

Chapter 16

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Austrian School Women Economists

Three generations of Viennese male economists worked in Vienna, either at the University or in private economic institutions, between the 1870s and early 1930s (Mises 1984). They are responsible for constructing the foundations of the Austrian School of economics. These men were a cohesive group of economists who developed an economic theory combining human and social dynamics with classical liberalism. To the first generation belonged founding father Carl Menger (1840-1921), who in 1871 published his *Principles* (Menger 1871), Eugene Böhm-Bawerk (1851-1914) and Friedrich Wieser (1851-1926). Their immediate followers (the second generation) were: Joseph Schumpeter (1883-1950), Gottfried Haberler (1900-1995), Hans Mayer (1879-1975), and Ludwig Mises (1881-1973). In the third generation are Friedrich Hayek (1899-1992), Paul Rosenstein-Rodan (1902-1985), Ludwig Lachman (1906-1990)¹, and Fritz Machlup (1902-1983), (Holcombe 2014; Boettke and Coyne 2015).

The Austrian School of economics focused on building an economic theory describing the spontaneous dynamics of individual economic action and innovation in a framework of free institutions guaranting economic growth and social development. From a methodological perspective, the common feature of Austrian scholars was their peculiar way of reasoning, known as methodological individualism. An implication of methodological individualism is the necessity to understand individual decision making processes in order to explain macroeconomic phenomena. In the Austrian School of economics, methodological individualism is rooted in the

application of dispersed knowledge to decision making processes (as in Menger's passage from individual needs to economic laws), and in the importance of introducing time to understand economic phenomena (as in Bohm-Bawerk's description of production processes, and in Wieser's notion of marginal utility). Schumpeter, Mises and Hayek made methodological individualism even stronger. From a theoretical perspective, they fought against any form of planned economy even during Europe's interwar years and later against Keynesianism as well. They considered any form of economic policy as a rupture of the spontaneous, although imperfect, economic order. Furthermore, they stressed the importance of creativity in economic activity, especially in Schumpeter's notions of entrepreneurship. This notion of creativity specifically contrasts with the static mechanism of expected utility/profit function maximization as depicted in neoclassical economics.

Economists of the Austrian School, from Menger to Hayek, had a great influence on Viennese students of political economy in the early twentieth century. Among them, many women economists had a significant role. The aim of this chapter is to identify four generations of the Austrian School of women economists from the first decade of twentieth century to 1970s, and to determine their role in the history of the Austrian school. There is a particular focus on their novel theoretical contribution as well as on their ability to extend and disseminate the Austrian paradigm.

A Time-Period Taxonomy of the Four Generations of Austrian School Women Economists

The Austrian School women economists shared with their mentors and colleagues the main features of Austrian economics: economic theory focused on an individual's plan for coordination and decentralized knowledge; the disutility of any monetary policy as well as of any governmental intervention to minimize distortions; the fundamental role of innovation to explain

the link between growth and development, and a specific interest in the history of political economy.

Starting in the early twentieth century, four generations of Austrian School women economists arose (see Table 1). The first two generations were Viennese economists active between the early twentieth century and 1938 before the massive emigration due to the *Anschluss*. The first generation (up to 1919) was formed by students of Bohm-Bawerk and Mises, although they received their academic training and degrees outside Austria due to the persistent ban against female students in Austrian universities. The second generation (active during the interwar period) finally had the opportunity to enroll in and graduate from the University of Vienna: formally students of Mayer, they were massively influenced by Mises. The first and the second generation of Austrian School economists share some peculiar features: besides all being Viennese, they belonged to the Jewish middle class and were subjected to stringent Anti-Semitic attitudes in academia (and society in general); they strongly supported classical liberalism as the non-negotiable vision for their economic analysis; and they were very active in fighting for women's emancipation, especially for their participation in the public sphere (Klausinger 2004; Timms 2009). The third generation of Austrian School women economists was no longer from Austria: it was formed by Hayek's students at LSE (1930s-1970s) and by Mises' students at NYU (1938-1960s). A fourth more recent generation began after the so called Austrian revival in the 1970s with the work of Sudha Shenoy². The number of Austrian School women economists significantly increased in the last two decades.

TABLE 1 HERE

The first generation. It was not easy to study economics in Vienna for female students before the First World War. Although in 1897 they had been admitted to the school of philosophy, they could not be officially enrolled in economic programs offered at the School of Law. This was the

main reason that the first generation of Austrian School women economists received their degree either in Germany or in Switzerland, in spite of the fact that they were students of Böhm-Bawerk and Wieser. Members of this first generation were educated in the so-called fin-de-siècle Vienna, a period of seemingly prosperity, which dramatically changed after the First World War.

Else Cronbach (1879-1913) was a student of Böhm-Bawerk and Wieser, and received her Ph.D. in political science in Berlin. She became involved in the project of the *Nationalökonomische Gesellschaft* along with her friends and colleagues Ludwig von Mises, Emil Perels, and Karl Pribram (Pribram 1913). As Mises recalled, the *Nationalökonomische Gesellschaft* was founded in 1918, and represented, besides Mises' *Privatseminar*, an occasion to regularly discuss economic problems. The Society was dismissed in 1938 by Hans Mayer (the successor of Wieser at the University of Vienna) due to the Anti-Semitic ban against Jews. Cronbach authored several publications on international trade, until her career was abruptly interrupted by her death at 34 (Nautz 1997).

Louise Sommer (1889-1964), student of Wieser and deeply influenced by Menger's work, received her Ph.D. in 1919 at the University of Genève, where she lived during the interwar period, earning her livelihood teaching as an adjunct and working as a free-lance journalist. Her research mainly focused on economic history (Sommer 1920; 1925), history of economic thought (Sommer 1927a; 1960), methodology (Sommer 1932), and international economics (Sommer 1935; 1950). A close friend of Mises, whom she met after the First World War, she shared with him the conception of socialism as a liberticidal principle (Hülsmann 2007).

Antonia (Kassowitz) Stolper (1890-1988), enrolled in 1911 at the school of Law as the only female student, however, was forced to move to Berlin to get her Ph.D. (1917). Student of Böhm-Bawerk and Wieser, she mainly worked on macroeconomics (national policy). In 1921, she married Gustav Stolper, the editor of both *Der Österreichische Volkswirt* and *Der Deutsche*

Volkswirt, the most respected liberal economic journals in German-speaking countries of that time.

The second generation. In 1919, Viennese female students were finally allowed to register in the School of Law in the University of Vienna, where they might also be enrolled in political economy programs. Hence, starting from the interwar period, Austrian female students were either granted access or allowed to get a Ph.D. in *Nationaloekonomie* in Vienna. Unfortunately, it was Mayer, not Mises, who got Wieser's chair. Hence, from 1920 to 1934, both male and female students of economics were officially Mayer's students, but mainly trained by Mises in his extramural meetings³. Among Mises's circle of attendees, there were many female students: Marianne Herzfeld, Martha Braun, Helene Lieser, Gertrude Lovasy, Elly Spiro Offenheim, and Ilse Mintz attended his weekly seminar; Lovasy and Mintz were also involved in the Austrian Institute for Business Cycle Research, founded by Mises and Hayek in 1927 (Feichtinger 2001; Nautz 2000b; Hülsmann 2007; Klausinger 2016).

Marianne Herzfeld (1893-1976) received her Ph. D. in history in Vienna and worked as a secretary in the Austrian Banker's Association until 1938, when she escaped from Vienna to Scotland.

Martha (Hermann) Braun (1898-1990) studied under the supervision of Wieser, Weber and Mises. In 1921, her Ph.D. in political economy was one of the first for women graduates in Vienna with a dissertation on monetary economics. In the 1920s, she worked in the Viennese Chamber of Commerce. She was forced to emigrate to the United States in 1939 (after a year spent in London), where she was employed as an economic analyst on behalf of the State Department (1944-1947). From 1947 to 1969, she taught at Brooklyn College in New York. After her retirement, she lectured at New York University.

Helene Lieser (1898-1962) obtained a Ph.D. in economic policy in 1920 in Vienna, where she was a regular member of the *Nationaloekonomische Gesellschaft*, until her expulsion in 1938, and worked in the Austrian Banker's Association up to 1939 when left Austria.

Gertrud Lovasy (1902-1974) earned her Ph.D. in Vienna in 1928, with a thesis on cartels in the Austrian iron industry. In 1938 she left Vienna. In 1939, she reached the United States where she worked on international cartels at the International Monetary Fund (Lovasy 1947).

Elly Spiro (1903-2001) obtained her Ph.D. in economics in Vienna in 1922. She reviewed several books for the *Nationaloekonomische Zeitung* and attended Mises' seminar until 1929, when she moved to Frankfurt. Escaping from Germany in November 1938, she settled in San Francisco in 1941 and stayed in touch with Mises, Machlup, and Hayek (Nautz 2002).

Ilse (Schüller) Mintz (1904-1978) was the daughter of Richard Schüller, one of the top students of Carl Menger. With a Ph.D. in 1927, she worked at the Institute under Hayek's supervision before escaping to the USA in the 1930s. She studied statistics at Columbia earning another Ph.D. in 1951. Member staff of the National Bureau of Economic Research from 1951 to 1973, she focused her work on business cycle theory and foreign trade policy (Nautz 2000c).

The third generation. The *Anschluss* (1938) was the traumatic event that ended the Austrian school of economics in Austria and affected the destiny of its women economists. In fact, the third generation of Austrian women economists was formed by students of Hayek at the LSE (1931-1945) and students of Mises at NYU seminars (1951-1969). Although none were from Vienna, women economists of the third generation were considered 'Austrianajor' in the sense that they were educated on the basic principles of Austrian economics.

Two women economists emerged at the LSE: Marjorie Grice-Hutchinson, whose works dealt especially with history of economic thought, and Vera Smith Lutz, who mainly studied monetary economics and economic development. Grice-Hutchinson (1909- 2003) was enrolled at the LSE

as a Ph.D. student in economics and completed her degree under Hayek's supervision. He suggested she work on the historical manuscripts from the School of Salamanca. Smith Lutz (1912-1976) was a British student of both Robbins and Hayek at the LSE, receiving her Ph.D. in 1935 as Hayek's protégé: her thesis criticized the central banking system (Smith Lutz [1936] 1990).

At NYU, Mary Sennholz (1913-2017) and Bettina Bien Greaves (1917-) were regulars at Mises' seminars, and both spent many years at the Foundation of Economic Education (FEE) working to enhance the Austrian school of economics tradition. Sennholz edited a volume about Mises on the occasion of his 60th birthday (Sennholz 1956), and authored a biography of Leonard Read (Sennholz 1993); her last book was a collection of articles she edited for *The Freeman* (Sennholz 1997). During Bien Greaves's tenure as editor of *The Freeman* (1955 to 1999), Bien Greaves focused her interests on the effects of taxation on growth and unemployment during 1955-1970. From the 1970s to her retirement, she continued to edit many publications on the free market economy, and she compiled a monumental bibliography on Mises (Bien Greaves and McGee 1993). Also, Bien Greaves wrote a syllabus on a basic course in economics for high school students. The syllabus was basically a handbook on the Austrian school principles of economics: it begins from the analysis of individual needs to clarify the nature of economic principles (prices, savings, entrepreneurship, labor, money, credit, competition, etc.), enriched by examples from the history of economic thought and economic history (Bien Greaves 1975).

The fourth generation. The last generation of Austrian women economists started in the 1970s during the so-called Austrian revival, which took place in the United States (Vaughn 1994) and more recently developed outside the United States. The Austrian revival began after Hayek won the Nobel Prize in Economics (1974), and continued, especially by the initiative of Lachman, Kirzner and Rothbard, who had been Mises' students. Under their supervision, a conference in South Royalton (Vermont) was organized by the Institute of Human Studies in 1974; one year

later, Lachman and Kirzner started the ‘Austrian Economics Seminar’ at NYU to pave the way for an easier circulation of ideas among Austrian scholars⁴.

During the meeting of the South Royalton conference (1974), particular attention was given to Austrian methodological issues, such as the definition of human action and the role of markets in an anti-neoclassical perspective. Monetary issues, such as free banking and the role of monetary institutions to challenge Keynesian neoclassical theory were also priorities in the agenda (Dolan et al. 1976). Among attendees, there was only one woman economist: Indian scholar Sudha Shenoy (1943-2008). According to an interview Shenoy gave a few years before her death, she had always been a Hayekian scholar (Shenoy 2003). Perhaps she was influenced by her father who was a student of Hayek at the LSE. She applied Hayek’s economics not only to monetary themes against Keynes’s legacy (Shenoy 1972), but also to the analysis of the economies of Eastern Europe (Shenoy 1989) and developing countries (Shenoy 1963; 1971; 1991).

Today there is an entirely new generation of women academics associated with Austrian economics that might shed new light and perspective on their economic proposals. Most of them earned their Ph. D. at George Mason University, and are especially working around the commonalities between Austrian economics, the Virginia school and institutionalism of the Bloomington school. Among them is the Karen Vaughn, who, in 1996, was elected as the first President of the Society for the Development of Austrian Economics, and whose current research interests include a pro-market view of feminism. Other fourth generation Austrian women include Bobbi Herzberg, Emily Chamlee Wright, Jayme Lemke, Diana Thomas, Shruti Rajagopalan, Abby Hall, Liya Palagashvili, Meghan Teague, Arielle John, Neera Badhwar, and Audrey Redford. Deirdre McCloskey might be included in the fourth generation of Austrian women economists. In mid-1990s during an AEA meeting, McCloskey proudly announced: “I am an economist in transition...I am transitioning from a Chicago [neoclassical] economist to an Austrian economist”. Although very serious, she joked about her personal experience as a

transgender person; in fact McCloskey referred to herself crossing from the world of a male economist embedded into the traditional neoclassical Chicago school to an Austrian woman economist; this crossing she described as emblematic of the necessity to re-think economics by introducing a ‘feminine eye’ against the discipline’s male-orientation, as well as recognizing a feminine style of reasoning in economics (McCloskey, 1993).

Main Theoretical Contributions by Austrian School Women Economists

Austrian School women economists focused their research on topics specific to Austrian economics, and extended Austrian concepts to their specific research fields (see Table 2). The Austrian women made contributions of substance to the development of the Austrian school paradigm. Although it is not possible to cover the entirety of the Austrian contributions from these women economists, a broad picture of their work drawn from a meaningful sample of their research is feasible, with special, but not exclusive, focus on their original contributions.

Table 2 provides a schematic overview of the research topics undertaken by the Austrian School’s women economists which are emphasized here.

Stolper was a fierce adversary of any form of government intervention. But the other first generation women economists were somewhat open to some measure of government intervention in the economy when contingent social problems were particularly urgent (Cronbach 1907, 1910; Sommer 1935; Braun 1929. Cronbach and Braun were inclined toward minimal intervention of the State to guarantee decent conditions for life of agricultural and industrial workers in Austria and in Germany. Sommer advocated government to give some order to international trade. Braun advocated government to partially moderate the effects of business cycles, although was against any form of taxation on industries.

Second generation economists were particularly interested in understanding the hyperinflation that ensued after the First World War and studied the general rise of unemployment in Central

Europe which followed. They gave special attention to monetary issues: advocating against any monetary policy that favors inflation in order to reduce unemployment.

Second, third and fourth generation economists, who were students of Mises and Hayek during the interwar period and immediately thereafter, fought against regulation in international trade. They also explained the damages of interventionism for development and growth. These contributions include some originality concerning the business cycle and development in emerging countries). The battle against interventionism, especially after World War II, was in particular directed against any Keynesian policy.

Last, but not least, these women gave particular consideration to the history of political economy, seen as a necessary complement of theoretical analysis.

TABLE 2 HERE

On monetary theory and policy. Research on monetary issues was central for Austrian School women economists since Stolper's Ph. D. (1917) (Table 2). They converged on the idea explained by Mises and Hayek that any attempt to cure depression by monetary policy would worsen circumstances from the initial situation. This is particularly valid in frantic periods during and after war.. In fact, the nature of money, which obeys the laws of supply and demand, would simply make any monetary policy useless and often dangerous.

During the interwar period in Germany and Austria, hyperinflation became a dangerous economic and social problem. Stolper wrote several articles in the *Deutsche Volkswirt* against the Weimar government program, which was prone to an active monetary policy in order to reduce unemployment. She insisted that the prosperity brought about by inflation was an illusion because the value of real wages would decrease and, consequently, the middle-lower classes would suffer economically. Furthermore, businessmen would shift from their productive activities to speculate, and this would increase unemployment.

Like Stolper, both Lieser and Herzfeld demonstrated the social damages of inflation in Vienna: they insisted on the disutility of inflation in reducing national debt and unemployment. Lieser's thesis (1920), supervised by Mises and Spann, adopted an historical example, showing that monetary policy adopted during the Napoleonic wars in Austria (1811-1816) worsened the initial situation of hyperinflation and led to two periods of bankruptcies within a few years (Nautz 2000a). Herzfeld further attacked the general idea that inflation creates prosperity and wealth (the 'inflationist view of history' as defined by Mises): a reduced purchasing power is the main consequence of inflation, incorrectly considered a necessary condition of economic progress. Economic theory shows that any monetary policy (inflationary or deflationary) merely promotes financial growth for a segment of the population to the detriment of others. Furthermore, inflation leads to ill-conceived investment of capital and overconsumption, and ends with an inevitable breakdown of the currency system (Herzfeld 1926).

A turning point in research concerning the impact of inflation was Braun's first book (1929), an attempt to apply a micro-foundation analysis for economic policy (Leischko 2002; Backhaus 2005). Her approach was no longer historical, but essentially theoretical: she developed a microeconomic analysis to show inopportunities arising from state interference in market forces. For example, she criticized the practicability of Pigou's theory of taxation on industry due to the increase of manufacturing and production overhead. In her book, Braun distinguished economics as a theoretical discipline derived from economic policy, which rests outside economics: monetary policy, which is part of the theoretical component of economics, must remain free from any political interference, although a moderate state interventionist policy could be pursued for some contingencies.

The same theoretical approach was pursued by Smith Lutz in her doctoral thesis, which was enriched by historical examples concerning the central banking system in England, Scotland, France, USA, Germany and Belgium. She worked under the supervision of Hayek at the LSE

(Smith Lutz [1936] 1990). In her thesis, mainly based on Mises (1928), she proposed a system of free banking. The privately circulated currency of commercial banks was supposed to compete with the nationally issued currency, given the fact, at that time, that national monetary systems usually performed poorly. Smith Lutz's thesis is an historical reconstruction on the genesis of the central bank in Europe and in the United States. In this reconstruction, she showed that the system of central banking—in contrast to free banking—had prevailed because of a “combination of political motives and historical accident which played a much more important part than any well-considered economic principle” (Smith Lutz 1990, 5). According to Smith Lutz, central banking had been established as a monopoly for political reasons connected with the exigencies of state finance. Once established, “the superiority of central banking over the alternative system became a dogma”, reinforced by the expectation that under a multiple banking system, there will be regular failures of individual banks, as well as monetary instability (inflation). Smith Lutz pointed out that crises often originate from the central banking system. She supported the idea that private banks keep stable reserve proportions:

“the major fluctuations come from changes in the amount of cash provided by the central banks. We find that the commercial banks keep relatively stable reserve proportions and that their lending activities follow fairly closely (except in the pit of the depression) movements in central bank money” (Smith Lutz 1990)⁵. The battle against the use of monetary policy to moderately increase inflation continued after World War II. Bettina Bien Greaves shared with Mises the idea that government regulation and control of economic life is opposite to freedom. This antipathy toward government intervention covered many policies, including manipulating prices, fixing wages, hampering imports or exports, and above all, managing the money supply. For Bien Greaves, freedom flourishes within capitalism; state control makes people unable to cooperate on their own.

On international trade. International free circulation of money and commodities was another common feature for Austrian School women economists. Again, like the argument on monetary policy, first generation economists were more open to possible intervention in regulating international trade. For example, Louise Sommer dealt especially with the European situation. Deeply influenced by political realism, Sommer claimed that inequality is inevitable in political and economic relations, and international commercial policy is not an exception. She claimed that international stability cannot be grounded a hypothetical desire for equality. Instead, she introduced a 'scheme of preferential tariffs' and generated calculations of total export trade for each European country in order to find a proper balance (Bidwell 1937). Later, after World War II, Sommer considered the Monnet-Schumann plan. This plan was the French-German agreement on steel and coal trade introduced in 1947 for the partial restoration of national economies and the reconstruction after World War II. For Sommer, the Monnet-Schumann plan was 'an important approach to the final aim of the unification of Western Europe' (Sommer 1950, 80).

Economists of the second generation were definitely against any form of government intervention in regulating the economy. Mises-trained Gertrude Lovasy (1941; 1953; 1962) is the most emblematic example. In her first publication on international trade with imperfect competition, Lovasy (1941) analyzed Chamberlin's book and Robinson's work on monopolistic/imperfect competition. According to Lovasy, monopolistic/imperfect competition is characterized by decreasing costs of production as well as downward sloping demand curves, which can be influenced by producers. She explained that international trade can exploit decreasing costs by increasing trade volume, but the existence of imperfect substitution across international products reduces international trade volume (Lovasy 1941). For Lovasy, international trade expansions result from taking advantage of decreasing costs and international trade contractions result from imperfect substitution. In the 1950s and 1960s, Lovasy worked on

the possible consequences of fluctuations in international trade as well as on the relation between inflation and export in a worldwide context. She was intolerant toward the intergovernmental cartels that were accepted by American policy of that time (Pauly 2003).

In a later publication, Lovasy combined her critique of monetary policy as inflation –inducing with an effective policy of regulation in international trade. In several papers on the relation between inflation and export in Western countries, she focused her attention on the unexpected consequences of inflation hampering the increase of exports and delaying their diversification. According to Lovasy, inflationary prices can spread to the export sector, but mainly through adjustment of wages to cope with a higher cost of living: the immediate consequence is thus an increase of costs that discourage exports. Lovasy insisted on that inflation has a dangerous long-run effect: it makes investment more expensive, which reduces exports, and can lead to price control policies on basic living commodities. Although the effect of inflation on exports may be adjusted by a gradual devaluation of the exchange rate, continuous devaluation causes a lack of confidence in the currency (Lovasy 1962).

Anti-Keynesianism. The attack against Keynesian economics especially involved Hayek-trained Smith Lutz (Graziani 1983) and Shenoy. Smith Lutz's book, *Theory of Investment of the Firm* (Smith Lutz and Lutz 1951), tried to merge neoclassical economics and Austrian theories. The book introduced time, as an extension of Bohm-Bawerk's emphasis, into a standard model of investments in an anti-Keynesian perspective by "integrating the theory of production with the theory of capital as the latter applies to the individual firm" (Smith Lutz and Lutz 1951, 4). As Smith Lutz wrote later, their purpose was to "develop a unified theory of production and investment under a cost minimization (and profit maximization) behavior criterion" (Smith 1959, 61)⁶.

In her works on the relation between monetary factors and the rate of employment (Smith Lutz 1952), she defended the classical dichotomy between real and monetary factors. Her defense

used Modigliani's model against the Keynesian view that the amount of money and liquidity preferences are determinants of the real levels of macroeconomic variables. She analyzed the role of monetary factors in wage policy under perfect competition and imperfect competition, as well as the dependence of monetary factors on saving schedule and on real demand for cash balances, and found that they are not related with a reduction of unemployment. Against unemployment, Smith Lutz advocated free market dynamics. According to her there were two ways of fighting against unemployment:

“One is to attack the elements of monopoly power in both the labor and the product markets directly. The other is to introduce government control over the real rate of earnings by physical means (rationing), which is in effect another indirect method of restricting the power of organized labor to bargain for a given level of real wages” (*Ibid.* 272).

Lutz Smith came out against this second way of fighting unemployment.

Smith Lutz's interest in macro dynamics was developed in the analysis of workers' well-being. In the 1960s, she compared some European nations, in particular Italy (Smith Lutz 1962) and France (Smith Lutz 1969), to understand the effects of unions in determining wage policy. In her book on French economic planning (1969) Smith Lutz claimed unions were still convinced that capitalism is based on class struggle and they never realized that there are other social constraints in the improvement of the conditions for the working class. Therefore, she presented her theory on wage dualism. Wage dualism arose from increased wages concentrated in the large-firm sector; consequently labor demand in this sector fell through substitutes of capital. This process led the unemployed toward the small-firm sector, driving wages lower than wages in a hypothetical unified labor market. This misallocation of resources will generate, as an inevitable consequence, a decrease of GDP. Contrary to a Keynesian approach, which would have explained this problem as resulting from lack of aggregate demand, Smith Lutz insisted on the

necessity to transform the local economic system, based on agriculture, into a modern industrialized system. Her advocacy for transformation was not with a specific public economic plan, but emphasized private sector development. Following a peculiarly Austrian argument, Smith Lutz strongly defended the free market against any form of planned economy because of the role of uncertainty in determining any decision based on policy. Smith Lutz considered “economic development as a spontaneous product of the market, provided that the market is left to act according to its natural rules without hindrance or interference” (Graziani 1983, 23).

Another fierce adversary of Keynesianism among Austrian school women economists was Shenoy, who at the Royal Conference (1974) presented a paper on inflation, recession and stagflation that was later co-authored with O’Driscoll (1976). They attacked both Keynesianism and monetarism for relying on the general assumption that, over the long term, the real side of the economy is in equilibrium, and that monetary factors influence “only the price level or money income and not the structure of relative prices or the composition of real output” (O’Driscoll and Shenoy 1976, 185). The authors suggested, as the only possible alternative to Keynesianism and monetarism, a development of Hayekian analysis based on the fact that any monetary changes in real terms will break the spontaneous economic order.

More important in her battle against Keynesianism is Shenoy’s contribution to *A Tiger by the Tail* (Shenoy 1972). This paper is a historical reconstruction of the debate between Hayek and Keynes after the publication of Hayek’s *Price and Production* (1931). Shenoy recognized that the main fault of Keynes’ macroeconomics was his neglect of the real structure of production and his insistence on aggregative macro concepts. According to Shenoy, Hayek’s approach to macroeconomics, based on an analysis of the structure of relative prices and their interrelations as an allocative tool, is much more able to explain macro dynamics than Keynes’ macroeconomics.

On development and business cycles. This research field, which is peculiar to Austrian economics, was central especially in Mintz (1959; 1970) and Shenoy (1963; 1971).

Mintz presented development as a consequence of the Schumpeter's notion of innovation, which is inevitably linked with the business cycle. For Schumpeter, innovation leads to high profits; profits push imitators to enter the market; imitators increase supply and profits decrease; later imitators are unable to pay their debt, and crisis begins; at some point new innovation will stop the crisis. As a result, business cycles do not need any intervention.

In her book on the relation between trade balances and business fluctuations, Mintz considered the business cycle as the unavoidable consequence of economic development dynamics. She coined the term 'growth cycles', calculated as deviations from long run trends, in order to explain that there are two different types of business cycles: business cycles which are essential in economic development (in Schumpeter's terms), and sectoral business cycles which affect only certain economic indicators. According to Mintz, and this is her original contribution to that debate, both cycles give shape to what she called the inevitable 'growth cycle'. Hence any government's attempt to reduce instability, even in smaller sectors, might alter the structure of the economy as a whole by reducing the phase of expansion: depression phases in naturally induced cycles have a short-term negative impact while the unattended consequence of a government policy to reduce depression might have much worse consequences in the long run (Mintz 1970).

Shenoy addressed development using the Hayekian notion of spontaneous order. Shenoy (1963) is likely the first to apply Austrian ideas to the economy of India. She employed Hayek's argument against socialist control of an economy in order to criticize the Indian government's economic plan. The Indian government's intention was oriented to strengthen heavy industries, but, according to Shenoy, this plan was bound to fail for three reasons: (1) it would weaken exports; (2) it would create inflation to cover a budget deficit; and (3) it would increase

corruption, because the system of issuing import licenses would have been distributed by unfair means; i.e., through collusion between potential licensees and government. In Shenoy (1971) on the Indian economy, she suggested the abolition of industrial licensing and capital issues controls, as well as the refusal to introduce any form of exchange and price regulation or trade and distribution control, especially those applied to road transport and textiles⁷.

According to Shenoy, development works only in a spontaneous way through innovations, not in a designed way planned by a political agenda. Spontaneous innovations generate a better capital structure, “which gradually emerges over time in the context of privately evolved legal rules” (Shenoy 1991, 20). This is what happened in the modern age for Western countries: industrial revolutions happened as consequences of a combination of the accumulation of capital, entrepreneurial spirit, and the rule of law. Thus the only duty government has is to guarantee private property and individual freedoms. Any other governmental intervention is regarded by Shenoy as a possible cause of perverse capital structure, which leads to structural underdevelopment. The high level of corruption among politicians and the lack of any specific competence or knowledge of politicians might stop or delay development, and structural underdevelopment was bound to arise.

History of political economy. Austrian women’s contributions to history of political economy span all four generations. Sommer, Spiro, Grice-Hutchinson, Bien Greaves, Sennholz, and Shenoy specifically devoted a consistent part of their research to history of political economy. Sommer wrote on mercantilism, cameralism and Galiani (Sommer 1927b; Sommer 1935), and on methodology (1928; 1932; 1947). Spiro’s dissertation was on the nature of the credit as discussed by Owen, Proudhon and Solvay (Nautz 1997). Bien Greaves and Sennholz worked on liberalism with Mises and Leonard Read¹. The most original contributions (both related to the

¹ Read was the founder of the Foundation for Economic Education, one of the first Libertarian institutions in the United States.

typical Austrian approach to economics) were Grice-Hutchinson's research on the school of Salamanca (1952) and Shenoy's book on early modern England ([2001] 2010) which attempts to analyze consumption, distribution and production in terms of Austrian economic theory.

Under Hayek's supervision, Grice-Hutchinson wrote her thesis on the nature of markets and monetary theory in the School of Salamanca founded by Francisco de Vitoria in the early XVI century (1952). Scholars of the School of Salamanca were well known in Spain, but almost forgotten abroad. Hayek was interested in introducing them to an English-speaking audience because he considered them as forerunners the Austrian school. Grice-Hutchinson presented the Salamanca scholars as the founders of the subjective theory of value, later developed by Jevons, Walras and Menger; she also considered the significant influence they had on Adam Smith via Pufendorf and Grotius. According to Rothbard, her book was fundamental to understanding the historical tradition of the "subjective-value analysis based on consumer wants alongside the competing objective conception of the just price based on labor and costs" (Rothbard 1976, 52).

Besides their subjective-utility approach, Grice-Hutchinson highlighted that Salamanca supported free markets over protectionism and a minimal role of the State in economic policy and fiscal matters. She explained that the School of Salamanca arose in a very peculiar period of the Spanish modern history: a period when a massive quantity of gold and silver had been transferred from the New World colonies to Europe. This phenomenon increased inflation and made usury more evident. As Grice-Hutchinson wrote:

"The School's original contribution to monetary theory consists, in its formulation of a psychological theory of value applied to both goods and money, of the quantity theory, and of a theory of foreign exchange that closely resembles the modern purchasing power parity theory" (Grice-Hutchinson 1952, 47-48).

Hence, Salamanca illustrated a subjective theory of value, which attempted to analyze the psychological motives of economic activity. Furthermore, they regarded money as a useless measure of value, since its own value is subject to fluctuations. In fact, they refused the classical distinction between intrinsic and extrinsic value of money.

Grice-Hutchinson was the first to identify that the School of Salamanca provided a quantity theory of money: Navarro, in 1556 and a dozen years before Jean Bodin, explained that the inflation in the XVI century occurred as a consequence of the gold and silver arriving from the New World. More surprisingly, scholars of the School of Salamanca initially formulated a basic purchasing power parity on the theory of exchange. When they were asked to solve the monetary phenomenon according to which “when money was sent from foreign countries to Spain a considerably larger sum was usually repaid in Spain than had been delivered abroad” (Grice-Hutchinson 1952, 54) but not vice versa, they suggested a subjective theory of value: “since the *agio* could not be explained by objective factors, it must be derived from a variation in the subjective value of money in the different countries” (Grice-Hutchinson 1952, 55).

In her Ph.D. thesis, Shenoy ([2001] 2010) applied some specific features of the Austrian School of economics to a particular case study; namely, the history of early modern England. She adopted Menger’s organicism, Mises’ market process, and Hayek’s *catallaxy* in order to explain the rise of complex phenomena. Complex phenomena such as language, customs, or money, arise spontaneously in an “un-designed [and] historical-developed social order” (Shenoy [2001] 2010, 11). Specific manifestations of complex phenomena such as French, the custom of marriage, or the American dollar, inevitably need to be coordinated by a legal set of rules. In fact, following Hayek’s line of thinking, Shenoy considered *catallaxy* and common law (as a system of private case-law) as two sides of the same coin, and she considered the interdependence between theoretical analysis and historical studies as fundamental in order to

understand human action. In her analysis, Shenoy explicitly adopted Austrian categories to criticize neoclassical economics⁸.

Concluding remarks

The story of the four generations of the Austrian School women economists has been neglected for decades, with the only exception of some references in Mises' memoir and a few other very recent publications on the Viennese milieu around the Austrian School of economics. Although they failed to accede to academic positions in Vienna, mainly due to a combination of adverse conditions (initially, a ban against women in academia, later the racial ostracism against Jews, and a persistent and generalized suspicion against classical liberals), their contributions were often original, and their work played an important part in the history of the Austrian School as a whole.

Embedded in the complex Austrian society between the end of the nineteenth century and the interwar years, the first two generations of Austrian School women economists frequently handled the economic problems of their time from a theoretical perspective. Their research revealed that they shared the typical features of the Austrian School of economics, especially the disutility of any economic policy (with some exceptions), in keeping with their more influential and well-known male counterparts. Furthermore, in some cases, they were able to make original contributions to some typical Austrian themes: e.g., the case of Braun's pioneering study on the micro-foundation of monetary economics, that of Sommer's study on international economic relations, Mintz's analysis of business cycles, and Lovasy's investigations on the effects of inflation on international trade.

The third and fourth generation of Austrian school women economists developed their economic analysis mainly under the influence of Mises and Hayek in London and in the United States. Like their Viennese predecessors, they were authentically 'Austrians' because of their adherence

to Austrian ideals. The third and fourth generations also enriched the Austrian tradition with some original ideas, such as Smith Lutz's theory of wage dualism, and Shenoy's application of Austrian economic categories to the analysis of growth and development in developing countries.

Their contributions extended the Austrian ideas by applying commonly accepted Austrian paradigm into new contexts (new historical studies, specific histories of economic thought, as in Cronbach, Sommer, Spiro, Grice-Hutchinson, Bien Greaves), into new fields (development economics and economies of developing countries - like India - as in Mintz, Lovasy, Shenoy). They also disseminated Austrian economics, especially in their battle against Keynesian economics and in their works on monetary policy (as in Stolper, Braun, Herzfeld, Lieser, Lovasy, Smith Lutz, Shenoy).

For the reasons mentioned above, Austrian School women economists have a special place in the history of women's economic thought as well as in the broader field of the history of economics. They made noteworthy contributions as scholars, as members of a cohesive school of economics, whose role in the history of the discipline has been and still is enormous. As classical liberals, Austrian School women economists of the first and the second generations were also impressive examples of the broader story of women's cultural emancipation, which took place in Europe from the end of the nineteenth century. These women defied the limitations that culture imposed on their gender, participating and contributing to deep academic inquiry from a classical liberal perspective; and, as classical liberals, Austrian School women economists of the following generations never stopped fighting for freedom and liberty through their contributions to economic theory.

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Table 1: Austrian School women economists in chronological order

<p>First Generation:</p> <p>Students of Böhm-Bawerk's and Wieser's at the University of Vienna</p> <p>1900-1919</p>	<p>Else Cronbach (1879-1913)</p> <p>Louise Sommer (1889-1964)</p> <p>Toni (Kassowitz) Stolper (1890-1988)</p>
<p>Second Generation:</p> <p>Students of Mises' extramural seminars</p> <p>1920s-1930s</p>	<p>Marianne Herzfeld (1893-1976)</p> <p>Martha Braun (1898-1990)</p> <p>Helene Lieser (1898-1962)</p> <p>Gertrude Lovasy (1902-1974)</p> <p>Elly Spiro (1903-2001)</p> <p>Ilse (Schüller) Mintz (1904-1978)</p>
<p>Third Generation:</p> <p>Students of Hayek's at the LSE (1930s-1940s) and of Mises' at NYU (1950s-1960s)</p>	<p>Marjorie Grice-Hutchinson (1909-2003)</p> <p>Vera Smith Lutz (1912-1976)</p> <p>Mary Sennholz (1913-2017)</p> <p>Bettina Bien Greaves (1917-)</p>
<p>Fourth Generation: The Austrian revival associated with Hayek winning the Nobel Prize: (1974 onwards)</p>	<p>Sudha Shenoy (1943-2008) and many more active since the 1990s</p>

Table 2: Some research topics of Austrian School women economists

<p>On monetary theory and policy</p>	<p>1st generation: Cronbach, Stolper, Sommer</p> <p>2nd generation: Herzfeld, Braun, Lieser, Lovasy</p> <p>3rd generation: Smith Lutz, Bien Greaves</p>
<p>On international trade</p>	<p>1st generation: Sommer</p> <p>2nd generation: Lovasy</p>
<p>Against Keynesianism</p>	<p>2nd generation: Smith Lutz</p> <p>4th generation: Shenoy</p>
<p>On development and the business cycle</p>	<p>2nd generation: Mintz</p> <p>4th generation: Shenoy</p>
<p>History of political economy</p>	<p>1st generation: Sommer</p> <p>2nd generation: Spiro, Lieser,</p> <p>3rd generation: Grice-Hutchinson,</p>

	Bien Greaves, Sennholz
	4 th generation: Shenoy

¹ Although German, Lachman is embedded into the Austrian School of economics' tradition for his theoretical and methodological works. Furthermore, he was first student, then colleague, of Hayek in the 1930s at the LSE.

² Shenoy has been chosen as emblematic of the latest generation of Austrian School women economists mainly because she has had a significant role in the so-called Austrian revival and because she applied, for the first time, the Austrian economics perspectives to underdeveloped economies.

³ During the interwar period in Vienna, economists of the historical Austrian School (1871-1938), like many other Viennese scholars, were very active mainly outside academia: they attended informal seminars, opened to scholars with different backgrounds who often were regular attendees of several circles. This kind of audience created a network of peers whose cultural exchange made Vienna a unique place for the development of a pluralistic approach within social disciplines (Craver 1986; Hülsmann 2007; Mises 2013 [1978]; Dekker 2014, 2016; Klausinger 2015; Wright 2016).

⁴ Kirzner realized his Ph.D. in 1957 under the supervision of Mises, and he spent his entire career at NYU, where he became full professor (1968), up to his retirement (2001) (Ebeling 2001). That seminar, renamed Colloquium on Market Institutions & Economic Processes, is still scheduled at NYU, under the supervision of Mario Rizzo.

⁵ As retrieved in <http://oll.libertyfund.org/titles/smith-the-rationale-of-central-banking-and-the-free-banking-alternative>.

⁶ According to Vernon Smith's review, Smith Lutz failed to solve the problem "that no production function analysis is possible when processes employing durable goods are analyzed (...) [because] the cost minimization problem, properly formulated, does apply" (Smith 1959, 62).

⁷ Shenoy's fight against protectionism and planning in the Indian economy is better understood in the context of the cultural and historical frameworks. Since the 1930s, a planning apparatus for Indian economic development had been set up in India, and it was renewed after Independence in 1947 especially involving the industrial sector. There were very few opponents to this economic policy; among them, the liberal economist Bellikoth Ragunath Shenoy, Sudha's father, later joined by his daughter and others (Bauer 1998; Shenoy 2003; Manish et al. 2015).

⁸ In contrast to neoclassical economics, Shenoy explicitly followed McCloskey's argument that economists are not scientists, but story-telling historians: "neoclassical economists are even further removed from even the remotest possibility of learning about the issues involved in studying human action" (Shenoy [2001] 2010, 60).