "Finance and Growth: Theory and Evidence", in: Aghion, P. and Durlauf, S. (ed.), *Handbook of Economic Growth*, edition 1, volume 1, chapter 12, pages 865–934.
- Merton, R. C. (1992), "Financial Innovation and Economic Performance", *Journal of Applied Corporate Finance*, 4: 12–22.
- Philippon, T. and A. Reshef (2009), "Wages and human capital in the US financial industry: 1909–2006", NBER working paper 14644.

Robinson, J. (1952), “The Rate of Interest and Other Essays”, chapter “The Generalization of The General Theory”. MacMillan.

Schumpeter, J. A. (1934), “The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle”, Harvard University Press.

Sirri, E. R. and P. Tufano (1995), “The Economics of Pooling”, in Crane, D. B. et al (eds.), “The Global Financial System: A Functional Approach”, Boston, MA: Harvard Business School Press: 81–128.

Pollins, H. (1954), “The Marketing of Railway Shares in the First Half of the Nineteenth Century”, *The Economic History Review*, 7(2):230–9.