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MILTON FRIEDMAN AND EXCHANGE RATES IN DEVELOPING COUNTRIES

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I have benefited from conversations with Al Harberger and Rolf Luders, both of whom attended Milton Friedman's meeting with General Augusto Pinochet in 1975, in Santiago, Chile. Comments by Maury Obstfed, Doug Irwin, Michael Bordo, Ed Nelson, Leon Montes, Fernando Losada, Bruce Caldwell, and George Tavlas have been extremely useful. The views expressed herein are those of the author and do not necessarily reflect the views of the National Bureau of Economic Research.

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ABSTRACT

Milton Friedman's famous 1953 essay, "The case for flexible exchange rates," deals entirely with advanced nations. An interesting question is what Friedman thought about exchange rate and monetary regimes in emerging economies. In this paper I investigate how his views on the subject evolved through time. I analyze speeches, articles, and interviews. I examine his archives for correspondence and unpublished manuscripts. I show that for him flexible rates were a second best solution for middle income and poor nations. I also analyze Friedman's role in Chile's failed attempt, during the Pinochet regime, at using a fixed exchange rate to stabilize the economy and eliminate inflation.

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1. Introduction

Milton Friedman never did research on economic development. However, he traveled to a number of poor and middle income nations, where he gave lectures and met with academics, government officials, reporters, students, and representatives of the private sector. During these visits he discussed a wide range of issues that went from protectionism to price controls, from agricultural policy to investment incentives, from fiscal imbalances to taxation. But the common subject that dominated his lectures and one-on-one meetings was inflation, and how to keep it under control. Friedman talked extensively about monetary regimes, the connection between money and prices, the stability of the velocity of circulation, the long and variable lags of monetary policy, the unfairness and inefficiency of the inflation tax, and the most appropriate currency system for developing countries.

Exchange rates was a topic close to Milton Friedman's heart. Since the late 1940s he advocated a market-determined currency regime, where the exchange rate responded to supply and demand forces.[1] However, his famous *"The case for flexible exchange rates,"* first published in 1953, deals entirely with advanced nations, such as the U.S., the U.K., and other European countries.[2] This early analysis ignores the developing countries, except for a brief reference to the sterling area. With time, however, Friedman developed views regarding exchange rate and monetary regimes for middle income and poor countries. He presented them in a piecemeal fashion, in short notes, speeches, and presentations and lectures in places such as Jerusalem, Cape Town, New Delhi, Mumbai, Belgrade, and Santiago.

In a 1973 testimony in front of the Joint Economic Commission in Congress, Friedman said: [3]

> "[W]hile I have long been in favor of a system of floating exchange rates for the major countries, *I have never argued that that is necessarily also the best system for the developing countries*."

[1] On Friedman's views on monetary policy in the United States and other advance countries, see Nelson's (2020) two volumes book. See, also, Nelson (2018). On Friedman and Chicago, see Irwin (2019) and the literature cited therein. On the exchange rate debate in the 1940s see Irwin (2019). On Friedman and exchange rates, see Dellas and Tavlas (2009, 2016, 2018) and Nelson (2020b). On monetary theory in Chicago, and on the connection between Henry Simons and Milton Friedman's views on monetary rules, see Tavlas (2015).

[2] The memo version was never released to the public. Its introduction is very different from that of the published version. In it Friedman refers to Keynes *Monetary Tract* and argues that policy makers face a trilemma: it is not possible to simultaneously have fixed exchange rates, stable internal prices and unrestricted multilateral trade. See *Milton Friedman Archives, Hoover Institution*, MFAHI, Folder 43-13.

[3] Friedman (1973c).

What were, then, his views on the subject? Did they evolve as a result of his travels to emerging countries? Did he think that, in spite of poor institutions and shallow markets, some developing nations would benefit from floating rates? And if not, what regime did he favor?

In this paper I investigate the evolution of Friedman's views on exchange rates and monetary regimes in poor and middle income nations. In particular, I analyze under what conditions he thought that flexible rates were the right system for developing countries, and when, as is intimated in the above quote, he thought that it was appropriate to have alternative regimes.

Understanding Friedman's policy position on exchange rates in developing countries is of interest for at least two reasons:

- First, it provides additional light on the evolution of Friedman's thinking on monetary policy in open economies. Although thousands of pages have been written about Friedman's views on monetary policy and currencies, as far as I know there has been no work dealing in detail with his perspective on the developing economies. This is important, because many authors believed, for a long time, that countries that lacked well-functioning capital markets could not benefit from exchange rate flexibility; they would be subject to wild speculative moves in the currency value. This was, for instance, Harry G. Johnson's perspective. In spite of being a strong supporter of flexible rates in advanced nations, Johnson argued that these were not appropriate for "banana republics."[4] Until the late 1990s this was also the perspective of the International Monetary Fund. (International Monetary Fund, 1998).

- Second, an analysis of Friedman's views on exchange rates in developing countries will help elucidate his role in the design and implementation of economic policies in Chile during General Augusto Pinochet's military regime. For years Friedman has been considered the mastermind behind Pinochet's market-oriented reforms. While some analysts argued that Friedman was directly involved with the Pinochet government, others pointed out that his influence was indirect, through the so-called "Chicago boys," a group of Chilean economists trained in Chicago.[5] Although he visited Chile twice, and met with Pinochet for about one hour, Friedman strenuously denied having had direct influence on Chilean politics or economic policy. He devoted a whole chapter of his memoirs (joint with his wife Rose) to argue that his knowledge of Chile was superficial, and that he had no information about human rights violations.[6] This, however, did not

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[4] Johnson (1969). See Obstfeld (2020) for a modern evaluation of Johnson's views.
[5] See the discussion in Edwards and Montes (2020). See, also, Arancibia and Balart (2007) and De Castro (1992).
[6] See Friedman and Friedman (1998, chapter 24). In the rest of the paper I will refer to the memoirs as F&F.

> appease his critics. In September 2016, Naomi Klein wrote that "Friedman, the famed US economist… shared responsibility for Pinochet's crimes." An important question regarding Friedman and Chile is what he thought and said, either privately or publicly, about the fixed exchange rate strategy adopted by the Pinochet government in 1979. The fact that this experiment ended up, in June 1982, in a severe currency and banking crisis that resulted in unemployment in excess of 25%, adds significant interest to this issue.

The rest of the paper is divided into three main section: In Section II I investigate the evolution of Friedman's views on exchange rates in poorer nations, and I analyze how these views were connected to his perspective on monetary policy, both in the long run and during the cycle. A key question, as noted, is under what conditions he extended his well-known position in favor of flexible rates to the case of emerging countries. In this Section I proceed in a chronological order. The analysis covers the period 1948 through 1974, just before he traveled to Chile for the first time. The Section opens with a review of his early opinions regarding monetary policy and currency regimes in the advanced nations. I then discuss his views on India and on foreign currency auctions. I subsequently move to his thoughts on currency board arrangements á la Hong Kong, and his observations on the crawling peg regime in vogue in many Latin American countries during the 1960s and 1970s. I also deal with views expressed in Israel, Yugoslavia and South Africa, as well as opinions on the currency regimes then in place in Korea and Brazil.

In Section III I concentrate on Friedman's two visits to Chile. I analyze his lectures while in the country, I scrutinize his advice, and I discuss the eruption of Chile's currency and banking crisis in 1982. In order to do this, I analyze the press reaction – both in Chile and internationally -- to his trips and his meeting with Pinochet. I also analyze his correspondence on Chile, starting in 1975. The central question in this Section is whether Friedman was, at any point, critical of Chile's ill-fated experiment with fixed-but-adjustable rates during 1979-1982. The issue is whether he warned of the dangers of pegged rates – something he had done in a number of other developing countries, including India, Israel, South Africa, and Yugoslavia --, or whether, for political or other reasons, he pulled restrained himself from criticizing the Chicago boys and Pinochet policies. In this Section I also analyze Friedman's writings on Chile (both public and in private correspondence) *after* the 1982 crisis. I focus on his explanations on what went wrong, including the role played by Chile's central bank.

In Section IV I analyze Friedman's influence on the type of monetary and currency regimes currently in place around the globe. I point out that while he had great influence in the advanced world, he was much less persuasive in the emerging world. According to the International

Monetary Fund, in 2018 the majority of the emerging nations still had a "conventional peg regime" (IMF 2019). In Section V I provide some concluding remarks.

2. Friedman on exchange rates in developing countries: 1948-1974

The Milton Friedman Archive at the Hoover Institution (MFAHI) contains 46 works on "flexible exchange rates." Most of these refer to the United States and other advanced nations. A few of them, however, focus on poor or middle income countries such as India, Israel, Yugoslavia, Brazil, and Chile. The archive also has works that touch on currency issues, but have been filed using a different tag. As will be seen, Friedman also dealt with exchange rate issues in emerging countries in correspondence with other scholars, with members of the media, and with the public.

2.1 Early writings on monetary policy and exchange rates in the advanced economies

Milton Friedman first addressed the exchange rate issue in a major writing in his 1948 *American Economic Review* article "*A monetary and fiscal framework for economic stability*." In this extensive piece he points out that under his proposal for monetary stability, where the central bank follows a simple rule, it is not possible to use monetary policy to attain external balance. He writes (1948a, p. 252; emphasis added):

> "Under the [monetary] proposal, the aggregate quantity of money is automatically determined by the requirements of domestic stability. It follows that changes in the quantity of money cannot be used – as they are in the fully operative gold standard – to achieve equilibrium in international trade… The international arrangement that seems the logical counterpart of the proposed [monetary] framework is *flexible exchange rates, freely determined in the foreign exchange markets, preferably entirely by private dealings*."

In a footnote (11b), Friedman develops his views further, and points out that it is possible to present his argument in a completely different way; it is possible to start with the exchange rate regime:

> "[F]lexible exchange rates can be defended directly. Indeed, it would be equally appropriate to present the proposed domestic [monetary and fiscal] framework as a means of implementing flexible exchange rates."

The fact that this footnote is numbered 11b, and not 12, raises an interesting question: Did Friedman add it at a later stage? Maybe, when he revised the proofs of the article? Was the note

included as a result of someone's comments on the paper? At this point, any answer to this question is pure speculation.

In April 1948, a few months before "*A monetary and fiscal framework*" came out in print, Friedman participated in a policy debate on Canada's inflation and balance of payments problems. During the discussion, which was transmitted by NBC radio and was part of a series called the University of Chicago Roundtable, Friedman argued that Canada would benefit from adopting a market-determined exchange rate regime. Friedman, of course, understood that there were legal and institutional constraints, mostly related to Canada's membership to the International Monetary Fund, an institution that required member countries to maintain a pegged exchange rate relative to the USD. He said (he was addressing Donald Gordon, the deputy governor of the Bank of Canada):[7]

> "Currently your official price is one American dollar for one Canadian dollar. Would it not be desirable to make the Canadian dollar a little less expensive to the American and the American dollar more expensive to the Canadian? If your International Monetary Fund obligations prevent you from letting it *go completely free, as I think would really be desirable*…"

In his memoirs, Friedman points out that, until that time, Bank of Canada officials had never thought of adopting floating exchange rates, as they eventually did – partially prompted by Friedman's suggestions -- in September 1950. (F&F, 1998, p. 189). In the same memoirs, Friedman recalls that in 1950, when he was in Paris working on the merits of the Schuman Plan (the precursor of the European Common Market), he traveled to Frankfurt, where he presented a memorandum to the German authorities, suggesting that as part of the reconstruction effort they would benefit from adopting flexible exchange rates. The memorandum was dated December 1950, and in it Friedman wrote, that the numerous interventions being considered and implemented by the German authorities to deal with imbalances "would be rendered utterly unnecessary if the simple step were taken of *letting the exchange rate go free*…" (MFAHI, Manuscript # 2016c21.1209).[8]

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[7] "Canada and the Problems of World Trade." A Radio Discussion by Milton Friedman, Donald Gordon, and W.A. Mackintosh. University of Chicago Round Table, Number 526, 18 April 1948, pp. 1–11. Emphasis added. For a recent and in depth evaluation of the early Canadian experience with flexible rates, see Bordo et al (2007).

[8] In the 1950s, and after Canada had moved to floating, the United Kingdom considered, twice, adopting a flexible exchange rate. The arguments used by supporters of flexibility mirrored closely those made by Friedman in his 1950 memorandum. The first time was the ROBOT plan of 1951-52, and the second one was in 1952, during the negotiations for the Collective Approach. See Schenk (1991) for details.

In 1950 Friedman expanded his arguments in favor of market-determined exchange rates in his essay "*The case for flexible exchange rates.*" This paper was written in 1950 as a Memorandum for the U.S. Economic Cooperation Administration, and subsequently published, in 1953, in *Essays in Positive Economics*. A key point made in this piece is that the *equilibrium real exchange rate* (RER) changes in response to supply and demand forces, or what later came to be known as "fundamentals."[9] Under rigid exchange rates the adjustment process to new equilibria is costly, and often involves an increase in unemployment. Friedman illustrated the limitations of fixed exchange rates by discussing the effects of trade liberalization – a policy sought by many countries in the immediate post World War II period – on the equilibrium RER. He pointed out that lowering import tariffs and eliminating import licenses and quotas would result in an equilibrium real exchange rate depreciation. Under fixed (nominal) exchange rates, this adjustment would require domestic prices to *decline* relative to international prices. Domestic disinflation, however, is costly and takes a significant period of time; flexible nominal exchange rates, in contrast, would allow adjustment to take place much faster and efficiently. Friedman (1953, p. 157) writes that "there is scarcely a facet of international economic policy for which… a system of rigid exchange rates does not create serious and unnecessary difficulties…"

Friedman went on to argue that the Bretton Woods system, which was barely five years old, often resulted in currency crises, characterized by large and abrupt devaluations. These crises would be avoided under flexible exchange rates. In a market-based exchange rate system, Friedman asserted, changes in currency values are gradual and distributed through time. The following passage, which references Great Britain's experience, is telling (1953, p. 163):

> "The recurrent foreign-exchange crises of the United Kingdom in the postwar period are… [a] dramatic example of the kind of crises that would not develop under a system of flexible exchange rates. In each case no significant corrective action was taken until large disequilibriums had been allowed to accumulate, and then action had to be drastic. The rigidities and discontinuities introduced by substituting administrative action for automatic market forces have seldom been demonstrated so clearly or so impressively."

One could replace "United Kingdom" for "Argentina," "Turkey," or "Lebanon," and the quote would make complete sense in the early decades of the 21st century.

[9] Although Friedman does not use the term "real exchange rate," it is clear that he is referring to that concept. As we will see, he clearly focuses on the nominal exchange rate, adjusted by inflation rate differentials. The term real exchange rate became popular in the 1970s.

According to Friedman, changes in nominal exchange rate could, in principle and theoretically, be mimicked by changes in domestic prices, under a fixed exchange rate regime (1953, p. 164-165):

> "[A] decline of 10 percent in every internal price in Germany… with an unchanged dollar price of the mark would clearly have identically the same effects… as a decline of 10 percent in the dollar price of the mark, with all internal prices unchanged."

What is interesting about the above quote is that, for many years, the costs of adjustment through disinflation -- a mechanism sometimes referred to as an "internal devaluation" – has been at the center of policy debates in developing nations with fixed exchange rates and overvalued currencies. Examples of these discussions include Chile, during the first half of the 1980s, and Argentina in the early 2000s; these two cases are discussed in Sections 3 and 4 of this paper. In the 2010's, debates about Greece's major macroeconomic imbalances were also centered around this issue. As Friedman anticipated it in 1950, policy makers found out that it was significantly more difficult -- and politically more costly -- to adjust internal prices downward than to allow the nominal exchange rate to respond to market forces.

The closest Friedman got to addressing the case of the developing countries in the 1950 essay was in Section III.D, titled "The sterling area," where he deals with currency unions and trade. Although at the time the area included a number of poor countries in Africa and Asia, Friedman's analysis is very Great Britain-oriented. For instance, there is no mention that the poorer members of the area are commodity exporters and that their terms of trade tend to be volatile.[10] The main point made in this section is that, in general and from a conceptual perspective, Friedman has no problems with a "mixed system of fixed exchange rates within the sterling area and freely flexible rates within sterling and other countries." He then adds the very important proviso that there should not be any trade restrictions within the sterling area. In a footnote Friedman notes that in an ideal monetary union, both monetary and fiscal policies would be subject to a single political authority. In this regard, he was anticipating the discussion in the Euro Zone following the Greek crisis of 2010.

To summarize, Friedman's early writings on exchange rates focused exclusively on the advanced countries and provided strong arguments in defense of flexible rates; they also covered many of the points that would become central in policy discussions in the decades that followed. In his

[10] As the discussion in the rest of this paper will show, Friedman rarely emphasized the role of terms of trade volatility. This is particularly important after, in the early 1970s, he favored a "unified currency," or a super hard peg.

early work – from the late 1940s and early 1950s -- he expressed no opinion regarding the developing countries. It was unclear whether he thought that middle income and poor nations, with primitive institutions and underdeveloped markets, could benefit from exchange rate flexibility. However, in the years to come, and as will be seen in the rest of this Section, Friedman developed a strong set of principles on exchange rate and monetary regimes in developing nations.

2.2 India: The 1955 memorandum and the 1963 visit

In 1955, Milton Friedman and Neil Jacoby, a professor at UCLA, traveled to India to advise the Nehru government on economic issues. The trip was arranged by the Eisenhower Administration, and was part of the U.S. program for technical assistance to poor nations. At the time, the Indian government was preparing its Second Five-Year Plan, under the leadership of Professor P.C. Mahalabonis. Since Friedman was highly critical of the "socialist orientation" taken by India, the trip represented a major intellectual challenge.[11]

At the time, one of the most hotly debated issues surrounding India's new development program was how to allocate foreign exchange to the private sector. The prevailing view among Indian economists -- and economists in most developing countries, for that matter -- was that scarce foreign exchange had to be rationed by the government, and allocated to those strategic industries that contributed to the process of import substitution and industrialization. In early November 1955, Friedman presented to finance minister C.D. Deshmukh an 11-page Memo titled "Some Initial Comments on Current Problems of Economic Development in India." Section 6 of the document dealt with the "foreign exchange problem," and consisted of three parts: (a) The foreign exchange gap; (b) Exchange controls; and (c) Alternatives to exchange controls.

The Memo, which was never released officially, and only saw the light of day in 1989, was extremely critical of India's system of exchange controls. Friedman made a number of simple and, for that time, highly controversial points. A summary of the main arguments is as follows (emphases added):[12]

- There are only two ways to deal with India's large and persistent external imbalances: "[F]irst, to inflate or deflate internally in response to a putative surplus or deficit in the balance of payments; second, *to permit the exchange rate*

[11] For details on this trip, see chapter 18 of the Friedmans' 1998 memoir (F&F).

[12] Friedman (1992). In all the quotes that follow the emphases are added.

to fluctuate,… [a method] that has been adopted by Canada with such conspicuous success."

- An alternative to straightforward floating, and one that India could prefer, was to "*auction off whatever amount of foreign exchange* it is decided to be released, permitting the purchasers to use it for anything they wish and in any currency area they wish."
- The auction system has the advantage of generating some additional government revenue. On the negative side, foreign exchange auctions would only eliminate "distortion in the pattern of imports… [but would] not produce the appropriate adjustment of exports to imports."
- In India, at the time, there were legal and institutional barriers for the implementation of a flexible rates system, including India's membership in the Sterling Area. However, "an independent move by India might have very great advantages precisely because India is entering into a period of rapid economic change and is not a major financial center."
- Under a floating system, the rupee could move towards convertibility. "In a world of inconvertible currencies, a country that offers convertibility, albeit at a fluctuating rate, has a special attraction for investors and traders."
- The administrative allocation of scarce foreign exchange licenses is a hotbed for corruption. The most efficient regime is one where foreign exchange goes to those who value it the most, and not to those that, for one reason or another, got it in the past.

Although the authorities never released the Memorandum to the public, *The Statement* published a summary of Friedman's recommendations based on a leaked copy of the report. Given this leak, in early 1957 Friedman published a brief paper in *Encounter*, where he summarized his views on India, and criticized the Second Five-Year Plan, including its exchange controls system. The authorities had good reasons to keep Friedman's report out of the public's eyes: they had no intentions of following his advice. Indeed, the Second Five-Year Plan continued to rely on exchange and imports' controls, and a pegged exchange rate. In 1955, the official exchange rate was 4.77 rupees per dollar, a price that remained in place until 1966, several years after Friedman's second visit. After the 1966 devaluation, the official value of the dollar became 7.55 rupees per USD.

Milton Friedman returned to India in 1963.[13] He delivered a number of public talks that dealt with government deficits, inflation, growth, exchange controls, and the balance of payments. The most important event was a two-parts lecture delivered in Mumbai (Bombay). This time there was no secrecy, and the lectures were promptly published by the *Council for Economic Education*. A few years later Friedman included them as chapter one of his 1968 volume "Dollars and Deficits" (D&D).

The second of the Mumbai lectures dealt, almost exclusively, with the balance of payments, exchange controls, and the exchange rate system. Friedman made a number of points that he would repeat again and again, and in country after country, during the years to come. First, he strongly criticized the Bretton Woods system of "pegged but adjustable" exchange rates. In particular, he pointed out that in an inflationary context it was impossible for a fixed exchange rate to be continuously near its long term equilibrium value. However, that could be achieved under a flexible exchange rates regime. (D&D, p. 57):

> "What is the solution [to India's balance of payments crisis]?... The appropriate solution is to stop pegging the price of foreign exchange. Let anybody buy and sell foreign exchange at any price mutually agreeable to buyer and seller. Remove import controls, remove subsidies on export and let there be a free market in foreign exchange. In this way, people who can put scarce foreign exchange to the most efficient use would have the incentive to bid the highest price…"

He asserted that India could not solve its external imbalance by devaluing the rupee, and then re-pegging it at a lower level. With India's ongoing rate of inflation, this was likely to generate, sooner rather than later, a new situation of (real) exchange rate overvaluation and a new devaluation crisis. (D&D, p. 58-59. Emphasis added):

> "The temptation will be to change its [the rupee's] value from its present level… And then try to hold it at the new fixed level. That would be another mistake. Even if the new exchange rates are correct when established, once you pegged them, there is no assurance that they will indefinitely remain correct. When they become incorrect, India will again be driven to all the expedients that it has adopted these past few years. A far better solution, as already noted, would be to

[13] This was part of a yearlong *tournée* around the world, that included a gruesome schedule of lectures, presentations and meetings. During the trip, Friedman spent time in five countries whose economic systems he wanted to analyze in some detail: Israel, Yugoslavia, Greece, India and Japan. In the first four he encountered similar problems related to external imbalances and the exchange rate regime. See Chapter 20 of F&F for details about this trip.

> *allow exchange rates to go free* and find their own levels whatever they may be. If India then follows an appropriate monetary policy and maintains relative stable prices within India, the rupee will also maintain a relatively stable price on the foreign exchange market."

In this talk, Friedman discussed, again, the possibility of implementing an auctions system. Since his 1955 Memo had been withheld by the authorities, for most of the Mumbai audience this was a new and audacious proposal. He wrote (D&D, p. 58):

> "An alternative solution, which is not as good, would be to auction off import licenses, or, better yet, the foreign exchange that is available for sale. By auctioning off import licenses or foreign exchange, you would at least let market forces determine what items are imported. The difficulty with this solution is that it does not provide the appropriate incentive for exports."

In 1963, Friedman also published a short paper on exchange rates in India's pro-markets magazine *Swarajva*, titled "*Exchange rate policy*." (Friedman 1963b). In it he delved in greater detail into India's currency overvaluation. He wrote that "the Achilles heel of the Indian economy at the moment is the artificial and unrealistic exchange rate. The official exchange rate is the same today as it was in 1955. In the interim, prices within India have risen some 30 to 40 per cent; whereas prices in the US, UK, Germany have risen far less, at most by 10 per cent." He then forecasted the future, quite accurately:

> "What is probable is that sometime within the next year or so India will devalue, moving to an exchange rate of something like 7 rupees to the dollar or 20 rupees to the pound. This will be preceded by a very sudden and rapid worsening of the exchange situation as people inside and outside the country come to expect devaluation and try to convert rupee assets into foreign exchange assets… While this is the probable course of events, it is not the most desirable. The new fixed rate of exchange may be satisfactory for a while but sooner or later similar difficulties are likely to arise."

The published version of the Mumbai talks includes the questions and answers sessions. Not surprisingly, most of the questions were centered on his strong criticism of India's exchange rate regime, and his suggestion of adopting an auction system. When asked if devaluing the rupee was the only way of dealing with the growing external imbalances, Friedman went back to the costs of disinflation in a pegged exchange rates regime. (D&D, p.64-65):

> "In principle there is another way. You could drive down prices in India by 30 or 40%. Deflation would be an alternative. What matters is the relation between prices in Indian and prices in the rest of the world, account being taken of the exchange rate… The problem today is that a dollar converted into rupees at the official exchange rate will not buy as much as is necessary in order for India to have balance of payments equilibrium. The amount that a dollar will buy in India can be increased in either of two ways: by a devaluation of the exchange rate or by a reduction of prices and India. However, as a practical matter, I think that no government will in fact try to force a deflation of 30 or 40% and I think a government would be most unwise to try to do so."

Friedman's answer to this question becomes particularly important within the context of the Chilean fixed exchange rate experiment of the late 1970s and early 1980s, which is discussed in great detail in Section 3 of this paper. As will be seen, in early 1981, around the time Friedman visited Chile for a second time, it was abundantly clear that the Chilean experiment with fixed exchange rates (relative to the dollar) had generated massive overvaluation, and had helped generate a current account imbalance in excess of 10% of GDP, a level that was clearly unsustainable. At the time, some of the discussion in Chile revolved around the idea of generating an internal disinflation process, led by a mandated cut in public sector wages. However, as will be discussed in Section 3, when asked about the currency situation, Friedman was reluctant to openly criticize the Chilean government, and to be as outspoken and straightforward as he had been in India almost 20 years earlier.

2.3 Israel and the "unified currency" regime

In 1972, Friedman traveled to Israel to deliver the Horowitz Lectures at the Bank of Israel. The two lectures were published a year later as, "*Money and Economic Development*." This is Friedman's only (major) work with the word "development' in the title. In his memoirs, Friedman devotes only three lines to this visit to Israel (F&F, p. 463). This contrasts sharply with his (and Rose's) extensive discussions of the 1962, 1969, 1977 and 1990 trips. In the 1962 and 1969 visits the exchange rate regime was not at the center of his discussions with Israeli academics and policy makers. As Friedman notes in great detail in Chapter 27 of F&F (p. 463), the 1977 trip was the "most memorable," since it involved consulting with the incoming government led by Menachem Begin. (See Schiffman, Young and Zelekha, 2017, for details on this consulting assignment; see, also, Bruno et al, 1988).

In the first 1972 Horowitz Lecture, delivered in Jerusalem, Friedman surveyed the empirical evidence on monetarism, and concentrated on the connection between money creation and

inflation. The presentation was based on an extensive data analysis for the United States and the United Kingdom.[14] He concluded the lecture with ten propositions that, in his view, summarized monetarism. He pointed out that "the changed rate of growth of nominal income typically shows up first in output and hardly at all in prices (p. 28)". In this first lecture Friedman didn't address any challenges specific to developing or middle income countries, nor did he discuss currency regimes. He mostly set the stage for the lecture that followed, which was fully dedicated to those issues.

In the second Horowitz Lecture, which was delivered in Tel Aviv, Friedman dealt with the type of monetary policy problems that, at the time, affected a large number of developing countries. Early on in the discussion he stated that for poorer countries "the crucial problem was to achieve sustained growth, not to smooth short term fluctuations." He then pointed out that "such countries seldom have financial markets and banking institutions sufficiently developed and sufficiently sophisticated… As a result, for developing countries even more that for developed countries, it seems wise to determine monetary policy by long term considerations (pp.39-40)".

He noted that many developing countries relied on the inflation tax to finance large, and often unproductive, government projects. He asserted that the inflation tax was "the only tax that can be levied without explicit legislative enactment or executive announcement (p. 48)." The inflation tax, he insisted, was usually implemented in conjunction with an array of controls and interventionist policies that "discourage private investment, often lead to a flight of private capital, and produce economic waste and inefficiency." (p. 44).

Halfway through the second Horowitz Lecture, Friedman developed, in great detail, what became an important component in his views regarding currency regimes in developing countries (p. 44-57). According to him, an alternative to implementing a floating exchange rate – and almost always a preferred option -- was adopting a "unified currency", or a regime where a poor country fixes its currency value irrevocably and permanently to that of an advanced nation. He pointed out that such a regime had served Hong Kong very well: "[Its] currency [is] closely linked to the British pound sterling. Through a Currency Board, printing paper currency requires the deposit of British currency in stated ratio…" (p. 44).

Friedman, then, explained that a "unified currency" was *not* the same as a pegged exchange rate regime of the type enacted after World War II. While in the former system the value of the poor country's currency is irreversibly fixed to that of an advanced nation, in the latter there is an

[14] Friedman usually published several versions of his lectures, with minor variations. In this case, the material of the Horowitz Lectures was also published, in 1973, in a volume in honor of Moses Abramovitz and as the lead article in the first issue of the *Liberian Economic and Management Review*.

escape clause. Under a unified currency system, money creation can only happen through an inflow of international reserves; in the standard pegged regime, in contrast, the monetary authority can "use the printing press or the central bank's bookkeeper's pen." (p. 46).

Friedman then criticized, as he had done in "*A case for floating exchange rates,*" the Bretton Woods system with its frequent and large devaluations. Further, he pointed out that in pegged-but-adjustable regimes, when the exchange rate became out of line with its long run equilibrium value, most countries – including Israel and India – tended to adopt exchange controls, and, often, a very inefficient multiple exchange rate regime.[15]

An important question was whether a unified currency regime could be replicated in countries with active central banks, as opposed to currency boards. The answer, said Friedman, was that, in principle and in theory, it was possible. However, he opined, the evidence suggested that this was difficult to achieve. Eventually, politicians were tempted to rely on the inflation tax to finance inefficient government projects. At that point, good and able central bankers were either kicked out or up from their positions, and there was a rapid surge in inflation. This, he pointed out, had been the case in Thailand in the late 1960s.

Friedman's conclusion was simple and controversial (p. 47, emphasis added):

> "I conclude that the *only way* to refrain from using inflation as a method of taxation is to *avoid having a central bank*. Once a central bank is established, the die is likely to have been cast for inflation…Perhaps the greatest advantage of a unified currency is that it is the most effective way to maximize the freedom of individuals to engage in whatever transactions they wish... [A] unified currency assures a maximum degree of integration of the country in question with the greater world."

A year later, in Congressional testimony, Friedman confirmed that, in his view, developing countries could adopt one of two monetary and exchange rate regimes: flexible exchange rates or a unified currency system (1973b; emphasis added):

> "[W]hile I have long been in favor of a system of floating exchange rates for the major countries, *I have never argued that that is necessarily also the best system for the developing countries*. Indeed, in April of last year I gave a series of

[15] In some cases, "unified currency" is interpreted as not having multiple exchange rate practices. This was not the way Friedman used the term. However, it was understood that under his proposed "hard and irrevocable" peg regime there would o sole rate of exchange.

> lectures in Israel… on the problem of monetary policies for developing countries. And in these lectures I recommended as probably *the optimum policy under current conditions for a developing country that it [irrevocably] peg its exchange rate to its major trading partner rather than have a floating system*. So I believe there is no conflict between wholehearted advocacy of floating rates for major countries and the existence of currency blocs of smaller countries attached to the major countries."

2.4 The crawling peg

In his December 1968 radio program, Milton Friedman answered a question posed by a subscriber on the merits of the "crawling peg," a monetary regime then in vogue in a number of Latin American countries (Brazil, Chile, Colombia). Friedman begins by explaining that the crawling peg regime is characterized by "small, gradual and continuous" adjustments of the price of foreign currency; it is a sliding parity. The authorities accept that under certain conditions – usually a domestic rate of inflation higher than world's inflation --, it is not possible to maintain a pegged exchange rate indefinitely, as the Bretton Woods regime mandated. That is, it was recognized-- as Friedman had pointed out repeatedly in his commentary about countries as diverse as the United Kingdom, India and Israel --, that the prevailing system was pregnant with recurrent crises. Instead of setting a fixed rate, and attempting to defend it, under a crawling peg regime the authorities change the parity by a small amount very often, some times daily. Because of this feature the system is also known as a "mini devaluations" regime.

In the 1968 radio program, Friedman said: "Personally, I think this [the crawling peg] is a far better system than the present fixed rate." This endorsement of the mini devaluations regime was consistent with Friedman's enthusiastic views on indexation in general, a perspective that he developed during the 1970's as the rate of inflation in the U.S. began to move gradually up.[16]

Friedman then turned to technical issues, and discussed several possible mechanisms for determining the value of the peg at any moment in time, and defining the rate of the crawl or mini devaluations. He gave a specific example, where the parity would slide quarterly, and be allowed to fluctuate by one percent above and below a predetermined central value. If the actual rate stays at the floor of the band, the next period that floor value becomes the reference value at the center of the band. Friedman also discussed the possibility of monitoring the evolution of the stock of international reserves to determine the rate of (gradual) adjustment of the parity. He then clarified that even though market participants would know ahead of time that the exchange

[16] On Friedman's views on indexation see, for example, Nelson (2018). See, also, Friedman (1974).

rate would change gradually and continuously, such a system would not necessarily generate speculative flows. The reason for this, he explained, was that domestic interest rates would adjust according to the interest parity condition: even if investors knew the rate of the crawl, they would not benefit by this knowledge, as long as interest rates were allowed to reflect market conditions and expectations.[17]

In 1972, Friedman came back to the crawling peg issue during the Horowitz Lectures in Israel. In the Q&A period one of the participants asked "whether a '*trotting*' peg as in Brazil would not be a way to limit the harm done by… government."[18] Friedman's answer (1973, p. 61-62):

> "The Brazilian system is certainly an improvement over a system in which you keep the exchange rate pegged for long stretches of time. But I do not believe that there is any incompatibility between the existence of a government and of a central bank on the one hand, and freely floating exchange rates on the other. You don't have to have the Brazilian system. The Brazilian system seems to me better than no attempt to change exchange rate but less good than an exchange rate that changes more rapidly. I have never been in Brazil but I have been in Korea for one day, which makes me an expert, and Korea also had a system very similar to Brazil's. They justified it on the grounds that their commercial and financial markets were so poorly developed that they couldn't expect an effective market rate to prevail."

The quip about Korea is a great reflection of Friedman's sense of humor. However, there were some important differences between the Korean and Brazilian systems. While in Korea the main objective of the policy was to maintain the degree of international competitiveness of exports, by making sure that the won was somewhat undervalued, in Brazil it was part of a broader set of measures aimed at adapting all economic activities to a high level (three digit) of inflation.[19]

2.5 Exchange rates in an emerging Socialist country: Yugoslavia, 1973

In early 1973, Friedman visited Yugoslavia as a guest of the Institute of Investment Analysis. This was his second time in Yugoslavia. He had visited for the first time in 1962, when he and Rose flew to Belgrade from Moscow. In both trips Friedman was interested in understanding the

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[17] The complete radio program may be found here: https://miltonfriedman.hoover.org/objects/52393/currency-recycling-crawling-pegs-hyperinflation-and-the-e?ctx=c2cff3d4-2ca7-42c6-a05d-7035c598d3d7&idx=1

[18] Friedman (1973, p. 61).

[19] For a comparison between Brazil and Korea, see chapter 9 in Williamson (1981). See Obstfeld (2014) for an analysis of modern debates on exchange rate regimes.

functioning of the system of worker ownership and self-management of companies. (F&F, p. 425).

On March 20, 1973, Friedman gave a talk titled “Contemporary monetary problems” at the National Bank of Yugoslavia. During the first part of the presentation he discussed the principles of monetarism and emphasized the fact that interest rates were a poor indicator of the stance of monetary policy. The point, he stressed, was simple: in order to assess if policy was expansive or tight, all central bankers had to do was focus on the quantity of money. Relying on interest rates as indicators was misleading, as inflationary expectations were incorporated into those rates. Most of the talk, however, was devoted to analyzing the functioning of an open economy. Friedman moved slowly and very pedagogically. He first pointed out that in a “unified currency” regime money is endogenous. He said: “The inability of any part of a unified currency area to have an independent monetary policy has its counterpart the absence of balance of payments problems.” (Friedman 1973b, p. 9). If, however, Yugoslavia (or any other country) “wanted to have a completely independent monetary currency… [then] the price of dinars in terms of marks, the exchange rate, would be the mechanism that would adjust the balance of payments.” (p. 10).

Next, Friedman discussed developments in the international monetary system since the United Sates closed the “gold window” on August 15, 1971. He pointed out that an unstable system of “dirty” fixed rates was being replaced by one characterized by “dirty” flexible rates. He then argued that, although the situation was far from the ideal fully flexible system, it was much better than the just abandoned Bretton Woods regime. He further pointed out that, in his view, the degree of flexibility was to increase significantly in the years to come.

The last part of the lecture dealt with the issue that interested Yugoslavians the most: What type of exchange rate regime should an emerging Socialist country, that did not belong to the Warsaw Pact, have? Friedman began this part in a familiar way, by stating that Yugoslavia had two alternatives. He then described the “unified currency” regime and argued that if Yugoslavia decided to adopt it, the currency of reference should be the German mark. He then said that in countries with a high degree of political centralization it would be politically difficult to give up monetary policy (p. 15). Friedman next discussed a “less satisfactory, but still a good idea… a freely floating exchange rate.” After providing details on how flexible rates functioned, he pointed out that, unfortunately, at the moment this was not a good option for Yugoslavia. He added: “Yugoslavia has first to develop, as I hope it will, a market in foreign exchange, so that

there exists a market evaluation of its domestic currency in terms of foreign currencies." He ended up by discussing the prospect for exchange rate regimes around the world (p. 16):[20]

> "Whatever policies Yugoslavia and other developing countries choose to follow, I believe that they will benefit a great deal from the new [international monetary] arrangements. The new system of floating exchange rates will be consistent with a rapid growth in world trade and with the gradual elimination of tariffs and other barriers to international trade."

2.6 A hierarchy of regimes: The unified currency trumps flexible rates

By the mid-1970s, then, Friedman had developed clear views regarding monetary and exchange rate regimes in the emerging countries. As was documented extensively in the preceding Sections, he was extremely critical of the Bretton Woods regime, with its combination of pegged-but-adjustable exchange rates, discretionary monetary policy, and unconstrained government expenditures. Although he didn't address directly the role of capital mobility– at the time most LDC's had some form of capital restrictions --, he did make the point, during his discussions in Israel, that it was not possible to have simultaneously active monetary policy, fixed exchange rates, and freedom of capital movement (this principle is sometimes called "the impossibility of the Holy Trinity"). He thought that in countries with an active central bank – countries that often relied on the inflation tax – the exchange rate had to move frequently to reflect market conditions. Under these circumstances he pointed to two regimes that, in his view, were a great improvement over the official Bretton Woods system: a crawling peg and foreign exchange auctions. However, he repeatedly declared that in spite of their superiority relative to the prevailing regime, these were clearly second best options.

Friedman's had two preferred monetary and exchange rate arrangements for the poorer countries: flexible exchange rates, where market forces determined the value of the currency at every moment in time, and a unified currency regime, where the exchange rate is irrevocably fixed and the central bank is abolished.

An interesting question – and one that has important practical and policy consequences – is the hierarchy of the two favored regimes. Friedman addressed this question in the Q&A session after the second Horowitz Lecture in Israel. The Chairman of the session asked whether there was an optimal sequencing in the adoption of a monetary/exchange rate regime in a developing country

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[20] Three years later Friedman traveled to South Africa, where he, again, criticized the pegged-but-adjustable regime and argued that "the wise policy for a country like South Africa is to allow a free float." This time, he didn't mention the "unified currency" regime. Friedman (1976b, p. 4).

such as Israel. He said that he understood that Friedman thought that "a unified currency… was a *first step* and a flexible rate a *second step*." (p. 64, emphasis added). He stated that, in his view, the order should be the opposite, with the flexible rate preceding the eventual adoption of a unified currency.

Friedman's response was long and all encompassing. He argued that the answer had to consider the overall reality of each developing country, including political pressures and the institutional structure. And when the big picture was taken into account, he affirmed, the unified currency regime was his preferred monetary arrangement for most poorer countries. He said (p. 64-66, emphasis added):

> [T]he less power the government has to tax the better. Government taxation tends to slow down development because it goes into the wrong kinds of programs… The great advantage of a unified currency is that it limits the possibility of government intervention. *The reason why I regard a floating rate as a second best for such a [developing] country* is because it leaves a much larger scope for government intervention."

This hierarchy of regimes, with the unified currency on top, and the pegged-but-adjustable system at the very bottom will play an important role in the discussion of Friedman's role in Chile's failed experiment with fixed rates during 1979-1982.

3. Friedman and Chile's fixed exchange rate fiasco, 1979-1982

On October 14, 1976, the Swedish Academy announced that Milton Friedman had been awarded the Nobel Prize in economics. As soon as the news was released, a number of scholars form around the world argued that it was improper to honor someone who had worked with the Pinochet regime in Chile. Those who protested the award included past Nobel laureates David Baltimore, S. E. Luria, George Wald and Linus Pauling.[21] The controversy did not die after Friedman received the Prized from King Carl XVI Gustaf in December 1976. During the decades that followed critics of "neoliberalism" continued to argue that Friedman was an accomplice of Pinochet. The fact that Chile had returned to democracy in 1990 did not matter, as it did not matter that the country had grown faster than any other in Latin America, that the incidence of poverty had been reduced from 56% to 6%, and that Chile had become the undisputable

[21] The controversy surrounding the trip started in mid-1975, more than a year before the Nobel Prize was awarded. Edwards and Montes (2020), cover some aspects of these events. See, also, Montes (2016).

economic leader in the region. The staying power of these controversies is perhaps best illustrated by a 2010 article published by Naomi Klein in the *Guardian*:[22]

> "Friedman-prescribed policies had caused… a tenfold increase in unemployment and an explosion of distinctly unstable shantytowns. They also led to a crisis of corruption and debt so severe that, in 1982, Pinochet was forced to fire his key Chicago Boy advisers and nationalise several of the large deregulated financial institutions."

Through the years, Paul Krugman and Joe Stiglitz have argued that Chile's economic success happened in spite of Friedman. They claimed that Chile's deep currency and banking crisis of 1982, was the result of policy mistakes inspired by Friedman's views on stabilization policies. In the documentary "*The commanding heights*" Stiglitz said: "[When the military] followed Friedman's prescription, Chile had a crisis; the free banking experiment that was done under the intellectual leadership of that free market hypothesis… [resulted in] the kind of bank boom and pause that we've seen around the world." [23]

3.1 The "Chicago boys" and Friedman's 1975 meeting with Pinochet

Milton Friedman visited Chile twice during the Pinochet regime. [24] The first visit, in March 1975, was the result of an invitation by Rolf Luders, a banking executive and one of the most prominent Chicago boys. At the time, the main economic challenge in Chile was inflation, which lingered around 400 percent per year. The second trip took place in mid-November 1981, after Chile had embarked on a fixed exchange rate strategy to reduce inflation from around 50% a year to a single digit.[25] Although the main purpose of this visit was to attended the regional meetings of the Mont Pelerin Society, Friedman found time to give press interviews, to deliver a talk on monetary policy, and to meet with local analysts and academics.[26]

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[22] Klein (2010).

[23] Krugman (2010), Stiglitz (2002). A complete transcript of Stiglitz interview may be found at: http://www.pbs.org/wgbh/commandingheights/shared/minitext/int_josephstiglitz.html.

[24] Pinochet took power on September 11, 1973, when he led a coup d'état that deposed Socialist President Salvador Allende. Pinochet stayed in office until March 1990, when the country returned to democratic rule. See Edwards (2010, 2019) for analyses of the macroeconomic performance during the government of Socialist President Salvador Allende.

[25] Friedman was not the only Nobel Prize who visited Chile during the Pinochet regime. F.A. Hayek visited in 1977 and 1981. For details see Caldwell and Montes (2015).

[26] Friedman was again invited to attend the 2000 Meeting of his Mont Pelerin Society in Santiago. However, he declined due to his age at the time (88). See letter to Carlos F. Caceres, a former member of the Pinochet cabinet, dated September 22, 2000. MFAHI, Folder 200-4.

On March 21, 1975, Milton Friedman met with general Augusto Pinochet for 45 minutes. Since the presidential palace (*La Moneda*) was still being repaired for the major damaged suffered during the coup, the meeting took place in the government's temporary quarters in downtown Santiago. In addition to Pinochet and Friedman, the meeting was attended by Friedman's colleague Arnold Harberger, Rolf Ludres, a military assistant to Pinochet, and a translator.

Harberger's recollections are that Pinochet did most of the talking.[27] He explained to his visitors the military's economic program and argued that the economy had been virtually destroyed during the Socialist government. Friedman told the General that, in his view, the fundamental first step towards recovery was to reduce inflation drastically, to the one-digit level. If this was not done, it was very difficult to envisage a takeoff of the economy. He pointed out that the most effective way of reducing inflation was to implement very drastic cuts in public sector expenditures. If the deficit was eliminated, there would be no need to print money and inflation would disappear rapidly. He mentioned the experiences of Germany and Japan after World War II as evidence that drastic programs worked.[28]

A month after returning to Chicago, Friedman sent Pinochet a letter summarizing his policy recommendations, including his suggestion for a fiscal "shock treatment." (F&F, p. 591-594). These two words – "shock treatment" – came back to haunt him, and through the years were repeated by critics that claimed that, as a result of his advice, Chilean people (and especially the poor) suffered long spells of unemployment and went hungry.[29]

One of Friedman's 1975 lectures has been preserved as it was delivered. It was published that same year, in Spanish, as a short pamphlet; see Figure 1. In the lecture the term "exchange rate" does not appear even once. Friedman talked about monetary policy, the fiscal deficit, the inflation tax, the merits of a "social market" economy, shock adjustment, and the experiences of Germany and Japan after World War II. But during his speech he didn't say one word about currencies or exchange rates.[30]

The exchange rate, however, was brought up three times during the questions and answers period. In his reply to a question on the optimal degree of openness of the economy, Friedman made a point that he had made many times before: a fixed exchange rate was not sustainable in a country with a (very) high rate of inflation. He then added that in his view the crawling peg regime in place at the time in Chile was adequate.[31] The exchange rate was again brought up in a

[27] Interview with A.C. Harberger, August 23, 2020. Los Angeles, California. See, also, Harberger (2016).
[28] *El Mercurio*, Saturday, March 22, 1975. F&F, 1998, p. 399.
[29] Edwards and Montes (2020).
[30] "Milton Friedman en Chile," Fundación de Estudios BHC: Santiago, May, 1975.
[31] The transcript of the conference is in Spanish. This is Question No. 9.

question regarding indexation.[32] Friedman insisted that the source of Chile's very rapid inflation was massive money printing to finance a fiscal deficit that amounted to 10% of GDP. Inflation, he stated, was unrelated to indexation. The third exchange rate-related question dealt with the effects of the "mini devaluations" on costs and profits. Friedman answered as follows: [33]

> "[M]ini devaluations… don't result in higher real costs. They are simply a response to price increases… If prices in Chile increase by 10% each month, then it is necessary to devalue in 10% in order to maintain a stable *real* value of foreign currency… And you already know the story: if you try to maintain a low price for foreign exchange [overvaluation of the peso], there would simply be a need to ration it. What happens then? Everyone would want to buy it [foreign exchange]. How would you decide who is allowed to buy [dollars]?"

The *Milton Friedman Archives at the Hoover Institution* (MFAHI) includes several boxes with Friedman's correspondence on Chile. Much of it is related to the criticisms and attacks he received after meeting Pinochet. His counterparts are scholars, reporters, members of the public, and public intellectuals, including William F. Buckley Jr., William Bowen, Peter Bauer, and E.O. Wilson.[34] These exchanges began in mid-1975, as soon as several newspapers wrote about the first trip and Friedman's meeting with the General. Many of the writers expressed their dismay for the anti-Friedman campaign, and asked if there was any way in which they could help. There is also abundant material by critics and foes. For example, there is profuse correspondence on a "Commission of Inquiry on Friedman/Harberger" set up by a group of students at the University of Chicago. (MFAHI, Folder 188-10). In a handwritten note, dated August 11, 1976, Gerald Ellis, from London, wrote: "With your friendship for General Pinochet you must be the only Jewish monster alive." (MFAHI, 188-11). There is also an extensive and heated exchange with Austrian econometrician Gerhard Tinter, a vocal opponent of the Pinochet dictatorship. In a June 16, 1975, letter Tinter wrote: "No doubt, you have hanging over your desk a hand signed photo of General Pinochet, the nice anticommunist savior of Chile, a gangster in uniform, like so many South and North American military." (MFAHI, Folder 189-01).

In the archives there is also correspondence on the appropriate policies in Chile, including the desirability of a "shock treatment" and the exchange rate. In a note dated November 11, 1975, to Howard Borjet, a faculty member at the Pratt Institute in Brooklyn, Friedman points out that while gradualism was the correct approach in the United States, it was not appropriate in Chile in the mid-1970s, given "how far it [Chile] was from ultimately desired path." (MFAHI, Folder

[32] Question No. 12.
[33] Question No. 56..
[34] Most of these items are in boxes 188, 189 and 200 in the MFAHI.

188-10). In a lengthy letter to Professor Robert J. Alexander, a Latin American expert at Rutgers, dated September 30 1975 – that is, six months after his first trip to Chile --, Friedman points out that a key requirement for a successful recovery is maintaining a combination of "free trade plus *realistic* exchange rates," where by realistic he means not overvalued and, thus, close to its long run equilibrium value. (MFAHI. Folder 188-10, emphasis added).

In spite of the many attacks, both in the press and in private correspondence, Friedman never regretted having traveled to Santiago, or meeting with Pinochet. In a letter to Rolf Luders, dated May 19, 1977, he wrote: "Let me make clear that I have no personal regrets about having gone to Chile. On the contrary, both the visit there and what happened subsequently have been highly educational and instructive." (MFAHI, Folder 188-12). The absence of regrets was such, that Friedman decided to travel again to Chile in 1981. What transpired during that second visit, is the subject on next Section of this paper.

3.2 Chile and its fixed exchange rate experiment: Why wasn't Friedman openly critical of the plan?

In early 1978, with inflation at 57% per annum, Chile adopted an exchange rate-based stabilization program. Initially, the Central Bank pre-announced the daily rate of devaluation of the peso relative to the USD. The rate of mini-devaluations was deliberately set below the ongoing rate of inflation. The economic authorities believed that this mechanism would guide expectations and generate a quick convergence of domestic to international inflation. This exchange rate scheme, known as "*the tablita*" (meaning that the rate of exchange was displayed in a table published daily) was supported by monetary and fiscal policies. Eighteen months later, in June 1979, when inflation still stood at 35% per year, the government decided to put an end to the preannounced rate of the devaluation, and fixed the exchange rate at 39 pesos per dollar. (See Chapter 2 of Edwards and Edwards 1991, for details).

Why did the "Chicago boys" opt for a fixed exchange rate anti-inflation strategy? Surely, they knew that Friedman was very critical of the fixed-but-adjustable regime. The explanation is that the Chilean authorities were influenced by Robert Mundell, who for a long time had advocated fixed exchange rates in every country in the world. This influence, however, was indirect, since Chilean students typically did not take Mundell's course, nor did they work with him on research or dissertation projects.[35] Mundell's influence came through Larry Sjaastad, a member of the faculty at Chicago who was very close to Latin American students, and who after the 1973 coup became an adviser to the Chilean military government. Sjaastad believed that the purchasing power parity condition held in the short run, and that a credible fixed exchange rate regime

[35] Interview with Arnold Harberger. August 23, 2020. Los Angeles, California. Mundell was a member of the faculty at Chicago from 1965 to 1972.

would provide almost instantaneous discipline and allow for rapid and low-cost stabilization.[36] He explained the exchange rate-based program as follows (Sjaastad, 1983, p. 12. Emphasis added):

> "The rationale… was that once economic agents understood, or inferred, that the equilibrium between the prices of tradables and nontraded (home) good is neither random nor arbitrary, a change in the price of tradable goods will cause a revision of expectations concerning the equilibrium price of home goods. Under such circumstances, excess supply would not be required to drive down inflation; *the change can occur spontaneously*, as it were."

Harry G. Johnson, who in the 1970s championed the "monetary approach to the balance of payments", also influenced policy makers. Johnson was close to a number of Chilean economists, including to Sergio de la Cuadra, who was Governor of the Central Bank during the latter part of the Pinochet government. Although, as noted, Johnson favored floating rates for advanced nations, he thought that they would not work in poor and "narrowly specialized" countries. In these cases, Johnson argued, the "advantages of rigid convertibility… *outweigh the relatively small advantages that may be derived from exchange rate flexibility*."[37] (Johnson 1969, p. 16. Emphasis added). In a 1972 article, Johnson (1972, p. 1560) wrote that the new monetary models assume that under fixed rates "a [small] country's price level is pegged to the world price level and must move rigidly in line with it." And, in 1977, just before Chile embarked on its exchange-rate based stabilization program, Johnson wrote (1977, p. 266, emphasis added):

> "[Under] a fixed exchange rate system *inflation is a world monetary phenomenon*, which cannot be prevented by national monetary policy… or national 'wage-price policy'… [Inflation is] 'world' or 'externally caused' to the extent that countries' exchange rate policies aim at maintaining some conventional value or range of values of their currency in term of foreign currencies…"

Johnson, as Sjaastad, believed that, in most small countries, the relative version of the purchasing power parity condition held in the short run. This belief was based on empirical research undertaken, during the first half of the 1970s, at the University of Chicago, the London School of Economics, the Institute on Graduate Institute of International Studies in Geneva, and the University of Manchester (Frenkel and Johnson, 1976; Johnson 1972, 1977). If the fiscal deficit

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[36] Just before the stabilization program was put in place, Sjaastad and Cortes Douglas (1978) argued that after a two-month lag, the rate of devaluation of the peso would be fully reflected on inflation. If the peso/USD rate was fixed, inflation in Chile would converge to U.S. inflation within two to three months.

[37] Johnson (1969, p. 16). Emphasis added.

was under control, and the exchange rate was credibly fixed, domestic inflation would rapidly – or "spontaneously," to use Sjaastad's terminology – converge towards world inflation.[38]

In Chile, however, things worked differently. After the peso was fixed to the dollar, inflation declined very slowly. Every month between June 1979 and June 1982 Chile's domestic inflation exceeded international inflation significantly. This was largely the result of expectations, and of an ingrained backward-looking indexation system that affected all sort of contracts, including wages. (Edwards and Edwards 1991, Chapter 6). Additionally, the strengthening of the USD in the global market place meant that the peso was appreciating relative to the relevant basket of trade partners' currencies.

In Figure 2 I present monthly data on the peso/US dollar exchange rate the 1975-1982 period. The dates of Friedman's two visits are denoted by vertical lines (April 1975 and November 1981). Four phases of exchange policy in Chile during these years may be detected in the figure. The first phase goes from January 1975 to February 1978. During this period Chile followed a backward-looking, crawling peg regime, where the nominal exchange rate was devalued frequently at a rate similar to the lagged differential between Chilean and U.S. inflation.[39] From February 1978 to June 1979 the "*tablita*" or preannounced crawling peg was in place. As may be seen, the slope of the peso/dollar curve becomes flatter, reflecting the deliberately slowing down of the rate of devaluation, below the ongoing rate of inflation. The third phase is the fixed peso/dollar rate, from June 1979 to June 1982, and the fourth phase is the devaluation crisis and adjustable and managed peg, after June 1982.

When Friedman visited Chile for the second time, the pegged exchange rate experiment was entering its third year. At the time, the country was running an increasingly large current account deficit. It was almost 6% of GDP in 1980, it climbed to 8% in 1981, and was almost 14% of GDP in 1982, the year the peg was given up. These deficits were mostly finance with short-term syndicated bank loans and other short term capital. Between the first quarter of 1978, and the second quarter of 1982, the trade-weighted real exchange rate, measured relative to a basket of 10 currencies, appreciated by almost 40%. (Edwards and Edwards, 1991, Table 3.9, page 71).

On November 17, 1981, reporters were waiting for Milton Friedman at Santiago's Arturo Merino Benítez airport. Friedman immediately said that he was in the country to attend an academic

[38] Credibility was, of course, a key aspect of this view. Starting in the late 1990s, and to a large extent as a result of the Southern Cone and Israeli experiences, a vast literature on nominal anchors and credibility developed. See, for example, Bruno et al (1988), Calvo and Vegh (1994), Fischer (2001).

[39] On two occasions there were sharp, one time, nominal appreciations of the peso. The purpose of these surprise adjustments was to break inertial expectations. However, after these abrupt strengthening of the peso, the crawling peg was resumed.

meeting, and not "to give advice, neither to analyze Chile's policies."[40] The next day he was a bit more forthcoming with the press, but restricted his remarks to generalities. He said: "I believe this country has been notably successful during the last years without my advice and I believe it will continue to be successful." (*El Mercurio*, November 19, 1981).

Friedman's paper for the Mont Pèlerin Society Meeting was titled "Monetary system for a Free Society," and focused on the post Bretton Woods international monetary system. The last Section dealt with alternative currency regimes for developing countries, and discussed the case of Chile.[41] After summarizing his views on the subject, Friedman wrote (1995, p. 7, emphasis added):

> "[O]nly Chile has in recent years effectively unified its currency with that of a major developed country… Experience since I gave the lecture in Israel [where he suggested a "unified currency" for the first time] has not led me to alter my views on the economics of the issue [the superiority of the unified currency], though it has led me to become far more modest about judging political feasibility (in the sense of likelihood of adoption). Perhaps the example of Chile, *if its policy continues to be as successful as it has been so far*, will lead other developing countries to follow suit."

Two aspects of this paragraph are worth discussing. First, Friedman states that Chile had effectively implemented a unified currency. This, however, was not the case. What Chile had done was adopt a fixed-but-adjustable rate in the tradition of Bretton Woods, with an additional (verbal) commitment to maintaining the parity. However, there was no institutional or legal constraint to that effect. At any time, the authorities could undertake active monetary policy and erode the credibility of the peg, or they could decide to give it up and devalue the peso. Certainly, Chile had not eliminated the central bank and replace it by a currency board, as Friedman had suggested almost ten years earlier, in the second Horowitz Lecture. Friedman was aware of this, as the governor of the central bank was Sergio de la Cuadra, a prominent "Chicago boy."[42] Moreover, it was very unlikely that Chile's highly nationalistic military would have agreed to give up the peso and adopt a foreign currency as legal tender. It was equally unlikely that they would have favored a completely passive monetary board as in Hong Kong. In addition, the existence of backward-looking wage indexation meant that a key adjustment mechanism—disinflation and the reduction of wages to achieve relative price realignment – was absent. Second, the paragraph implies that Chile's pegged rate experiment had been successful. The

[40] *La Tercera*, November 18, 1981.

[41] The paper was published in 1995, with an addendum written after the currency crisis of 1982.

[42] The previous two governors of the central bank were also Chicago boys: Alvaro Bardón and Pablo Barahona.

persistence of inflation – it was still 10% per year –, the large current account deficits financed by short run speculative capital, and real exchange rate appreciation, called that statement into question. As will be seen, in his unscripted remarks delivered at the conference, Friedman acknowledged that things were looking rather gloomy and that there were major challenges ahead.

During his presentation at the Mont Pelerin meeting, Friedman departed from his prepared remarks (and form the paper) in two ways. First, he talked about the relation between economic and political freedom, a subject close to his heart. Friedman stated that economic freedom was not enough to achieve a free society, and that it was important for Chile to move towards democratic rule. However, and not surprisingly given that the military's severe censorship, the media did not report his remarks on the subject.[43] Friedman became frustrated by this fact and talked about it extensively in an interview he gave in Peru, immediately after his trip to Chile. (Letter to journalist José Rodríguez Elizondo dated 12/18/81, MFAHI, Folder 188-13).

Second, in his improvised comments – which were summarized in the newspaper *La Segunda*, on November 20, 1981, p. 2 -- he expressed concerns regarding the exchange rate policy, something he hadn't done in "Monetary system for a free society." He said that in the written version of the paper his remarks about Chile had been too brief and somewhat elliptic. He ended his unprepared remarks talking about the nature of the challenges ahead:[44]

> "At this moment, international institutions don't have a guarantee that Chile will stick to its policy. Chile not only faces the appreciation of the dollar and the decline in the price of copper, but also, and this is something I suspect, since I don't have all the information, a speculative attack against its currency, triggered by the expectation that Chile may devalue its currency, departing from its original goal. If Chile reaffirms the credibility of its current policy and allows its monetary aggregates to reflect changes in the balance of payments, then in the next crisis speculative forces will help to stabilize the system."

The article ends with Friedman noting that at the time the Chilean peso seemed to be overvalued.[45] However, he didn't delve into the mechanisms through which overvaluation was

[43] Edwards and Montes (2020) discuss Friedman's discussions on the two aspects of freedom (political and economic) in the context of Chile.

[44] In retranslating this quote from Spanish back to English I have tried to maintain the punctuation as it appeared in the *La Segunda* article.

[45] Apparently the reporter got a tape with Friedman's improvised remarks. Some of the terms appear in quotation marks and are supposed to be in English. However, they are either misspelled, or the reporter didn't quite what Friedman had said. Instead of "pegged" exchange rate, it says "packed" rate; instead of "unified" currency, it says "unifright" (sic) currency.

corrected under a fixed rate. More specifically, he didn't mention that under a unified currency the only way of addressing major overvaluation was by generating a massive disinflation, including a reduction in nominal wages. He had made this point as early as in 1950 when he said that "decline of 10 percent in every internal price in Germany" was equivalent to a 10% devaluation of the mark relative to the dollar, and had repeated it in almost every poor country he had visited during the previous 20 years. (Friedman 1950, p. 164-165).

It is difficult to know to what extent Friedman's remarks affected market expectations of an imminent crisis and, thus, contributed to the decline of capital flows in the following months. What is known, however, is that the probability of devaluation, as measured by interest rate differentials, almost tripled in the fourth quarter of 1981, relative to the previous quarter. (Edwards and Edwards 1991, p. 68). At the time, Chile had severe capital controls. Consequently, even in light of negative comments and prognosis, there would not be a sudden spike in outflows. Changes in expectations were reflected by a significant slowdown of capital inflows, and/or by large increase in domestic interest rates.

Seven months after Friedman's second visit, Chile could not defend the peg any longer, and on June 14, 1982, the peso was devalued; see Figure 2. The crisis that followed was one of the deepest ever faced by a Latin American nation: real GDP collapsed by almost 15%, and open unemployment surpassed the 20% mark. This was the crisis that many of the Chicago boys' critics would mention time and again in the years to come; many of them held Friedman responsible for what had happened. (Klein 2010, Stiglitz 2002). It took Chile several years to recover, and once it did, policymakers made sure not to peg the exchange rate again.

3.3 The morning after: Friedman's reflections on Chile after the 1982 crisis

On July 8, 1982, three weeks after the devaluation, Friedman wrote to Peter D. Whitney, the Economic Counselor at the U.S. Embassy in Santiago regarding recent developments. He said: "I was surprised at the change [the stepwise large devaluation] since it seems to me the appropriate alternative to the policy that Chile was following, if an alternative were to be adopted, was a fully floating exchange rate, not a prescheduled series of devaluations" (MFAHI, Folder 189-02).

In 1994, Friedman published an article titled, "Chile and Israel: identical policies, opposite outcomes." As the title indicates, the purpose of the piece was to analyze why very similar policies – although, not "identical" – had led to very different results. Friedman begins his analysis by pointing out that there was an element of luck: Immediately after Chile fixed the exchange rate with respect to the USD, external conditions soured. The dollar strengthened relative to other convertible currencies, and the terms of trade turned viciously against Chile. In contrast, when, in 1985, Israel fixed the value of the shekel, external shocks were favorable (a

drop in the price of oil and a weakening of the dollar). Second, Israel devalued the shekel by 20% before fixing it relative to the dollar. By doing this, it built a "cushion" for real appreciation to take place without generating overvaluation. Chile, instead, fixed the exchange rate rigidly at a time (1979) when the peso was already overvalued. Third, while Israel instituted incomes policies that included a temporary wages and prices freeze, Chile put in place a backward looking wage indexation system that, with declining inflation, resulted in automatic increases in real wages. And fourth, Israel pegged the exchange rate to the USD as a temporary measure aimed at guiding expectations in the short run. After a few months the shekel was devalued "at irregular intervals to offset the difference between the roughly 20% inflation in Israel and the lower inflation in its trading partners." (Friedman 1994, p. 241). Chile, instead announced that the fixed rate would remain indefinitely, even in light of obvious overvaluation.[46]

Towards the end of this article Friedman criticized Chile's central bank for not helping generate a disinflation – or "internal devaluation" -- during the 1981-82 period. He wrote (Friedman 1994, p. 244).:

> "The central bank of Chile was, understandably, unwilling or unable to undertake the drastic deflationary measures that would have been necessary to maintain the pegged rate of the peso in 1982."

In a letter to journalist José Rodriguez Elizondo, written four months after the devaluation (10/15/1982), Friedman commented on the policies that Chile's new economic team, led by his former student Rolf Luders, was likely to undertake: "He [Luders] may be, because of type situation and because of a lack of previous commitments, more flexible… Whether he can succeed in face of the tactics of the military is something else again on which I am not a competent judge." [MFAHI, Folder 188-13].

In his 1998 memoirs, Friedman is very direct, and writes that it is doubtful "that there is very a good time for a country like Chile that has a central bank to peg its currency. I have consistently taken the position that *a county like Chile with a central bank should let its currency float. The alternative is to abolish the central bank and unify its currency with that of its major trading partner*." (F&F, p. 405. Emphasis added). However, as the discussion in the preceding Sections shows, this was not the message that Friedman transmitted during his two visits to Chile. To be sure, he argued that the Bretton Woods regime was unstable, but he never said that Chile faced the option of either abolishing the central bank or floating.

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[46] See Bruno et. al. (1988) for comparisons between Israel and the Latin American stabilization programs of the 1970s and first half of the 1980s.

Friedman addressed Chile once again in 2001, during a debate with Robert Mundell, one of the staunchest supporters of fixed exchange rates (Friedman and Mundell, 2001). Friedman argued that Chile's 1979 "hard peg" policy was "disastrous" as a consequence of the strengthening of the US dollar in 1980-81. He also made this point in an addendum to the paper presented to the Chile 1981 meeting of the Monte Pelerin society, where he wrote: "The preceding three paragraphs, correct when written in 1981, no longer are. Chile ended the pegging of its rate to the dollar in 1982, after the sharp appreciation of the US dollar plunged Chile into a disastrous recession. (Friedman 1994, p. 7).

On August 5, 1997, Friedman wrote a long letter to Robert J. Alexander, the Rutgers professor with whom he had had a number of exchanges regarding Chile. The purpose of the letter was to comment on the recently published book by Juan Gabriel Valdés "*Pinochet´s Economists: The Chicago Boys in Chile*." Friedman takes issue with Valdés narrative about the 1982 currency crisis. It is worthwhile quoting Friedman extensively (MFAHI, Folder 188-10; emphases added):

> "Valdes has no understanding of what produced the 1982 depression. What produced it was the departure from the basic Chicago School economic principles that Valdes oversimplifies. [Minister Sergio] D*eCasto's mistake in pegging the Chilean currency to the U.S. dollar produced the disaster*. My view has always been that a country like Chile, if it has a central bank and a separate monetary unit, should allow the exchange rate to float. That was the policy that was followed until 1979 when DeCastro made the major mistake of pegging the Chilean currency to the U.S. dollar in the hope that that would impose the discipline necessary to eliminate inflation. In my opinion *that was a bad decision under any circumstances*, but it turned out to be a disastrously bad decision because of… the drastic appreciation of the U.S. dollar after Reagan became president."

4. Friedman's long term influence on exchange rate regimes

Friedman's views on exchange rate and monetary regimes were, eventually, extremely influential in the advanced nations. According to the IMF, in 2018 all but two advanced countries had a floating regime.[47] In fact, Stigler (2003, p. 161) argues that the floatation of the dollar in 1973 by Richard Nixon, was the direct consequence of Friedman having persuaded

[47] According to the IMF Croatia and Bosnia Herzegovina do not float; all members of the Euro Zone are classified as floaters.

George Schultz, who was a colleague at Chicago and in 1973 was Secretary of the Treasury, of the merits of flexible exchange rate regime for the United States.

In contrast, Friedman's ideas have been much less influential among developing countries. In 2018, only 24 developing nations – most of them tiny islands with less than 250 thousand inhabitants -- had what Friedman called a "unified currency regime." Eleven had "no separate legal tender," or were dollarized, and thirteen had a "currency board". Only six out of the 24 have a population over three million people: Ecuador, El Salvador, Panama, Hong Kong SAR, Bosnia and Herzegovina, and Bulgaria. Moreover, according to the IMF, the most popular regime among emerging countries, in 2018, continued to be a "conventional peg."[48]

There are a number of possible explanations for the lack of "unified currency" regimes among mid-size and large developing nations. Perhaps, the most important one is the absence of modern successful experiences that serve as examples of best practices.

The failure of Argentina's experiment with a currency board, between 1991 and 2001 generated great skepticism regarding the merits of super fixed regimes; see Bluestein (2006) for a blow by blow account of this episode. Many of the causes behind the collapse of the Argentine experiment were related to issues raised by Milton Friedman throughout the years. For example, the central bank was not abolished and, starting in 1995, it began to relax its operational rules, and credit was created with lower backing of hard currency. Fiscal policy was pro-cyclical, and imbalances, mostly driven by provincial profligacy, grew significantly over time. This situation became particularly serious after 1995 when, as a result of contagion coming from Mexico's Zapatistas crisis, there was a sudden stop of capital flows into Argentina and other emerging economies. In addition, as in Chile twenty years earlier, wages were not flexible enough as to allow for relative price adjustments (or internal devaluation) when it was needed.[49] There were also elements of bad luck. The peso was fixed to the USD at a time when the dollar strengthened significantly in the global markets, world interest rates increased substantially, a succession of crises in emerging markets (Russia, Turkey, Brazil) resulted in an across the board reduction in capital flows, and the terms of trade turned seriously against Argentina. After ten years of a fixed exchange rate at one person per USD, the parity was abandoned in early 2002. By 2003,

[48] The IMF (2019, p. 8) considers three main regimes (each with several subcategories): Hard pegs, soft pegs, and floating. Within the soft pegs it includes conventional pegs, stabilized arrangements, crawling pegs, crawl-like arrangements, and pegged with horizontal bands.

[49] The IMF was also held (partially) responsible for the debacle. Its own evaluation suggested that it didn't raise important issues with the authorities in a timely fashion. IMF (2004). See, also, Chapter 7 of Edwards (2010), and the literature cited therein.

Argentina was in shambles and the reputation of monetary regimes based on "unified currencies" and currency boards suffered a severe blow.[50]

5. Concluding Remarks

In this paper I have tracked the evolution of Milton Friedman's thinking on monetary and currency regimes in developing countries. In order to do this, I combed his archives at the Hoover Institution, and analyzed his writings, speeches, commentary, congressional testimonies, and correspondence on the subject. A key question was whether he extended his support for flexible exchange rates to the case of poor and middle income countries. I also analyzed what Friedman told different audiences in countries such as India, Israel, South Africa and Yugoslavia. I placed particular emphasis on his relationship with Chile and the "Chicago boys," the group of economists that advised General Pinochet after the military deposed democratically elected President Salvador Allende in September 1973.

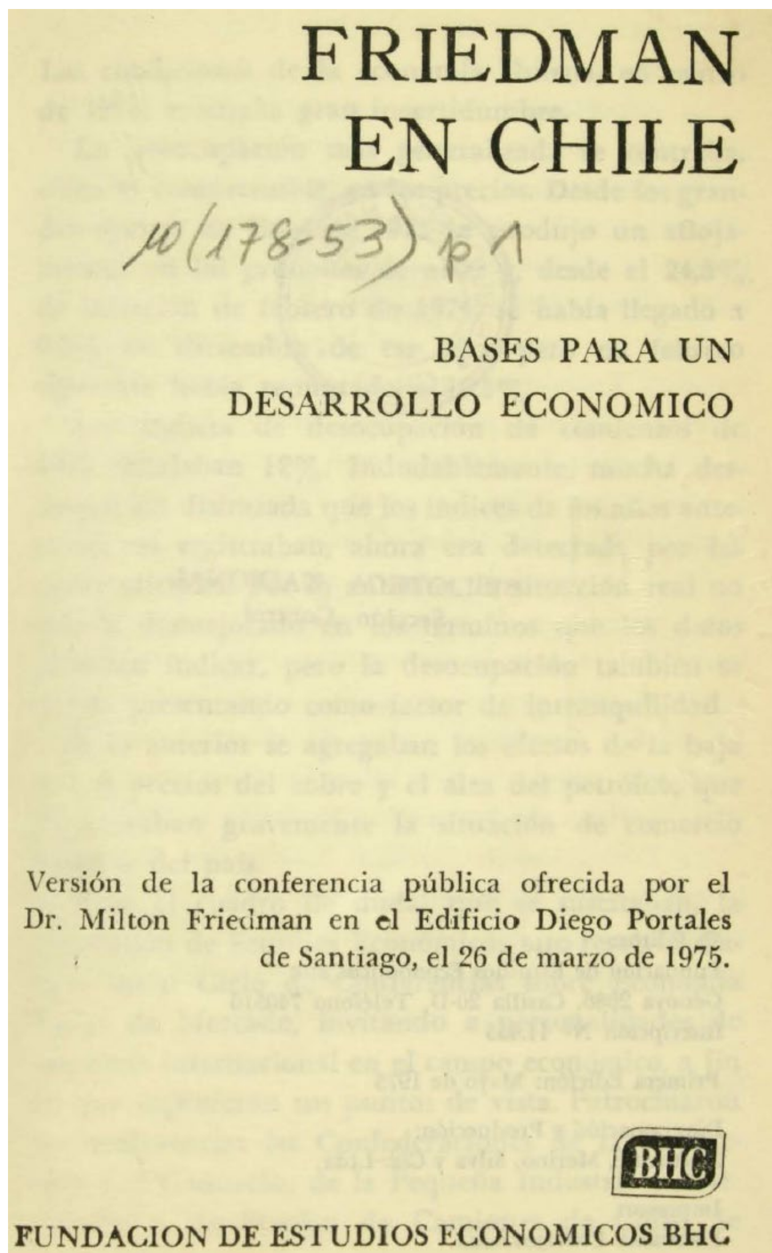
The discussion in this paper has shown that, from early on, Friedman was very critical of the Bretton Woods regime. He thought that the fixed-but-adjustable nature of the system introduced a high degree of instability. On this he never changed, or wavered. However, his views on the most desirable regime for the emerging countries did evolve through time. Initially –during his two early trips to India – he favored a fully flexible rate. As a second best he settled for a system where foreign exchange was auctioned to the public. Sometime later, he was also partial, as second best, to "crawling peg" regimes, as they adjusted the exchange rate frequently, avoiding the overvaluation pressure created by the Bretton Woods system.

In the 1970s, however, his views changed, and he argued that a "unified currency" regime, where the poor country abolished the central bank and linked its currency to that of a major trading partner, was preferable. This, he asserted, was the best way for achieving stability and avoiding the use (and abuse) of the inflation tax as a means of financing the government.

In Section 3, I analyzed Friedman's role in Chile's ill-fated attempt at using a fixed exchange rate to eliminate inflation. After analyzing his writings and press conferences during his two visits to Chile, and after interviewing people that were present during his 45 minutes meeting with Pinochet, I conclude that it is incorrect to ascribe Friedman an active role in Chile's currency crisis of 1982. Having said that, I do show that in Chile he was less forceful in criticizing the fixed-but-adjustable regime than he had been in other countries. During his 1981 visit – eight months before the crisis – he didn't point out that at the time Chile didn't satisfy two

[50] In 2000 Ecuador gave up its currency and adopted the US dollar as legal currency. As a result, inflation has stayed in check. The absence of a central bank, however, didn't constraint a populist government to run up debt very significantly in the 2007-2017 period. See Edwards (2019) for details.

of the main conditions he had laid down as requirements for successful unified currency. It is not possible to know what his motives were. It is likely that they were a combination of factors, including avoiding a speculative attack, and a sense of loyalty towards his former students, the Chicago boys.


FRIEDMAN EN CHILE

BASES PARA UN DESARROLLO ECONOMICO

Versión de la conferencia pública ofrecida por el Dr. Milton Friedman en el Edificio Diego Portales de Santiago, el 26 de marzo de 1975.

BHC

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Figure 1: Pamphlet published in Chile with Milton Friedman's Talk in Santiago, Delivered on March 26, 1975

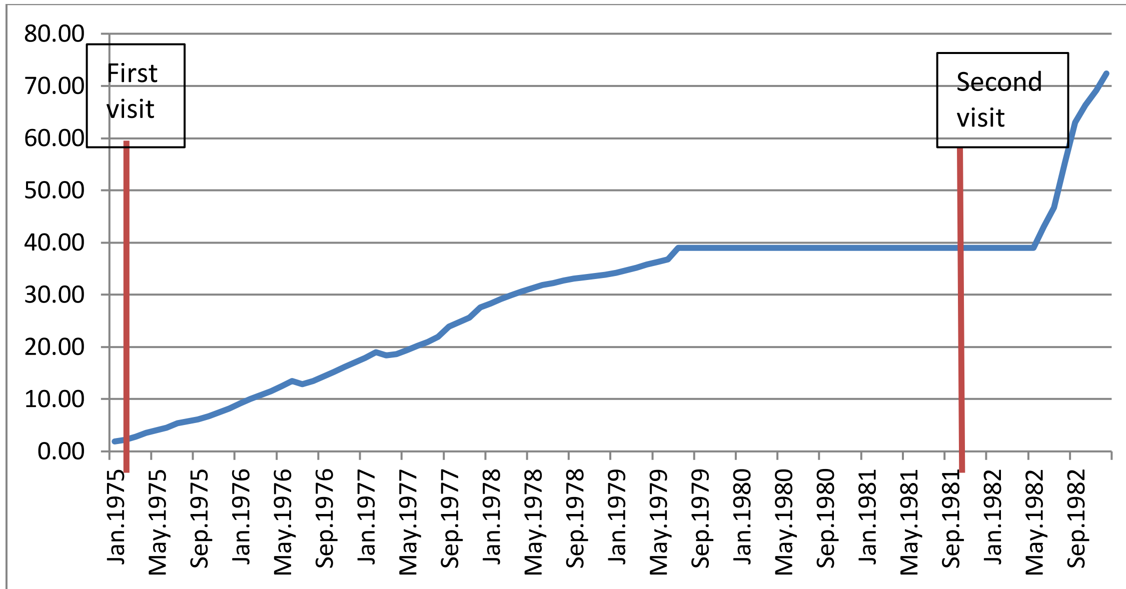

Figure 2: Nominal exchange rate between Chilean peso and USD: 1975-1982 (Monthly data. Pesos per dollar)

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