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Romania's Unsustainable Stabilization: 1929-1933*

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Abstract

The *Banque de France's* (BDF's) conducted a mission to the National Bank of Romania (NBR) and the National Romanian Government between 1929 and 1933 to advise Romanian monetary and financial authorities. It took place in complement to two loans respectively provided in 1929 and 1931 to stabilize the leu and to develop the economy. After 4 years of cooperation, Romanian authorities were obliged to restrict convertibility to defend the leu. The Romanian Government was also unable to follow French's advice and finally defaulted. After the contributions of Mouré (2003), Cotrell (2006), Torre and Tosi (2010), and Raceanu (2012), this paper contributes to the analysis of this sequence: it supports the thesis that the Great Depression and its effects were not the primary causes of the failure of this cooperation episode. Two other reasons were indeed both sufficient to cause a default of the Romanian part and a failure of the cooperation sequence, unexpected by the French part: (i) a change of repudiation costs of the loans between 1929 and 1933, (ii) unadapted advices from the French mission / excessive cost for the Romanian part to follow them. To obtain this result, we first use archive documents to determine at which moment the Romanian and French parts agreed or disagreed during the 4-year cooperation. Second, we develop a game theoretic model analyzing on rational basis the motives which could explain a late default of the Romanian part, unexpected by the French part. Third, we apply a cliometric analysis onto original data from the National Bank of Romania, which shows that the advices were probably unadapted / too costly to follow. We conclude that at least one of the sufficient conditions exhibited by the theoretical model is empirically validated, which makes inessential the Great Depression as a cause of the default.

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Résumé

La *Banque de France* (BDF) a effectué une mission de conseil auprès de la Banque Nationale de Roumanie (BNR) et du gouvernement roumain entre 1929 et 1933. Cette mission avait pour but la stabilisation financière et le développement de l'économie et accompagnait deux prêts consentis à la Roumanie en 1929 et 1931 pour les mêmes motifs. Sur l'ensemble des quatre années, les recommandations de la mission ont été peu suivies et, à leur terme, les autorités roumaines ont été cotraintes à limiter la convertibilité pour défendre le leu, avant de faire défaut après plusieurs reports dans le versement des annuités des prêts. Après les contributions de Mouré (2003), Cotrell (2006), Torre et Tosi (2010) et Raceanu (2012), ce texte ajoute des éléments nouveaux à l'analyse de cette séquence : il défend la thèse selon laquelle la Grande Dépression et ses effets ne sont pas les principales causes de l'échec de cet épisode de coopération. Deux autres raisons s'avèrent en effet suffisantes à provoquer à la fois le défaut de la partie roumaine et un échec de la séquence de coopération non anticipé par la partie française : (i) une modification des coûts de répudiation des emprunts roumains entre 1929 et 1933, (ii) des avis non adaptés de la mission française / un coût excessif pour la partie roumaine de les suivre. Pour obtenir ce résultat, nous utilisons d'abord des documents d'archive afin de déterminer la séquence des désaccords entre les parties roumaine et française lors des quatre années de coopération. Puis, nous proposons un jeu simple analysant sur la base de comportements rationnels des deux parties française et roumaine, les raisons du défaut tardif de la partie roumaine, et du fait qu'il n'ait pas été anticipé par la partie française. Enfin, nous appliquons une analyse cliométrique à des données originales issues de la Banque Nationale de Roumanie, pour tester certains des résultats du modèle théorique. Celle-ci semble indiquer que les conseils étaient probablement inadaptés / trop coûteux à suivre. Ces données confirment une partie des résultats théoriques et suffisent à rendre inessentiell la Grande Dépression en tant que cause du défaut.

Codes JEL : N24, B22

Mots-clés : Stabilisation nominale, Stabilisation financière, Coopération entre Banques Centrales, Banque Nationale de Roumanie, Charles Rist, cliometrie.

1 Introduction

The *Banque de France* (BDF) conducted a mission to the Romanian monetary and political authorities between 1929 and 1933. The objective of this mission was first to stabilize the Romanian economy in nominal terms, then to promote and guide the economic development of the country. A stabilization loan was provided by the French part with the help of a consortium of international banks and France imposed an agenda including a rapid return to Gold without devaluation, with the method already experienced in France with the Poincaré stabilization. This return of the Romanian *leu* to convertibility was followed in Romania by a short period of nominal stability. Quite rapidly, nominal stability became less easy to maintain, and disagreements developed among the French and Romanian parts on short term financial measures and development objectives. Public deficit did not reduce and financial advices were less and less easily accepted or followed correctly by Romanian authorities. Despite these unsuccessful episodes, cooperation did not stop and a development loan was provided in 1931. This new loan was however unable to help advices and actions converge. Finally, the Romanian part introduced a strict control of exchange which made artificial the official rate of exchange in 1932, and officially stopped to service the debt in 1933, after two years of postponement. The French mission ceased in 1933: although it was not immediately recognized as such by the two parts, the partnership failed both to stabilize the country and to avoid its default few times after the payment of the second loan.

The interwar period provides many examples of attempts to “stabilize” European economies. A causal relation was at this time frequently supposed between public deficits and exchange rate depreciation or volatility. Therefore, “stabilizations” usually encompassed two objectives: restoring external and internal monetary stability from one hand, but also restoring financial stability on the other hand, i.e. reducing the budget deficit or at least finding sound ways to fund it. It was the case in the Balkan countries which learned a lot from these episodes (Tooze and Ivanov, 2011). The League of Nations was for the most part in charge of missions to central banks or governments in the early 1920’s (Nenovsky and Domitova, 2006, Flores Zendejas and Decorzant, 2016). From the success of the British, then the French stabilizations - with different methods and consequences -, the two major European Central Banks also competed to drive these attempts or guide them (Flandreau, 2003). The advices of the New York Federal Reserve and the loans of the Financial Place of New York were interpreted as encouragements to develop these interventions. The *Banque de France*, directly or through its influence in the young Bank of International Settlements, had become the most active institution from the late 1920’s, partly due to the new strong position of the French Franc since 1926.

The cooperation between the *Banque de France* and the Romanian administration to stabilize the leu and to advise the Romanian Government is one of these episodes. Kenneth Mouré (2003), Philipp Cottrell (2003), Dominique Torre and Elise Tosi (2010) have used French sources, mostly from the *Banque de France*, to document it. Ileana Nicoletta Raceanu (2012) added interesting and original references from the Romanian side. She also provided interesting details and analyses on the last phase, resulting in the discreet withdrawal of the French mission and in the arrival of the League of Nations

advisers. There is a general agreement that the mission failed. The symptoms of this failure are (i) the impossibility of the Romanian central bankers to stabilize the leu without restricting capital movements and free conversion of the leu in external currencies, (ii) the impossibility of the Romanian government to adopt orthodox financial practices, (iii) the incapacity of Romanian authorities to service external debt and their final default.

What are the reasons of this failure? The most frequent answers are that (i) the Great Depression had a recessionist effect on the Romanian economy, which compromised the effort made by the Government to restore sound public finances, and (ii) the *Banque de France* provided poor or unadapted advices to the Romanian Government and possibly also to the National Bank of Romania (NBR). This paper reconsiders again these two causes and tries to discriminate against them. It uses complementary methodologies: (i) an archive analysis on already or newly exploited documents, from the French or the Romanian side; (ii) the predictive analysis of a simplified theoretical setting capturing the actions and interactions of the French and the Romanian parts during the four-year mission, (iii) an econometric analysis of the origin of cover stock movements- this last variable being able to encapsulate both the consequences of nominal and real shocks, and in particular those generated by the banking crisis from one side, and by the loans and advices of the mission from the other side.

We use both new data and a new methodology. Concerning data, we exploit French archive documents, mainly from the *Banque de France*, and Romanian sparse qualitative sources and testimonies, some of them unexploited. In 2015, the NBR, in association with other central banks of Southeast European countries, published previously unavailable historical data on public finance, monetary aggregates and policy, credit and the financial market before World War II. We had the opportunity, thanks to the collaboration of the NBR, to access to a complementary set of data. Concerning methodology, we elaborate a four-step sequential game exhibiting the rational motives of the observed interactions between the French mission and Romanian authorities during the four years. This theoretical setting is simple and reproduces the staggered steps of the cooperation partnership of the French and the Romanian part. It considers reasonable gains, costs, and penalties associated with this cooperation or with default for the Romanian part. It integrates reasonable imperfections of information assumptions relative to the gains and costs of the Romanian part for the French part which plays the leader. This model provides two possible explanations of the failure of the mission and of the default of the Romanian part. Using the NBR original data, we then conduct a quantitative analysis using, as the endogenous variable, the evolution of the cover stock for which the number of observations is sufficient to make the results significant. We find that this analysis is able to corroborate one of the two conjectures elaborated in the theoretical model.

The rest of the paper is organized as follows: Section 2 identifies, using archive data and other documents, the main phases of agreement and disagreement between the two parts, points out the shared intent of the two parts to continue the collaboration until the last months of the mission, and also restates the episodes ending with the Romanian default and the failure of the mission. Section 3 explores the reasons of the incapacity of the French part to anticipate the failure of the mission before the fourth year. The

subgame perfect Nash equilibria of the model provide two possible explanations: (i) the cost of defaulting for the Romanian part was possibly overestimated by the French part; (ii) The French part could have also overestimated the benefits of its advices or underestimated the costs necessary for the Romanian part to follow them. Section 4 considers the determinants of the NBR external reserves variations. These variations are generally determined both by nominal magnitudes (as external exchange rate, interest rates international spreads or inflation spreads) and by real ones (external exchange competitiveness). The cliometric analysis conducted in this section reveals that the two loans and the joint advices had a bad effect on the cover stock. This empirical result confirms the second explanation proposed by the game. Although French advices were probably relevant as general principles of financial orthodoxy, they were unadapted in the Romanian case between 1929 and 1933.

2 A four-year cooperation time

As other currencies, the Romanian *leu* became inconvertible during World War I. Romania was among the winners of the war, but with an increased territory, an inefficient fiscal system and a rapid increase of public debt funded partly by advances from the NBR. Moreover, the NBR gold reserves had been sent to Moscow in 1916 as a way to protect them against the German occupant. However, at the beginning of 1918, the Soviet authorities decided to confiscate the gold in response to the support given by the Romanian government to the manifestations of the majority of the population in Bessarabia that asked for unification with Romania. After the war, the new territory was hardly controlled and managed by the central government. Inflation developed, the public finance problem was not resolved, and the Romanian *leu* depreciated considerably in relation to major currencies. As all European monetary authorities, Romanian leaders were convinced that the return to convertibility was a necessary condition to stabilize. During the first interwar decade, the Bucharest authorities then made various attempts to restore a sound monetary and financial situation. Two conventions were executed between the NBR and the Romanian government on 19 May 1925. Their goal was to reinstate normal relationships between the government and the issuing bank and bring back the *leu* stability and convertibility by capping the issue, settling the state debt with the NBR, gradually withdrawing from circulation the notes issued by the bank for state needs and providing the coverage necessary for fiduciary circulation.

Despite these efforts and temporary results, the goals stated in the deflationary policy inaugurated by the covenants of 1925 were not reached. The level of the fiduciary circulation did not diminish, and while the national economy had adapted to the existing monetary facts, any decline in the quantity of notes in circulation would have jeopardized the existing equilibrium. Adding to all these issues was the acute lack of cash resulting from the capping of issues, with the immediate consequence of an increase in the interest rates on loans. Although the state constantly made payments into the settlement fund for its debt with the NBR, the bank continued to provide “advances” on request into the state’s current account. Thus, it was already evident that the public finance situation

was, for the most part, responsible for the difficulty in stability.

2.1 The *BDF* mission and international loans

The first initiative of the Romanian administration was to apply to the League of Nations for a loan and the second was to require the help of London financial place. However, in both cases, establishing contacts was not fruitful.¹ The third potential partner was France. Discussions between the Romanian delegates and the French central bankers, including the Governor Emile Moreau, the Deputy Governor Charles Rist, and the Chief of the Department of Economic analysis Pierre Quesnay decided to organise a visit of Quesnay in Bucharest to analyze Romania's monetary and financial situation. This visit established the groundwork for a future mission of cooperation, which was approved by the Federal Reserve System and the main European central banks after intense interactions between the staff of the BDF and these monetary institutions (see Moreau, 1954; Papiers Charles Rist, 1928).

A “stabilization” loan would be provided to the Romanian government, with the goal of reaching monetary and financial stability. Advisory tasks were proposed by the French, which was a condition from the BDF to provide the NBR a second international loan. This second “development” loan should contribute to the modernization of the economy and, in particular, to the extension of the railways. This distinction between the objective of the two loans is explicitly referred to in conversations and exchanges between the NBR and the BDF by Western partners. The stabilization of the *leu* and the sustainability of public expenses were then considered as the initial goal, the development of the economy as the second one by the French part. This hierarchy of goals for Romanian government is however already challenged in 1927-1928, during the first discussions between the Liberal administration in charge at Bucharest and the French central bankers. For instance, on 23 November 1927, Governor Moreau wrote: “M. Rist says to me that M. Louis Dreyfus is back from Romania. M. Ion Bratianu [then Prime Minister of Romania] still hopes to raise a loan for public works, but is not currently interested, for the moment, in the stabilization of the *leu*” (Moreau, 1954, p. 432, 23 Nov. 1927). The Paris discussions of December 1927 confirmed that the Romanians' preferences for the use of the loan were unchanged (see Moreau, 1954, pp. 452-453, 15 Dec. 1927). However, despite these initial divergences in the use of the “stabilization loan”, the two partners finally adopted the French sequence: the first loan would mainly be devoted to stabilize the economy and only the second to develop the country.

On 31 July 1928, a new agreement was signed with the Romanian government, in which the NBR was authorized to enter into conventions with foreign banks for issuing loans designed for legal stabilization of the *leu*, to purchase without limitation foreign currencies convertible into gold, and to increase the issue of notes subject only to the coverage in gold or gold currencies. As in the French franc Poincaré case, the solution adopted was to stabilize the national currency at a level close to its current value. With the agreement of Benjamin Strong of the Federal Reserve Bank of New York, a credit

¹All these episodes are related with precision in the PhD thesis of Iliena Nicoleta Răcianu, 2015

convention was also executed with 14 issuing banks that committed to keeping a stabilization credit of 25 million dollars available to the NBR. At the same time, the Romanian economy was showing first signs of turbulence.

The timing of the mission and the interactions split into four phases: (i) the time of the initial loan and stabilization plan, (ii) the economic, financial, and monetary Romanian initiatives in answer of the French first advices, (iii) the time of the second loan and new stabilization/development advices, and (iv) the Romanian initiatives and actions answering these advices. In the following sections, we present these phases under the form of cross-views of the French and Romanian parts to capture the objectives, actions, interactions, and appreciations of both partners.

2.2 The first loan and advices: the difficulties to stabilize

While the first 80 million dollars loan was promised to the Romanian part, the French part expressed its first advices in a “stabilization plan”. Its objectives are presented by Quesnay in his note to Vintila Bratianu of February 1928 (*Papiers Charles Rist*, Quesnay, Note dictée par Quesnay et remise par Monnet après accord avec Jeze à M. Vintilla Bratianu, 2 Feb. 1928). Quesnay proposes that the Romanian government could use the stabilization loan for four uses: (i) to give the NBR the necessary liquidity to stabilize the leu, (ii) to consolidate the economic institutions of the country, (iii) to provide the liquidity to the government, and (iv) to help in the reorganization and modernization of the railways.

During this time, a new coalition was in charge in Bucharest. This new team, dominated by the National Peasant Party, was less francophile than the previous Liberal administration. Charles Rist visited Bucharest two times, first in Summer, then in the end of November 1928 (*Papiers Charles Rist*, 1929, Deuxième séjour, Novembre 1928). His appreciation of his partners motivations is very negative. “The leaders do not have any fixed program except some sentences. More precisely, they have only one objective: obtaining the loan as soon as possible. In this context, they are ready to follow whatever suggestion, even opposed to their program, or even, apparently, to their interest” (*Ibid*, p. 3). Despite these reservations, the cooperation process developed.

The “Monetary Act” geared to monetary stabilization is finally passed in February 1929: its conception was largely influenced and approved by a pool of foreign banks led by the BDF. Charles Rist, Pierre Quesnay, and Gaston Jeze are the main contributors to the plan, which comprises international borrowing and a 7% stabilization loan devoted to the settlement of the government’s debt. The plan also aimed to ease short-term domestic credit operations and to restore asset liquidity. The National Railways company also benefits from extra funds to finance productive investment and to pay off a fraction of its debt. From an economic policy standpoint, the principles of a balanced budget, public sector restructuring and central bank independence serve as a guideline. The gold convertibility of the *leu* is rapidly restored and the leu begins to fluctuate smoothly around its theoretical parities. From the beginning, Roger Auboin, a technical expert from the Banque de France, checked week after week the restoration of the convertible currency

reserves of the central bank.

During the first months, the NBR progressively increased its reserves of foreign currencies and the convertibility appeared as sustainable. However, during the same time, the French part began to deplore the slow adaptation of Romanian administration to the culture of orthodoxy. Politicians were more and more skeptical on the relevance of the stabilization plan, essentially under its public finance version. They were also reluctant to rise new taxes, which would impose too large sacrifices to such a young economy. These divergences are reported by both parts, by Charles Rist in his correspondence but also by the Romanian liberal practitioners who tried to apply the project (Argetoianu, 1997, VIII, p. 153).

In October 1929, the monetary situation also began to deteriorate due to the massive and regular withdrawals of external capital from Romania. The degradation amplified in 1930 at a moment where no sign of the Great Depression was yet observed in Romania or in any other Central Europe countries. Between November 1929 and May 1931, the capital exits amounted to *lei* million 8.047 (Madgearu, 1935, p. 29). Although the Romanian exports increased in quantity, the decrease in the prices of Romanian exported goods, together with the protectionist measures imposed by other states, led to the massive reduction of the entries of foreign currencies. In 1930, the state paid the service of the external debt from the NBR's stock of currencies and by the partial sale of its stock of gold. For the French part, the causes of this adverse evolution are threefold: (i) the government's difficulty of controlling the receipts of the budget, (ii) the lack of commitment of Romanian authorities on the need to repay the loan, and (iii) the decrease of the size of the NBR portfolio, which indicates the imminent difficulties of maintaining the rate of gold convertibility (*Papiers Charles Rist*, 1929, Correspondance avec Auboin et autres, Bolgert, Letter to Rist, 23 June 1930, Guitard, Letter to Rist, 2 December 1930).

An increasing number of Romanian observers challenged during this time the way the stabilization of *leu* was conceived. Were fixed parity and economic orthodoxy adapted to the country and to the situation? Many Romanian economists and practitioners were already aware that convertibility limited the flexibility of internal economic policy decisions (Bădulescu, 1931, p. 263-264; Slăvescu, 1932, pp. 384-388). They also objected that Romania was finally paying the interest and the amortization of the loan amounting to more than *lei* one billion yearly, to maintain a stock of metal and convertible currencies as counterpart of a national currency that could not adjust freely to the rate or adapt to the needs of the external exchanges of Romania (NBRA, Secretariat, 37/1930, p. 454). Namely, many Romanian economists were considering that the payment from the very first year of interest and amortization for the just-contracted loan was a mistake, as there was not sufficient time for the investments to show any results. Other objections included the French advices on the way to stabilize (Madgearu, 1935). Critics also viewed the resources allocated to the liquidation of the public debt as insufficient, the actual amount of that debit being unknown to those who conceived the plan. Another critic was the lack of measures for the reformation of the banking system, especially the omission to create an agricultural credit institution, to provide medium and long-term lending to the peasants and, thus, to solve the problem of the rural debtors, and to relieve the private

banks from the loans extended to this sector. Overall, the opinion developed that the liquidity of the commercial portfolio discounted at the NBR, obtained via the resources allocated from the loan, could not be maintained (*Argus*, 20 August 1930).

2.3 The new development loan, the 1931 program and the banking crisis

Despite this lack of agreement between the two partners, the cooperation did not stop. Both parts prepared the second phase of the cooperation, and especially the advices associated to the upcoming development loan. During this period, the BDF proposed a text according to which the Romanian government and the NBR would be linked by more precise commitments than they were after the first loan (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Farnier delivered by Auboin, Notes sur les garanties d'ordre général demandées au Gouvernement Roumain, 13 January 1931). “The NBR will achieve to reorganize and maintain, in the conditions defined by its new statutes, the liquidity of its assets. The Government will, on its part, complete the reorganization of public finance [...]” (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Memorandum du Gouvernement roumain sur l'application du programme de stabilisation monétaire et de développement économique, [early] 1931). In the subsequent pages, the memorandum develops the kinds of accounting practices that the government must exclude or promote. The declared objective was to evolve to a more transparent presentation of the budget, in conformity with the prescriptions of the BDF document. The BDF requested the presence for two more years of a foreign observer at the NBR. This “expert”, would not attend the meetings of the Board of Governors of the issuing house but “could be consulted [...] on all the monetary and credit issues” that could emerge in the relationship between NBR and the foreign markets and will have the objective to prepare one to two reports per year regarding the financial situation of Romania (NBRA, Secretariat, 31/1931, p. 135).

Governor Dimitrie Burillianu's replies to these propositions mirror the tension generated by the collaboration with the technical counselor up to that time. In the name of the NBR, he refused the proposal of the BDF, regarding the presence of a foreign expert at the issuing house only as “an entirely exceptional and transitory measure” dedicated to a seeming purpose, the success of the monetary stabilization. The continuation of his presence was then perceived as a lack of trust in the NBR directors' capability of efficiently managing the respective institution. (NBRA, Secretariat, 31/1931, p. 135). The correspondence on this topic began on 1 February 1931 and continued until 9 March of the same year, with the management of the NBR maintaining the same rigid position. In the end, the conflict was resolved by Romanian Government, which, disregarding the NBR's independence, submitted a letter to the BDF Governor Moret, requesting in the name of the government and in agreement with the issuing house, a collaboration with Auboin as technical expert. His mandate entailed preparing half-yearly reports during 1932-1933 about the financial situation of the country for the foreign creditors. No reference was any longer made to the possibility of the NBR's consulting with him about monetary and credit issues, but the Central Bank would be obligated to give its full support to the

respective technical expert. Governor Burillianu, who persisted in his inflexible attitude, was removed from office before the termination of his mandate.

The equilibrium of public finance was momentarily restored by the Development Loan contracted in 1931, but again the situation began to rapidly deteriorate. A banking crisis in Central Europe, the crash of Creditanstalt, and the massive withdrawal of the foreign capitals casted a spotlight on the deficiencies of the Romanian banking system, causing in mid-1931 the bankruptcy of several prestigious banking institutions, the most prominent of which, due to its presence over time, prestige and business volume, was Marmorosch Blank Bank.

An important correspondence among Rist, Auboin, Bolgert - another member of the French mission -, and Mihail Manoilescu, the NBR's governor at the time, relates these episodes and the attempts of the Romanian staff and the French mission, intimately associated with their goals, to save the sounder part of the Romanian banking system. During the crisis, Auboin repeatedly asked Quesnay, now director of the Bank for International Settlements, if that institution could provide if needed the possibility to re-discount a portfolio of assets from the NBR or other kinds of liquidity or advances (*Papiers Charles Rist, Correspondance avec Auboin et autres, Auboin, letters to Quesnay, 30 June and 9 July 1931*). The need to maintain the monetary stability determined the involvement of Auboin as technical counselor in the Romanian credit system issues and his co-optation in the administration of the banking crisis. Also playing important roles in all the phases of the banking crisis was the Minister of Finance, Constantin Argetoianu. The role of the State and the NBR became decisive in the context of the banks' requests to obtain an increased right of re-discount at the NBR, related to the state's takeover of a part of the assets of the banks in difficulty. In one of his last 1932 reports, Auboin noted retrospectively that the 1931 loan had been the only external help that Romania received, while "massive repayments of external loans intervene since three years" (*Papiers Charles Rist, Correspondance avec Auboin et autres, Auboin to Tardieu, Flandin and Moret, 7 March 1932*). The situation then triggered a radical change in the modality of administration of the funds allocated under the stabilization plan for the liquidation of the debts of the state and private persons to the NBR-these resources being re-oriented to the granting of aids to credit institutions confronted with ever-increasing difficulties (Madgearu, 1935, p. 33). The classic example in this respect is the takeover by the state of lei 600 million from the 1,200 million portfolio rediscounted by Marmorosch Blank Bank at the NBR, to allow the latter to re-discount other trade bills of the banks in difficulty. In contrast, the credits extended to the Romanian factories under the Industrial National Credit remained immobilized, as the funds intended to finance agriculture were also allocated for the same goal.

The banking crisis was the last episode of cooperation between the two teams. In early 1932, Auboin still tried to convince the Romanian government that the intervention of NBR during the banking crisis would remain an exception (*Papiers Charles Rist, Note sur les réformes restant à réaliser ou à achever en Roumanie, Auboin et alii, Annexe au douzième rapport trimestriel du Conseiller Technique, 7 Feb. 1932*), but the *Conseiller Technique* was now alone to consider that continuing to cooperate was still the good

option. In the French delegation, Bolgert had already expressed the following opinion before the end of the crisis: “In the current crisis, Romanian people are aware of the advantages that our activity provides on their relations with Western countries [...]. It is also evident that, as soon as the situation will improve, our involvement will be perceived more negatively” (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Guitard, Bolgert, letter to Moret, 31 Dec. 1931). He then suggested a suspension of the mission “[he] would favor a strict interpretation of the 1931 program, *i.e.*, a suspension of all permanent presence in Bucharest and the implementation of a system of periodic inquiries” (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Bolgert, letter to Moret, 31 Dec. 1931). The alternative was that “for the main point in debate, one of the members of the delegation would have a right of veto” (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Bolgert, *ibid*). The last words of Bolgert also express an opinion in the line of one of the results of the section 3 theoretical setting. “The mission would have been able to succeed only if the Romanian Government clearly expressed the wish of welcoming the work of the mission for its own benefit and not as a counterpart of the loans” (Bolgert, *ibid*).

2.4 The French reports and the last months

Two important reports were produced by the French mission and communicated to the Romanian authorities from the end of 1931 to May 1932. The *Rapport sur les deux premières années d’application du programme de stabilisation et de développement économique* (Report on the first two years of implementation of the program of stabilization and economic development) adopts the point of view of a central banker. The second report, labeled “Rapport sur les Finances Publiques de la Roumanie” (Report on the public finances of Romania) is signed by Rist, though Auboin, Bolgert and the rest of the mission members likely contributed to its elaboration as well. It is addressed to Argetoianu, who was in charge of the Treasury. These reports consider three points: central bank management, public finance management, and industrial policy (see Torre and Tosi 2010).

Regarding monetary policy, Rist and his co-authors pointed out the illegal practices of hidden advances from the NBR to the government. The critics of public finance practices were more disparaging. They related to the lack of financial orthodoxy of the government actions: no wish from the Government to reduce deficits, use of the new external loans to repay previous loans, over-evaluation of some receipts and under-evaluation of some expenses. These problems were already voiced by Rist in 1929, then confirmed in the correspondence of Auboin in 1931-1932, but now they are written in official reports. In the 1932 report, Rist also mentions the forbidden reporting practices of engagements without order, unpaid orders and the many cases in which the government dangerously committed itself as collateral in private contacts and prefigured future increases of public debt. Rist also regrets the joint government and bank decision in 1929, given the structure of the public debt in the hands of the bank, to continue managing the long-term part of this debt but only by delegation of the government. Rist at last deploras, among other critical remarks, that the government would have chosen to intervene repeatedly in this long-term management of debt by discounting their own position or canceling their own debt.

The criticisms of the industrial policy referred to the lack of execution of the objectives of the stabilization program in the re-organization of the administrative and financial management of the railways. Concerning this sector of activity, the report also suggested the creation of an autonomous management of the network, recommended reforms to accounting and reporting practices, and proposed removing gratuities and discounts and introducing control of management practices to rationalize the use of human resources. More generally, echoing previous suggestions of some Romanian economists, the report also recommended the creation of two specialized banks: (i) a bank specialized in financing agriculture and (ii) a system of short-term advances on harvests.

At this time, Madgearu opined that the fragile equilibrium obtained at the expense of the foreign loan was undermined for good by the economic crisis. He believed that all the expense cuts and increases in taxes and charges could not stop the downsizing of the economic activity, inevitably mirrored in the budget revenues (Madgearu, 1933, p. 4). In the period 1929-1933, the rate of collection of the government budget revenues decreased from 100% to 58%, while the payments could not be reduced to the same extent, with their rate dropping from 100% to 62%. The difference naturally translated into a budget imbalance. The accusation was that the budget deficits were due to the lack of foresight of those who had prepared the budget of the effects of the crisis (Madgearu, 1937, p. 9). Madgearu (1933, pp. 4-5) also noted that in addition to the diminished budget revenues generated by the crisis, the level of the budget expenditure compression could not exceed the level at which the very normal operation of the state apparatus could be endangered, though the Romanian authorities had closely approached that level in their option to support the payment in full of the external debt.

In 1932, to pay the external debt coupon and maintain the cover stock, several short-term loans obtained from the BDF, Bank of England, Union des Banques Suisses, and Banque de Paris et des Pays-Bas, as well as by the sale of gold from the stock, were used (Madgearu, 1935, pp. 36, 50). During this time, Auboin continued to maintain a strict opposition to all forms of monetary depreciation (Auboin to Tardieu, Flandin and Moret, 7 March 1932), while Virgil Madgearu pleaded for the resizing, obviously in agreement with the creditors, of the amount related to the external debt annuity, in accordance with the payment capacity of Romania (Madgearu, 1933, pp. 3, 16-17).

In a third report in October 1932, Auboin refers to new difficulties that faced the NBR regarding the problem of the advances to the Treasury. He particularly stresses the conditions of the advances in June during which “the NBR has accepted to transfer temporarily 1 Billion to the Government, from the gain resulting from the coins issuance, then 400 millions from a non-affected part of the loan. These accounts have not been associated to any efficient guarantee. They had the only objective to give the Government the time to apply a serious plan of financial recovery. Now, this plan is yet in stand-by and the Treasury still cannot face their commitments. Moreover, in August the NBR accepted to provide to the Government 50 million Swiss Francs from a blocked account from abroad. The counterpart, i.e. *lei* 1,600 Millions, has been immediately transferred to the Government, without any guarantee but the promise of a long term repayment” (*Papiers*

Charles Rist, Auboin, Note sur la Situation Monétaire de la Roumanie en Octobre 1932, 22 Oct. 1932). Concerning the monetary situation, Auboin also seems pessimistic. He now considers that providing a new exchange reserve to NBR could not improve the situation if new measures of budgetary orthodoxy were not imposed by the government.

The Romanian administration considered implicitly that it had reaped all the benefits of the second loan and that nothing could be gained from the joint stabilization plan. It is probably at that time that Charles Rist acknowledged, at least to himself if not officially, the failure of the stabilization of the Romanian currency. From that moment onward, the fate of the *leu* was sealed. The *Conseiller Technique* efforts to defend the stabilization objectives appeared to many members of the Romanian team as a matter of personal vanity, with the real mission of the latter only to supervise the payment of the external debt coupon. The persistence in maintaining the convertibility until 18 May 1932 may have been a serious error the more so as, in that context, the technical counselor pleaded to the NBR's council for the maintenance of the convertibility of the *leu*, arguing that a strong *leu* would be an undeniable plus in the competition between Romania and the other countries of that part of Europe.

The last months of the mission were also characterized by the emergence of new dissenters of the French influence on the Romanian stage. One of the members of the mission (probably Auboin) commented that the “violent campaign started last year in Bucharest during the discussions about *Anschluss* and the commercial propositions made by Germany to Romania” (*Papiers Charles Rist*, Correspondance avec Auboin et autres, Guitard, anonymous - probably Auboin -, Note sur la politique économique allemande en Roumanie, 11 April 1932). At the time, Germany was an important client of Romania for the exports of agricultural products and especially cereals. For this reason, Germany had more objective interests than France in having economic agreements with Romania and temporarily subsidizing the modernization of its economy. The author of the anonymous note does not really contest this complementarity of the two economies and refutes the “German solution” on very weak bases. As Germany was still obligated to repay the war debts, it was also obligated to realize commercial surpluses with all its commercial partners, including Romania. However, the author of the note clearly recognized that Germany could become a substitute for France as the leading economic partner of Romania (and of the other Danubian countries). He then proposed “counterbalancing this policy, to organize a close technical cooperation and a real economic support”. While the other pieces of the French correspondence were oriented to the withdrawal of the French delegation, the second part of the text developed the possible objectives and means of such a new round of economic cooperation.

Governor Moret repeatedly obtained permission from the BDF board to postpone the repayment of the 1931 loan and the approbation to reduce the amount of interest (Procès verbal de la séance du *Conseil des Régents et Censeurs* de la BDF, 23 March, 22 June, 27 July 1933). The September 1933 meeting was largely devoted to the Romanian debt, with the decision of suspension of any repayment of its previous loans sharply reducing the credibility of the Romanian authorities and increasing the risk of the non-repayment of the loan. The intervention of Auboin, mentioned explicitly by Moret, had the conse-

quence of softening the content of the decisions (Procès verbal de la séance du *Conseil des Régents et Censeurs* de la BDF, 21 September 1933).

Finally, within the four years of cooperation, only the two loans were really wished and accepted by the Romanian partner. Advices were never considered adapted. Budgetary orthodoxy in particular was challenged immediately, even before the Central Europe developments of the Great Depression. The return of *leu* to Gold was not unpopular during the first months but rapidly Romanian economists and politicians converged to consider convertibility as unadapted to the situation. Despite permanent disagreements among the two partners on the content of the advices and the way to apply them, the mission ended up with a final default, 4 years after its beginning. This sequence of events is puzzling. Is the failure of the partnership a simple consequence of the Great Depression? Why, before any sign of the Great Depression, do we observe such a long period of cooperation between two parts although they rapidly disagreed on actions to adopt, and on policy to conduct? Is there another possible cause(s) to this anomaly beside the Great Depression? This is the question that we try to answer in the remaining sections of this paper.

3 A simplified presentation of the cooperation episode

This section proposes analytical materials able to explain why the two countries and administrations cooperated during four years although they rapidly disagreed on the policy to apply. Our method consists in reproducing a simplified scenario as close as possible to the four stages of the cooperation process described in the previous section. The French part provides at stages 1 and 3 loans and advices. The Romanian part uses and repays or does not repay the loans, follows or does follow advices at stages 2 and 4. These interactions are simple but the sequence of the cooperation is complicated by these 4 stages in which partners do not play simultaneously.

In terms of games theoretic approach, a cooperative sequence can be captured both by a cooperative and by a non-cooperative setting. Cooperative games are relevant when at each stage of the process both parts make a single decision together considering their joint payment. During the four years of cooperation between the French and Romanian parts, there are clearly specific decisions and actions for each team at different times. The French part decides to pay or to not pay the loans, and to give or to not give advices. The Romanian partners select the measures of monetary and budgetary policy they take, following or not French advices. They can also decide to repay or not to repay the loans. A non-cooperative game is then relevant in this case.

The relevant game to consider includes imperfect information. When at some stage of the game, one of partners chooses an action, it must formulate expectations on the reaction of its partner, without in some case knowing the payments of this partner. Players can then overestimate or underestimate the consequences of their own decisions on their partners. A “good” or expected answer from the partner confirms their expectations, and a “bad” or unexpected one contradicts it. For instance, suppose that the French part

chooses to provide loan and advices at stage 3: if Romanian part does not payback the loan and follow advices, the game ends up out of equilibrium in the sense that French expectations were obviously wrong.

In 1929-1933, the benefit of the advices for the Romanian economy was not perfectly predictable by the French part as well as the political and social costs to apply these recommendations for Romanian administration in charge. The French part was then obliged to formulate their own expectations of these costs and payments. Similarly, the French part could not predict precisely the prejudice of the Romanian administration defaulting or its repudiation cost. French part expected this cost before choosing to pay the loans and to give advices. These observations end up characterizing the form of the game we will use: it is a sequential, non-cooperative game with imperfect information of the French partner on the benefits and costs of advices, and on the amount of repudiation costs.

3.1 Theory

Modern literature frequently depicted the relations between Sovereign lenders and borrowers. When the borrower is a country assimilated to a “small open economy”, its capacity to repay depends on fundamentals but also on international economic environment. These determinants are not perfectly predicable by lenders but remain also independent on borrowers’ actions. The adapted way to manage them is to limit the loans’ amount and to extend the repayment periods (Bulow and Rogoff, 1989). The case of moral hazard is managed in different ways. Using a collateral as a guarantee of the loan is generally not possible (Eaton and Fernandez, 1995). “Unlike firms, sovereigns cannot be liquidated and there is very little income or collateral that they can credibly pledge in repayment to creditors” (Bolton and Jeanne, 2009). The difficulty to enforce international loans necessitates specific motivations for sovereign lending. Generally, incentives to repay are generated by reputation and the possibility for the borrower to maintain or develop new relations with partners involved in the loan. When a Sovereign country defaults in a moral hazard context, its bargaining power and its capacity to conclude new international economic agreements sharply decreases, with repercussions even in non-economic international relations. Costs resulting from a sovereign default include reputation costs, partial or total exclusion from international economic relations, but also internal costs for local political authorities (Borensztein and Panizza, 2009). Hence, the borrower tends to avoid defaulting, except when these costs are low when compared to the financial advantages obtained by defaulting, or if there is no other solution, essentially when they are no available resources to pay back the loan or a part of it. For a lender, an adapted way to limit moral hazard is to insert the borrower in a series of international economic and non-economic relations that could increase its cost of repudiation and simultaneously increase public information on its fundamentals and intents (Corsetti, Guimares, and Roubini, 2006). To some extent, the French part applied this staggered approach in providing two different loans, the first in 1929 and the second in 1931. The delay separating the two loans was probably considered by French lenders as sufficient to improve information and to increase the repudiation cost of the Romanian

part. In reality, the elaborated structure of the cooperative process chosen by the lender was insufficient to prevent the final default of the Romanian part, which symbolizes the failure of the cooperative scenario. To understand why the staggered sequence imagined by the French team revealed unsuccessful, it is then necessary to fully explain the game which captures it.

3.2 A four stages game

When chronologically observed the four years of the mission clearly correspond to a four-stage process which could be assimilated to a moral hazard game.

3.2.1 Actions and interactions

- At stage 1, French authorities have three open options: (i) reservation, (ii) providing the stabilization loan, or (iii) providing the stabilization loan with a mission to advise (and control) the Romanian part. If the French part chooses reservation, the game stops there (or does not really begins).
- At stage 2, if the game has not stopped, the Romanian part has two possibilities: (i) it can begin to repay the loan, or (ii) it can default. If it defaults, the game stops at this stage. If not, it can follow or not follow advices (if there are).
- At stage 3, if the game has not stopped, French authorities still have three open options: reservation, and providing the development loan with or providing the development loan without mission/advices. Again, if the French part chooses reservation, the game stops there.
- If the game continues, at stage 4, the Romanian part can default or complete the repayments. In all cases, it can follow or not advices, if there are, according to its own interest.

The extensive form of the game is represented in Figure 1. Grey solid lines figure final successes of the cooperation, and black solid lines failure (reservation of the French art or default of the Romanian part). Dotted grey lines figure the paths from the initial French decisions to provide the first loan to subsequent outcomes.

The strategies of the two players can be presented in a compact way. If “L” means providing a loan, “L & M” providing a loan and sending (or maintaining) a mission, “R” choosing reservation, “C” cooperating, and “D” defaulting, the French S^F and Romanian S^R sequential strategies write respectively as $S^F = \{(L \& M, R, L), (L \& M, R, L)\}$ and $S^R = \{(C, D), (C, D)\}$ for the two players. When the French part chooses the “L & M” strategy at stage 1 or 3, the cooperation action presents at stage 2 or 4 two variants that we do not distinguish in Figure 1. The Romanian part cooperates as soon as it does not interrupt the repayment of the loan(s): following advices strengthens cooperation but is not a sufficient condition to define it.

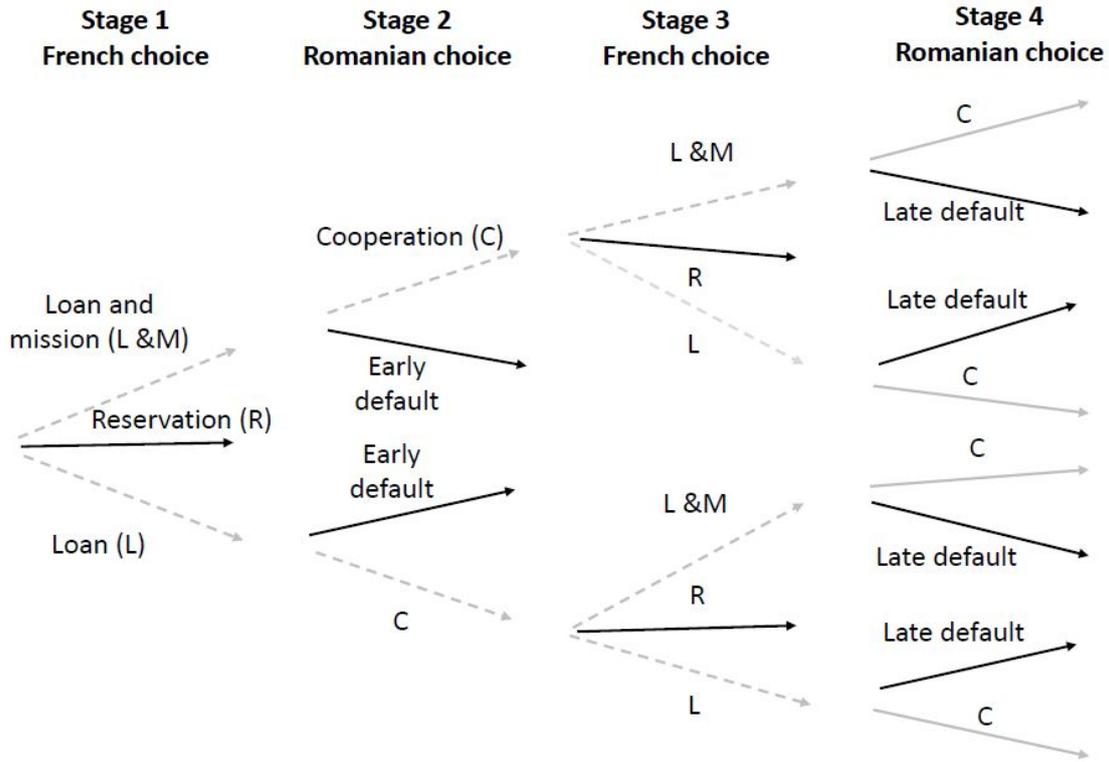


Figure 1: Extensive form of the game

3.2.2 Costs and payments

At each stage of the game, each decision involves a (positive or negative) payment for the two players. For instance, providing a loan generates a negative payment or a cost for the French part. Similarly, associating a mission to the loan has an additional cost. The gain generated by a loan for the borrower is not strictly equal to the cost for the lender: it depends on its use (productive or not) and on the technology available to users. Depending on their nature and the environment, advices also involve or not involve net advantages for the borrower. In particular, good advices associated to the development loan could increase the short-term income of the borrower and help the borrower to pay back loans.

The repayment of the loans corresponds to a cost for the borrower and it is an income for the lender. Finally, outcomes of the game themselves - reservation, failures, and successes - also involve specific payments. For instance, if the French part chooses reservation or if the partnership ends up with a failure, the French and the Romanian parts lose strategic economic opportunities and political partners. Oppositely, if the outcome is a success, the trust generated by the process creates new and subsequent motives and interests to cooperate with their partners. These expected gains provide an incentive to cooperate, as the staggered form of the interactions.

3.2.3 Uncertainty

The game involves asymmetric uncertainty. The French part is not able to evaluate exactly the payments provided by the loan and the advices to the Romanian part. The repudiation cost of the Romanian part is also not easy to predict by the French part. The international environment evolves rapidly from 1929 and 1933. The number and nature of partnerships available for Romania can evolve during time. The staggered form of the loans and advices can be considered as a way to reduce the uncertainty on Romanian actions for the French part but cannot suppress it completely.

3.2.4 Chosen strategies and unexpected outcome

The observation reveals that the French part has chosen the strategy $\{(L \& M), (L \& M)\}$ and the Romanian part $\{C, D\}$. The French part has been disappointed by the last choice of the Romanian team and would have expected $\{C, C\}$. The question is to find the origin of this mismatch. To tackle the issue, we study, with reasonable assumptions on the French payments, the spread between actual and estimated values of Romanian gain parameters that could explain that the mission failed. We test the following possibilities:

- The French part overestimated the repudiation cost of the Romanian part,
- The French part underestimated the Romanian cost to follow its advices (or overestimated the benefit of these advices for the Romanian economy),
- With good expectations from the French part of the cost for Romanian part to follow the advices (or of the benefit of these advices for Romanian economy), the French and Romanian parts could have successfully chosen the strategy $\{L, L\}$ and $\{C, C\}$.

3.3 Results

The analysis of the game, developed in the Appendix, tests the three assertions, separately or coupled. We begin to test in a first proposition the expectation by the French part of net Romanian repudiation costs. These costs are generated by the loss of reputation of the borrower when it defaults. They partly depend on the possibility for the borrower to find a new partnership after the default. We then derive Proposition 1.

Proposition 1. *Without information asymmetry on the effect of advices, the failure of the mission could be explained by a bad expectation by the French part of Romanian repudiation costs.*

Proof: (see Appendix 2)

This result attests that the advantages generated by future perspectives of cooperation between the two countries had to be substantial to dissuade the Romanian part to default during the last stage. As every sovereign lender, the French part was probably aware of this necessity before deciding to cooperate. However, during the 4 years of the mission,

the environment dramatically changed. The Great Depression and its economic and political consequences on Central Europe increased the credibility of a partnership between Germany and Romania, whereas this solution would have been considered as non-reliable before the thirties. The repudiation cost may have decreased over time due to this other potential partner and finally made unsure the final cooperation of the Romanian part. Incentives to cooperate associated with the repudiation costs were probably sufficient to secure repayment in 1929, whereas they could have been insufficient four years after. To some extent, this first result provides materials for a very classical explanation of the cooperation failure. It could be an indirect consequence of the Great Depression which finally weakened the French economy in 1933 and did not affect German position so much.

We continue to test the relevance of remaining assertions and now focus on the possible overestimation of the effect of advices by the French part, or, which is equivalent, of the costs to follow the advices for the Romanian part. We then demonstrate Proposition 2.

Proposition 2. *When Romanian repudiation costs are correctly expected by the French part, an overestimation by the French part of the effect of advices can explain the final default of the Romanian part.*

Proof: (see Appendix 2)

This result could also explain the Romanian default when the sequence of events is correctly captured by the French part but the liquidity constraint neglected. The benefits of a good relation between lenders and borrowers are seen in the long term. The loans' repayment agenda is oppositely short term whereas the horizon of the possible benefits from a cooperation with France tends to move away. A "liquidity constraint" imposes the borrower to repay the loans before long term advantages of the cooperation or at least some of them could be observed. This liquidity constraint is obviously integrated by the French part: the role of advices is in particular to improve the borrower's solvency. However, the effect of these advices could differ from their expected value. In this case, the liquidity constraint could become too strong and the borrower compelled to default even if the cooperation could remain from its own point of view the best outcome in the long run. The previous listed second assertion is then also a possible

We end up with the test of the third assertion. Were French too interventionist? Was the mission a possible reason of the default and not the loan itself? Proposition 3 opens this possibility.

Proposition 3. *An overestimation of the effect of inefficient advices could have involved the French part to choose wrongly the L & M strategy which ended up by a default of the Romanian part, instead of the successful L strategy.*

Proof: (see Appendix 2)

When the advices are counterproductive, either because they lack gradualism concerning public finance practices or because they integrate too strong recessionist effects, the best attitude for the Romanian part is to not apply them, at the condition that

this attitude does not deprive the country from the still productive loans. However, the benefit of a future cooperation with France is not only generated by the repayment of the loans by the borrower but also by the more diffuse feeling for the lender that the borrower is a reliable partner, able to take relevant decisions and to conduct a good macroeconomic policy in the long run. The borrower's reactions to advices provide a test of these qualities. If advices were counterproductive (or costly to apply for economic or political reasons), the Romanian part could then renounce to apply them and reduce the benefit of a future cooperation with France or engage costly actions to justify their attitude, with the objective to reduce the prejudice in term of future advantages. These costs can themselves deteriorate the Romanian liquidity and in all cases reduce the expected long-term gain for the Romanian part to cooperate. Proposition 3 attests that both these consequences could result in a default of the Romanian part, which would not been experienced if the French part would have chosen to provide the loan only without advises.

To conclude this analysis, one could suggest that the agenda of the cooperation was one of the possible reasons of the failure of the mission. At the beginning of the mission, when the Romanian part concluded the agreement to cooperate, France and England were the only possible partners of the Romanian part once the League of Nations solution was pushed aside. Later, from 1933 to 1934, Germany was another option, and evidence shows that this option was finally considered as relevant for the Romanian part. The repudiation cost was probably more or less correctly expected by the French part at its 1929 value. This value decreased between 1929 and 1933 when an agreement with Germany became a possible solution for the Romanian part. When France was finally aware of this change of the repudiation cost, it was too late to modify its previous choices, except by prematurely terminating the mission.

The other explanation of the unexpected final default of the Romanian part is the underestimation by the French part of Romanian costs to follow French mission advices or their adequacy to the Romanian situation. The interactions between both parts from 1930 suggests that following French advices was not that easy for the Romanian part. Restrictive policies were not easily accepted, financial orthodoxy was hard to implement given the long-term implicit contracts between the Romanian socio-economic groups. The French team could have underestimated the complexity of the reforms that were necessary to alter the fundamentals of the Romanian economy and they could have been too confident in the reception of their advices in the Romanian socio-economic environment.

4 An empirical analysis of the effects of the loans

Proposition 1 points out that the change of the repudiation costs between 1929 and 1933 and their bad expectation by the French part could be a reason of the failure of the mission, i.e. the reason French could continue to cooperate while it was finally rational to default from the Romanian side. It is however difficult to test this change on economic data only. Proposition 2 and 3 exhibit another reason of the default, namely the possibility that advices could have been counterproductive. We considered a strategy to test this effect. With the data provided recently by the SEMMHN network and the

National Bank of Romania, it is possible to consider empirically the effect of different exogenous variables on the cover stock of the NBR which are available on a monthly basis. This variable is interesting since different exogenous variables and events could influence it. First, nominal variables such as the bilateral exchange rate of the Romanian *leu*, or internal inflation are important factors to control. Second, the total cover stock could also be guided by fundamentals of the economy which are themselves influenced by the loans and the joint advices. Therefore, we construct two dummies to capture the date of the two loans. It allows us to consider the impact of the two loans on the total cover stock management of the NBR. Obviously, we cannot formally discriminate among effects associated with advices from the French team or those resulting from bad management by the NBR of the obtained funds.

We also consider the price of the stabilization loan on the secondary market which captures the Romanian government default risk as it is expected by the market. Finally, we also add a dummy for the 1931 Banking crisis as a way to test the consequences of the Great Depression on Central European countries.

For the total cover stock, and in order to get sufficient observations, we choose a period of observation from 1928 to 1935. With monthly data, we are, able to observe the evolution of reserves before the loans, between them and after them. We use SEMMHN data, provided recently by NBR, in a partnership with other central banks of Southeast European countries. We begin with the following benchmark equation:

$$\begin{aligned} \text{Ln}(CV_t) = & \alpha + \beta_1 \text{Ln}(BC_t) + \beta_2 \text{Ln}(FFX_t) + \beta_3 \text{Ln}(USX_t) + \beta_4 \text{Ln}(SX_t) + \beta_5 \text{Infl}_t(1) \\ & + \beta_6 \text{Sloan} + \beta_7 \text{Dloan} + \beta_8 \text{Crisis} + \epsilon_t \end{aligned}$$

where CV_t is the total cover stock of NBR; BC_t is the total circulation of banknotes; FFX_t is the nominal exchange rate of the leu against the French Franc; USX_t is the nominal exchange rate of the leu against the US dollar²; SX_t is the nominal exchange rate the leu against the sterling; Infl_t is the inflation rate; Sloan is a dummy variable that equals 1 at the date of the stabilization loan in February 1929; DLoan is a dummy variable that equals 1 at the date of the development loan in March 1931; and Crisis is a dummy variable that equals 1 during the banking crisis from June to December 1931. All β parameters must be estimated, and ϵ_t represents the error term.

In a first step, we apply the augmented Dickey-Fuller (ADF) procedure to test the order of integration of each variable retained in the analysis. For robustness checks, we complement this test with the stationarity test developed by Kwiatkowski, Phillips, Schmidt and Shin (1992; KPSS test hereinafter), which assesses the null hypothesis of stationarity instead of the existence of a unit root as in the ADF test. Table 1 reports the results.

Both the ADF and KPSS tests clearly indicate that most variables are I(1) over the full sample, which, as a consequence, could lead us to assume that all variables contain a unit root and to test the cointegration between those variables. However, standard

²see Figure 2 in Appendix 1

Table 1: Results of ADF and KPSS stationary tests

	ADF test				KPSS test			
	Level		First diff.		Level		First diff.	
	Constant	Trend	Constant	Trend	Constant	Trend	Constant	Trend
$Ln(CV_t)$	-2.439	-2.282	-8.735***	-8.750***	0.197	0.136*	0.138	0.075
$Ln(Met_t)$	-2.670*	-2.660	-11.931***	-12.016***	0.654**	0.209**	0.203	0.058
$Ln(Gold_t)$	-7.790***	-6.527***	-11.502***	-11.439***	1.620***	0.0508	0.0109	0.0108
$lnfl_t$	-7.109***	-7.295***	-9.261***	-9.219***	0.439*	0.239***	0.240	0.169**
$Ln(FFX_t)$	-3.392**	-4.560***	-11.403***	-11.567***	0.642**	0.192**	0.237	0.111
$Ln(SX_t)$	-0.253	-2.860	-5.482***	-5.480***	1.184***	0.168*	0.144	0.109
$Ln(USX_t)$	-0.143	-1.846	-4.243***	-4.415***	0.955***	0.280***	0.367	0.112***
$Ln(BC_t)$	-2.260	-2.747	-6.475***	-6.491***	0.381*	0.103	0.093	0.045

Note: *, **, *** denotes significance at 10 % level, 5 % level and 1 % level, respectively.

The lag parameters for ADF tests are selected based on the Schwartz information criteria.

Model B implies shift in trend. Model C implies shift in both intercept and trend.

Critical values for the null hypothesis of stationarity (KPSS test) are taken from Kwiatkowski et al. (1992, table 1).

stationarity tests such as ADF and KPSS may erroneously fail to reject the hypothesis that a series contains a unit root when the sample under scrutiny incorporates economics events or shocks responsible for shifts in regime (Perron, 1989). It is therefore important to take into account the possibility of a structural break in the testing procedure. As a consequence, we also rely on two tests developed by Zivot and Andrews (1992), Perron and Vogelsang (1992) and Perron (1997) that allow an endogenous structural break. The main idea behind these tests is to check whether, in the presence of an endogenous structural break in the data, the time series are trend stationary. However, the tests are quite different. Indeed, as Lee and Chang (2005) suggest, the test developed by Zivot and Andrews (1992) selects the break date using a different dummy variable for each possible break date, according to the most negative t-statistic on the coefficient associated with the autoregressive variable. The tests proposed by Perron and Vogelsang (1992) and Perron (1997) allow for two types of structural breaks: the additive outlier (AO) model, which allows for a sudden change in the mean (the crash model), and the innovational outlier (IO) model, which serves to capture gradual changes over time. Finally, both tests distinguish between sudden breaks and breaks that occur slowly over time. However, selection of the break date is different in the two tests. In the Perron (1997) test, the breakpoint is chosen according to the maximum absolute value of the t-statistic on the coefficient of the autoregressive variable, whereas in the Perron and Vogelsang (1992) test, it is selected by the minimum value of the t-statistic on the sum of the autoregressive coefficients over all possible break dates. Note that both tests only allow for a single endogenous break, which seems adequate for our analysis of the number of observations available. However, Clemente, Montanes and Reyes (1998) extend the approach of Perron and Vogelsang (1992) to allow for two endogenous structural breaks in the unit root test. Nevertheless, all these tests only allow for a break under the alternative hypothesis of stationarity and exclude the possibility of a break under the null hypothesis of unit root.

Both tests are of primary importance because they allow us to evaluate whether an external shock, which could be associated with the two loans provided by the *BDF* and the concomitant advises, has shifted our time series. This could be viewed as a first analysis of the statistical properties of the total cover stock of the NBR and could give us first clues about the link between the loans and their evolution, especially if structural breaks are identified around the loans' dates.

Table 2: Results of Zivot and Andrews (1992) unit root tests

	Model A		Model B		Model C	
	t-statistic	Date of break	t-statistic	Date of break	t-statistic	Date of break
$Ln(CV_t)$	-4.326	03/1929	-3.919	04/1929	-5.385**	01/1930
$Ln(Met_t)$	-9.246***	04/1929	-5.645***	06/1929	-7.539***	04/1929
$Ln(Gold_t)$	-9.767***	04/1929	-9.435***	03/1929	-11.208***	04/1929
$InfI_t$	-8.583***	01/1930	-8.152	04/1931	-8.531***	01/1930
$Ln(FFX_t)$	-3.359	02/1931	-4.425*	05/1929	-5.265**	05/1930
$Ln(SX_t)$	-7.317***	10/1931	-2.571	10/1934	-13.379***	10/1931
$Ln(USX_t)$	-10.253***	05/1933	-2.789	12/1931	-8.566***	05/1933
$Ln(BC_t)$	-4.259	07/1931	-3.158	05/1930	-5.203**	07/1931

Note: *, **, *** denotes significance at 10 % level, 5 % level and 1 % level, respectively.

The lag parameters are selected based on the Akaike information criteria. Model A implies shift in intercept.

Model B implies shift in trend. Model C implies shift in both intercept and trend.

Lags are selected according to the Akaike criteria.

When we consider Zivot and Andrews's (1992) test, it seems that all our variables are stationary around segmented intercept and trend. Of note, the structural break for the total stock cover of the NBR occurred in January 1930, after the stabilization loan from France, which was issued in February 1929. This external shock seems to have had a strong and significant impact on NBR's total cover stock. This phenomenon is also true for the total metallic stock of the NBR ($Ln(Met_t)$) for which we find that the structural break occurred in April 1929, two months after the stabilization loan. The same break date is found for the total gold stock of the NBR.

We also reject the null hypothesis of a unit root at the 1 % level for all bilateral exchange rates, and it seems that the structural break occurred in May 1930 for the nominal exchange rate of the *leu* against the French franc. Although Zivot and Andrews's (1992) test is informative and allows integrating a structural break in the testing procedure for the existence of a unit root, in contrast with tests such as KPSS, it does not allow the occurrence of more than one structural break in the model. Therefore, we apply the methodology developed by Clemente, Montanes and Reyes (1998).

Table 3 summarizes the results. We find that structural breaks of all our variables are gradual over time. Indeed, we find that for most of the studied variables, only the IO model displays significant results. In particular, we evidence two structural breaks in the stationarity test of the total cover stock of the NBR. We still identify the first break near the stabilization loan from France (January 1929), while the second one occurs in February 1930. The results of the total metallic stock reveal a structural break in December 1928, two months before the stabilization loan, and another break in March 1933, three months before the decision of the Romanian government to cease servicing external debt. For the total stock of gold, we evidence the same first break date as for the total cover stock, one month before the stabilization loan. However, the second break date is found in October 1931. These results show the importance of these two events in the structural

evolution of the total cover stock, the total metallic stock and the total gold stock from the NBR.

Table 3: Results of Clemente, Montanes and Reyes (1998) unit root tests

	Innovational Outlier (IO)		Additive Outlier (AO)	
	t-statistic	Dates of break	t-statistic	Dates of break
$Ln(CV_t)$	-6.945***	01/1929*** 02/1930***	-2.180	04/1929*** 04/1930***
$Ln(Met_t)$	-109.367***	12/1928*** 03/1933***	0.328	11/1928*** 03/1929***
$Ln(Gold_t)$	-10.747***	01/1929** 10/1931***	-2.055	12/1928 11/1931
$InfI_t$	-8.599***	11/1929** 06/1934***	-7.208***	01/1931 09/1934***
$Ln(FFX_t)$	-7.706***	09/1928*** 03/1930	-0.732	01/1929*** 02/1930**
$Ln(USX_t)$	-10.942***	09/1929 03/1933***	-1.304	08/1933*** 04/1934***
$Ln(BC_t)$	-5.836**	11/1929*** 05/1931	-2.763	02/1930 08/1931

Note: *, **, *** denotes significance at 10 % level, 5 % level and 1 % level, respectively.

Critical values for the test are taken from Clemente, Montanes and Reyes (1998): -5.24 at 10 %, -5.49 at 5 % and -5.96 % at 1

As suggested by both Zivot and Andrews (1992) and Clemente, Montanes and Reyes (1998) unit root tests, it seems that all our variables are stationary around one or two structural breaks. Furthermore, this first analysis seems to confirm that both the total cover and the metallic stocks of the NBR experienced shifts during the studied period, especially near the stabilization loan date. As a consequence, to evaluate more precisely the impact of both loans on the total cover stock of the NBR, we estimate equation (1) with the ordinary least squares estimator and still obtain unbiased results by including dummies capturing break dates in the regression, as in Aizenman et al. (2007). We produce Newey-West standard errors to correct our data from heteroskedasticity and autocorrelation. We assume possible autocorrelation up to one lag. Table 4 summarizes the results.

In the first estimation, we focus our analysis on the entire sample from January 1928 to December 1935. In the second estimation, we add an explanatory variable that captures the price for the 7 % 1929 stabilization loan provided by the US government to the Romanian economy. Because of the lack of data, when we add this variable, we only focus on the period between January 1930 and December 1935. As such, we skip the variable capturing the effect of the stabilization loan provided by the French government.

The baseline results show that the stabilization loan provided by France had a significant and negative impact on the total cover stock of the NBR. After obtaining the credit, the NBR recorded a decrease in its total cover stock, suggesting a difficulty to manage the stock from the date of the stabilization loan and the attempt to apply French

Table 4: Determinants of total cover stock of the NBR

	(1)	(2)
	$Ln(CV_t)$	$Ln(CV_t)$
$Ln(BC_t)$	0.454 (0.601)	0.211 (0.250)
$Ln(FFX_t)$	13.544*** (4.278)	0.373 (0.527)
$Ln(USX_t)$	-0.044 (0.079)	-0.161** (0.062)
$Ln(SX_t)$	0.359 (0.304)	0.218* (0.111)
$Infl_t$	0.159 (0.800)	-0.418 (0.591)
$Sloan$	-0.199*** (0.051)	
$DLoan$	-0.038 (0.070)	-0.121** (0.053)
$Crisis$	-0.044 (0.071)	-0.043 (0.035)
$Ln(LoanUS_t)$		0.086*** (0.027)
$break1$	-0.278*** (0.050)	
$break2$	0.158*** (0.058)	0.136*** (0.028)
Intercept	-12.267 (18.450)	17.850*** (4.079)
Adjusted R^2	0.512	0.553
Observations	96	72

Note: *, **, *** denotes significance at the 10 % level, 5 % level and 1 % level, respectively.

Note: Newey-West standard errors are in brackets.

Note: $break1$ is the dummy for the first break identified in Table 3 (01/1929).

Note: $break2$ is the dummy for the second break identified in Table 3 (02/1930).

delegation advices. This could be linked to unappropriated advices provided by France, which in this case validates Proposition 3 of the model or to bad decisions taken by the NBR, independently of French advices.

Moreover, the results from the first column of Table 4 show that the nominal exchange rate of the *leu* against the French Franc had a significant impact on the total cover stock of the NBR. Indeed, the fixed exchange rate of the *leu* to the franc implies that the NBR had to intervene when some depreciation or appreciation tendency of the national money occurred against the French Franc. Therefore, we show that international reserves are sensitive to the variation of the French Franc.

In addition, in terms of the second estimation, our results indicate that the development loan also had a significant and negative impact on the total stock of the NBR, suggesting an important economic shock. We also document that after January 1930, the total cover stock is sensitive to both Sterling and US dollar variations rather than to French Franc. Finally, we find that our measure of the price of the Romanian loan had a significant and positive impact on the total cover stock of the NBR.

Our analysis reveals that the two main loans provided by the BDF to the NBR entailed poor control of international reserves by the latter, suggesting that the French plans were not efficient in stabilizing the monetary policy of the NBR. At this point, two alternative explanations may be suggested. On the one hand, the advices provided by the *BDF* could have been too difficult to implement and too costly for the NBR, so that the NBR decided not to follow them. On the other hand, the advices provided by the French camp could have been bad and would have led to bad management of economic fundamentals by the NBR. The empirical analysis does not allow us to decide between the two hypotheses.

5 Comments and conclusion

This paper discusses the cause of the failure of the *BDF* mission with the NBR and the Romanian government during the 1929-1933 period. From the review of original documents in the Romanian and French languages but also backed by Mouré (2003) and Cotrell's (2006) reference articles, we tried to identify the components of the French plan and the method of cooperation chosen by the Romanian administration and the French partners during those four years.

The observation of the four-year cooperation provides other elements to the analysis. The opinions, attitudes, and positions of the two teams depict the development of a four-year game in which each player chose actions according its own interests, answered the previous actions of its partner and then tried to expect the consequences of its choices. The structure of the game, the form of its uncertainty, and its incentive architecture offer two possible reasons of the failure: the insufficient level of Romanian repudiation costs (or their dramatic decrease during time), and a wrong estimation by the French part of the quality (or the applicability) of its advices. We used new data from SEMMHN network to verify the effect of the loan and of simultaneous advices on cover stock. We showed that this effect has been negative. Obviously, this does not exclude that the repudiation effect did not work, as for instance a consequence of the Great Depression. The new difficulties of the American and Western European economies, and the increased influence of Germany from 1933 on probably decreased repudiations costs for the Romanian government, and Germany progressively took the place previously occupied by France as the natural economic partner for Romania. This could be another reason to the default of the Romanian government to verify with adapted data. Otherwise, our theoretical model shows that no systemic shock (as a banking crisis) was necessary to generate the unpredicted default of the Romanian government. Some of the conclusions of Kenneth Mouré on the choice of a French partnership and on its role in the Romanian failure were sometimes challenged when he formulated them, especially in the central bank environment. "The

choice of French ‘money doctors’ was determined not by their expertise, but by access to financial markets and, critically in this case, the opportunity to escape rigorous control on state budget policy and central bank monetary policy. France’s eagerness to lead a currency stabilization for essentially political reasons resulted in a program that was hastily conceived” (Mouré, 2003, p. 159). Our results could by contrast add credibility to his words.

References

- Argus*, 1930 - 1932.
- Argetoianu, C., 1997, *Memorii Pentru cei de mâine amintiri din vremea celor de ieri*, VIII- IX, Machiavelli Publishing House, București.
- Atkeson, A., 1991, “International lending risk with moral hazard and risk of repudiation”, *Econometrica*, Vol. 59, No. 4 (July), pp. 1069-1089.
- Auboin, R. 1932, *L’étalon or et la crise mondiale*, Adresse to the Institut Social Roumain *Institut Social Roumain*, February 7th, București.
- Banque de France, *Procès verbaux des séances du Conseil des Régents et Censeurs*, Archives de la Banque de France.
- Bolton, P., and Jeanne, O, 2009, “Structuring and Restructuring Sovereign Debt: The Role of Seniority”, *Review of Economic Studies*, Vol. 76, pp. 879-902.
- Bădulescu, V., 1931, *Curs de economie politică monedă schimb prețuri*, Cartea Românească Publishing House, București.
- Bulow, J., and Rogoff, K., 1989, “A Constant Re-contracting Model of Sovereign Debt”, *Journal of Political Economy*, Vol. 97, No. 1, pp. 155-179.
- Clemente, J., Montanes, A. and Reyes, M. 1998, “Testing for a unit root in variables with a double change in the mean”, *Economics Letters*, 59, pp. 175-182.
- Cooper, R., 1992, “Fettered to Gold? Economic Policy in the Interwar Period”, *Journal of Economic Literature*, Vol. XXX, December, pp. 2120-2128.
- Corsetti, G., Guimaraes, B., and Roubini, N., 2006, “International lending of last resort and moral hazard: A model of IMF’s catalytic finance”, *Journal of Monetary Economics*, Vol. 53; pp.441-471.
- Cotrell, P., 2003, “Central Bank cooperation and Romanian stabilization, 1926-1929”, in Teichova, A., and Gourvish, T.R., *Business and politics in Europe, 1900-1970: essays in honour of Alice Teichova*, Cambridge University Press, Cambridge.
- Drăguănescu-Brateș, P., 1938, *Banca Națională a României în timpul crizei (1927-1937) Politica de credit, nivelul dobânzilor*, București, Bucovina I.E. Torouțiu.
- Eichengreen, B., and Portes, R., 1986, “Debt and Default in the 1930s: Causes and Consequences”, *European Economic Review*, 30, pp. 599-640.
- Eichengreen, B., and Wyplosz Ch., 1986, “The Economic Consequences of the Franc Poincaré”, NBER, W.P. n° 2064.
- Flandreau, M., ed., 2003, *Money Doctors. The Experience of International Financial Advising, 1850-2000*, Routledge, London.
- Flores Zendejas, J. H., and Decorzant, Y., 2016, “Going multilateral? Financial markets’ access and the League of Nations loans, 1923-8”, *Economic History Review*, 69, 2, pp. 653-678.
- Ionescu, L., 1935, *Relațiunile dintre Banca Națională a României și Stat 1880-1935*, București.
- Klausinger, H., 2007, “‘Misguided monetary messages’: The Austrian case, 1931 - 34”, *The European Journal of the History of Economic Thought*, Vol. 12, n°1, March, pp. 25-45.
- Kwiatkowski, D., Phillips, P.C.B., Schmidt, P. and Shin, Y. 1992, “Testing the null hypothesis of stationarity against the alternative of a unit root: How sure are we that economic time series have a unit root?”, *Journal of Econometrics*, 54(1-3), pp. 159-178.
- Lee, C-C. and Chang, C-P. 2005, “Structural breaks, energy consumption, and economic growth revisited: Evidence from Taiwan”, *Energy Economics*, 27, pp. 857-872.

- Madgearu, V., 1935, *Politica monetară Raport prezentat comisiunii de întocmire a programului*, Eminescu Publishing House, București.
- Madgearu, V., 1937, *Realitatea finanțelor publice românești*, Eminescu Publishing House, București.
- Mamina I., Scurtu I., 1996, *Guverne și guvernanți 1916-1938*, Silex Publishing House, București.
- Manoilescu, M., 1993, *Memorii, II*, Enciclopedică Publishing House, București.
- Maurel, M., 1997, “Les stabilisations des années vingt. Réflexions sur la notion de crédibilité”, *Revue Economique*, Vol. 48, n°3, pp. 539-548.
- Moreau, E., 1954, *Souvenirs d'un Gouverneur de la Banque de France, Histoire de la stabilisation du franc (1926-1928)*, preface of Jacques Rueff, Editions M.-Th. Génin, Paris.
- Mouré, K., 1991, *Managing the Franc Poincaré*, Cambridge University Press, Cambridge.
- Mouré, K., 1996, “Underevaluating the Franc Poincaré”, *Economic History Review*, Vol. XLIX, No 1, pp. 137-153.
- Mouré, K., 2003, “French money doctors, central banks and politics in the 1920s”, in Flandreau, M., ed., *Money Doctors. The Experience of International Financial Advising, 1850-2000*, op. cit., pp. 138-165.
- Murgescu, C., 1994, *Mersul ideilor economice la români Epoca modernă*, Editura Enciclopedică Publishing House, București.
- National Bank of Romania Archives (NBRA), *fond Secretariat Department, fond Studies Department, fond Proceedings of Board Directors*.
- Nenovsky, N., and Dimitrova, K., 2006, “Exchange Rate and Inflation: France and Bulgaria in the interwar period”, in Avramov, R., and Pamuk, S., *Monetary and Fiscal Policies in South-East Europe, Historical and Comparative Perspective*, Bulgarian National Bank, pp. 57-92.
- Nurkse, R., 1944, *International Currency Experience: Lessons of the Inter-War Period*, League of Nations, Princeton University Press
- Official Journal*, no. 80 bis/7 February 1929
- Papiers Charles Rist*, Archives de la *Banque de France*, Paris.
- Perron, P., 1989, “The great crash, the oil shock, and the unit root hypothesis”, *Econometrica*, 57(6), pp. 1361-1401.
- Perron, P. 1997, “Further evidence on breaking trend functions in macroeconomic variables”, *Journal of Econometrics*, 80, pp. 355-385.
- Perron, P. and Vogelsang, T. 1992, “Nonstationarity and level shifts with an application to purchasing power parity”, *Journal of Business and Economic Statistics*, 10, pp. 301-320.
- Prati, A., 1991, “Poincaré stabilization; Stopping a run on government debt”, *Journal of Monetary Economics*, Vol. 27, pp. 213-239.
- Paunescu, Ch., 2004, 1929-1935. *Banca Națională României Stabilizează leul*, MI, Vol. 38, nr. 2, pp. 21-25; nr. 3, p. 51-56.
- Racianu, I. N., 2012, *La Roumanie face aux rivalités politiques et financières internationales, 1922-1935*, Thèse de doctorat : Univ. Genève, no. SES 774.
- Reinhart, C., and Trebesch, C., 2016, “Sovereign Debt Relief and its Aftermath”, *Journal of the European Economic Association*, February, Vol. 14(1), pp. 215-251.
- Rist, Ch., 1925, “Le Budget de 1925 et le crédit de la France”, *Revue d'Economie Politique*, Vol. XXXVIII, pp. 50-64.
- Rist, Ch., 1933, *Essai sur quelques problèmes économiques et monétaires*, Librairie du Recueil Sirey, Paris.
- Rist, Ch., 1940, *History Of Monetary And Credit Theory From John Law To The Present*, George Allen and Unwin, London [translation of the first edition of *Histoire des doctrines relatives au crédit et à la monnaie de John Law à nos jours* (1938). New French edition presented by Christian de Boissieu, Dalloz, 2002].
- Rist, Ch., 1953, *Défense de l'Or*, Sirey, Paris.
- Roucek, J. S., 1971, *Contemporary Romania and Her Problems: A Study in Modern Nationalism*, Ayer Publishing.
- Rudescu, C., 1932, *Criza Băncii Naționale (Bilanțul unui an de zvârcoliri)*, București, Institutul de arte grafice „Bucovina”.
- Sargent, Th. J., 1984, “Stopping moderate inflations: The methods of Poincaré and Thatcher”, in Dornbusch R. and Simonsen M. H., (eds.), *Inflation, debt and indexation*, MIT Press, Cambridge, MA.

Slăvescu, V., 1932, *Criza noastră economică și soluțiunile ei*, București, Tipografia Copuzeanu.
Slăvescu, V., 1932, *Curs de monedă credit schimb*, Scrisul Românesc Publishing House, Craiova.
Slăvescu, V., 1934, *La situation économique de la Roumanie et sa capacité de paiement*, MO Imprimeria central, București.

Stoenescu, G. V., Blejan, E., Costache, B. and Aloman, A., 2010, “The National Bank of Romania during the Great Depression”, *Fourth Annual SEEMHN Conference*, National Bank of Serbia Special Publications.

Stoenescu, G. V., Blejan, E., Costache, B. and Iarovici, A., 2006, “International Reserves of the National Bank of Romania 1920-1944”, mimeo.

Stoenescu, G. V., Blejan, E., Costache, B. and Iarovici, A., 2007, “Foreign Exchange Regime in Romania between 1929 and 1939”, in *The Experience of Exchange Rate Regimes in Southeastern Europe in a Historical and Comparative Perspective, Second Conference of the South-Eastern European Monetary History Network (SEEMHN)*, Oesterretchische Nationalbank, April 13.

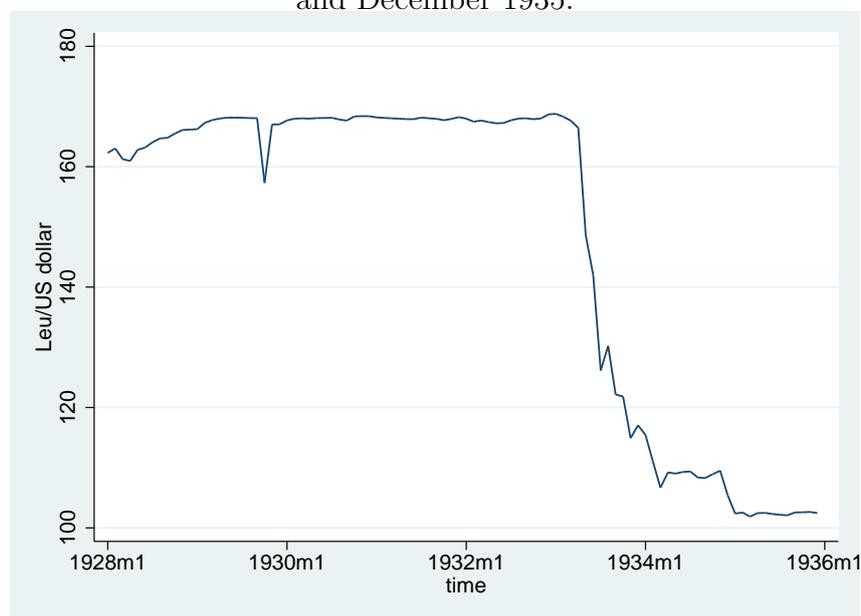
Tooze, A., and Ivanov, M., 2011, “Disciplining the ‘black sheep of the Balkans financial supervision and sovereignty in Bulgaria, 1902-38’”, *Economic History Review*, 64, 1, pp. 30-51.

Torre, D. and Tosi, E., 2010, “Charles Rist and the French missions in Romania 1929-1933. Why the ‘Money Doctors’ failed?”, *Fourth Annual SEEMHN Conference*, National Bank of Serbia Special Publications.

Zivot, E. and Andrews, D. 1992, “Further evidence on the Great Crash, the oil price shock, and the unit-root hypothesis”, *Journal of Business and Economic Statistics*, 10, pp. 251-70.

Appendix 1

Figure 2: Evolution of the exchange rate of the Leu against the US dollar January 1928 and December 1935.



Appendix 2

This appendix presents the reasonable assumptions we made on payments of each party and studies the solutions of the model in perfect information. It also presents the proofs of the 3 propositions presented in section 3.

Payments parameters

Costs and gains generated by loans

- L_1 and L_3 figure respectively the amount of the stabilization loan and the development loan. These amounts are a cost for French part at stage 1 and 3. If - without any consequence on results - we neglect interests, repayments amount to αL_1 and $(1 - \alpha)L_1 + L_3$, which figure as costs at stage 2 and 4 for Romanian part if this last chooses to cooperate at these stages ($0 < \alpha \leq 1$).
- The gains generated by loans for Romanian part are $k_2 L_1$ and $k_4 L_3$ respectively at stage 2 and 4, when strategy L has been chosen by the French part respectively at stages 1 and 3, with $k_2 \geq 1$ and $k_4 \geq 1$

The assumption $k_2 \geq 1$ and $k_4 \geq 1$ is justified by the existence of an international financial market where the net return is not negative. Romanian part would invest in this market instead of using the loans differently if all alternative uses would have provided a negative return.

Costs and gains generated by advices

- The costs of advices are c_1 and c_3 at stages 1 and 3 for French part.
- The additional gain or loss for Romanian part generated by advices is $k'_2 c_1$ and $k'_4 c_3$. No restriction is put on parameters k'_2 and k'_4 . Namely, advices can improve public finance practices or Central Bank management, but they can also generate counter-productive recessionist effects on Romanian economy.

Reservation and repudiation costs, gains for partners in case of success, clearing costs

- Reservation/repudiation costs are C^F and C^R for French and Romanian parts. In case of reservation, Romania has to find another partner and French loses a present and future economic and political partner. The same prejudices are also generated by the repudiation outcome. Reservation and repudiation costs are long term costs, since the prejudice is not immediate but differed.
- In case of success of the mission, partners which have increased their mutual confidence during the game can reevaluate their initial potential capital of future economic and political cooperation by G^F for France and G^R respectively. The values of G^F and G^R depend on the level of trust generated by the repayment of the loans and on the climate of interactions if there is a mission G^F (resp. G^R takes the values (i) G^{FL} (resp. G^{RL}) when only the loan is provided and repaid, (ii) G^{Fmax} (resp. G^{Rmax}) when the loan is provided and repaid and the mission ends up with good interactions between the two parts, and (iii) G^{Fmin} (resp. G^{Rmin}) when the loan is provided and repaid and the mission ends up with bad interactions, with $G^{Fmin} < G^{FL} < G^{Fmax}$ and $G^{Rmin} < G^{RL} < G^{Rmax}$. Gains resulting for a successful relation are also long term gains.
- In the case where advices provided by French part are inefficient or (politically or economically) too costly to apply ($k'_4 < 0$), the Romanian part can clear themselves at a cost c^c . This cost increases their long term gain to cooperate from G^{Rmin} to $< G^{RL}$ but are supported immediately.

Expected payments

Some payments are observable by both partners ($L_1, L_3, \alpha L_1$). Costs c_1 and c_3 of the French part are also observable by the Romanian part. Other payments generate asymmetric uncertainty:

- Parameters $k_2, k'_2, k_4,$ and k'_4 are not observable from French part which expects them at levels $\tilde{k}_2, \tilde{k}'_2, \tilde{k}_4,$ and \tilde{k}'_4 .
- Reservation and repudiation costs C^F and C^R , and, to some extent, mutual gains in case of success G^F and G^R , are also imperfectly observable and expected by partners at respective levels $\tilde{C}^F, \tilde{C}^R, \tilde{G}^F$ and \tilde{G}^R .

Results

Each of the 9 possible outcomes of the game (see the solid arrows in Figure 1) generate different expected and actual payments for partners. Each partner considers these expected payments to choose its strategy. The study of dominant strategies and possible equilibriums according all possible values of parameters is long and confusing. Namely, all outcomes of the game represented in Figure 1 are theoretically possible, depending values of parameters and expectations. It is in contrast relevant to consider the game from period 3. If partners are rational, they indeed choose their actions in period 1 and 2 according their expectations of the actions partners and themselves will choose in periods 3 and 4, given information they expect to have at this time. As French part chose the strategy L & M at time 3, it is then interesting to understand under which conditions this strategy could be successful (why it was selected) and why it however failed. We then begin to analyze the conditions under which, despite opposite expectations, C is not for Romanian team the best answer at stage 4 to a L & M strategy of French part at time 3 and derive propositions 1 and 2.

We begin by testing the two initial assertions (insufficient incentives / overestimation of Romanian repudiation costs and derive Proposition 1.

Proposition 1:

Without information asymmetry on the effect of advices, the failure of the mission could be explained by a bad expectation by the French part of Romanian repudiation costs.

Proof: Suppose that the French part has chosen the strategy L & M strategy at stage 3. As there is no asymmetry concerning $k'_4, k'_4 > 0$ and French part has chosen L & M strategy instead of L because $G^{Fmax} - G^{FL} > c_3$. The Romanian part has then to choose between C and D strategies at stage 4. The payment of D writes as $-C^R + k_4L_3 + k'_4c_3$ and the payment of C writes as $G^R + k_4L_3 + k'_4c_3 - (1-\alpha)L_1 - L_3$. The condition of choice of D is then $G^R + C^R \leq (1-\alpha)L_1 + L_3$. The left part of the inequality captures the net gains for Romanian part to cooperate. The right side is the sum of the value of the development loan, of the part to be redeemed of the stabilization loan, and of the monetary gains from final French advices. This condition is however compatible with the inequality $G^R + \tilde{C}^R \geq (1-\alpha)L_1 + L_3$ as soon as $\tilde{C}^R < C^R$, whatever the reason ■

Suppose now that the net monetary value of a long term relation of cooperation of Romania with France was correctly expected by both parts but not the effect of loans and advices which could be overestimated by French part. From this study, we derive the Proposition 2:

Proposition 2:

When Romanian repudiation costs are correctly expected by French part, an overestimation by French part of the effect of advices can explain the final default of Romanian part.

Proof: Consider stage 3 of the game and the subgame made by stages 3 and 4. French part has to choose between reservation, providing the development loan only, and providing the development loan and advices. Suppose that $k'_4 > 0$ and $-(1-\alpha)L_1 - L_3 + G^R \geq -C^R$, and $\tilde{k}'_4 > k'_4$, but $-(1-\alpha)L_1 + k_4L_4 + k_4L_3 < 0$. In this case, $-(1-\alpha)L_1 + k_4L_3 + k_4L_4 + \tilde{k}'_4c_3 \geq 0$ does not imply that $-(1-\alpha)L_1 + k_4L_4 + k_4L_3 + k'_4c_3 \geq 0$. If $-(1-\alpha)L_1 + k_4L_4 + k_4L_3 + k'_4c_3 \geq 0$ while $-(1-\alpha)L_1 + k_4L_3 + k_4L_4 + \tilde{k}'_4c_3 \geq 0$, French part chooses the strategy L & M because it correctly expects the default for the strategy L, but the overestimation of the advices effects involves also a final default of Romanian part with the strategy L & M ■

Let now consider the effect of inefficient advises (or impossible to apply for political or economic reasons).

Proposition 3:

An overestimation of the effect of inefficient advices could have involved French part to choose wrongly the L & M strategy which ended up by a default of Romanian part, instead of the successful L strategy.

Proof: Suppose that for French part, at stage 3 or the game, the gain for France with the strategy L in case of success is $(1 - \alpha)L_1 + G_L^F$ and with the strategy L & M $(1 - \alpha)L_1 + G_{max}^F - c_3$. Suppose that in the same time $-(1 - \alpha)L_1 - L_3 + G^{R_L} > C^R$, and that $-(1 - \alpha)L_1 - L_3 + k_3L_3 > 0$, e.g. that it is advantageous and possible to repay the loan for Romanian part if the strategy L is chosen by the French part. Suppose last that advices are inefficient or impossible to apply ($k'_4 < 0$) while they are expected as efficient by French part ($\tilde{k}'_4 > 0$) and consequently expected as able to be profitably applied by Romanian part. If k'_4 is sufficiently low, $-(1 - \alpha)L_1 - L_3 + k_3L_3 - k'_4c_3 > 0$ and Romanian part could prefer not following advices and engaging clearing costs if they allow to satisfy the liquidity constraint. However, the choice between repaying the loan and defaulting depends also on the comparison between $-(1 - \alpha)L_1 - L_3 - c_c + G^{R_{min}}$ and $-C^R$. If $-(1 - \alpha)L_1 - L_3 - c_c + G^{R_{min}} < -C^R$, Romanian part choose to default. Without the overestimation of k'_4 , French part would have chosen successfully the strategy L as Romanian part would have not default. ■

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