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Alexandre Lamfalussy and the origins of instability
in capitalist economies

by Ivo Maes



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Abstract

In this paper the vision of the “Young” and “Elder” Lamfalussy on the origins of instability in capitalist economies will be contrasted. The young Lamfalussy found the origins of instability in medium-term cumulative processes in the real sector of the economy, very much inspired by the vicious circles in the British and Belgian economies in the postwar period, in contrast to the virtuous growth processes of the German and Italian economies. The Elder Lamfalussy focused on financial innovations and the short-term myopic behavior of financial markets, very much inspired by his experience of the Latin American debt build-up and ensuing crisis in the early 1980s. The Euro area crisis showed the importance of both processes, as it was the consequence of both short-term myopic behavior in financial markets and medium-term cumulative processes in the real sector.

Keywords: Lamfalussy, economic instability, economic cycles, financial innovations, Latin American debt crisis, Euro area crisis.

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Non-technical summary

As the General Manager of the Bank for International Settlements and the first President of the European Monetary Institute (the precursor of the European Central Bank), Alexandre Lamfalussy was one of Europe's most eminent central bankers in the postwar period. Moreover, Lamfalussy, also pursued an academic career. He was always trying to get a better understanding of the crucial (monetary) policy issues, combining academic theories (in plural) and different types of empirical material. While being a distinguished central banker, close to the empirical reality, Lamfalussy remained faithful to a strongly Keynesian *Weltanschauung*, which he had already acquired as a young economics student. In Lamfalussy's view, the market economy was inherently unstable. However, over time his view on the origins of the instability shifted. In this contribution the vision of the "Young" and "Elder" Lamfalussy on the origins of instability in capitalist economies will be contrasted. The young Lamfalussy found the origins of instability in medium-term cumulative processes in the real sector of the economy, very much inspired by the vicious circles in the British and Belgian economies in the postwar period, in contrast to the virtuous growth processes of the German and Italian economies. The Elder Lamfalussy focused on financial innovations and the short-term myopic behavior of financial markets, very much inspired by his experience of the Latin American debt build-up and ensuing crisis in the early 1980s. This distinction remains relevant. During the first decade of the euro, structural divergencies between the countries of the euro area increased. There were growing trade, financial and fiscal imbalances as well as competitiveness problems. The post-2007 financial, economic and sovereign debt crises within the Euro Area showed the importance of focusing on both sources of instability: in the monetary sector (the focus of the "Elder" Lamfalussy) and in the real sector (the focus of the "Young" Lamfalussy). Indeed, the credibility of the monetary union had induced the financial markets to finance much larger external imbalances than in earlier periods. In some countries, such as Ireland and Spain, economic expansion – especially in the property sector – was initially bolstered by the convergence of nominal interest rates within the monetary union, as spreads with Germany more or less disappeared. This convergence was also due to increasing cross-border banking activity in a large Euro Area without exchange-rate risk, with the markets disregarding credit risk. The ensuing boom further fuelled wage and price increases, which largely surpassed those in other countries like Germany, impairing the competitiveness of these countries. Notwithstanding these competitiveness losses, domestic demand further increased through the combined effects of strong wage increases and very low real interest rates (given the combination of low nominal rates with high inflation). This situation further added to the trade, financial and fiscal imbalances, with excessive lending and debt, property market bubbles, and current account deficits. The final result was a severe asset-price boom and bust cycle and a subsequent harsh and prolonged process of deleverage. The cycle was caused by myopic behavior in the financial markets, as emphasized by the Elder Lamfalussy, and by dynamic processes in the real economy, as emphasized by the Young Lamfalussy.

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1. INTRODUCTION

As the General Manager of the Bank for International Settlements and the first President of the European Monetary Institute (the precursor of the European Central Bank), Alexandre Lamfalussy was one of Europe's most eminent central bankers in the postwar period. Moreover, Lamfalussy, also pursued an academic career. He always focused on putting key policy issues in an intellectual framework. As an economist, he remained conscious of the limits of his knowledge and he was always trying to get a better understanding of the crucial (monetary) policy issues, combining academic theories (in plural) and different types of empirical material (a selection of Lamfalussy's articles was published in Maes 2017).

While being a distinguished central banker, close to the empirical reality, Lamfalussy remained faithful to a strongly Keynesian *Weltanschauung*, which he had already acquired as a young economics student. In Lamfalussy's view, the market economy was inherently unstable. However, over time his view on the origins of the instability of the economy shifted. In this contribution the vision of the "Young" and "Elder" Lamfalussy on the origins of instability in capitalist economies will be contrasted¹. The young Lamfalussy found the origins of instability in medium-term cumulative processes in the real sector of the economy, very much inspired by the vicious circles in the British and Belgian economies in the postwar period, in contrast to the virtuous growth processes of the German and Italian economies. The Elder Lamfalussy focused on financial innovations and the short-term myopic behavior of financial markets, very much inspired by his experience of the Latin American debt build-up and ensuing crisis in the early 1980s. The Euro area crisis showed the importance of both processes, as it was the consequence of both short-term myopic behavior in financial markets and medium-term cumulative processes in the real sector (especially the real estate sector and competitiveness).

2. ECONOMICS STUDIES IN LOUVAIN

Alexandre Lamfalussy was born on 26 April 1929 in Kapuvar, Hungary (close to the border with Austria). In 1947, he started economics studies at the Budapest Polytechnic. In January 1949, Lamfalussy succeeded in leaving Hungary and came to Belgium, where he continued his economics studies at the Catholic University of Louvain (Lamfalussy, Maes and Péters, 2013). At that time, Louvain was one of the leading places for economics in the francophone world. The *Institut des sciences économiques*, established in the interwar period, focused on business cycle analysis

¹ We draw here on the distinction made by Axel Leijonhufvud (1979: 525) between "Hicks the Younger" (like Lamfalussy, "That brilliant young man was extremely successful") and the "Elder Hicks".

(Maes, 2008). The Institute gained international status in the 1930s, obtaining several grants from the Rockefeller Foundation. Furthermore, the Institute produced very influential business cycle analyses and forecasts, which were sold to private and (semi-) public corporations and institutions (Maes, Buyst & Bouchet 2000). In Louvain, four professors had an important influence on Lamfalussy, namely Dupriez, Rousseaux, Woitrin and Urbain.

The dominant figure in the 1950s at the Francophone economics department in Louvain was Léon-H. Dupriez. He had studied at Harvard in 1918 and 1919. Dupriez had become a leading scholar in business cycle analysis, to be considered in a broad sense: the interaction of growth and different types of cycles in economic life. The focus was very much on the different industrial sectors of the economy, which were then at the centre of the economic growth process. Dupriez (1959, 468), described the industrial revolution as "une grande aventure *prométhéenne* de l'humanité" ("a great *Promethean* adventure for humanity", original italics). Dupriez was also a pioneer in the introduction of statistical methods of business cycle analysis in Europe. He was very much inspired by foreign research institutions, especially the Harvard Committee on Economic Research and he based his analysis on extensive empirical investigations (with a lot of attention to descriptive statistical methods, as well as graphs and tables). However, he was not in favour of new schools of economic thought, like Keynesian economics. He disliked the use of models, econometrics and national income accounts.

Lamfalussy became Dupriez's assistant for business cycle analysis and took part in the monthly meetings with industrialists. This work contributed to two of his early publications, concerning the steel and petroleum refining sectors. However, Lamfalussy took more "Keynesian" positions than Dupriez. While Dupriez disliked formal model-building, for Lamfalussy this was a way to make explicit the implicit model which one was using anyway. Some years later, Lamfalussy (1985, 412) even admitted about Schumpeter's growth theory that, he had "hardly understood" what Schumpeter had in mind and had "dismissed it anyhow because I could not convert it into equations". Lamfalussy was also strongly in favour of government intervention and planning, including a selective government policy to stimulate investment in new industries, something which Dupriez abhorred (see the discussion in Dupriez, 1961). Later, Lamfalussy became less Keynesian and more positive on Dupriez, acknowledging that Dupriez understood that cycles should be moderated, but not suppressed, "Le rêve d'une économie sans conjuncture est aussi «idéaliste» que celui d'une société politique universelle sans heurts et s'inscrit donc dans la lignée des utopies" ("the dream of an economy with no business cycle is as 'idealistic' as that of a trouble-free universal political society and therefore falls within utopian tradition") (Dupriez, 1959, XIII). Moreover, Dupriez's approach of basing economic analysis on empirical material and his contacts with industrialists were important

elements in the formation of Lamfalussy. Basing economic analysis on extensive empirical investigations would become a hallmark of Lamfalussy's style of economics.

Lamfalussy was further under the influence of Paul Rousseaux, who was teaching microeconomics at Louvain. He had studied in Cambridge, where he had adopted imperfect competition theory and Joan Robinson's theory of the firm. Rousseaux had been the supervisor of Lamfalussy's undergraduate dissertation on price flexibility and monopolistic markets. There was also Michel Woitrin, who had spent three years in the United States and came back as a confirmed Keynesian, introducing this school of thought at Louvain. Lamfalussy was further very much under the spell of Yves Urbain, who taught economic history. Urbain knew how to put economics in a historical perspective, with the use of simple graphical presentations, too. He took his students, including Lamfalussy, out to the Borinage, to show what went wrong with the old industries in Wallonia.

During his student days, Lamfalussy was also active in the "Cercle Européen" and the young Christian Democratic movement, together with several friends. For them, European integration was a very profound conviction. They were convinced that it was necessary to abolish the barriers which divided Europe. In their view, European integration should be a stimulus to get the economy out of its stagnation. Moreover, while the economic motive was primordial, there was also a clear cultural dimension, as one felt one belonged to a common cultural heritage.

3. INVESTMENT AND GROWTH IN MATURE ECONOMIES. THE CASE OF BELGIUM

Lamfalussy went to Oxford for his PhD. At the time, Lamfalussy, like many others, was intrigued by the issue of the reconciliation of macro- and microeconomics. For Lamfalussy, this preoccupation was strongly pragmatic. He had seen that other countries were developing new industries, which were notoriously absent in Belgium. So, he had more and more problems understanding the pattern of investment in Belgium. After two years in Oxford, in the summer of 1955, he returned to Belgium, as an economist at the Banque de Bruxelles. There, Lamfalussy had also contacts with the bank's business relations, giving him a deeper understanding of the structure of the Belgian industry. This would further influence his thesis, which he submitted in October 1958.

In 1961, Lamfalussy published *"Investment and Growth in Mature Economies. The Case of Belgium"*, a revised draft of his Oxford doctorate. His supervisor was Philip Andrews, who was running the Applied Economics Seminar. Sir John Hicks, one of the first Nobel laureates in economics, was the main examiner on Lamfalussy's thesis committee. During these years, growth theory was very popular, and Lamfalussy's book would become quite influential. For instance, Crafts and Toniolo (1996, 12) consider it as an important contribution to the Keynesian approach of export-led growth.

The monetary dimension was rather absent. It was still very much the time of what Leijonhufvud (1968, 13) has described as the Keynesian Revolution's "Anti-Monetary Terror".

In the Introduction, Lamfalussy set out his dissatisfaction with general theories of growth: "I have grown increasingly sceptical about the usefulness of any theory of growth which would be so general as to be applicable to any country at any stage of development" (Lamfalussy, 1961a, p. xvii). He was in favour of a more policy-oriented and empirical (inductive) approach. Consequently, one should focus the theoretical analysis on concrete cases: "It is time now to have a look at individual countries and to work out theories which, although limited in scope, may begin to fill that still very large gap which lies between theory and empirical analysis" (Lamfalussy, 1961a, xviii).

Lamfalussy's objective was to construct a theory which could explain economic growth in post-war Belgium. The theory he develops is therefore built on assumptions proper to post-war Belgium, a highly developed or "mature" industrial country, "a country where the share of industry in total output is large, where industry is diversified, where the standard of living is high, and where there exists an established class of entrepreneurs" (Lamfalussy, 1961a, xvii).

In the opening sentences of the book, Lamfalussy emphasises the importance of his analysis for the new economic environment which the process of European integration is creating, affirming also his European conviction: "In the 1960s, which will be witnessing the gradual opening of the European Common Market and (I hope) also the birth of other schemes for economic integration, the mobility of capital will assume increasing importance" (Lamfalussy, 1961a, xiii). He stresses that, for European economic integration to be a success, industries should grow where they are most competitive, implying, as a counterpart, the disappearance of industries which are not competitive (as in Schumpeter's notion of creative destruction).

The book consists of three parts: "Growth in post-war Belgium", "A theory of investment for mature economies" and "Investment policies in post-war Belgium". In the first part of the book, Lamfalussy provided an overview of economic developments in post-war Belgium. He notes that, as in most Western countries, industry accounted for about half of Belgium's gross national product. However, what distinguishes Belgium is the importance of sectors as mining and quarrying, basic metals and textiles. Together, they accounted for about 44 percent of industrial production, compared to 23 per cent on average for the O.E.E.C. countries. Lamfalussy (1961a, 14) observes that: "This pattern of output has a distinctly nineteenth-century flavour".

When analysing developments in the period 1948-1957, Lamfalussy argued that the economic situation in Belgium evolved quite differently from that in most Western European countries. In his view, Belgium was characterised by a weak development of domestic demand, leading to relative

deflation: "The main stimulus to growth has been provided, at any rate since 1948, by exports, while the expansion of home demand has been substantially slower. As a result of this relatively deflationary situation, Belgium's balance of payments on current account displayed fairly constant surpluses" (Lamfalussy, 1961a, 13). He also observed that income per head and wage costs were among the highest in Europe.

A crucial theme for Lamfalussy was that investment was low in Belgium as compared to other Western countries (Maes 2009). This was not only related to the slow growth of domestic expenditure, but also to a slower growth of exports than in most European countries. Belgian exports suffered from the high level of Belgian labour costs and an outdated composition (concentrated on traditional products of standard quality). When analysing investment in Belgian industries in more detail, Lamfalussy observed that there were significant increases in the capital stock (as well as in productivity and in output capacity) in declining sectors, such as textiles or firms producing railway equipment and rolling stock. Lamfalussy argues that current theories did not seem able to explain this phenomenon. He concludes, "We need therefore a thorough analysis of investment policies in declining or stagnating markets" (Lamfalussy, 1961a, 68).

The purpose of the second, theoretical, part of the book is to work out a theory of investment which "fits Belgian statistics better". In line with the work of his teachers, like Rousseaux, Dupriez and Hicks, Lamfalussy focuses first on the microeconomics of his investment theory². The objective of Lamfalussy is to show that, "even on the assumption of economic rationality", i.e. of long-run profit maximisation, the process of decline is far more complicated than considered in traditional growth theories. He argues that "decline is not the reverse of growth and that the theory of economic development is not symmetrical. There is need for a specific theory of industrial decline" (Lamfalussy, 1961a, 79).

Lamfalussy then sets out to construct a theory of investment based on microeconomic foundations. He starts with a theory of the firm in a situation of imperfect competition. Consequently, he does not follow the traditional equalisation of marginal revenue with marginal cost. He assumes that the entrepreneur is pursuing a policy of "normal competitive pricing". This will lead the entrepreneur to "fix a selling price at a level yielding a 'normal' rate of profit over the invested capital when the firm

² The style of Lamfalussy's theoretical chapters bears quite some similarity with Hicks' approach, like in *Value and Capital* (Hicks, 1939): although no mathematical equations are presented, one feels that the prose follows a mathematical line of reasoning.

is working at optimum capacity" (Lamfalussy, 1961a, 40)³. The normal rate of profit is equal to opportunity cost (the rate of interest) plus a premium for uncertainty proper to the industry.

Lamfalussy is not very happy with the traditional theories of investment which distinguish between three types of investment: expansion investment, capital deepening and innovative investment. For Lamfalussy, the crucial distinction is between "enterprise" and "defensive" investment. This is very much related to whether the firm is operating in expanding or stagnating markets. Enterprise investment is typically undertaken in expanding markets by growing firms, when profits are expanding. Defensive investment, on the other hand, is carried out mainly as a protective device in stagnating or declining markets, "when profits are squeezed, when competition is active, when the lowering of costs becomes a matter of survival rather than of expansion" (Lamfalussy, 1961a, xvi).

Lamfalussy emphasises that these are very different types of investment. Enterprise investment implies substantial increases in capacity as well as major technological innovations. Defensive investment entails mainly the reorganisation of existing factories: "The distinctive mark of defensive investment in comparison with enterprise investment is its exclusive reliance upon minor innovations, upon the improvement of existing capital goods and upon rationalization" (Lamfalussy, 1961a, 114). A consequence is that the share of building expenditure in total capacity outlay is lower in the case of defensive investment than in that of enterprise investment.

Typical for defensive investment is also that, in a stagnating or declining market, an entrepreneur will try to achieve his policy targets (such as the reduction in costs, or the increase in output capacity, or both) by spending as little as possible on capital goods. Lamfalussy further shows that defensive investment might even appear profitable to entrepreneurs with a relatively short time horizon.

Lamfalussy acknowledges that, for his distinction between enterprise and defensive investment, he was inspired by an article of Hicks (1954) on imperfect competition, "which made me realize how important it was whether an entrepreneur was a 'snatcher' or a 'sticker'". However, Lamfalussy also points out where his analysis differs from Hicks's: "The choice between enterprise investment and defensive investment may be exclusively a matter of temperament. Although I suspected that an explanation on this basis could have been much simpler (and perhaps even more valid), I worked out the main line of argument in terms of 'objective' circumstances" (Lamfalussy, 1961a, 188).

In the third part of the book, Lamfalussy confronts his theory with data on investment in Belgian industries. What was particularly striking about Belgium was the widespread use of defensive

³ Lamfalussy (1961a, 188) acknowledges here the influence of Andrews' (1949) analysis of manufacturing business.

investment throughout the economy. According to Lamfalussy, more than 50 per cent of Belgian output was coming from industries relying on defensive investment. One crucial consequence was that capital was prevented from flowing from declining or stagnating industries to expanding sectors, thereby contributing to a freezing of the structure of industry. "The most obvious corollary to defensive investment has been the stability of the structure of industry" (Lamfalussy, 1961a, 155). There were thus two reasons why Belgium's pattern of production changed so little. Firstly, Belgium invested a smaller part of her income. Secondly, a greater part of capital expenditures was directed towards declining industries as textiles, coal mining and the production of railway equipment.

The dominance of defensive investment had serious consequences for economic growth. Defensive investment can, in the first instance, result in quite substantial increases in productivity. However, there will be no (or very little) growth in new industries. Over time, this will have major consequences as the potential for productivity increases in declining industries is limited. "Opportunities for increasing productivity within the existing plants will have been exhausted, and as the profit pattern does not stimulate major innovations and a substantial rise in capital spending, the rate of increase in productivity will slow down. For the same reason, there will be no major shift ... in the composition of exports. It follows that the cost disadvantage of the country will worsen and that there will be no improvement, either, on account of a change in the commodity composition of exports" (Lamfalussy, 1961a, 165). A vicious circle then becomes inevitable: "The slow growth of home demand and the competitive disadvantage on foreign markets reduce profit rates; this, in turn, favours the widespread use of defensive investment which puts a brake on home expenditure as well as on exports. The pressure on profit rates is therefore maintained, and the circle remains as vicious as ever" (Lamfalussy, 1961a, 165).

One can observe here some similarity with Nicholas Kaldor's approach. Indeed, already earlier, Lamfalussy (1958, 129) had acknowledged that his framework was a kind of an "open economy" version of Kaldor's Keynesian theory, linking the share of profits in national income and the volume of investment, whereby high profits encourage investment, while the increase in investment will raise the level of profits⁴. However, for Lamfalussy this relationship did not apply to a small open economy like Belgium as an increase in investment would increase imports, leading to balance of payments deficits: "The multiplier mechanism through which an increase in the volume of investment produces higher profits is unlikely to work under these conditions". Lamfalussy emphasised that, for a small open economy as Belgium, the composition of investment was crucial, "If through an adequate

⁴ Lamfalussy did not refer to a specific publication of Kaldor. For an overview of Kaldor's life and ideas, see Thirlwall, 1987.

distribution of capital expenditures growth takes place in those industries the products of which can be sold abroad at 'normal' prices, exports will expand fast enough and an increase in profits will follow the rise in investment. If this condition is taken into account, the Keynesian theory of income distribution remains valid, and can be applied to Belgium".

In the following years, Lamfalussy would extend his analyses from Belgium to the other main European economies (Maes 2009). In "*The United Kingdom and the Six. An Essay on Economic Growth in Western Europe*", Lamfalussy (1963) provided an analysis of one of the most crucial policy problems of Europe in the 1960s: the divergence in economic performance between the countries of the European Community and the United Kingdom.

4. THE UNITED KINGDOM AND THE SIX. AN ESSAY ON ECONOMIC GROWTH IN WESTERN EUROPE

In the early 1960s, economic growth in the countries of the European Community was stronger than in the United Kingdom. This led to a debate about the role of the Common Market in Europe's growth performance. In a short article in *Lloyds Bank Review* in 1961 Lamfalussy argued that there were "no obvious figures which would point to a causal relationship between the establishment of the Common Market and the rapid growth of its members" (Lamfalussy, 1961c, 1). Instead, he argued that the causal relation was the other way round: that as a result of the rapid growth of the Six, and thanks to their favourable external balances, the Common Market became an early success⁵.

Under the influence of Robert Triffin, Lamfalussy took a sabbatical at Yale University in the academic year 1961-1962. It gave him the opportunity to go deeper into the issue of Europe's post-war growth performance, turning to the question: "If not the Common Market, *what* then made the E.E.C. countries grow faster than Britain?" (Lamfalussy, 1963, vii).

Already as a young economist, Lamfalussy was concerned about the "deep gulf between the day-to-day discussions of vital policy issues and the more serene but necessarily abstract academic studies". With his new book "*The United Kingdom and the Six. An Essay on Economic Growth in Western Europe*", Lamfalussy had a double objective. On the one hand, he hoped that his type of analysis might stimulate more policy-oriented research in the academic world. His other objective was to weigh on the economic policy debate concerning a crucial issue for the future of Europe.

Lamfalussy started his study by presenting a general picture of economic developments in the United Kingdom and the six countries of the European Economic Community, covering the period 1950-1961. Looking at the main macroeconomic data, Lamfalussy observes a widening gap between the

⁵ This might be a rather pessimistic assessment. Eichengreen (2007, 181) reports that, applied to the period 1959-1969, incomes in the Six might have been 4 to 8 percent lower without the Common Market.

economic performance of the United Kingdom and that of the EEC members. This is not only the case for economic growth, but also with respect to inflation and the balance of payments. The crucial question is then which factors were behind this divergence in economic performance.

In his analysis of the determinants of the growth process, Lamfalussy first focuses on the supply side. He concludes that the crucial difference between the United Kingdom and the countries of the European Community concerns labour productivity: "The common feature of the growth pattern in the E.E.C. countries (relatively to the U.K.) does *not* lie in any faster rise of employment; it lies in a generally more rapid advance of the productivity of labour" (Lamfalussy, 1963, 33). In the following chapter, he turns to the demand side and the balance of payments, especially exports. He argues that they work through two channels. There is a direct impact, as investment is influenced by the growth of exports (a cherished theme of Lamfalussy). Moreover, there is an indirect channel, as a weak balance of payments position can force the government to adopt restrictive economic policies (also known as stop-and-go policies, something which often happened in the UK in the post-war period).

Lamfalussy argued that exports played a vital role in influencing the balance of payments on both sides of the Channel. "This is what distinguishes the Common Market's export-oriented growth from the British development: E.E.C. exports expanded rapidly enough to make it possible for the member countries to grow faster than Britain *and* at the same time to improve their balance of payments" (Lamfalussy, 1963, 47). In Chapter five, he deepens his analysis of the divergences in export performance, emphasising the slow increase of British productivity as the main reason for the slow growth of British exports. So, the slow growth of British productivity emerges, both from an analysis of supply and of demand, as the main factor behind the slow economic growth in the UK. As argued by Eichengreen (2022), it is still the fundamental problem of the British economy.

Thereafter, Lamfalussy explored the "intricate" relationship between capital accumulation and the rate of growth of productivity. Lamfalussy concludes that it was not slower technological and organisational progress in the United Kingdom's manufacturing sector but "export-led" growth that enabled the continental countries to outstrip the UK. He argues that the rapid development of German and Italian exports raised both the investment and savings ratios, thereby enabling capacity and per capita productivity to grow faster without producing inflation or pressure on the balance of payments.

Lamfalussy rounds off his argument by showing the virtuous circle of the EEC growth performance, "competitive advantage in world markets, leading to faster growth of exports; export-oriented growth, raising the share of investment in the national product; higher investment ratio, calling forth a faster growth in the productivity of labour and leading, therefore, to renewed competitive advantage in

world markets" (Lamfalussy, 1963, 116-117). The virtuous circle of the EEC countries contrasts naturally with the vicious circle of the United Kingdom (or Belgium, as argued in his earlier work).

The main question left is then how the EEC countries managed to get into a virtuous orbit; in other words, how did they get this initial competitive advantage over the UK? For Germany, Italy, and the Netherlands, low money wages (relative to productivity) due to undervalued currencies and an easy labour market were crucial. They also had low military expenditure relative to the UK. France had one big advantage over the UK in that it did not have to support a key currency and had no inhibitions about devaluation. France's growth, up to 1958, was kept going by high domestic expenditure, leading in turn to inflation. It was only after the double devaluation of 1957-58 that the country's growth became export-oriented. But both types of take-off were impracticable for Britain: "High labour costs and military expenditure prevented her from following the export-oriented (but high-investment) take-off of Germany, Italy and the Netherlands; and she missed the import-oriented (and also high-investment) take-off of France, because she could not afford to disregard the equilibrium of her balance of payments" (Lamfalussy, 1963, 120).

5. A CAREER AS A COMMERCIAL BANKER

Lamfalussy returned to Belgium in 1955 and worked at the Banque de Bruxelles, Belgium's second commercial bank, becoming Chairman of the Executive Board in 1971. In the early 1960s, he was entrusted with responsibilities in the area of investment management. He was involved in the creation of mutual funds and played a role in international investment banking. For instance, in July 1963, he represented the Banque de Bruxelles at the signing of the subscription agreement for a \$15 million bond for Autostrada, traditionally considered as the first Eurobond issue. Lamfalussy became an authority on European financial markets. So was he a member of the Segré Committee, which investigated the integration of the capital markets in the European Economic Community (CEC, 1966).

Being at a commercial bank had also an important impact on Lamfalussy's research interests, which shifted to monetary and financial issues. Lamfalussy was intellectually close to the Radcliffe Report. He defended it against criticism from Robertson and Harrod who argued that the principle of "loans create deposits" applies only to banks. In their view, all other financial institutions were pure intermediaries, who can only lend what they get. Lamfalussy claimed that this argument breaks down if non-bank financial intermediaries provide near-money assets which are quasi-perfect substitutes for money held in excess of transaction balances. Consequently, effective demand in the economy may grow although the supply of money and liquidity preference remain unchanged. If non-bank financial intermediaries are able to create appropriate near-money assets, "they cease, of course,

to be intermediaries: they become creators of near-money in just the same way as banks are creators of money" (Lamfalussy 1961b, p. 48). One can see Lamfalussy's early attention to financial innovation and "shadow" banking systems.

However, during Lamfalussy's time at the helm of the Banque de Bruxelles, in 1974, some traders took important open foreign exchange positions, which caused significant losses for the bank (Moitroux, 1995, p. 217). It should be noted that the breakdown of the Bretton Woods system marked an important turning point in the environment in which financial institutions operated. It implied a significant increase in the risks of foreign exchange and arbitrage operations (and at that time, there were no prudential regulations concerning open foreign exchange positions in Belgium). At the end of 1975, Lamfalussy resigned from the bank, taking up the responsibility for the losses. Evidently, all this had a strong impact on Lamfalussy's view of the financial system: risk and financial fragility became important preoccupations for him.

6. ALEXANDRE LAMFALUSSY AT THE BANK FOR INTERNATIONAL SETTLEMENTS

In January 1976, Lamfalussy joined the Bank for International Settlements (BIS) as Economic Adviser. He was General Manager from May 1985 until the end of 1993. The Bank for International Settlements was set up in 1930. It provided central bankers with three main services: research on issues relevant to international payments and prudential supervision, a venue for regular and discreet meetings, and a financial arm (particularly important in the gold market).

In the postwar period, Basel was one of the main centres of international monetary cooperation, contributing to the longevity and success of the Bretton Woods system (Toniolo, 2005). In the 1960s, central banks became more and more interested in the growth of the Euro-currency market and its impact on international liquidity creation. So, in order to monitor the euro-markets, the Standing Committee on the Euro-Currency Market was set up in April 1971. The collapse of Bretton Woods, in the early 1970s, contributed significantly to a shift in the objectives of central bank cooperation. With floating exchange rates, increasing capital mobility and financial liberalisation (also inside countries), cooperation shifted away from monetary stability towards financial stability. The high-profile collapse of certain banks, especially Herstatt, further reinforced this tendency.

At first sight, the choice of Lamfalussy as Economic Adviser might seem somewhat curious as he had no central banking or policy-making background (Maes 2010). However, "Professor" Lamfalussy had a strong academic background and was well introduced in the international economic policy-making world. For instance, in 1969, at the age of 40, Lamfalussy had given the prestigious Per Jacobsson Lecture, on the theme *The Role of Monetary Gold over the Next Ten Years*. Moreover, as a commercial banker, Lamfalussy had a profound knowledge of the financial markets. With his

academic background and his knowledge of the financial markets, he was well suited to navigate the BIS through the new environment of financial fragility and uncertainty.

During his time at the BIS, Lamfalussy was very much involved with international debt issues (Maes 2010). In the mid-1970s, with the oil price shock and the recycling of the petrodollars, the focus shifted from the traditional Euro-currency markets to Eurodollar lending to developing countries. This also implied an increase in the country risks of the international banks. The BIS therefore extended its analysis from the Euro-currency market narrowly defined to international bank lending in general. The BIS data clearly showed the massive growth in indebtedness of certain countries as well as its increasingly short-term character. In a speech in 1976, Lamfalussy already warned for the debt problem (Lamfalussy, 1976). Lamfalussy also emphasised that a borrowers' market had been developing. He argued that the "supply-led growth of international bank credit has led to a reduction of bank margins to the pre-Herstatt levels, to the lengthening of the maturity of bank loans and to the increase in the size of individual syndicated lending operations" (Lamfalussy, 1978, p. 4). For Lamfalussy, important causes of this borrowers' market were loose monetary policies and the US current account deficit, which was "pumping liquidity into the international financial system". Noteworthy, too, is that Lamfalussy was less concerned about potential inflationary consequences of these imbalances than about potential financial stability effects.

Lamfalussy was involved in behind-the-scenes efforts to moderate international bank lending. In 1977, Arthur Burns, the then Chairman of the Fed, suggested drawing up a "checklist of questions" for banks which were lending to sovereign borrowers (Lamfalussy, 2000, p. 12). The idea was to ask the banks to have a look at the relevant economic indicators before taking their lending decisions. Lamfalussy contacted fifty-seven international banks to sound out their willingness to participate in this arrangement. However, he was met with scepticism and reluctance. The main reason was that banks feared losing lucrative business to unfair competitors. Moreover, Lamfalussy discovered that the CEOs of the banks did not know about the BIS statistics, a crucial tool for understanding the credit risks they were taking.

In May 1979, Lamfalussy was appointed as chair of a G10 study group which had to examine ways to limit the growth of the international lending of the banking sector. Within this "Lamfalussy Group", there were profound divergences. An important issue was the role of national monetary policies in the "control" of the Euro-markets. Lamfalussy emphasised that the key lay in domestic monetary policy, in line with his view that the strong growth of international lending was related to the borrowers' market and loose US monetary policies. However, the Federal Reserve and the Bundesbank were in favor of a permanent and uniform system of international control based on reserve requirements. During the meetings of the Group, the use of prudential measures to limit

international bank lending aroused quite some debate. A key issue was a new "macro-prudential" concept of financial supervision. The idea was that the micro-prudential aspect of banking supervision needed to be placed in a wider perspective. Of significant importance was a paper by the Bank of England, "The use of prudential measures in the international banking markets" (BISA, 7.18(15) LAM25/F66)⁶. In this paper, the "macro-prudential approach" was characterised as focusing on problems that "bear upon the market as a whole as distinct from an individual bank, and which may not be obvious at the micro-prudential level". The paper suggested three examples of macro-prudential problems, to illustrate that the micro-prudential viewpoint might fail to take full account of the wider macro-prudential picture (Maes 2010). Firstly, the paper advanced the issue of the growth of the market. While the growth of an individual bank's business might seem wholly acceptable from a microprudential standpoint, the overall rate of growth of international lending might be risky. For instance, banks might make optimistic assumptions about balance of payments adjustments (which was clearly the case for Mexico and other Latin-American countries). Secondly there was the perception of risk. As bad debt had been low in recent years, sovereign risk appeared to the banks "not only to be low but perhaps even to be declining". Thirdly, there was the perception of liquidity. Banks are faced with both interest rate risks and funding risks. Banks mostly regard interest rate risk as the greater risk, and at the micro-level this perception is understandable and, generally, correct. So, there is a risk that banks might become "unduly complacent" about the funding risk. However, as observed in the paper, the structure of the international markets, "with chains of transactions between banks", might make banks vulnerable to an exogenous shock. Lamfalussy would become a strong advocate of the concept of macro-prudential supervision.

The debates in the central banking community on prudential issues, especially between the Committee on Banking Supervision (also known as the Basel Committee) and the Standing Committee on the Euro-Currency Market were very difficult. The Committee on Banking Supervision typically took a micro-prudential point of view. Its main objective was to check the compliance of the banks with prudential regulations. The Euro-Currency Committee took a more "macro-prudential" approach, pointing to the increasing debt of certain countries. As Lamfalussy later observed, "The Euro-currency Standing Committee said, 'Be careful: the countries' ability to shoulder this debt burden is limited in terms of the interest rate, particularly as this type of loan has a variable interest rate, with the rate linked to the money market rate'. That was because the banks did not want to

⁶ As London was an important centre of the Euro-markets, the Bank of England was closely monitoring international banking developments (see, e.g., the regular articles in the Quarterly Bulletin of the Bank of England). Moreover, after the "secondary banking crisis" of 1973-1974, the Bank of England was invested with statutory responsibility for banking supervision. This naturally stimulated interest in supervisory issues. However, Goodhart (2003, p. 33) observed that, initially, supervision itself was a very practical business, which "eschewed academic input" from economists.

have problems with refinancing. Extending the maturities would have been dangerous, so that was very convenient for the banks. They lent at an internationally accepted rate, with a margin that was not very large, but with the possibility of unwinding the operation almost on demand. When we began to see that Mexican and Brazilian debt was increasing and calculated the percentage of the debt that had been incurred by means of these variable rate and on-demand instruments, we could see that this was a major problem. That was all discussed in the G10.” (Lamfalussy, Maes and Péters, 2013, 127). However, for the Committee on Banking Supervision, the risks of these credits were regarded as limited: it were short-term credits (floating-rate notes) which could be withdrawn quickly if there was the slightest danger (a rather naïve view, one might argue, as a general withdrawal would lead to a collapse of the system). For Lamfalussy, these discussions were an eye opener: he became there conscious of the need to combine micro- and macro-prudential supervision, implying also a crucial role for the central bank in financial supervision. It was to become a recurring theme in Lamfalussy's discourse on financial stability. Lamfalussy became a crucial architect of the BIS's “macro-prudential” approach towards financial supervision (Maes 2016). Lamfalussy was also one of the first persons to openly advocate the idea of entrusting the European Central Bank with operational responsibility in the supervision of a limited number of large European banks, as they are crucial for systemic stability (Lamfalussy, 2004, p. 20). This would happen in 2014 with the creation of the Single Supervisory Mechanism.

In August 1982, the Latin American debt crisis broke out. The BIS played an important role in crisis management, especially in the provision of “bridging loans” (before IMF stabilisation loans could be accorded). Moreover, the BIS statistics were invaluable for policymakers to quickly identify the banks involved in the debt crises and the amounts of their credits. Later, Lamfalussy would speak with a hint of “nostalgia” about the Mexican debt crisis, as compared to the lack of transparency during the Great Financial Crisis, a consequence of financial innovations (Lamfalussy, Maes and Péters, 2013).

7. FINANCIAL INNOVATION AND FRAGILITY

In the immediate post-war period, with capital controls and a strongly regulated and segmented financial system, financial innovations were less significant. Gradually, this would change and in the mid-1970s, financial innovations increasingly became a topic of discussion among economists and policymakers, especially in the United States. An important factor was that conventional money demand functions began to overpredict the quantity of money in circulation, leading to the “puzzle of the missing money” (Goldfeld, 1976). Financial innovation and its effects on monetary policy thus became a crucial topic of research, also among central bankers (Boyer 2003).

However, as observed by Wenninger (1984), the impact of financial innovation on financial fragility was rather neglected. Naturally, there were exceptions. The main prophet of financial doom was

naturally Hyman Minsky. Noteworthy is that his work was quite well known at the BIS (see McClam, 1982). Also at the Federal Reserve Bank of New York (which was responsible for the supervision of the large banks and close to the international financial markets where many financial innovations had their origin) was there interest in this theme. Richard Davis, a NY Fed official, argued in 1981 that there was growing evidence of financial fragility. His main arguments were that shorter debt maturities increased the problem of debt roll-over and that variable interest rates implied more interest rate risk for banks, as not all this risk can be passed on to the borrowers (Davis, 1981, p. 25). Also Charles Goodhart (Bank of England) was fearful that innovation was increasing financial fragility. Goodhart (1984, p. 142) argued that, with the erosion of low-cost retail deposits, banking was becoming riskier, reinforcing the need to pay more attention to prudential control and capital adequacy.

Under Lamfalussy's impulse, financial innovation became a crucial topic of research at the BIS. This became apparent in the 1982-1983 Annual Report, which included for the first time a chapter entitled "Financial Markets and Financial Innovations". The main preoccupation, not unnaturally, was the impact of financial innovations on monetary policy. This was also the theme of the 1983 central bank economists' meeting. The introductory paper was written by Akbar M. Akhtar, an economist who was on secondment from the New York Fed. In his analysis of the financial innovations, Akhtar (1983, p. 6) distinguished five broad categories of change: (1) the increasing use of interest-sensitive funds by banks and other financial institutions; (2) variable rate lending or borrowing and maturity shortening; (3) the growth of financial markets and of marketable financial instruments; (4) more competitive retail banking; (5) the blurring of distinctions between different types of financial intermediaries.

The debate on financial innovations was very much focused on the United States and the United Kingdom. They were generally regarded as the leaders in this area. The European continent was generally considered to be lagging. However, Lamfalussy begged to differ, drawing on his previous experience as a commercial banker. He argued that innovations did occur in continental Europe, but they were not recognised. He advanced two reasons. Firstly, in several countries, especially small open economies, financial innovations had taken the international route. This especially concerned wholesale banking, where floating rate bank lending had been introduced via the Euro-markets and where active liability management and the management of banks' liquidity positions was occurring via foreign exchange transactions. A second reason was that in continental Europe, with a tradition of universal banking, many innovations were taking place within institutions. An example was the development of mutual funds by banks, "fixed-interest mutual funds, taking in their portfolio bonds denominated in foreign currencies and in domestic currency, originated in these countries and in the

banks. I speak from experience, since in my earlier incarnation, I played a role in putting one of these funds on the market" (Lamfalussy, 1983, p. 2).

Lamfalussy very quickly took a cautious attitude towards financial innovations. At a Bank of England conference in May 1983, Peter Cooke, the chairman of the Committee on Banking Supervision, said that supervisors never question whether financial innovations are a good thing. Lamfalussy (1983, p. 4) replied, "Well, in some of my more courageous moments, I do". Lamfalussy further confessed that, "It doesn't seem to me intuitively obvious that, *on balance*, financial innovations are a good thing". Lamfalussy did not question that financial innovations could improve efficiency and help protect market participants against uncertainty. However, in his opinion, financial innovations also create problems, especially for monetary policy-making, "if the result is that we end up in a monetary policy mess, and therefore major policy mistakes ... then I begin to have doubts about the balance of *pros* and *cons*" (Lamfalussy, 1983, p. 4).

In the following years, Lamfalussy became more and more cautious about financial innovations, not only their impact on monetary policy, but also their effects on the stability of the financial system. Fundamentally, Lamfalussy always kept a "Keynesian" *Weltanschauung*, with a certain scepticism about the functioning of (financial) markets. As is well known, Keynes was critical about the functioning of the financial markets, "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done ... It is usually agreed that casinos should, in the public interest, be inaccessible and expensive. And perhaps the same is true of stock exchanges" (Keynes, 1936, p. 159). Lamfalussy, at a conference in Brussels in 1985, was very much on the same line. He remarked that economists generally adhere to the "principle - or an act of faith that I do not share - that the market knows better than anybody what the right price of a financial asset is" (Lamfalussy, 1985b, p. 5). Already earlier, at a conference in Amsterdam, Lamfalussy (1984) had argued in favour of a research programme in the field of "normative financial economics", referring to Tobin's Fred Hirsch memorial lecture, which raised questions about the efficiency of the financial system (Tobin 1984)⁷.

In January 1985, Lamfalussy was a speaker at the American Economic Association meeting. The topic was "The changing environment of central bank policy" (Lamfalussy, 1985a). Financial fragility was one of the main themes of the presentation. Lamfalussy emphasised that the financial systems

⁷ Throughout his life, Lamfalussy had also a profound distrust of systems of floating exchange rates (fearing exchange rate misalignments) and was a strong advocate of international policy coordination and European monetary integration.

of the Western industrial countries were in the midst of several interconnected evolutionary processes, like disinflation, internationalisation, innovation and deregulation. For Lamfalussy, a crucial implication of the internationalisation process was that no country could isolate itself from other countries, whatever its exchange rate regime. He then went into the consequences of the growing cross-border interdependence for financial stability. Lamfalussy was cautious about the idea that fiercer competition would strengthen the resilience of the financial system. He was especially concerned about asymmetries in the opening of markets, with more active competition in some fields (internationally), coupled with continued market imperfections in others (domestically), a topic which has not lost its relevance.

Lamfalussy paid special attention to the accelerating speed of financial innovation. This was leading to a flow of new financial instruments and techniques, as well as the blurring of dividing lines between institutions and between markets⁸. After discussing the implications for monetary policy, Lamfalussy turned to the prudential implications. He raised several issues. As it were delicate and controversial topics, Lamfalussy formulated his ideas in the form of questions: "What should be done, for instance, on a purely technical level, with a number of balance-sheet items listed as contingent liabilities, or with the host of intermediary balance-sheet items classed somewhere between equity and "traditional" liabilities? How should minimum capital ratios be established? Should such ratios be established at all? Are they not going to produce "evasive" innovations? What are the macroeconomic implications of assigning greater control responsibilities to the supervisory authorities?". His last, and most fundamental, question concerned the effects on financial stability of the redistribution of risk by these new techniques and instruments, "You may argue that when risk-averse market participants shift risks associated with unexpected interest and exchange rate developments onto willing risk takers, everybody is going to be better off. This may well be the case, but increased collective happiness does not necessarily mean greater systemic stability. Or does it?" (Lamfalussy, 1985a, p. 411).

Later, in a speech in 1986, Lamfalussy gave a negative answer to the question whether the redistribution of risk improved financial stability. His argument was strongly influenced by his analysis of the Latin American debt crisis. In his view, the shift to a generalised use of floating interest rates in medium-term bank loans, during the petrodollar recycling, allowed banks to protect themselves against the erosion of their margins of intermediation. However, it also had the effect of passing on short-term market interest rate movements to borrowers. With negative real interest rates in the 1970s, credit demand was stimulated, leading to a period of over-expansion. The return to positive

⁸ Already a theme of the 1959 Radcliffe Report, to which Lamfalussy was sympathetic (see above).

real interest rates in 1979 placed a "crippling" burden on many debtors. The ensuing debt crisis threatened the world financial system. Lamfalussy concluded: "Innovation allowed banks to transform margin risk into capital risk which, in this case, was probably a greater threat to the stability of the international banking system - not to mention its rather disastrous effects on the borrowers themselves" (Lamfalussy, 1986, p. 14).

8. CONCLUSION

As the General Manager of the Bank for International Settlements and the first President of the European Monetary Institute (the precursor of the European Central Bank), Alexandre Lamfalussy was one of Europe's most eminent central bankers in the postwar period. Moreover, Lamfalussy, also pursued an academic career. He was always trying to get a better understanding of the crucial (monetary) policy issues, combining academic theories (in plural) and different types of empirical material. While being a distinguished central banker, close to the empirical reality, Lamfalussy remained faithful to a strongly Keynesian *Weltanschauung*, which he had already acquired as a young economics student. In Lamfalussy's view, the market economy was inherently unstable. However, over time his view on the origins of the instability of the economy shifted. In this contribution the vision of the "Young" and "Elder" Lamfalussy on the origins of instability in capitalist economies were contrasted. The young Lamfalussy found the origins of instability in medium-term cumulative processes in the real sector of the economy, very much inspired by the vicious circles in the British and Belgian economies in the postwar period, in contrast to the virtuous growth processes of the German and Italian economies. The Elder Lamfalussy focused more on financial innovations and the short-term myopic behavior of financial markets, very much inspired by his experience of the Latin American debt build-up and ensuing crisis in the early 1980s. This distinction remains relevant. During the first decade of the euro, structural divergencies between the countries of the euro area increased (Buti, 2021). There were growing trade, financial and fiscal imbalances as well as competitiveness problems. Indeed, the credibility of the monetary union had induced the financial markets to finance much larger external imbalances than in earlier periods (see Sapir 2014 for a comparison with the 1992-93 crises in the European Monetary System). In some countries, such as Ireland and Spain, economic expansion – especially in the property sector – was initially bolstered by the convergence of nominal interest rates within the monetary union, as spreads with Germany more or less disappeared. This convergence was also due to increasing cross-border banking activity in a large Euro Area without exchange-rate risk, with the markets completely disregarding credit risk. The ensuing boom further fuelled wage and price increases, which largely surpassed those in other countries like Germany, impairing the competitiveness of these countries. Notwithstanding these competitiveness losses, domestic demand further increased through the combined effects of strong wage increases and very low real interest rates (given the combination

of low nominal rates with high inflation). This situation further added to the trade, financial and fiscal imbalances, with excessive lending and debt, property market bubbles, and current account deficits. The final result was a severe asset-price boom and bust cycle and a subsequent harsh and prolonged process of deleverage. The cycle was caused by myopic behavior in the financial markets, as emphasized by the Elder Lamfalussy, and by dynamic processes in the real economy, as emphasized by the Young Lamfalussy.

9. REFERENCES

Archives: - Bank for International Settlements, Basel (BISA)

-National Bank of Belgium, Brussels (NBBA)

Akhtar, M. A., 1983, Financial Innovations and their Implications for Monetary Policy: an International Perspective, Bank for International Settlements, *Economic Papers*, No. 9, September.

Andrews, 1949, *Manufacturing Business*, London: MacMillan.

Boyer, J. de, 2003, *La pensée monétaire. Histoire et analyse*, Editions les Solos.

Buti, M. 2021, *The Man Inside. A European Journey through Two Crises*. Milan: Bocconi University Press.

Commission of the European Communities, 1966, *Le développement d'un marché européen des capitaux* (Rapport Segré), Bruxelles.

Crafts, N. & Toniolo, G., 1996, Postwar growth: an overview, N. Crafts & G. Toniolo (eds.), *Economic growth in Europe since 1945*, Cambridge: C.U.P., pp. 1-37.

Davis, R.G., 1981a, Recent Evolution in US Financial Markets - Implications for Monetary Policy, Federal Reserve Bank of New York, Research Paper No. 8111, July.

Dupriez, L.H. 1959, *Philosophie des Conjonctures Économiques*, Louvain: Nauwelaerts.

Dupriez, L.H. 1961, *Progrès économique ou croissance*, Bruxelles: Société Royale d'Economie Politique.

Eichengreen, B., 2007, *The European Economy Since 1945*, Princeton: Princeton University Press.

Eichengreen, B., 2022, Boris Johnson leaves behind a Sterling mess, *Project Syndicate*, July 8.

Goldfeld, S.M., 1976, The Case of the Missing Money, *Brookings Papers on Economic Activity*, 3.

Goodhart, C., 1984, Structural Changes in the Banking System and the Determination of the Stock of Money, R. Maserà and R. Triffin (eds.), *Europe's Money, Problems of European Monetary Co-ordination and Integration*, Oxford: Clarendon Press.

Goodhart, C., 2003, A Central Bank Economist, P. Mizen (ed.) *Central Banking, Monetary Theory and Practice*, Vol. 1, Cheltenham: Edward Elgar, pp. 13-62.

Hicks, J., 1939, *Value and Capital*, Oxford: Clarendon Press.

Hicks, J., 1954, The Process of Imperfect Competition, *Oxford Economic Papers*, February.

Keynes, J.M., 1936, *The General Theory of Employment, Interest and Money*, C.W. Vol. VII, London: Macmillan.

Lamfalussy, A., 1958, The Pattern of Growth in Belgian Manufacturing Industry, 1937-1956, *Journal of Industrial Economics*, Vol. 6, No. 2: 101-133 (reprinted in Maes 2017).

- Lamfalussy, A., 1961a, *Investment and Growth in Mature Economies. The Case of Belgium*, London: Macmillan.
- Lamfalussy, A., 1961b, Money Substitutes and Monetary Policy, *The Banker*, January, Vol. CXI, No. 419, pp. 44-50 (reprinted in Maes 2017).
- Lamfalussy, A., 1961c, Europe's Progress: Due to Common Market?, *Lloyds Bank Review*, No. 62:1-16 (reprinted in Maes 2017).
- Lamfalussy, A., 1963, *The United Kingdom and the Six. An Essay on Economic Growth in Western Europe*, London: Macmillan.
- Lamfalussy, 1969, *The Role of Monetary Gold over the Next Ten Years*, The Per Jacobsson Foundation (reprinted in Maes 2017).
- Lamfalussy, A. (1976). La Centralisation des Risques Bancaires, 9 December, Luxembourg, BIS Archives, file 7.17 - Speeches.
- Lamfalussy, A., 1978, The Future of the Euro-Currency Market, Conference Board Europe, 14 December, Brussels, BISA, file 7.17 – Speeches (reprinted in Maes 2017).
- Lamfalussy, A., 1983, Concluding Session on Monetary Control Considerations, 20 May, Bank of England Conference on the Implications of Developments in Monetary Systems, BISA, file 7.17 – Speeches (reprinted in Maes 2017).
- Lamfalussy, A., 1984, What Role for Monetary Policy Today?, Conference on "Monetary Conditions for Economic Recovery", 14th-16th November, University of Amsterdam and De Nederlandsche Bank, BISA, file 7.17 - Speeches.
- Lamfalussy, A., 1985a, The Changing Environment of Central Bank Policy, *American Economic Review*, Vol. 75, No. 2, May, pp. 409-414 (reprinted in Maes 2017).
- Lamfalussy, A., 1985b, Reflexions sur l'Intégration Financière Internationale, 16 November, Université Libre de Bruxelles, BISA, file 7.17 - Speeches.
- Lamfalussy, A., 1986, Worldwide Competition in Financial Markets: Issues for Banking Supervisors, 23 October, Amsterdam Conference of Banking Supervisors, BISA, file 7.17 – Speeches (reprinted in Maes 2017).
- Lamfalussy, A., 2000, *Financial Crisis in Emerging Markets. An Essay on Financial Globalisation and Fragility*, New Haven: Yale University Press.
- Lamfalussy, A., 2004, *Central Banks and Financial Stability*, 2nd Pierre Werner Lecture, Luxembourg: Banque Centrale de Luxembourg (reprinted in Maes 2017).
- Lamfalussy, C., I. Maes and S. Péters, 2013. *Alexandre Lamfalussy. The Wise Man of the Euro. A conversation with Christophe Lamfalussy, Ivo Maes and Sabine Péters*. Preface by de J. Larosière, Leuven: LannooCampus.
- Leijonhufvud, A., 1968, *On Keynesian Economics and the Economics of Keynes*, Oxford: OUP.
- Leijonhufvud, A., 1979, Review of J. R. Hicks's Economic Perspective, *Journal of Economic Literature*, XVII, pp. 525-527.
- Maes, I., 2008, The spread of Keynesian economics: a comparison of the Belgian and Italian experiences (1945-1970), *Journal of the History of Economic Thought*, Vol. 30, No. 2, pp. 491-509.
- Maes, I., 2009, The young Lamfalussy: an empirical and policy-oriented growth theorist, *Revue de la Banque*, July, No 5, p. 286-300.

- Maes, I., 2010, On the origins of the BIS macro-prudential approach to financial stability: Alexandre Lamfalussy and financial fragility, *PSL Quarterly Review*, Vol. 63, No. 254, p. 265-292.
- Maes I, 2016, Alexandre Lamfalussy: A Cassandra about Financial Stability, K. Dyson and I. Maes (eds.), *Architects of the Euro: Intellectuals in the Making of European Monetary Union*, Oxford: Oxford University Press.
- Maes I., (ed.), 2017, *Alexandre Lamfalussy - Selected Essays*, Budapest: Magyar Nemzeti Bank and National Bank of Belgium, January 2017.
- Maes, I., Buyst, E. & Bouchet M., 2000, The Post-1945 Development of Economics in Belgium, Coats, A. W. (ed.), *The Development of Economics in Western Europe since 1945*, London: Routledge, p. 94-112.
- McClam, W.D., 1982, Financial fragility and instability: monetary authorities as borrowers and lenders of last resort, Kindleberger, C. & Laffargue, J-P. (eds.), *Financial crises. Theory, history and policy*, Cambridge: Cambridge University Press.
- Moitroux, J.-M., 1995, *Een Bank in de Geschiedenis*, Brussel: BBL.
- Sapir, A. 2014. 'Financial Crises under two Monetary Regimes: EMU vs. EMS', in I. Maes and F. Moss (eds), *Progress through Crisis? Proceedings of the Conference for the 20th Anniversary of the Establishment of the European Monetary Institute*. Frankfurt am Main: European Central Bank, pp. 33-67.
- Thirlwall, A., 1987, *Nicholas Kaldor*, Brighton: Wheatsheaf Books.
- Tobin, J., 1984, On the Efficiency of the Financial System, *Lloyds Bank Review*, July, No.153, pp. 1-15.
- Toniolo, G. (with the cooperation of P. Clement), 2005, *Central Bank Cooperation at the Bank for International Settlements, 1930–1973*, Cambridge: Cambridge University Press.
- Weninger, J., 1984, Financial Innovation in the United States, BIS, *Financial Innovation and Monetary Policy*, Basel.

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